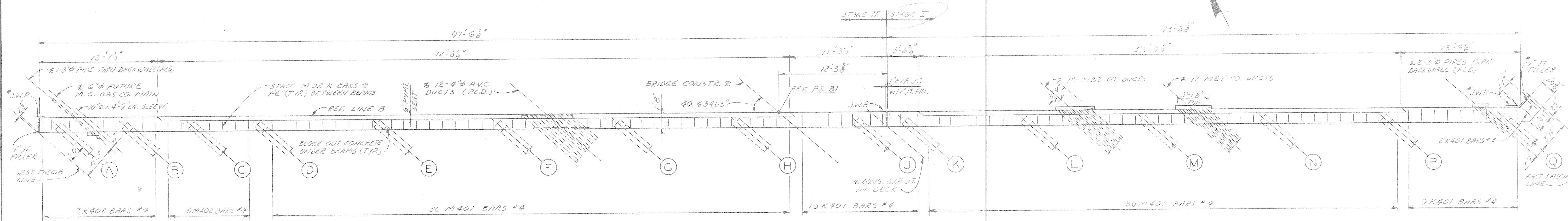


NO.	DESCRIPTION	BY	CHKD.	DATE

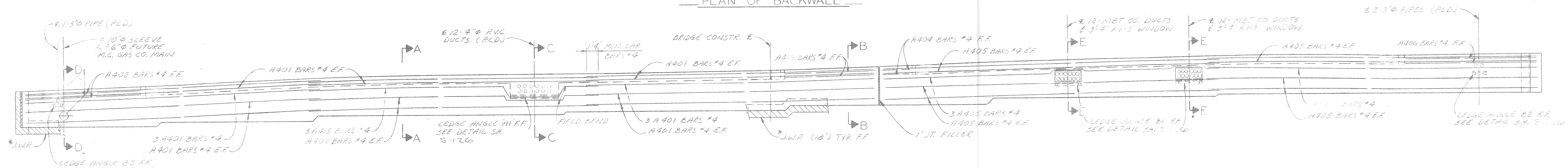
DESIGNED BY <i>M. S. ...</i>	APPROVED:
DRAWN BY <i>[Signature]</i>	CITY ENGINEER
TRACED BY	
CHECKED BY	

CITY OF DETROIT
 CITY ENGINEERING DIVISION E.I. M.D.
 15th ST. (R. 15th St.)
 SCALE: 1/2" = 1'-0"

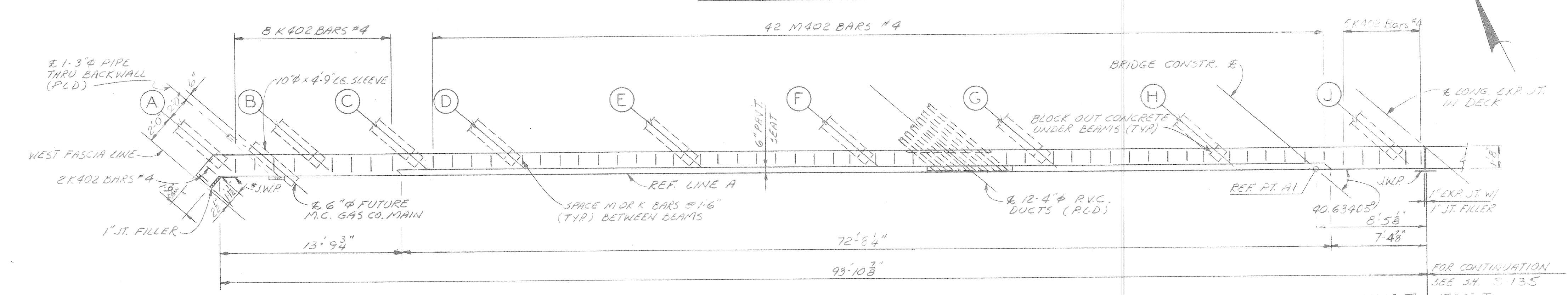
15th St. (R. 15th St.)	SHEET <u> </u> OF <u> </u> SHEETS
CONTRACT NO.	
DRWG NO.	
DATE	



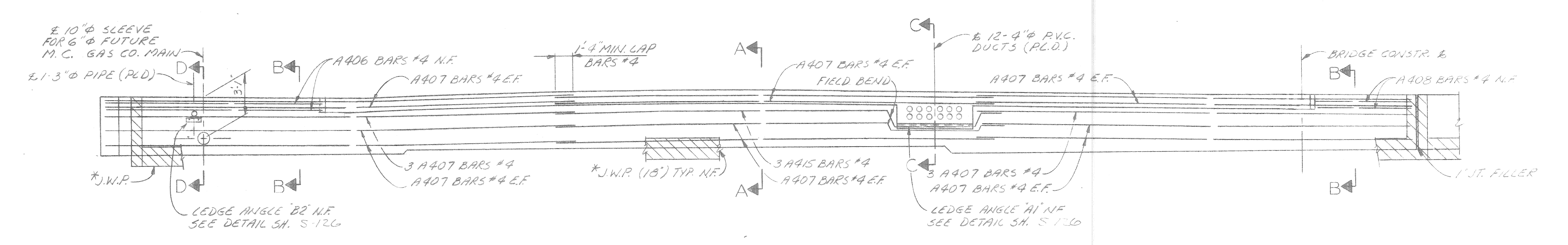
PLAN OF BACKWALL



ELEVATION OF BACKWALL
ABUTMENT B 12TH ST.



PLAN OF BACKWALL

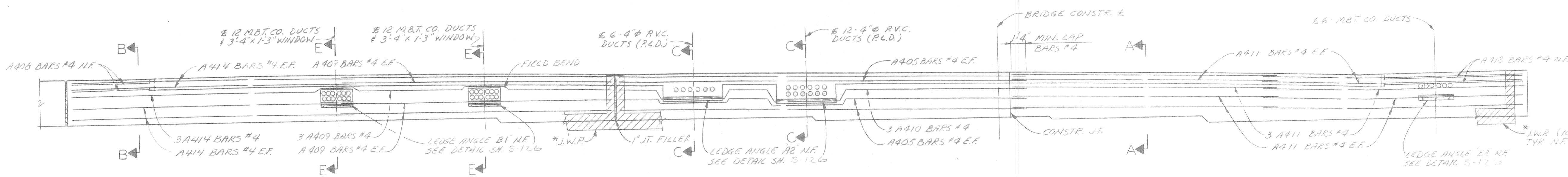
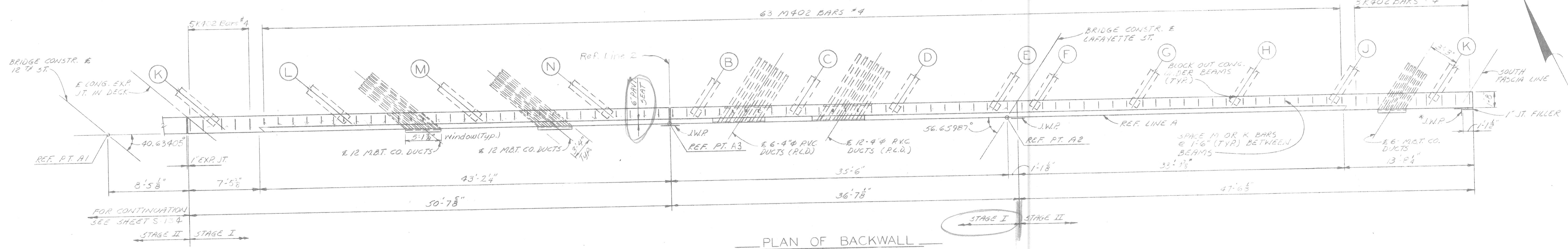
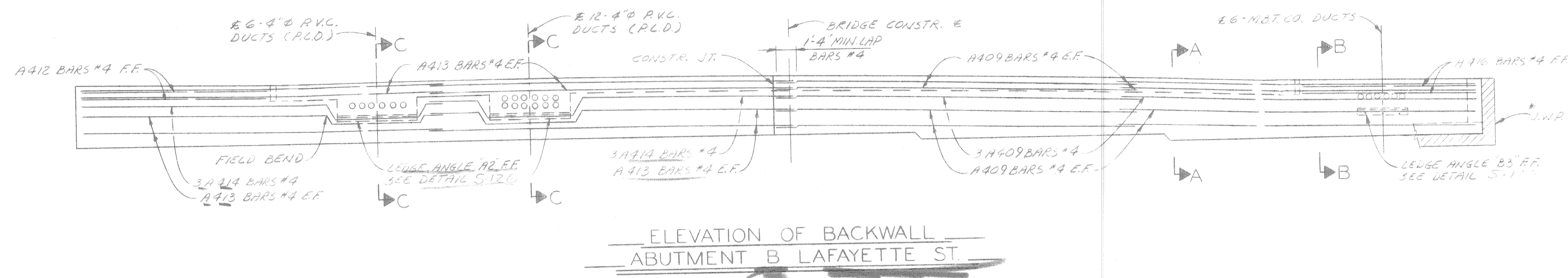
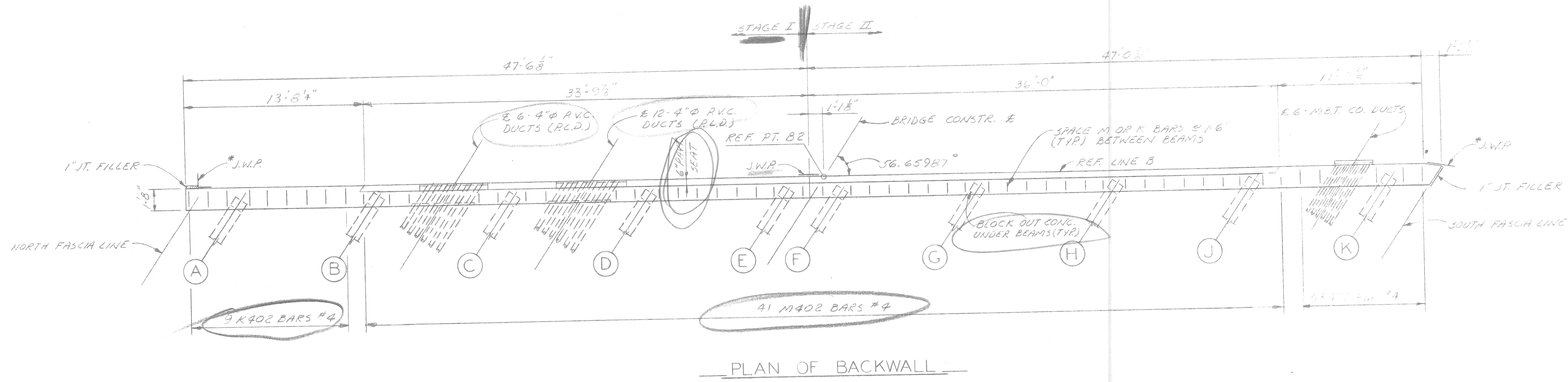


ELEVATION OF BACKWALL
ABUTMENT A 12TH ST. (WEST HALF)

NOTE: FOR ELEVATIONS AT TOP OF BACKWALL, SEE SCREEN ELEVATIONS SHEET S-175. * DENOTES ITEMS THAT ARE INCLUDED IN ABUTMENT QUANTITIES.

SCALE: 3/8" = 1'-0"

REVISIONS LOCATED BY COORDINATES ON SHEET COORD. DESCRIPTION DRW. CKD. AP. V.D. DATE		REFERENCE DRAWINGS	DESIGNED BY <i>McEure</i>	APPROVED: CITY ENGINEER	CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD FOR MICHIGAN DEPT. OF STATE HIGHWAYS & TRANS.	12TH ST. (ROSA PARKS BLVD.) & LAFAYETTE ST. CROSSING CONRAIL SUPERSTRUCTURE DETAILS - BACKWALLS - 12TH	SHEET ____ OF ____ SHEETS	
			DRAWN BY <i>A.G.</i>	CONTRACT NO. 07110 A			DRAWING NO. S 134	DATE NOV 1975
			TRACED BY	HEAD CIVIL ENGINEER				
			CHECKED BY <i>R. Larrull</i>	CITY ENGINEER				



NOTE: FOR ELEVATIONS AT TOP OF BACKWALL, SEE SLOPED ELEVATIONS, SHEET 5-10
 * DENOTES ITEMS THAT ARE INCLUDED IN ABUTMENT QUANTITIES.

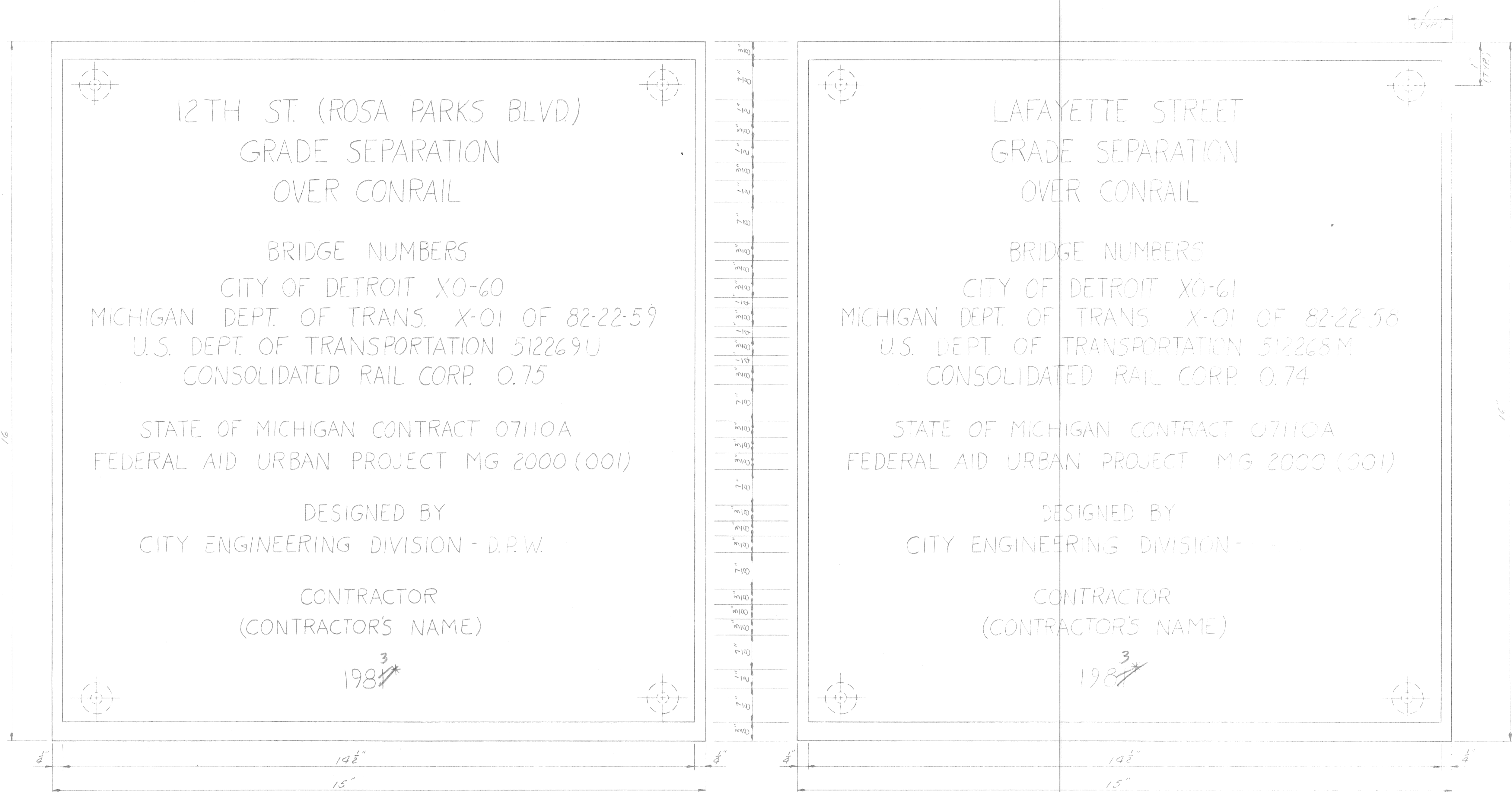
SCALE 3/16" = 1'-0"

DESIGNED BY <i>McGuire</i>	APPROVED: STRUCTURAL ENGINEER
DRAWN BY <i>A.G.</i>	HEAD CIVIL ENGINEER
TRACED BY	CITY ENGINEER
CHECKED BY <i>R. Blumberg</i>	

CITY OF DETROIT
 CITY ENGINEERS DIVISION EPMD
 FOR
 MICHIGAN DEPT. OF STATE HIGHWAYS & TRANS.

12TH ST (ROSA PARKS BLVD)
 & LAFAYETTE ST CROSSING CONRAIL
 SUPERSTRUCTURE DETAILS-BACKWALLS

SHEET <u> </u> OF <u> </u> SHEETS
CONTRACT No. <u>07110A</u>
DRWG No. <u>5135</u>
DATE <u>Nov 1979</u>

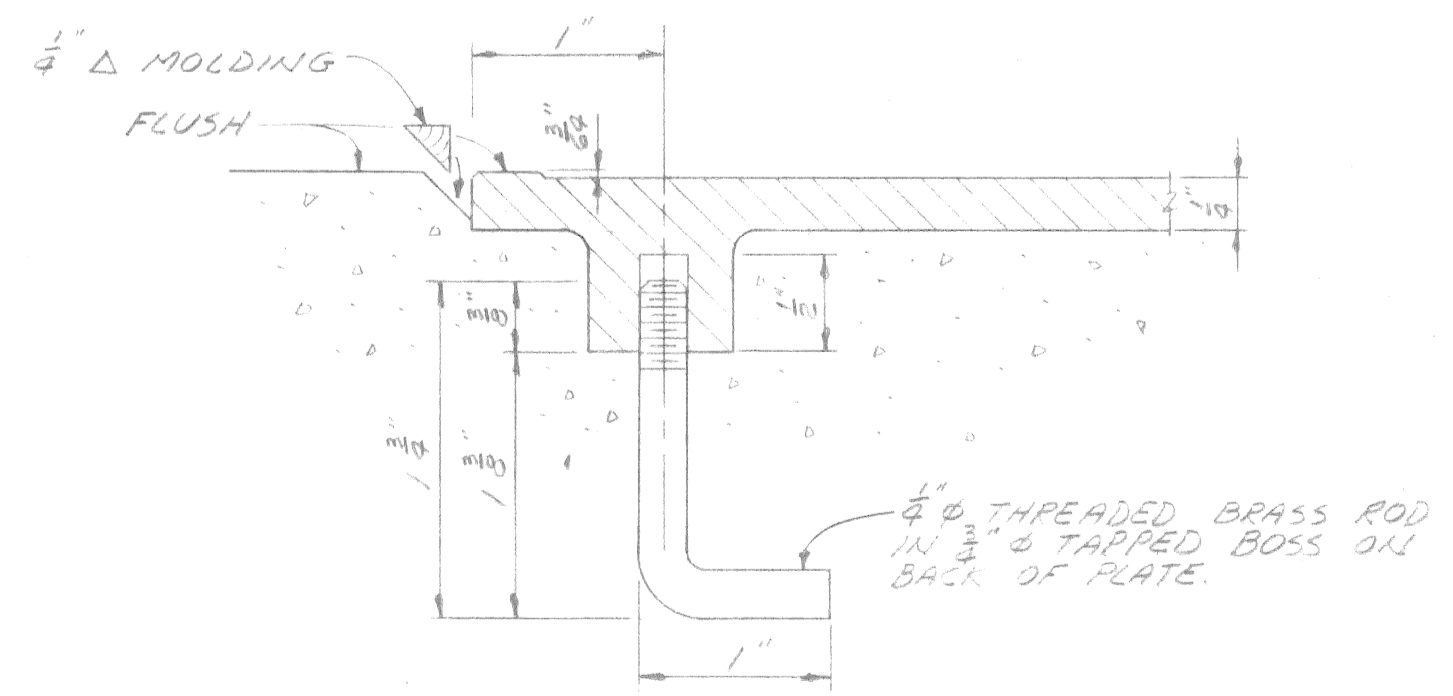


(2 REQUIRED)

(2 REQUIRED)

* OR E.P.C. SUPERSTRUCTURE IS COMPLETED

NAME PLATES
3/4" SCALE



ANCHORAGE DETAIL
FULL SCALE

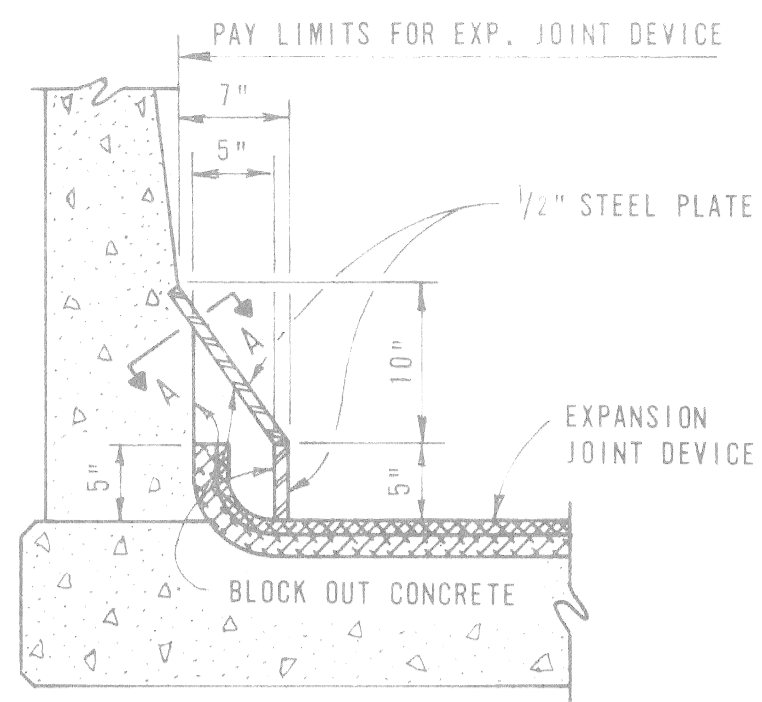
NOTES:
SET NAME PLATE FLUSH WITH FACE OF CONCRETE AND FRAME WITH 1/2" MOLDING TO FORM A REBEAL AROUND THE PLATE.
SEE THE MECHANICAL PROVISION IN THE PROPOSAL FOR ADDITIONAL DETAILS.

QUANTITY	UNIT	TOTAL
NAME PLATE	EACH	4

REFERENCE DRAWINGS DESIGNED BY <i>R. P. [Signature]</i> DRAWN BY <i>A.G.</i> TRACED BY CHECKED BY		APPROVED: 	CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD	12TH ST (ROSA PARKS BLVD) & LAFAYETTE ST CROSSING CONRAIL NAME PLATE DETAILS	SHEET ____ OF ____ SHEETS CONTRACT NO. 07110A DRAWING NO. S-138 DATE Nov 1979
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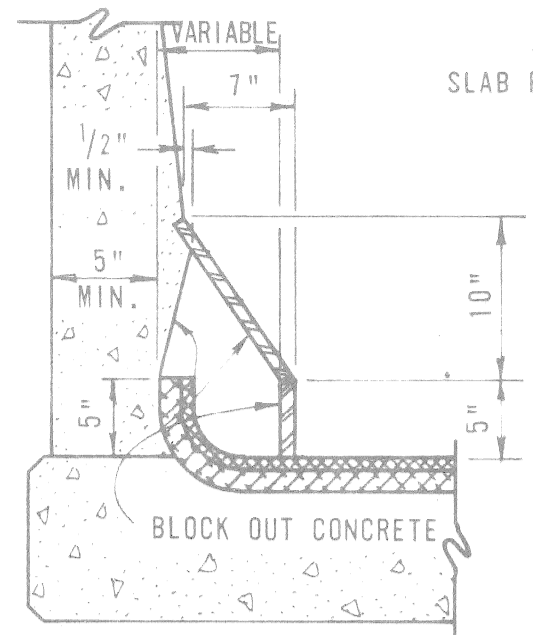
COORD.	DESCRIPTION	DRN	CK'D	AP'D	DATE

REVISIONS LOCATED BY COORDINATES ON SHEET

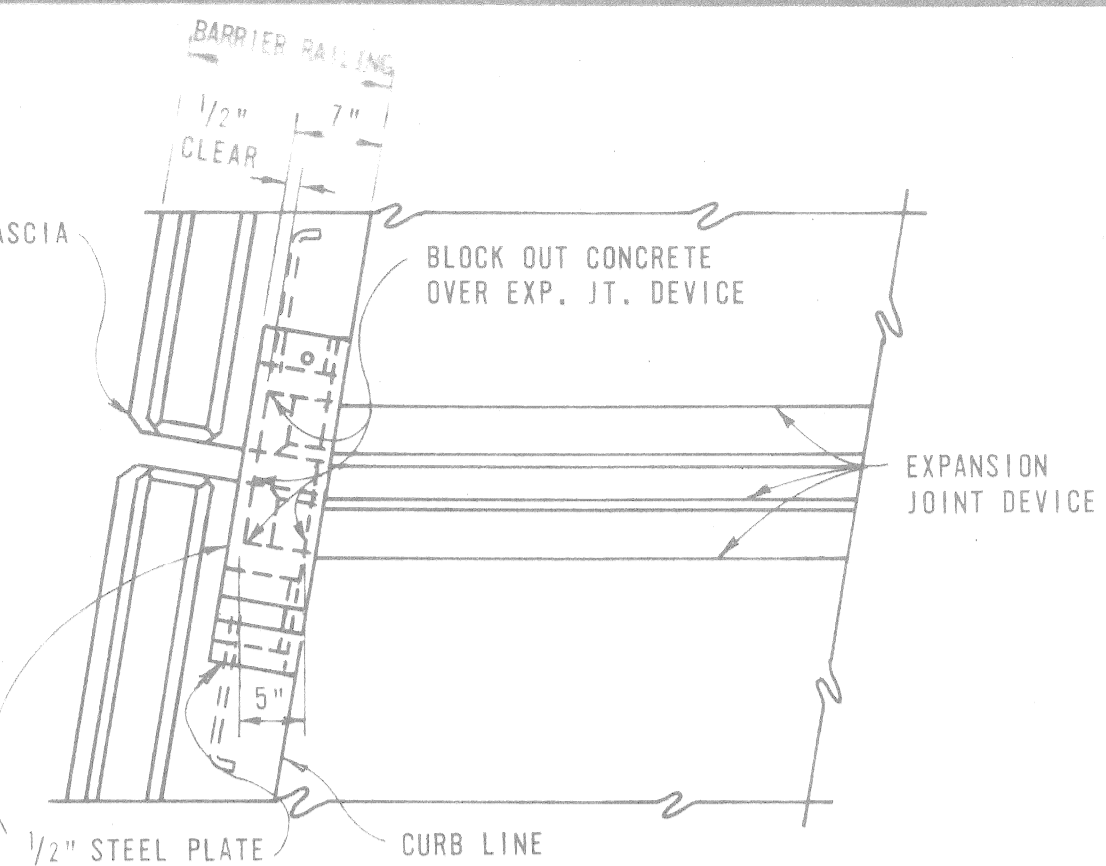


90° CROSSING

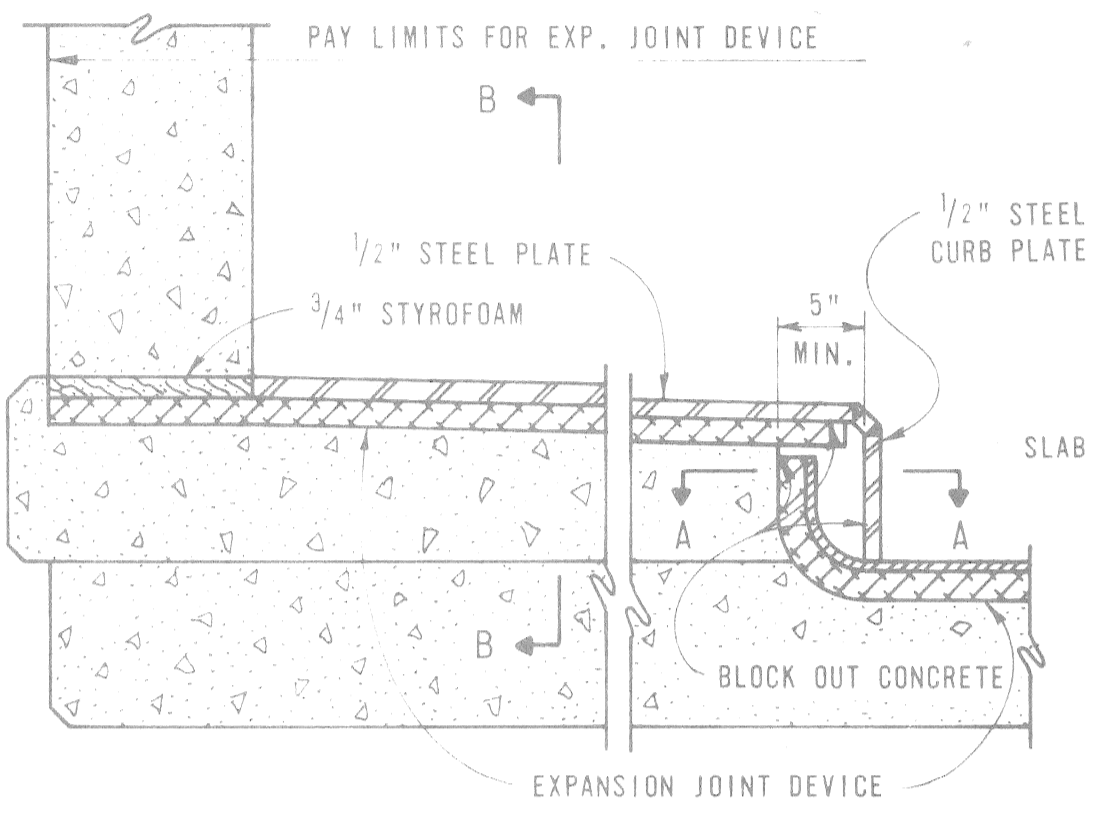
ELEVATION AT BARRIER RAILING



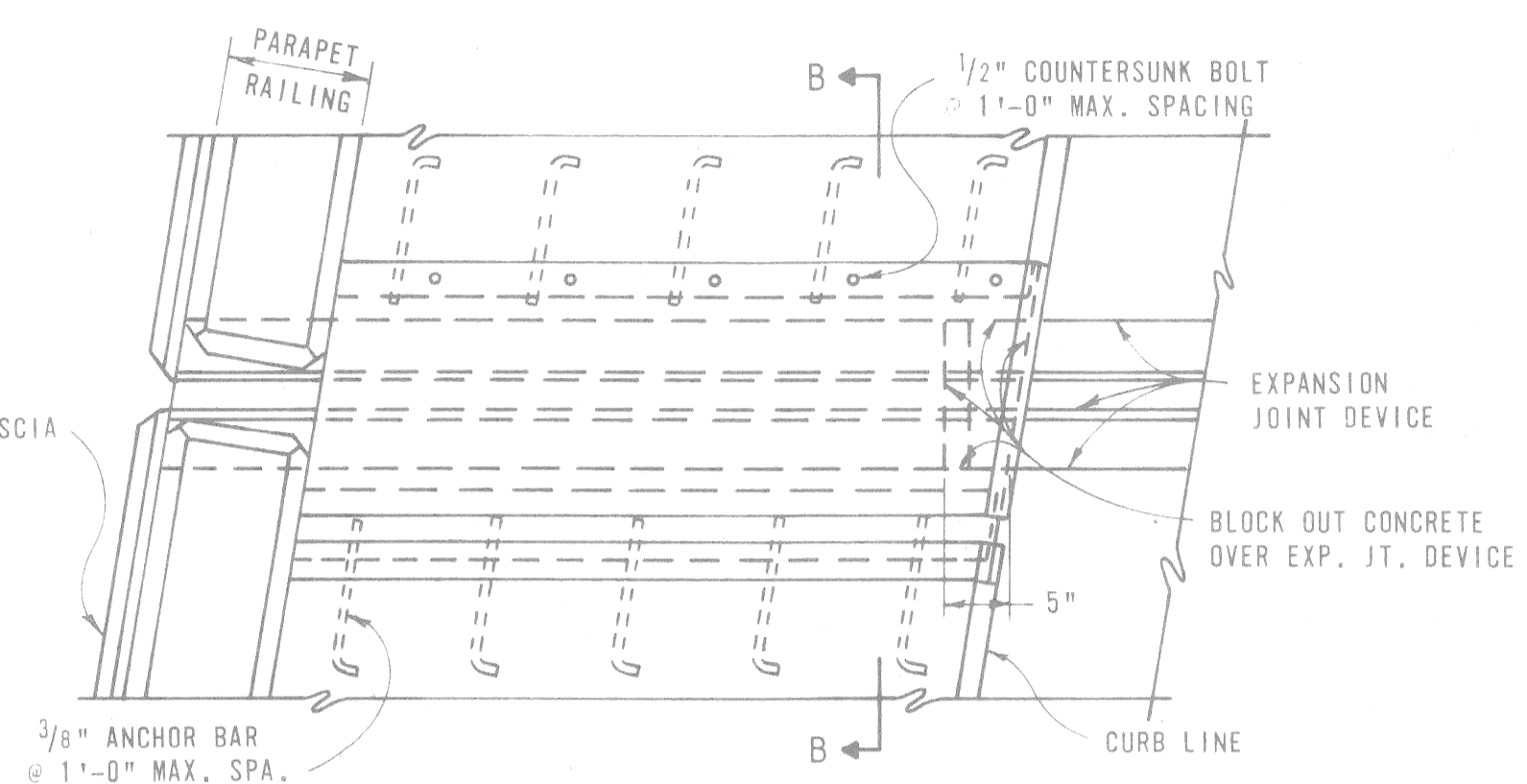
SKWEDED CROSSING



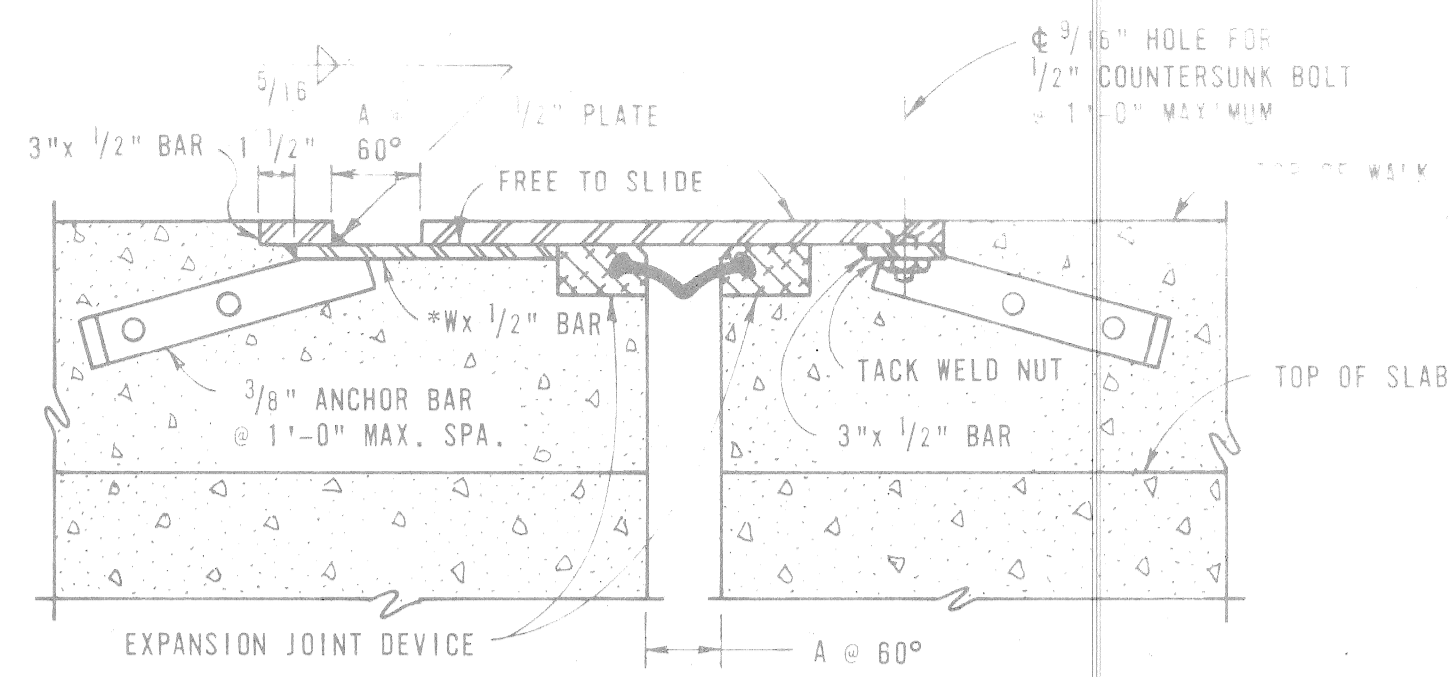
PLAN AT BARRIER RAILING



ELEVATION AT PARAPET RAILING
(APPLICABLE TO SIDEWALKS AND BRUSH BLOCKS)



PLAN AT PARAPET RAILING
(SIDEWALK SHOWN, BRUSH BLOCK SIMILAR)

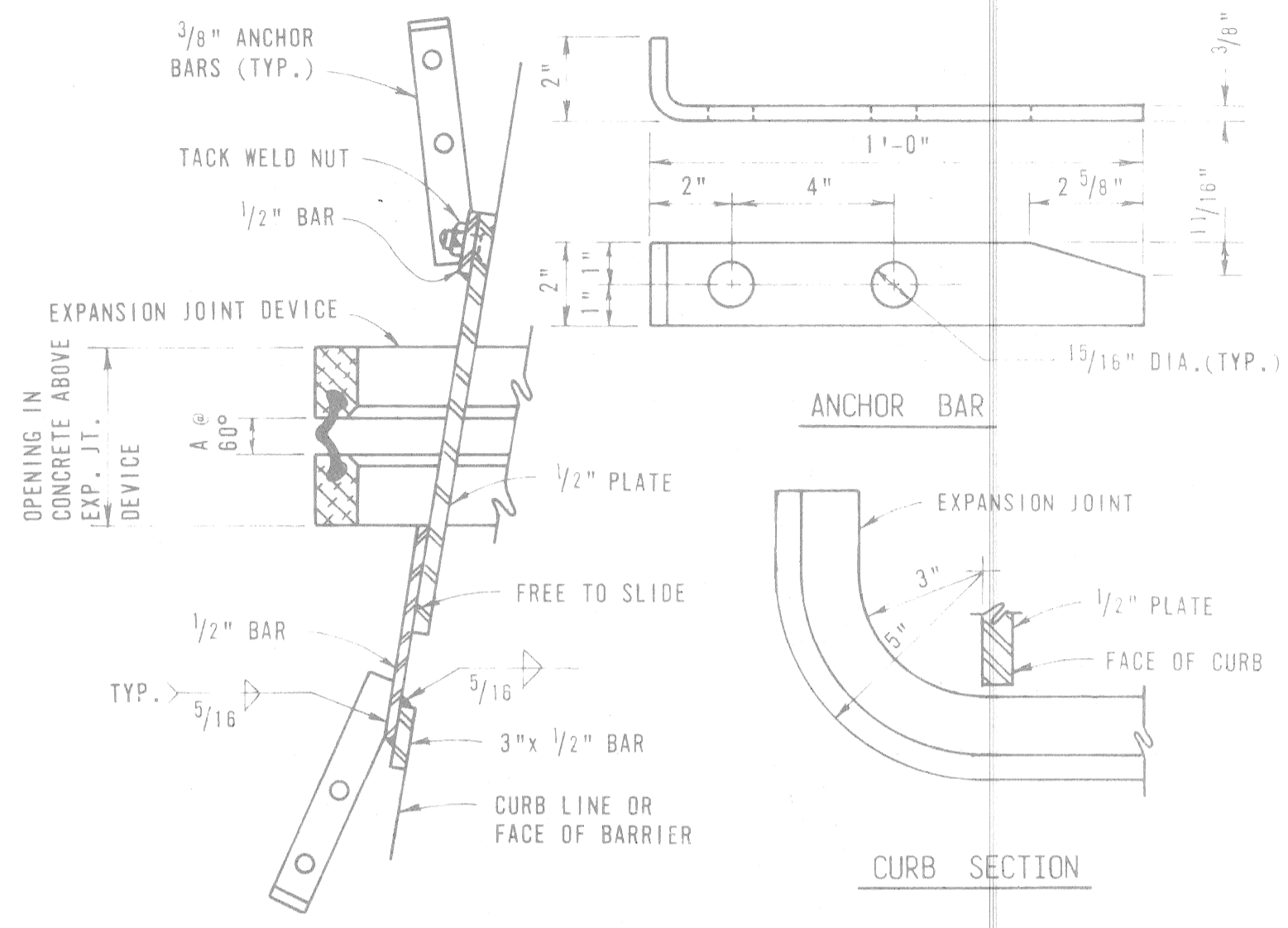


SECTION B - B

$$A = \frac{\text{TOTAL TRAVEL}}{2} + \frac{1}{2}''$$

$$*W = 2A + 1 \frac{1}{2}''$$

*Refer to letter 1/14/82
re: Expansion joints*



SECTION A - A

ANCHOR BAR

CURB SECTION

NOTES:

JT TYPES
THE EXPANSION JOINT DEVICE SHALL BE OF A TYPE THAT INCLUDES A CONTINUOUS NEOPRENE SEAL ACROSS THE DECK, UNLESS OTHERWISE NOTED ON THE PLANS. THE CONTRACTOR HAS THE OPTION OF USING ANY OF THE DEVICES LISTED BELOW:

DEVICE	MANUFACTURER
ACME STRIP SEAL	ACME HIGHWAY PRODUCTS
ALU - STRIP	WATSON BOWMAN, INC.
DNFLEX	STRUCTURAL ACCESSORIES, INC.
PRO - SPAN	FEL - PRO INC.
UNIDAM	ROYSTON LABORATORIES, INC.
WABO - MAURER STRIP SEAL	WATSON BOWMAN, INC.
FEL-SPAN C.S.	FEL-PRO INC.

THE MODEL OF THE JOINT TYPE SELECTED SHALL BE SUITABLE TO ACCOMMODATE THE TOTAL MOVEMENT NOTED ON THE PLANS.

COMPLETE WORKING DRAWINGS OF ALL DETAILS OF FABRICATION OF THE EXPANSION JOINT DEVICE SHALL BE SUBMITTED FOR REVIEW IN ACCORDANCE WITH STANDARD SPECIFICATION 1.05.02, FABRICATION AND INSTALLATION

THE EXPANSION JOINT SHALL BE BENT IN THE SHOP TO CONFORM TO THE CONTOUR OF THE ROADWAY SLAB. IT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS SUBJECT TO NOTES HEREIN AND THE APPROVAL OF THE ENGINEER.

WHERE THE DEVICE IS TO BE INSTALLED ON CAST CONCRETE, THE SURFACE LAITANCE SHALL BE REMOVED BY SANDBLASTING AND ANY VOIDS FILLED WITH EPOXY MORTAR PRIOR TO BEDDING.

WHERE THE SEALING GLAND IS LOCKED INTO A METAL EXTRUSION, A LUBRICANT-ADHESIVE CONFORMING TO STANDARD SPECIFICATION 8.16.04 - d-2 SHALL BE REQUIRED BETWEEN THE SEAL AND METAL EXTRUSION.

A SEALANT SHALL BE USED BETWEEN THE SEAT AND THE ANCHORED PORTION OF THE SEALING GLAND, AND ALSO BETWEEN THE SEAT AND HOLD DOWN DEVICE. THE SEALANT SHALL CONFORM TO FEDERAL SPECIFICATION MMG 6500 GRADE B, TT-S-00230C TYPE 11, OR SHALL BE AN APPROVED EQUAL.

THE VOID FORMED BETWEEN THE VERTICAL EDGE OF THE HOLD DOWN DEVICE AND THE BLOCK OUT SHALL BE FILLED WITH A SEALANT IF LESS THAN 1/2 INCH IN WIDTH OR WITH AN EPOXY MORTAR IF GREATER THAN 1/2 INCH. THE SEALANT SHALL CONFORM TO FEDERAL SPECIFICATION TT-S-00230C TYPE 11 OR SHALL BE AN APPROVED FLEXIBLE EPOXY.

ALL BOLT CAVITIES IN THE HOLD DOWN DEVICES SHALL BE FILLED WITH AN EPOXY MORTAR IF THE CAVITIES ARE CONTINUOUS OR WITH AN APPROVED FLEXIBLE EPOXY IF THEY ARE NOT CONTINUOUS.

THE AREA OF THE HOLD DOWN DEVICE AND SEALING GLAND WHICH WILL BE IN CONTACT WITH A SEALANT SHALL BE CLEANED WITH TOLUENE OR OTHER APPROVED SOLVENT.

ALL SURFACES IN CONTACT WITH THE EPOXY MORTAR SHALL BE LIGHTLY SAND BLASTED AND PRIMED WITH THE DINDER PRIOR TO PLACING THE MORTAR.

THE EPOXY MORTAR SHALL CONFORM TO STANDARD SPECIFICATION 4.50.20.

THE PRO-SPAN DEVICE MUST INCORPORATE A CAST-IN-PLACE METAL SEAT.

DETAILS AT CURBS OR BARRIERS
THE DETAILS ON THIS SHEET SHOW AN APPROVED MEANS OF TERMINATING THE EXPANSION JOINT DEVICE AT CURBS OR BARRIERS. VARIATIONS OR ALTERNATIVE SCHEMES WILL BE CONSIDERED AND MAY BE USED IF APPROVED BY THE ENGINEER.

MATERIALS
THE COST OF ALL MATERIALS AND LABOR REQUIRED FOR PROPER INSTALLATION OF THE EXPANSION JOINT AND THE TERMINAL ASSEMBLIES AT THE CURBS, SIDEWALKS, OR BARRIERS IS INCLUDED IN THE PAYMENT FOR THE EXPANSION JOINT DEVICE.

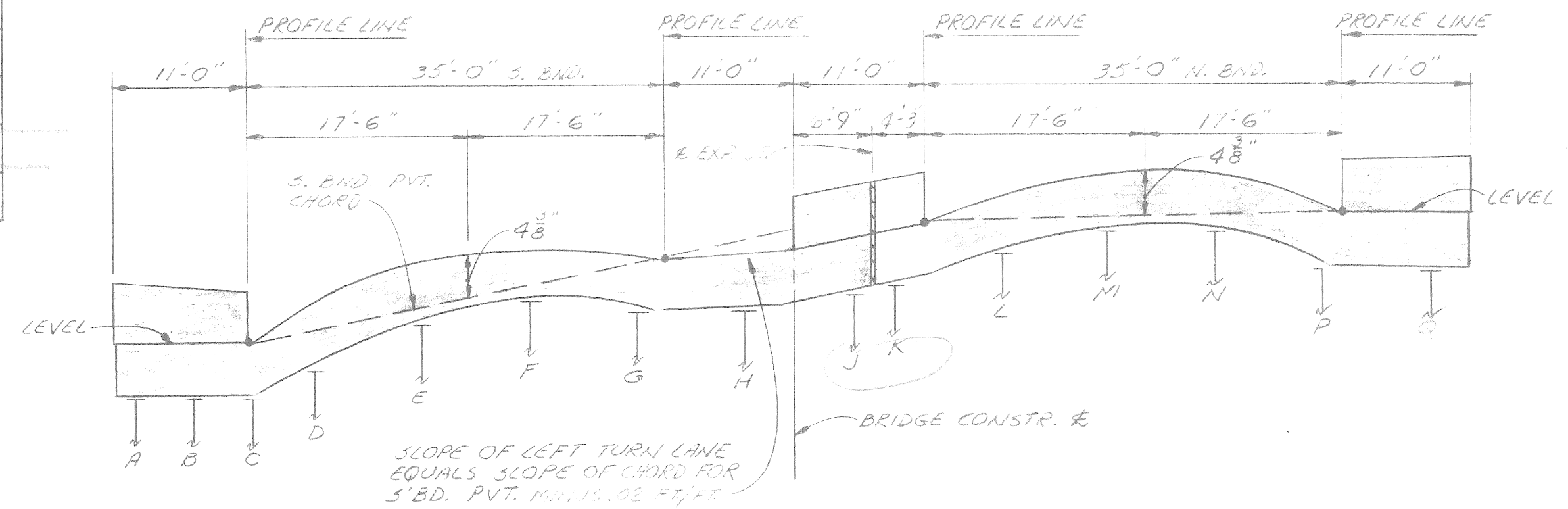
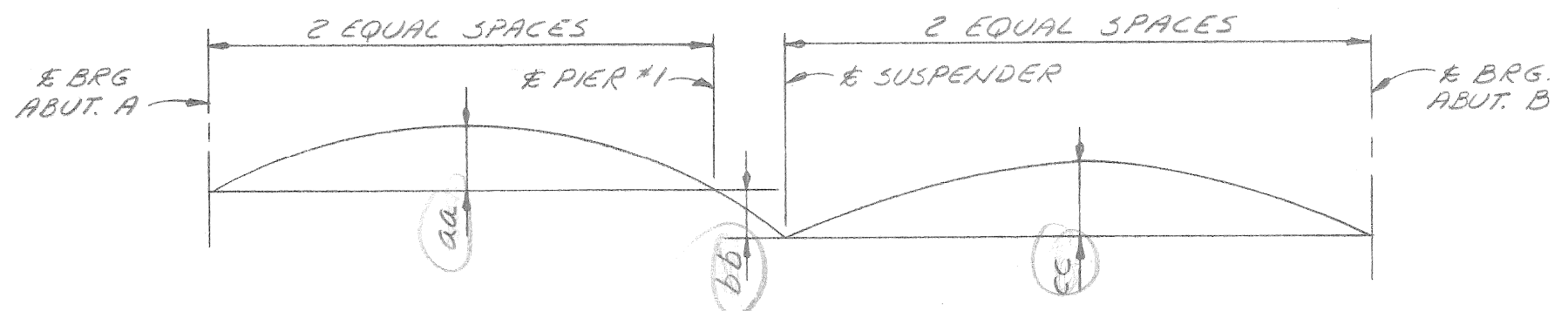
MISCELLANEOUS QUANTITY		
ITEM	UNIT	AMOUNT
EXPANSION JOINT DEVICE, 2" MIN. TRAVEL	LINEAL FEET	27
EXP. JOINT DEVICE, 3" MIN TRAVEL	L. F.	266

STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS AND TRANSPORTATION
EXPANSION JOINT DETAILS

SQUAD BOSS	L.D.C.	1-2-79
DRAWN BY	J.L.B.	1-2-79
TRACED BY		
CHECKED BY	L.D.C.	1-2-79
SHEET OF		
CONTRACT 07110A		
S-139		

CAMBER ORDINATES (IN INCHES)

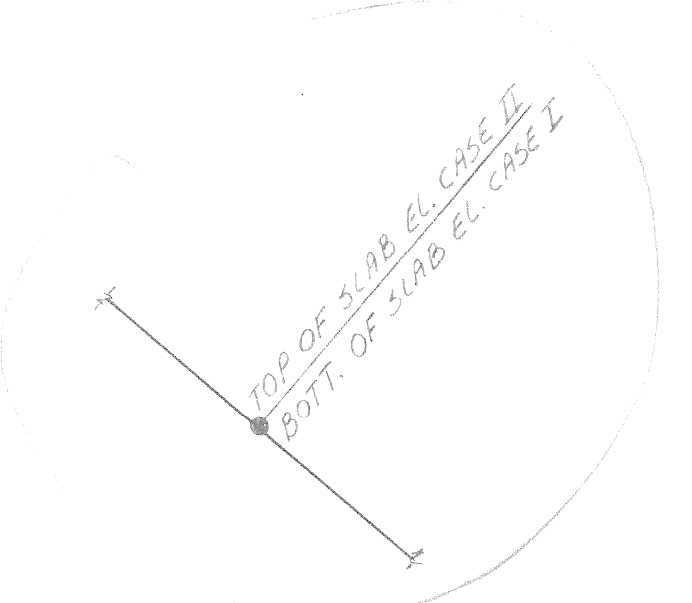
BEAM	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
CAMBER	aa	bb	cc	aa	bb	cc	aa	bb	cc	aa	bb	cc	aa	bb	cc
LOAD CASE I	3 1/2	1 1/2	9 3/8	3 1/8	1 1/8	3	1	8 1/2	3	1	7 3/8	3 1/8	1 1/8	3 3/8	1 1/8
LOAD CASE II	3 3/8	1 1/8	9	3 1/4	1 1/4	2 3/4	1	7 3/4	2 3/4	1	7 1/4	2 3/4	1 1/4	3 1/4	1 1/4
LOAD CASE III	2 3/8	1	6 1/2	2 1/2	1	5 1/2	2	4 1/2	2 1/2	1	5 1/2	2 1/2	1 1/2	4 1/2	1 1/2



CAMBER DIAGRAM FOR LOADING CASES SHOWN IN TABLE

SECTION OF SLAB NO SCALE

NOTE: TOP OF SLAB ELEVATIONS (CASE II) ON PROFILE LINES OR CURB LINES ARE NORMAL TO THE NEAREST BEAM EXCEPT FOR THOSE AT THE BEARINGS & SUSPENDER.



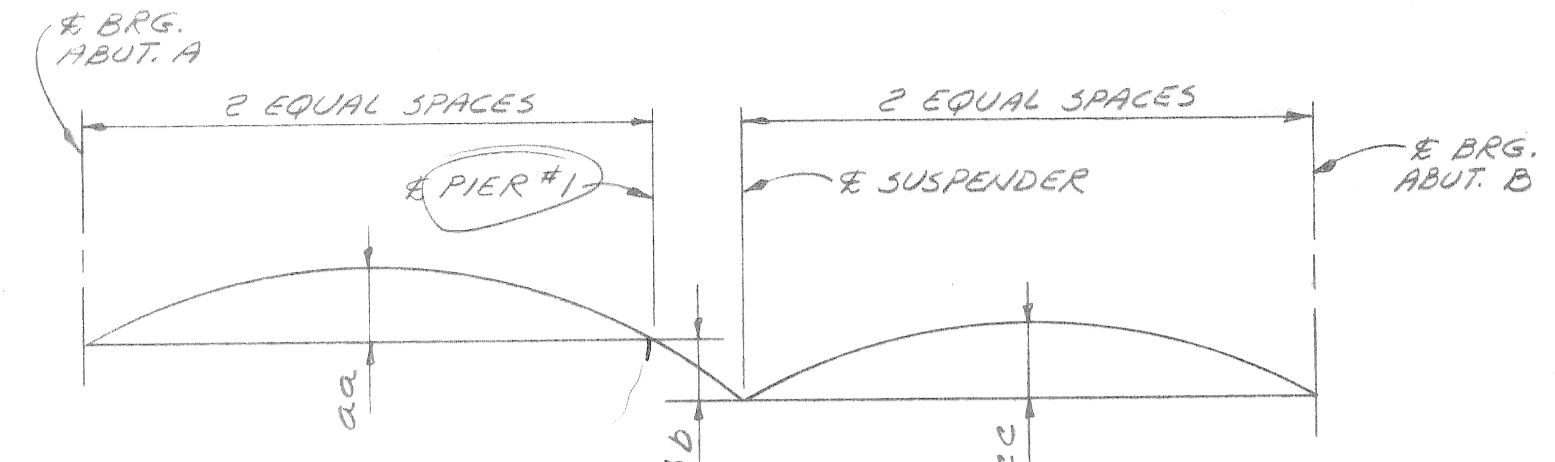
ELEVATION PLACEMENT DETAIL



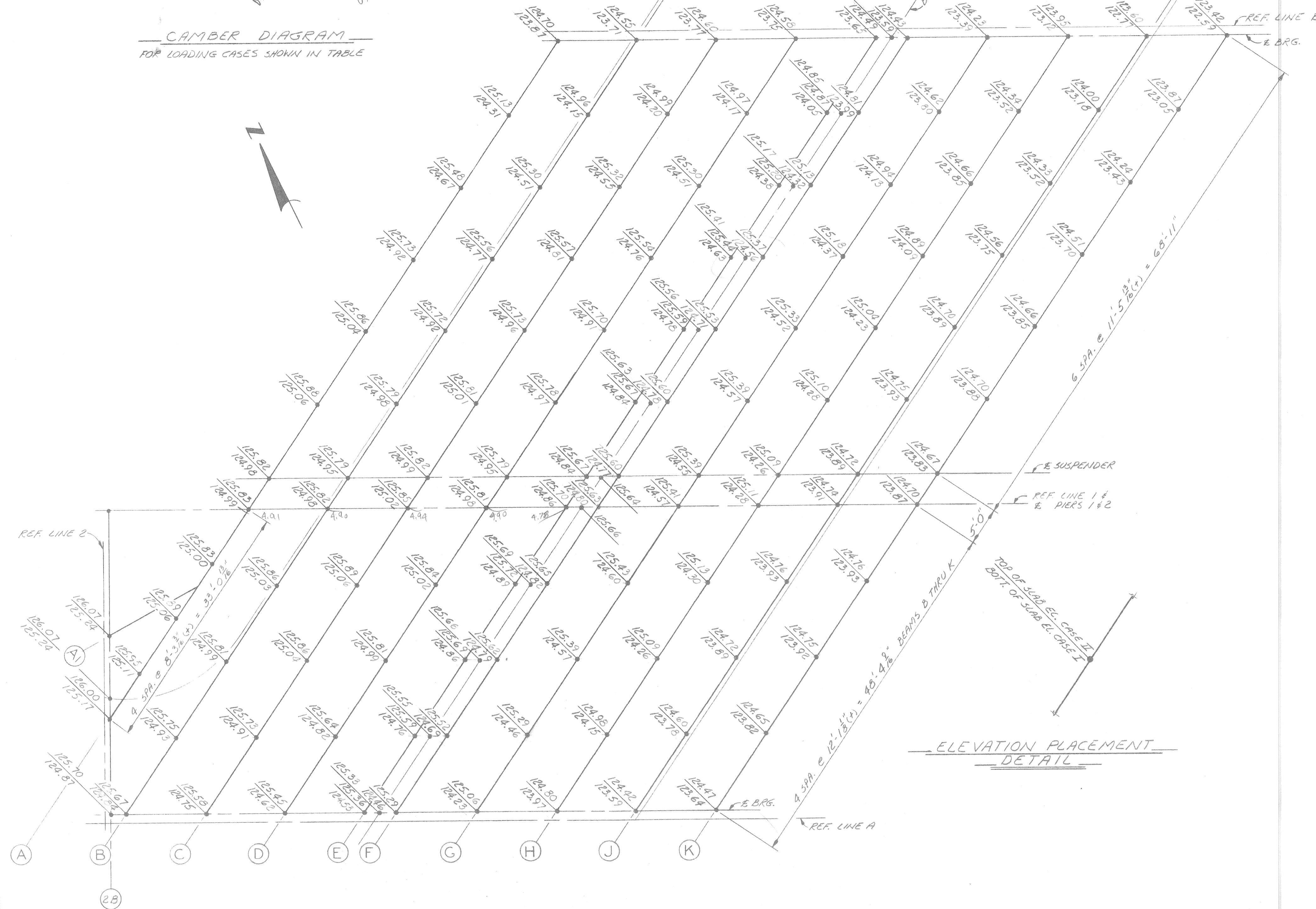
BOTTOM OF SLAB AND SCREED ELEVATIONS - 12TH ST.

REVISIONS LOCATED BY COORDINATES ON SHEET COORD. DESCRIPTION DRN CK'D AP'D DATE		DESIGNED BY <i>R. Palmer</i> DRAWN BY <i>A. G.</i> TRACED BY CHECKED BY <i>D. McNeill</i>	APPROVED: STRUCTURAL ENGINEER HEAD CIVIL ENGINEER CITY ENGINEER	CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD FOR MICHIGAN DEPT. OF STATE HIGHWAYS & TRANS.	12TH ST (ROSA PARKS BLVD) & LAFAYETTE ST CROSSING CONRAIL SUPERSTRUCTURE DETAILS ELEVATIONS & SCREEDS - 12TH ST.	SHEET ____ OF ____ SHEETS CONTRACT NO. 07110A DRAWING NO. S-140 DATE NOV 1970
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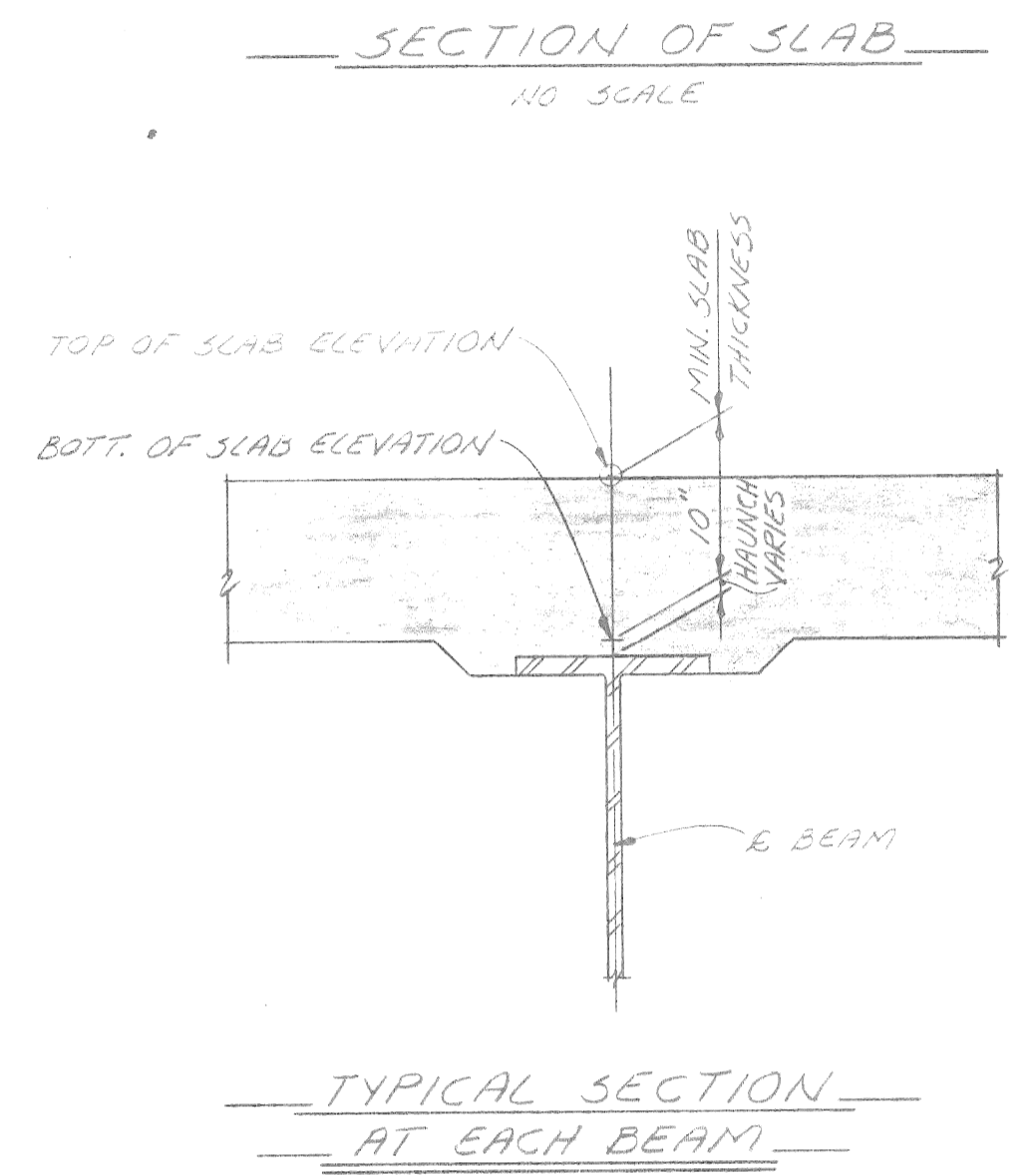
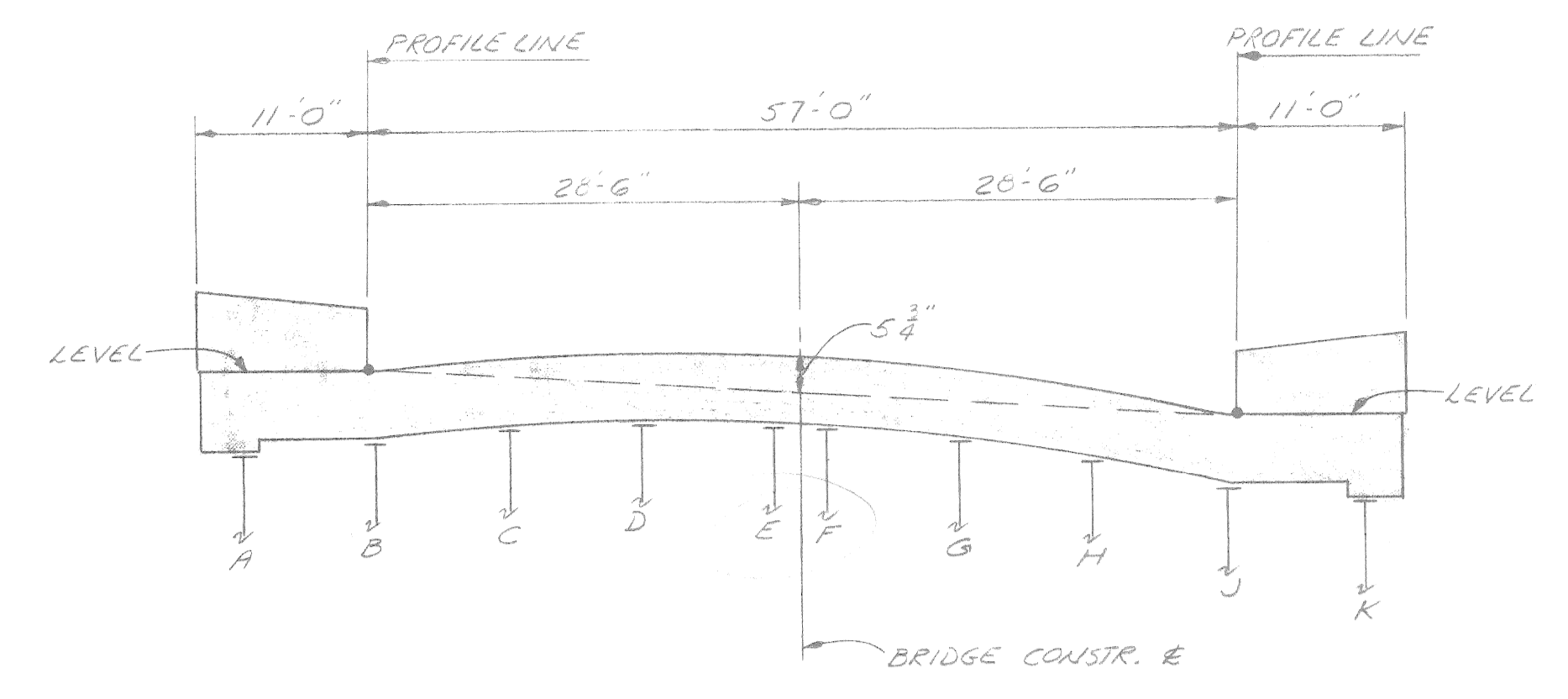
CAMBER ORDINATES (IN INCHES)																					
BEAM	A		B		C		D		E		F		G		H		J		K		
CAMBER	aa	bb	cc	aa	bb	cc	aa	bb	cc	aa	bb	cc	aa	bb	cc	aa	bb	cc	aa	bb	cc
I	0	0	5.0	0	0	0	5.0	0	0	0	5.0	0	0	0	5.0	0	0	5.0	0	0	5.0
II	0	0	5.0	0	0	0	5.0	0	0	0	5.0	0	0	0	5.0	0	0	5.0	0	0	5.0
III	0	0	3.0	0	0	0	3.0	0	0	0	3.0	0	0	0	3.0	0	0	3.0	0	0	3.0



CAMBER DIAGRAM FOR LOADING CASES SHOWN IN TABLE



BOTTOM OF SLAB AND SCREED ELEVATIONS - LAFAYETTE ST. SCALE: 1/8" = 1'-0"



NOTES:

- POUR SUSPENDED SPANS BEFORE POURING ANCHOR SPANS.
- SCREEDS AFFECTED BY LOADS IN OTHER SPANS SHALL BE SET TO ELEVATIONS SHOWN BEFORE POURING ANY CONCRETE.
- ELEVATIONS AND CAMBERS SHOWN INCLUDE ALLOWANCES FOR DEFLECTIONS DUE TO WEIGHT OF STRUCTURAL STEEL, WEIGHT OF FORMS, STEEL REINFORCEMENT, SLAB CONCRETE, SIDEWALK, RAILINGS AND UTILITIES. THE LOADING CASES ARE AS FOLLOWS:
- CASE I - ALL STRUCTURAL STEEL ERECTED AND NO OTHER LOAD APPLIED.
- CASE II - FORMS, STEEL REINFORCEMENT AND UTILITIES IN PLACE ON STRUCTURAL STEEL AND NO OTHER LOAD APPLIED.
- CASE III - STEEL REINFORCEMENT, UTILITIES, AND SLAB CONCRETE (WITH FORMS REMOVED) IN PLACE ON STRUCTURAL STEEL AND NO OTHER LOAD APPLIED.

DESIGNED BY	<i>R. P. ...</i>	APPROVED:	
DRAWN BY	A. G.	STRUCTURAL ENGINEER	
TRACED BY		HEAD CIVIL ENGINEER	
CHECKED BY	<i>J. M. ...</i>	CITY ENGINEER	

CITY OF DETROIT
CITY ENGINEERING DIVISION - EPMD
FOR
MICHIGAN DEPT. OF STATE HIGHWAYS & TRANS.

12TH ST (ROSA PARKS BLVD.)
& LAFAYETTE ST. CROSSING CONRAIL
SUPERSTRUCTURE DETAILS
ELEVATIONS & SCREEDS - LAFAYETTE ST.

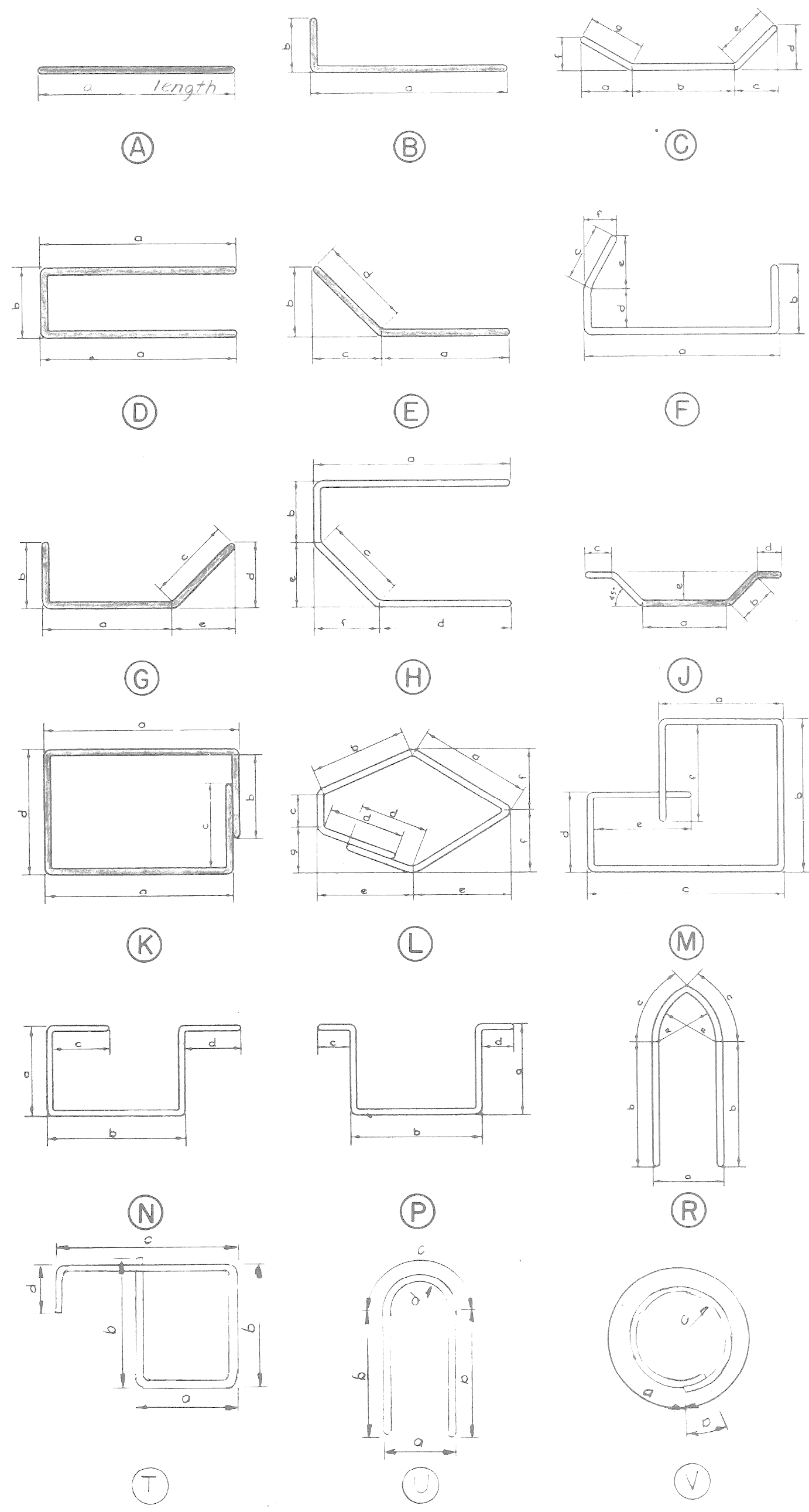
SHEET	OF	SHEETS
CONTRACT NO.	07110A	
PERMANENT NO.	S-141	
DATE	NOV 1979	

BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	a	b	c	d	e	f	g				
A1								#6	11-6	218	3766
A2								#6	7-0	365	3838
A3								#6	20-6	7	216
A4								#6	6-0	49	442
A5								#6	30-0	13	586
A6								#6	17-0	22	562
A7								#6	25-9	18	696
A8								#6	39-9	26	1552
A9								#6	15-9	23	544
A10								#6	8-0	22	470
A11								#6	8-6	15	192
A12								#6	7-6	1	11
A13								#6	3-0	1	5
A14								#6	10-0	26	391
A15								#7	10-0	10	294
A16								#6	18-0	17	460
A17								#6	16-6	36	892
A18								#6	15-3	15	344
A19								#6	18-9	3	84
A20								#6	6-6	104	1015
A21								#7	6-9	180	2483
A22								#6	33-0	18	892
A23								#6	7-0	575	6046
A24								#6	9-0	197	2663
A25								#6	7-3	190	2069
A26								#6	10-6	21	331
A27								#6	13-3	16	318
A28								#7	8-0	16	262
A29								#7	9-9	21	696
A30								#6	12-3	18	331
A31								#8	9-0	27	649
A32								#6	28-0	13	547
A33								#6	5-6	51	421
A34								#6	3-6	14	74
A35								#6	4-6	78	327
A36								#6	32-0	93	4470
A37								#6	11-0	26	430
A38								#4	21-6	112	1609
A39								#6	8-0	24	288
A40								#4	25-6	144	2453
A41								#4	24-0	22	353
A42								#4	21-9	94	1336
A43								#4	19-9	24	317
A44								#4	6-0	32	128
A45								#4	3-6	9	21
A46								#4	17-0	12	1366
A47								#4	17-9	26	308
A48								#4	15-0	50	501
A49								#10	10-6	14	633
A50								#6	8-0	62	745
A51								#6	18-3	66	1809
A52								#6	23-3	47	1641
A53								#6	34-3	40	2058
A54								#8	6-0	10	160
A55								#6	21-0	19	599
A56								#6	12-0	9	162
A57								#6	17-0	20	511
A58								#6	5-0	34	255
A59								#8	13-6	18	162
A60								#4	10-6	4	28
A61								#6	26-3	10	394
A62								#6	14-6	16	348
A63								#6	22-9	10	342
A64								#9	12-3	16	666
A65								#4	8-6	3	17
A66								#4	9-9	25	163
A67								#6	10-0	16	545
A68								#6	8-9	17	223
A69								#4	8-9	8	47
A70								#8	7-0	13	243
A71								#8	19-0	13	840
A72								#8	10-0	181	4833
A73								#4	4-6	5	15
A74								#8	11-7	24	710
A75								#10	6-0	12	310
A76								#8	18-0	25	1202
A77								#4	24-9	26	430
A78								#6	24-9	8	297

BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	a	b	c	d	e	f	g				
A79								#4	1-6	4	4
A80								#6	19-0	17	485
A81								#6	21-0	2	63
A82								#6	23-6	15	523
A83								#6	26-0	2	78
A84								#6	28-6	2	86
A85								#6	31-0	2	95
A86								#6	33-0	1	193
A87								#6	21-9	58	625
A88								#6	32-6	4	195
A89								#4	18-6	8	99
A90								#6	14-6	14	305
A91								#4	12-6	28	234
A92								#8	17-1	153	6929
A93								#6	23-9	1	36
A94								#4	23-6	64	1005
A95								#10	15-0	14	924
A96								#6	17-6	89	2339
A97								#6	19-6	181	5301
A98								#9	10-0	154	5236
A99								#7	13-0	447	11878
B1	2-0"	2-0"						#4	4-0"	7	19
B2	2-0"	3-6"						#4	5-6"	14	51
B3	1-2 1/2"	11-9"						#10	12-10"	71	607
B4	1-2 1/2"	9-4"						#10	10-5"	179	8023
B5	1-2 1/2"	15-2"						#10	16-3"	180	12586
B6	7-6"	8-3"						#9	8-9"	16	476
B7	7-6"	14-0"						#9	14-6"	16	789
D1	3-6"	6 1/2"						#6	7-4 3/4"	80	889
D2	3-0 3/4"	1-8"						#6	7-8"	467	5401
E1	7-0"	1-7 1/2"	9-10 1/2"	10-0"				#4	17-0"	16	182
E2	9-0"	1-7 1/2"	9-10 1/2"	10-0"				#6	19-0"	4	114
E3	7-0"	1-7 1/2"	9-10 1/2"	10-0"				#6	17-0"	2	51
G1	2-5 1/2"	2-0"	2-0"	1-6 3/8"	1-3 5/8"			#4	6-5"	7	30
G2	2-9"	2-0"	2-0"	1-3 5/8"	1-6 3/8"			#4	6-8 1/2"	14	63
G3	2-5 1/2"	4-6"	11-3"	8-6 1/2"	7-4"			#4	18-2"	14	170
G12	2-9"	3-0"	2-0"	1-3 5/8"	1-6 3/8"			#6	7-2 1/4"	1	12
G13	2-5 1/2"	4-6"	11-3"	8-6 1/2"	7-4"			#6	18-1 3/4"	1	27
G14	2-5 1/2"	4-6"	17-0"	12-11"	11-1"			#6	23-10 3/4"	1	36
K1	1-11"	4"	4"	6 1/4"				#6	4-10 3/4"	4	29

BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	a	b	c	d	e	f	g				
J1	13-0	3 1/2"		3-0	2 1/2"			#6	22-3 1/2"	1	33
J2	11-0	3 1/2"		11-0	2 1/2"			#6	22-5 1/2"	1	33
J3	16-0	8 1/2"		5-6	6"			#6	22-2 1/2"	1	33
J4	14-0	8 1/2"		7-6	6"			#6	22-2 1/2"	1	33
J5	13-0	7 1/2"		12-6	5"			#6	26-1 1/2"	1	39
J6	15-0	7 1/2"		10-6	5"			#6	26-1 1/2"	1	39
J7	21-6	5 3/8"		4-0	4"			#6	25-11 3/8"	1	39
J8	20-6	5 3/8"		5-0	4"			#6	25-11 3/8"	1	39
J9	4-9"	4 1/4"		12-0	3"			#6	17-1 1/4"	1	26
J10	3-9"	4 1/4"		13-0	3"			#6	17-1 1/4"	1	26
J11	4-0	2 1/2"		7-0	7"			#6	11-9 3/8"	1	18
J12	2-6	2 1/2"		8-6	7"			#6	11-5 3/8"	1	18
J13	16-0	8 1/2"		7-0	6 1/4"			#6	23-8 3/8"	1	36
J14	18-0	8 1/2"		5-0	6 1/4"			#6	23-8 3/8"	1	36
J15	12-6	10 1/4"		4-0	7 1/4"			#6	18-1 1/4"	1	27
J16	14-6	10 1/4"		2-9"	7 1/4"			#6	18-1 1/4"	1	27
J17	4-6	4 1/4"		17-0	3"			#6	11-9 3/8"	1	18
J18	6-6	4 1/4"		15-0	3"			#6	21-10 1/4"	1	33
J19	10-0	8 1/2"		14-3"	5 3/4"			#6	21-11 1/2"	1	33
J20	12-0	8 1/2"		3-3	5 3/4"			#6	21-11 1/2"	1	33
J21	10-0	11 3/8"		0-0	8"			#6	17-11 3/8"	1	30
J22	12-0	11 3/8"		7-0	8"			#6	17-11 3/8"	1	30
J23	10-0	9"		11-0	6 1/4"			#6	21-5"	1	23
J24	9-0	9"		12-0	6 1/4"			#6	21-5"	1	23
J25	7-0	8 1/2"		14-0	5 3/4"			#6	21-8 1/2"	1	33
J26	6-0	8 1/2"		15-0	5 3/4"			#6	21-8 1/2"	1	33

BAR BENDING DIAGRAM



NOTE: All bends in Reinforcing Steel to be made about a pin of the minimum diameter allowed by the Standard Specifications.

Tolerances in cutting and bending bars are as established in Manual of Standard Practice of the Concrete Reinforcing Steel Institute and Detailing Manual of the American Concrete Institute.

Total Steel Reinforcement this Sheet 134,419 #

REVISIONS LOCATED BY COORDINATES ON SHEET		REVISIONS	NO. CHG.	DATE		
DESIGNED BY <i>McGuire</i> DRAWN BY <i>J.M.</i> TRACED BY CHECKED BY					APPROVED: <i>Structural Engineer</i> <i>Lead Civil Engineer</i> CITY ENGINEER	CITY OF DETROIT CITY ENGINEERING DIVISION E. P

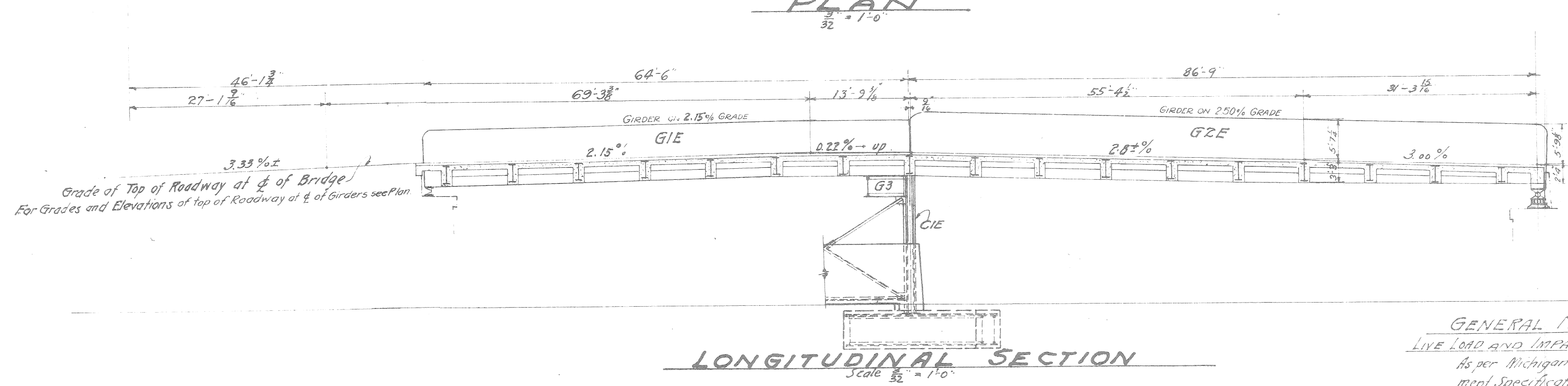
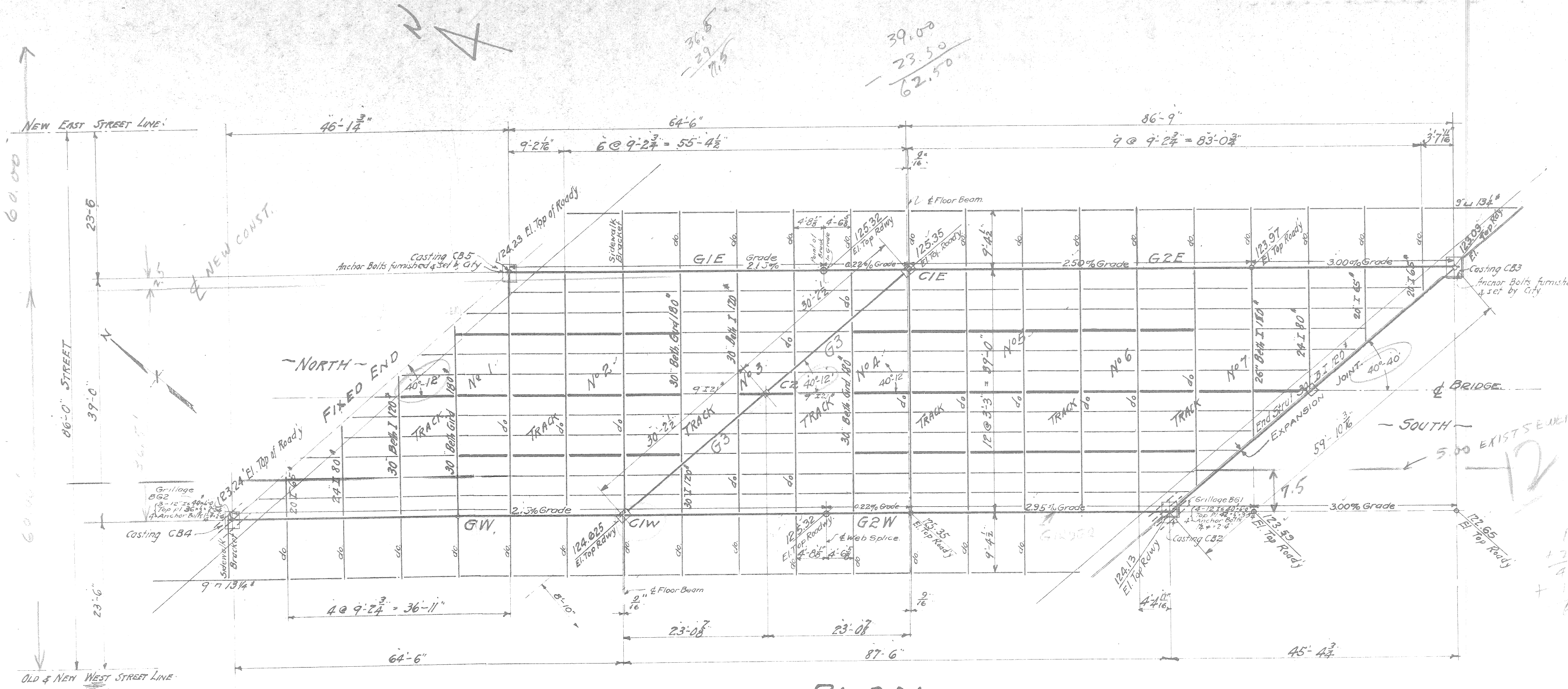
BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D	TOTAL WT.
	a	b	c	d	e	f	g				
A201								#4	34'-9"	12	279
A202								#5	36'-0"	192	7009
A203								#5	35'-3"	12	635
A204								#5	34'-0"	2	71
A205								#5	33'-4"	2	10
A206								#5	32'-7"	2	68
A207								#5	31'-11"	2	67
A208								#5	31'-3"	438	11017
A209								#5	30'-6"	2	64
A210								#5	27'-11"	2	58
A211								#5	27'-3"	2	57
A212								#5	26'-5"	2	55
A213								#5	25'-9"	2	54
A214								#5	25'-7"	2	52
A215								#5	24'-4"	2	51
A216								#5	23'-0"	2	48
A217								#5	22'-11"	2	48
A218								#5	22'-2"	2	46
A219								#5	21'-5"	2	45
A220								#6	24'-6"	1	52
A221								#6	33'-0"	1	50
A222								#6	31'-9"	1	48
A223								#6	31'-3"	43	2018
A224								#6	30'-6"	18	367
A225								#6	29'-3"	6	173
A226								#6	9'-9"	3	44
A227								#6	10'-3"	3	46
A228								#6	27'-4"	2	82
A229								#5	9'-0"	5	47
A230								#6	28'-0"	304	12785
A231								#6	23'-8"	132	4692
A232								#6	3'-4"	41	205
A233								#6	3'-11"	19	112
A234								#6	4'-6"	20	135
A235								#6	5'-1"	19	146
A236								#6	6'-3"	20	188
A237								#6	6'-9"	19	193
A238								#6	7'-4"	20	220
A239								#6	7'-11"	19	226
A240								#6	8'-5"	19	240
A241								#6	9'-1"	26	355
A242								#6	9'-8"	19	276
A243								#6	10'-3"	20	308
A244								#6	10'-9"	19	307
A245								#6	11'-4"	20	340
A246								#6	11'-11"	19	340
A247								#6	12'-6"	19	357
A248								#6	13'-1"	20	393
A249								#6	13'-8"	205	4208
A250								#6	14'-3"	16	342
A251								#6	14'-10"	15	334
A252								#6	15'-4"	16	368
A253								#6	15'-11"	16	383
A254								#6	16'-6"	16	397
A255								#6	17'-1"	21	539
A256								#6	17'-8"	16	425
A257								#6	18'-3"	16	439
A258								#6	18'-10"	16	453
A259								#6	19'-4"	15	436
A260								#6	19'-11"	16	479
A261								#6	20'-6"	16	493
A262								#6	21'-1"	16	507
A263								#6	21'-8"	15	488
A264								#6	22'-3"	16	535
A265								#6	22'-9"	14	478
A266								#6	23'-4"	14	491
A267								#6	23'-11"	14	503
A268								#6	24'-6"	15	552
A269								#6	25'-1"	15	565
A270								#6	25'-8"	14	540
A271								#6	26'-3"	176	6939
A272								#6	26'-10"	22	887
A273								#6	27'-4"	6	246
A274								#6	33'-9"	12	608

BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D	TOTAL WT.					
	a	b	c	d	e	f	g									
A291								#6	6'-4 1/2"	214	2056					
A292								#4	1'-4"	3102	6	6	6	6	110	548
A293								#4	1'-4"	445	6	6	6	6	4	21
A294								#4	1'-4"	4102	6	6	6	6	4	23
TOTAL = 69983																
A301								#4	34'-9"	186	4178					
A302								#6	25'-3"	12	635					
A303								#6	34'-6"	1	52					
A304								#6	33'-0"	1	48					
A305								#6	31'-9"	1	48					
A306								#6	31'-3"	31	1405					
A307								#4	33'-6"	2	46					
A308								#4	32'-0"	2	43					
A309								#4	30'-6"	340	6927					
A310								#4	27'-6"	2	37					
A311								#4	26'-0"	2	35					
A312								#4	24'-6"	4	25					
A313								#4	23'-0"	8	123					
A314								#4	21'-6"	4	57					
A315								#4	20'-3"	4	54					
A316								#4	19'-0"	2	25					
A317								#4	17'-9"	10	119					
A318								#4	14'-6"	1	10					
A319								#6	27'-4"	2	82					
A320								#4	9'-0"	3	18					
A321								#6	28'-0"	246	12028					
A322								#6	23'-8"	132	4692					
A323								#6	3'-4"	41	205					
A324								#6	3'-11"	19	112					
A325								#6	4'-6"	20	135					
A326								#6	5'-1"	19	146					
A327								#6	6'-3"	20	188					
A328								#6	6'-9"	19	193					
A329								#6	7'-4"	20	220					
A330								#6	7'-11"	19	226					
A331								#6	8'-5"	19	240					
A332								#6	9'-1"	20	273					
A333								#6	9'-8"	19	276					
A334								#6	10'-3"	20	308					
A335								#6	10'-9"	19	307					
A336								#6	11'-4"	20	340					
A337								#6	11'-11"	19	340					
A338								#6	12'-6"	19	357					
A339								#6	13'-1"	20	393					
A340								#6	13'-8"	205	4208					
A341								#6	14'-3"	16	342					
A342								#6	14'-10"	15	334					
A343								#6	15'-4"	16	368					
A344								#6	15'-11"	16	383					
A345								#6	16'-6"	16	397					
A346								#6	17'-1"	21	539					
A347								#6	17'-8"	16	425					
A348								#6	18'-3"	16	439					
A349								#6	18'-10"	16	453					
A350								#6	19'-4"	15	436					
A351								#6	19'-11"	16	479					
A352								#6	20'-6"	16	493					
A353								#6	21'-1"	16	507					
A354								#6	21'-8"	15	488					
A355								#6	22'-3"	16	535					
A356								#6	22'-9"	14	478					
A357								#6	23'-4"	14	491					
A358								#6	23'-11"	14	503					
A359								#6	24'-6"	15	552					
A360								#6	25'-1"	15	565					
A361								#6	25'-8"	14	540					
A362								#5	26'-3"	158	6230					
A363								#6	26'-10"	22	887					

BAR	DIMENSIONS							SIZE	LENGTH	NO. REQ'D	TOTAL WT.	
	a	b	c	d	e	f	g					
A364								#4	10'-4"	62	125	
A365								#6	15'-6"	6 1/2"	43	
A366								#6	14'-2"	6 1/2"	43	
A367								#6	8'-2"	6 1/2"	43	
A368								#6	7'-11"	6 1/2"	43	
A369								#6	6'-9"	6 1/2"	43	
A370								#6	5'-9"	6 1/2"	43	
A371								#6	4'-3"	6 1/2"	43	
A372								#6	3'-2"	6 1/2"	43	
A373								#6	2'-11"	6 1/2"	43	
A374								#6	1'-0"	1'-3"	71	
A375								#6	1'-2 1/2"	1'-6 1/2"	118	71
TOTAL = 62211												
A401								#4	33'-4"	12	635	
A402								#5	35'-3"	1	52	
A403								#4	10'-6"	1	48	
A404								#4	38'-3"	4	173	
A405								#4	14'-6"	19	193	
A406								#4	14'-6"	24	220	
A407								#4	7'-0"	19	226	
A408								#4	25'-0"	1	451	
A409								#4	40'-0"	1	202	
A410								#4	4'-3"	18	202	
A411								#4	24'-3"	15	263	
A412</												

QUANTITY SHEET - E

BRIDGE ITEMS	AS PER PLANS													AS CONSTRUCTED																		
	SHEET NO'S.		S-106	S-117	S-118	S-122	S-123	S-136	S-138	S-139	S-142	S-143	S-144	S-145	SHEET NO'S.		S-106	S-117	S-118	S-122	S-123	S-136	S-138	S-139	S-142	S-143	S-144	S-145	Extra's: Authorization Nos			
	TOTALS	UNITS	General Plan of Structure	Abutment Details	Piling Plan	Pier Details	Structural Steel Framing Plan and Details	Superstructure Details	NAME PLATE DETAILS	EXPANSION JOINT DEVICE	Steel Reinforcement Details	"	"	"	TOTALS	UNITS	General Plan of Structure	Abutment Details	Piling Plan	Pier Details	Structural Steel Framing Plan and Details	Superstructure Details	NAME PLATE DETAILS	Expansion Joint Device	Steel Reinforcement Details	"	"	"				
STRUCTURE EMBANKMENT (CIP)	1125	CY	1125												2015	C.Y.	2015														A-2001,07	
UNCLASSIFIED EARTH EXCAVATION (UNDERCUT)	7465	CY		6600		865									7988	C.Y.		7050		938										A-2001,07		
UNCLASSIFIED FOUNDATION EXCAVATION															65	C.Y.																
6A STONE	8000	CY	8000												7534	C.Y.	7534													A-2001,07		
STRUCTURE BACKFILL (CIP)															2460	S.F.																
MIRAFI-500 FILTER FABRIC	27	L.F.			27										14	L.F.		14												A-2001,07		
ROCK DRILLING															135	L.F.																
REMOVE TOP HALF 66S-0" DIAMETER BRICK SEWER AND CLEANOUT															1182	S.F.	1182													A-2001,07		
TEMPORARY STEEL SHEET PILING	1840	SF	1840												685	C.Y.														A-2002		
2 NS SAND, FURNISH & PLACE															7402	L.F.		7402												A-2002		
STEEL PILES FURNISHED & DRIVEN (12")	7449	L.F.			7449										1184	S.F.														A-2002		
VISQUEEN - 6 MIL - IMPERVIOUS															79	EA.		79												A-2002		
SPICES - STEEL PILES (12")	187	EA			187										361	S.F.														A-2002		
MIRAFI 100 - FILTER FABRIC - FURNISH & PLACE															54.4	C.Y.					54.4									A-2002		
STRUCTURAL LIGHTWEIGHT CONCRETE	51	CY					51								77339.23	D.LRS.														A-2003,14		
RELOCATE 10" WATER LINE (FORG ACCOUNT)															2887.8	C.Y.		2013.8		874										A-2004,15		
SUBSTRUCTURE CONCRETE	2863	CY		1989		874									0	D.LRS.														A-2004,15		
PUMP SURFACE WATER FROM CONRAIL TUNNEL SUMP PUMPS															1239.7	C.Y.					1239.7									A-2005,08		
SUPERSTRUCTURE CONCRETE	1237	CY					1237								675	C.Y.														A-2005,08		
SELECTED EXCAVATED MATERIAL, FURNISH (LOOSE)															331,964	LBS.								134,419	81,678	38,520	77,347			A-2005,08		
STEEL REINFORCEMENT	329,745	LBS								134419	81678	38520	75128		411	C.Y.														A-2005,08		
SELECTED EXCAVATED MATERIAL, FURNISH AND PLACE															93,430	LBS.											20,462	62,968			A-2006	
STEEL REINFORCEMENT, EPOXY COATED	93430	LBS													80.59	C.Y.																
GRADE "X" CONCRETE															420	C.Y.															A-2006	
LOW TEMPERATURE PROTECTION, SUBSTR. CONC.	2863	CY		1989		874									282	L.F.		120		0											A-2009	
4' CHAIN LINK FENCE															0	C.Y.															A-2009	
LOW TEMPERATURE PROTECTION, SUPERSTR. CONC.	1288	CY													2	EA.															A-2009	
4' GATE - SINGLE															26,985	SF.															A-2012	
PROTECTIVE TREATMENT FOR BRIDGE DECKS	26985	SF													101.54	D.LRS.															A-2012	
BREAK INTO SEWER: (5'-0" DIA.)															156	L.F.															A-2012	
2" PREFORMED NEOPRENE JOINT, SEAL	160	LF													258.19	D.LRS.															A-2012	
CLEANOUT MUCK															27	L.F.															A-2012	
EXPANSION JOINT DEVICE 2" MIN. TRAVEL	27	LF													127.06	D.LRS.															A-2012	
DRILL 4" DIAMETER HOLE															263	L.F.															A-2012	
EXPANSION JOINT DEVICE, 3" MIN TRAVEL	266	LF													230.01	D.LRS.															A-2012	
EXCAVATE 3'-0" SAND															24	S.F.															A-2012	
EPOXY BONDING AGENT	40	SF					40								225.84	D.LRS.															A-2012	
LOCATE WATER SHUTOFF															0	EA.															A-2012	
10" PIPE SLEEVE, PLACED	2	EA					2								92.29	D.LRS.															A-2012	
EXPOSE EXISTING 8" SEWER															9	EA.		9													A-2012	
EXPANSION JOINT DRAIN															124.04	D.LRS.															A-2012	
EXPOSE 5'-0" SEWER															268	L.F.															A-2012	
3' CONDUIT	188	LF					188								688.17	D.LRS.															A-2012	
FLUSH 24" CULVERT															4210	L.F.															A-2012	
4' CONDUIT	4144	LF					4144																									
NAME PLATES	4	EA						4																								
FIELD PAINTING	1	L.S.																														
STRUCTURAL STEEL FUR.N. & FAB. (AST2 ROLLED)	55500	LBS					55500								755500	LBS.					755500											
STRUCTURAL STEEL ERECTION (AST2 ROLLED)	55500	LBS					55500								755500	LBS.					755500											
BUSHINGS	100	EA					100								100	EA.					100											
JOINT WATERPROOFING	150	SF			1229										1423	SF.		1423														
BRIDGE RAILING - SOLID PARAPET TYPE	40	LF			140										162	L.F.		162														
BRIDGE RAILING - SOLID PARAPET TYPE (MOD.)	497	LF													505	L.F.																
24" CLASS A CULVERT	402	LF	402												480	L.F.	480															
8" CLASS A SEWER (TRENCH DETAIL B)	340	LF	340												106	L.F.	106															
SLOPE PAVING CONCRETE	1182	SF	1230												1182	SF.	1182															
SLOPE PROTECTION HEADERS	54	LF	504												492	L.F.	492															
FOUNDATION DRAINS 6"	655	LF		655											816	L.F.		816														
PEDESTRIAN FENCING STRUCTURES	397	SF													3988	S.F.																
REMOVAL OF PORTIONS OF STRUCTURES	1	L.S.	1												1	L.S.		1		</												



GIRDER SCHEDULE

MARK	SPAN	END SHEAR	MAX. MOM.	EFF. DEPTH	MATERIAL IN EACH RANGE	WEIGHT	STRESS AREA	NET AREA
					COVER PLS. LENGTH		TOP FLG.	BUTT FLG.
G1E	64'-6"	376,000	4,630,000	7.22'	2-8'-6" x 1/2" x 18'-3/8"	87.3	45.55"	59.60"
G1W					18'-3/8" x 1/2" x 46'-9" (top)			
G2E	36'-9"	493,000	10,040,000	8.13'	2-8'-0" x 3/4" x 18'-1/8"	102.1	83.88"	73.66"
G2W	37'-6"				18'-1/8" x 3/4" x 46'-9" (top)			
G3	30'-2 1/2"	84,000	716,000	2.82'	2-6'-4" x 3/8" x 1'-10" x 3/8"	36.3/8	20.62"	16.64"
G4	44'-3"	464,000	9,200,000	4.5'	4-19" x 3/8" x 21'-0" x 15'-0"	8.54/8	126.5"	111.30"
G5	27'-0"	474,000	5,340,000	4.45'	4-19" x 3/8" x 21'-0" x 15'-0"	10.3/8	2.54/8	25.68"

COLUMN SCHEDULE

MARK	MAX. BRIDGE LENGTH	MAXIMUM TOTAL LOAD	LOADING FOR MAX. ECCENTRICITY	ECCENTRICITY	COLUMN SECTION	SKETCH	AREA
			G1	G2	G3	Total	
C1	15.3'	365,000*	200,000*	470,000*	34,000*	712,000*	83.01 ²
C2	15.3'	170,000*					22.00 ²

PAINTING:
As per specifications and notes on Design Drawings. Steel in contact with concrete shall not be painted at all.

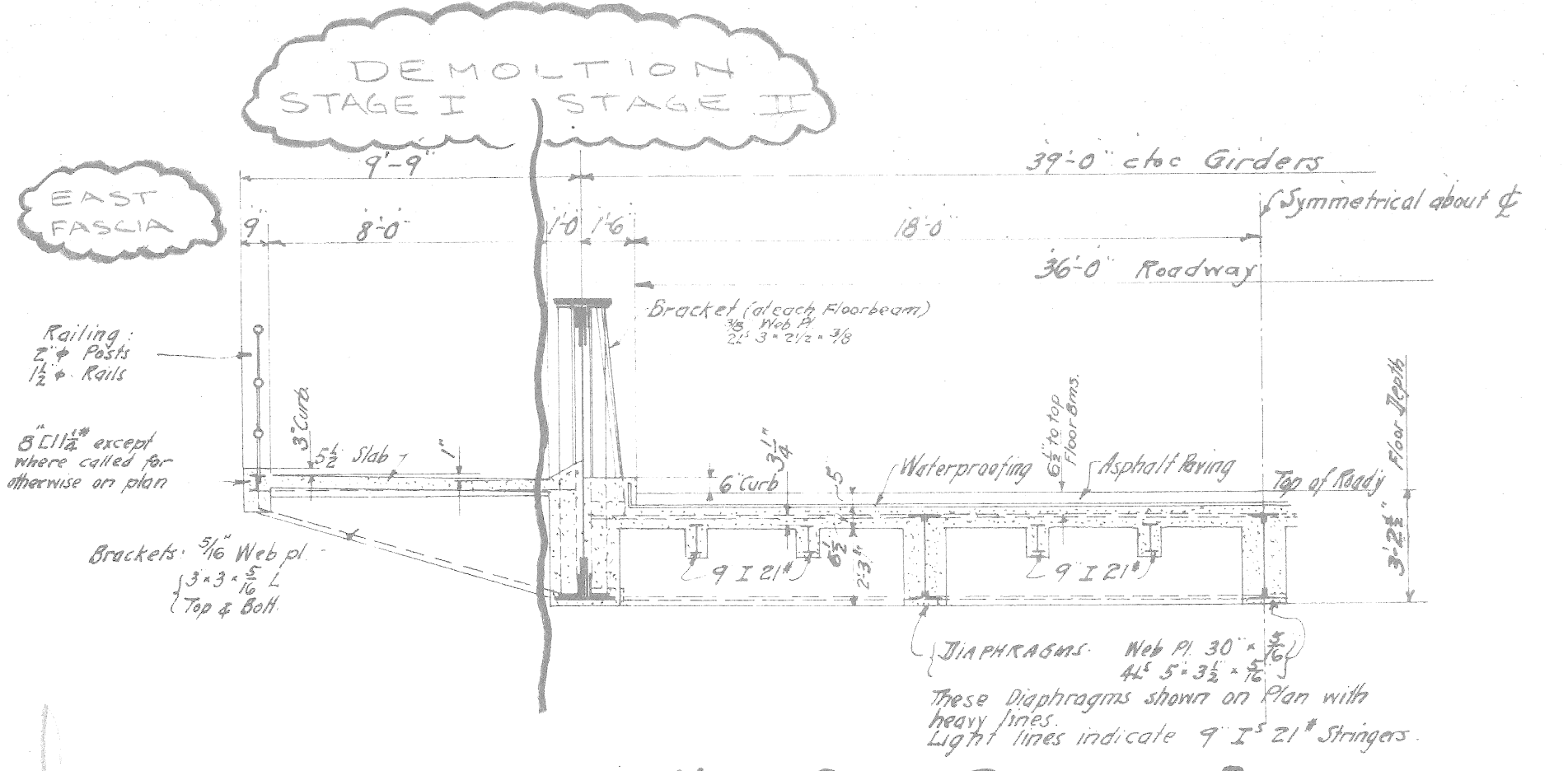
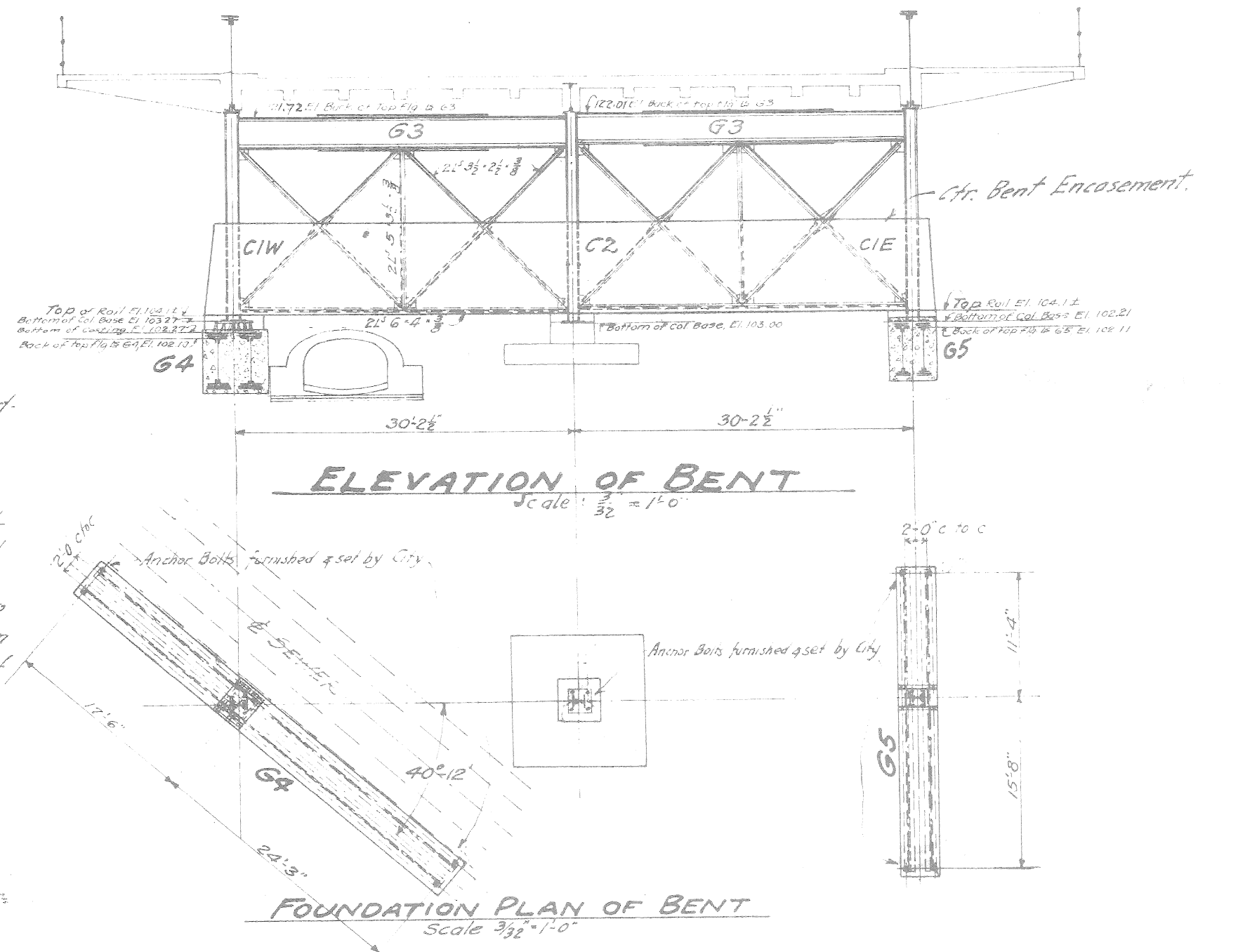


TABLE OF OVERHEAD TRACK CLEARANCES

TRACK NO.	ELEVATION BOT. GIRDER		ELEVATION TOP OF RAIL		CLEARANCE	
	WEST	EAST	WEST	EAST	Under West Girder	Under East Girder
1	120.37	121.08	104.64	104.37	15.73 (15.35)	16.71 (16.46)
2	120.79	121.49	104.24	104.17	16.55 (16.53)	17.32 (16.52)
3	121.23	121.94	104.12	103.94	17.11 (17.10)	18.00 (17.14)
4	121.66	121.76	104.22	104.04	17.44 (17.17)	17.72 (17.25)
5	122.06	121.23	104.21	104.00	17.85 (17.08)	17.28 (17.17)
6	121.55	120.93	104.20	104.04	17.35 (16.85)	16.94 (16.92)
7	121.06	120.81	104.13	104.01	16.93 (16.56)	16.80 (16.75)

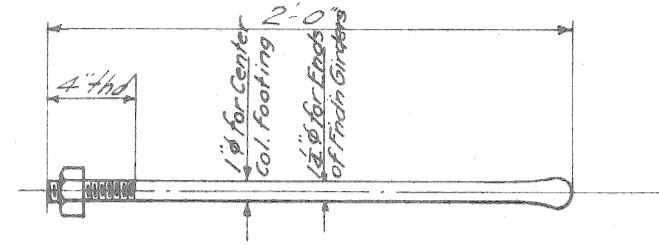
Note: Figures in parenthesis () denote clearance under existing Trusses.



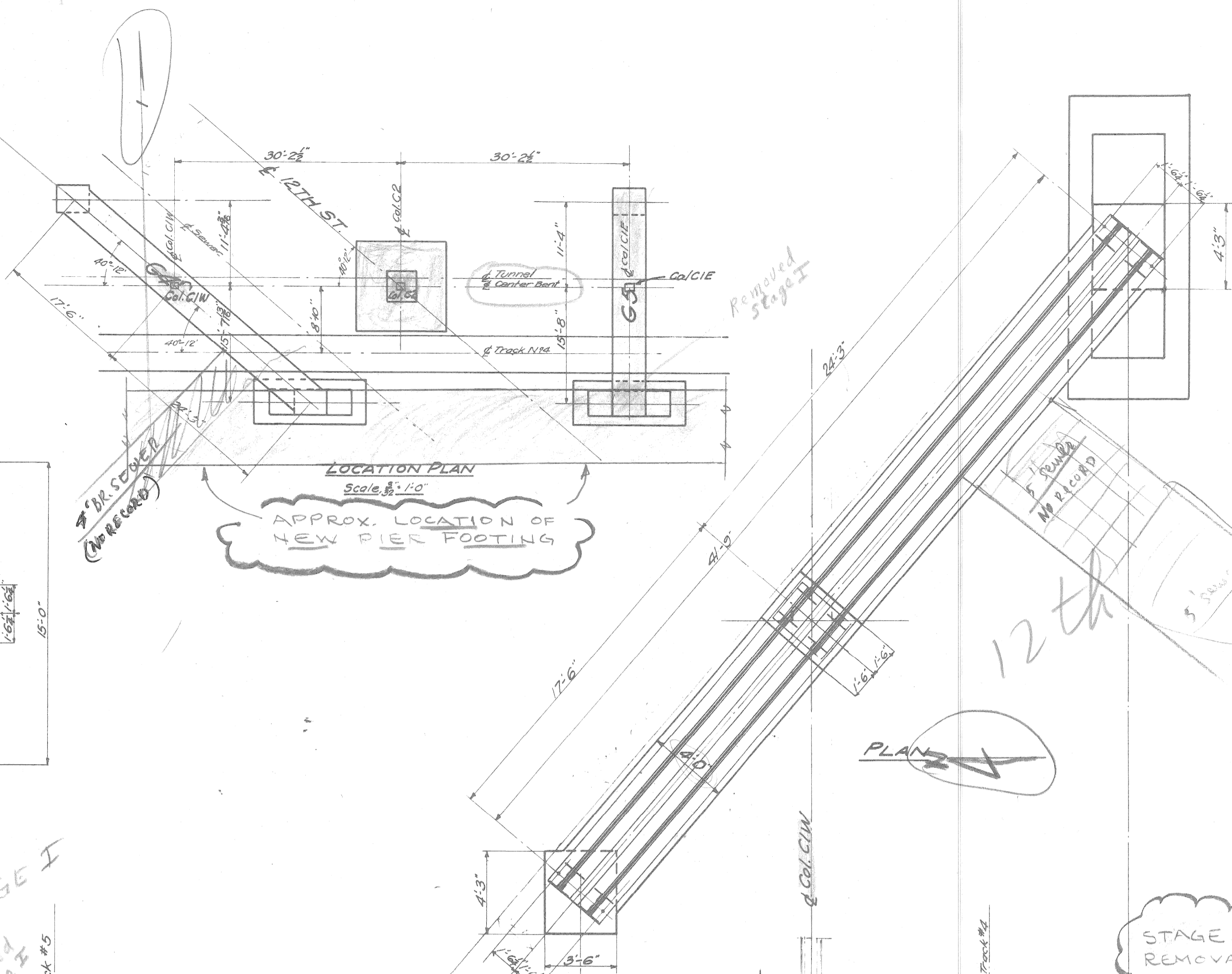
GENERAL NOTES

LIVE LOAD AND IMPACT:
As per Michigan State Highway Department Specifications for Highway Bridges, 1920 Edition, except Floorbeams and Girders.
Four Lines of 18 Ton Trucks on Roadway. The diaphragms were assumed to distribute the floorbeam loads by considering them continuous over two spans on either side of the floorbeam in question. An impact allowance of 18 1/2% was added to the moment and shear on the floorbeams. No impact, however, was added on the girders for a roadway loaded with four lines of trucks.
Stringers and Slab:
18 Ton Truck - 25% Impact.
Side walk - 100 #/sq ft - No Impact.
Columns: Four Lines of Trucks on roadway and 100 #/sq ft on sidewalks.
Impact - 25% on roadway only.
Foundations under Bent:
Same as for Columns except no impact.
MATERIALS, WORKMANSHIP AND DETAILS:
As per specifications and Design Drawings, Sheets 1 to 5.
UNIT STRESSES:
Tension 16,000 #/sq in net sect.
Comp. 16,000 - 70 #/sq in gross.
Shear 10,000 #/sq in gross.
Shop Rivets 12,000 #/sq in shear 24,000 #/sq in bearing.
Field " 10,000 " " 20,000 " "
Score in Masonry 3,000 #/sq in.

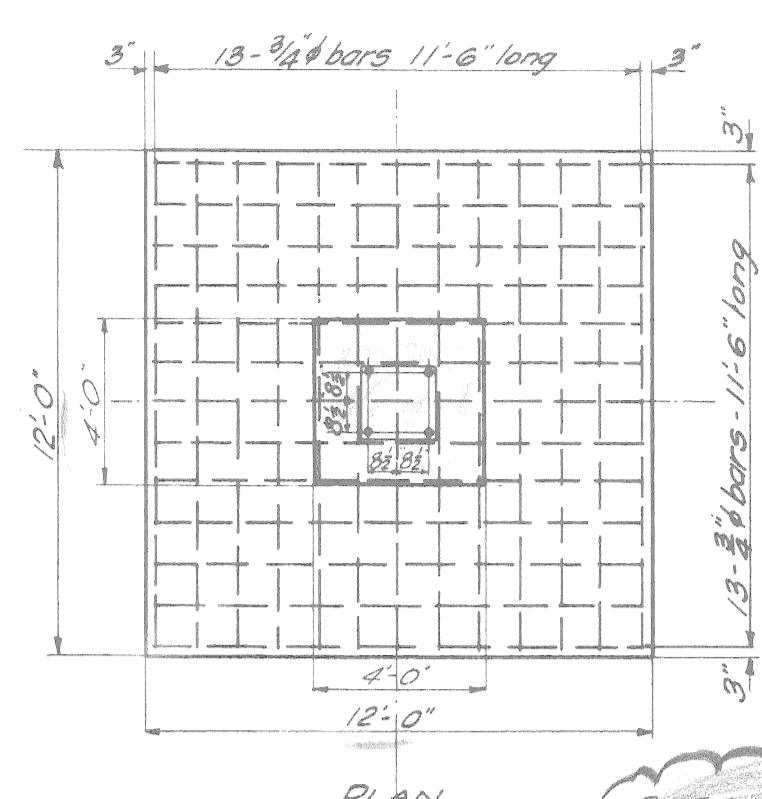
<p>DESIGNED BY</p>				<p>APPROVED:</p>			
<p>DRAWN BY</p>				<p>CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD</p>			
<p>TRACED BY</p>				<p>12TH ST. (ROSA PARKS BLVD.) & LAFAYETTE ST. CR. SSING. CONRAIL</p>			
<p>CHECKED BY</p>				<p>REFERENCE DRAWING: BLD. TWELFTH ST. ENL. GE GENERAL PLAN - SUPERSTRUCTURE</p>			
<p>COORD. DESCRIPTION DRN. CKD. APVD. DATE</p>				<p>SHEET ____ OF ____ SHEETS</p>			
<p>REVISIONS LOCATED BY COORDINATES ON SHEET</p>				<p>CONTRACT NO. 2310 A</p>			
<p>1 2 3 4 5 6 7 8 9 10 11</p>				<p>NO. 1</p>			
<p></p>				<p>DATE: 11/1/51</p>			



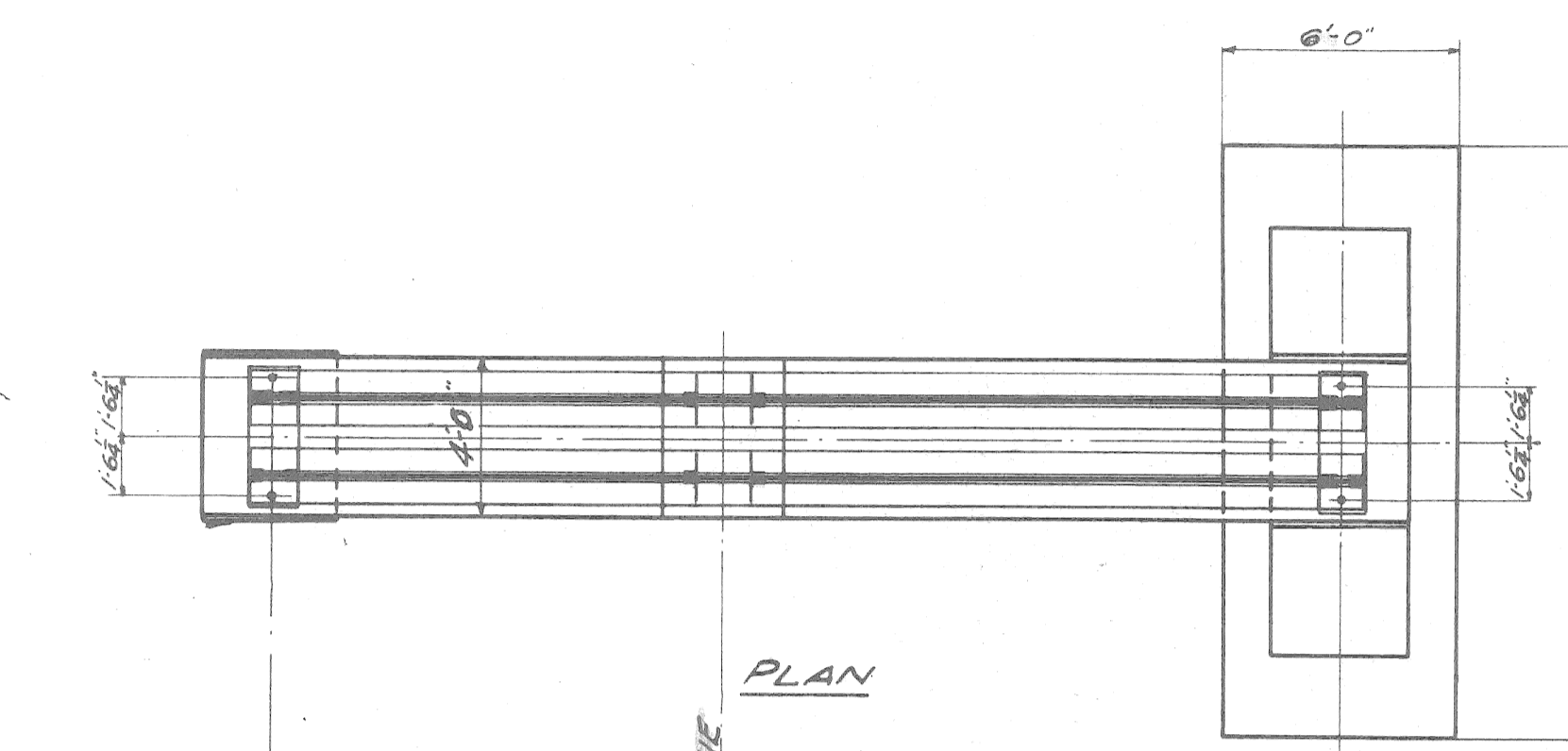
DETAIL OF ANCHOR BOLTS



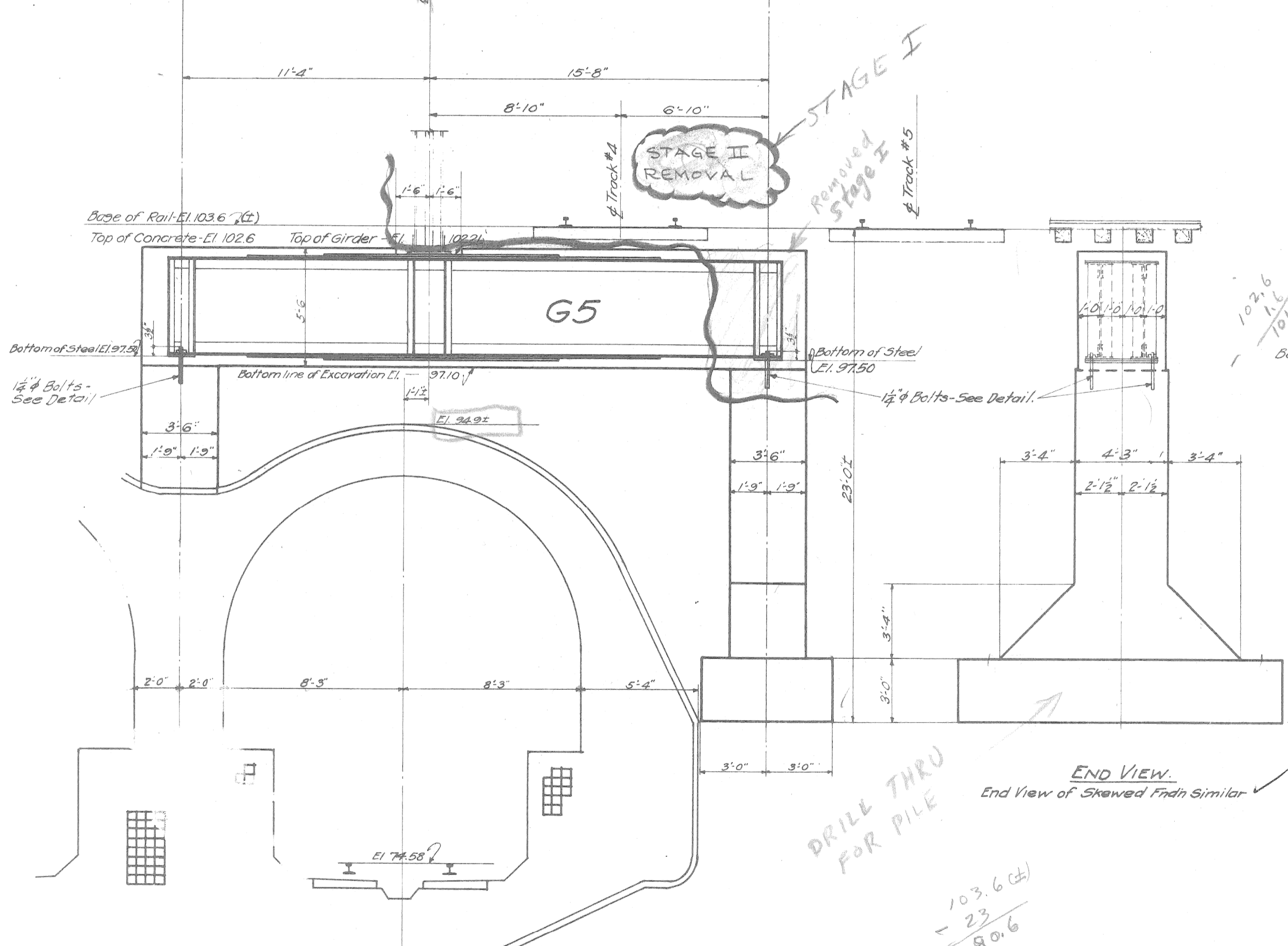
APPROX. LOCATION OF NEW PIER FOOTING



Removed in STAGE I

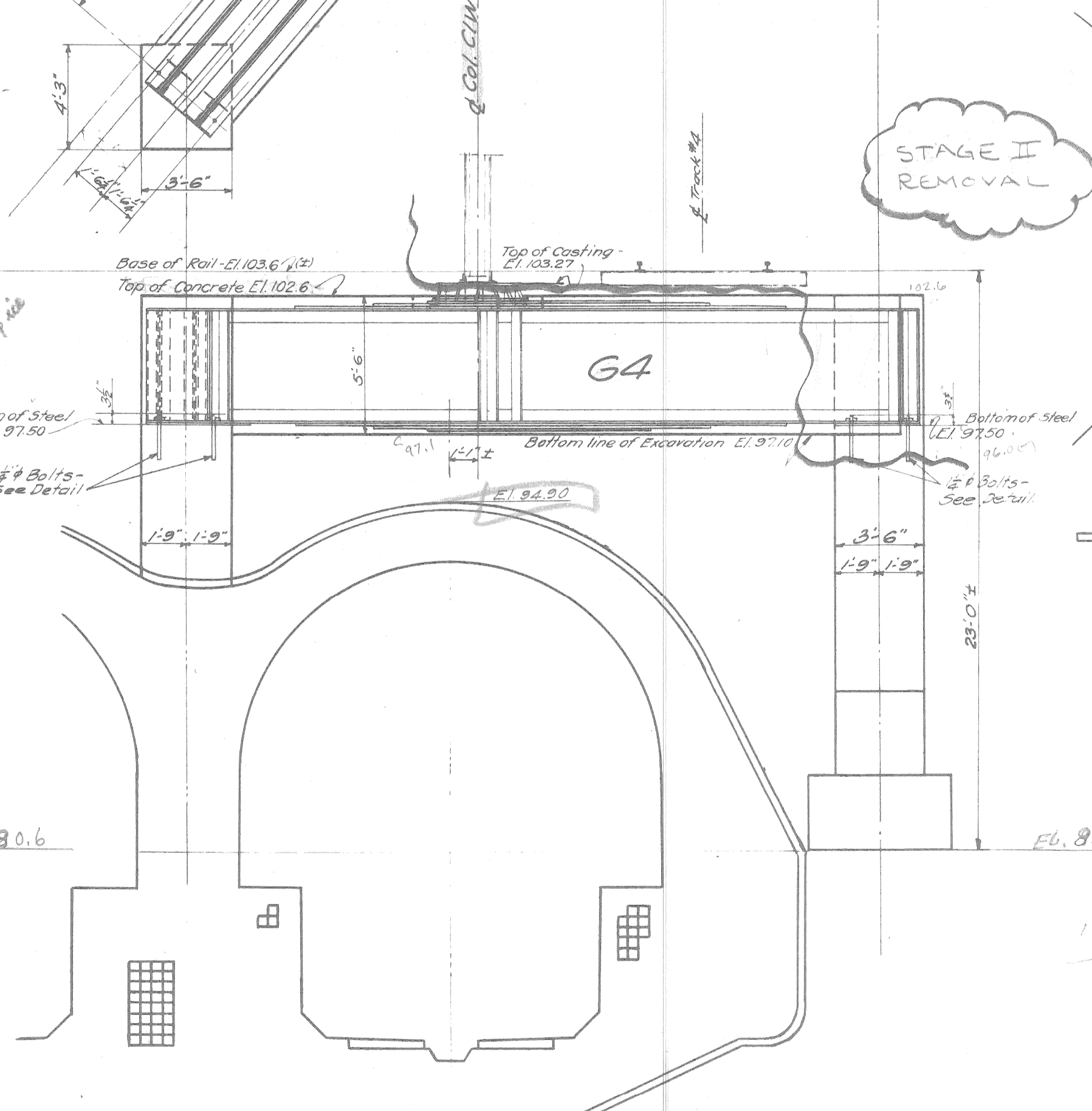


PLAN



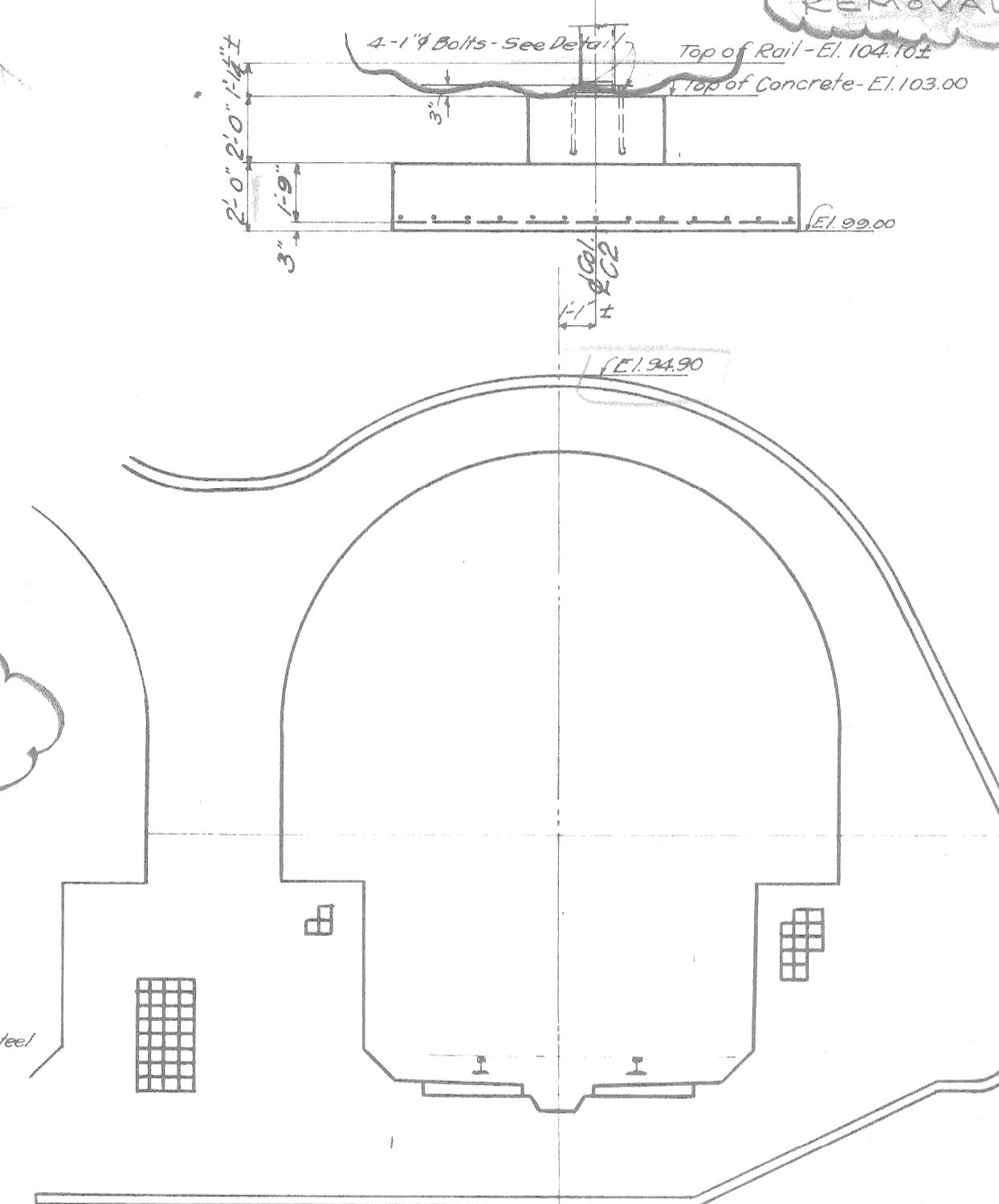
ELEVATION

FOUNDATION FOR COLUMN C1E



ELEVATION

FOUNDATION FOR COLUMN C1W



ELEVATION
FOUNDATION FOR COLUMN C2

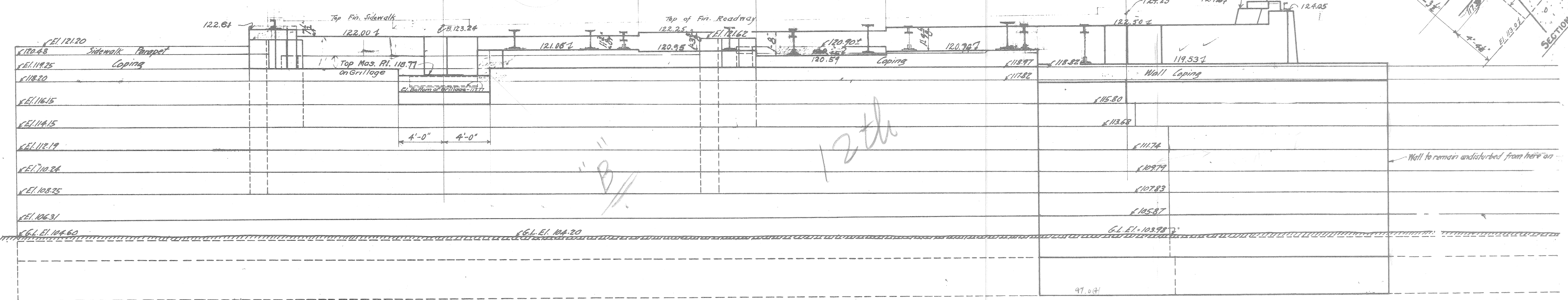
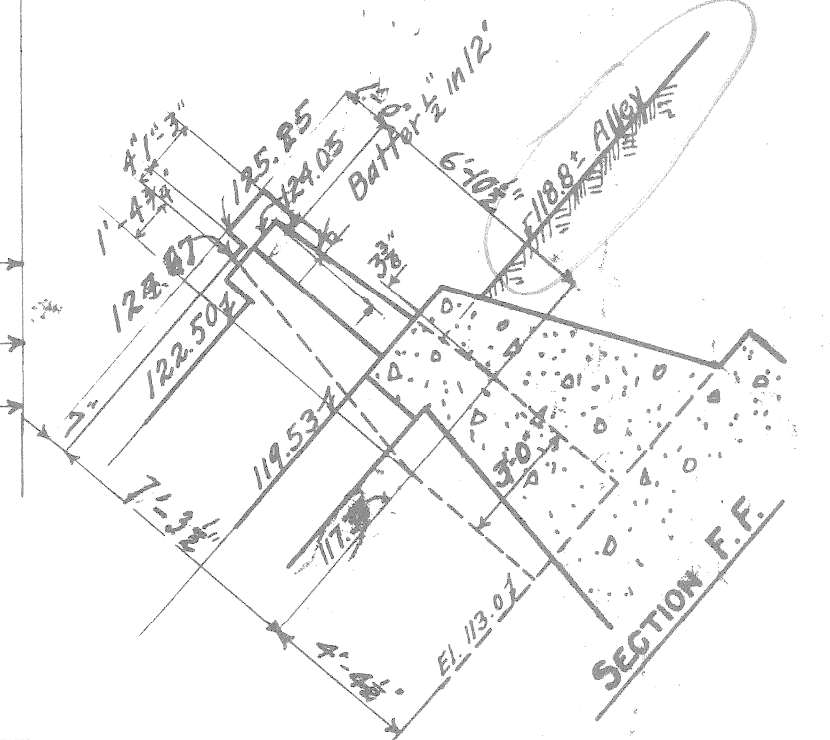
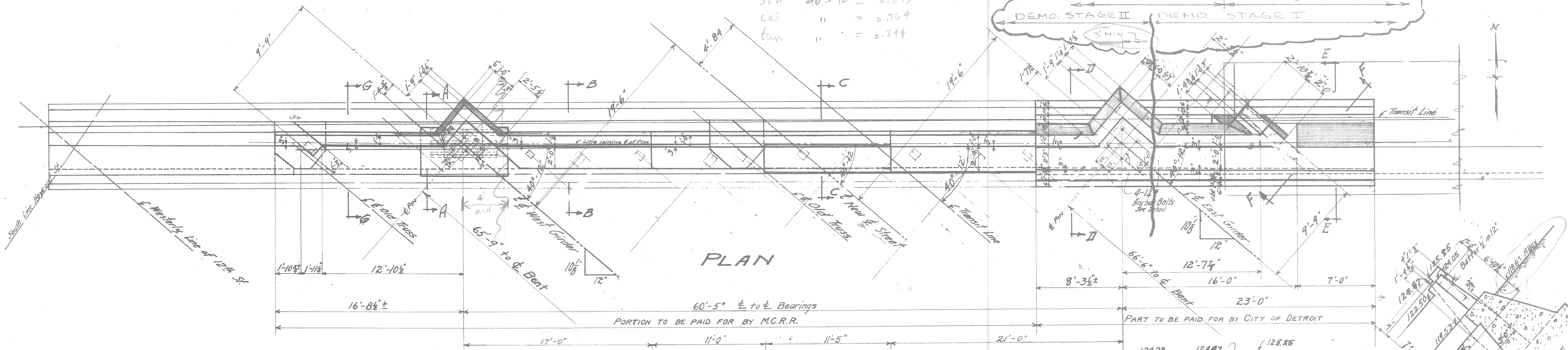
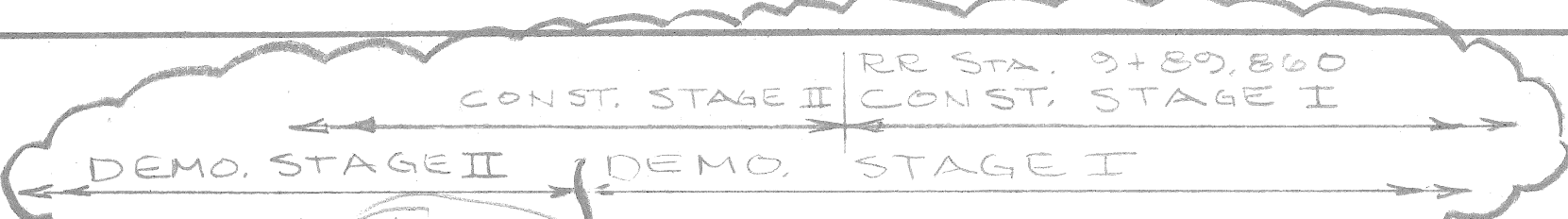
General Notes:
Piers under ends of girders G4 and G5 to be poured to EL. 97.50, as shown. 1/4\"/>

Material Required:
110 Cu. Yds (Net) - 1-2-4 Concrete
450# Steel - 26-3/4\"/>

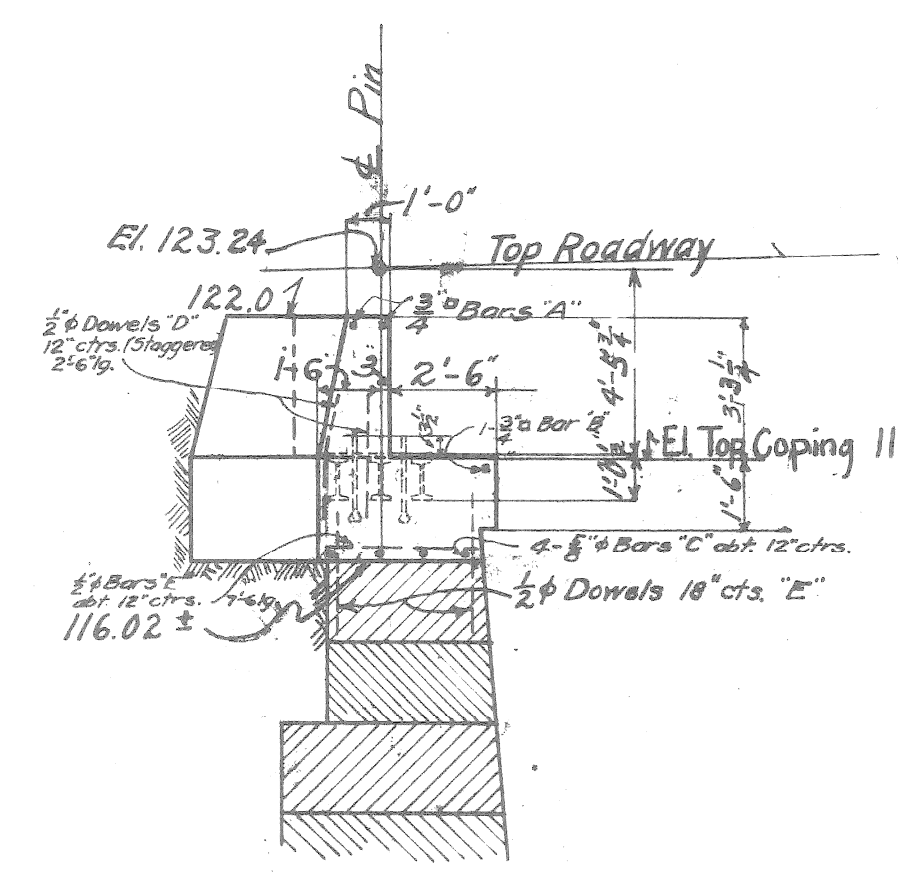
DRILL THRU FOR PILE
End View of Skewed Pile Similar

REVISIONS LOCATED BY COORDINATES ON SHEET COOR'D DESCRIPTION DRN CKD AP'D DATE				DESIGNED BY DRAWN BY TRACED BY CHECKED BY <i>PK</i>	APPROVED: 	CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD	12 TH. ST (ROSA PARKS BLVD) & LAFAYETTE ST. CROSSING CONRAIL REFERENCE DRAWING OLD TWELFTH ST. BRIDGE CONCRETE DETAILS-FOUNDATION CENTER BENT	SHEET ___ OF ___ SHEETS CONTRACT NO. 07110A NO. SR-2 DATE NOV 1979
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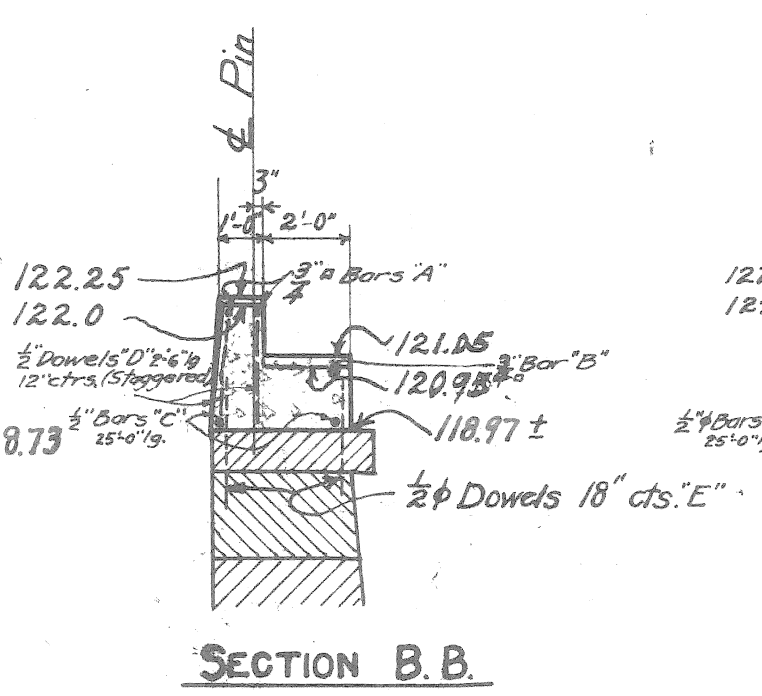
$\sin 40^\circ - 12' = 0.645$
 $\cos \quad \quad = 0.764$
 $\tan \quad \quad = 0.844$



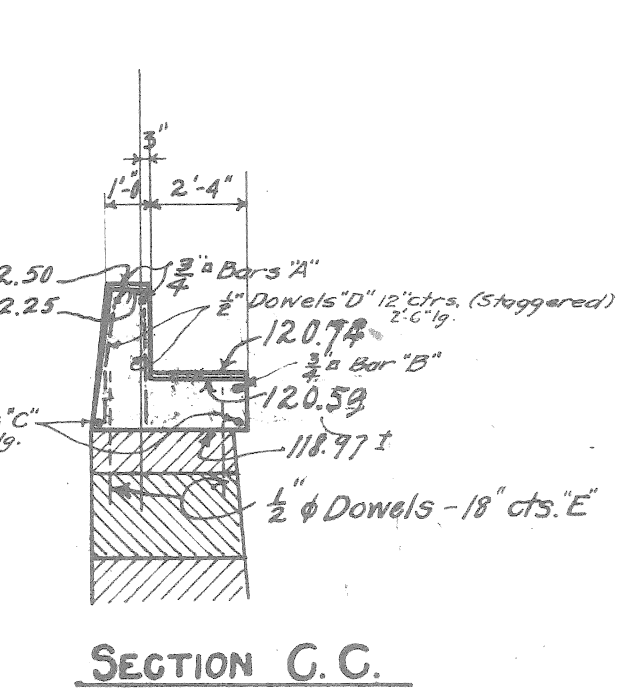
ELEVATION



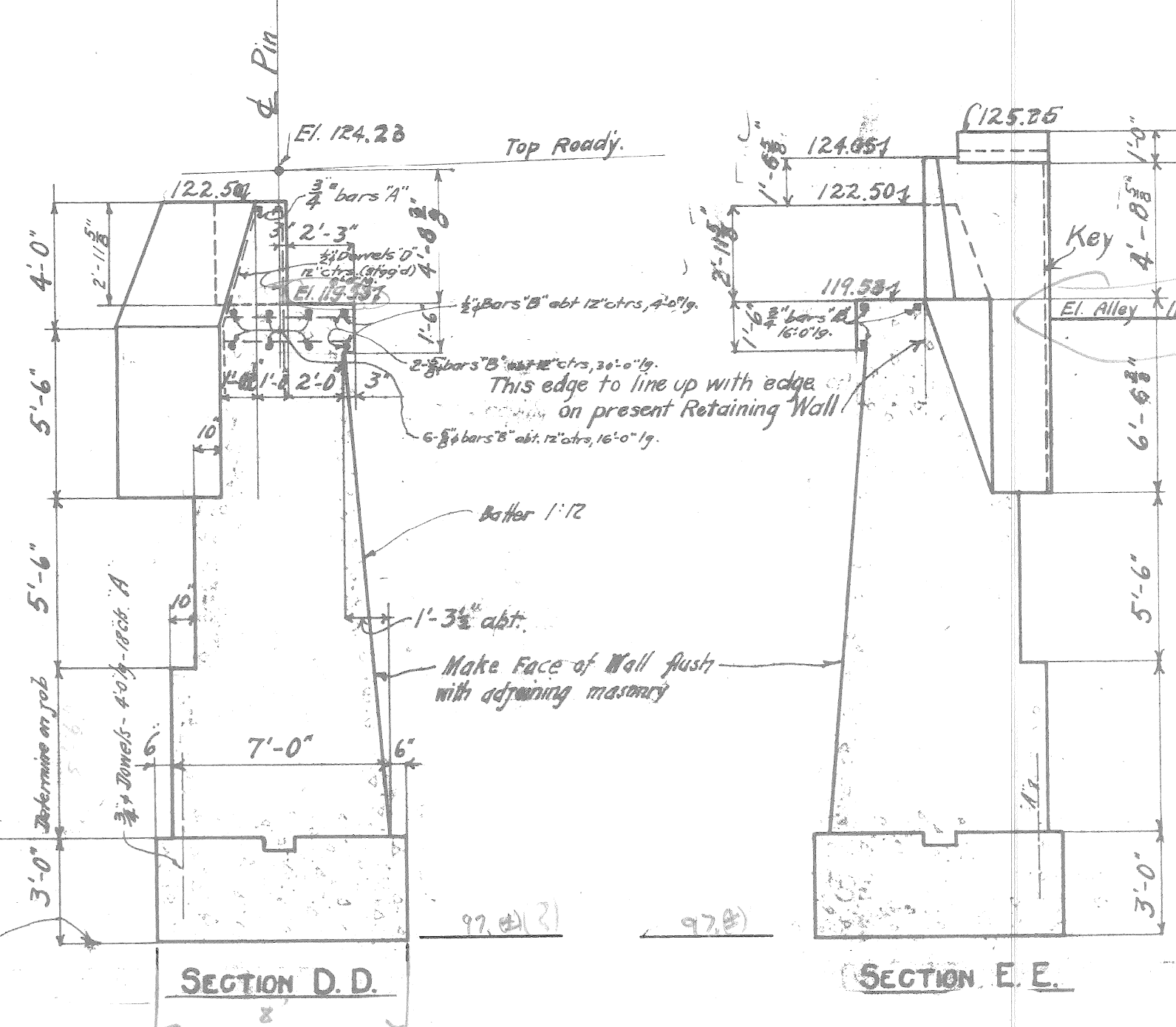
SECTION A-A



SECTION B.B.

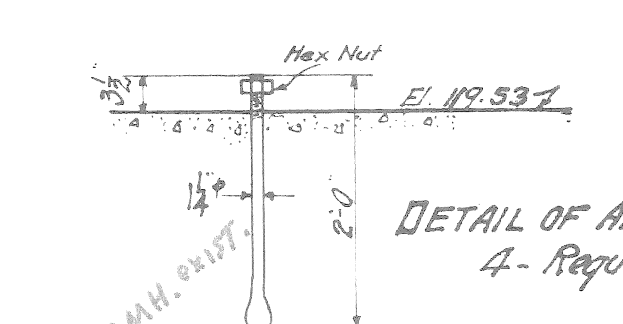


SECTION G.G.



SECTION D.D.

SECTION E.E.



DETAIL OF ANCHOR BOLTS
4- Required.

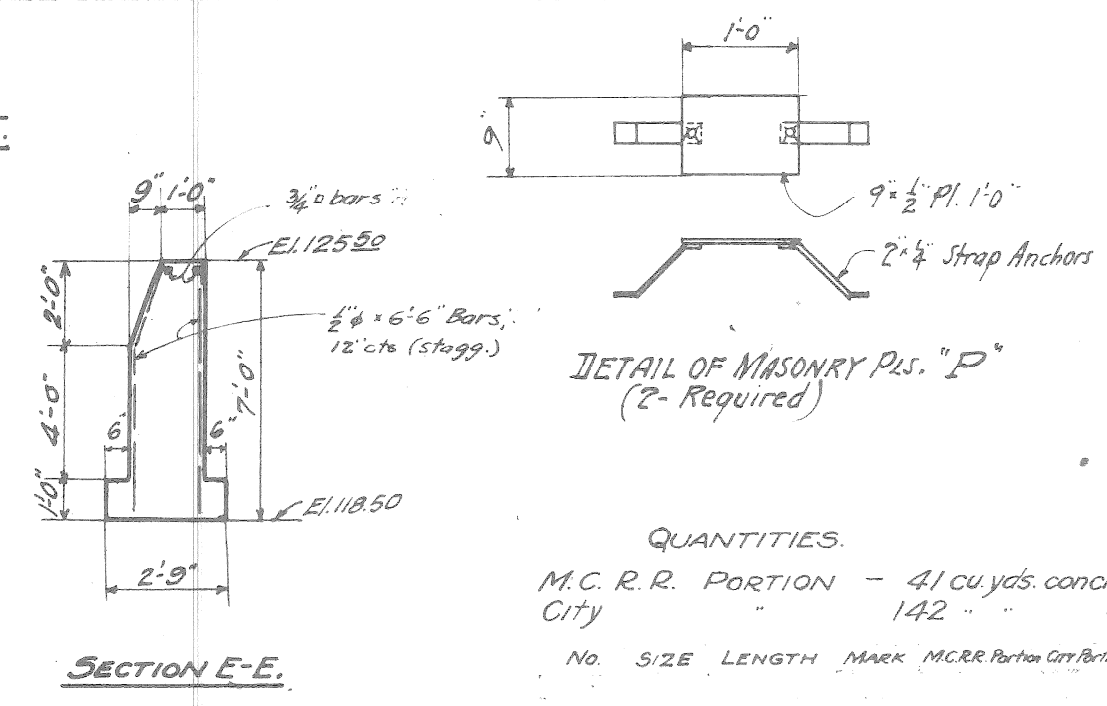
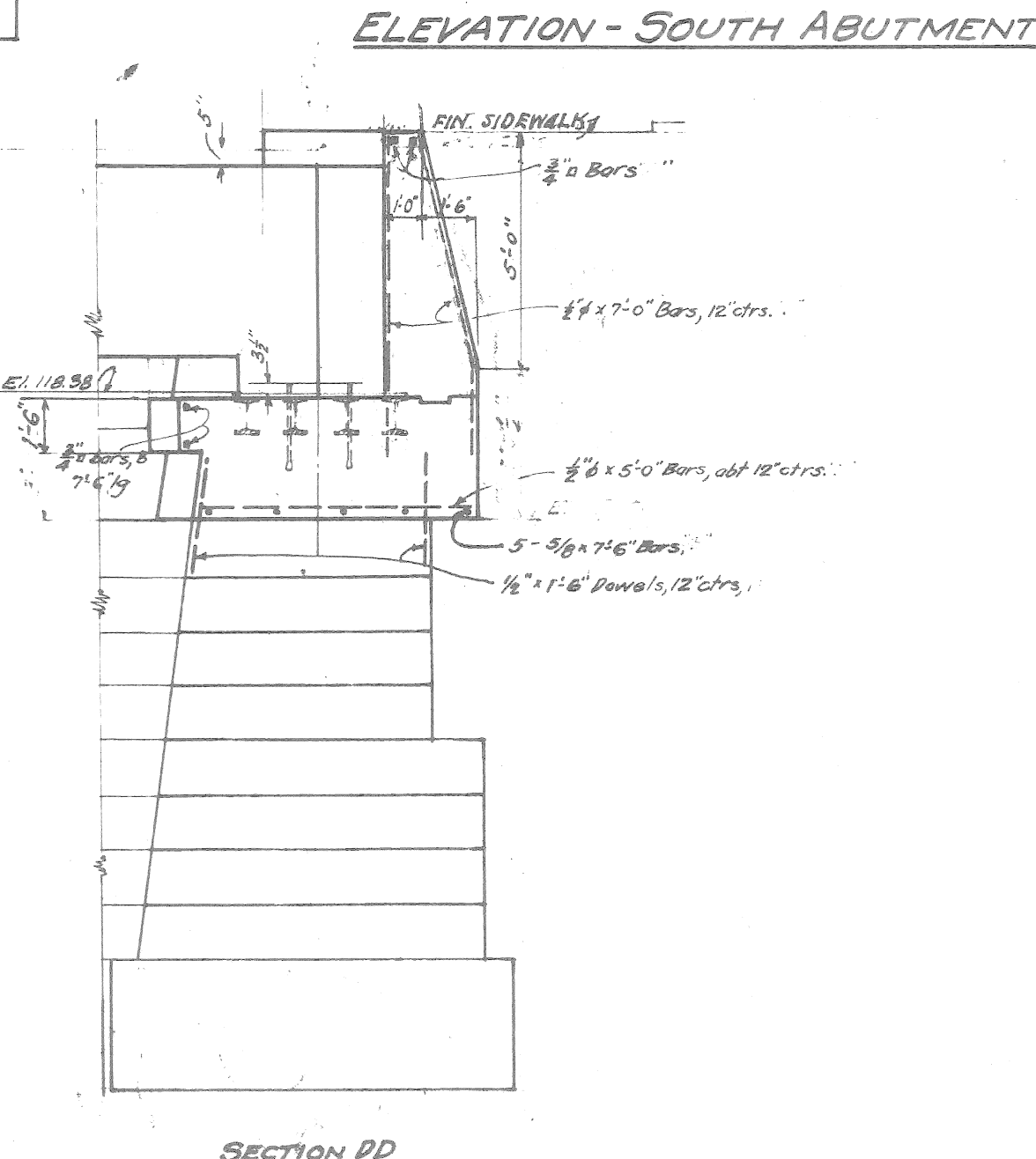
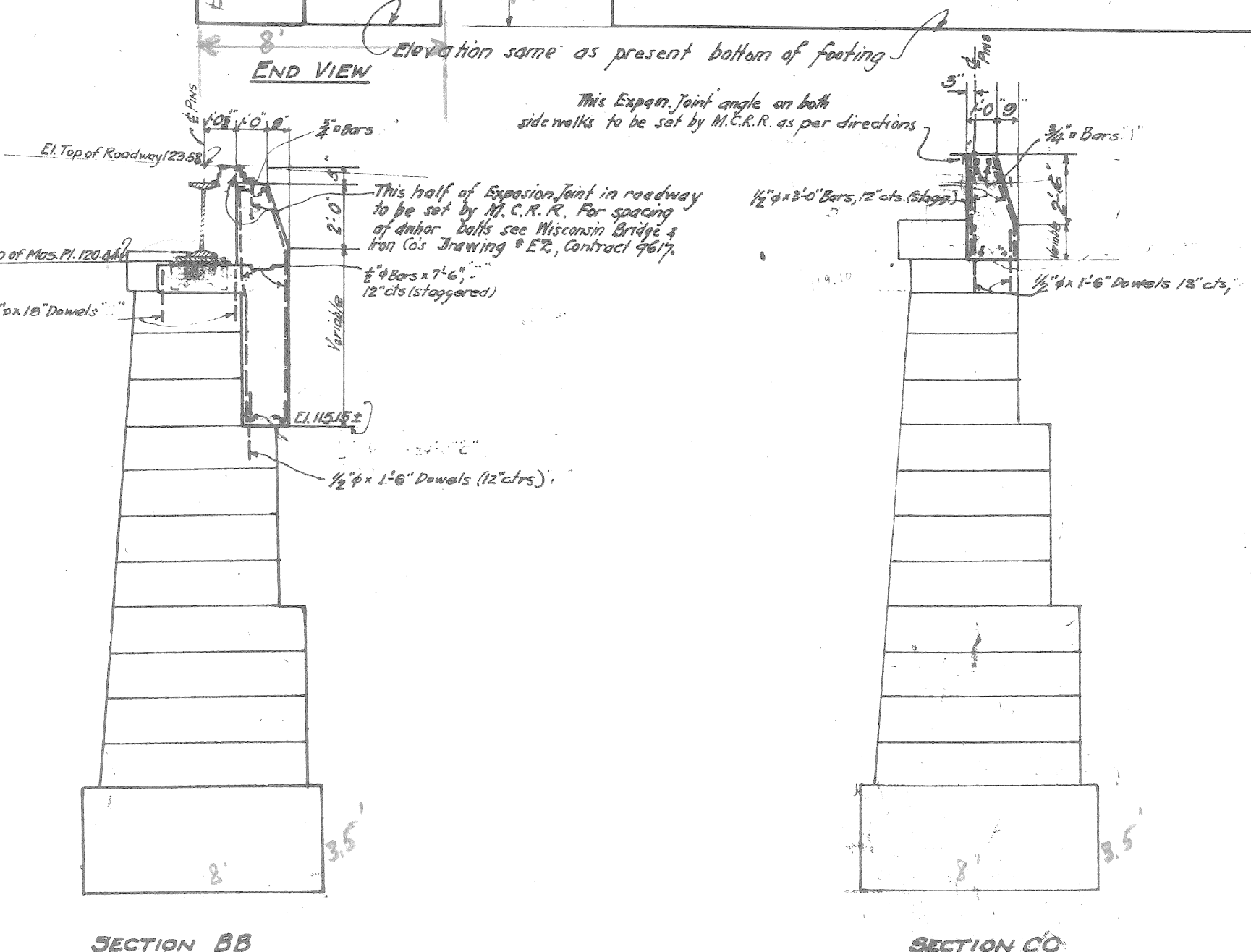
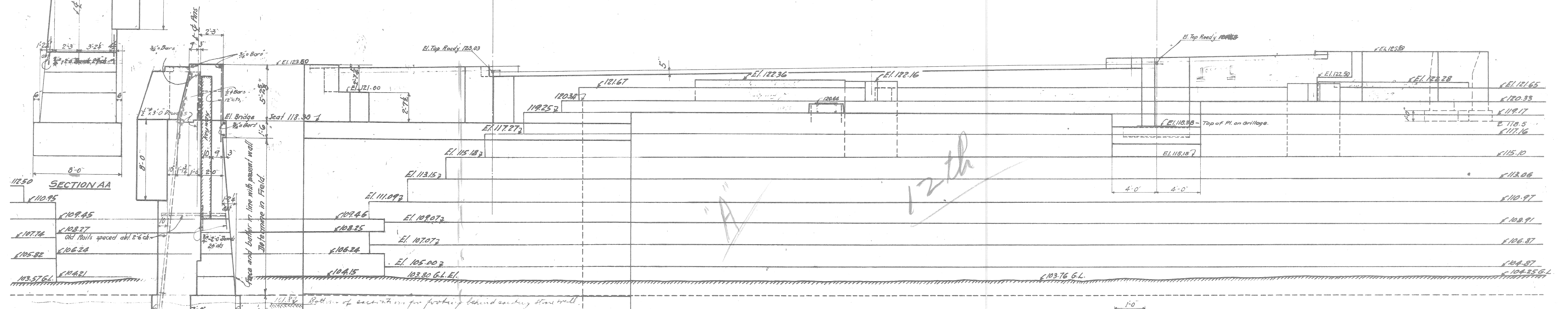
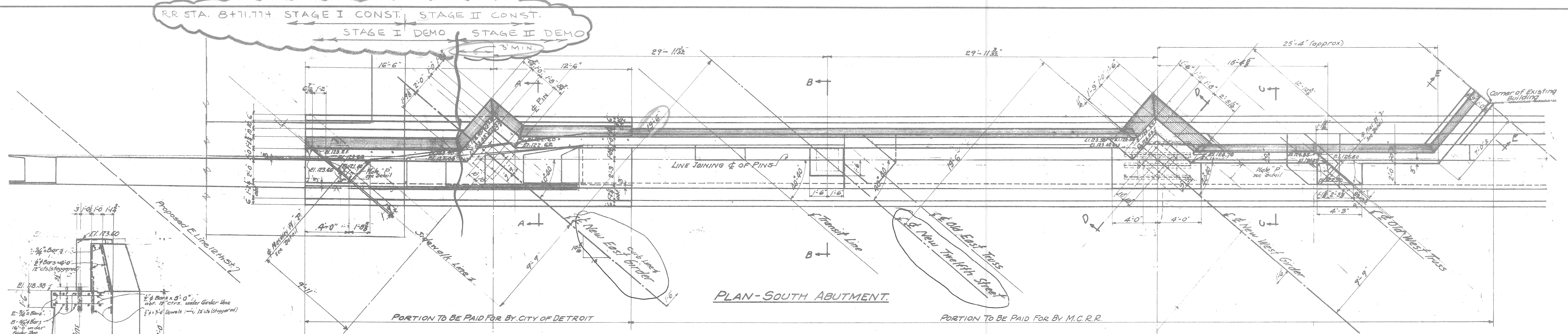
GENERAL NOTES
 Concrete Mix: 1 part cement: 2 parts Sand: 4 parts crushed stone
 Top corners of backwalls to have a continuous reinforcing of 3/8 bars as shown. Provide 3/4 dowels, 18 cts., 3'-6" apart each face for bonding old and new masonry together. Joints to set 9" in old masonry.
 Red or light lines indicate old masonry now in place. Black or heavy lines indicate construction work under this contract.
 Anchor Bolts under East Girder to be furnished and accurately set as shown, by M.C.R.R.
 Grillage and Anchor Bolts under West Girder to be furnished by City and are to be set into masonry as shown, by M.C.R.R.
 The Location of the Center Line of Bearings will be furnished by City Forces.

QUANTITIES

M.C.R.R. Portion: 22 cu. yds. concrete.
 CITY: 145'

NO	SIZE	LENGTH	MARR	M.C.R.R. Portion	CITY Portion
77	1/2"	1'-6"	E	77 bars	
75	3/8"	30'-0"	D	75	2 do.
2	1/2"	1'-0"	F	2 do.	
32	3/8"	10'-0"	B		32 bars
30	3/8"	6'-0"	D		30 do.
2	3/8"	15'-0"	B	2 do.	
4	3/8"	25'-0"	C	4 do.	
4	3/8"	7'-6"	C		4 do.
6	3/8"	15'-0"	B	6 do.	
2	3/8"	30'-0"	B		2 do.
20	3/8"	4'-0"	A	4 do.	16 do.
2	3/8"	5'-6"	A		2 do.
2	3/8"	7'-0"	A		2 do.
1	3/8"	7'-0"	A	1 do.	
2	3/8"	15'-0"	A	2 do.	
1	3/8"	4'-0"	A		1 do.
2	3/8"	1'-0"	A		2 do.

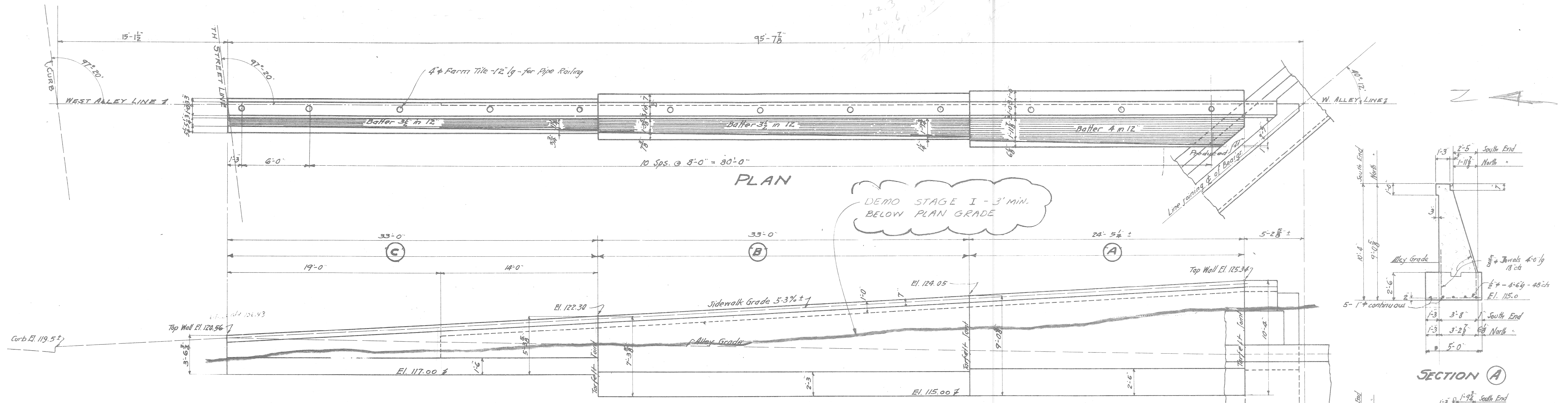
CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD		12TH ST. (ROSA PARKS BLVD.) & LAFAYETTE ST. CROSSING CONRAIL		SHEET ___ OF ___ SHEETS
APPROVED:		REFERENCE DRAWING OLD TWELFTH ST. BRIDGE CONCRETE DETAILS FOR NORTH ABUTMENT		CONTRACT NO. 07110 A
DESIGNED BY:		NO. 5R-3		DATE NOV 1970
DRAWN BY:		REVISIONS LOCATED BY COORDINATES ON SHEET		
TRACED BY:				
CHECKED BY:				



QUANTITIES
M.C.R.R. PORTION - 41 cu yds concrete.
City 142

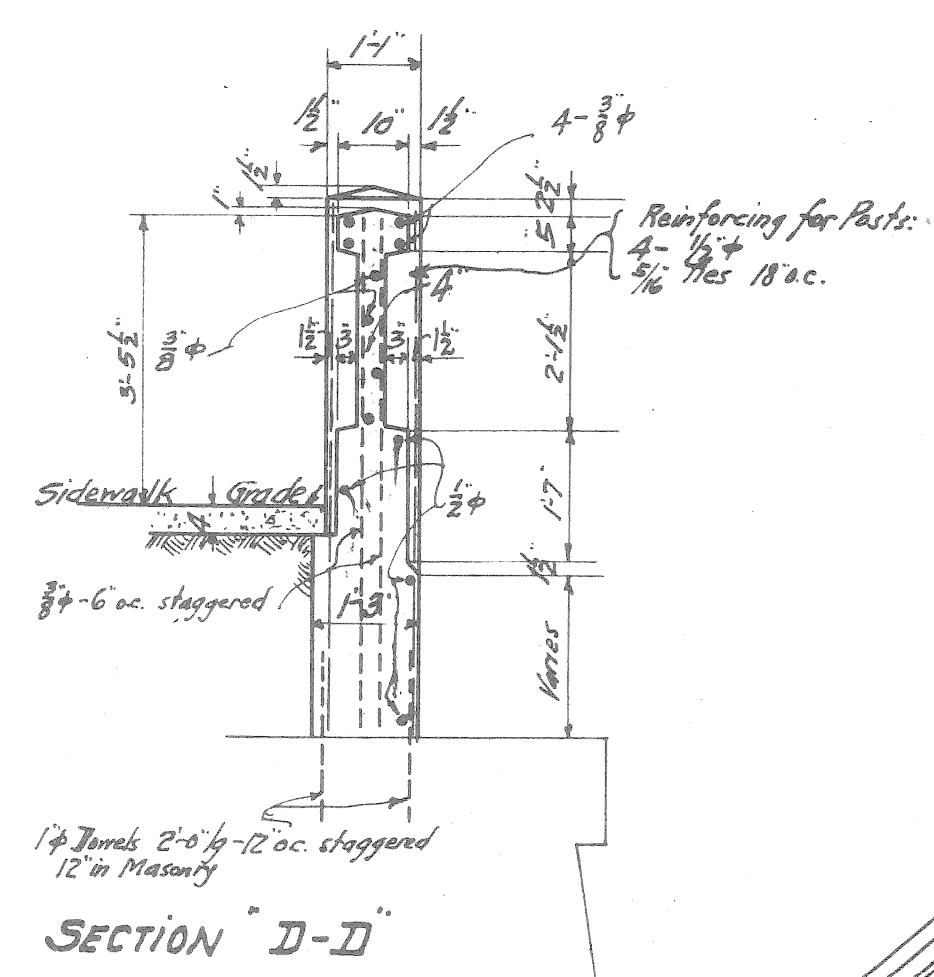
GENERAL NOTES
Concrete Mix, 1 part cement, 2 parts sand, 4 parts crushed stone.
Top corners of Backwall to have a continuous reinforcing of 3/4\"/>

REVISIONS LOCATED BY COORDINATES ON SHEET				DESIGNED BY DRAWN BY TRACED BY CHECKED BY RAK	APPROVED: _____ _____ _____	CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD	12TH ST (ROSA PARKS BLVD.) & LAFAYETTE ST. CROSSING CONRAIL REFERENCE DRAWING OLD TWELFTH ST. BRIDGE CONCRETE DETAILS FOR SOUTH ABUTMENT	SHEET _____ OF _____ SHEETS CONTRACT NO. 07110 A NO. SR 4 DATE Nov 1979
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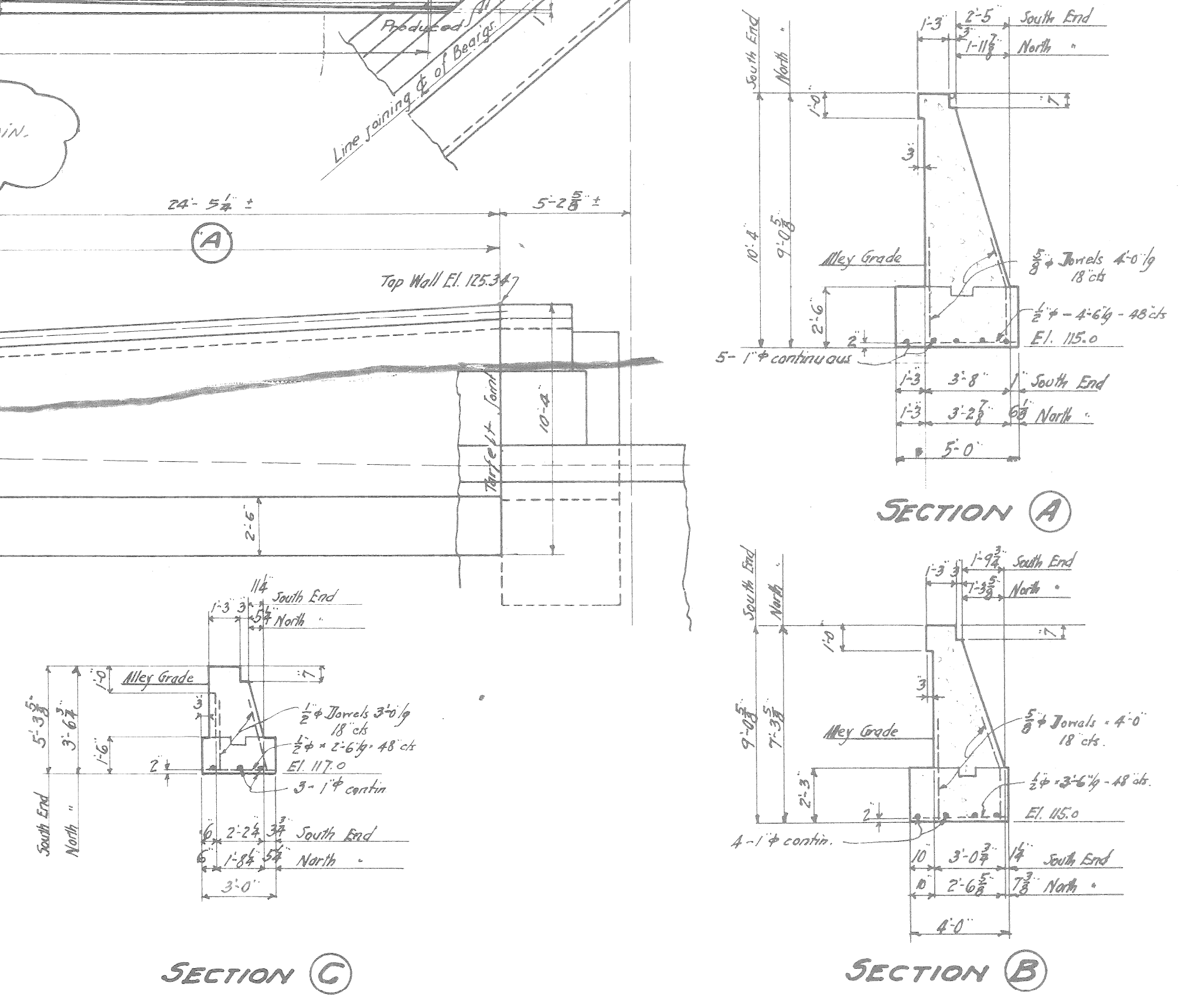
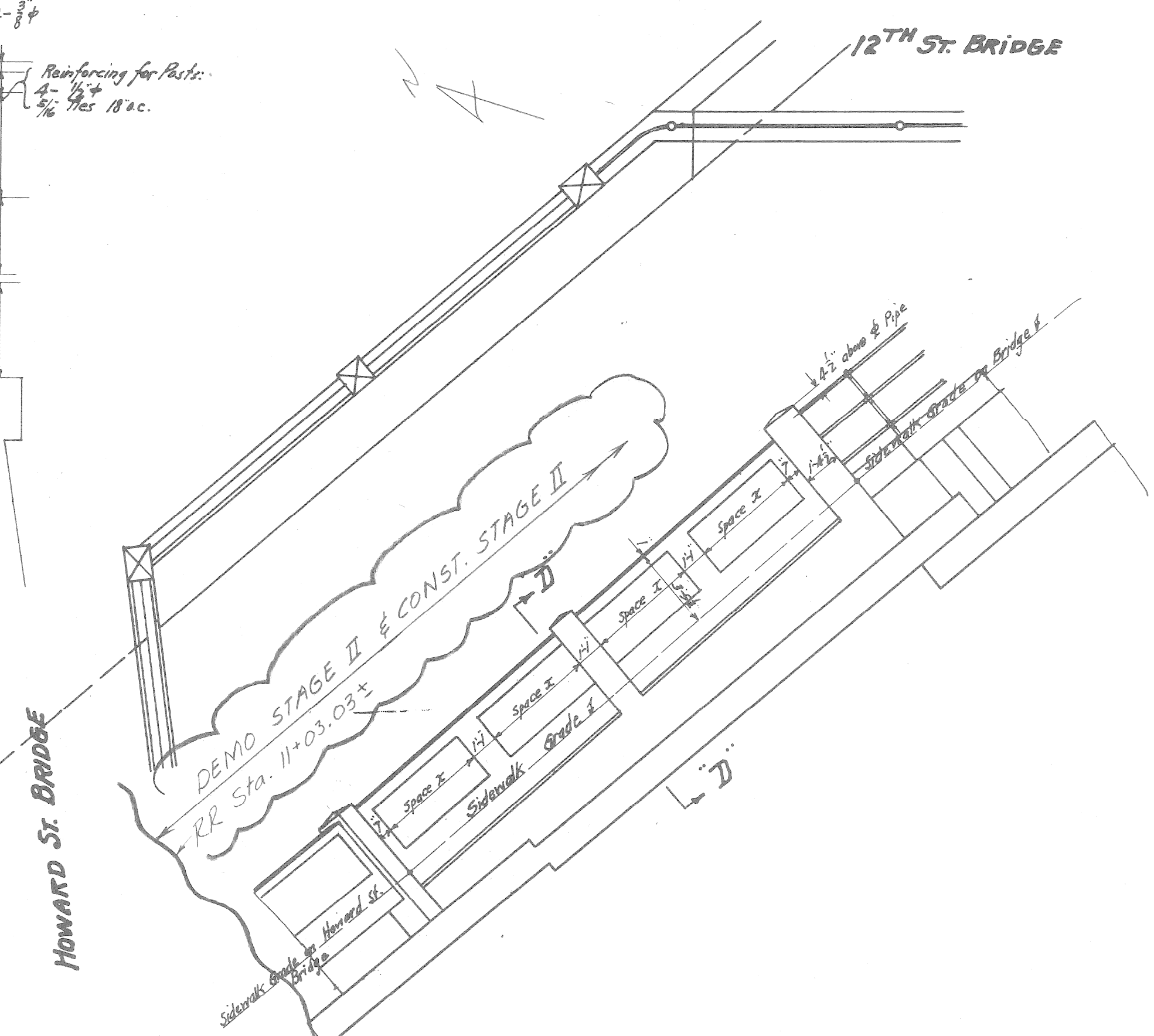


REAR ELEVATION

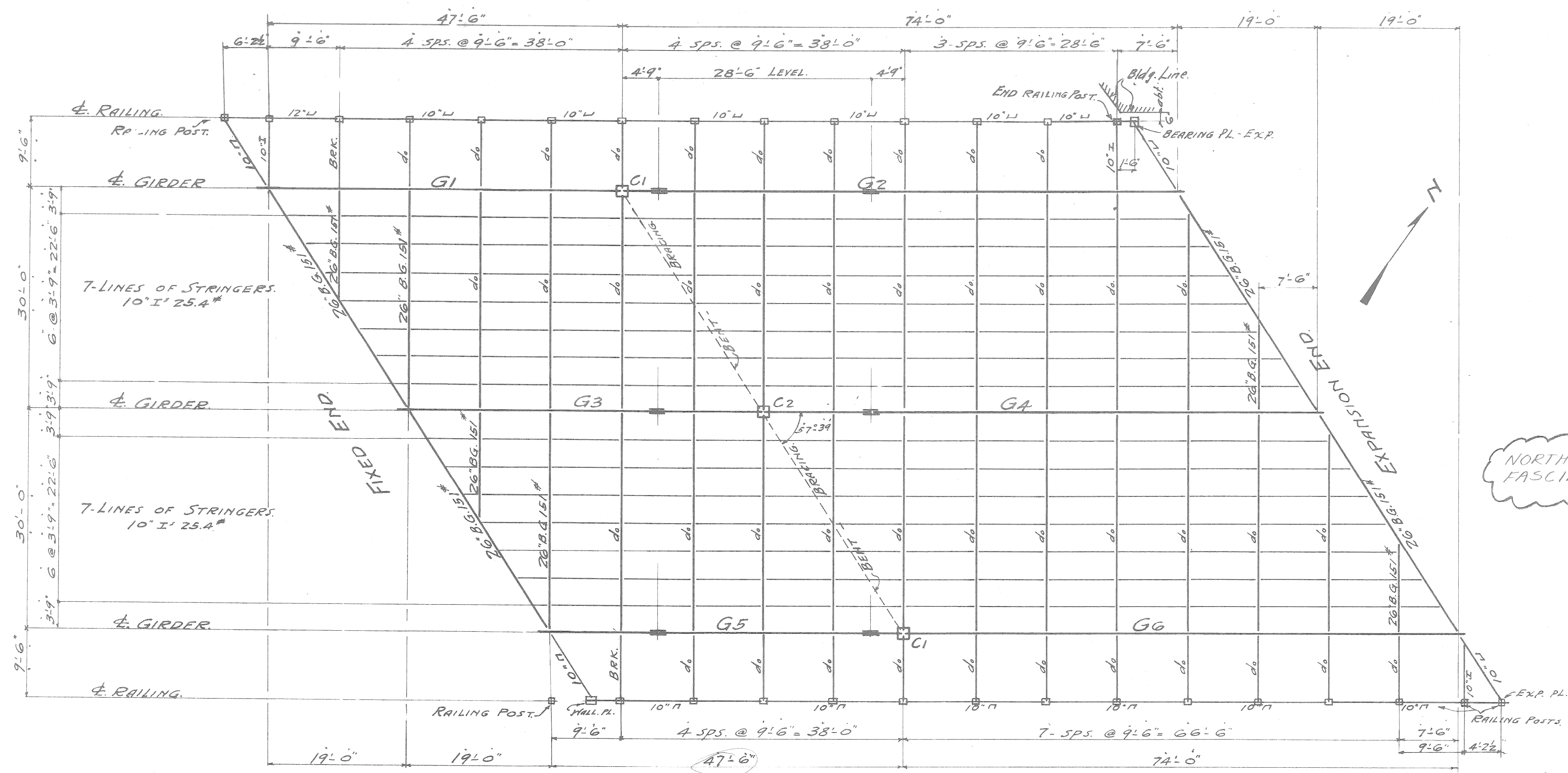
RETAINING WALL - EAST SIDEWALK



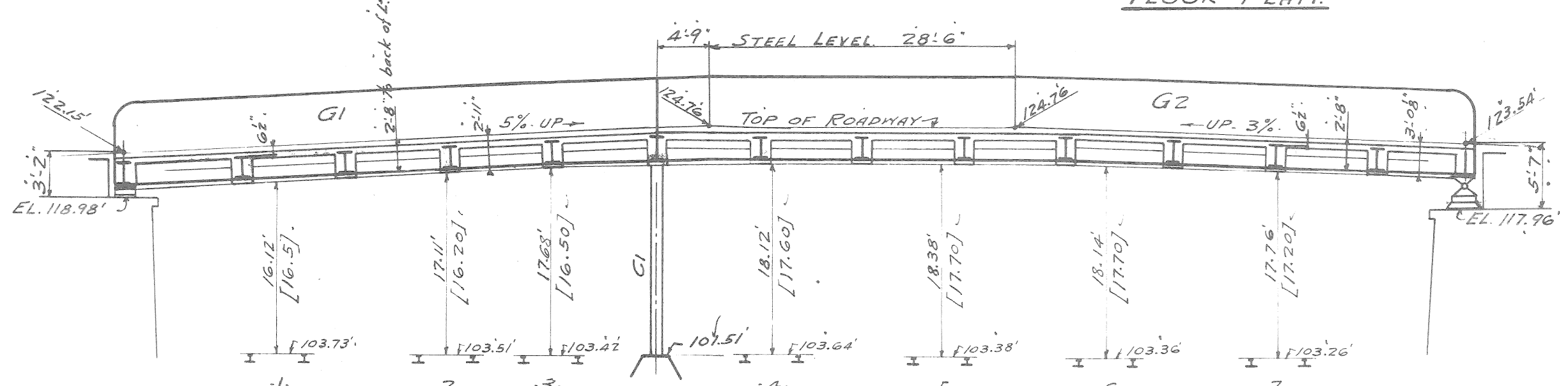
DETAIL OF RAILING OVER NORTH ABUTMENT.



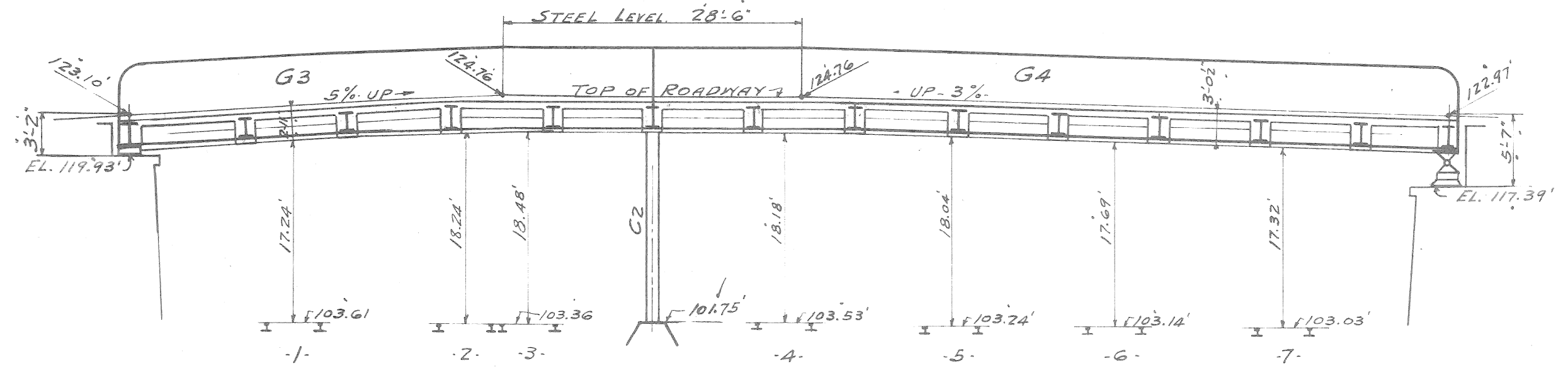
REFERENCE DRAWINGS DESIGNED BY DRAWN BY TRACED BY CHECKED BY		APPROVED: CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD		12TH ST (ROSA PARKS BLVD.) & LAFAYETTE ST. CROSSING CONRAIL REFERENCE DRAWING OLD TWELFTH ST. BRIDGE DETAILS OF RETAINING WALLS AT NORTH END OF BRIDGE		SHEET ____ OF ____ SHEETS CONTRACT NO. 07110.A FILE NO. SR5 DATE NOV 1979	
COORD. DESCRIPTION DRN CK'D APVD DATE REVISIONS LOCATED BY COORDINATES ON SHEET		1 2 3 4 5 6 7 8 9 10 11		X060		12th New roadway grade 3' down	



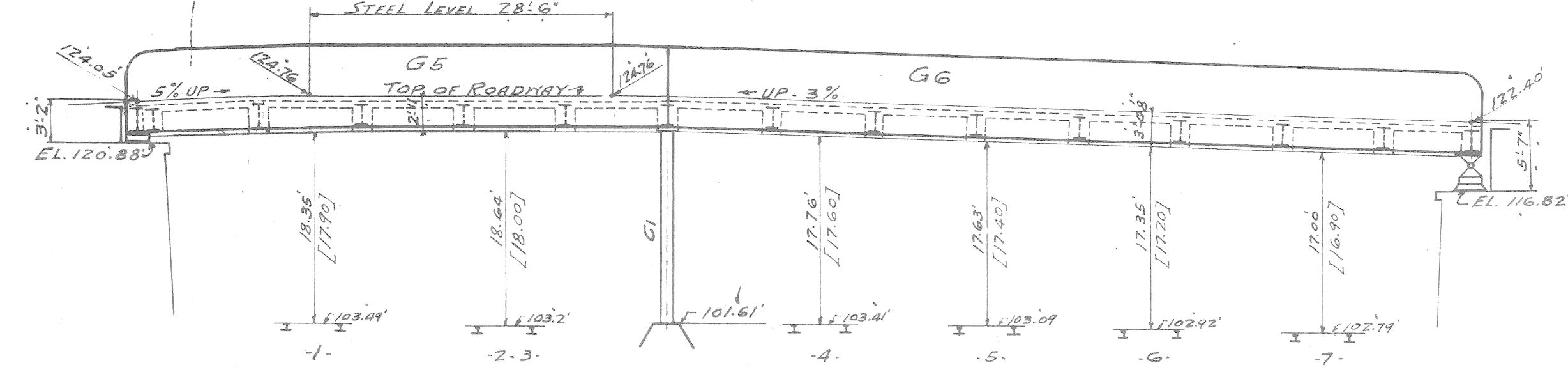
FLOOR PLAN



ELEVATION - NORTH GIRDERS - G1-G2



ELEVATION - CENTER GIRDERS - G3-G4

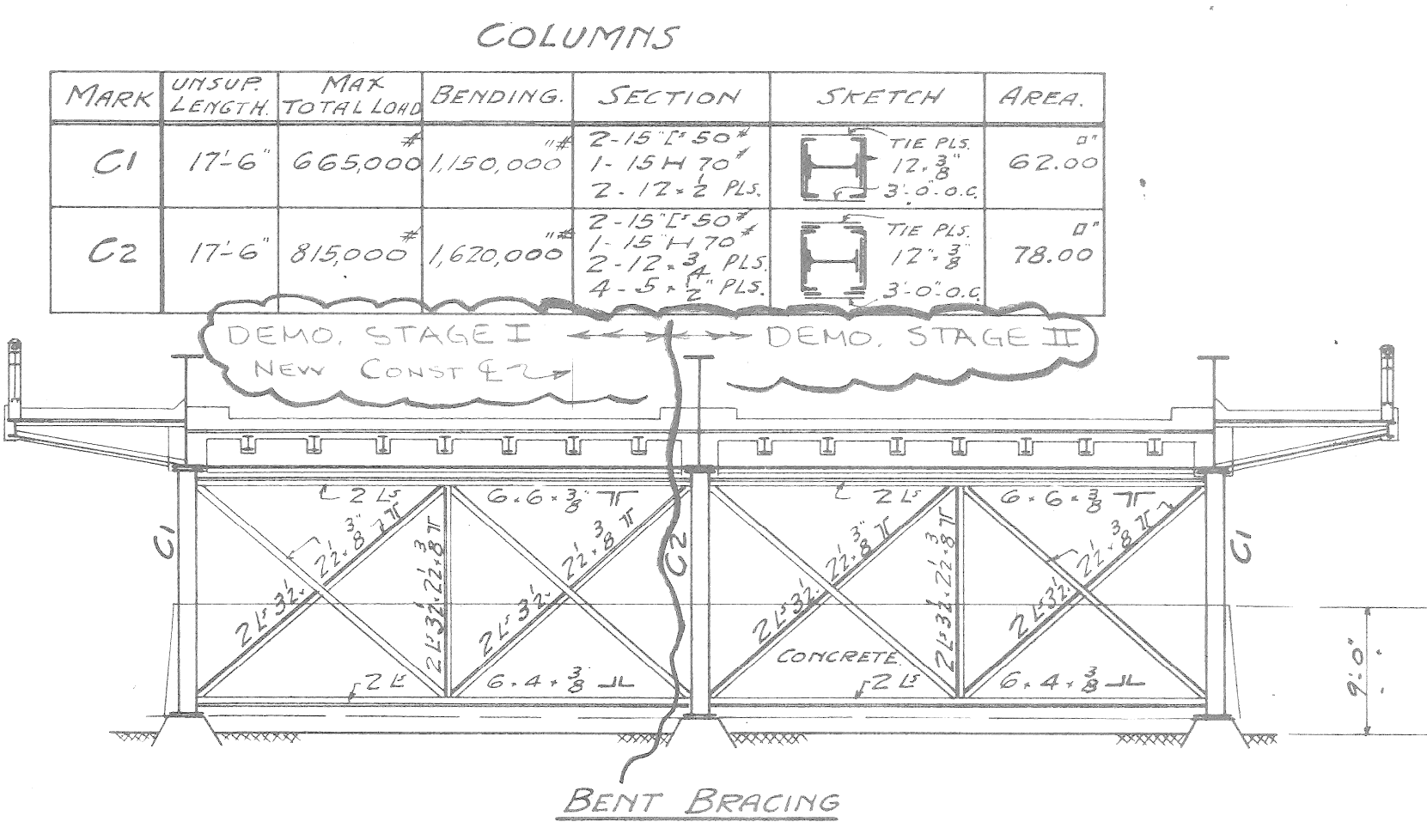


ELEVATION - SOUTH GIRDERS - G5-G6

NOTE:
RED FIGURES IN BRACKETS DENOTE CLEARANCES UNDER OLD TRUSS BRIDGE.

MARK	SPAN	END SHEAR	MAX. MOM.	MATERIAL EACH FLANGE		WEB PL.	GROSS AREA EACH FLG.	NET AREA.	
				ANGLES SIDE PLS.	TOP COVER BOT. COVER				
G1	47'-6"	260,000	3,160,000	2-8.8-1/2	1-21-1/2-F.L.	1-21-1/2-3/32"	90.1/2	31.60	28.10
G2	74'-0"	400,000	7,500,000	2-8.8-3/4	2-14-3/4	1-21-1/2-F.L. 1-21-1/2-A2" 1-21-1/2-3/16"	90.1/2	77.50	66.50
G3	47'-6"	310,000	3,800,000	2-8.8-3/4	1-21-1/2-F.L.	1-21-1/2-3/32"	90.1/2	38.98	34.48
G4	74'-0"	500,000	9,350,000	2-8.8-3/4	2-14-3/4	1-21-1/2-F.L. 1-21-1/2-A6" 1-21-1/2-3/32"	90.1/2	95.88	81.88

NOTE:
ALL INT. STIFFENERS 3/8" CRIMPED OVER FLG. ANGLES EXCEPT AT FLOOR BR. AND BRACKET CONN. END STIFFENERS SPECIAL SEE OTHER PLANS. COVER PLATES SYMMETRICAL ABOVE GEN. LINE OF GIRDE



COLUMNS

MARK	UNSUP. LENGTH	MAX. TOTAL LOAD	BENDING	SECTION	SKETCH	AREA
C1	17'-6"	665,000	1,150,000	2-15-1/2-55" 1-12-1/4-70" 2-12-1/2-PLS.	TIE PLS. 12-3/8" 3-0-0-6"	62.00
C2	17'-6"	815,000	1,620,000	2-15-1/2-60" 1-12-1/4-70" 2-12-1/2-PLS. 4-5-1/2-PLS.	TIE PLS. 12-3/8" 3-0-0-6"	78.00

GENERAL NOTES:

- LIVE LOAD AND IMPACT - AS PER MICHIGAN STATE HIGHWAY DEPARTMENT SPECIFICATIONS FOR HIGHWAY BRIDGES, 1920 EDITION.
- TWO LINES OF 18-TON TRUCKS AND ONE OF BUSES, EACH ROADWAY.
- EQUIVALENT UNIFORM LOAD - ROADWAY - 150[#]/L. - 250[#]/L. - TOTAL = 400[#]/L.
- SIDEWALK - 100[#]/L. - 100[#]/L. + BRACKET CON. COVER, RAILING, CONCRETE FASCIA GIRDER AND 16[#] GAS MAIN.
- IMPACT = 25% ADDED FOR FLOOR BEAMS AND STRINGERS. NO IMPACT FOR GIRDERS OR COLUMN LOADS.
- UNIT STRESSES - STEEL - TENSION - 16000[#]/NET SEC.
- COMP. - 16000-70% GROSS.
- SHEAR - 10000[#]/GROSS.
- CONCRETE - FS = 16000[#]/GROSS.
- FC = 600[#]/GROSS.
- RIVETS - 3"
- SHOP RIVETS - 12000[#] SHEAR - BEARING - 24000[#]
- FIELD RIVETS - 10000[#] SHEAR - BEARING - 20000[#]
- BEARING ON MASONRY = 500[#]/IN.
- BEARING ON SOIL = 5000[#]/IN.

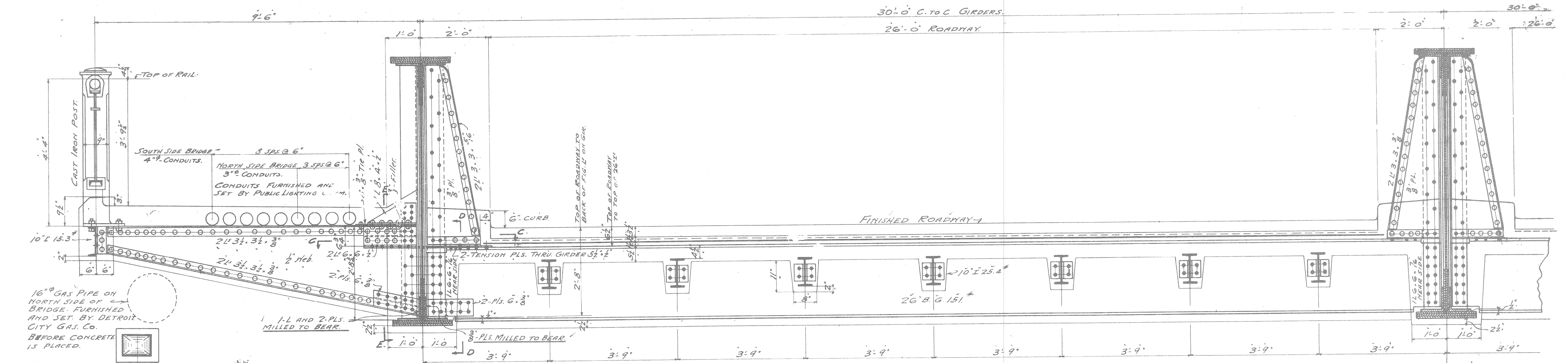
PAINT NOTE:

- THAT PORTION OF STEEL COVERED WITH CONCRETE NOT TO BE PAINTED.
- SHOP PAINT - 1-COAT OF RED LEAD.
- FIELD PAINTS - 2-COATS WHITE LEAD IN OIL - COLOR TO BE DETERMINED BY ENGINEER.
- STEEL DRAWINGS - 1-2-G-7
- CONCRETE DO - 3-4-5.

LAFAYETTE

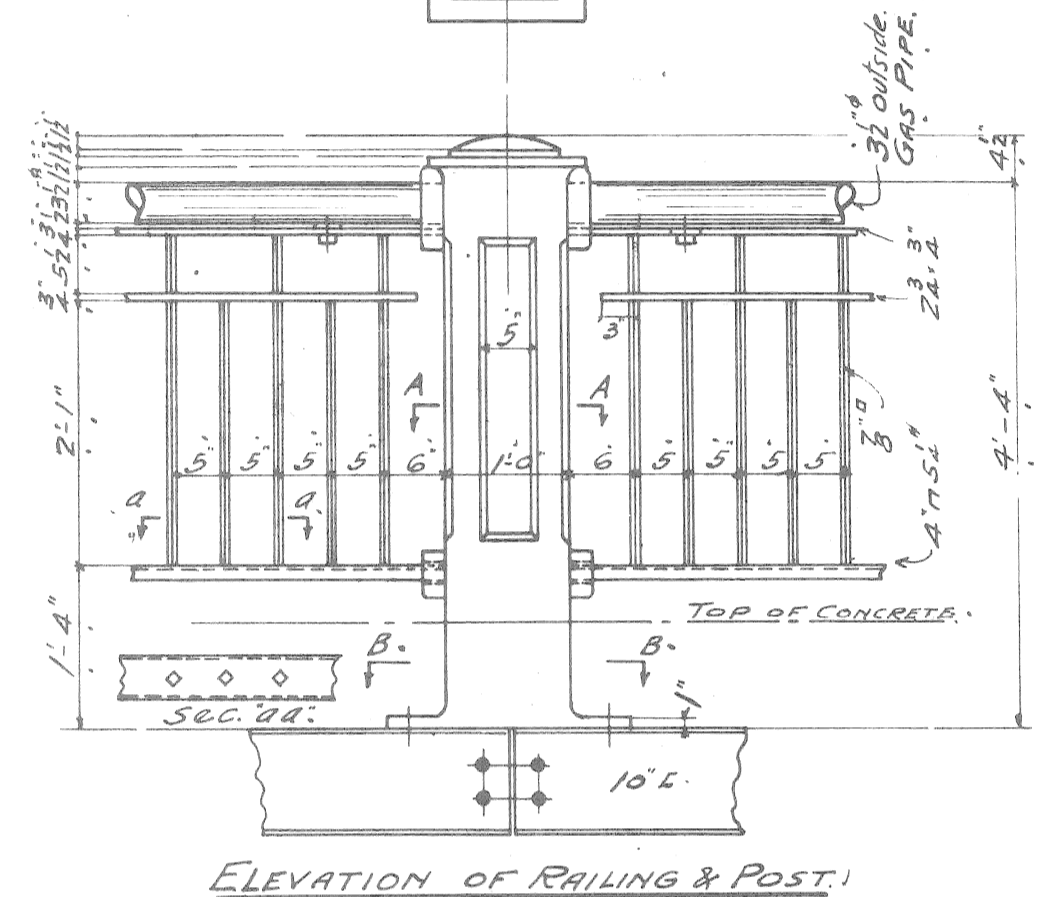
APPROVED *[Signature]* 1926
CITY ENGINEER

<p>REFERENCE DRAWINGS</p>				<p>DESIGNED BY</p>	<p>APPROVED:</p>	<p>CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD</p>	<p>12TH. ST. (ROSA PARKS BLVD.) & LAFAYETTE ST. CROSSING CONRAIL</p>	<p>SHEET ___ OF ___ SHEETS</p>
<p>DRAWN BY</p>				<p>TRACED BY</p>				<p>CONTRACT NO. 07110 A</p>
<p>CHECKED BY <i>[Signature]</i></p>				<p>NO. 52-7</p>				<p>DATE NOV 1929</p>
<p>REVISIONS LOCATED BY COORDINATES ON SHEET</p>				<p>NO. 52-7</p>				<p>DATE NOV 1929</p>

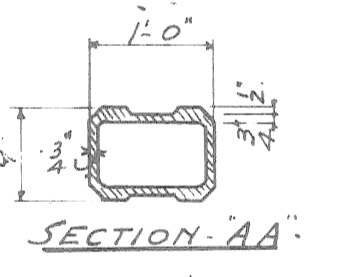


TYPICAL CROSS SECTION OF FLOOR.

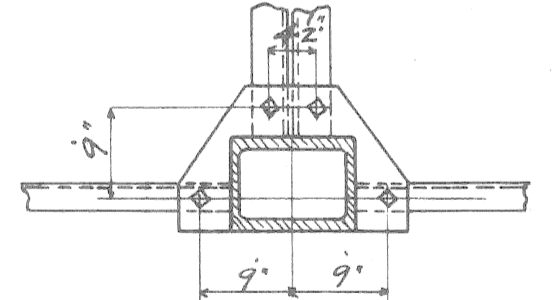
LINE OF BRIDGE. SYMMETRICAL ABOUT LINE EXCEPT FOR CONDUITS AND GAS PIPE CONNECTION.



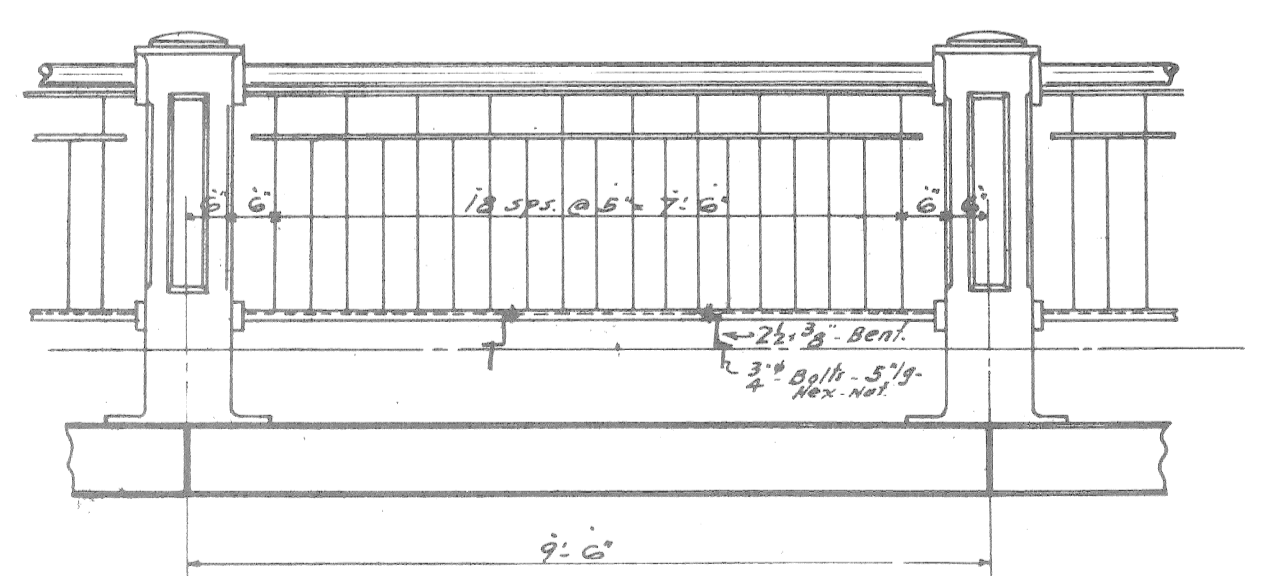
ELEVATION OF RAILING & POST.



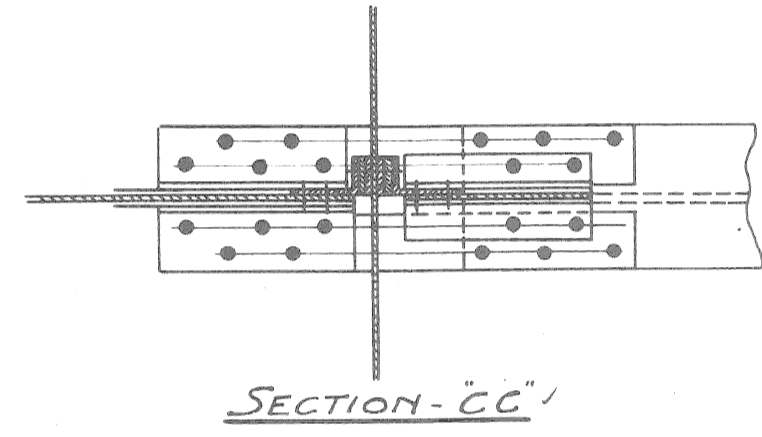
SECTION AA



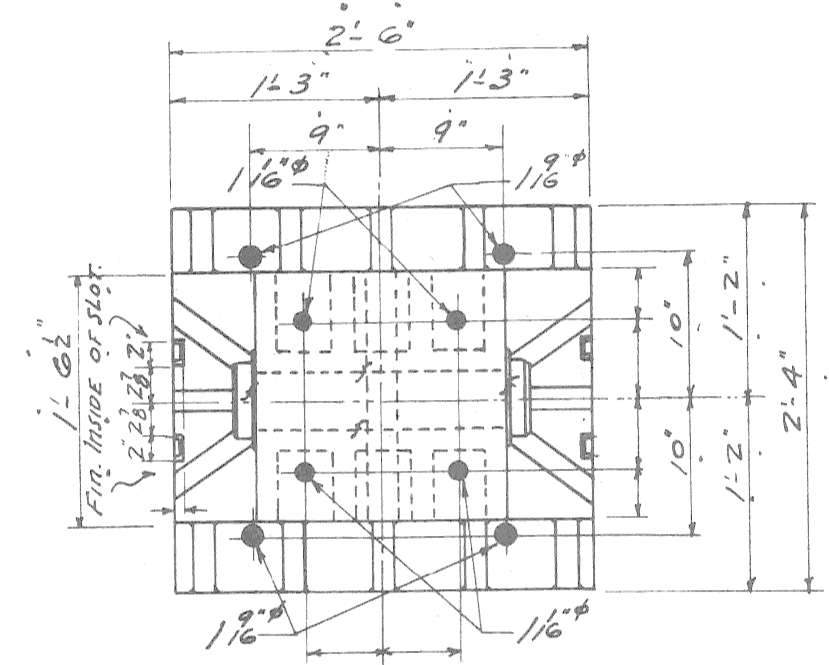
SECTION BB



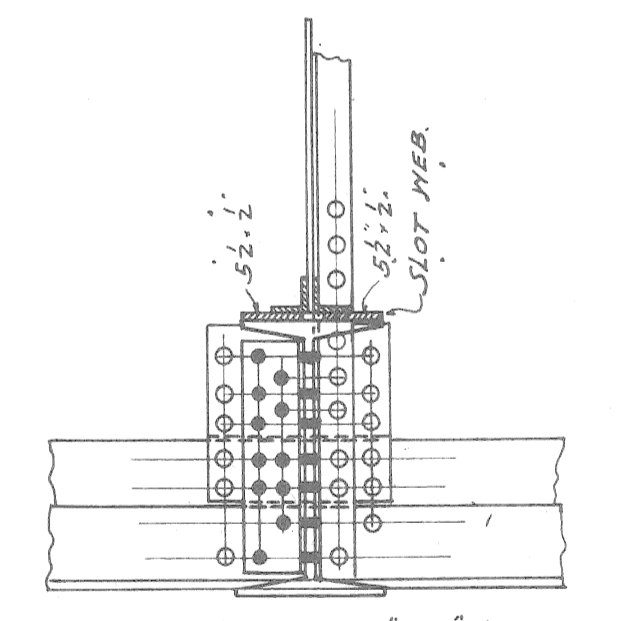
TYPICAL RAILING PANEL



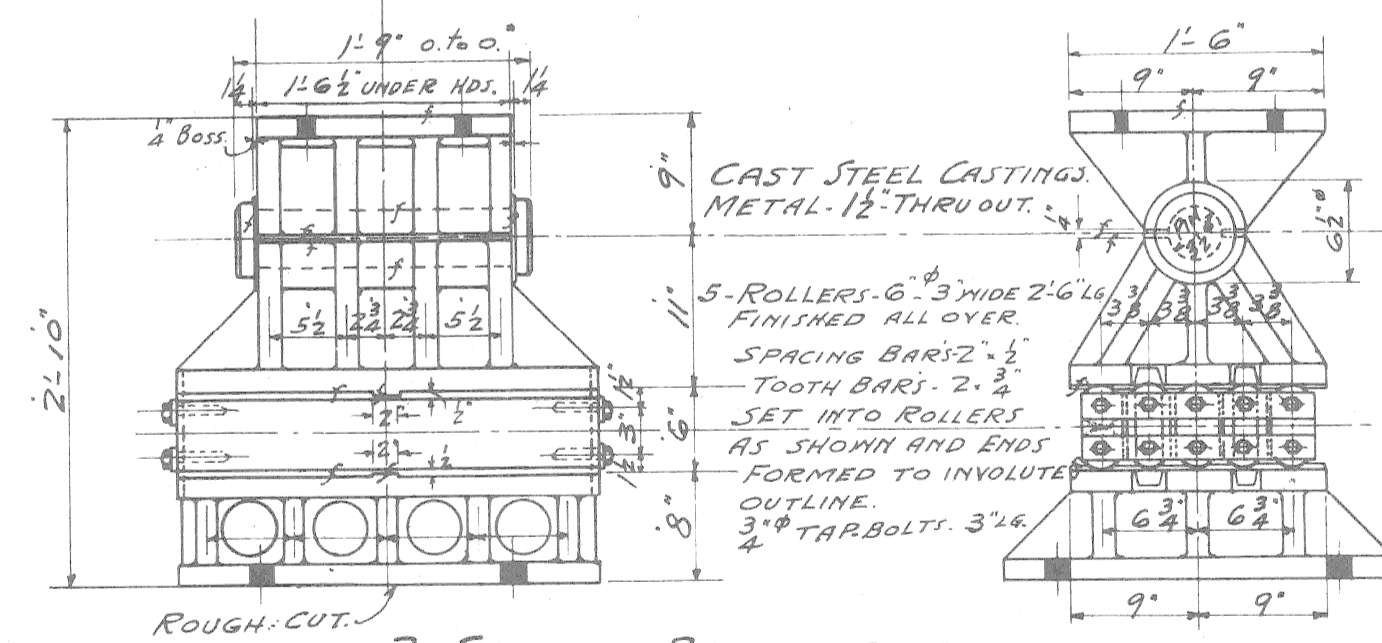
SECTION CC



SECTION DD

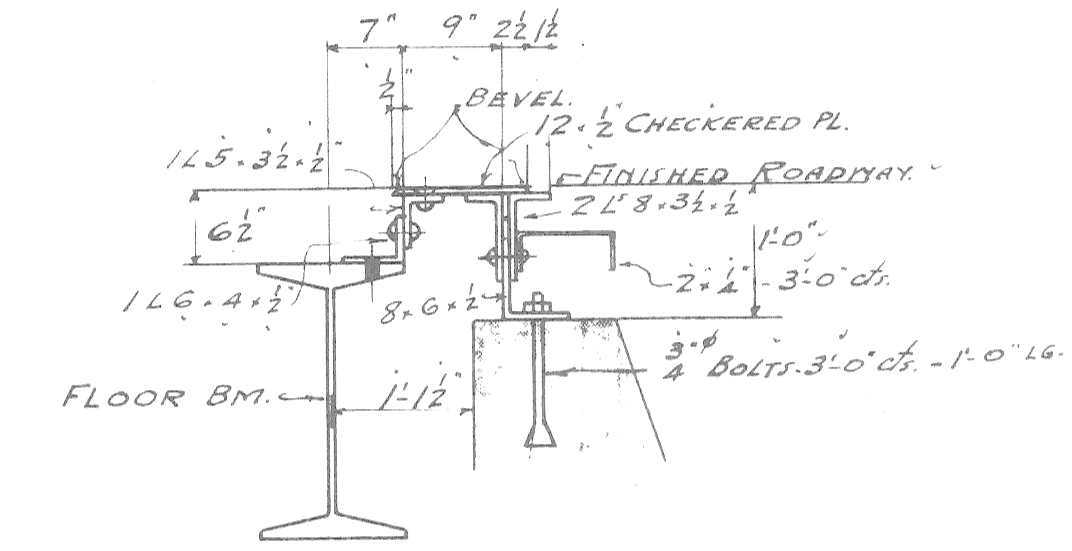


SECTION EE

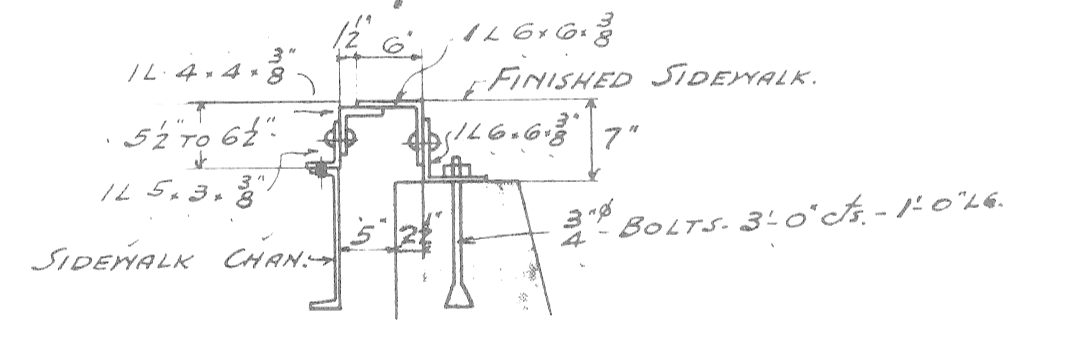


3-SETS OF BEARINGS FOR EXPANSION END OF BRIDGE.

3-CAST STEEL CASTINGS FOR FIXED END OF BRIDGE.



ROADWAY EXPANSION JOINT.



SIDEWALK EXPANSION JOINT.

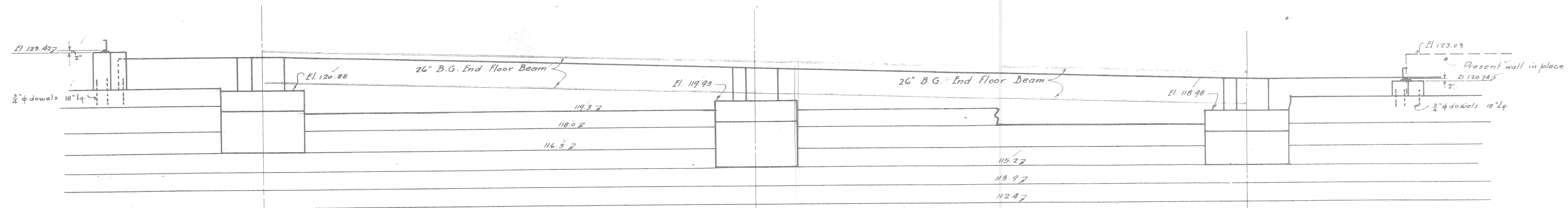
NOTE: FOR GENERAL NOTES SEE SHEET #1.

LAFAYETTE

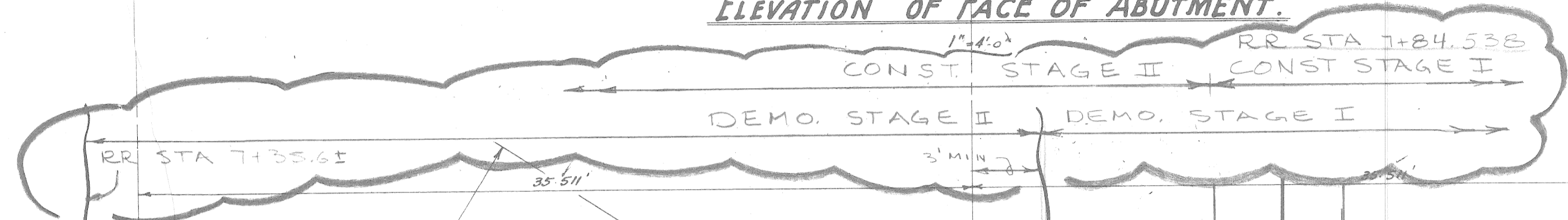
APPROVED COPY 2
 Percy A. ... CITY ENGINEER 1926.

XO 61

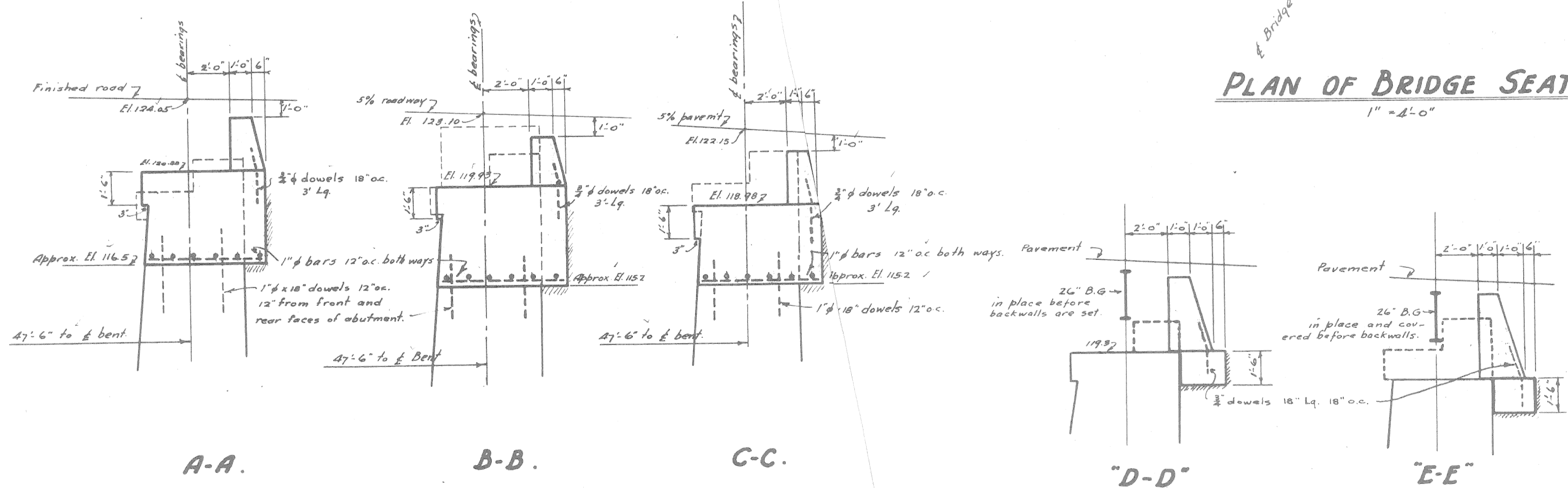
CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD		12 TH. ST. (ROSA PARKS BLVD.) & LAFAYETTE ST. CROSSING CONRAIL REFERENCE DRAWING OLD LAFAYETTE BRIDGE STRUCTURAL STEEL DETAILS		SHEET ___ OF ___ SHEETS CONTRACT NO. 07110 A NO. SR-8 DATE NOV 1926
REFERENCE DRAWINGS DESIGNED BY DRAWN BY TRACED BY CHECKED BY	APPROVED:	REVISIONS LOCATED BY COORDINATES ON SHEET		



ELEVATION OF FACE OF ABUTMENT.



PLAN OF BRIDGE SEATS.



BRIDGE SEAT SECTIONS

NOTE:
 General notes see sheet #1
 All concrete mix 1:2:4.
 Back of walls to have two brush coats asphaltic waterproofing.
 Backwalls set parallel to $\frac{1}{2}$ of Girder bearings after 26" I beams are in place.

Approved: _____ 1926

 City Engineer

THIS SHEET SUPERSEDES SHEET 4.

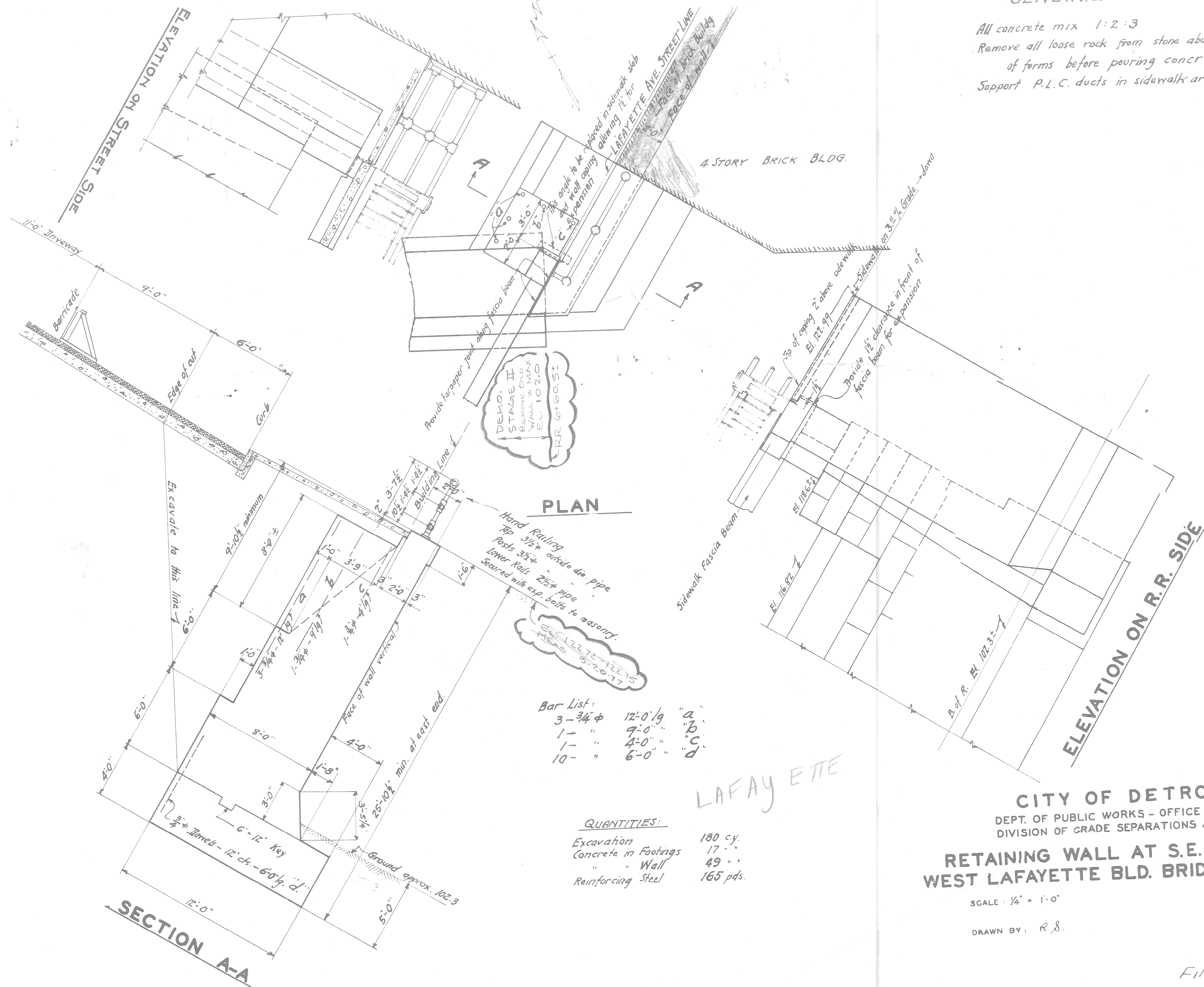
<table border="1"> <tr> <td>COORD</td> <td>DESCRIPTION</td> <td>DRN</td> <td>CK'D</td> <td>APVD</td> <td>DATE</td> </tr> <tr> <td colspan="6">REVISIONS LOCATED BY COORDINATES ON SHEET</td> </tr> </table>				COORD	DESCRIPTION	DRN	CK'D	APVD	DATE	REVISIONS LOCATED BY COORDINATES ON SHEET						REFERENCE DRAWINGS DESIGNED BY DRAWN BY TRACED BY CHECKED BY RAK	APPROVED: _____ _____ _____ _____	CITY OF DETROIT CITY ENGINEERING DIVISION - EPMD	12TH ST. (ROSA PARKS BLVD) & LAFAYETTE ST. CROSSING C. INRAIL REFERENCE DRAWING OLD LAFAYETTE BRIDGE CHANGES TO WEST ABUTMENT	SHEET _____ OF _____ SHEETS CONTRACT NO. 07110A NO. SE-10 DATE NOV 1926
COORD	DESCRIPTION	DRN	CK'D	APVD	DATE															
REVISIONS LOCATED BY COORDINATES ON SHEET																				

X061

GENERAL NOTES

All concrete mix 1:2:3
 Remove all loose rock from stone abutment inside of forms before pouring concrete.
 Support P.L.C. ducts in sidewalk area.

5' 10" 11' 5"



CITY OF DETROIT
 DEPT. OF PUBLIC WORKS - OFFICE OF CITY ENGR.
 DIVISION OF GRADE SEPARATIONS & BRIDGES.
**RETAINING WALL AT S.E. CORNER
 WEST LAFAYETTE BLD. BRIDGE-M.C.R.R.**
 (MAIN LINE)
 FEB. 17, 1932.

SCALE: 1/4" = 1'-0"
 DRAWN BY: R.S.

File X061-17

DESCRIPTION	DRN	CKD	APVD	DATE

CITY OF DETROIT
 CITY ENGINEERING DIVISION - EPMD

12 TH. ST. (ROSA PARKS BLVD.)
 & LAFAYETTE ST. CROSSING CONRAIL
 REFERENCE DRAWING OLD LAFAYETTE BR
 RETAINING WALL AT S.E. CORNER