

STATE OF MICHIGAN
DEPARTMENT OF STATE HIGHWAYS

PLANS OF PROPOSED BRIDGES
MICHIGAN PROJECT I-UI-96-4(66)222
STATE PROJECT BI-UI-82122,011-PART II
JEFFRIES FREEWAY
WAYNE COUNTY
CITY OF DETROIT

GENERAL NOTES

EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS OR IN THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED THEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF STATE HIGHWAYS STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 1967 EDITION.

THE DESIGN OF THIS STRUCTURE IS BASED ON THE MICHIGAN DEPARTMENT OF STATE HIGHWAYS 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 $\frac{1}{1000}$ OF SPAN LENGTH AND $\frac{1}{350}$ OF CANTILEVER ARM.

THE CHARACTER OF ALL MATERIALS AND THE EXTENT THEREOF AS SHOWN BY BORINGS HAS BEEN OBTAINED BY METHODS AND FROM SOURCES BELIEVED TO BE RELIABLE. THE EXACTNESS OF THIS INFORMATION IS, HOWEVER, IN NO CASE GUARANTEED. BORING SAMPLES ARE ON FILE IN THE DESIGN OFFICE AT LANSING AND ARE AVAILABLE FOR INSPECTION.

ALL EXPOSED CONCRETE CORNERS SHOWN SQUARE ON THE PLANS SHALL BE BEVELED WITH $\frac{1}{2}$ " TRIANGULAR MOLDINGS EXCEPT AS OTHERWISE NOTED.

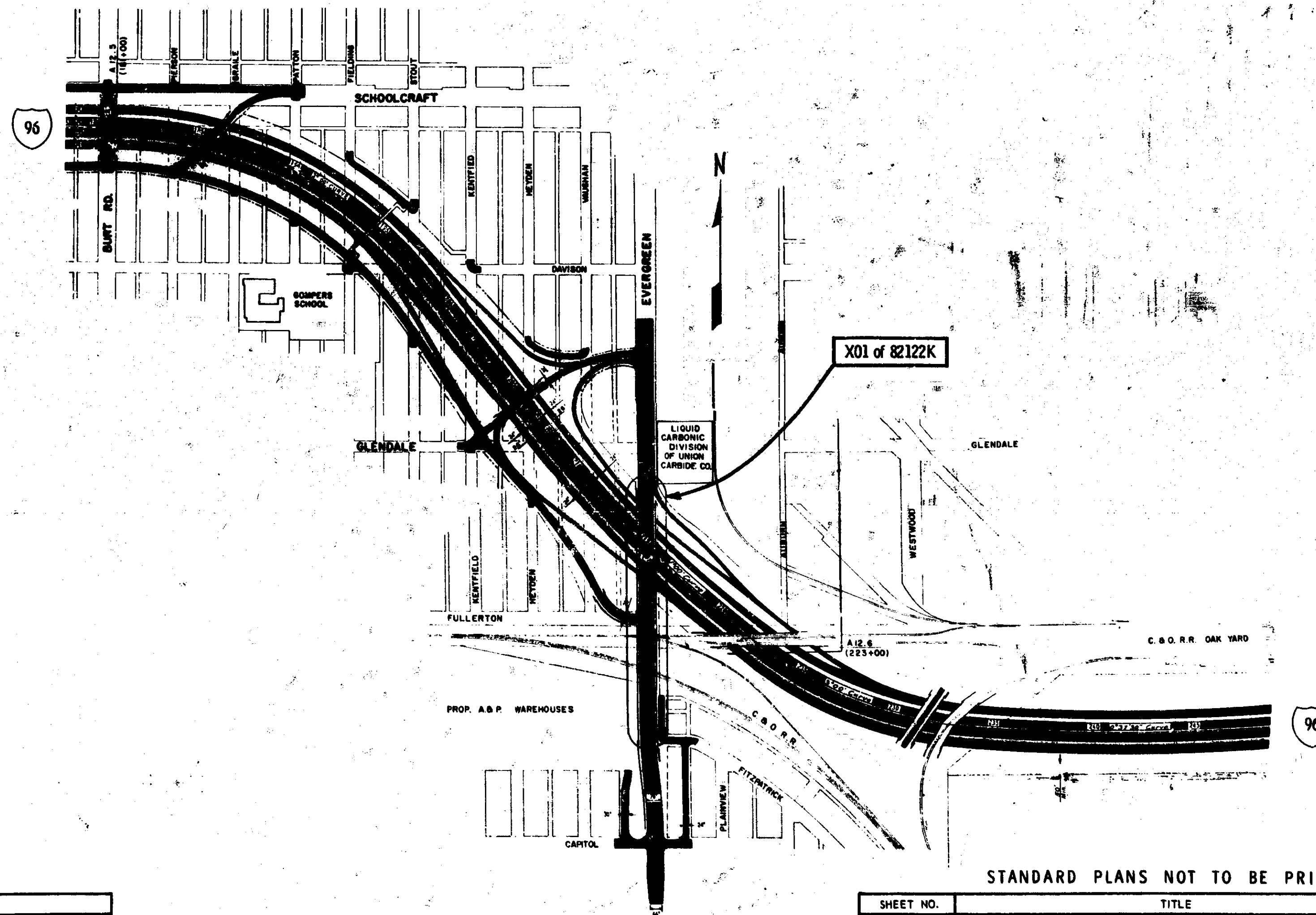
THE STATIONING AS SHOWN ON THESE PLANS FOR THE INTERSECTION OF THE CENTERLINE OF BRIDGE AND I-96 CENTERLINE IS BELIEVED TO BE CORRECT. IT SHALL, HOWEVER, BE CHECKED AT THE TIME OF STARTING CONSTRUCTION AND IF THE STATIONING SHOWN ON THE PLANS IS INCORRECT, IT SHALL BE REPORTED TO THE DESIGN OFFICE AT LANSING AND THE STRUCTURE SHALL BE STAKED OUT USING THE ACTUAL INTERSECTION OF THE CENTERLINE OF BRIDGE AND I-96 CENTERLINE AS THE CONTROL POINT.

THE GRADES AND STRESSES OF THE STRUCTURAL MATERIALS USED IN THIS STRUCTURE ARE AS FOLLOWS:

- CONCRETE: GRADE A $f_c' = 3,000$ psi
- STEEL REINFORCEMENT: INTERMEDIATE OR HARD GRADE $f_s = 20,000$ psi
- STRUCTURAL STEEL: A441 MODIFIED $f_s = 27,000$ psi

TOLERANCES IN CUTTING AND BENDING REINFORCING BARS ARE AS ESTABLISHED IN THE MANUAL OF STANDARD PRACTICE OF THE CONCRETE REINFORCING STEEL INSTITUTE AND DETAILING MANUAL OF THE AMERICAN CONCRETE INSTITUTE.

ALL RIGHT ANGLE BENDS IN REINFORCING STEEL ARE TO BE MADE ABOUT A PIN OF THE MINIMUM DIAMETER ALLOWED BY THE STANDARD SPECIFICATIONS.



NOTE:
WHERE THE FOLLOWING ITEMS ARE CALLED FOR ON THE PLANS, THEY ARE TO BE CONSTRUCTED ACCORDING TO THE STANDARD PLAN GIVEN BELOW OPPOSITE EACH ITEM, UNLESS OTHERWISE INDICATED.

STANDARD PLANS TO BE PRINTED	
SHEET NO.	TITLE
R 16	BRIDGE RAILING, DRAIN CASTING, BAR CHAIR, MOLDING AND BEVEL DETAILS
SP 2	STANDARD SLOPE PAVING DETAILS

STANDARD PLANS NOT TO BE PRINTED	
SHEET NO.	TITLE

6-72
AS CONSTRUCTED
ACCORDING TO MARKED PLANS
PREPARED BY PROJECT ENGINEER

ITEM NO. 2488

CONTRACT FOR STRUCTURE: _____

APPROVALS		
CHECKED	<i>H.N. Benward</i>	5-27-68
	DESIGN ENGINEER	DATE
RECOMMENDED FOR APPROVAL	<i>W.C. Jones</i>	6-11-68
	ENGINEER OF BRIDGE AND ROAD DESIGN	DATE
RECOMMENDED FOR APPROVAL		DATE
	TRAFFIC DIVISION	
RECOMMENDED FOR APPROVAL		DATE
	CONSTRUCTION DIVISION	
RECOMMENDED FOR APPROVAL	<i>John E. Starnes</i>	6/19/68
	CHIEF - BUREAU OF ENGINEERING	DATE
DEPARTMENT OF STATE HIGHWAYS HENRIK E. STAFSETH - STATE HIGHWAY DIRECTOR		
APPROVED BY	<i>John P. Woodard</i>	6/19/68
	DEPUTY STATE HIGHWAY DIRECTOR	DATE
PLANS PREPARED BY	U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION BUREAU OF PUBLIC ROADS	
DEPARTMENT OF STATE HIGHWAYS	APPROVED	
SQUAD WOODARD	FOR THE DIVISION ENGINEER	
X01 OF 82122K	STATE PROJECT NO. X01 of 82122K	FEDERAL PROJECT I-UI-96-4 (41)217
		SHEET NO. 1

STATE PROJECT NO. X01 OF 82122K

Table with columns: ITEM, CODE NO, UNIT, CONTR QUANT, FINAL QUANT, UNIT PRICE, FINAL COST, etc. Includes items like 10'x10" Timber Curb, Unclassified Excavation, Cast In-Place Concrete Piles, etc.

PLAN EXTRAS table with columns: DATE, DESCRIPTION, UNIT, QUANTITY ESTIMATE, QUANTITY FINAL.

CHECKED CONTRACT SECTION DATE 11/17/71

Change quantity of Handhole Frame & Cover to agree with Proposal. RHW 12-5-63

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

QUANTITY SHEET

Small table with columns: DRAWN BY, CHECKED BY, SHEET 15 OF 105

XO1 of 82122K

Checked - P. A. Anderson - Project Engineer 10-3-71

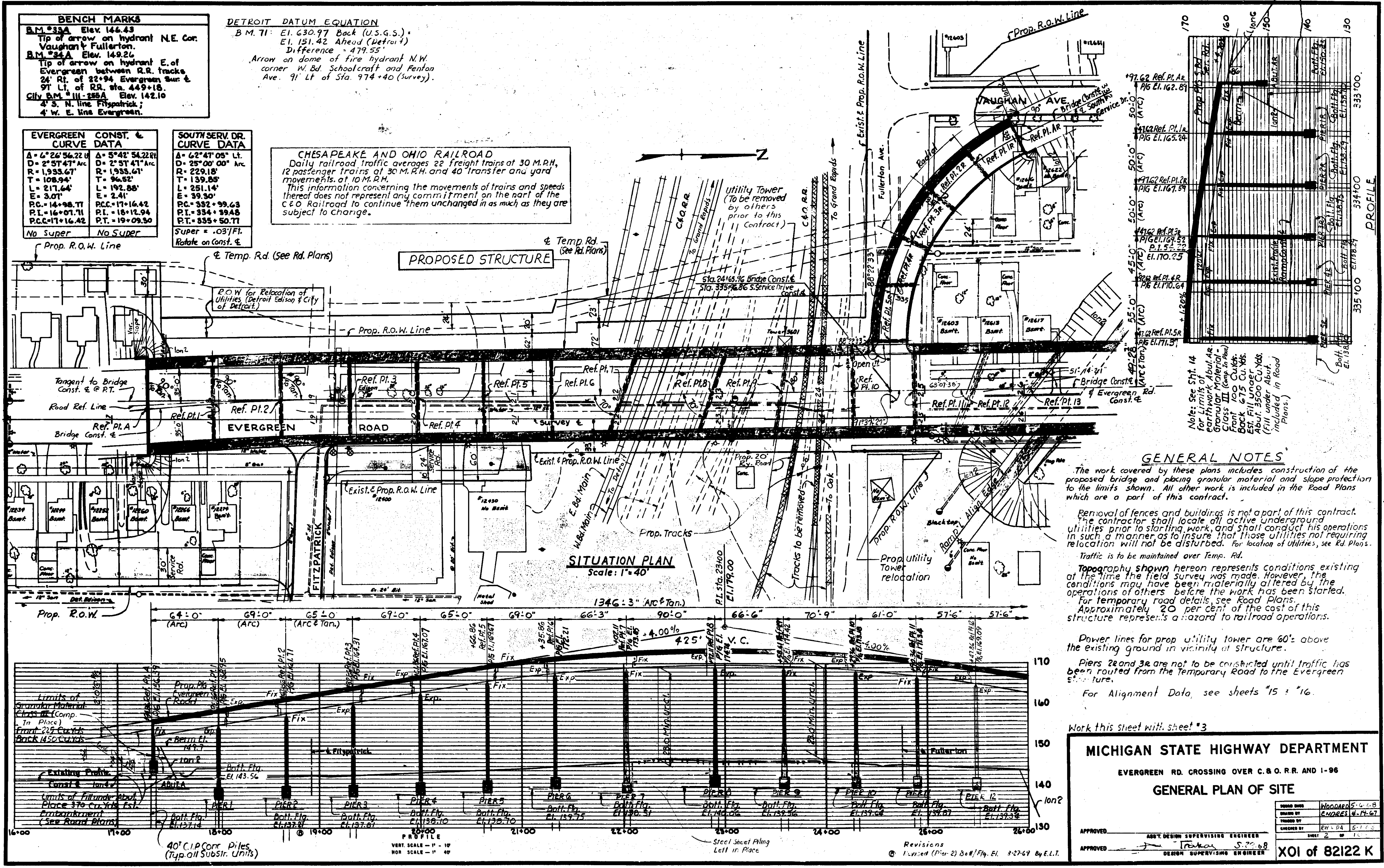
BENCH MARKS
 B.M. 33A Elev. 144.43
 Tip of arrow on hydrant N.E. Cor. Vaughan & Fullerton.
 B.M. 34A Elev. 149.26
 Tip of arrow on hydrant E. of Evergreen between R.R. tracks 24' Rt. of 22+94 Evergreen Sur. & 97' Lt. of R.R. sta. 449+18.
 City B.M. 111-255A Elev. 142.10
 4' S. N. line Fitzpatrick;
 4' W. E. line Evergreen.

DETROIT DATUM EQUATION
 B.M. 71: El. 630.97 Back (U.S.G.S.);
 El. 151.42 Ahead (Detroit);
 Difference = 479.55'
 Arrow on dome of fire hydrant N.W. corner W. Bd. Schoolcraft and Fenton Ave. 91' Lt. of Sta. 974+40 (Survey).

EVERGREEN CONST. & CURVE DATA
 Δ = 6°26'56.22" Lt. Δ = 5°42'54.22" Rt.
 D = 2°57'47" Arc D = 2°57'47" Arc
 R = 1933.67' R = 1933.61'
 T = 108.94' T = 96.52'
 L = 217.64' L = 192.88'
 E = 3.07' E = 2.41'
 P.C. = 14+98.71 P.C. = 17+16.42
 P.T. = 16+07.11 P.T. = 18+12.94
 P.C.C. = 17+16.42 P.T. = 19+09.30
 No Super No Super

SOUTH SERV. DR. CURVE DATA
 Δ = 6°24'05" Lt. Δ = 25°00'00" Arc
 D = 25°00'00" Arc R = 229.18'
 T = 139.85' T = 139.85'
 L = 251.14' L = 251.14'
 E = 39.30' E = 39.30'
 P.C. = 332+99.63 P.C. = 334+39.48
 P.T. = 334+39.48 P.T. = 335+50.77
 Super = .037 Ft.
 Rotate on Const. &

CHESAPEAKE AND OHIO RAILROAD
 Daily railroad traffic averages 22 freight trains at 30 M.P.H., 12 passenger trains at 30 M.P.H. and 40 transfer and yard movements at 10 M.P.H.
 This information concerning the movements of trains and speeds thereof does not represent any commitment on the part of the C & O Railroad to continue them unchanged in as much as they are subject to change.



GENERAL NOTES

The work covered by these plans includes construction of the proposed bridge and placing granular material and slope protection to the limits shown. All other work is included in the Road Plans which are a part of this contract.

Removal of fences and buildings is not a part of this contract. 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. For location of utilities, see Rd. Plans.

Traffic is to be maintained over Temp. Rd.

Topography shown hereon represents conditions existing at the time the field survey was made. However, the conditions may have been materially altered by the operations of others before the work has been started. For temporary road details, see Road Plans.

Approximately 20 per cent of the cost of this structure represents a hazard to railroad operations.

Power lines for prop utility tower are 60' above the existing ground in vicinity of structure.

Piers 2 and 3 are not to be constructed until traffic has been routed from the temporary road to the Evergreen structure.

For Alignment Data, see sheets 15 & 16.

Work this sheet with sheet #3

MICHIGAN STATE HIGHWAY DEPARTMENT
 EVERGREEN RD. CROSSING OVER C.&O. R.R. AND I-96
GENERAL PLAN OF SITE

APPROVED: [Signature] ASST. DESIGN SUPERVISING ENGINEER
 APPROVED: [Signature] DESIGN SUPERVISING ENGINEER

DESIGNED BY: WOODARD S. G. & B.
 DRAWN BY: ENDREWS W. P. & G.
 CHECKED BY: [Signature] S. J. G.
 SHEET 2 OF 12

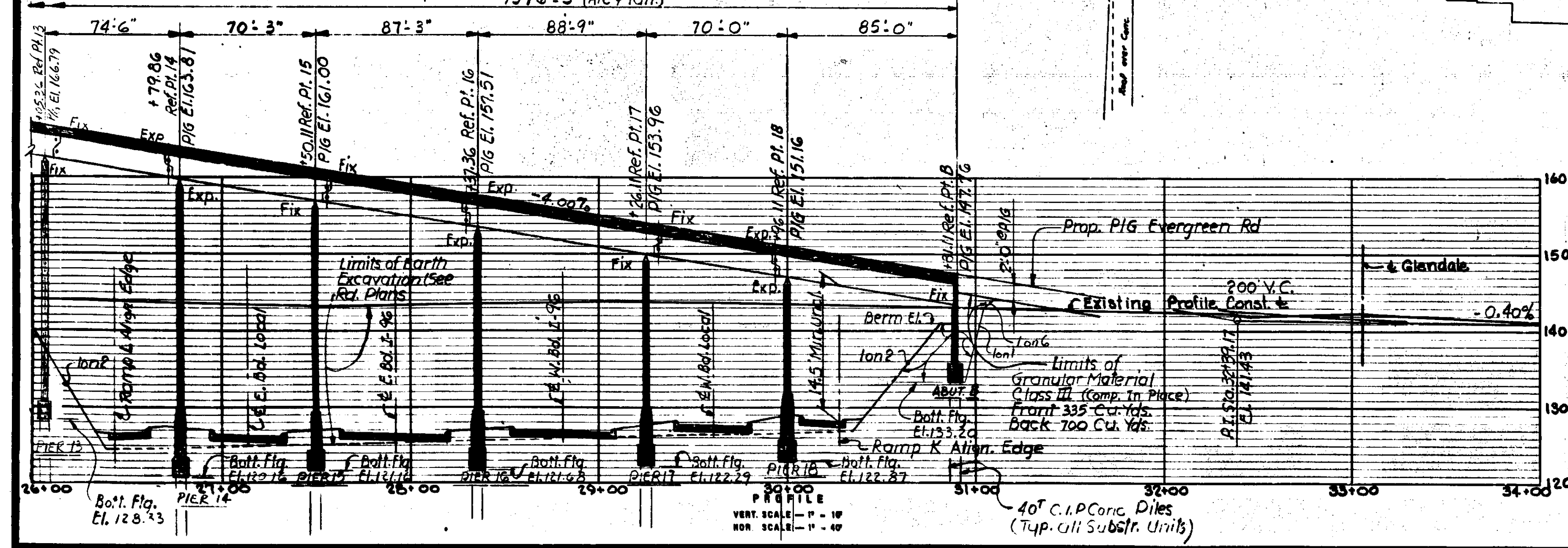
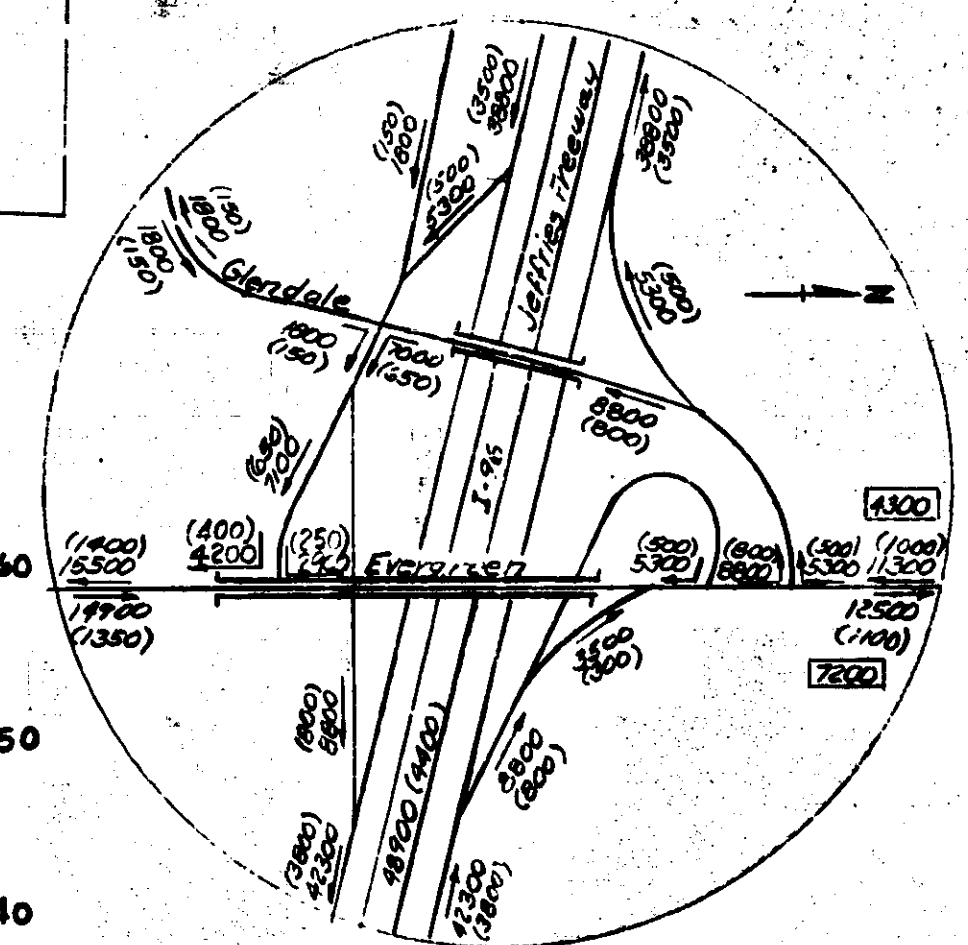
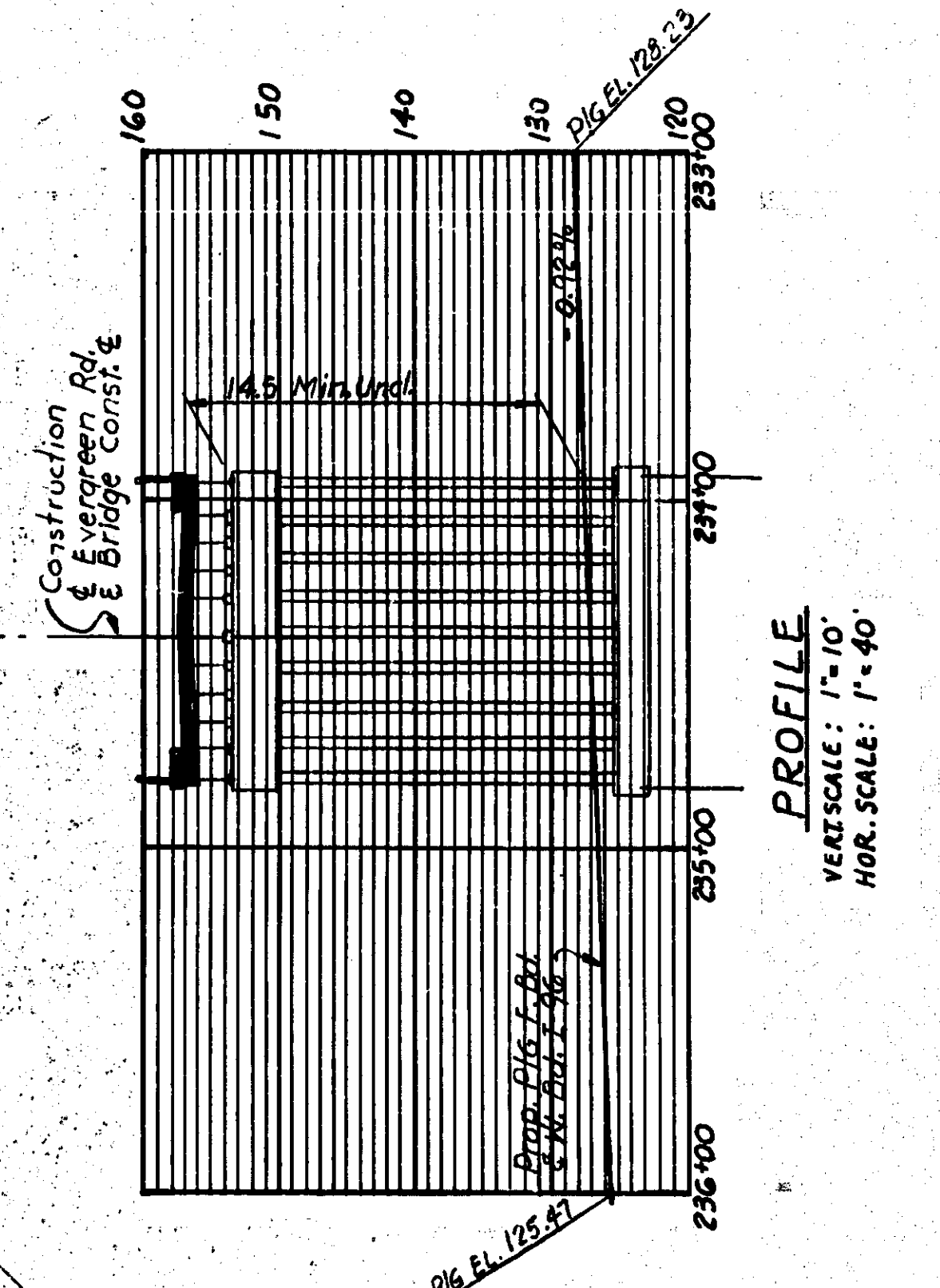
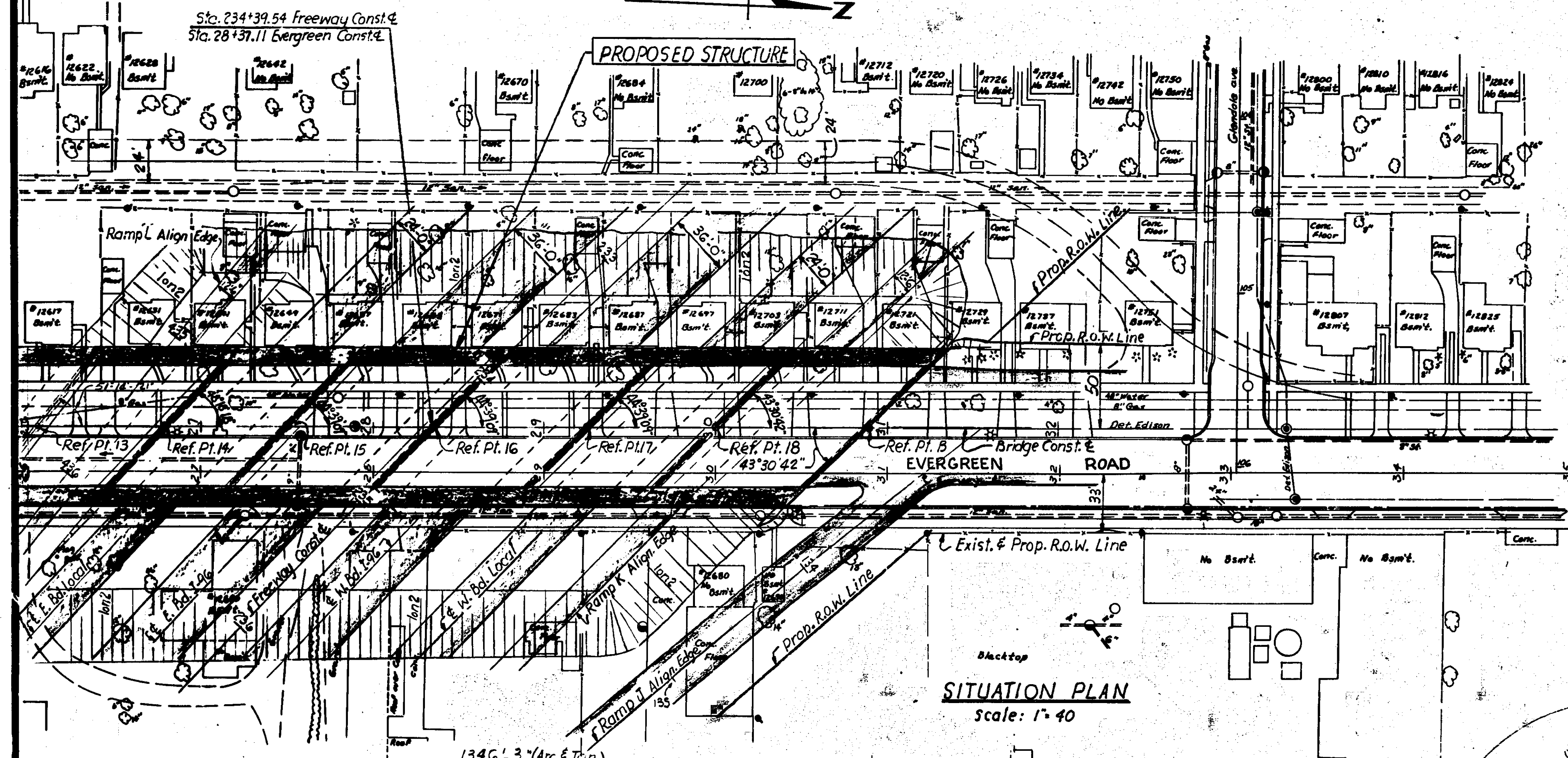
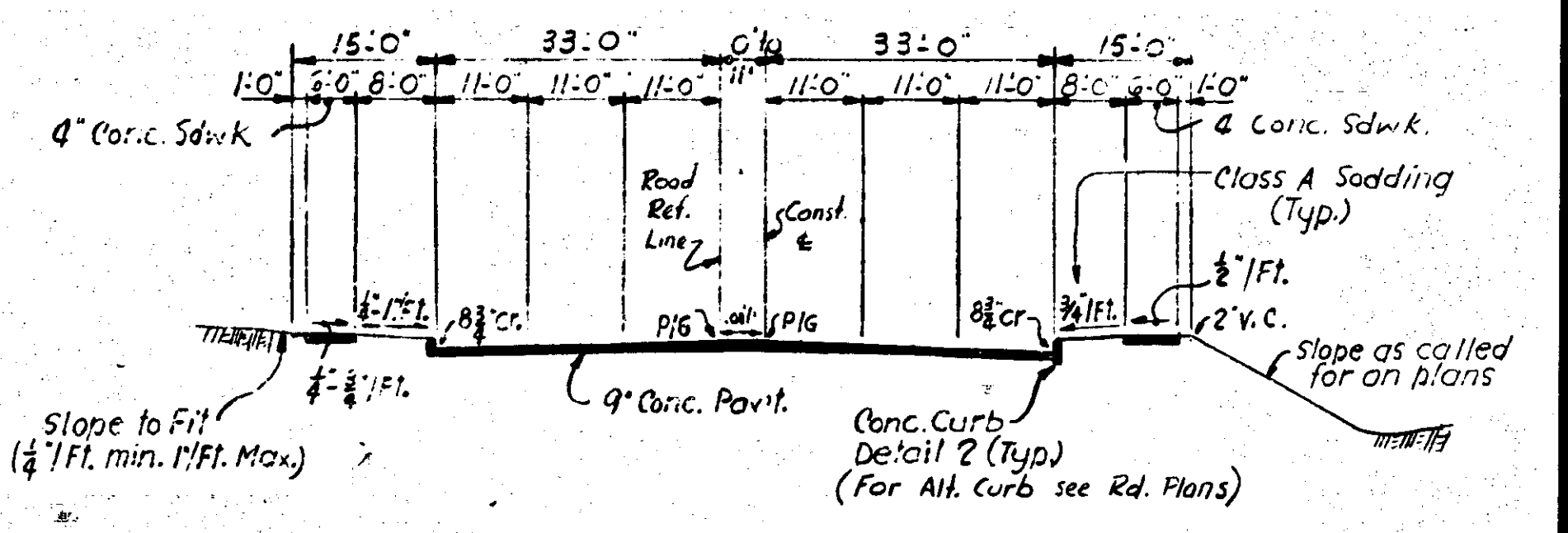
Revisions
 (1) Revised (Pier 2) S&M/Flg. El. 3-27-69 by E.L.T.

XO1 of 82122 K

BENCH MARKS
 B.M. #33 Elev. 142.79
 P.K. nail, nut & tag in roof of
 16' Box Elder E. side of Vaughan St.
 House # 12908.
 B.M. #34 Elev. 144.34
 Evergreen & Glendale tip of arrow
 on fire hydrant at Welding Equipment
 & Supplies Co.

EVERGREEN CONST. & FREWAY CURVE DATA

CURVE DATA		FREWAY CURVE DATA	
$\Delta = 2^\circ 46' 32.36''$ RT.	$A = 14^\circ 04' 56''$ LT.	$D = 0^\circ 59' 21.10''$ Arc	$R = 5,792.17'$
$D = 1^\circ 45' 00''$ Arc	$R = 3,214.04'$	$T = 715.41'$	$L = 1,423.61'$
$T = 79.32'$	$E = 158.61'$	$PC = 227+65.58$	$PI = 234+80.99$
$E = 0.96'$	$PC = 30+61.47$	$PT = 241+89.19$	NG Super
$PI = 31+40.79$	$PT = 32+20.08$		
No Super			



Work this Sheet with Sheet 2.

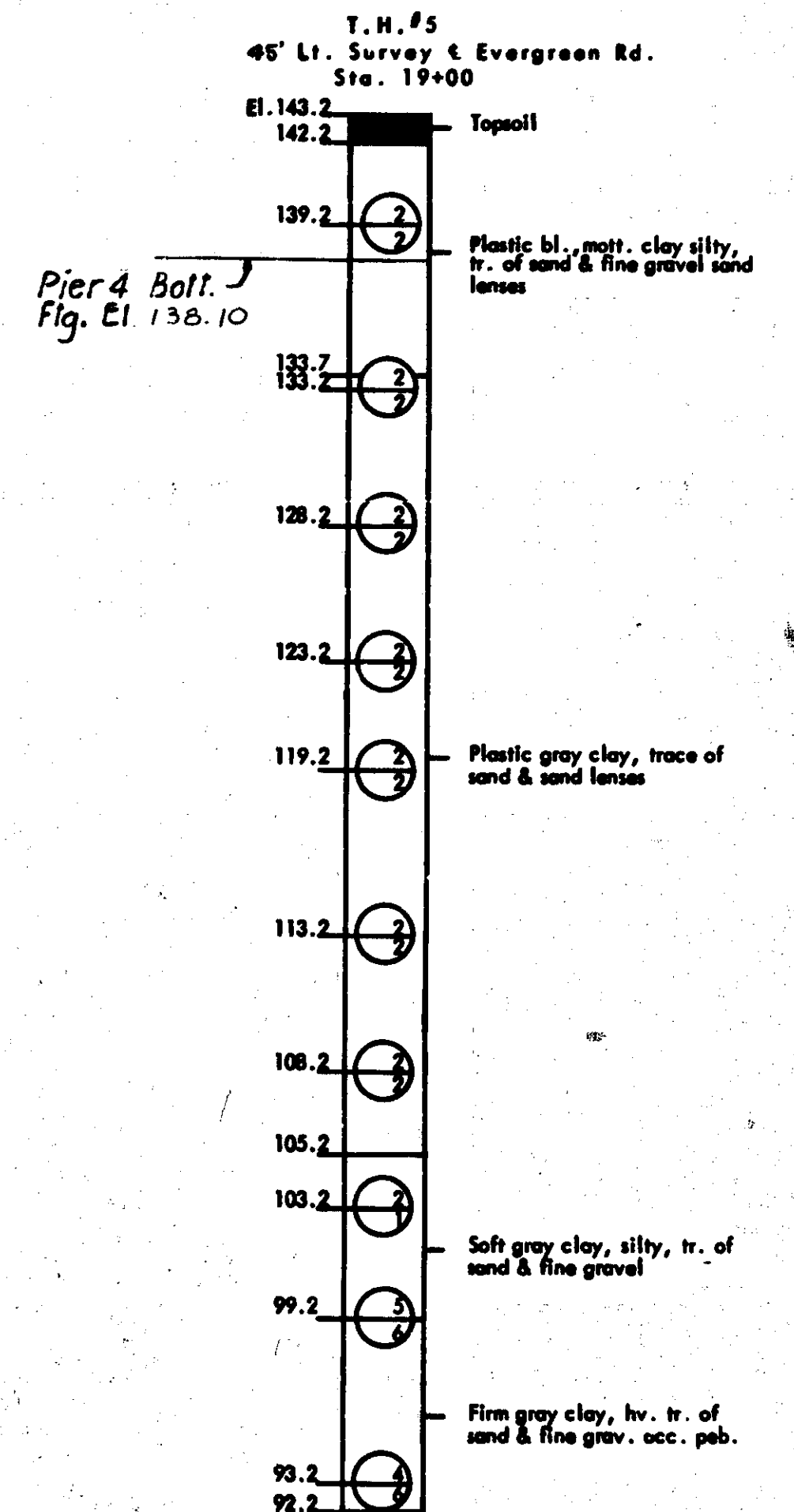
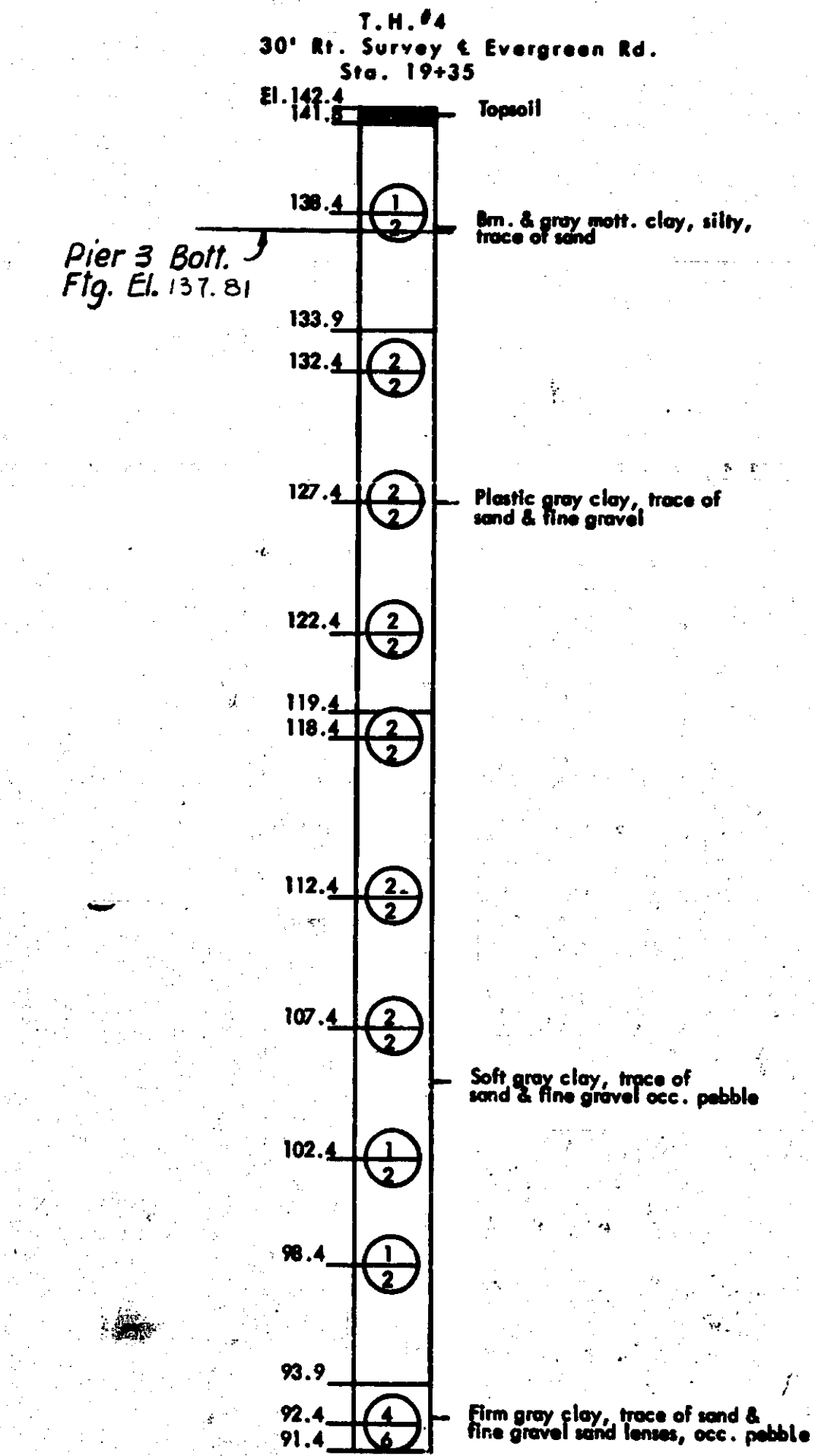
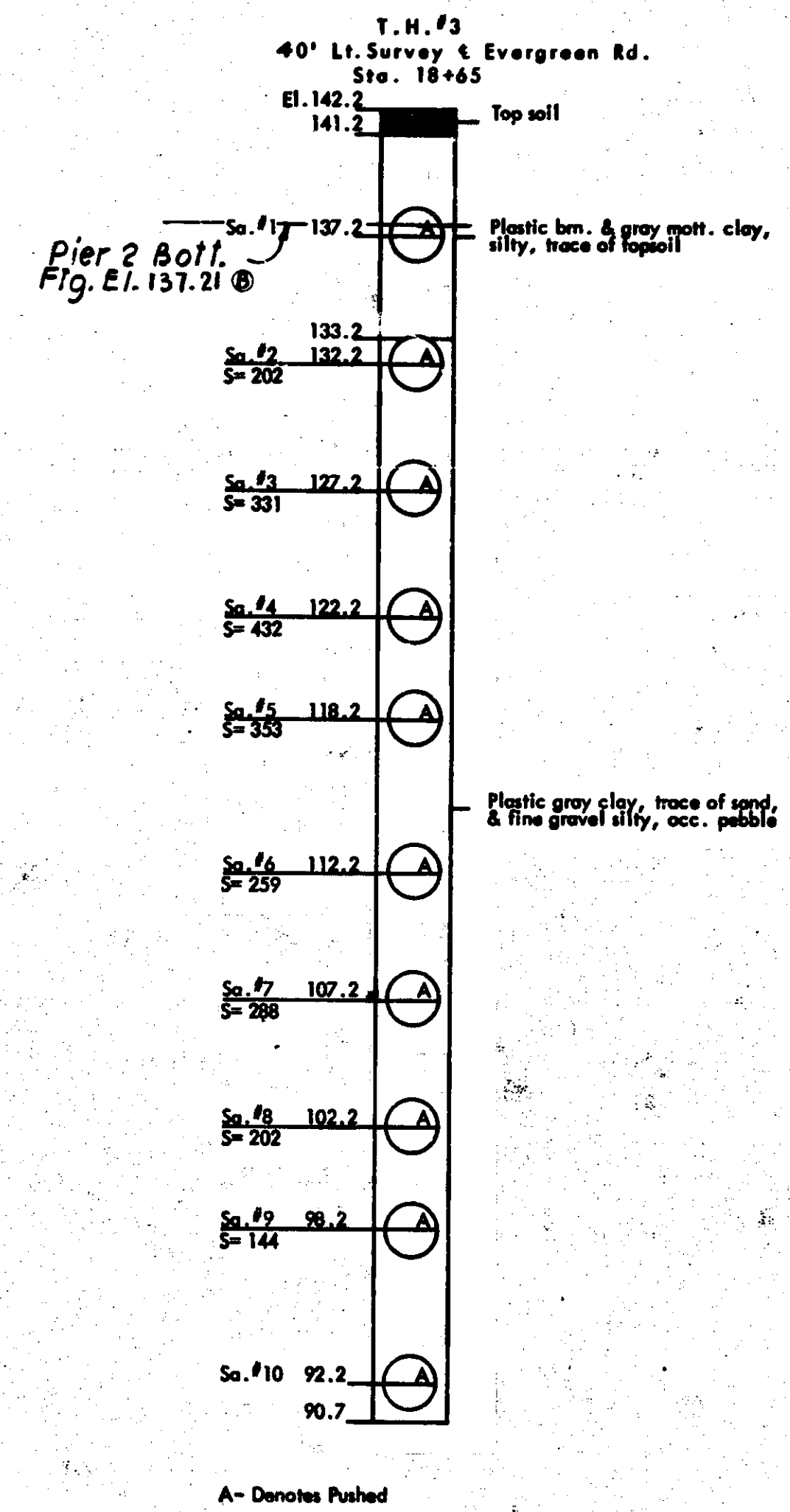
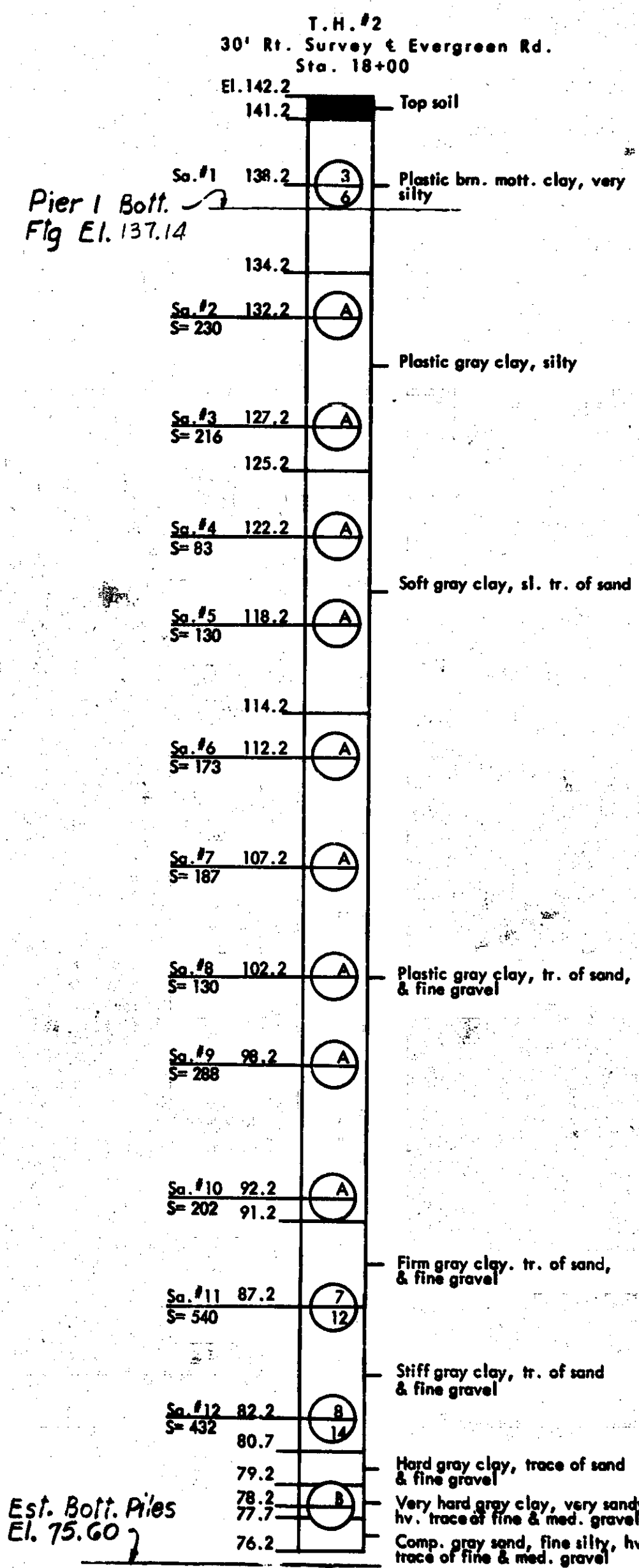
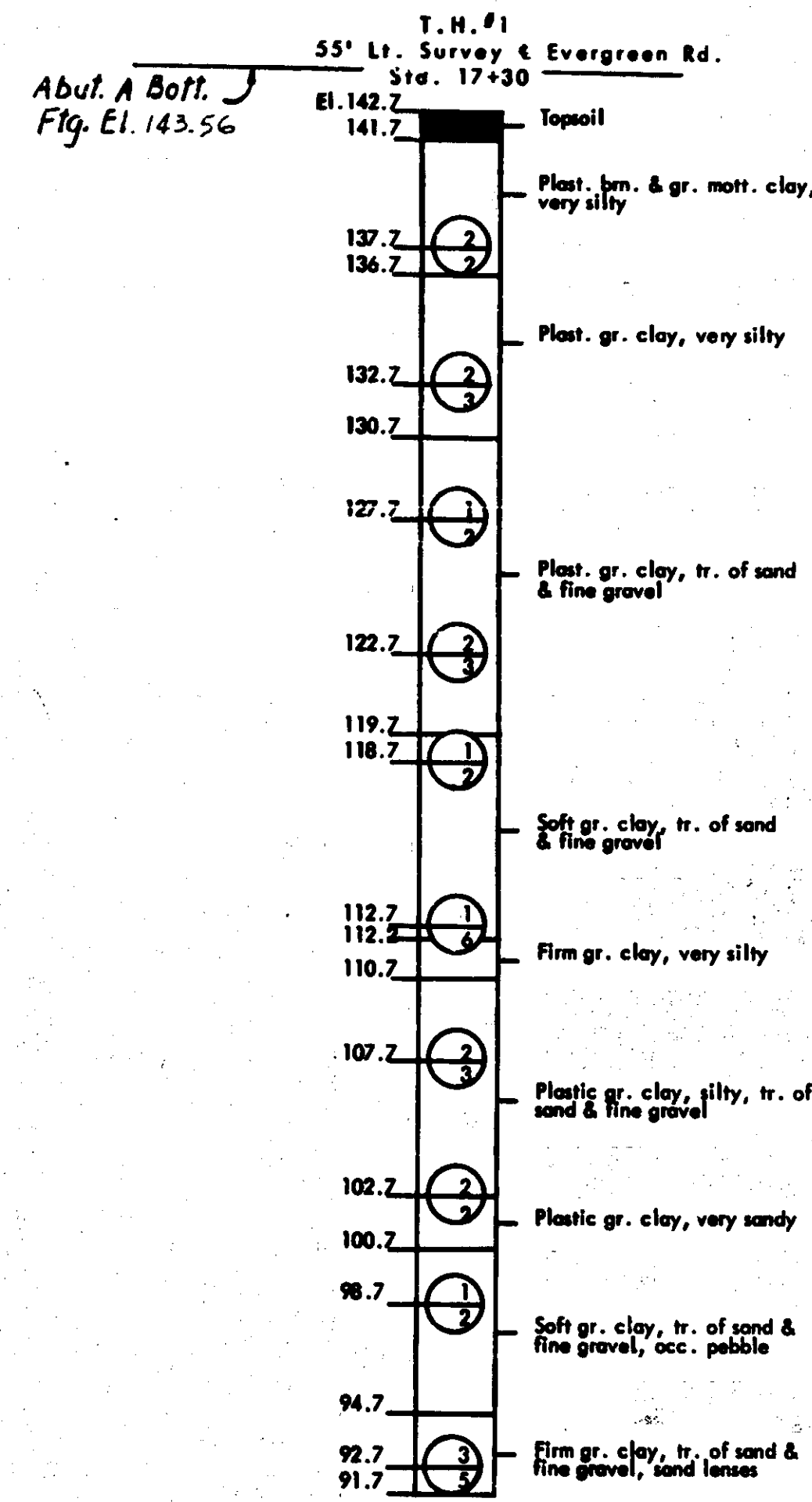
MICHIGAN STATE HIGHWAY DEPARTMENT
 EVERGREEN RD. CROSSING G. & O. R.R. AND I-96

GENERAL PLAN OF SITE

APPROVED: [Signature] DESIGN SUPERVISING ENGINEER
 DATE: 5-29-68

DESIGNED BY: [Signature]
 CHECKED BY: [Signature]
 SHEET 3 OF 10

X01 of 82122K



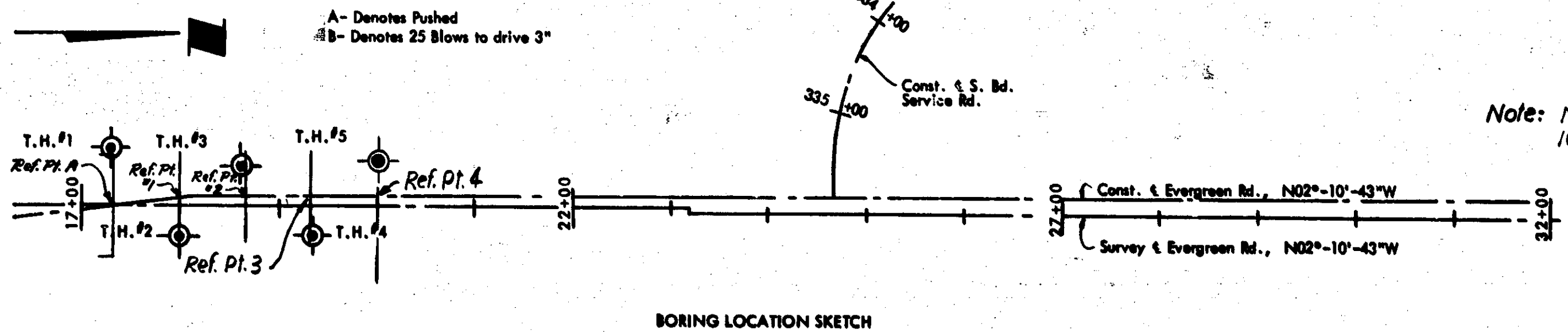
Est. Bott. Piles El. 78.0

Est. Bott. Piles El. 75.60

Est. Bott. Piles El. 75.7

Est. Bott. Piles El. 76.30

Est. Bott. Piles El. 76.6



A - Denotes Pushed
B - Denotes 25 Blows to drive 3"

Note: Min. pile penetration El. to be 10' below bott. of fig.

NOTE:
S = Transverse Shearing Resistance in lbs. per sq. ft. Shear values shown have been determined from samples at the M.D.S.H. test laboratory, Ann Arbor, using the "House" method.

Number in circle denotes number of blows required to drive a 1.75" O.D. x 1.575" I.D. split spoon sampler 12" (6" increments) using 140# hammer falling 30". Consistency determined by inspection of samples and by soil resistance to penetration by jet rod and casing or auger.

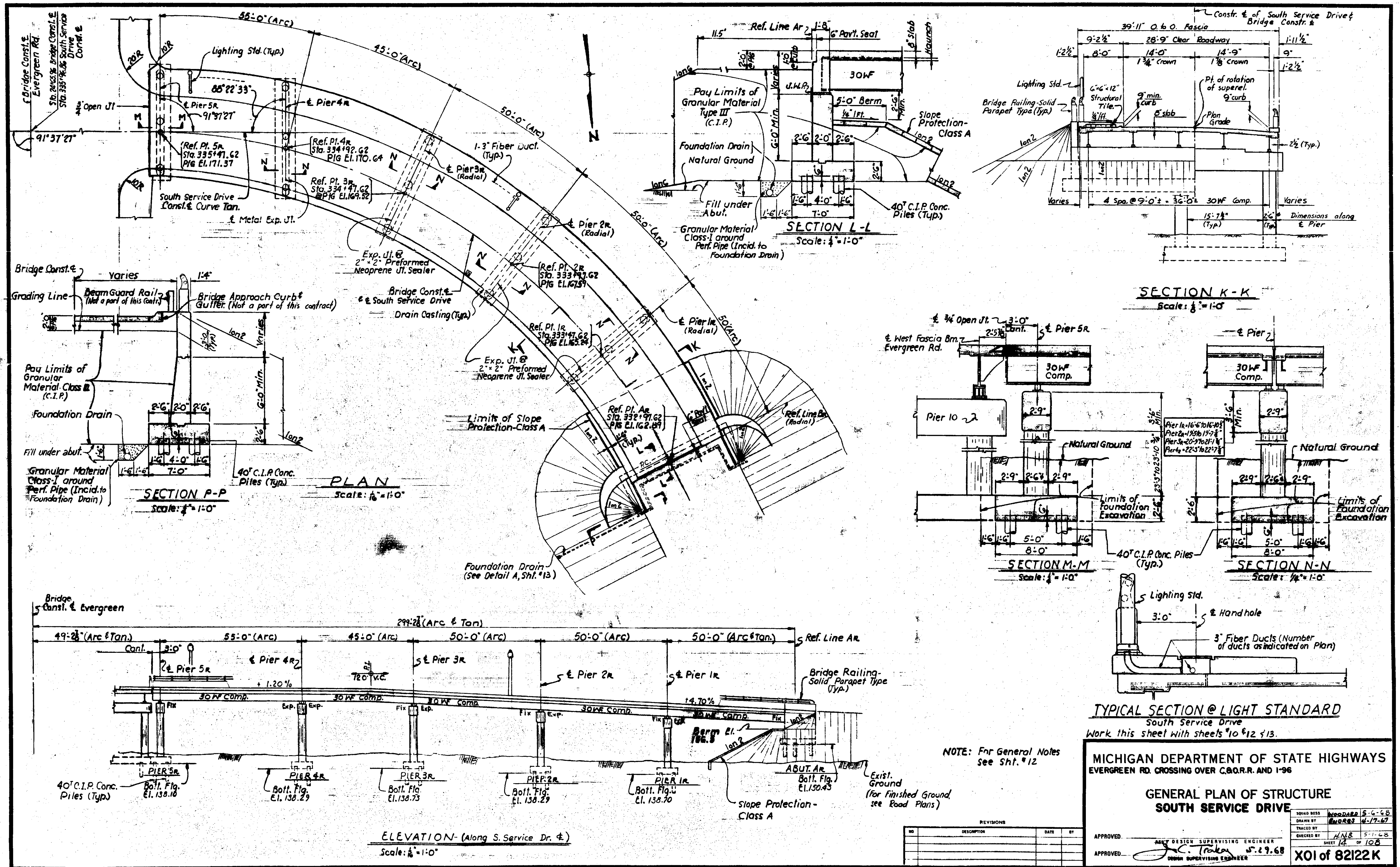
STATE OF MICHIGAN
Department of State Highways

LOG OF BORINGS

NO.	DESCRIPTION	DATE	BY
18	Revised (Pier 2) Bott./Fig. El.	3-27-67	E.L.T.

LOGGED BY	Wardlaw	5-6-68
DRAWN BY	REB	4-17-67
CHECKED BY	MLC	4-16-67
SHEET	4	OF 10

XOI OF 82122 K



MICHIGAN DEPARTMENT OF STATE HIGHWAYS
EVERGREEN RD. CROSSING OVER C.A.O.R.R. AND I-96

**GENERAL PLAN OF STRUCTURE
SOUTH SERVICE DRIVE**

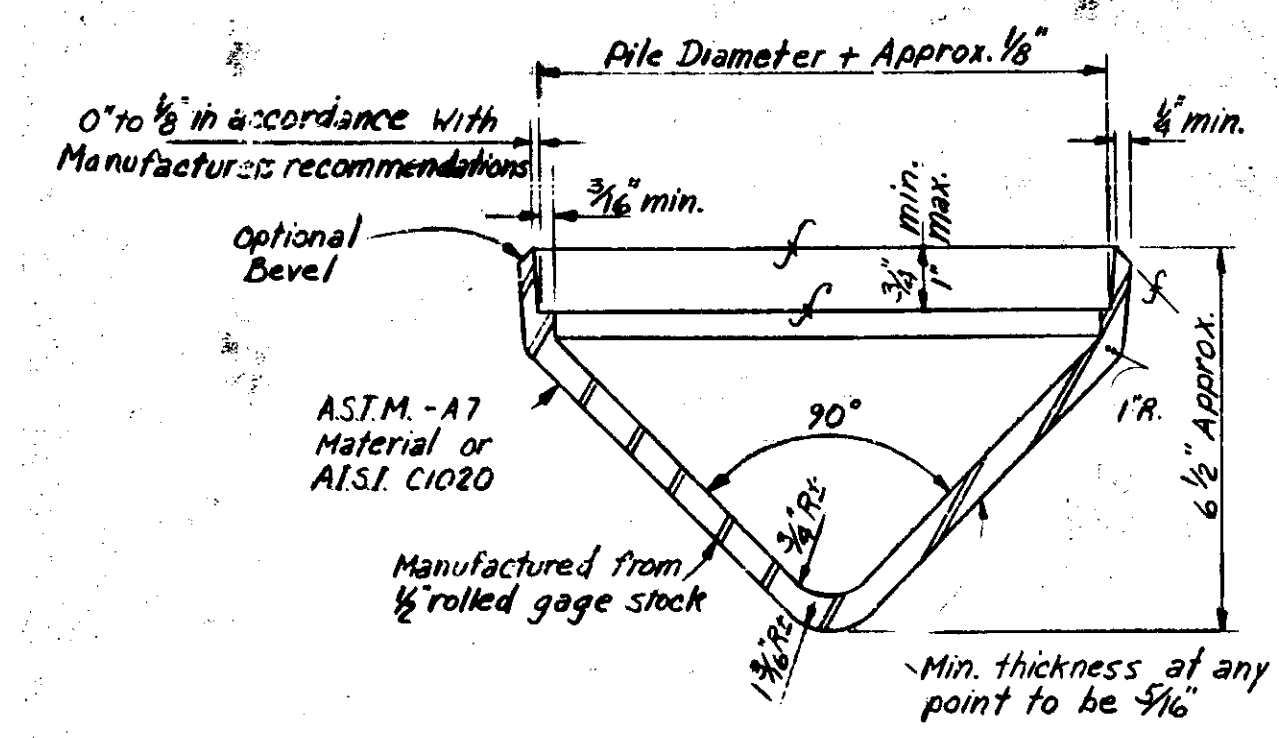
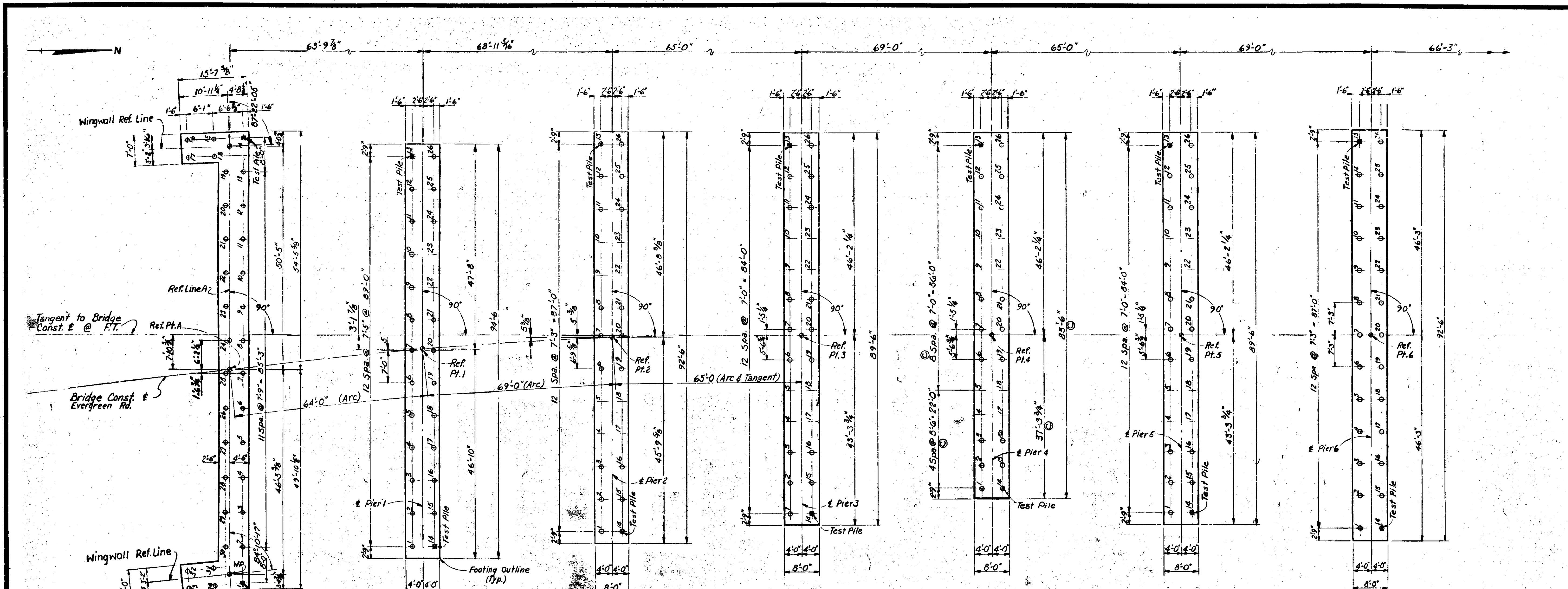
NO.	DESCRIPTION	DATE	BY

APPROVED: *[Signature]* DESIGN SUPERVISING ENGINEER
DATE: 5-29-68

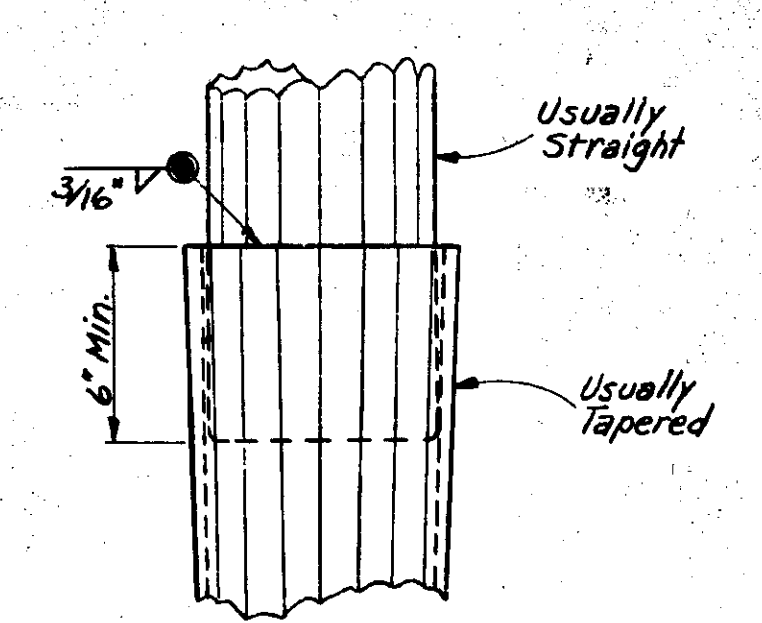
APPROVED: *[Signature]* DESIGN SUPERVISING ENGINEER
DATE: 5-17-68

TRACED BY: H.N.B. 5-17-68
CHECKED BY: H.N.B. 5-17-68
SHEET 12 OF 108

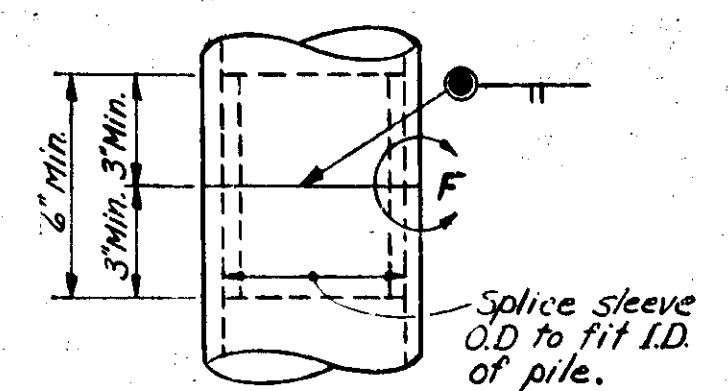
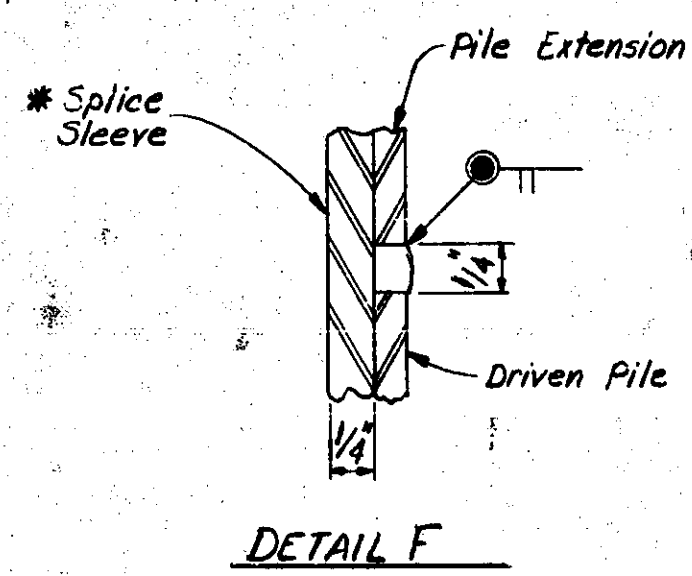
XOI of 82122K



PRESSED STEEL PILE POINT
 (For Spiral Welded and Seamless Tubing.)
 Points for fluted shells shall be forgings in accordance with manufacturer's recommendations.



FIELD SPLICE
 For Fluted Pipe Pile Shells.
 (Use 1/4" weld when shell is 3 gage metal).



***STEEL PIPE SPLICE DETAILS**

* Split chill rings as recommended by the manufacturer may be substituted for splice sleeves at the option of the Contractor.

NOTES

All piles shall be driven to a minimum bearing capacity of 40 tons.
 Pile shells for Cast-In-Place Concrete Piles driven without a removable core shall be a minimum of #5 US Standard Gauge (.203" nominal thickness), 12" O.D., and may be steel pipe of seamless or spiral welded type or fluted pipe as manufactured by the Union Metal Manufacturing Co. or approved equal.
 Pile shells for Cast-in-Place Concrete Piles driven with a removable core may be used on this project.
 Pile points shall be pressed steel of the slip-on type in accordance with the detail shown on the plans. Points shall be attached to pile shells with 3/8" continuous welds.
 The bottom of each shell casing shall be filled with not less than 1 1/2 cubic feet of mortar as specified in Section 6.01.11 of the Standard Specifications.

LEGEND

- ⊗ Test Pile
- Vertical Pile

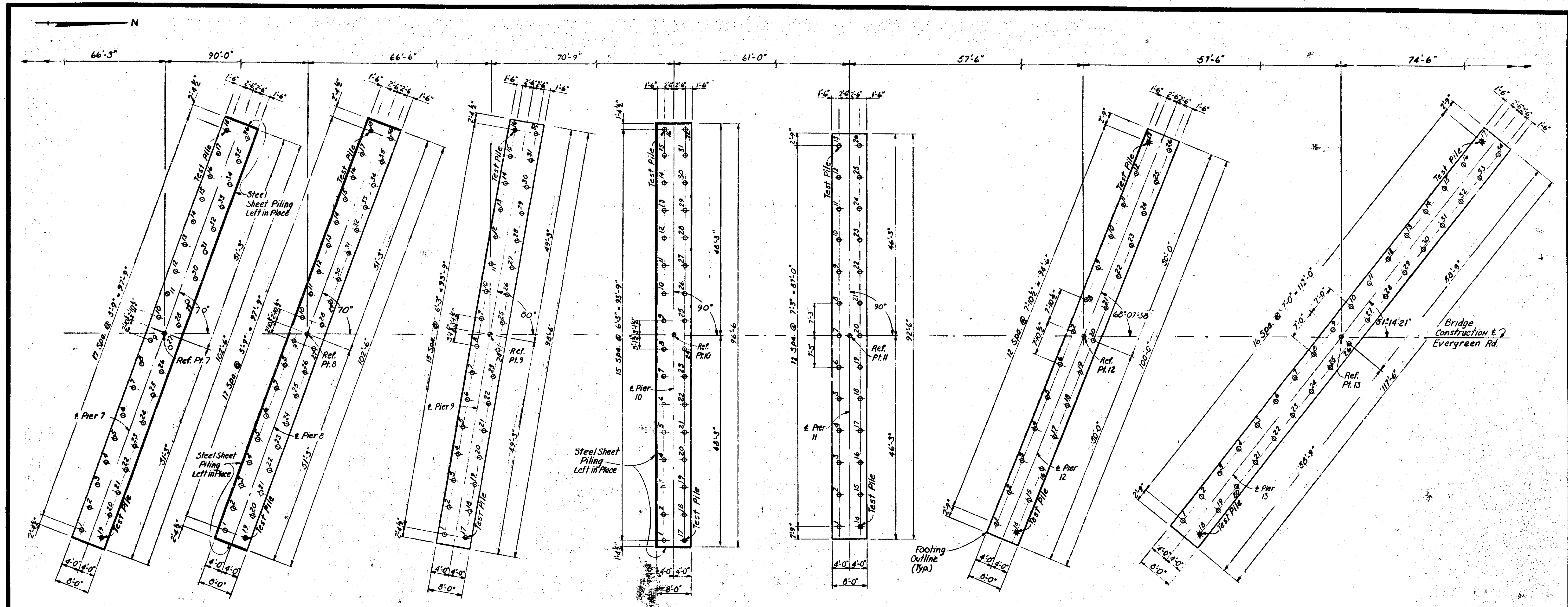
Work this sheet with sheets 18, 19 & 20

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
FOUNDATION & PILE LAYOUT

NO.	DESCRIPTION	DATE	BY
1	Revised pile spacing / Pier 4	8-28-69	B. J. B. / B. J. B.

DESIGNED BY	WOODARD	5-11-68
DRAWN BY	R. E.	5-3-68
CHECKED BY	EXP. RES.	5-22-68
SHEET	11	OF 108

XO1 of 82122K



CAST-IN-PLACE CONCRETE PILE QUANTITIES				
Subst. Unit	Type of Pile	No. of Piles	Length Each Furnished & Driven	Total Length Furnished & Driven
Abut. A	Vertical	32	68 Lin. Ft.	2176 Lin. Ft.
	Test	2	72	144
Pier 1	Vertical	24	62	1488
	Test	2	72	144
Pier 2	Vertical	24	62	1488
	Test	2	72	144
Pier 3	Vertical	24	62	1488
	Test	2	72	144
Pier 4	Vertical	24	62	1488
	Test	2	72	144
Pier 5	Vertical	24	62	1488
	Test	2	72	144
Pier 6	Vertical	24	62	1488
	Test	2	72	144
Pier 7	Vertical	34	62	2108
	Test	2	72	144
Pier 8	Vertical	34	62	2108
	Test	2	72	144
Pier 9	Vertical	30	62	1860
	Test	2	72	144
Pier 10	Vertical	30	62	1860
	Test	2	72	144
Pier 11	Vertical	24	62	1488
	Test	2	72	144
Pier 12	Vertical	24	62	1488
	Test	2	72	144
TOTALS				42,804 Lin. Ft.

ITEM	Piers																			Abutments			Unit	Total					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	1R	2R	3R	4R			5R	A	B	AR	
Unclassified Excavation	203	195	173	180	188	193	209	159	316	206	204	206	438	196	206	208	206	202	91	95	92	97	93	0	692	0	Cu. Yds.	5048	
Test Piles - Cast in Place Concrete	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	Each	52
Splices - Steel Shells 12 in. *	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Each	1037
Pile Points - Cast in Place Piles	26	26	26	26	26	26	36	36	32	32	26	26	34	36	42	42	42	38	12	12	12	12	12	34	50	20	Each	742	
Furnishing Equipment for Driving Piles	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Lump Sum	—
Steel Sheet Piling left in Place	0	0	0	0	0	0	1360	1300	0	1170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Sq. Ft.	3830

NOTES
 *One additional splice per pile (including Test Piles) is allowed for the piles to be driven in the vicinity of Detroit Edison Co. overhead high tension lines. (Piers 10, 4R & 5R, 56 piles). These splices are included in the total number of splices given above.
 Footing concrete quantities are computed on the basis of an outline 3-4" outside of the footing outline where the concrete is poured against Steel Sheet Piling Left in Place. No additional allowance will be made in concrete or excavation quantities regardless of the steel sheet piling used.
 Steel sheet piling left in place shall be of the continuous interlock type, either new or used, in good condition, weighing not less than 22 pounds per square foot of wall, and shall be furnished with suitable connecting and corner pieces. Ladle analysis and mill reports are not required for steel used in Sheet Piling.

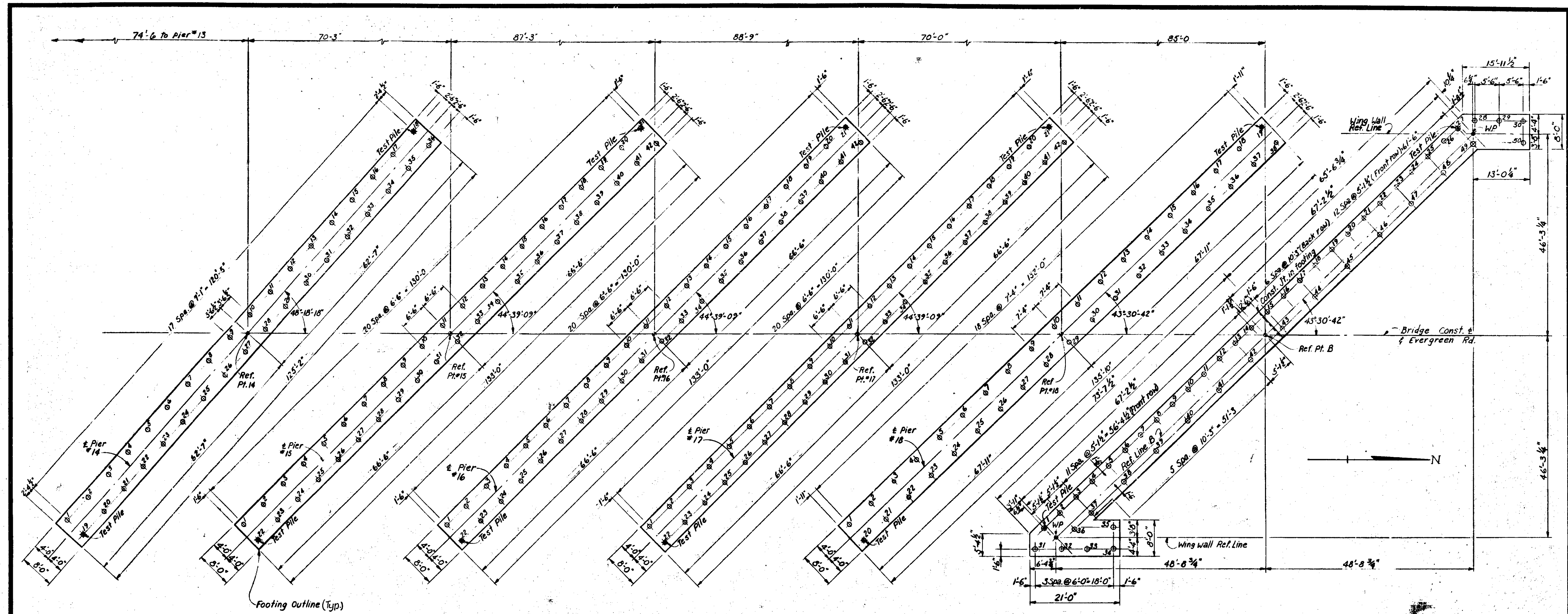
Work this sheet with sheets # 17, 19 & 20

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
FOUNDATION & PILE LAYOUT

NO.	DESCRIPTION	DATE	BY
1	Revised Quantities Per 9	3/28/61	AW/MLL

DRAWN BY: Woodward S-23-63
 CHECKED BY: K.C. 5-7-62
 CHECKED BY: ENDRES 5-24-62
 SHEET 18 OF 108

XOI of 82122K



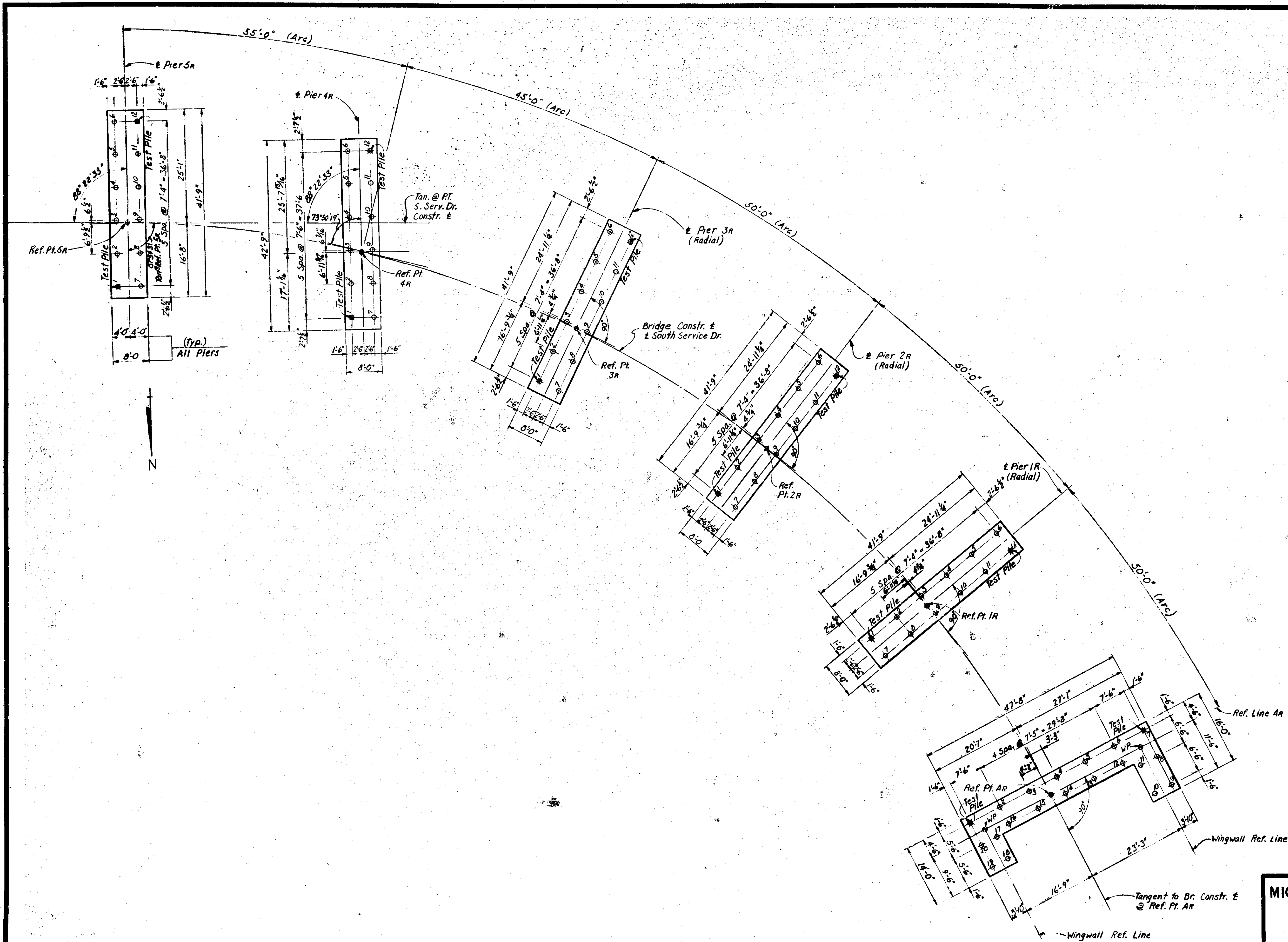
Work this sheet with sheets # 17, 18 & 20

**MICHIGAN DEPARTMENT OF STATE HIGHWAYS
FOUNDATION & PILE LAYOUT**

REVISIONS			
NO.	DESCRIPTION	DATE	BY

SCALE	AS SHOWN
DRAWN BY	W. J. ...
CHECKED BY	ENR ...
DATE	5/15/60
SHEET	19 of 108

XOI of 82122K



Work this sheet with sheets 17, 18 & 19

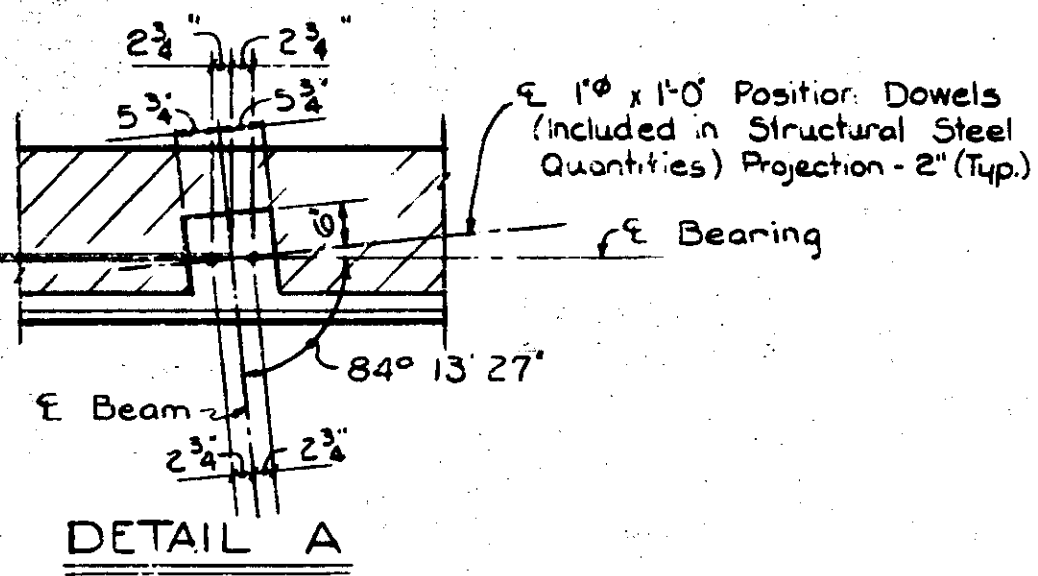
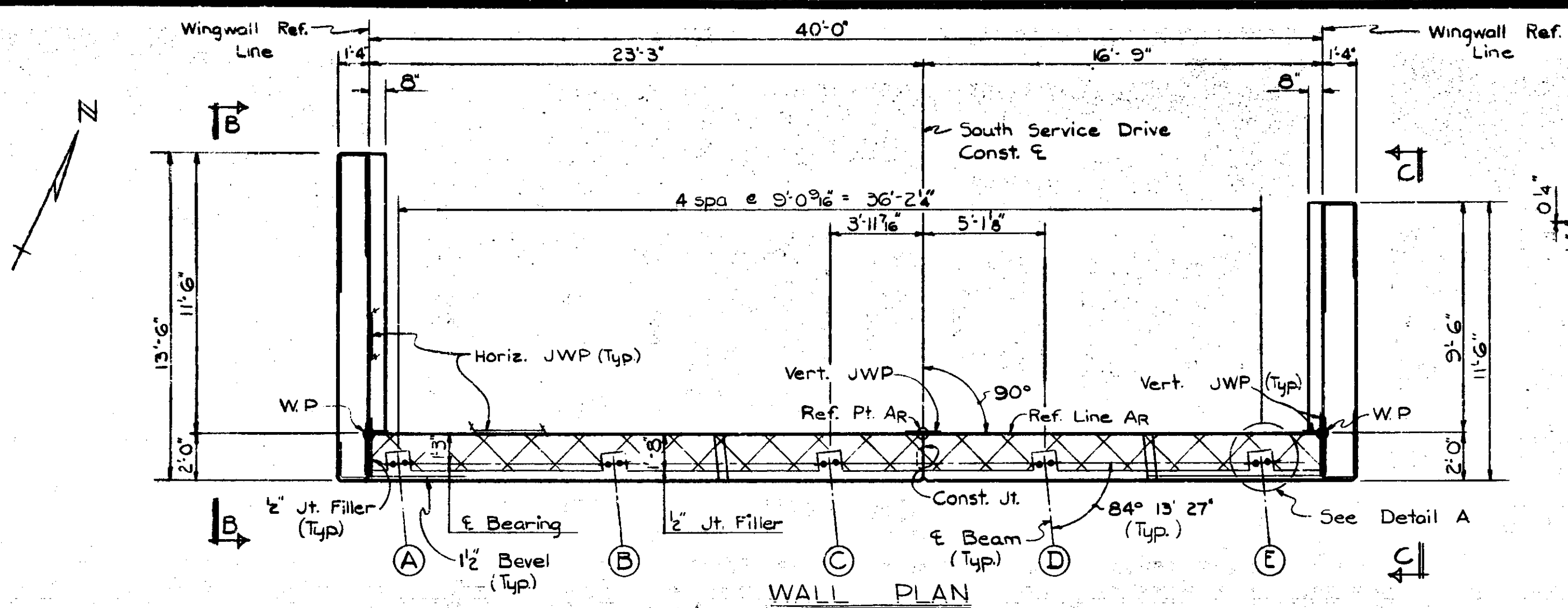
MICHIGAN DEPARTMENT OF STATE HIGHWAYS
FOUNDATION & PILE LAYOUT

REVISIONS			
NO.	DESCRIPTION	DATE	BY

DRAWN BY	Woodard	5-26-68
CHECKED BY	H.C.	5/22/68
DATE	ENDERS	5/24/68
SHEET	20	OF 100

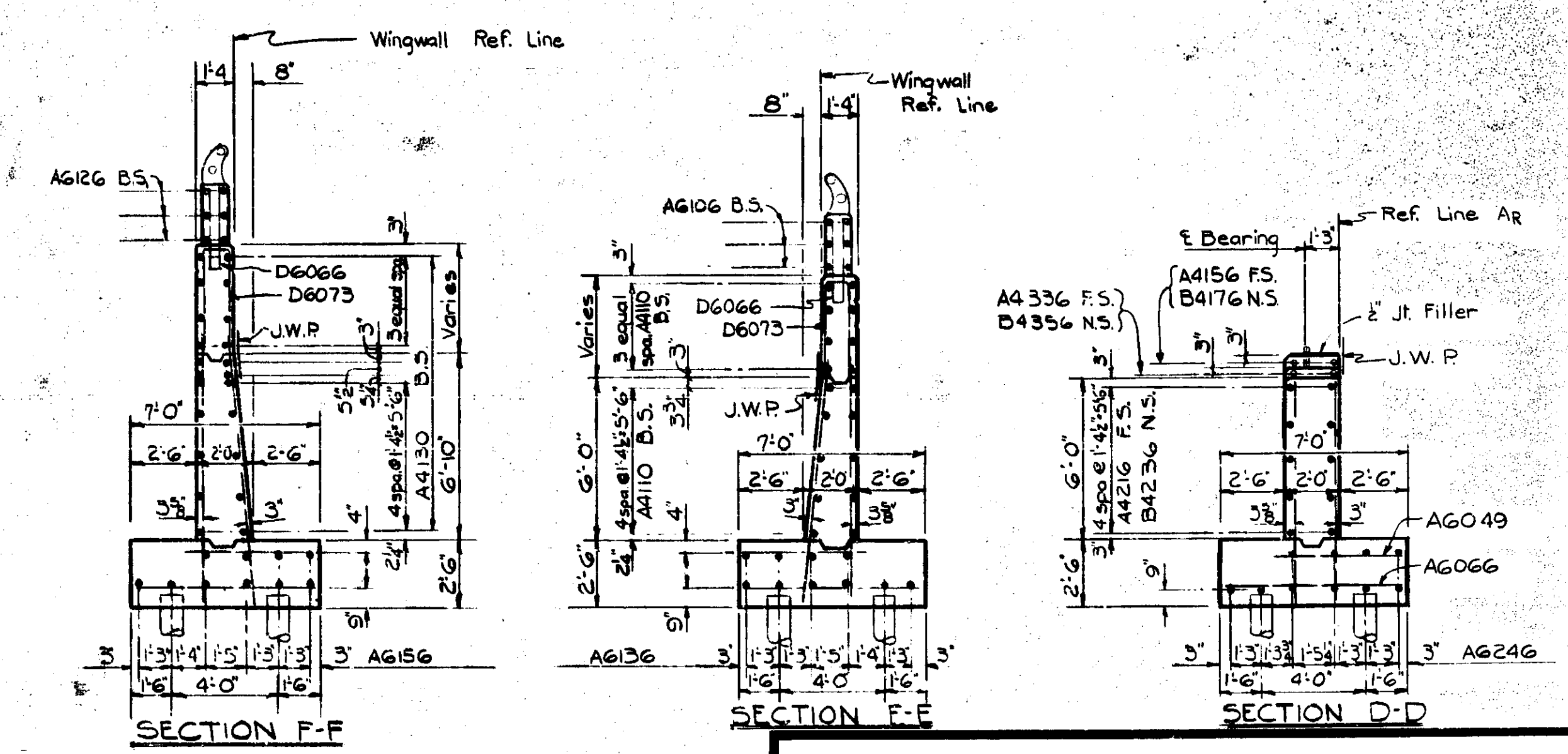
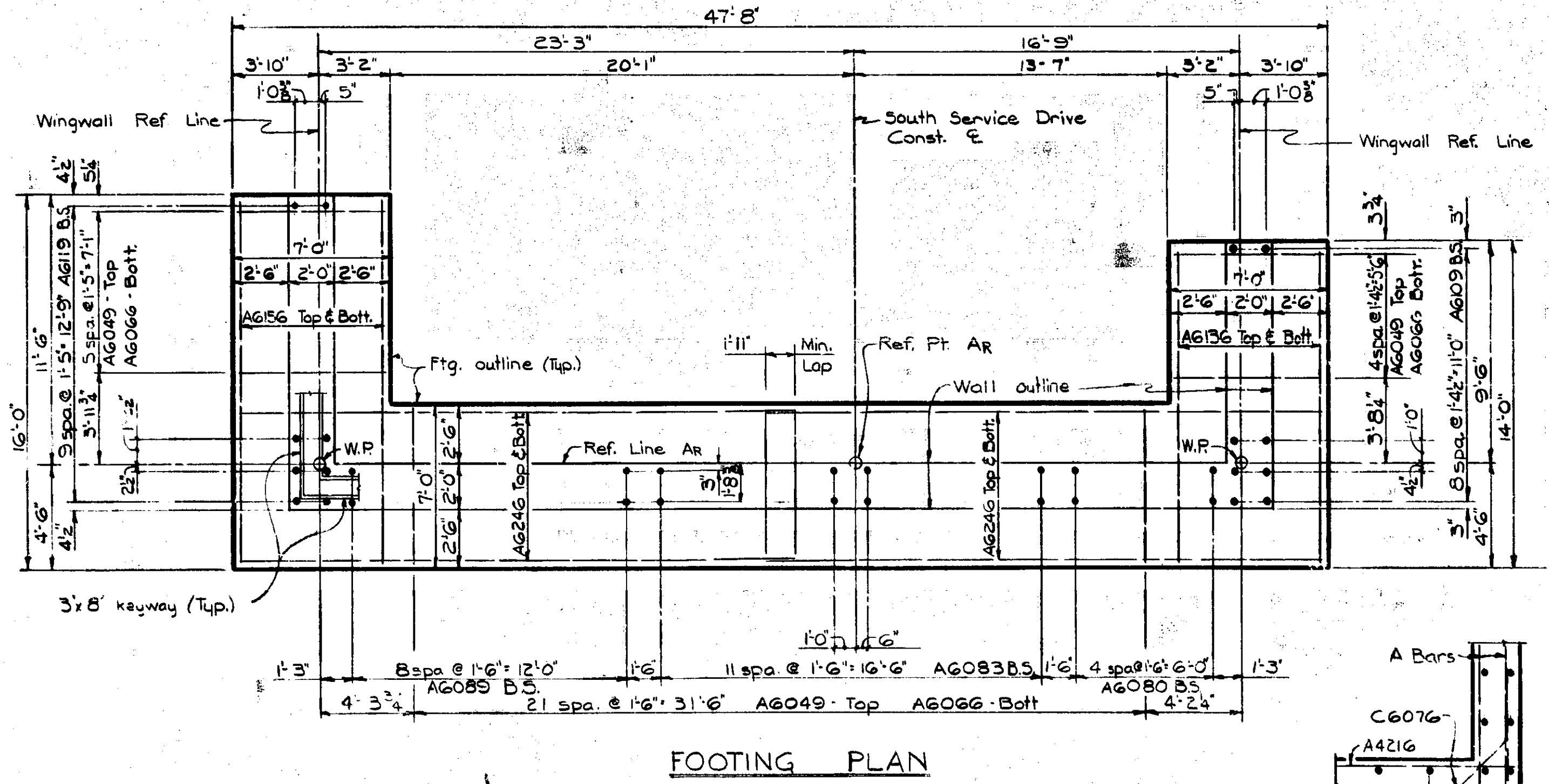
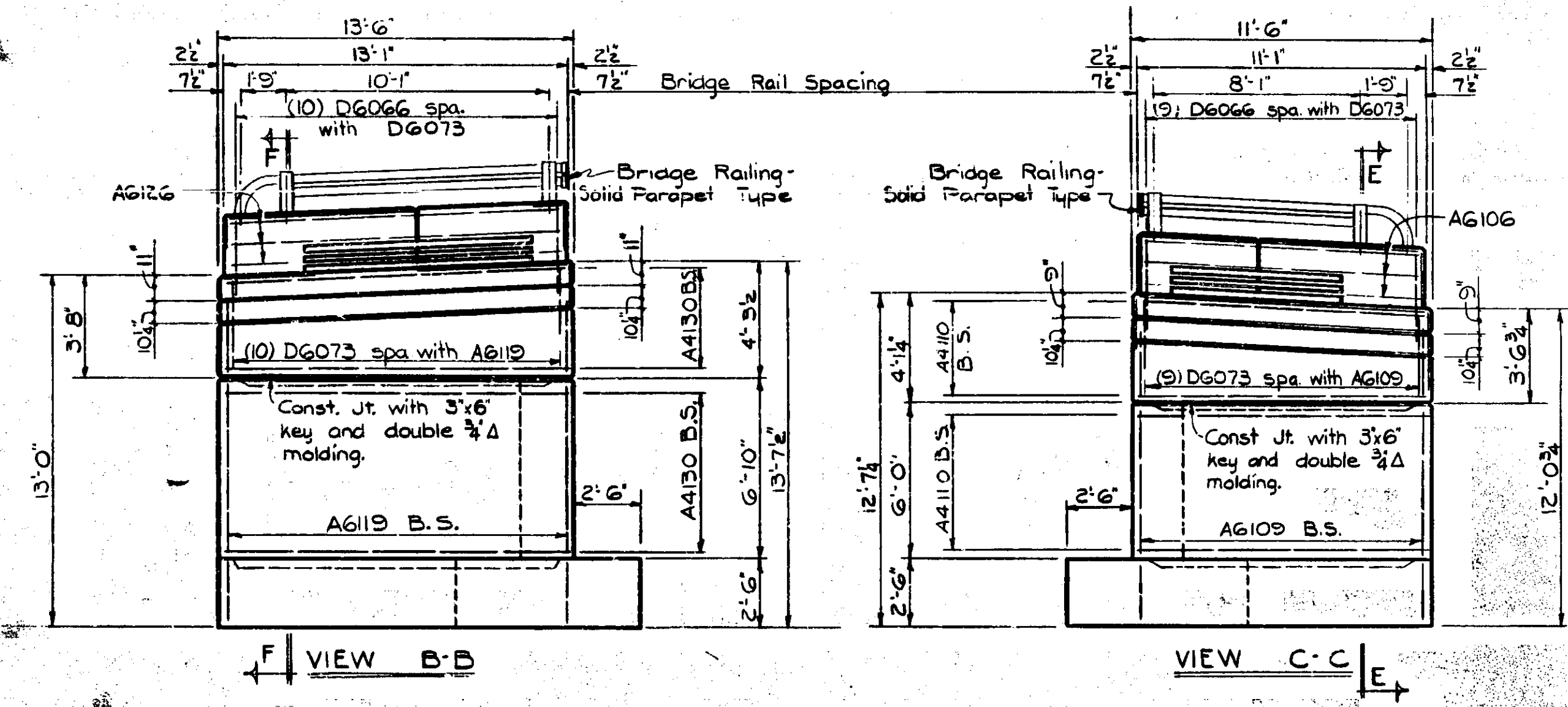
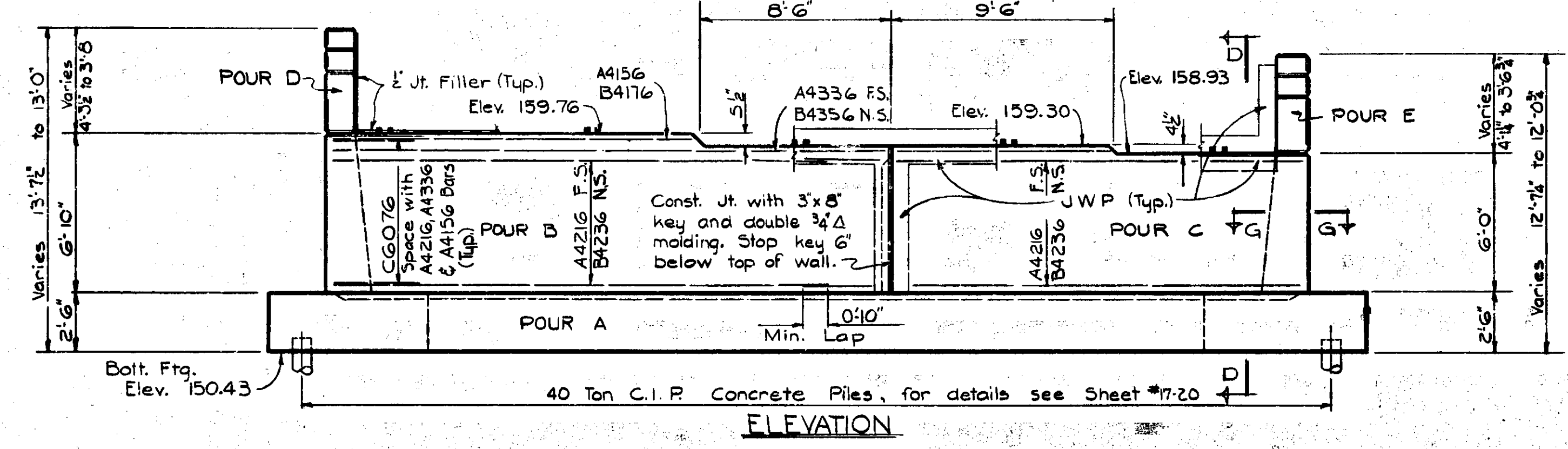
XOI of 82122K

as per to layout



POUR	A	B	C	D	E	TOTAL
Grade A(GA)	41.3					41.3
Grade A(GAA)	17.0	11.8	2.7	2.2		33.7

Item	Unit	Amount
1/2 Joint Filler	Sq. Ft.	81
Joint Waterproofing	Sq. Ft.	113
Bridge Railing-Solid Parapet Type	Lin. Ft.	24.2



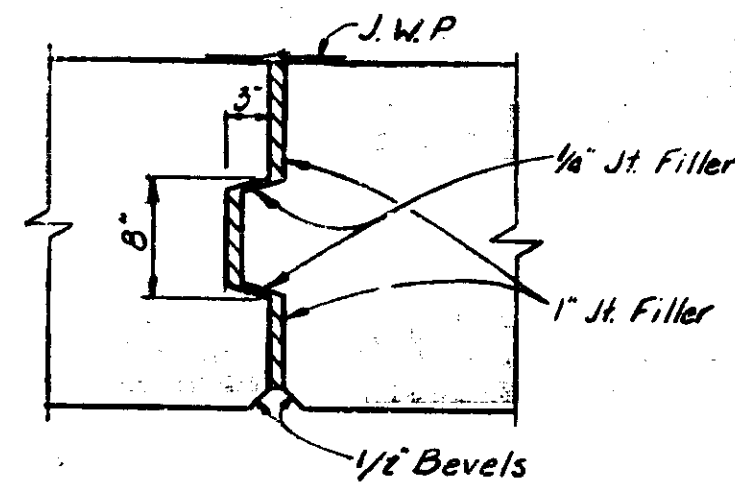
NOTES:
 For Notes and Alternate Construction Joint Details see Sheet # 27.
 For Reinforcement Steel see Sheet # 27.
 For pile layout and notes see Sheets # 17 thru 20.

**MICHIGAN DEPARTMENT OF STATE HIGHWAYS
 ABUTMENT AR DETAILS**

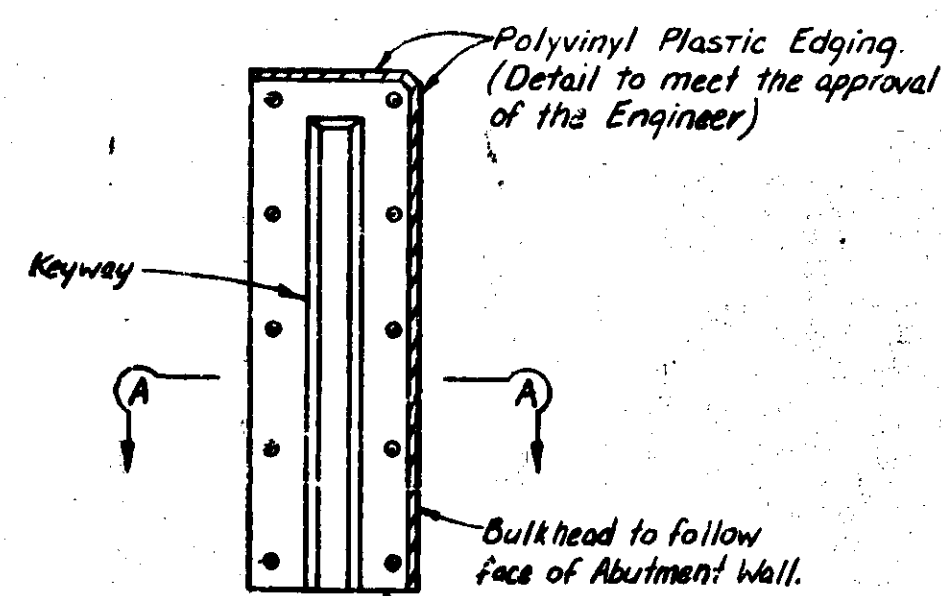
REVISIONS		DATE	BY

ROAD BOOK	Woodard	15-16-68
DRAWN BY	LE	4-16-68
CHECKED BY	Morgan	5-16-68
SHEET 26 of 108		

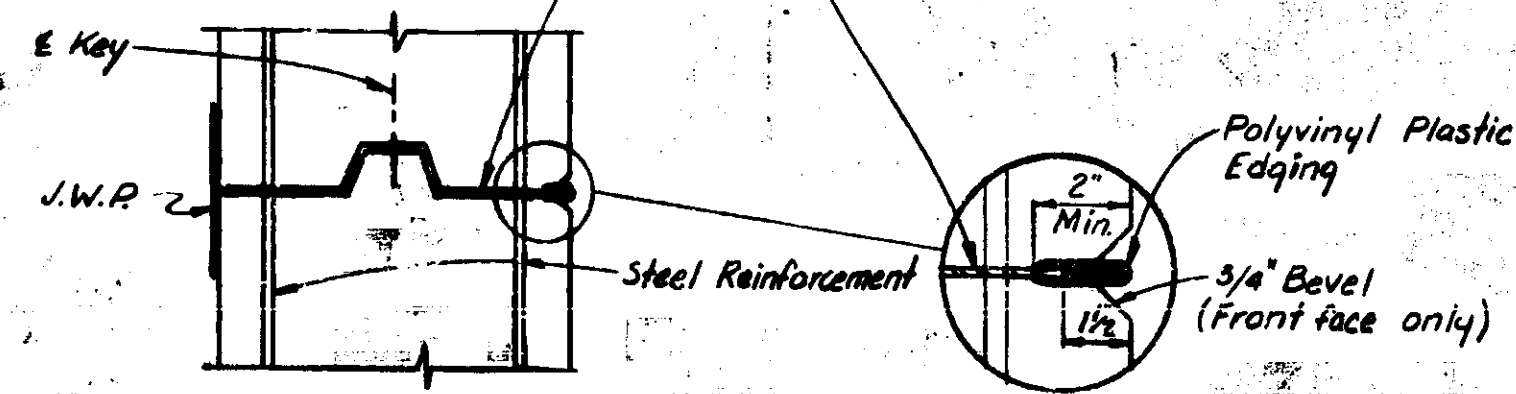
XOI of 82122K



SECTION THRU EXP JOINT



SECTION AT CONSTR. JOINT



SECTION A-A

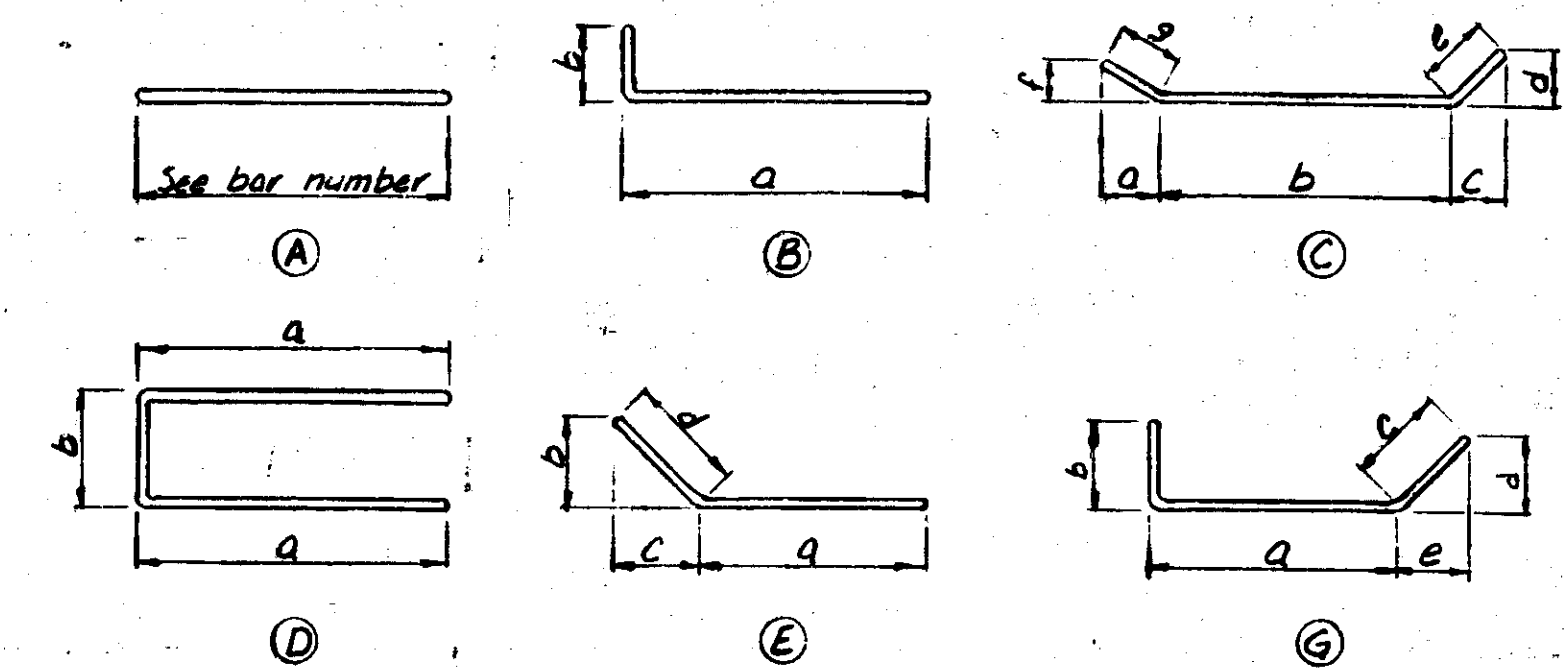
NOTES:
The metal bulkhead may be used as alternate construction joint at contractor's expense.
Care is to be used in casting concrete around bulkhead to prevent dislocation or misalignment of the bulkhead.
Cut holes in metal bulkhead for reinforcing steel.

METAL BULKHEAD FOR ABUTMENT CONSTRUCTION JOINT

STEEL REINFORCEMENT

Bar Number	Number Required			Weight Lbs.	Bar Number	Number Required			Weight Lbs.
	Abut. A	Abut. B	Abut. Ar.			Abut. A	Abut. B	Abut. Ar.	
A4079		1		5	A6173		6		155
A4096		2		13	A6180		2		54
A4103		1		7	A6196		2		58
A4110		1	18	19	A6206		6		185
A4126	36			36	A6246			20	736
A4130		5	22	27	A6266	20			796
A4133		1		7	A6276	20			626
A4139		1		9	A6296		4		177
A4149		12		12	A6326		4		195
A4156			1	10	A6349		20		1044
A4159		4		4	A6359		12		644
A4163		1		1					
A4176		8		8	A7053		1		11
A4209	10			10	A7066		1		13
A4216			10	10	A7076		24		368
A4239	10			10					
A4260	5			5	B4176		1		12
A4273	5			5	B4186		8		99
A4326		22		22	B4236		10		157
A4336			1	1	B4280	5			94
A4350		30		30	B4293	5			98
					B4356		1		24
A6043	72	87		159	C6076	10	12	22	248
A6046		113		113	C6090		5	5	68
A6049			33	33					
A6053		1		1					
A6063		117		117	D6063	18		18	167
A6066	72		33	105	D6066		28	19	458
A6076		87		87	D6073			19	207
A6080		13		23	D6082		13	13	160
A6083	128		24	152	D6084		11	11	138
A6086		19		19	D6086	18		18	230
A6089			18	18					
A6090		18		18	E4159		5	5	53
A6096		17		17					
A6100		18		18	G6059		8	8	69
A6103		36		36					
A6106	36		6	42					
A6109		55	18	73					
A6110		18		18					
A6116		12		12					
A6119			20	20					
A6120	12			12					
A6126		6		6					
A6136			10	10					
A6143		29		29					
A6149	10			10					
A6150	10			10					
A6156	10	10		20					
Total Weight Abutments									24199

Steel Reinforcement Designations
The first digit of a reinforcing bar number denotes the bar size; the last three digits denote the total length, thus:
A4079 = #4 bar 7'-9" long.
A6326 = #6 bar 32'-6" long.
B4186 = #4 bar 18'-6" long, bent to the shape indicated on the details.



Bar Number	a	b	c	d	e	f	g
B4176	15'-6"	2'-0"					
B4186	17'-6"	1'-0"					
B4236	21'-6"	2'-0"					
B4280	27'-0"	1'-0 1/2"					
B4293	28'-3"	1'-0 1/2"					
B4356	33'-6"	2'-0"					
C6076	2'-6"	3'-6"	2'-6"	2'-6"	2'-0"	2'-6"	2'-0"
C6090	11'-3/8"	7'-0"	10'-8"	6'-8"	1'-0"	3'	1'-0"
D6063	2'-11 1/2"	6'-8"					
D6066	3'-0 3/4"	6'-8"					
D6073	3'-2 1/2"	11"					
D6082	3'-8 3/8"	10'-8"					
D6084	3'-9 3/8"	10'-8"					
D6086	3'-11 1/2"	9'-8"					
E4159	14'-9"	1'-5 3/8"	1'-4 1/2"	1'-0"			
G6059	3'-9"	1'-0"	1'-0"	8'-8"	8'-8"		

NOTES:
W.P. denotes Working Point.
J.W.P. denotes Joint Water proofing.
N.S. denotes Near Side.
F.S. denotes Far Side.
B.S. denotes Both Sides.
Abut. A Pours G&H, Abut. B Pours E&K, Abut. Ar. Pours D&E shall not be cast until superstructure is complete to tops of curbs.
Anchor bolts or Position dowels shall be accurately set to a template.
For pile quantities, pile layout and notes pertaining to piles see sheets 17 thru 20.
For railing, bevel & molding details see standard sheet R16

Work this sheet with sheets 21 thru 26

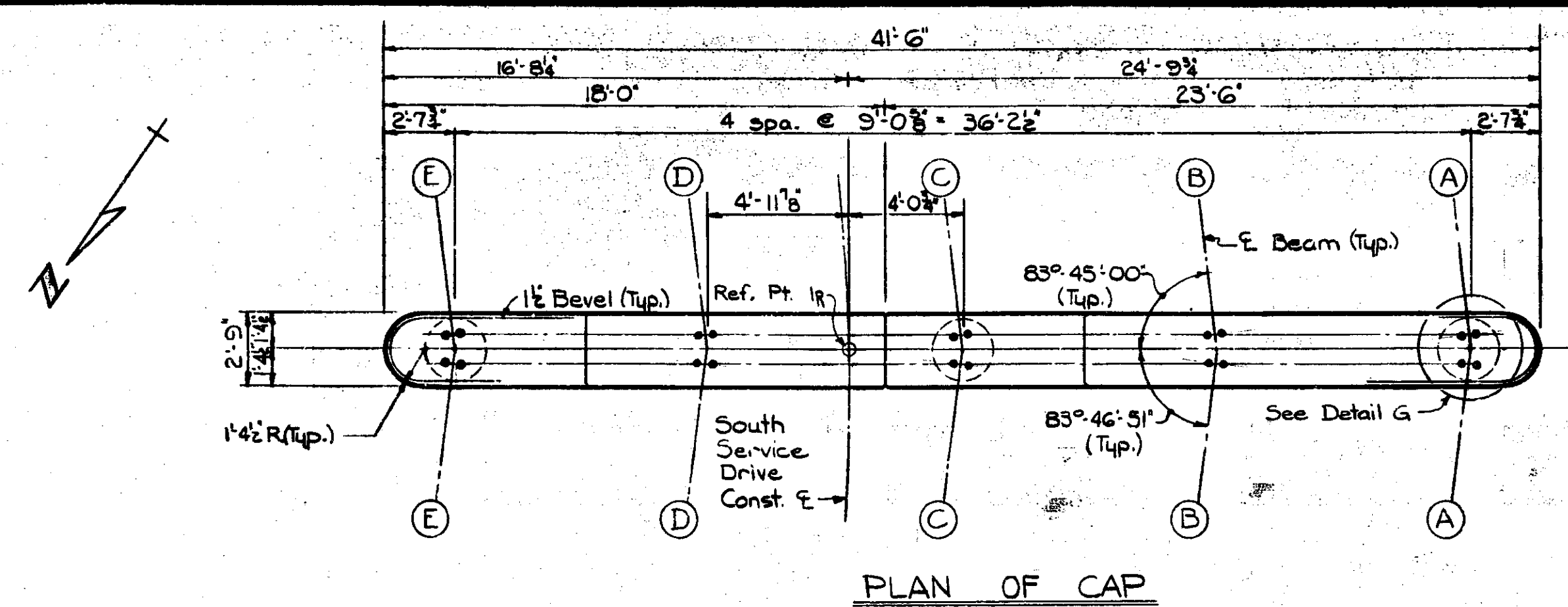
MICHIGAN DEPARTMENT OF STATE HIGHWAYS
MISCELLANEOUS ABUTMENT DETAILS

NO.	DESCRIPTION	DATE	BY

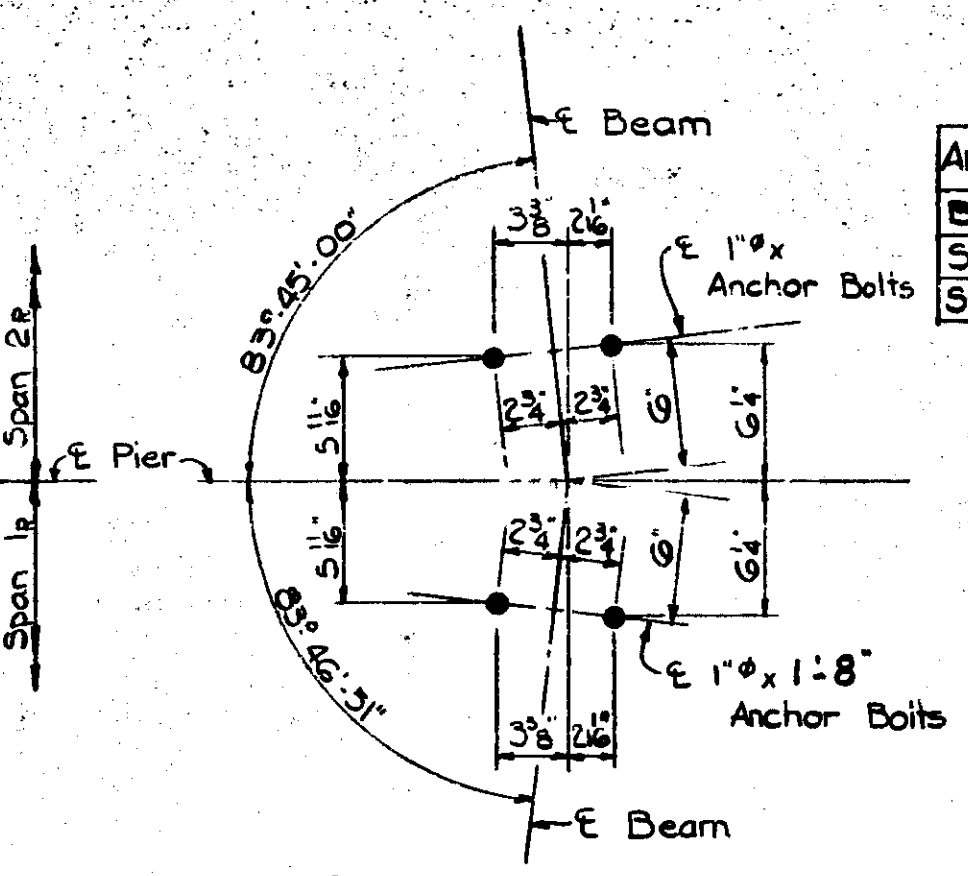
REVISIONS

NO.	DESCRIPTION	DATE	BY

QUAD BOSS: Woodard 5-18-58
DRAWN BY: HAVB 5-22-68
CHECKED BY: ENGELS 5-22-68
SHEET 21 OF 108
XO1 of 82122K

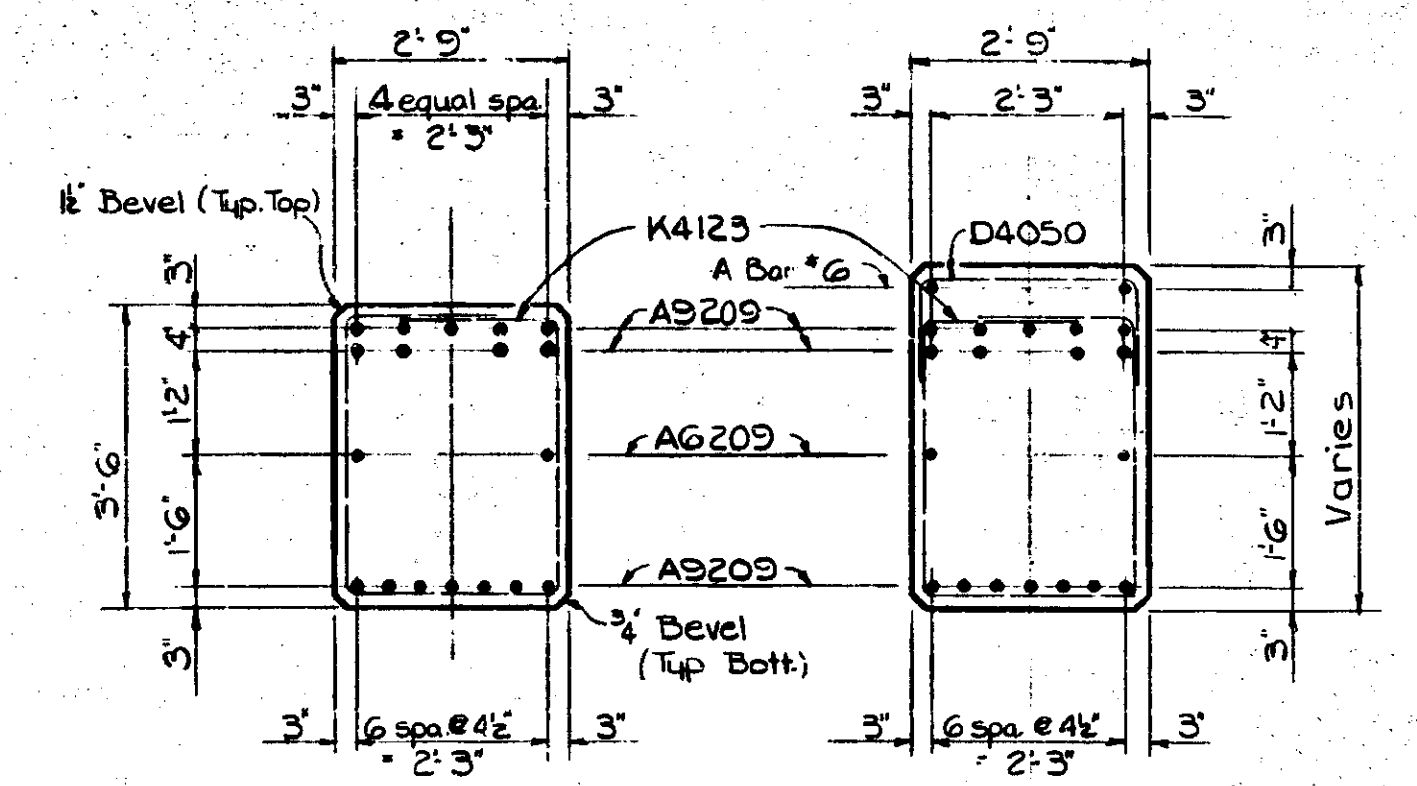


PLAN OF CAP



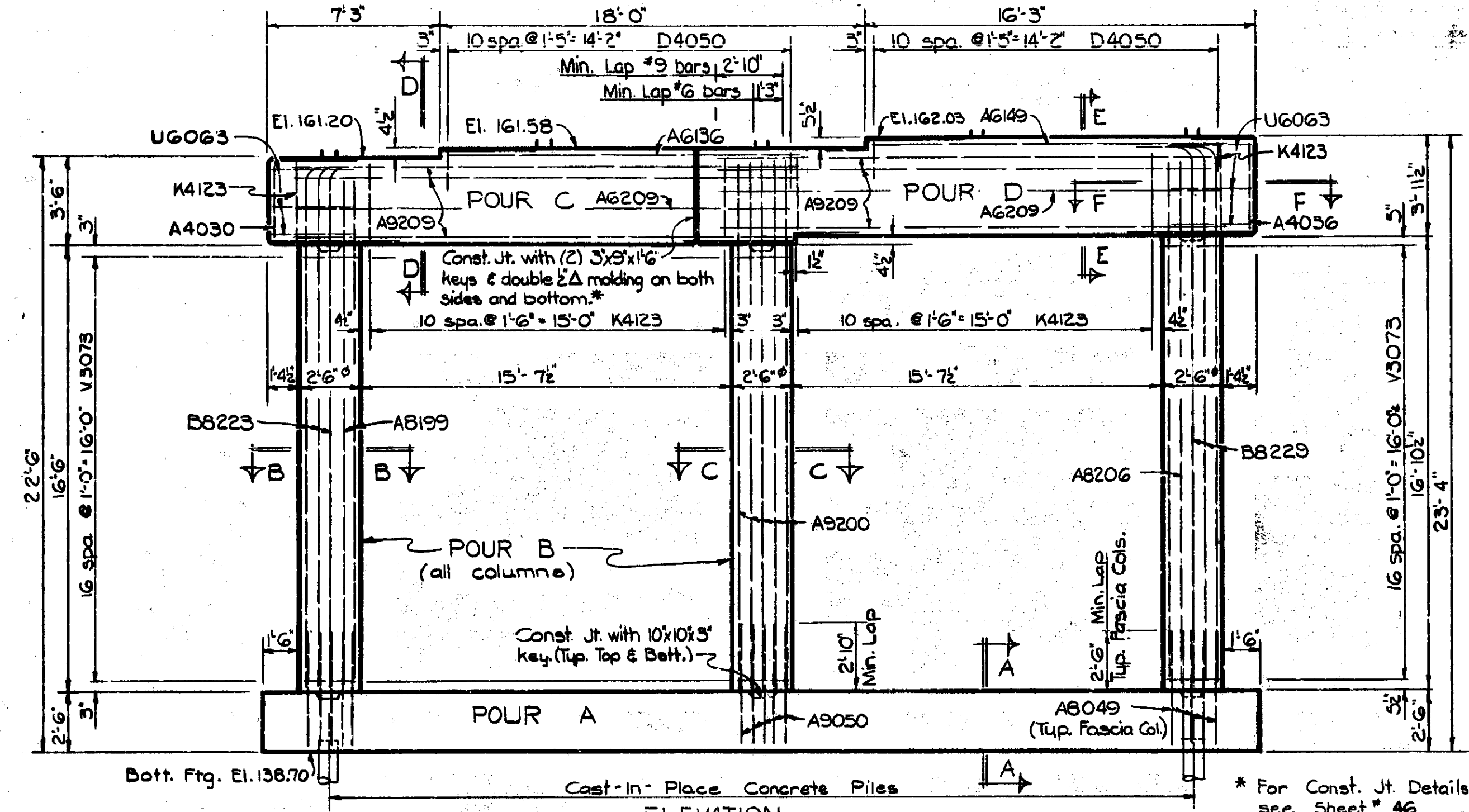
DETAIL G

Beam	A	B	C	D	E
Span 1R	5'	4 1/2'	0'	4 1/2'	4 1/2'
Span 2R	5 1/2'	5 1/4'	0'	5 1/2'	5 1/4'



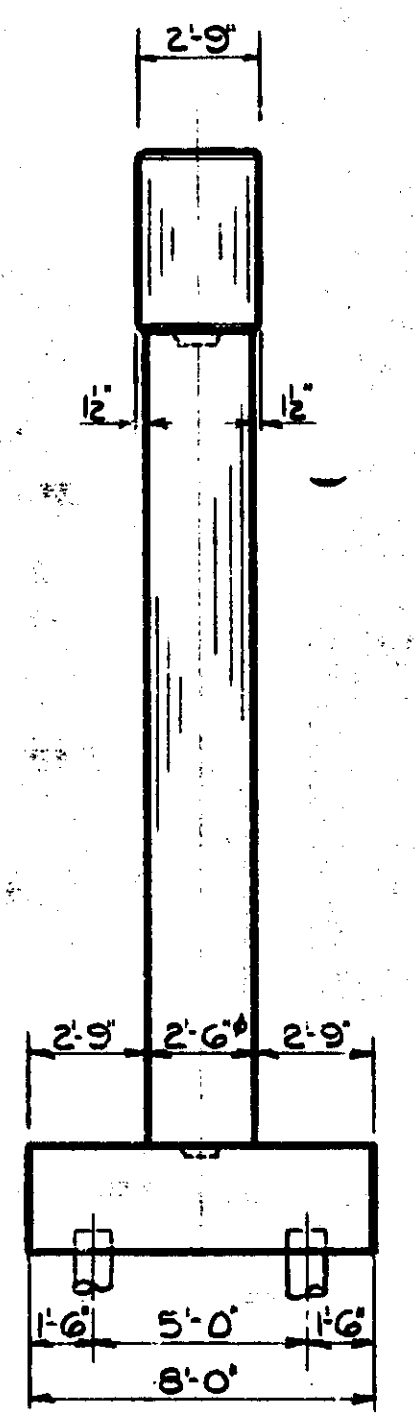
SECTION D-D

SECTION E-E

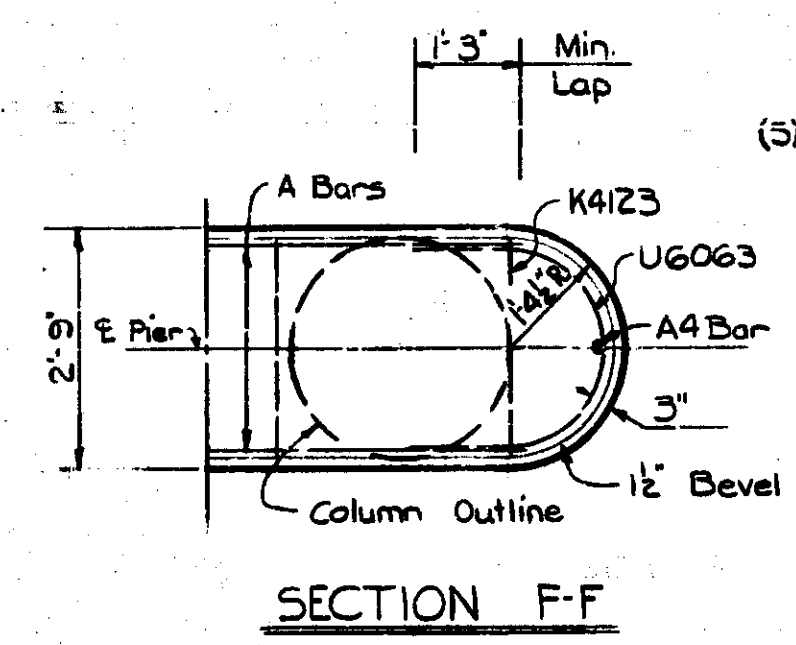


ELEVATION

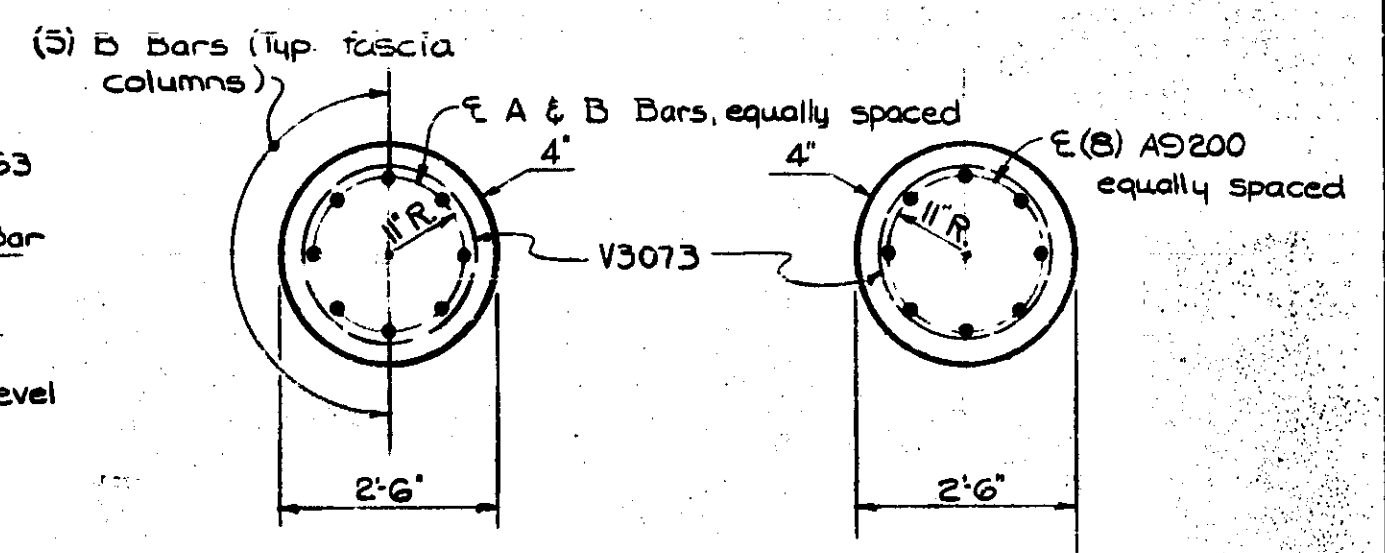
* For Const. Jt. Details see Sheet # 46



END VIEW



SECTION F-F

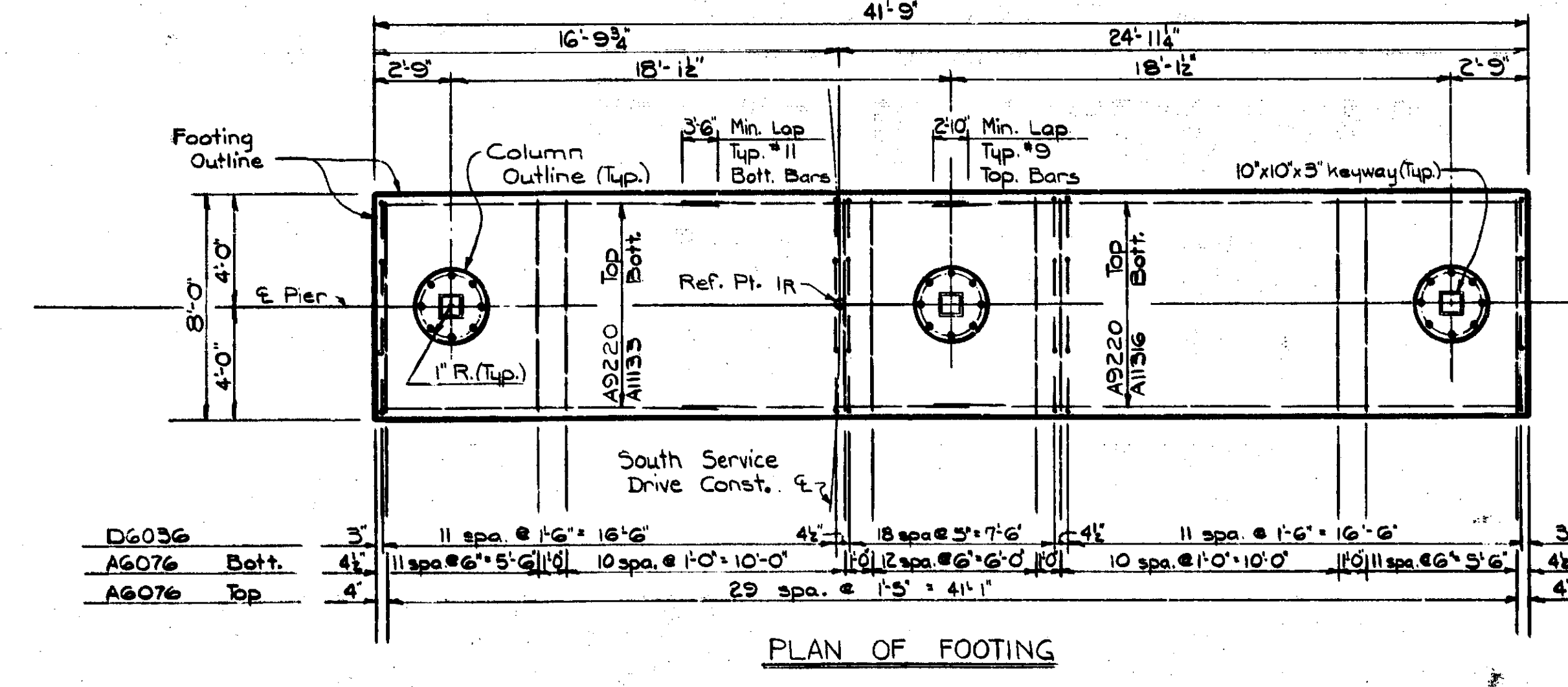


SECTION B-B

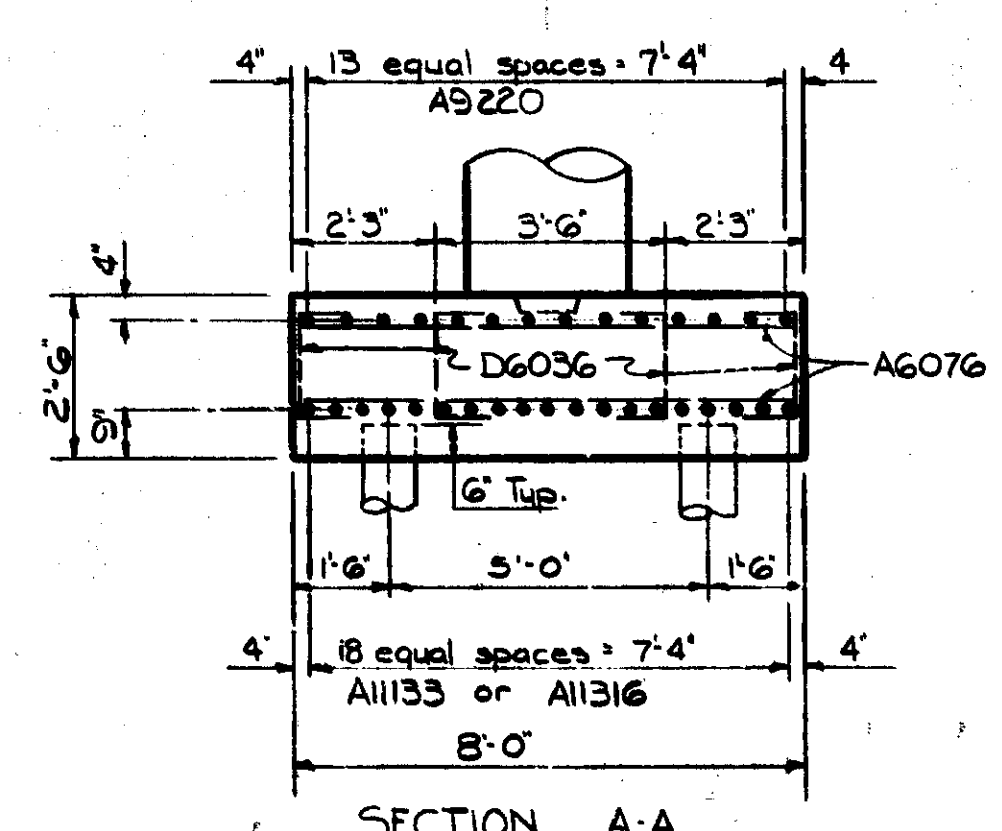
SECTION C-C

STEEL REINFORCEMENT				CONCRETE QUANTITIES				
Bar Number	Number Req'd	Weight (lbs)	Bar Number	Number Req'd	Weight (lbs)	Pour	Grade A(GA)	Grade A(GAA)
A4030	1	2	A9209	32	2258	A	30.9 cu yd	
A4036	1	2	A9220	28	2094	B		9.1 cu yd
AG076	89	1003	A1133	19	1338	C		6.7
AG136	2	41	A1136	19	3180	D		9.3
AG149	2	44	B8223	5	297	Totals	30.9 cu yd	25.1 cu yd
AG209	4	125	B8230	5	304	MISCELLANEOUS QUANTITIES		
AB049	16	203	D4050	22	73	Item	Unit	Amount
AB199	3	158	D6036	172	904	Protective Sealant	Sq Ft	112
AB206	3	164	K4123	24	196	Coating for Concrete		
AB050	8	136	U6063	6	56			
AB200	8	544	V3073	31	139			
			Total Weight		18261			

NOTES:
 For bevel and molding details see standard sheet R16.
 Anchor bolts shall be accurately set to a template.
 The tops of Pier 1R, 2R, 3R & 4R shall be given an application of protective sealant coating for concrete prior to placing masonry plates.
 For pile quantities, see sheet #18.
 For pile layout, see sheet #20.
 For notes pertaining to piles, see sheets #17-20.
 Adjust the spacing of the reinforcing steel as required to permit placing of anchor bolts.
 For bar bending diagrams, see sheet #43.



PLAN OF FOOTING



SECTION A-A

Work this sheet with sheets #43, 48 & 17-20

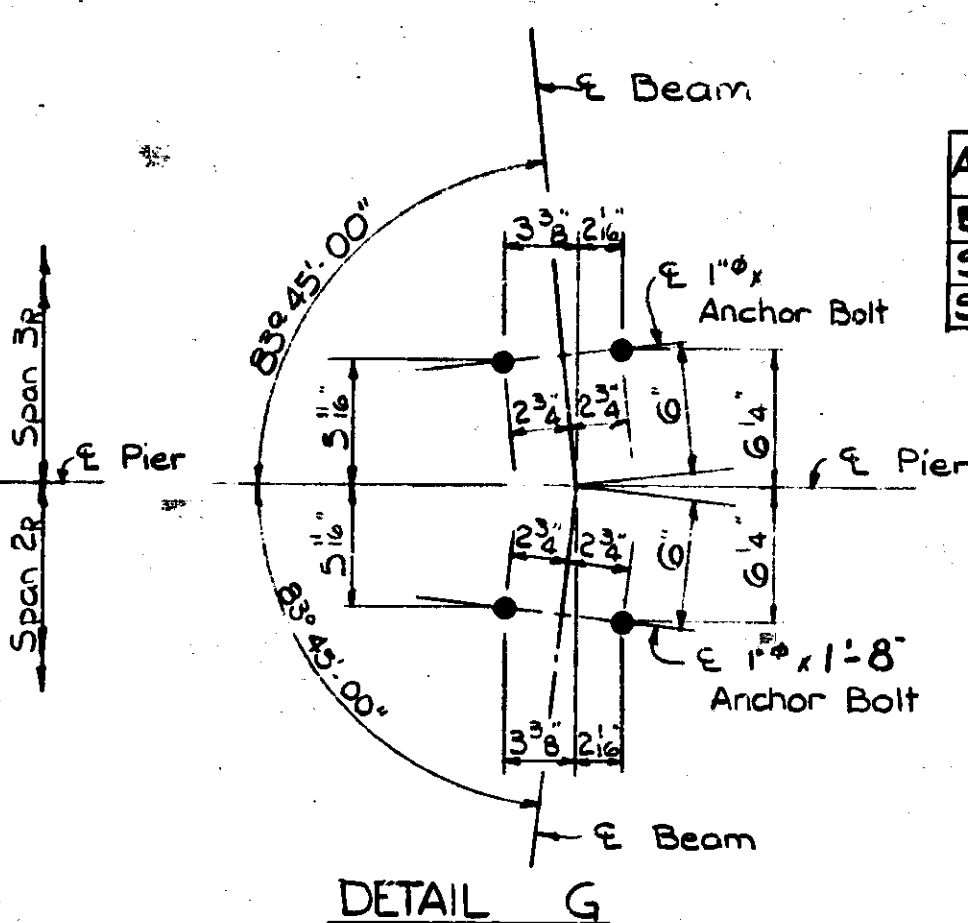
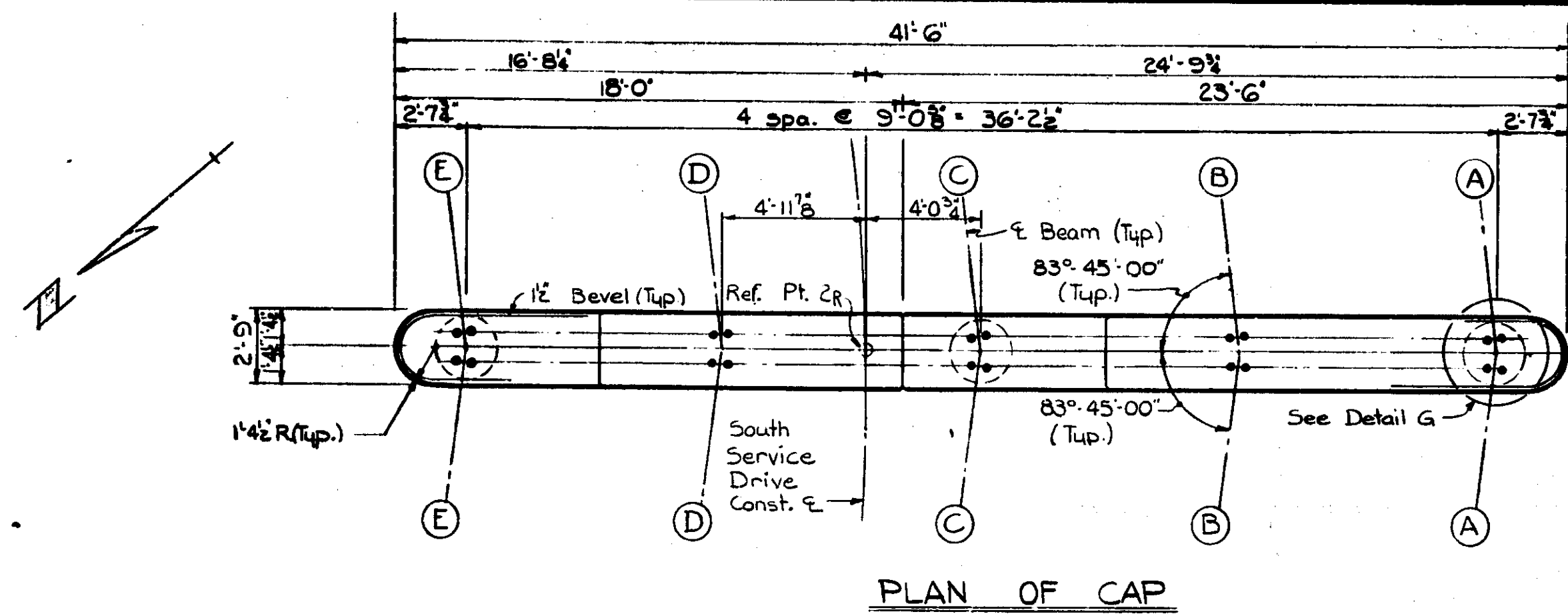
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

PIER 1R DETAILS

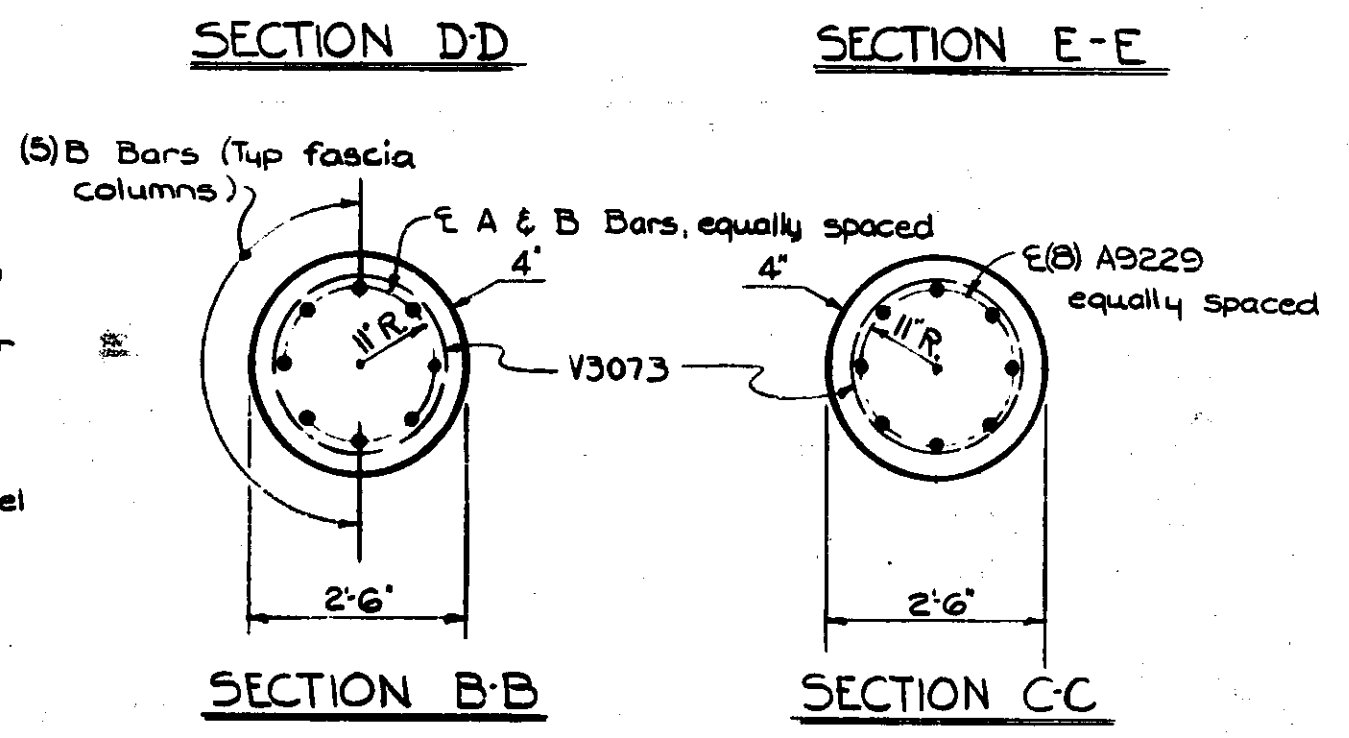
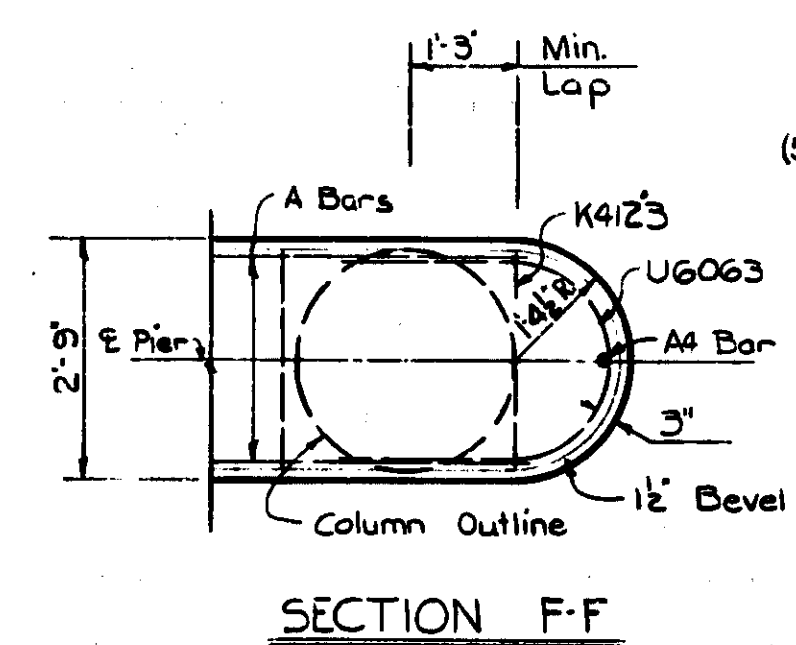
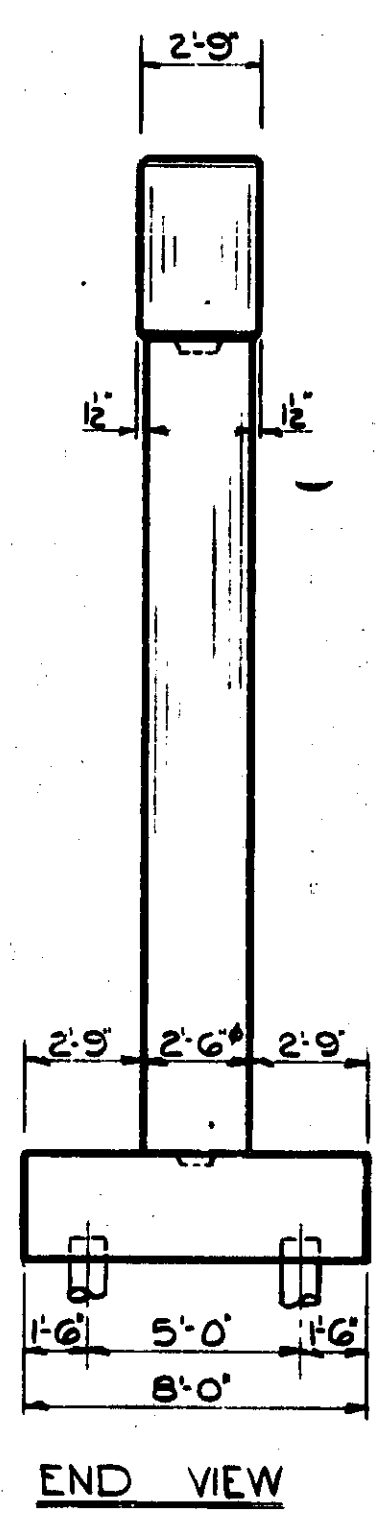
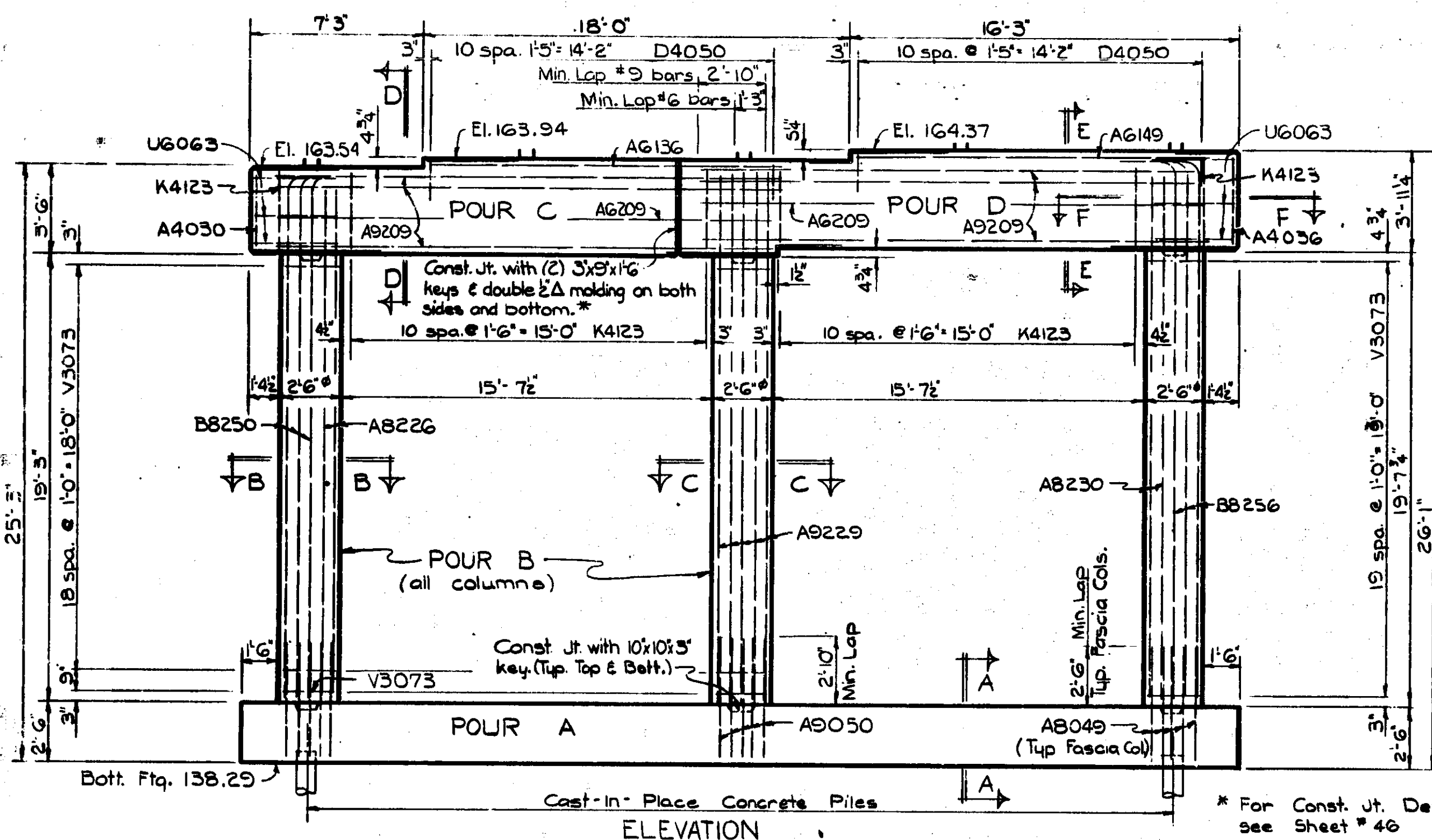
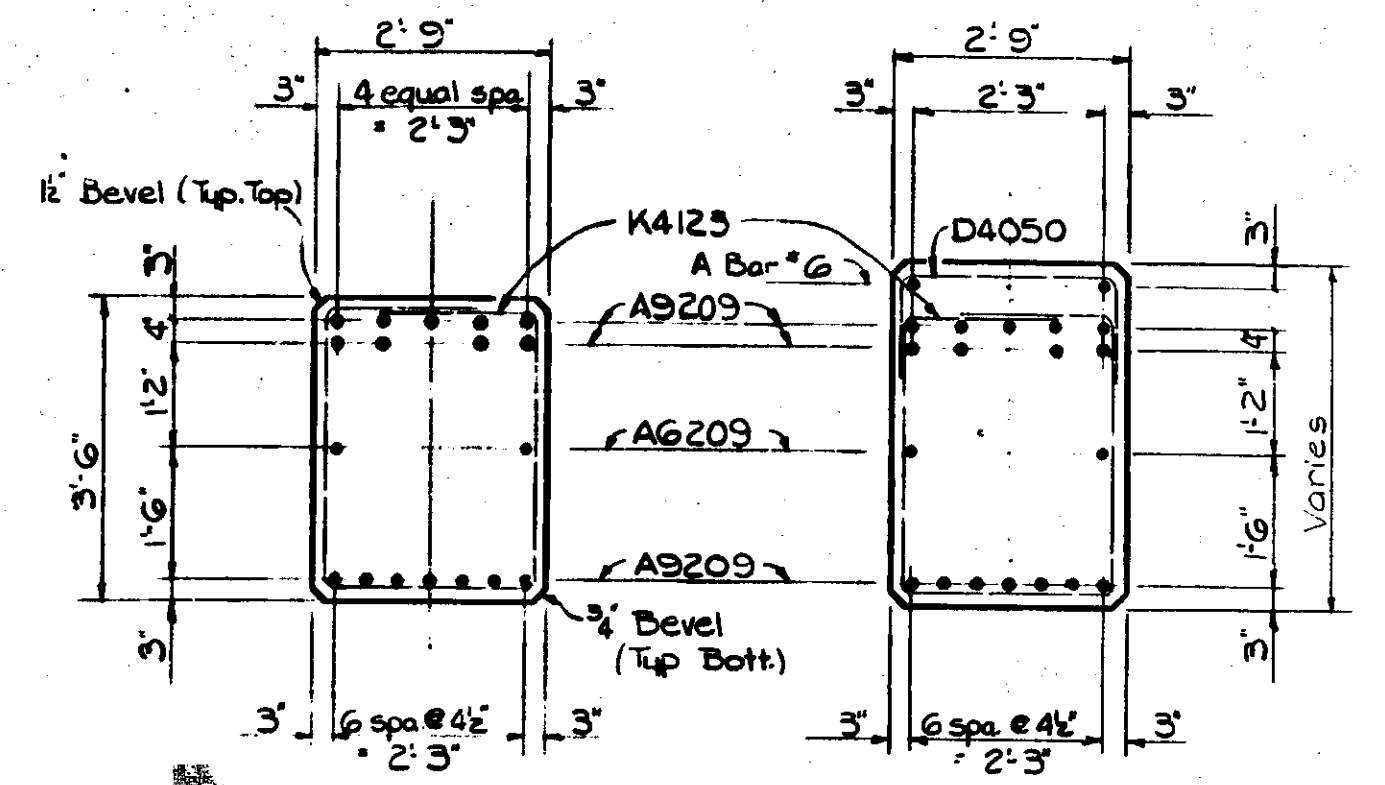
NO.	DESCRIPTION	DATE	BY

DESIGNED BY	WOODARD	5-13-68
DRAWN BY	E	5-10-68
CHECKED BY	ANDRES	5-14-68
IN CHARGE	44	100

XOI of 82122K



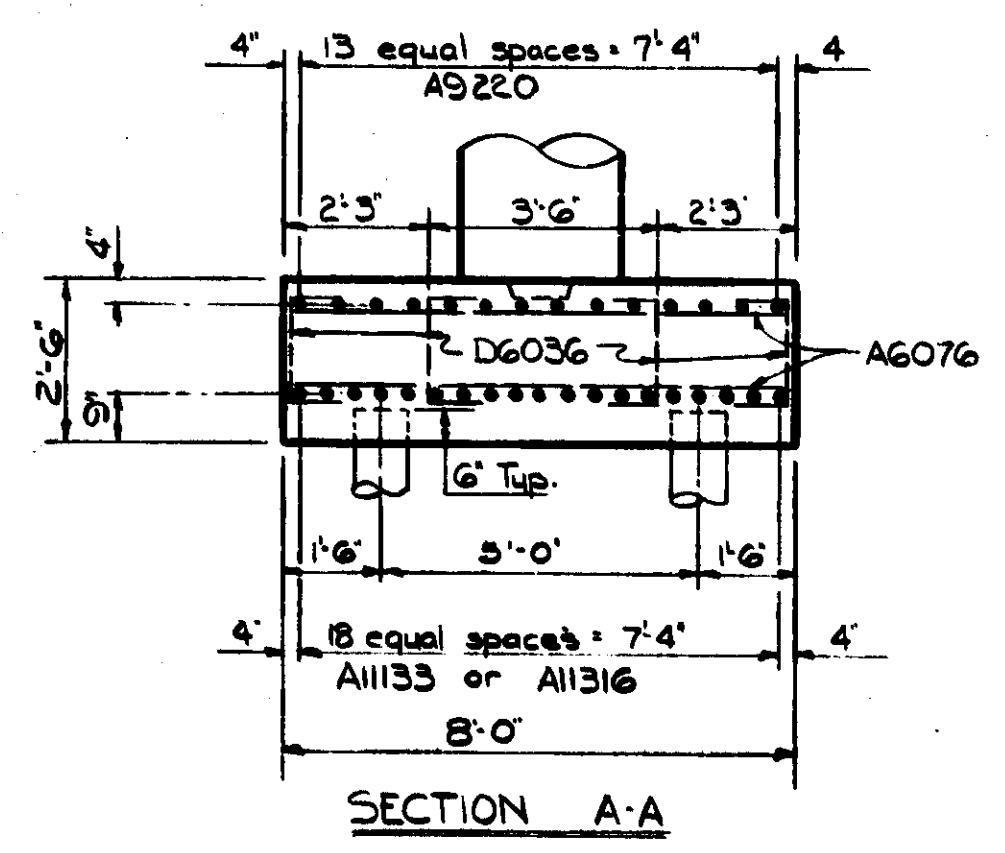
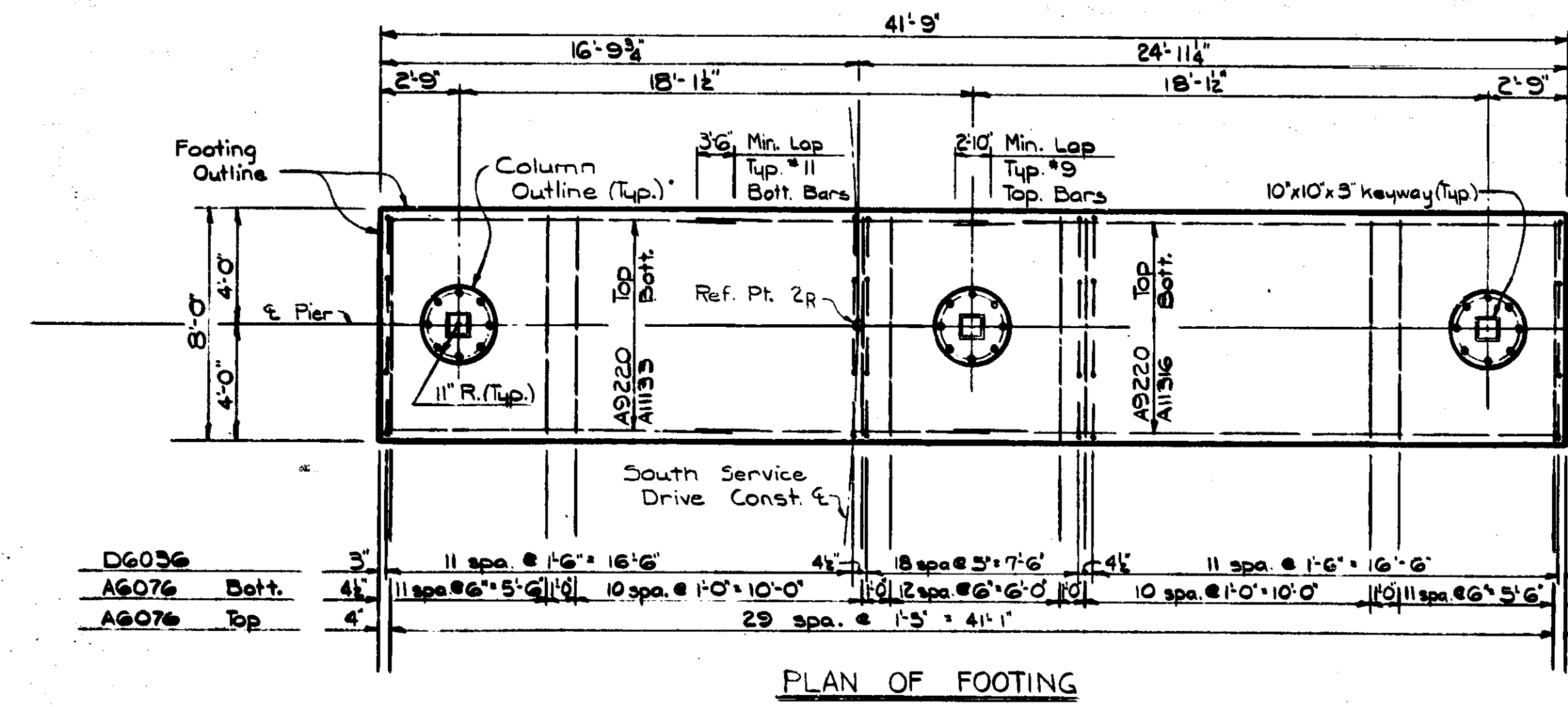
Beam	A	B	C	D	E
Span 2R	5'	4 3/4'	8 1/2'	4 3/4'	4 3/4'
Span 3R	5 1/2'	5 1/4'	8 3/4'	5 1/4'	5 1/4'



Bar Number	Number	Req'd Weight (lbs)	Bar Number	Number	Req'd Weight (lbs)
A4030	1	2	A9220	28	2094
A4036	1	2	A9229	8	619
A6076	89	1003	A11133	19	1338
A6136	2	41	A11316	19	3180
A6149	2	44	B8250	5	334
A6209	4	125	B8256	5	340
A8049	16	203	D4050	22	73
A8226	3	180	D6036	172	904
A8230	3	184	K4123	24	196
A9050	8	136	UG063	6	56
A9209	32	2258	V3073	60	164
		Total Weight			13476

Pour	Grade	Grade A(GA)	Grade A(GM)
A	30.9	cu.yd.	
B			10.6
C			6.8
D			9.2
Totals		30.9	26.6

Item	Unit	Amount
Protective Sealant Coating for Concrete	Sq.Ft.	112



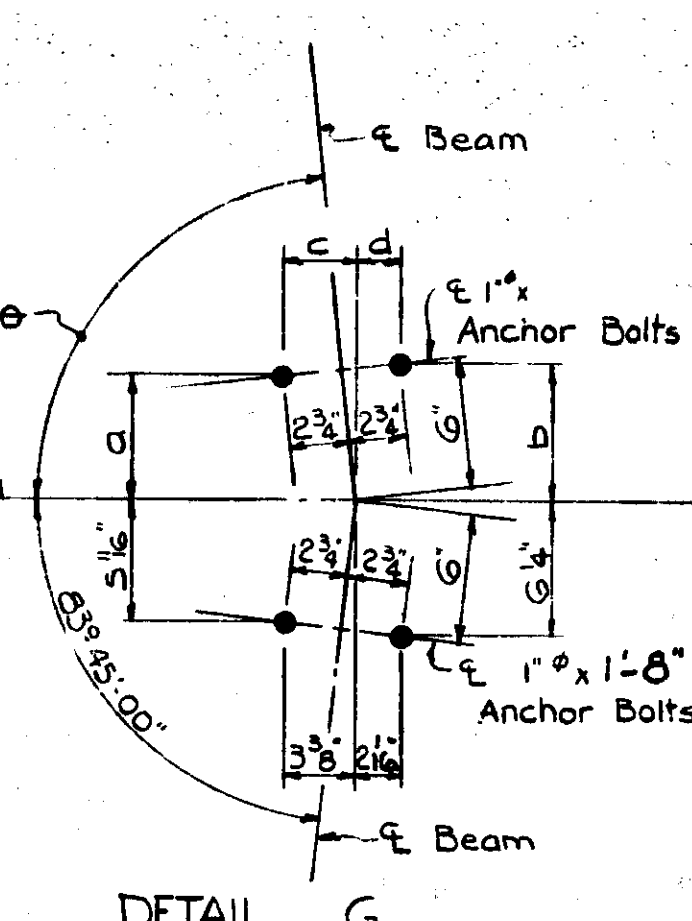
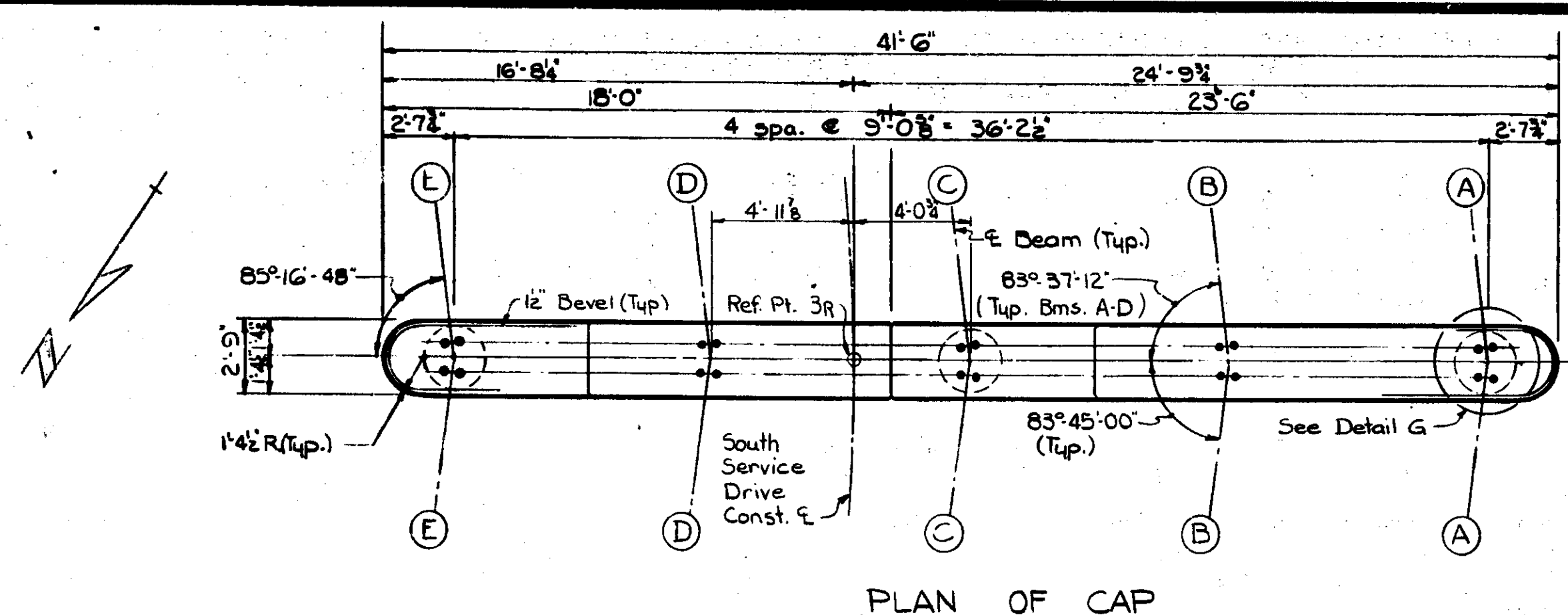
Work this sheet with sheets #44, 46, 47, 48 & 17-20.

MICHIGAN DEPARTMENT OF STATE HIGHWAYS

PIER 2R DETAILS

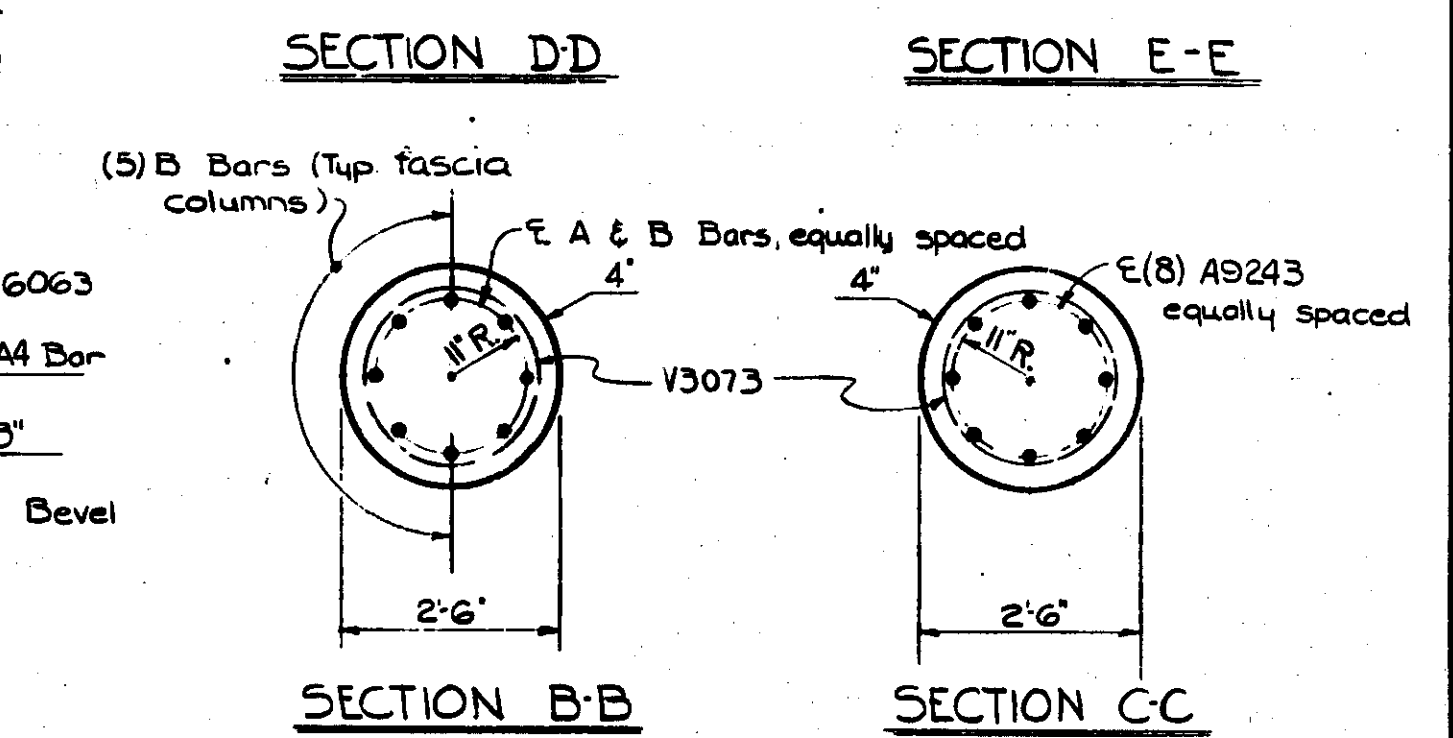
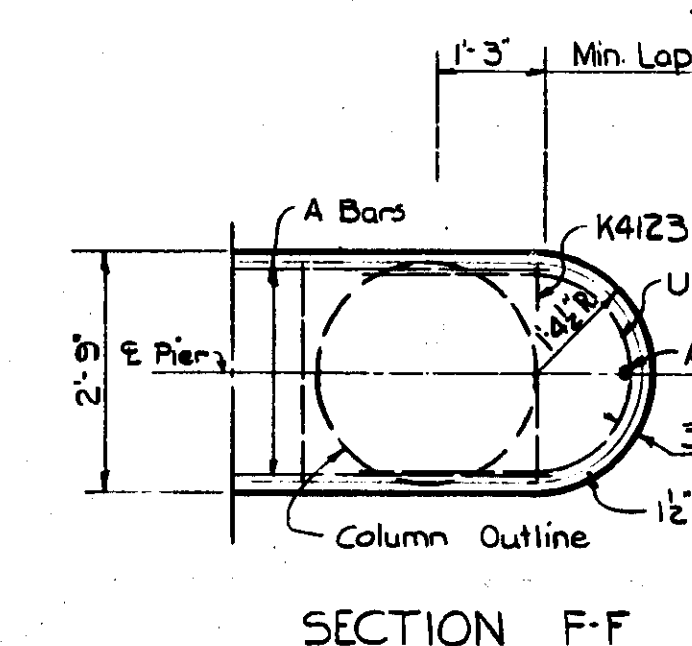
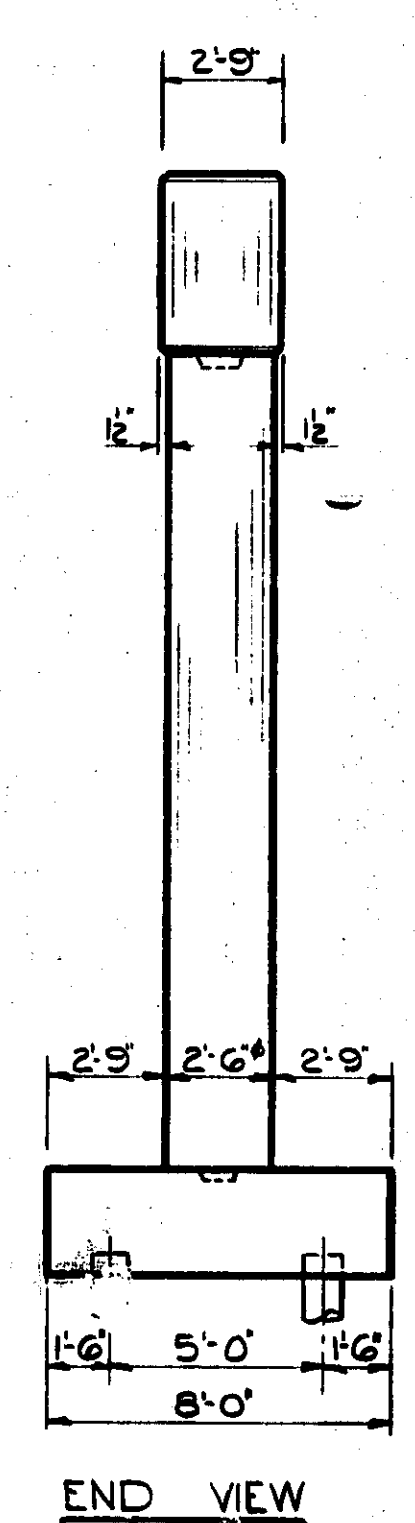
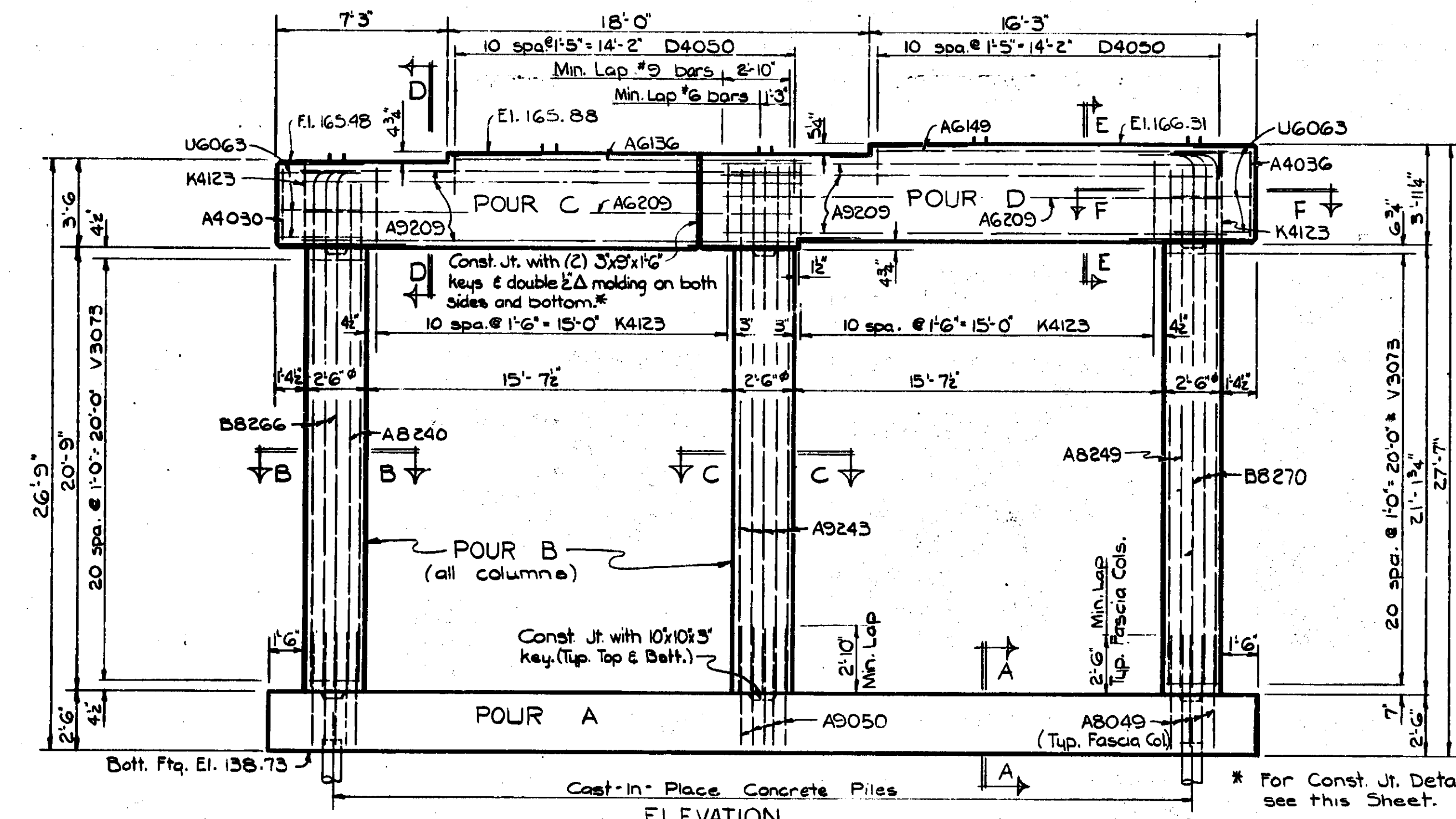
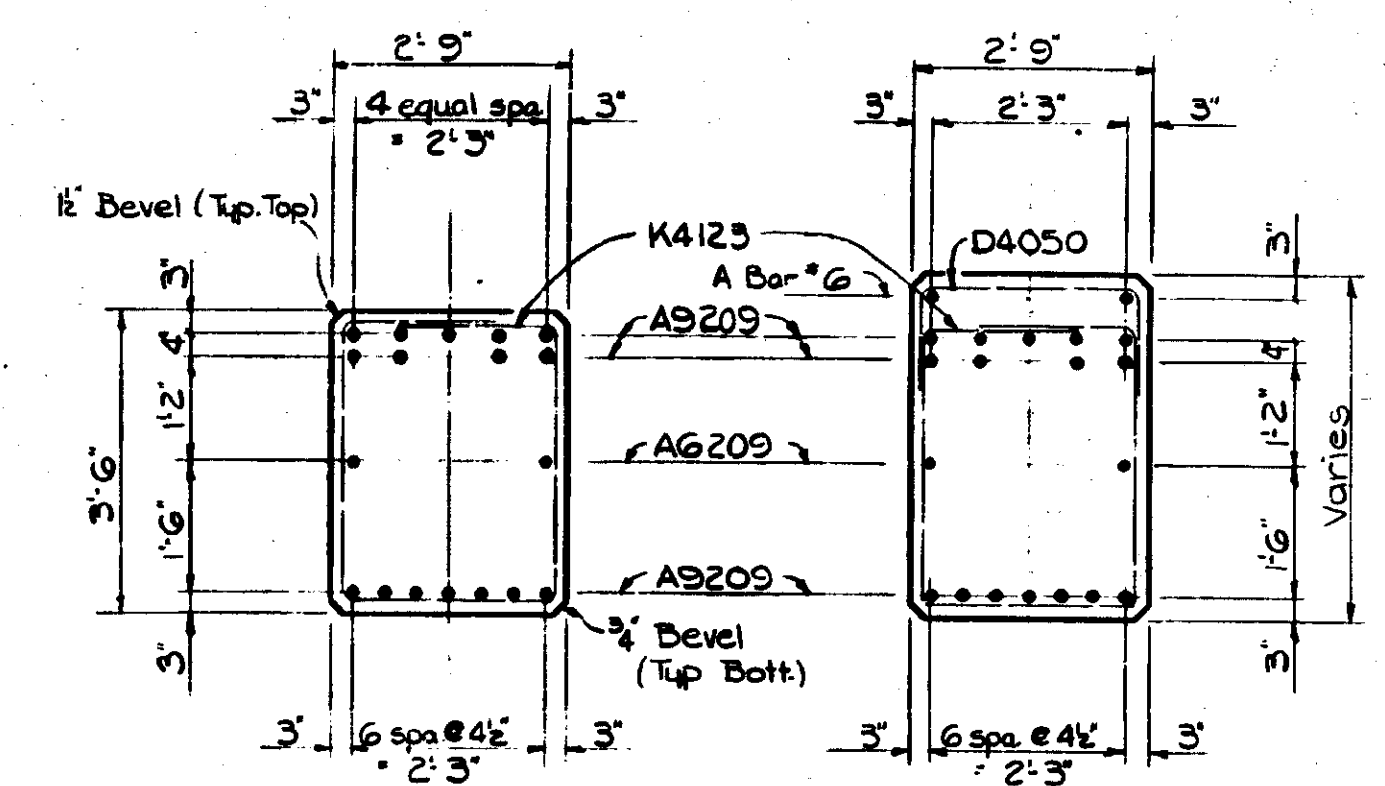
NO.	DESCRIPTION	DATE	BY

DESIGNER	WEGARD	5-22-68
DRAWN BY	L.E.	5-13-68
CHECKED BY	ENDRES	5-14-68
DATE	4-5	1968



Beam	A	B	C	D	E
Span 3R	5'	4 1/2'	8 1/2'	4 1/2'	4 1/2'
Span 4R	5 1/2'	5 1/2'	8 1/2'	5 1/2'	5 1/2'

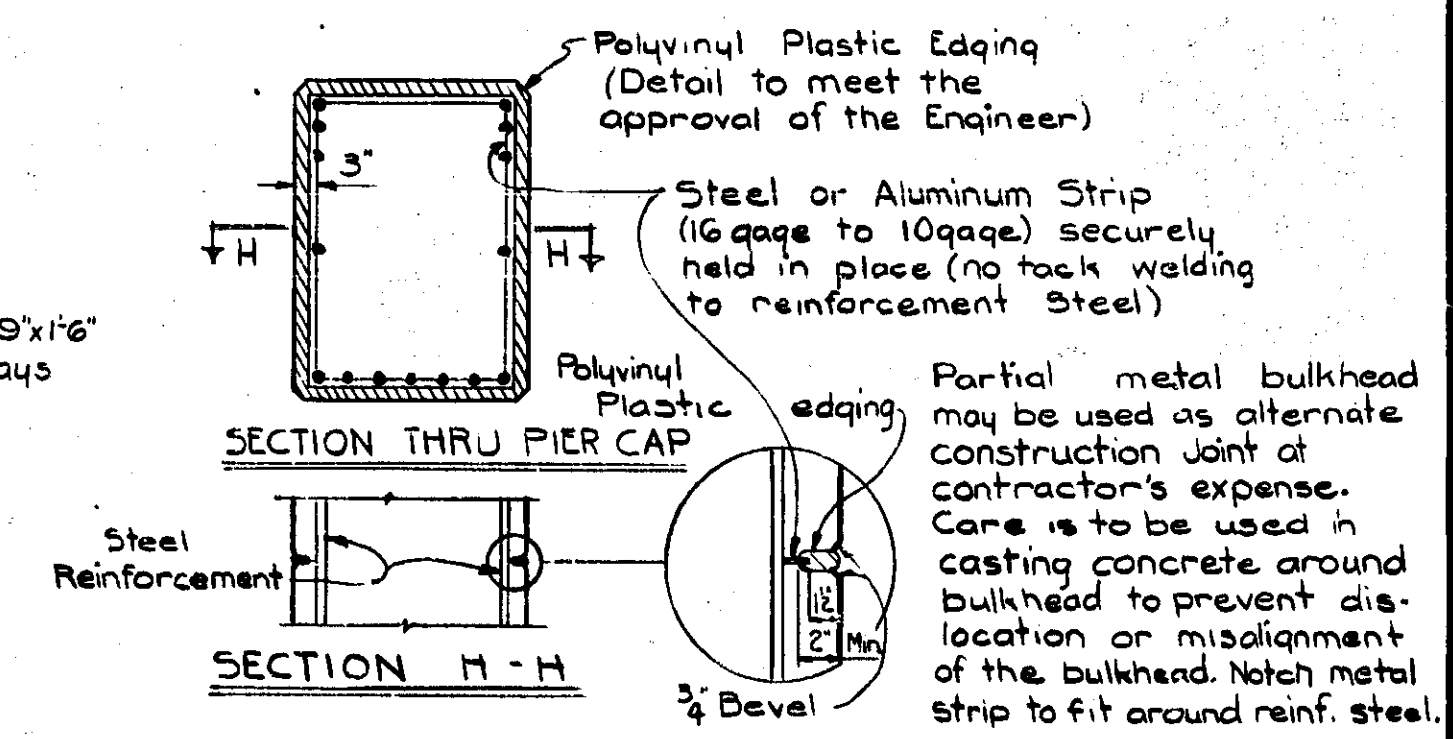
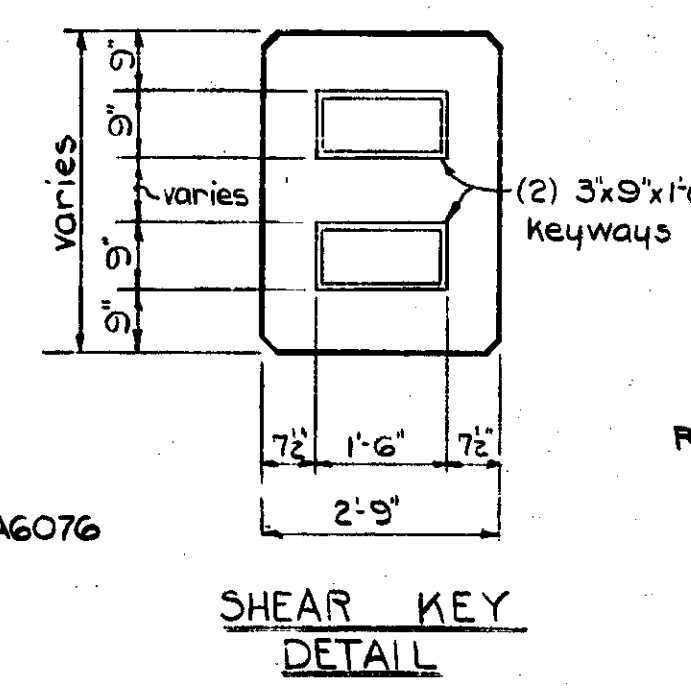
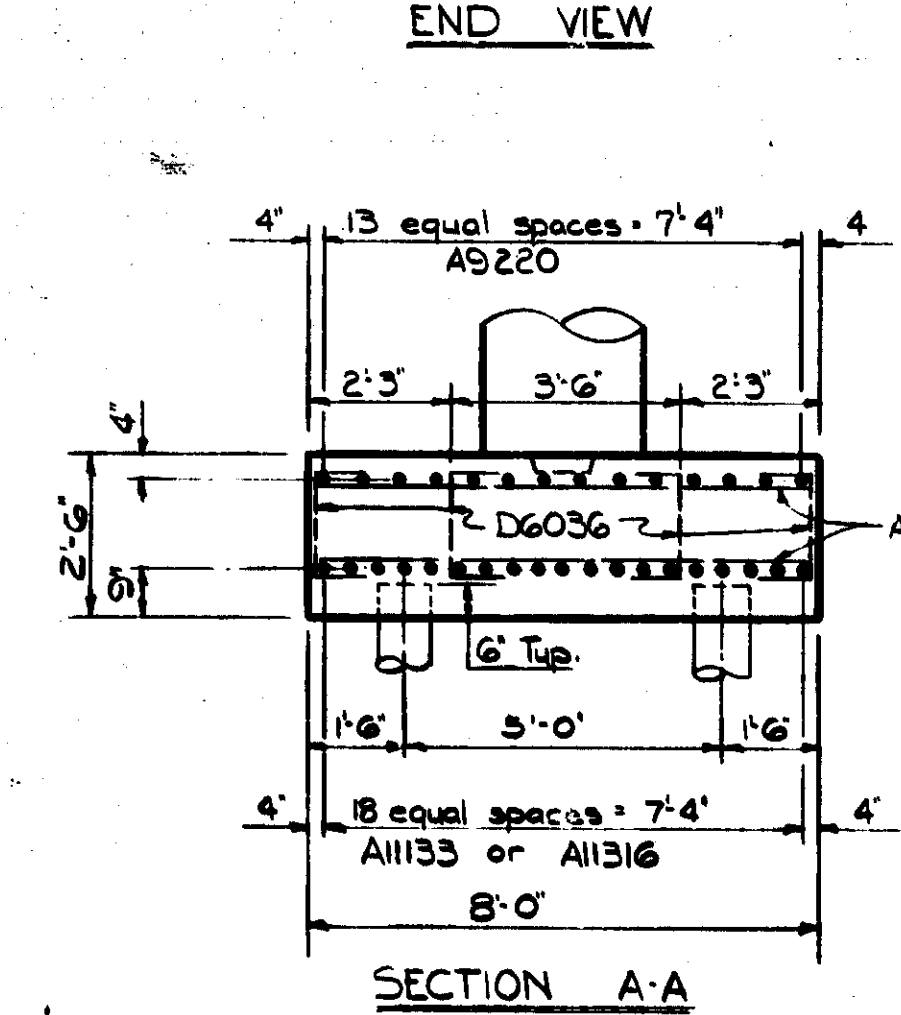
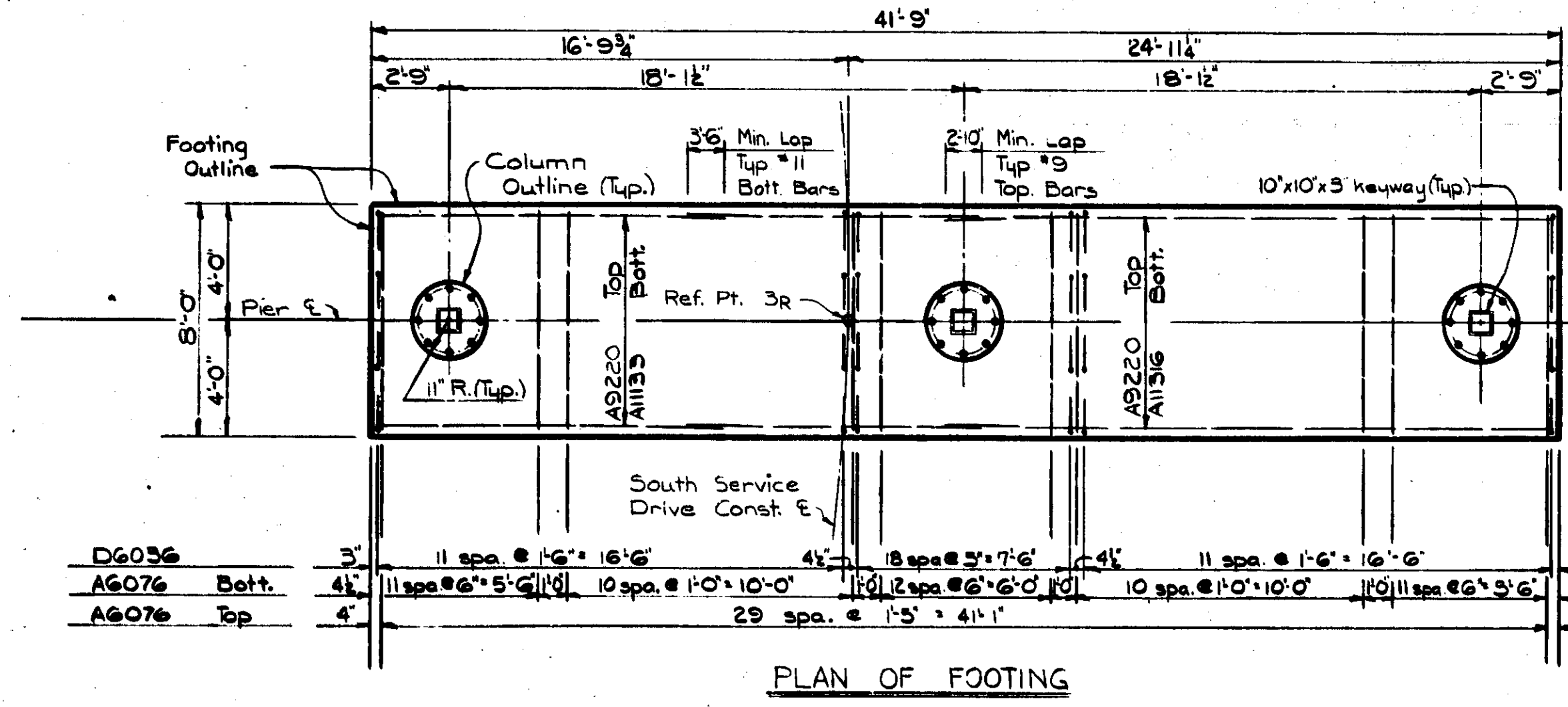
Sp 4R	a	b	c	d	
Bms A-D	83° 37' 12"	5 1/2'	6 1/2'	3 1/2'	2 1/2'
Bm E	85° 16' 48"	5 1/2'	6 1/2'	3 1/2'	2 1/2'



Bar Number	Number	Reqd.	Weight (lbs)	Bar Number	Number	Reqd.	Weight (lbs)
A4030	1	2	A9220	28	2094		
A4036	1	2	A9243	8	660		
A6076	89	1003	A1133	19	1338		
A6136	2	41	A1136	19	3180		
A6149	2	44	B8266	5	354		
A6209	4	125	B8270	5	360		
A8049	16	203	D4050	22	73		
A8240	3	192	D6036	172	904		
A8249	3	198	K4123	24	196		
A9050	8	136	U6063	6	56		
A9209	32	2258	V3073	63	172		
			Total Weight		13591		

Pour	Grade A(GA)	Grade A(GAA)
A	30.9 cu yd.	
B		11.4 cu yd.
C		6.8
D		9.2
Totals	30.9 cu yd.	27.4 cu yd.

Item	Unit	Amount
Protective Sealant Coating for Concrete	Sq Ft.	112



MICHIGAN DEPARTMENT OF STATE HIGHWAYS

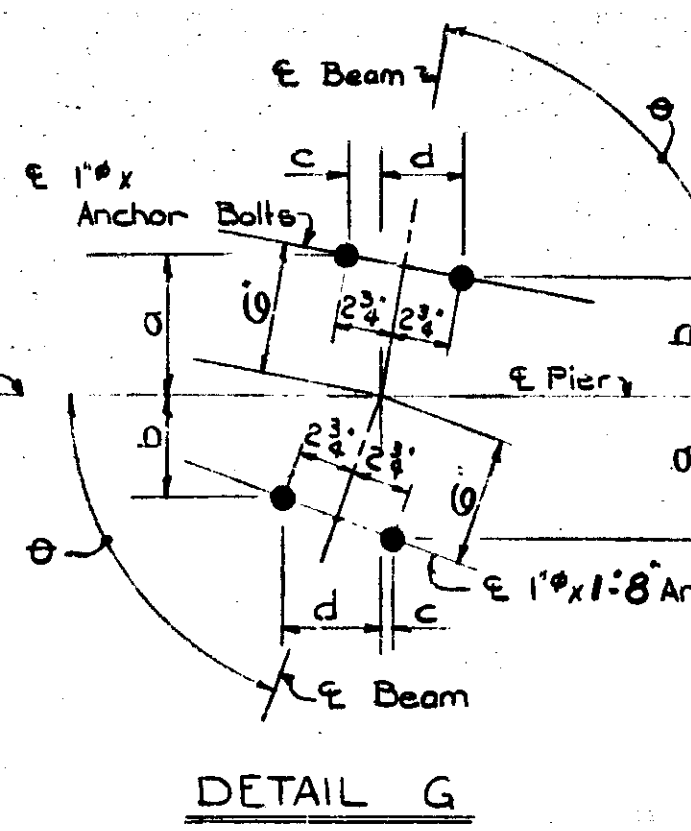
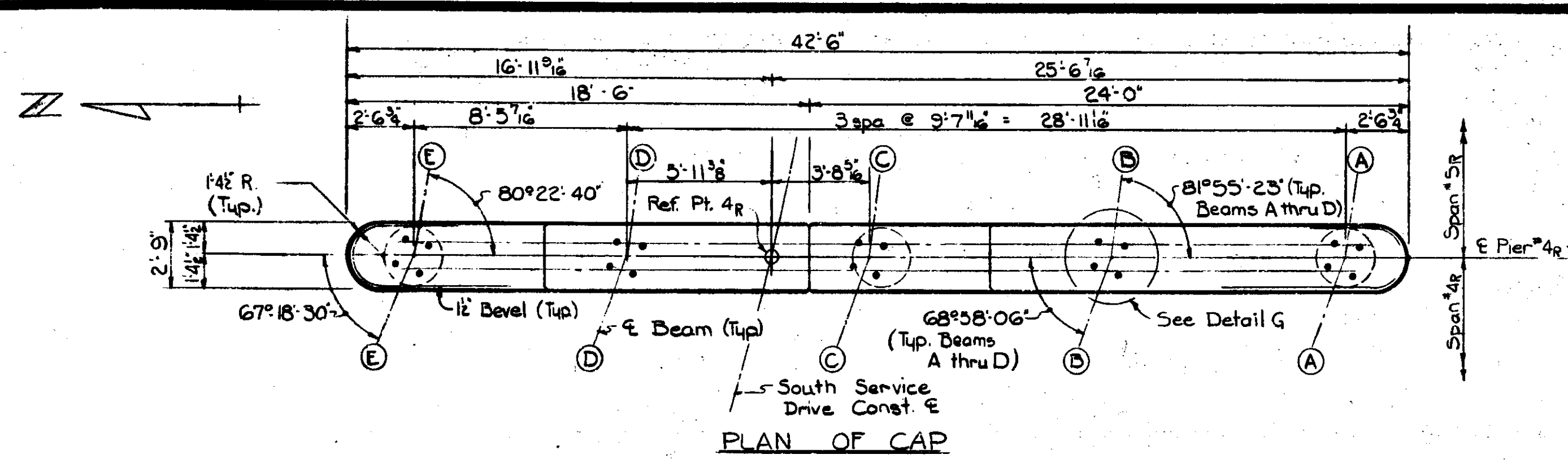
PIER 3R DETAILS

NO.	DESCRIPTION	DATE	BY

DATE	BY	DESCRIPTION
11/20/80		
5-13-68		
5-14-68		

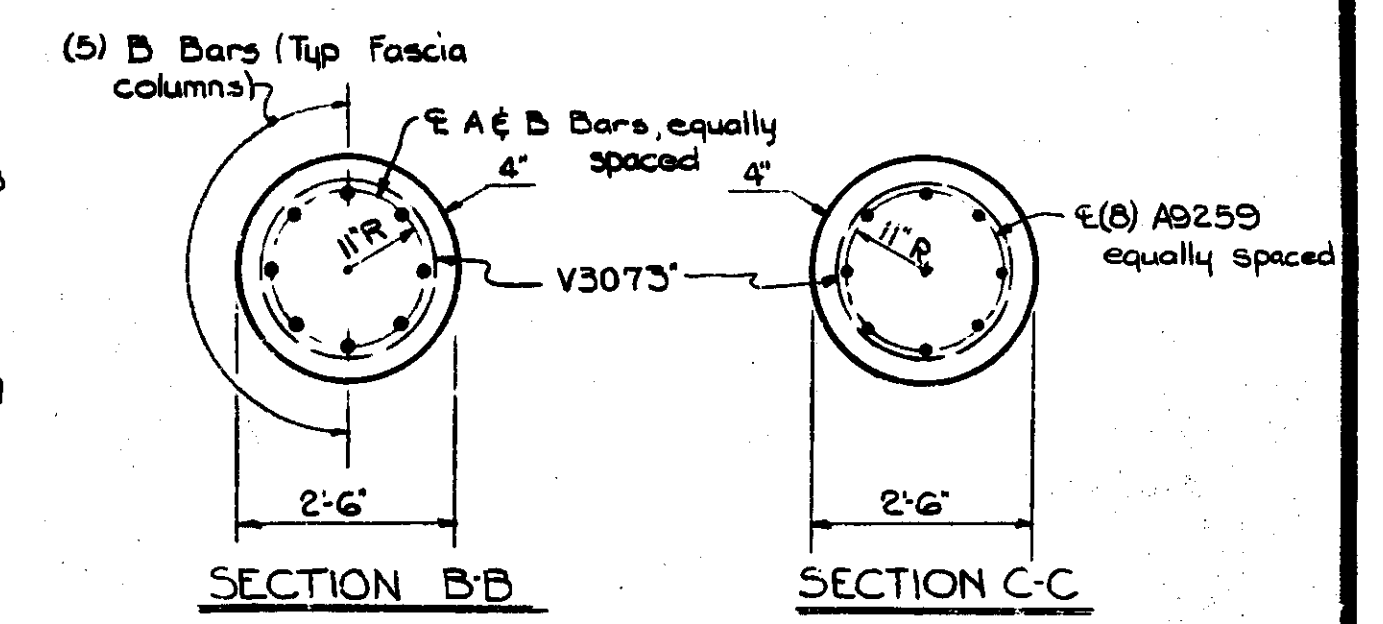
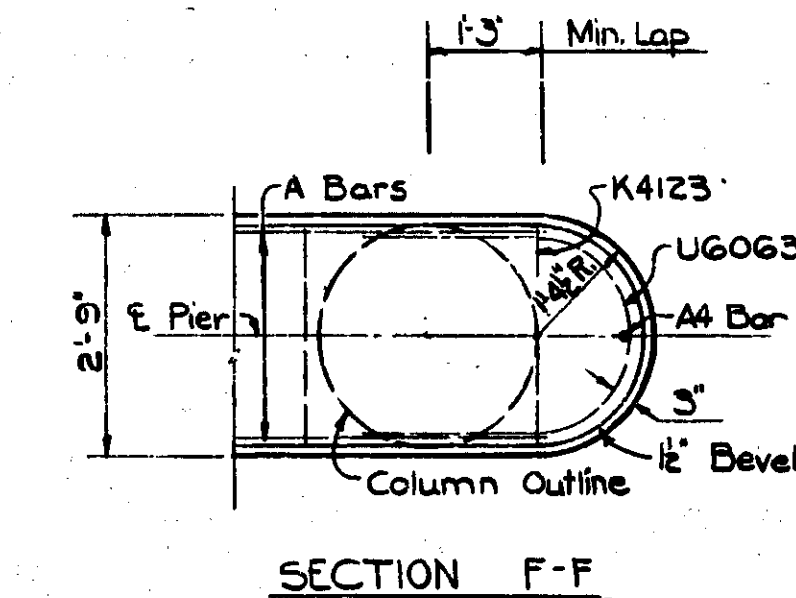
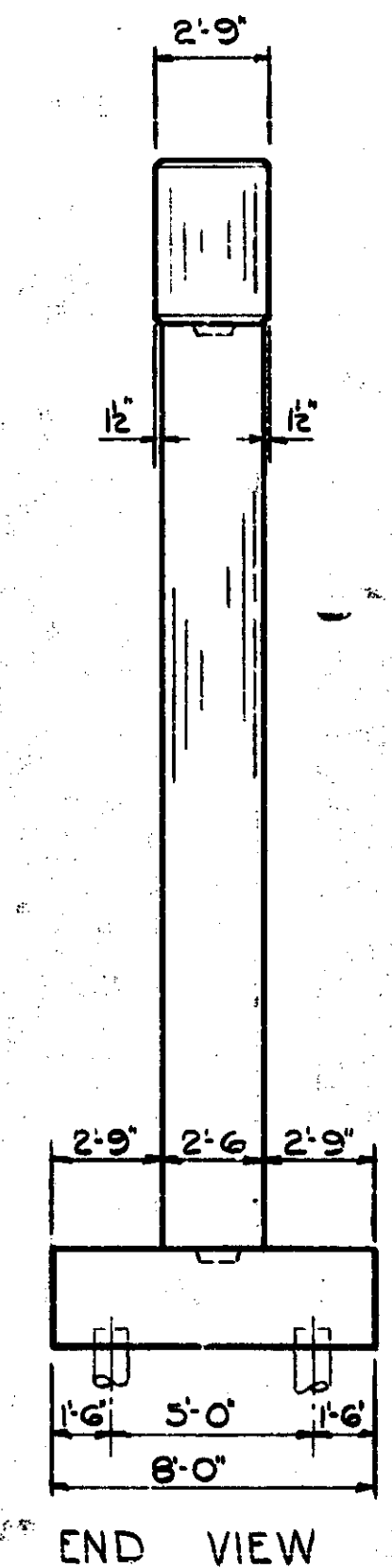
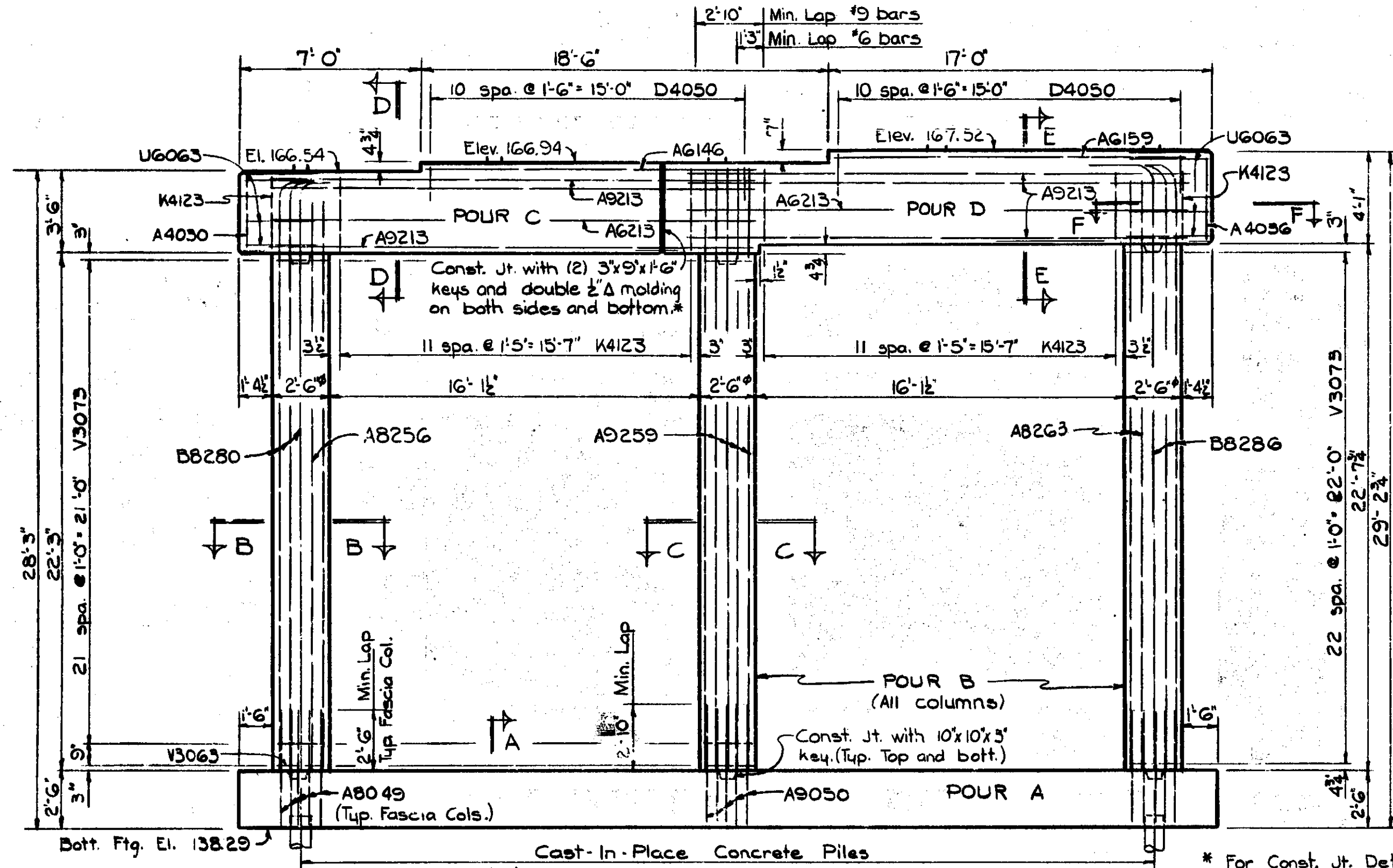
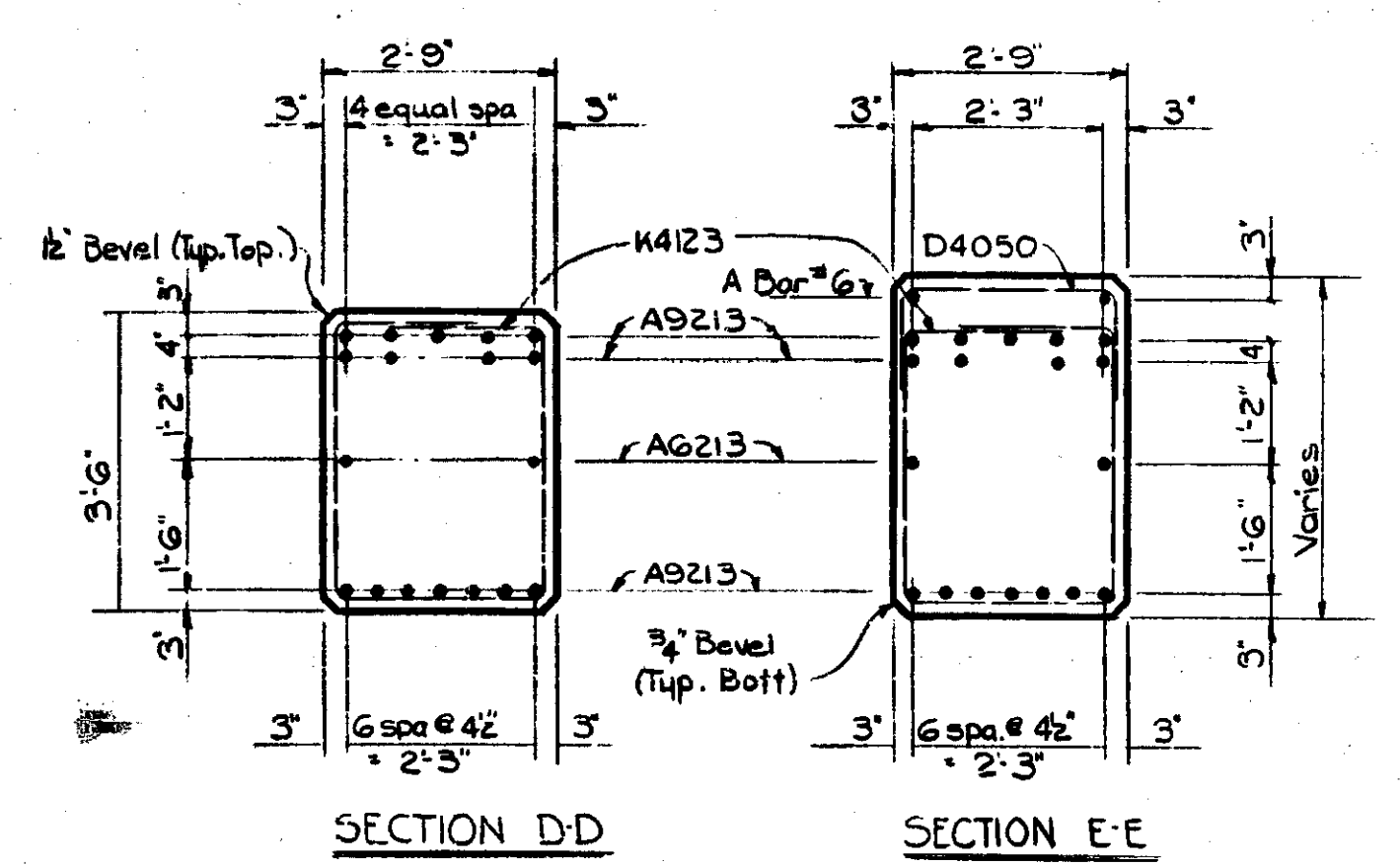
WORK THIS SHEET WITH SHEETS 44 45 47 48 & 17-20

XOI of 82122K



ANCHOR BOLT PROJECTION TABLE					
Beam	A	B	C	D	E
Span 4R	5 1/4	4 1/2	9	4 1/2	4 1/2
Span 5R	5 1/2	4 1/2	9 1/4	4 1/2	4 1/2

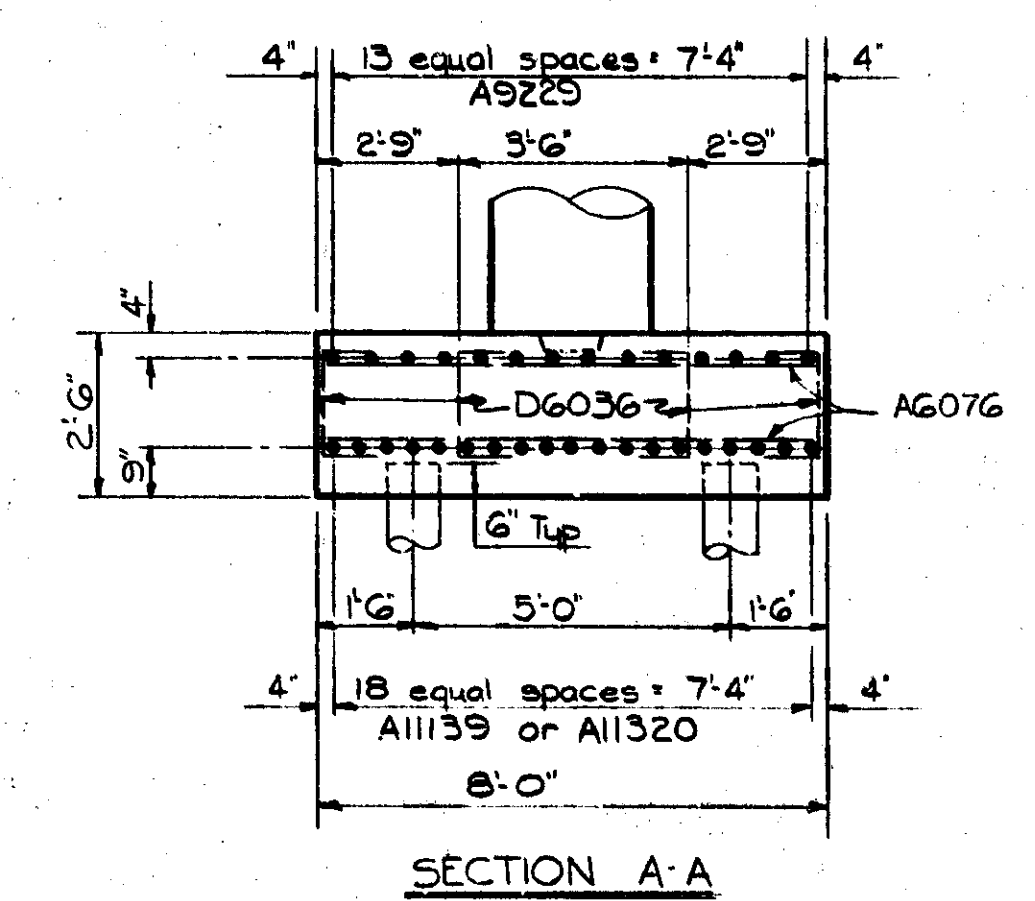
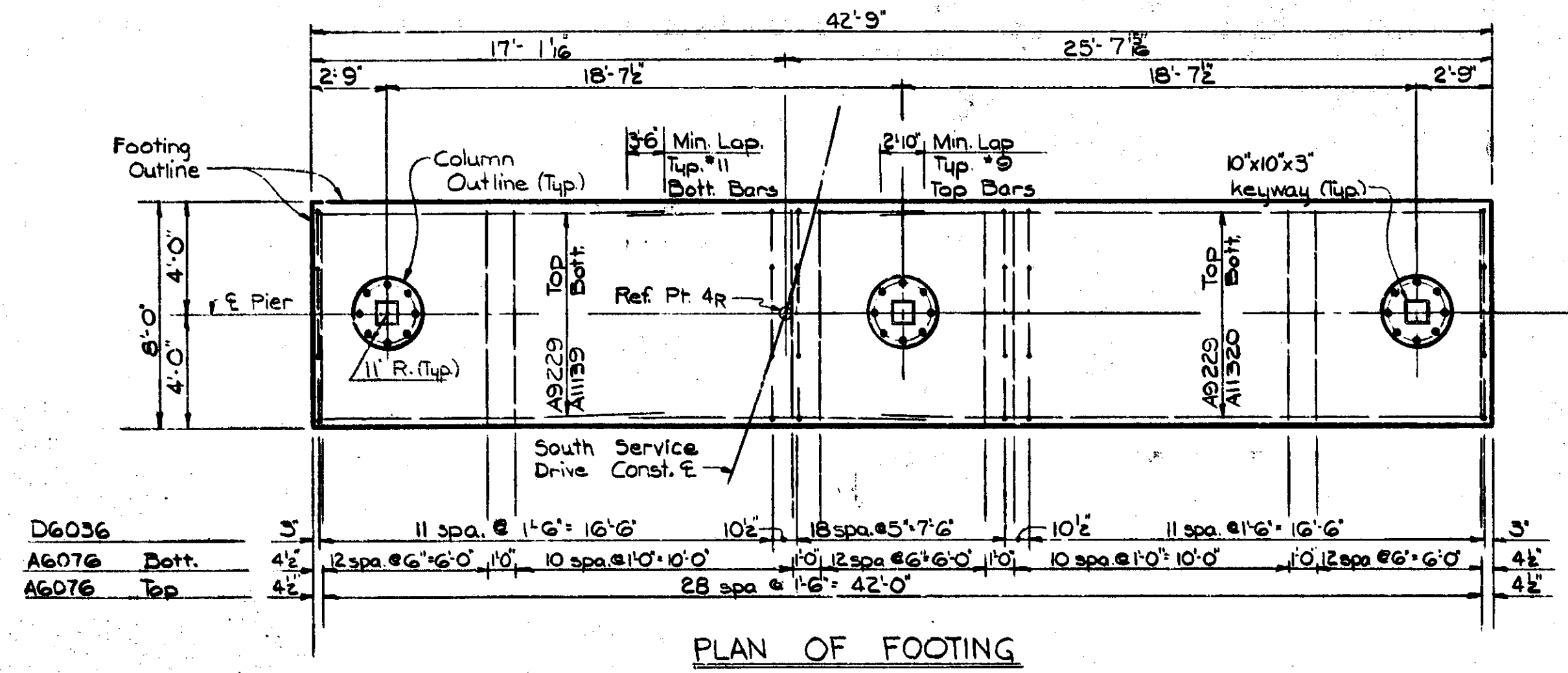
ANCHOR BOLT SPACING					
Beam	θ	a	b	c	d
A thru D	81°55'23"	6 1/8	5 1/8	1 1/8	3 3/8
E	80°22'40"	6 3/8	5 1/8	1 1/8	3 1/8
A thru D	68°58'06"	6 1/8	4 3/8	0 1/8	4 3/8
E	67°18'30"	6 3/8	4 1/2	0 1/8	4 1/8



STEEL REINFORCEMENT					
Bar Number	No. Required	Weight (lbs)	Bar Number	No. Required	Weight (lbs)
A4030	1	2	A9229	28	2166
A4036	1	2	A9259	8	700
AG076	90	1014	A1139	19	1388
AG146	2	44	A11320	19	9230
AG159	2	47	BB280	5	374
AG213	4	128	BB286	5	380
AB049	16	205	D4050	22	73
A8256	3	204	D6036	172	904
A8263	3	210	K4123	24	196
A9050	8	136	UG063	6	56
A9213	32	2312	V3073	69	188
		Total Weight			13957

CONCRETE QUANTITIES		
Pour	Grade A(GA)	Grade A(GAA)
A	31.7 cu yd	
B		12.2 cu yd
C		7.1
D		9.6
Totals	31.7 cu yd	28.9 cu yd

MISCELLANEOUS QUANTITIES		
Item	Unit	Amount
Protective Sealant Coating for Concrete	Sq. Ft.	118



D6036	3	11 spa. @ 1'-6" = 16'-6"	10 1/2	18 spa. @ 5'-7 1/2"	10 1/2	11 spa. @ 1'-6" = 16'-6"	3	
AG076	4 1/2	12 spa. @ 6'-6" = 10'	10 spa. @ 10'-0" = 10'	10 1/2	12 spa. @ 6'-6" = 10'	10 spa. @ 10'-0" = 10'	4 1/2	
AG076	4 1/2	28 spa. @ 1'-6" = 42'-0"						4 1/2

Work this sheet with sheets # 44, 45, 46, 48 & 17-20

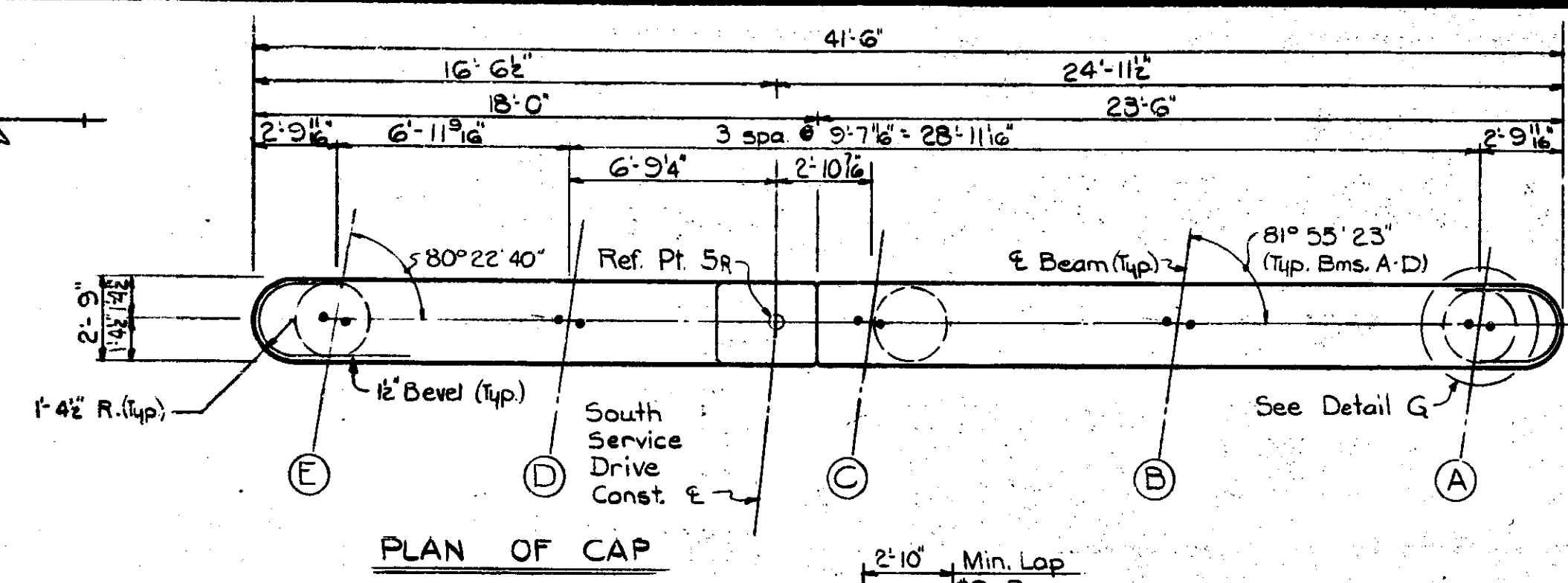
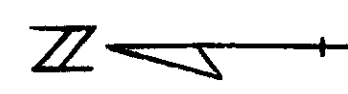
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

PIER 4R DETAILS

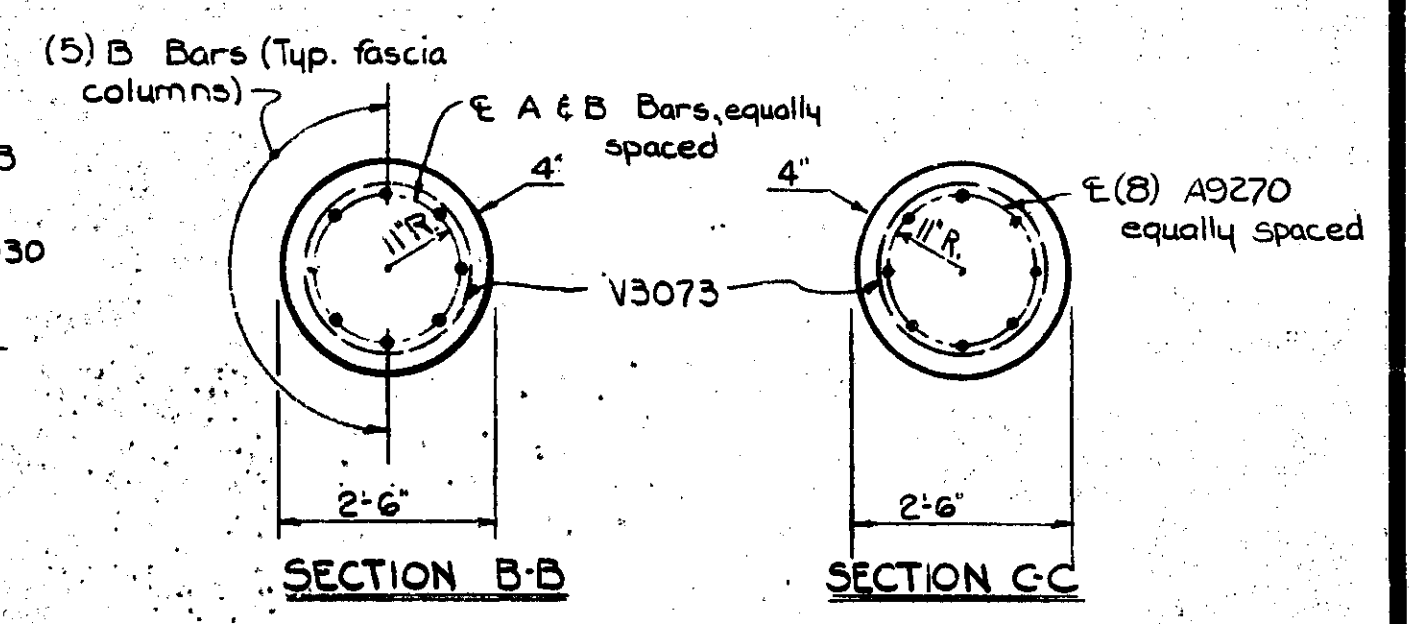
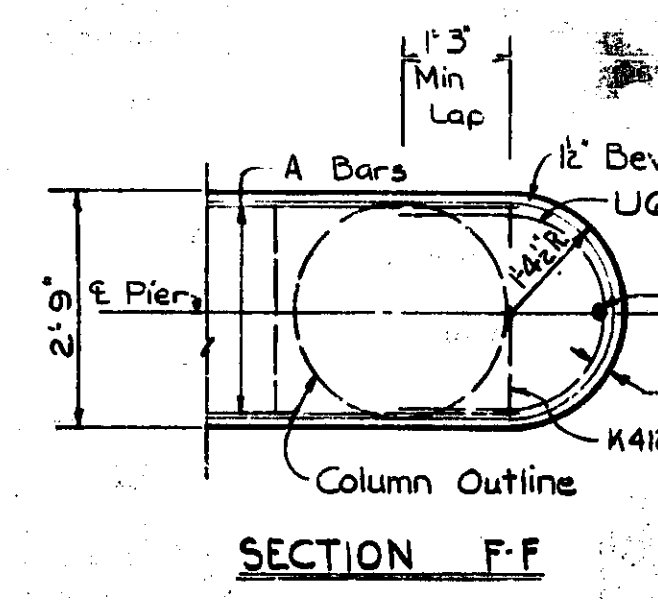
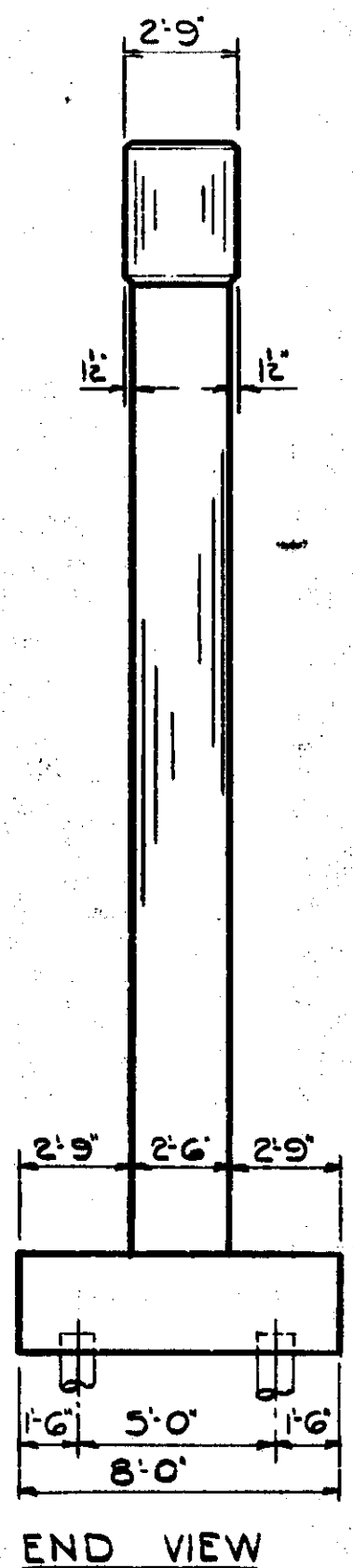
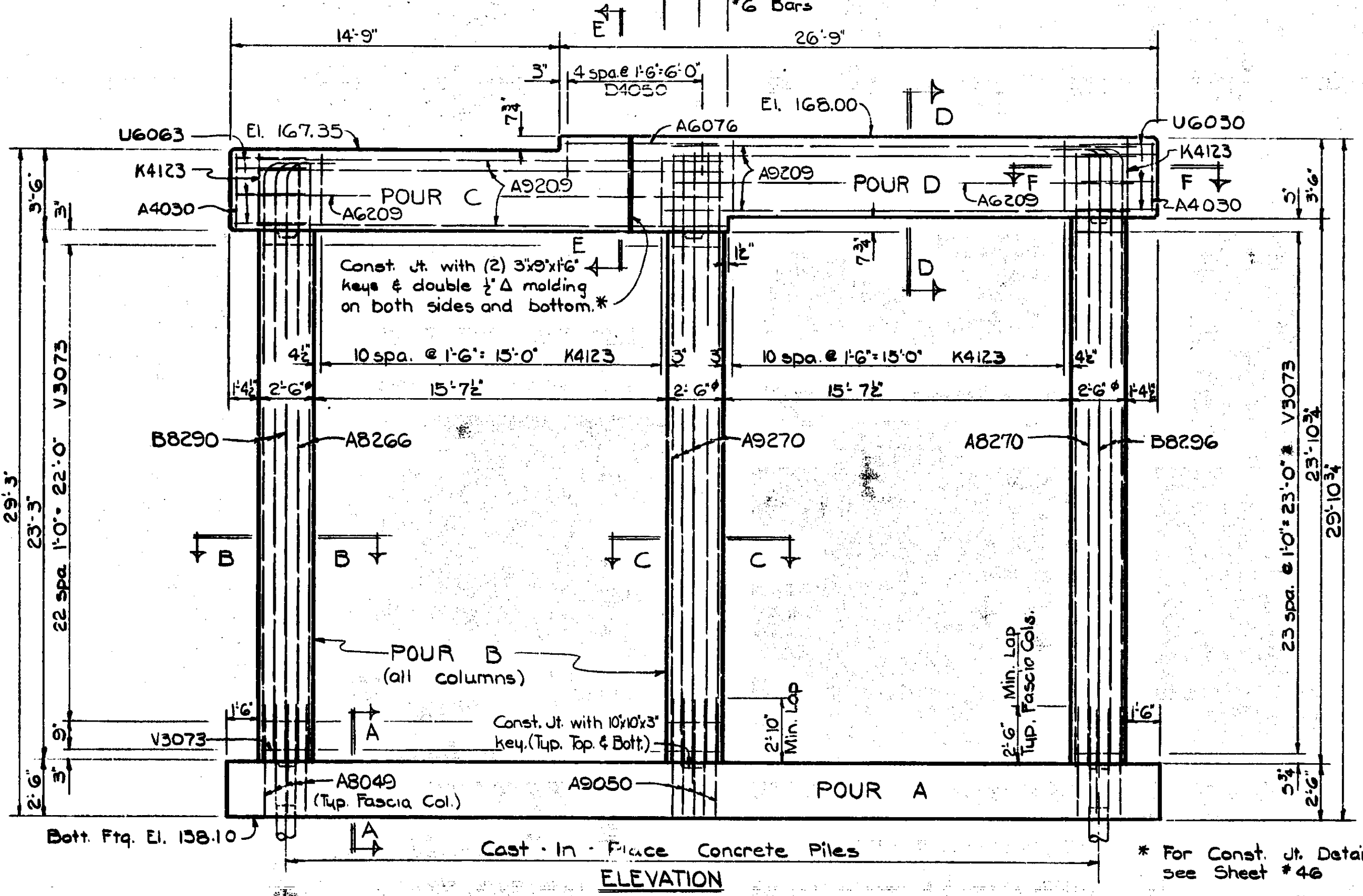
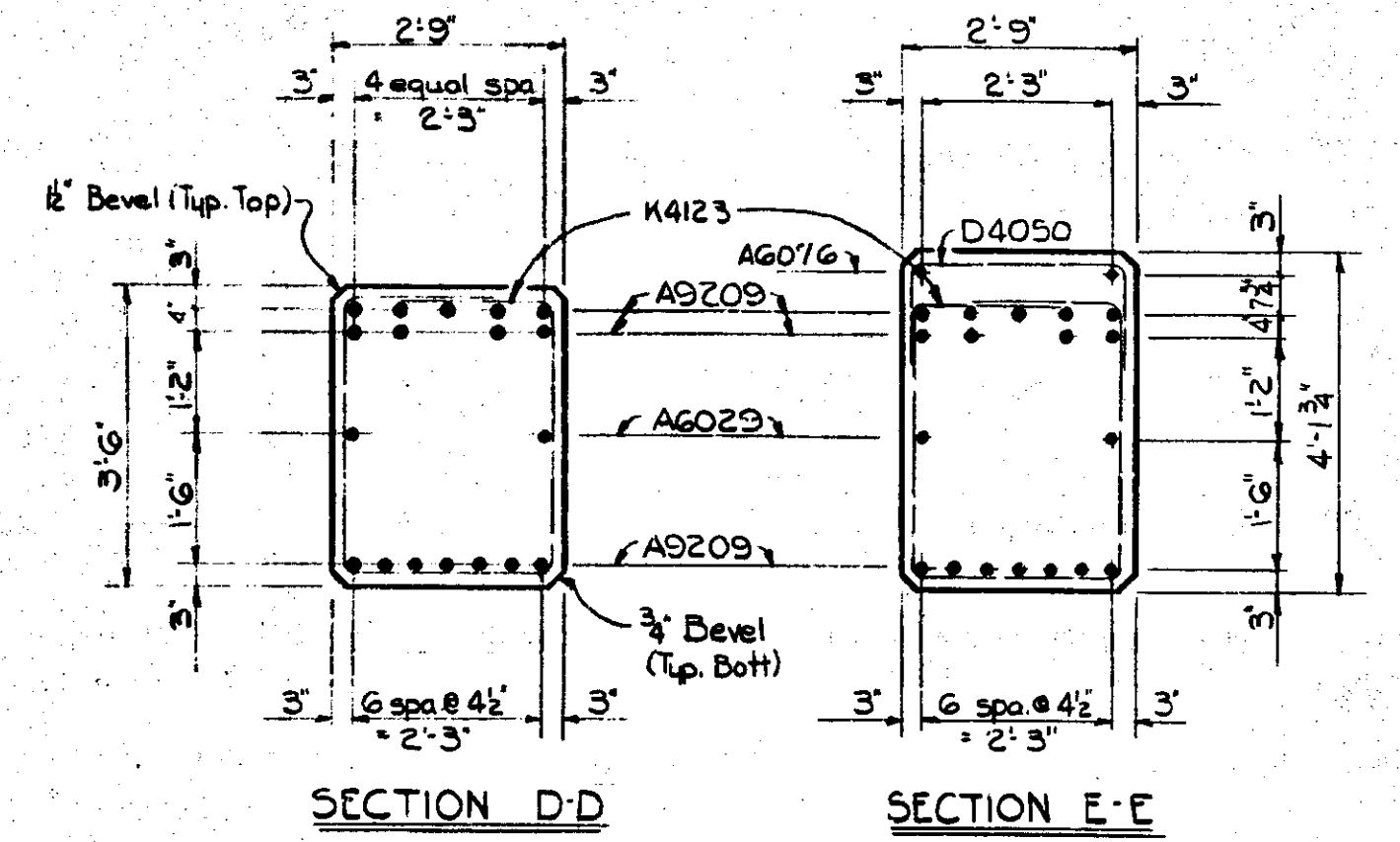
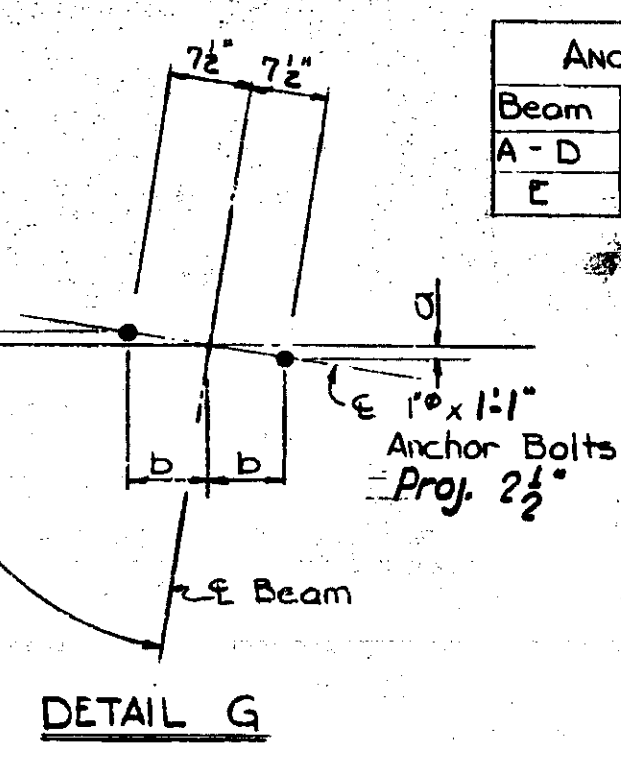
REVISIONS			
NO.	DESCRIPTION	DATE	BY

DRAWN BY: Woodard 5-28-68
 CHECKED BY: L. F. 5-14-68
 DESIGNED BY: ENDRES 5-14-68
 SHEET 47 OF 108

X01 of 82122K



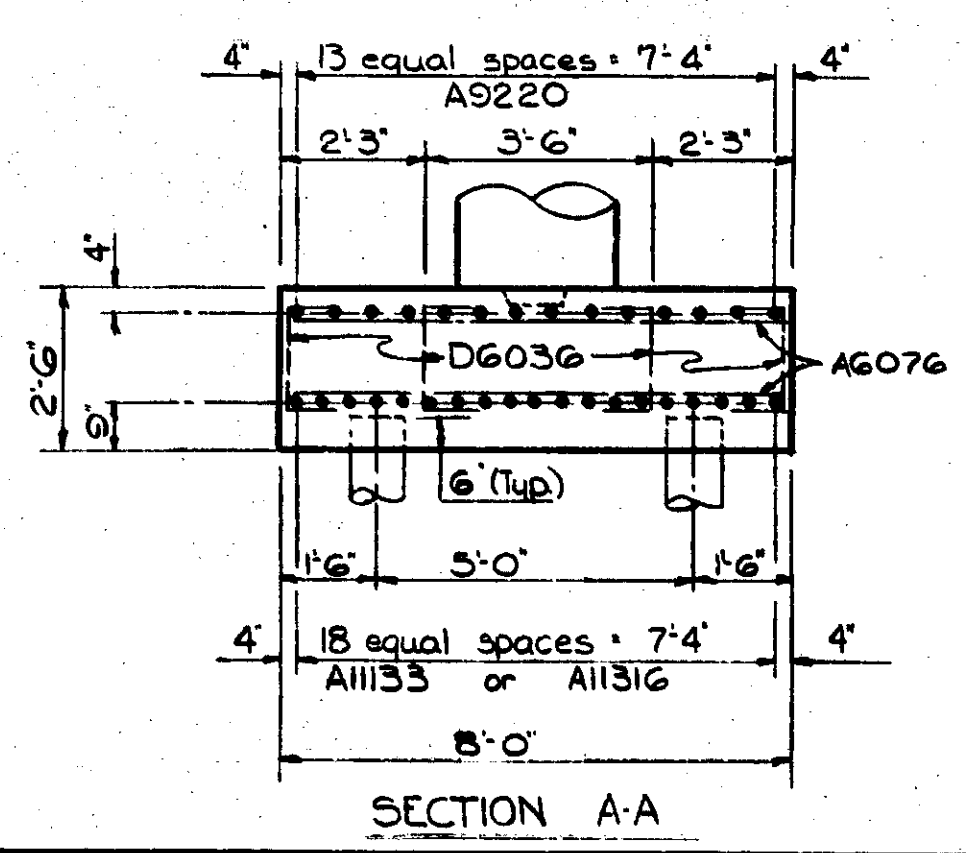
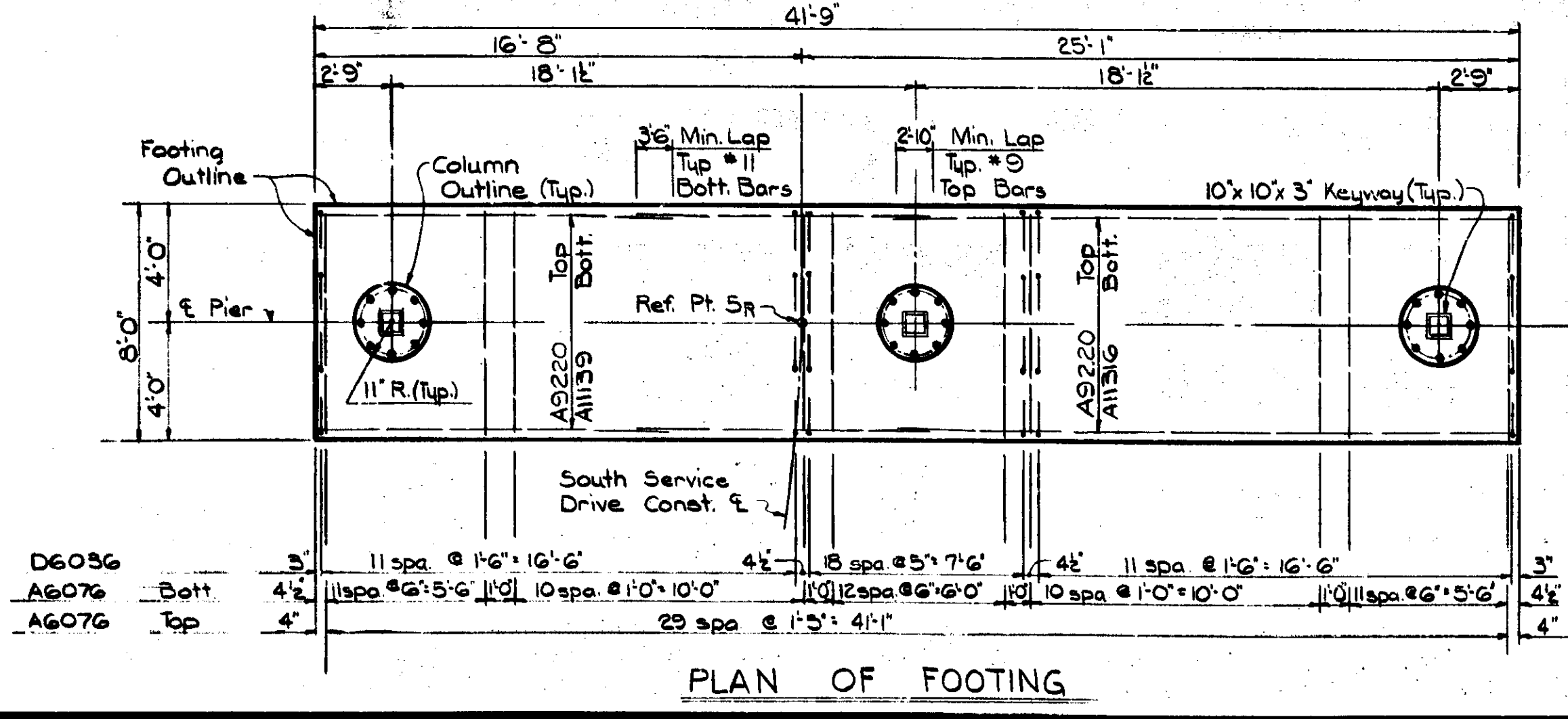
Beam	θ	a	b
A-D	81° 55' 23"	11 1/2"	7 1/2"
E	80° 22' 40"	14"	7 3/8"



STEEL REINFORCEMENT			
Bar Number	Number Req'd	Weight (lbs)	Total Weight
A4030	2	4	8
A6076	9	1025	9225
A9209	4	125	500
A8049	16	203	3248
AB266	3	212	636
AB270	3	216	648
A9050	8	136	1088
A9209	32	2238	71616
A9220	28	2094	58632
A9270	8	734	5872
A1133	19	1338	25422
Total Weight			13675

CONCRETE QUANTITIES		
Pour	Grade A(GA)	Grade A(GAA)
A	30.9 cu yd	
B		12.8 cu yd
C		6.9
D		8.9
Totals	30.9 cu yd	28.6 cu yd

MISCELLANEOUS QUANTITIES		
Item	Unit	Amount
Protective Sealant Coating for Concrete	Sq. Ft.	112



Bar Number	Number Req'd	Weight (lbs)	Total Weight
D6036	3	11 spa @ 1'6" = 16'6"	33
A6076	4 1/2	11 spa @ 2'5" = 27'10"	1215
A6076	4	29 spa @ 1'5" = 41'1"	1160

Work this sheet with sheets 44-47 & 17-20

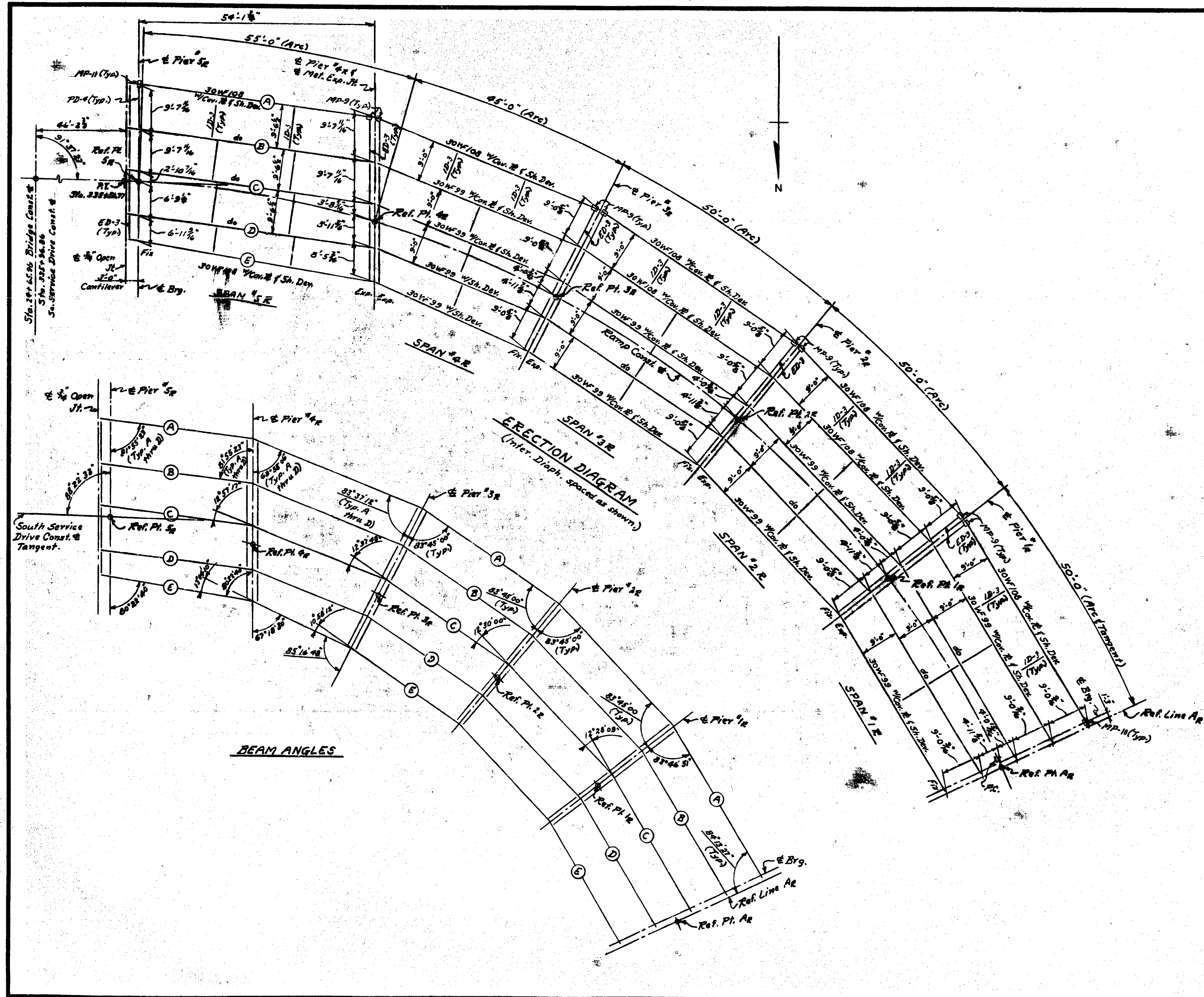
MICHIGAN DEPARTMENT OF STATE HIGHWAYS

PIER 5R DETAILS

NO.	DESCRIPTION	DATE	BY

DRAG DATE	5-18-68
DRAWN BY	W.E. 5-9-68
TRACED BY	
CHECKED BY	ENDERS 5-14-68
SHEET	48 of 108

XOI of 82122K



Note: Weight of Structural Steel, South Service Drive, is included in the structural steel weight on sheet #51 for structural steel notes see sheet #51

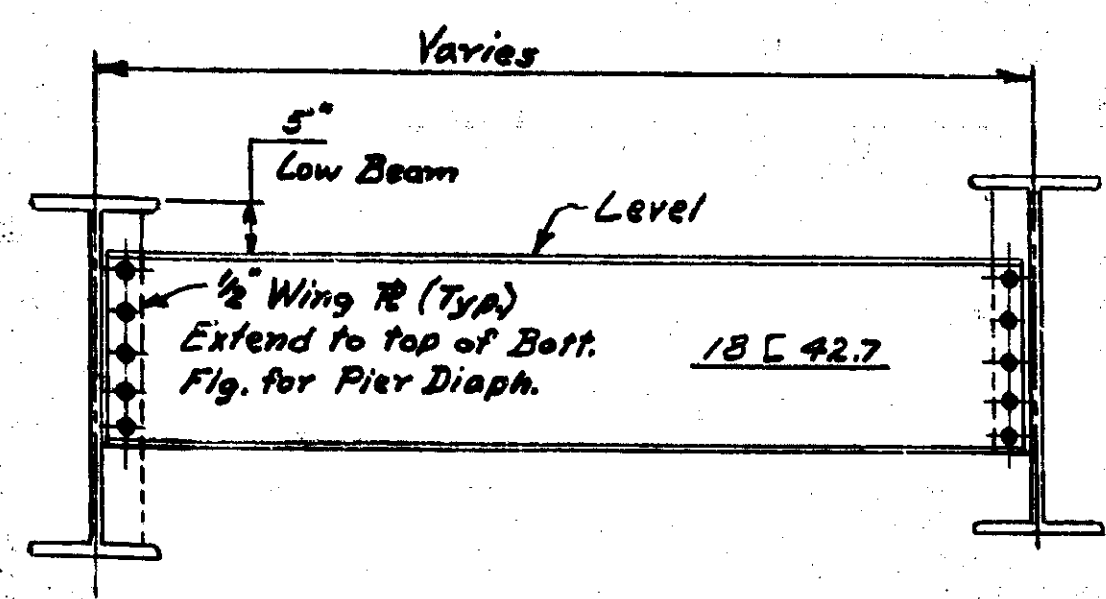
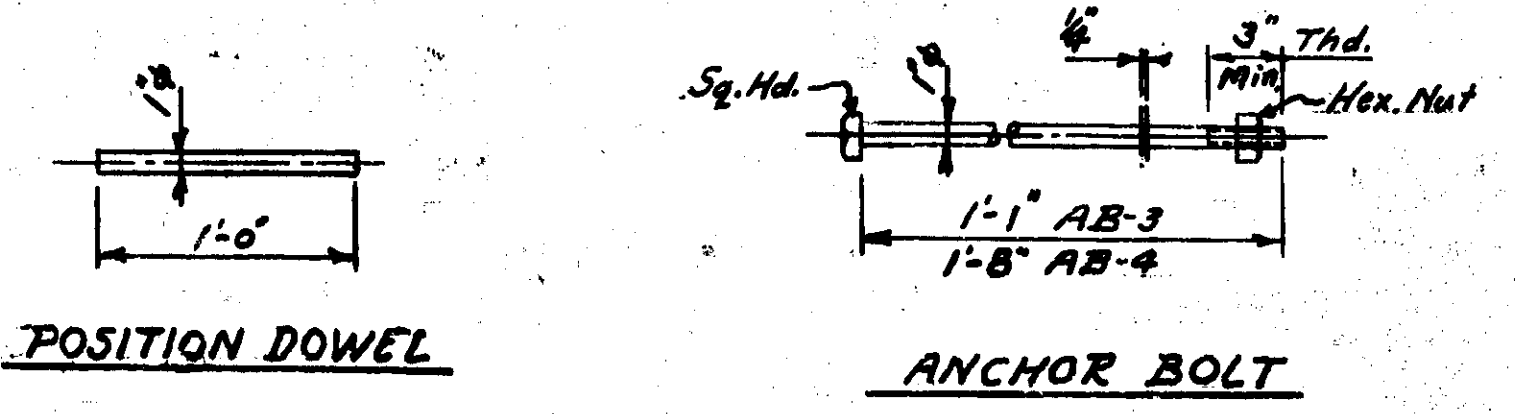
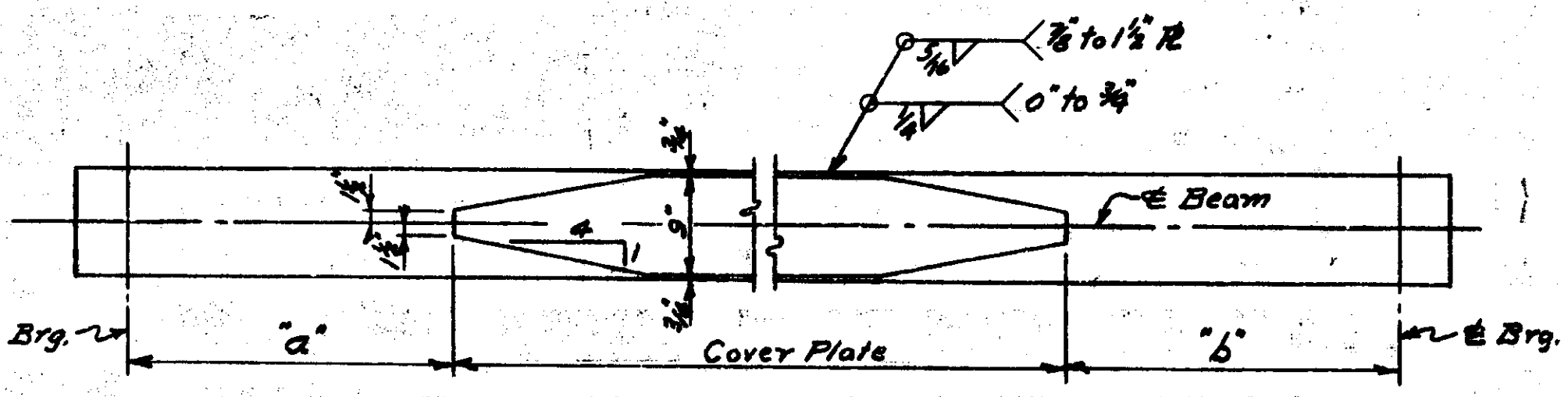
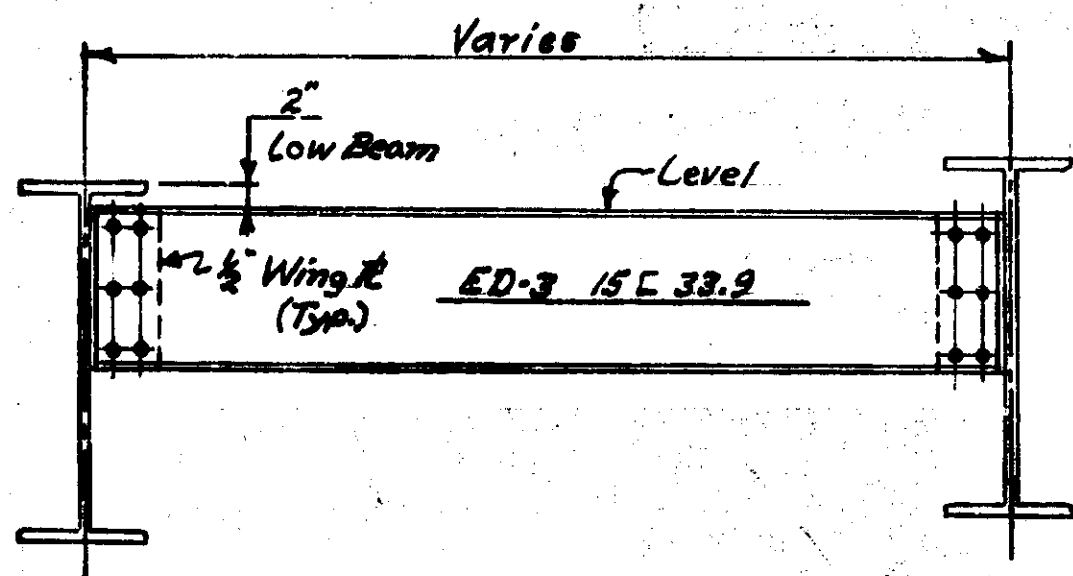
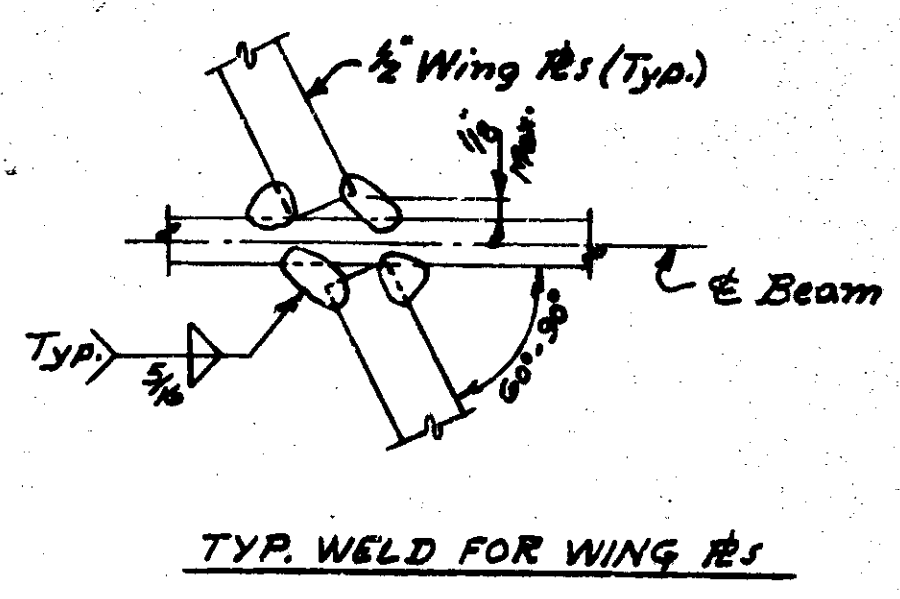
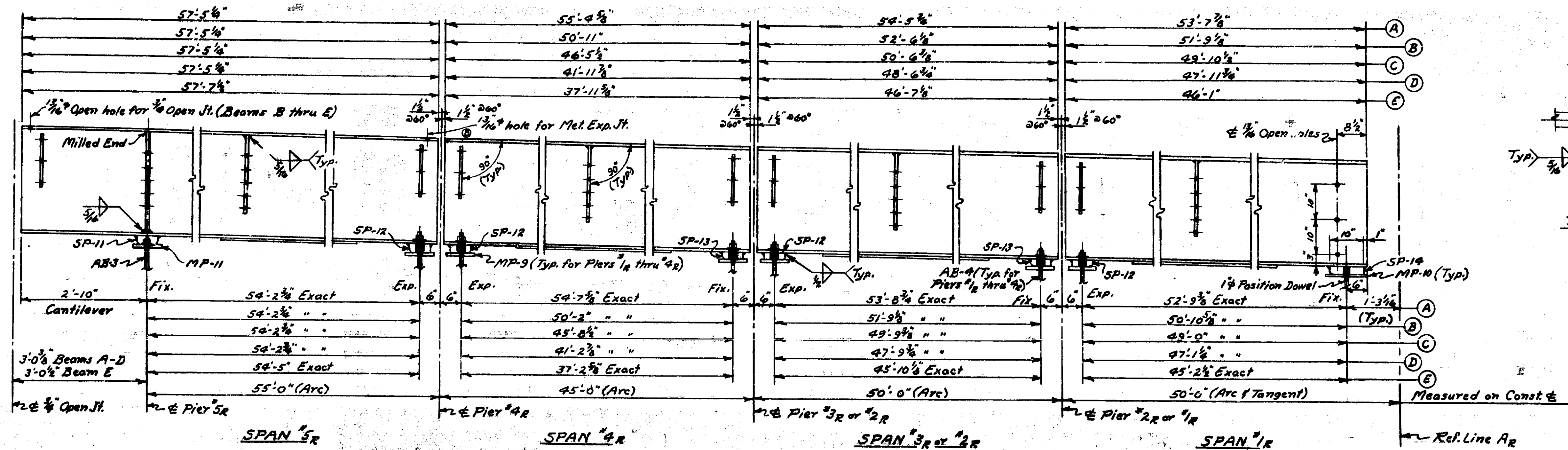
Work this sheet with sheets 51, 63 & 64

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
STRUCTURAL STEEL DETAILS
SOUTH SERVICE DRIVE

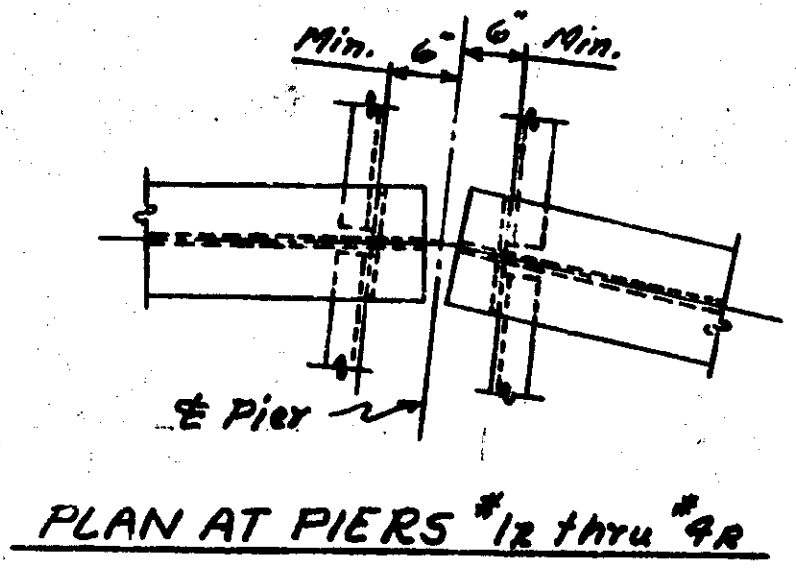
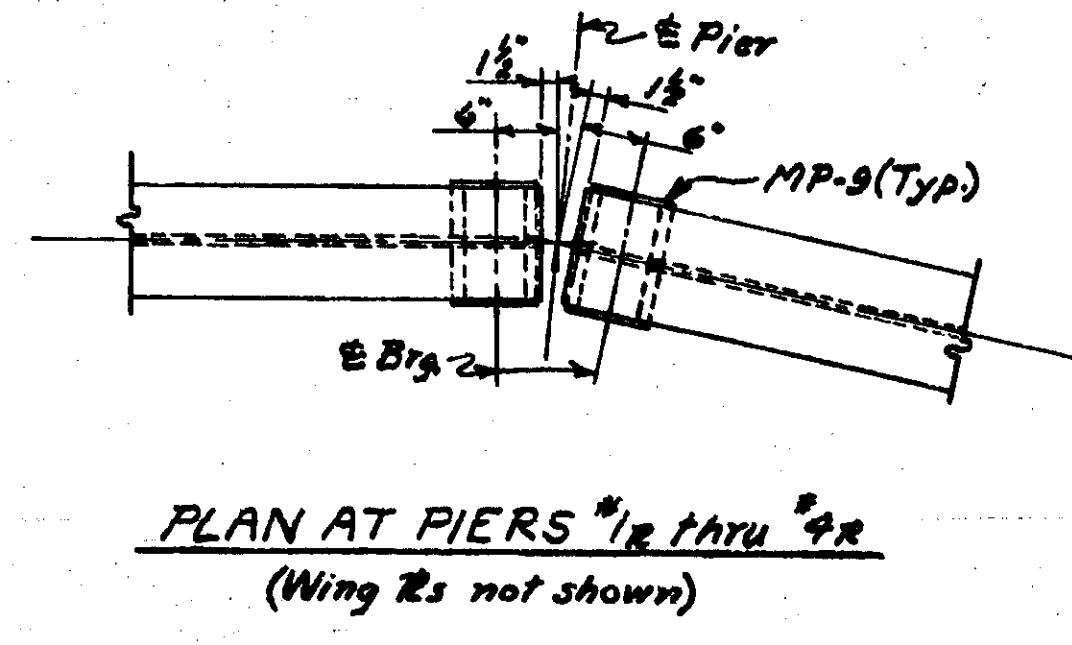
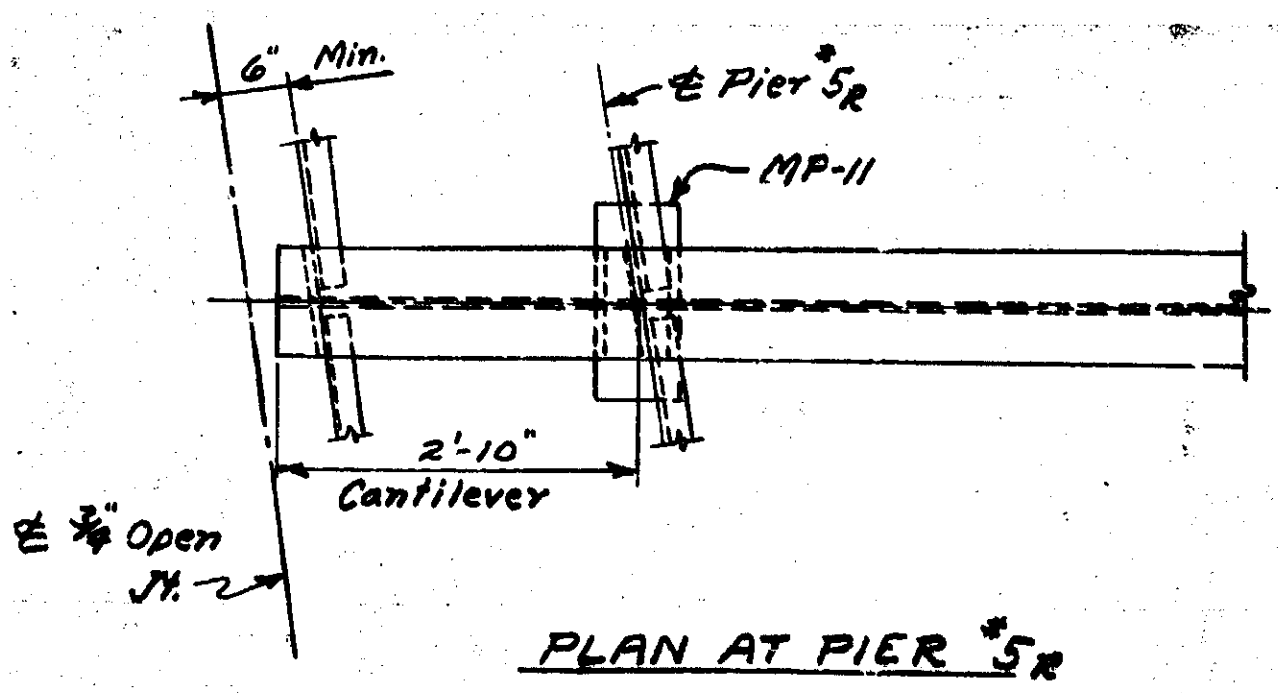
REVISIONS			
NO	DESCRIPTION	DATE	BY

DRAWN BY	Woodard	5/11/68
TRACED BY	REB	5/13/68
CHECKED BY	ENDRES	5-17-68
SHEET 62 OF 100		

XO10F82122 K



Beam Line	Span 5R			Span 4R			Spans 3R or 2R			Span 1R		
	a	b	c	a	b	c	a	b	c	a	b	c
A	5'-10"	1 1/2" x 42'-6"	5'-10 3/4"	6'-2"	3/4" x 42'-3"	6'-2 1/2"	6'-3"	3/4" x 41'-5"	6'-0 1/2"	6'-3"	3/4" x 40'-3"	6'-3 1/2"
B	5'-10"	1 1/2" x 42'-6"	5'-10 3/4"	5'-10"	3/4" x 38'-6"	5'-10"	6'-4"	3/4" x 39'-2"	6'-3 1/2"	5'-9"	3/4" x 39'-4"	5'-9 1/2"
C	5'-10"	1 1/2" x 42'-6"	5'-10 3/4"	6'-3"	3/4" x 33'-2"	6'-3 1/2"	5'-10"	3/4" x 38'-1"	5'-10 1/2"	5'-10"	3/4" x 37'-3"	5'-11"
D	5'-10"	1 1/2" x 42'-6"	5'-10 3/4"	None	None	None	6'-0"	3/4" x 35'-10"	5'-11 1/2"	6'-1"	3/4" x 34'-11"	6'-1 1/2"
E	5'-10"	1 1/2" x 42'-9"	5'-10"	None	None	None	6'-2"	3/4" x 33'-6"	6'-2 1/2"	6'-3"	3/4" x 32'-8"	6'-3 1/2"



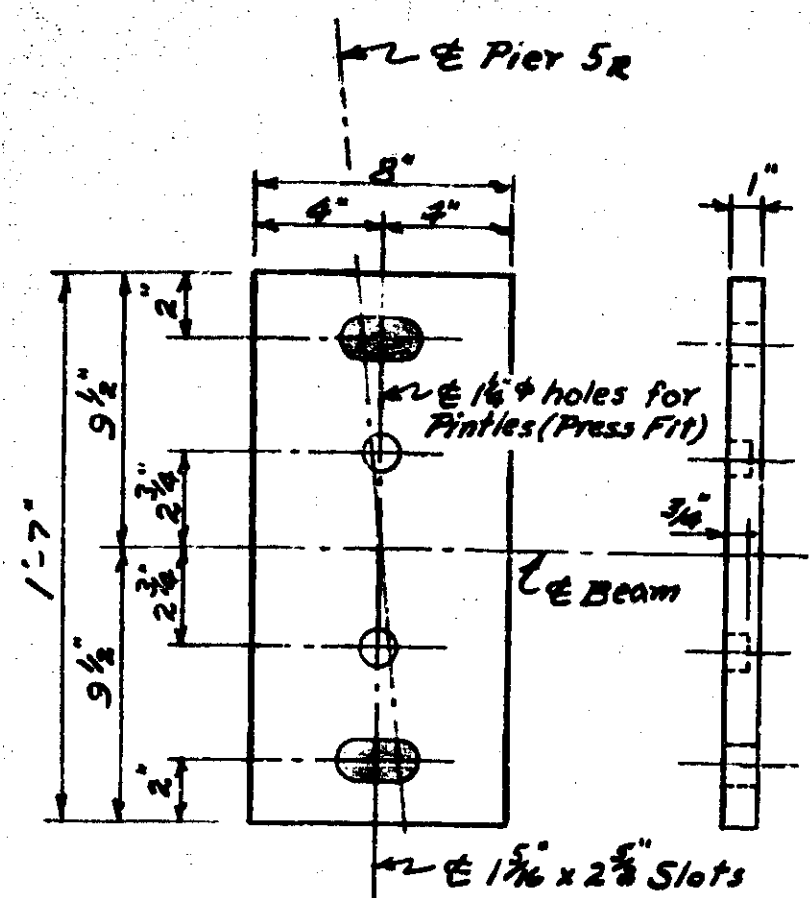
Work this sheet with sheets 51, 62 & 64

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
STRUCTURAL STEEL DETAILS.
SOUTH SERVICE DRIVE

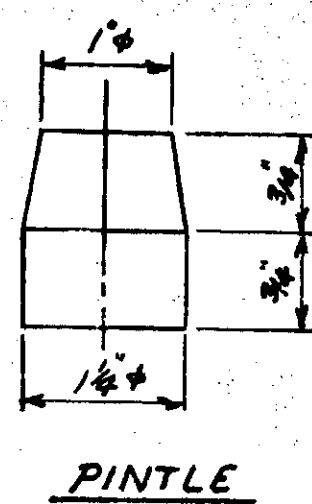
NO.	DESCRIPTION	DATE	BY
1	Revised to show in Span 2R	3-27-69	ELI

ROAD DIST. Woodward 5-28-68
 DRAWN BY R.E.B. 5-15-68
 CHECKED BY ENGBER 5-21-68
 UNIT 6.3 of 100
XOI of 82122 K

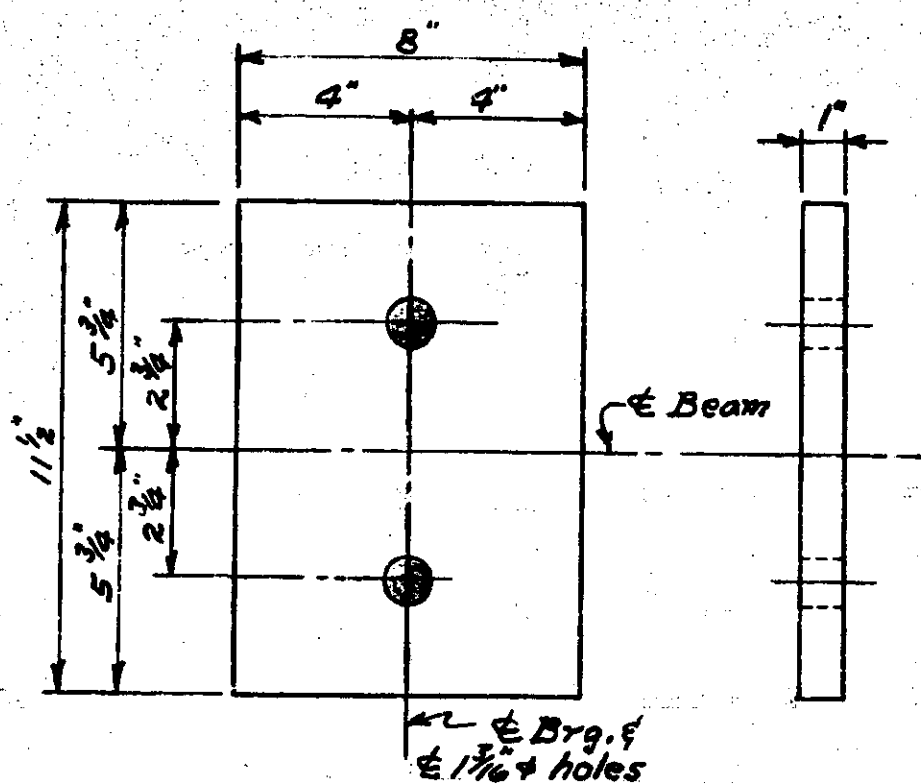
- Camber Diagram -



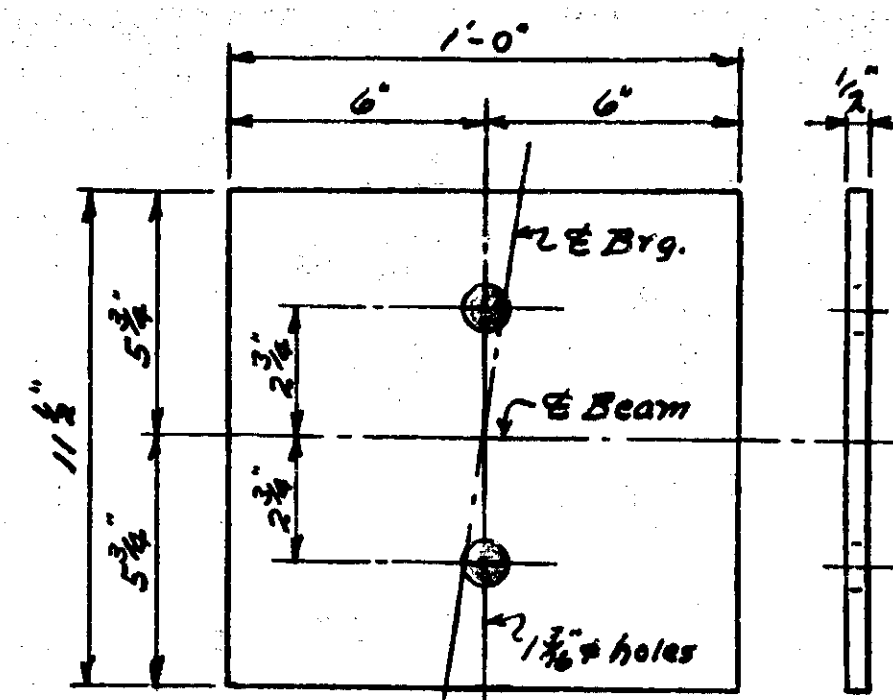
MASONRY PLATE - MP-II
Pier 5R



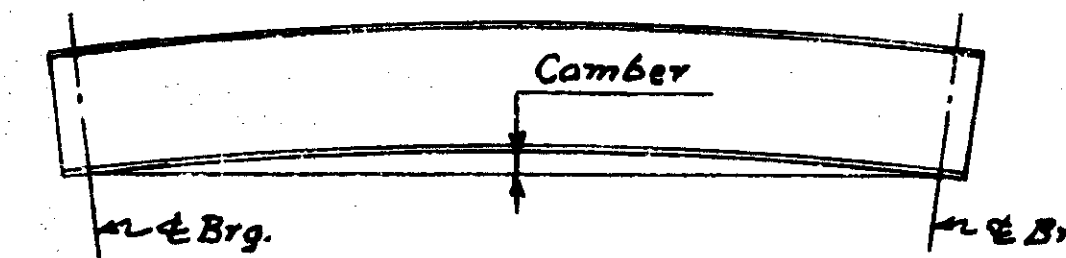
PINTLE



MASONRY PLATE - MP-9
Piers 1R thru 4R



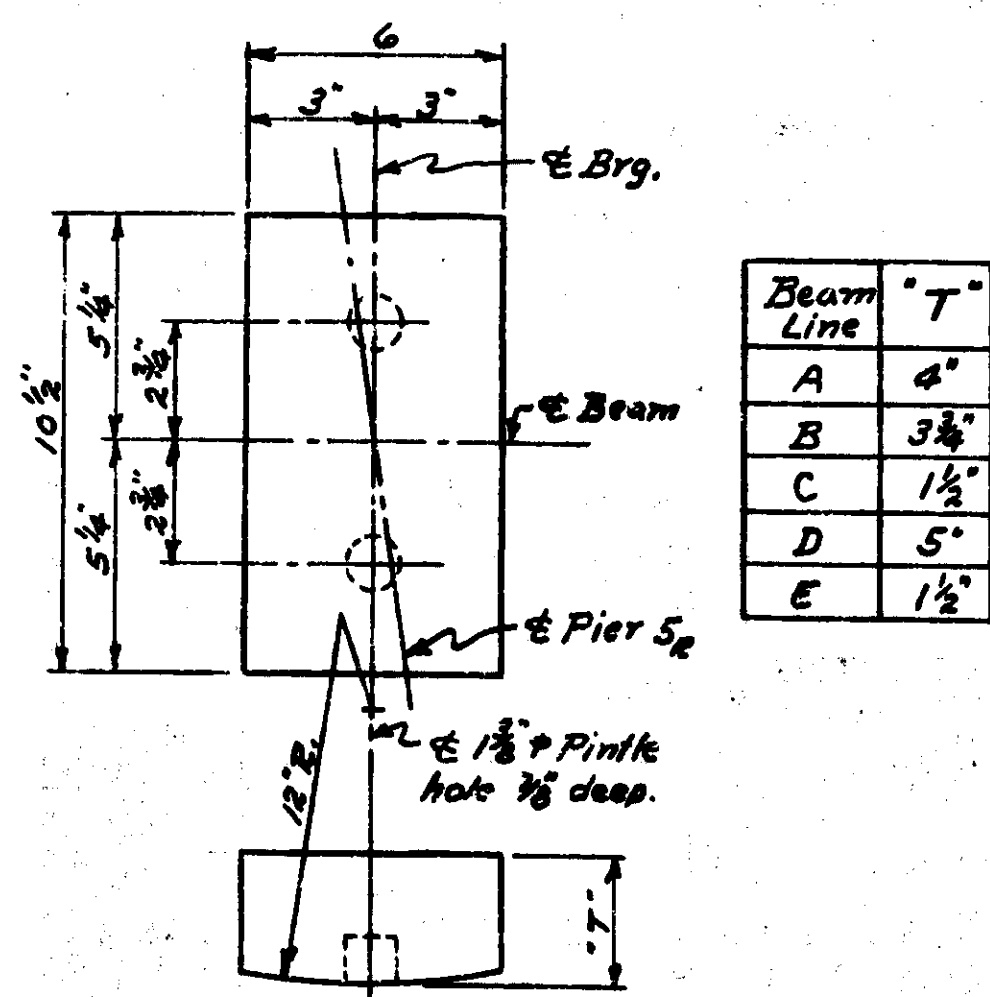
MASONRY PLATE - MP-10
Abut. AR



Note: This camber is to be measured with the beam lying on its side. Allowable camber tolerance for rolled beams is 2/32". Heating is to be used, if necessary, to assure camber permanency within the above tolerance. The dead load deflection of the beams alone is calculated to be as shown in the table.

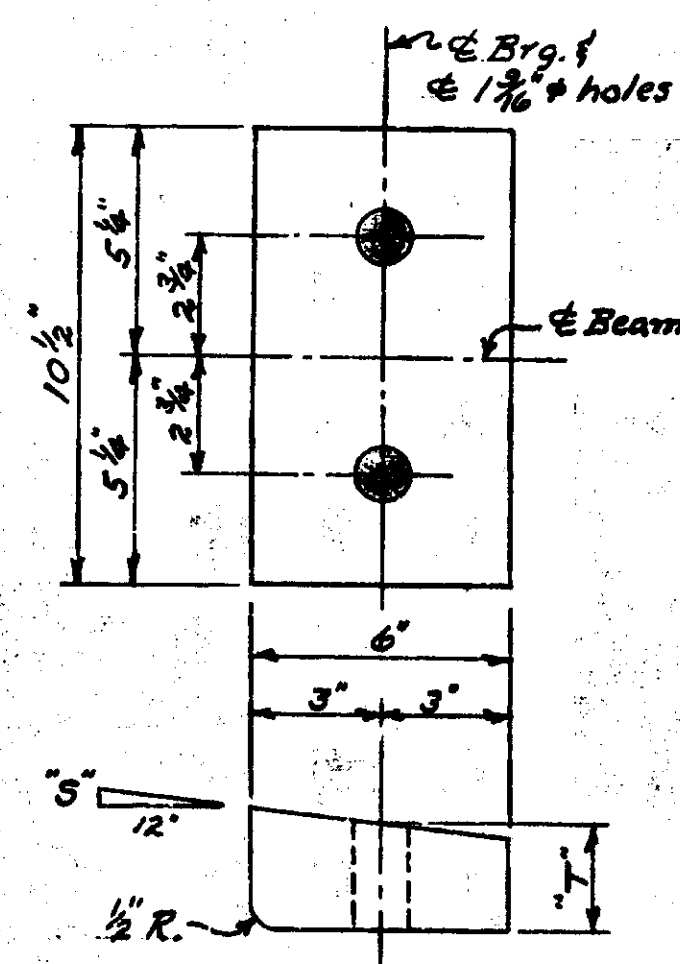
Beam Line	Beam Camber				
	Span 5R	Span 4R	Span 3R	Span 2R	Span 1R
A	1 1/2"	2 3/8"	2 3/8"	1 3/8"	1 1/8"
B	1 1/2"	2"	2 1/8"	1 1/8"	1 1/8"
C	1 1/2"	1 3/8"	1 3/8"	1/8"	3/8"
D	1 1/2"	1"	1 1/2"	1/2"	1/2"
E	1 1/2"	3/8"	1 3/8"	3/8"	1/2"

Beam Line	CALCULATED DEAD LOAD DEFLECTION				
	Span 5R	Span 4R	Span 3R	Span 2R	Span 1R
A	5/32"	5/32"	5/32"	5/32"	5/32"
B	5/32"	1/8"	5/32"	5/32"	1/8"
C	5/32"	3/32"	1/8"	1/8"	1/8"
D	5/32"	1/16"	3/32"	3/32"	3/32"
E	5/32"	1/16"	3/32"	3/32"	3/32"



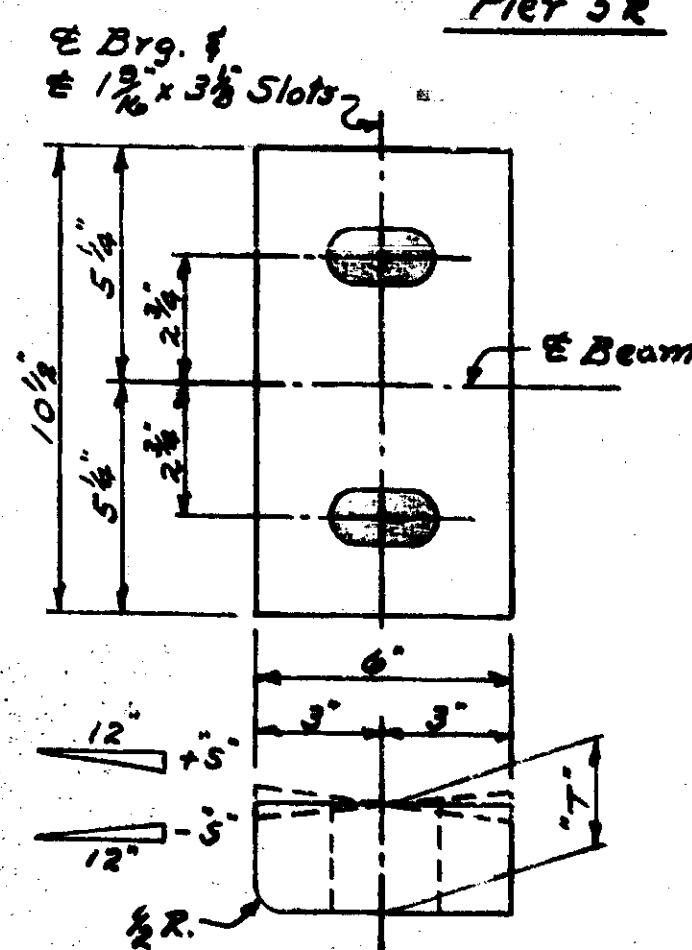
SOLE PLATES - SP-II
Pier 5R

Beam Line	"T"
A	4"
B	3 3/4"
C	1 1/2"
D	5"
E	1 1/2"



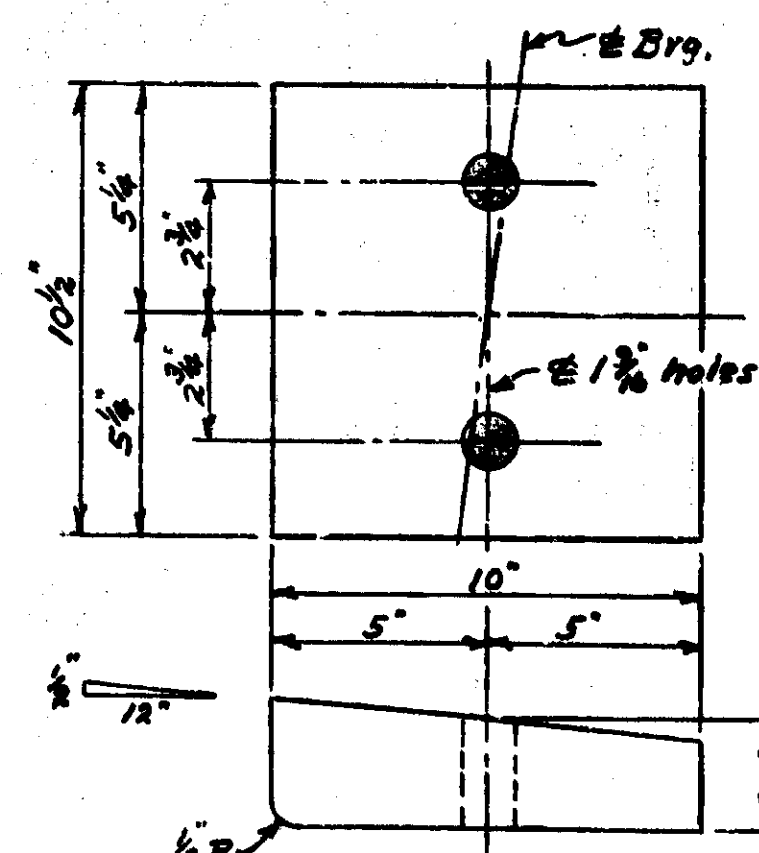
SOLE PLATES - SP-13

Beam Line	Pier 3R		Pier 2R		Pier 1R	
	Span 3R	Span 2R	Span 3R	Span 2R	Span 3R	Span 2R
A	2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
B	2"	2 1/2"	2"	2 1/2"	2"	2 1/2"
C	5 1/2"	5 1/2"	5 1/2"	5 1/2"	5 1/2"	5 1/2"
D	2"	2 1/2"	2"	2 1/2"	2 1/2"	2 1/2"
E	2"	2 1/2"	2"	2 1/2"	2"	2 1/2"



SOLE PLATES SP-12

Beam Line	Pier 4R		Pier 3R		Pier 2R		Pier 1R	
	Span 4R	Span 3R	Span 4R	Span 3R	Span 4R	Span 3R	Span 4R	Span 3R
A	2 1/2"	2"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"	1 3/4"
B	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
C	6"	5 1/2"	5"	5"	5"	5"	5"	5"
D	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
E	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"



SOLE PLATES - SP-14
Abut. AR

Beam Line	"T"
A	2 1/2"
B	2"
C	5 1/2"
D	2"
E	2"

Note: For location of Sole & Masonry R's, see sheets 51, 62 & 63

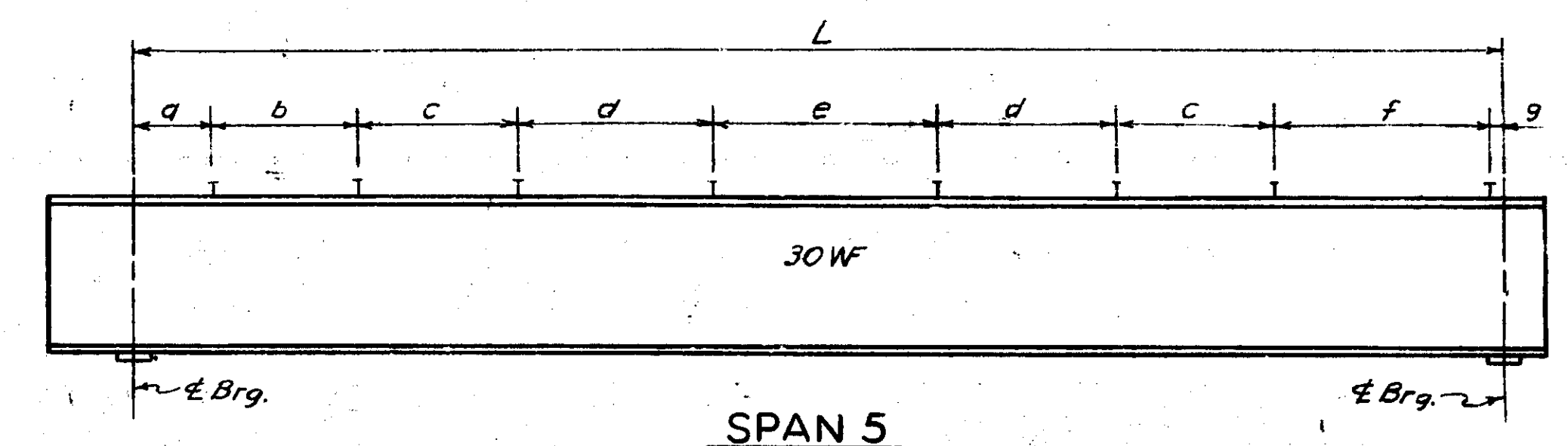
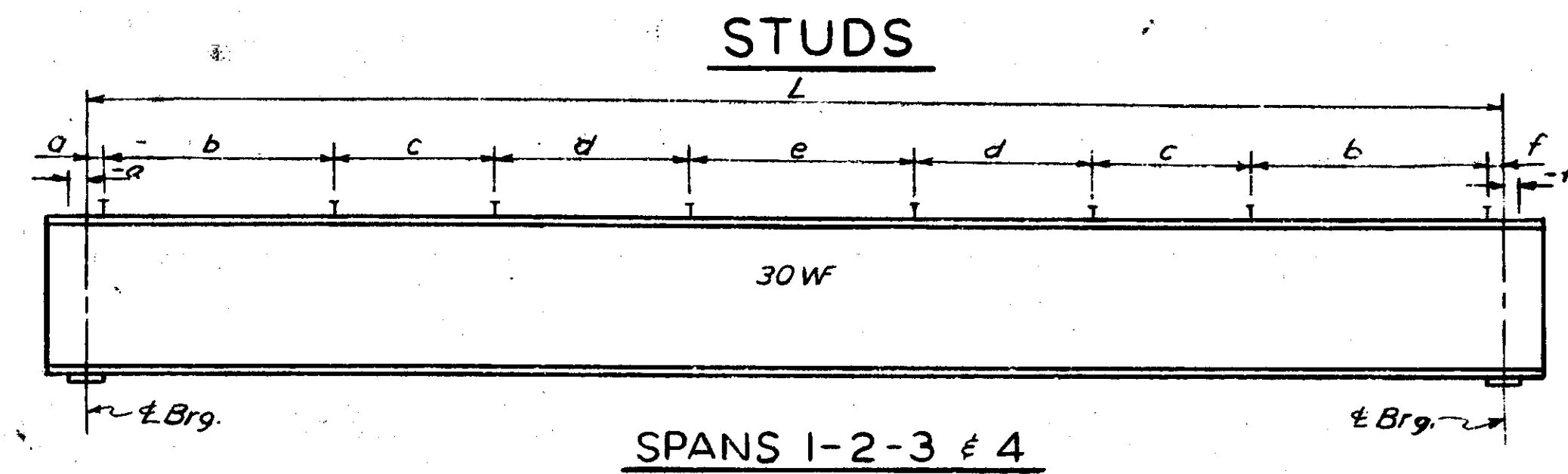
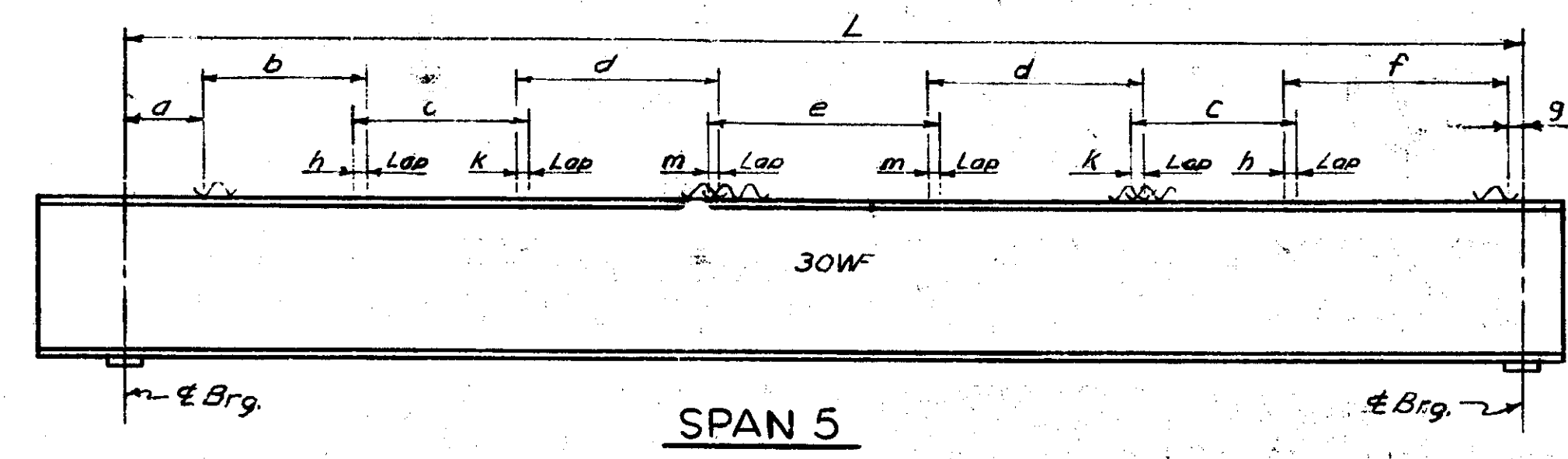
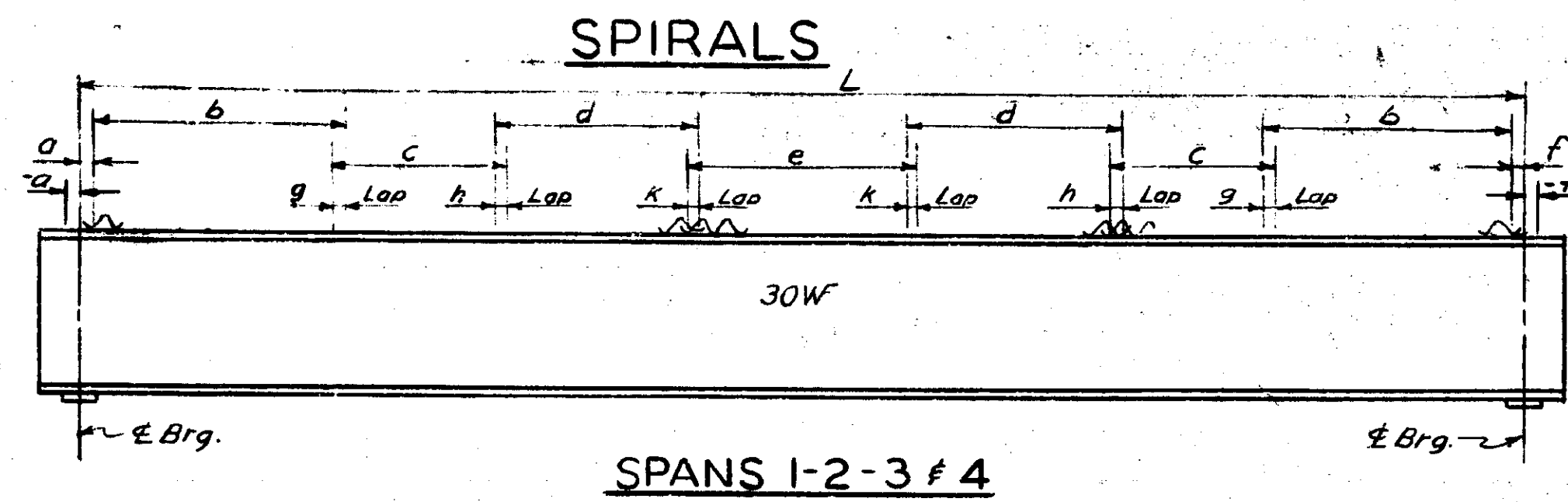
Work this sheet with sheets 51, 62 & 63

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
BEARING DETAILS
SOUTH SERVICE DRIVE

NO.	DESCRIPTION	DATE	BY

DESIGNED BY	Woodard	5-18-68
DRAWN BY	REB	5-14-68
CHECKED BY	ENDRE'S	5-21-68
DATE	5-21-68	

XC10f82122 K



* Denotes Double Row

Span	a	b	c	d	e	f	g	h	k	L
1R-A	2 1/8"	*20Spa@4 1/2=7-6"	*19Spa@6=9-6"	15Spa@4 1/2=5-7 1/2"	18Spa@6=9-0"	-2"	2 1/2"	2 1/2"	2 1/2"	52-9 3/8"
↑ B	1 1/8"	*18Spa@4 1/2=6-9"	*18Spa@6=9-0"	15Spa@4 1/2=5-7 1/2"	18Spa@6=9-0"	1 1/8"	2 1/2"	2 1/2"	2 1/2"	50-10 3/8"
↓ C	-3"	*17Spa@5=7-1 1/2"	*15Spa@6=7-6"	14Spa@4 1/2=5-5"	22Spa@6=11-0"	-3"	2 1/2"	2 1/2"	2 1/2"	49-0"
↓ D	-1 3/8"	*18Spa@5=7-6"	*15Spa@6=7-6"	14Spa@4 1/2=5-3"	16Spa@6=8-0"	-1 3/8"	2 1/2"	2 1/2"	2 1/2"	47-1 1/8"
1R-E	-1 3/8"	*17Spa@5=7-1 1/2"	*13Spa@6=6-6"	14Spa@4 1/2=5-3"	18Spa@6=9-0"	-1 3/8"	2 1/2"	2 1/2"	2 1/2"	45-2 1/2"
2R-A	-3/8"	*21Spa@4 1/2=7-10 1/2"	*9Spa@6=9-6"	15Spa@4 1/2=5-7 1/2"	18Spa@6=9-0"	-3/8"	2 1/2"	2 1/2"	2 1/2"	53-8 3/8"
↑ B	-1/2"	*18Spa@5=7-6"	*17Spa@6=8-6"	16Spa@4 1/2=6-0"	18Spa@6=9-0"	-1/2"	2 1/2"	2 1/2"	2 1/2"	51-9 3/8"
↓ C	-2 1/8"	*20Spa@4 1/2=7-6"	*17Spa@6=8-6"	15Spa@4 1/2=5-7 1/2"	16Spa@6=8-0"	-2"	2 1/2"	2 1/2"	2 1/2"	49-9 3/8"
↓ D	3/8"	*14Spa@5=5-10"	*17Spa@6=8-6"	15Spa@4 1/2=5-7 1/2"	18Spa@6=9-0"	3/8"	2 1/2"	2 1/2"	2 1/2"	47-9 3/8"
2R-E	1 1/8"	*16Spa@5=6-8"	*15Spa@6=7-6"	14Spa@4 1/2=5-3"	16Spa@6=8-0"	1"	2 1/2"	2 1/2"	2 1/2"	45-10 3/8"
3R-A	-3/8"	*21Spa@4 1/2=7-10 1/2"	*9Spa@6=9-6"	15Spa@4 1/2=5-7 1/2"	18Spa@6=9-0"	-3/8"	2 1/2"	2 1/2"	2 1/2"	53-8 3/8"
↑ B	-1/2"	*18Spa@5=7-6"	*17Spa@6=8-6"	16Spa@4 1/2=6-0"	18Spa@6=9-0"	-1/2"	2 1/2"	2 1/2"	2 1/2"	51-9 3/8"
↓ C	-2 1/8"	*20Spa@4 1/2=7-6"	*17Spa@6=8-6"	15Spa@4 1/2=5-7 1/2"	16Spa@6=8-0"	-2"	2 1/2"	2 1/2"	2 1/2"	49-9 3/8"
↓ D	3/8"	*14Spa@5=5-10"	*17Spa@6=8-6"	15Spa@4 1/2=5-7 1/2"	18Spa@6=9-0"	3/8"	2 1/2"	2 1/2"	2 1/2"	47-9 3/8"
3R-E	1 1/8"	*16Spa@5=6-8"	*15Spa@6=7-6"	14Spa@4 1/2=5-3"	16Spa@6=8-0"	1"	2 1/2"	2 1/2"	2 1/2"	45-10 3/8"
4R-A	3/8"	*18Spa@5=7-6"	*19Spa@6=9-6"	17Spa@4 1/2=6-4 1/2"	18Spa@6=9-0"	3/8"	2 1/2"	2 1/2"	2 1/2"	54-7 3/8"
↑ B	-1 1/2"	*16Spa@5=6-8"	*18Spa@6=9-0"	15Spa@4 1/2=5-7 1/2"	18Spa@6=9-0"	-1 1/2"	2 1/2"	2 1/2"	2 1/2"	50-2"
↓ C	3/8"	*15Spa@5=6-3"	*14Spa@6=7-0"	15Spa@4 1/2=5-7 1/2"	18Spa@6=9-0"	3/8"	2 1/2"	2 1/2"	2 1/2"	45-8 3/8"
↓ D	-1 1/8"	C	*23Spa@5 1/2=10-6 1/2"	21Spa@4=7-0"	14Spa@6=7-0"	-1"	0	2"	2"	41-2 3/8"
4R-E	1 3/8"	0	*18Spa@5=7-6"	22Spa@4=7-4"	16Spa@6=8-0"	1 3/8"	0	2"	2"	37-2 3/8"
Span	a	b	c	d	e	f	g	h	k	L
5RAD	3-1 1/2"	*12Spa@4 1/2=4-6"	*14Spa@6=7-0"	27Spa@4=9-0"	16Spa@6=8-0"	*20Spa@4 1/2=7-6"	1 1/8"	2 1/2"	2"	54-2 3/8"
5R-E	3-2 1/2"	*12Spa@4 1/2=4-6"	*14Spa@6=7-0"	27Spa@4=9-0"	16Spa@6=8-0"	*20Spa@4 1/2=7-6"	2 1/2"	2 1/2"	2"	54-5"

Span	a	b	c	d	e	f	L	
1R-A	-1 1/8"	18Spa@5 1/2=8-3"	13Spa@7 1/2=8-1 1/2"	8Spa@10=6-8"	6Spa@1-2=7-0"	-1 3/8"	52-9 3/8"	
↑ B	-2 1/8"	16Spa@5 1/2=7-4"	13Spa@7 1/2=8-1 1/2"	8Spa@10=6-8"	6Spa@1-2=7-0"	-2 1/8"	50-10 3/8"	
↓ C	1- 1/8"	13Spa@5 1/2=6-10 1/2"	12Spa@7 1/2=7-6"	8Spa@10=6-8"	6Spa@1-2=7-0"	- 1/8"	49-0"	
↓ D	2 3/8"	14Spa@5 1/2=6-5"	13Spa@7 1/2=7-7"	7Spa@10=5-10"	6Spa@1-2=7-0"	2 3/8"	47-1 1/8"	
1R-E	-1 1/8"	17Spa@5 1/2=7-9 1/2"	9Spa@7 1/2=5-7 1/2"	7Spa@10=5-10"	6Spa@1-2=7-0"	-1 1/8"	45-2 1/2"	
2R-A	1 3/8"	18Spa@5 1/2=8-3"	12Spa@7 1/2=7-6"	9Spa@10=7-6"	6Spa@1-2=7-0"	1 3/8"	53-8 3/8"	
↑ B	2 3/8"	17Spa@5 1/2=7-9 1/2"	11Spa@7 1/2=6-10 1/2"	9Spa@10=7-6"	6Spa@1-2=7-0"	2 3/8"	51-9 3/8"	
↓ C	3/8"	17Spa@5 1/2=7-9 1/2"	11Spa@7 1/2=6-10 1/2"	8Spa@10=6-8"	6Spa@1-2=7-0"	3/8"	49-9 3/8"	
↓ D	-1 1/8"	17Spa@5 1/2=7-9 1/2"	11Spa@7 1/2=6-10 1/2"	7Spa@10=5-10"	6Spa@1-2=7-0"	-1 1/8"	47-9 3/8"	
2R-E	- 1/2"	15Spa@5 1/2=6-10 1/2"	13Spa@7=7-7"	6Spa@10=5-0"	6Spa@1-2=7-0"	- 3/8"	45-10 3/8"	
3R-A	1 3/8"	18Spa@5 1/2=8-3"	12Spa@7 1/2=7-6"	9Spa@10=7-6"	6Spa@1-2=7-0"	1 3/8"	53-8 3/8"	
↑ B	2 3/8"	17Spa@5 1/2=7-9 1/2"	11Spa@7 1/2=6-10 1/2"	9Spa@10=7-6"	6Spa@1-2=7-0"	2 3/8"	51-9 3/8"	
↓ C	3/8"	17Spa@5 1/2=7-9 1/2"	11Spa@7 1/2=6-10 1/2"	8Spa@10=6-8"	6Spa@1-2=7-0"	3/8"	49-9 3/8"	
↓ D	-1 1/8"	17Spa@5 1/2=7-9 1/2"	11Spa@7 1/2=6-10 1/2"	7Spa@10=5-10"	6Spa@1-2=7-0"	-1 1/8"	47-9 3/8"	
3R-E	- 1/2"	15Spa@5 1/2=6-10 1/2"	13Spa@7=7-7"	6Spa@10=5-0"	6Spa@1-2=7-0"	- 3/8"	45-10 3/8"	
4R-A	3/8"	17Spa@5 1/2=7-9 1/2"	13Spa@7 1/2=8-1 1/2"	8Spa@10=6-8"	8Spa@1-2=9-4"	3/8"	54-7 3/8"	
↑ B	1"	16Spa@5 1/2=7-4"	12Spa@7 1/2=7-6"	8Spa@10=6-8"	6Spa@1-2=7-0"	1"	50-2"	
↓ C	-3/8"	16Spa@5 1/2=7-4"	10Spa@7 1/2=6-3"	7Spa@10=5-10"	6Spa@1-2=7-0"	-3/8"	45-8 3/8"	
↓ D	-2 3/8"	12Spa@6=6-0"	10Spa@7 1/2=6-3"	6Spa@10=5-0"	6Spa@1-2=7-0"	-2 3/8"	41-2 3/8"	
4R-E	-1 3/8"	7Spa@6=3-6"	9Spa@7 1/2=5-7 1/2"	7Spa@10=5-10"	6Spa@1-2=7-0"	-1 3/8"	37-2 3/8"	
Span	a	b	c	d	e	f	L	
5RAD	3-3 3/8"	11Spa@8=5-6"	13Spa@7 1/2=8-1 1/2"	8Spa@10=6-8"	6Spa@1-2=7-0"	21Spa@5=8-9"	3/8"	54-2 3/8"
5R-E	3-5"	11Spa@8=5-6"	13Spa@7 1/2=8-1 1/2"	8Spa@10=6-8"	6Spa@1-2=7-0"	21Spa@5=8-9"	2"	54-5"

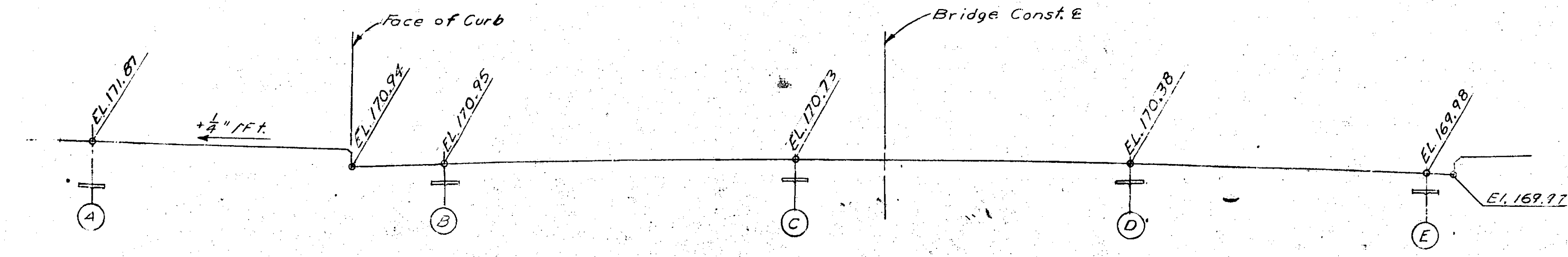
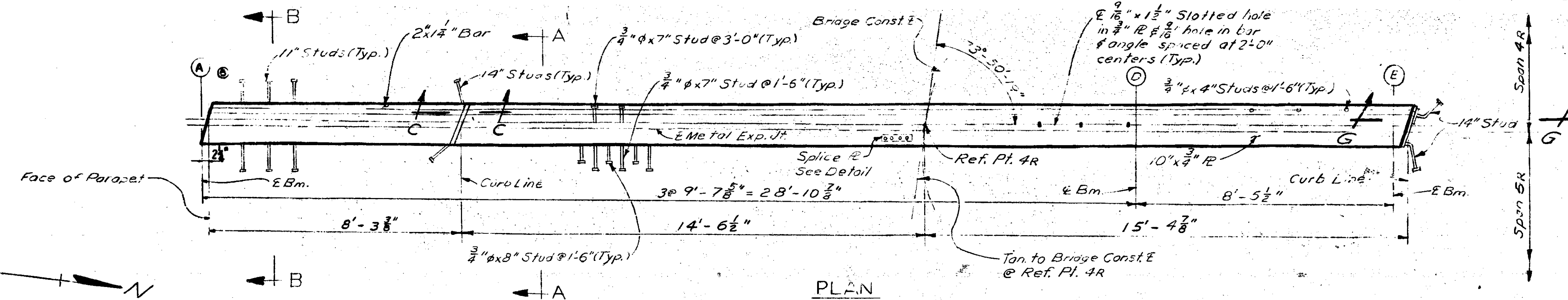
For notes & details not shown see sheet #56

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
SHEAR DEVELOPER DETAILS
SOUTH SERVICE DRIVE

REVISIONS			
NO.	DESCRIPTION	DATE	BY

DESIGNED BY	Woodard	5-22-68
DRAWN BY		
TRACKED BY	H.L. Moore	3-28-69
CHECKED BY	J. G. ...	5-22-68

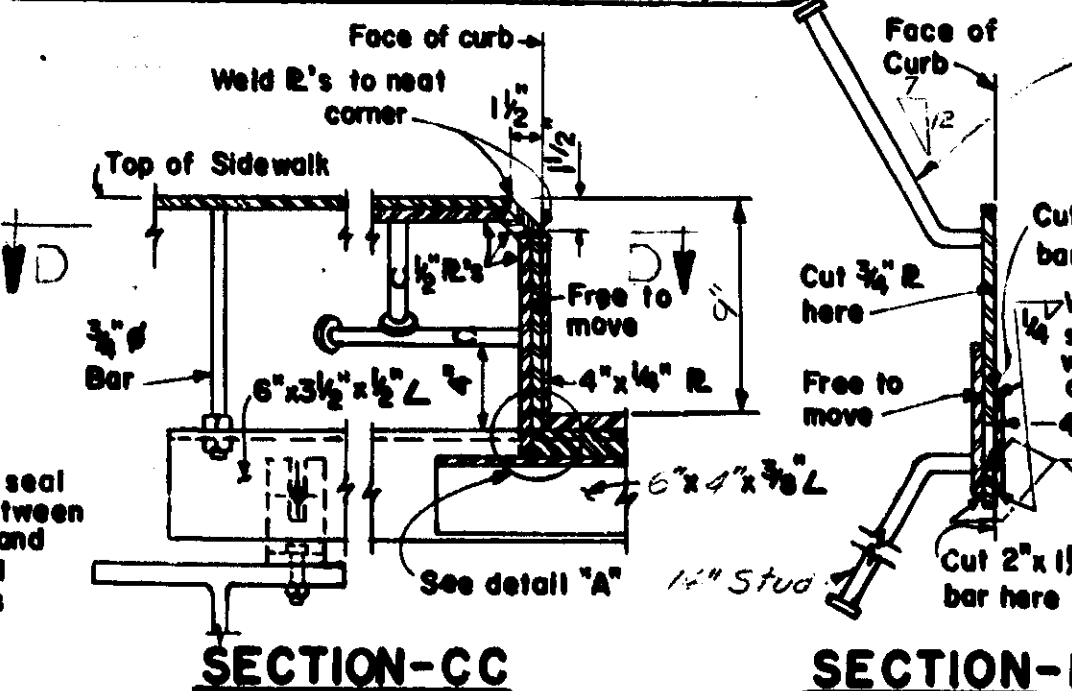
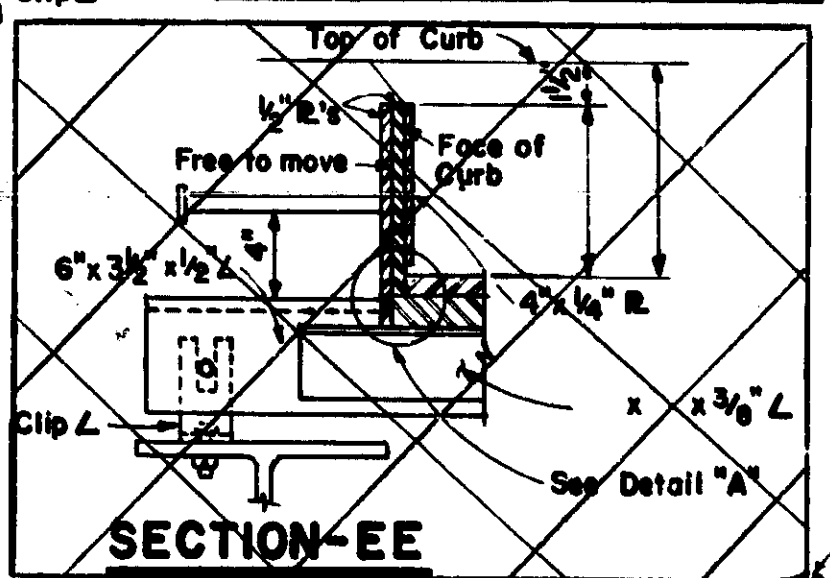
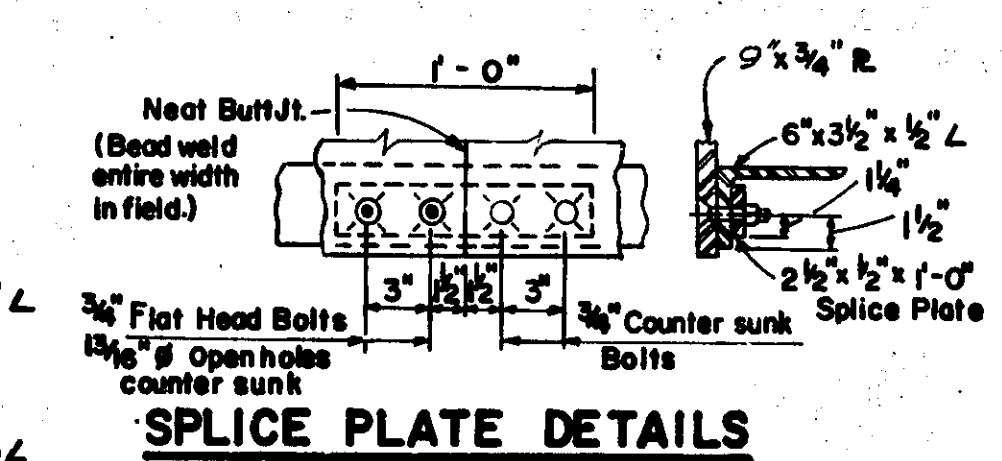
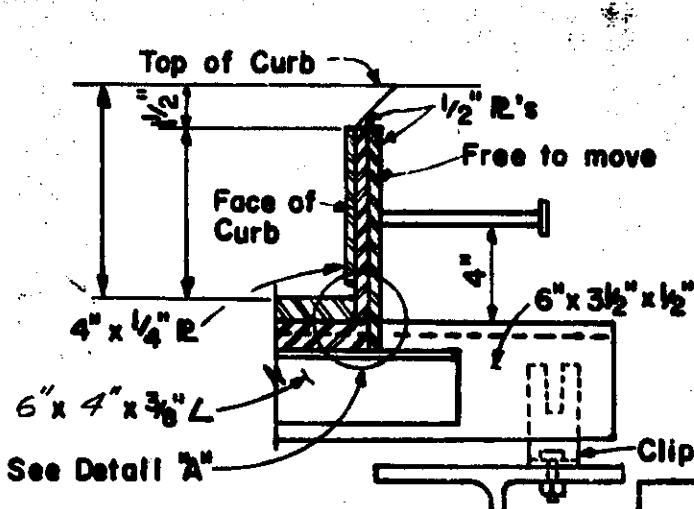
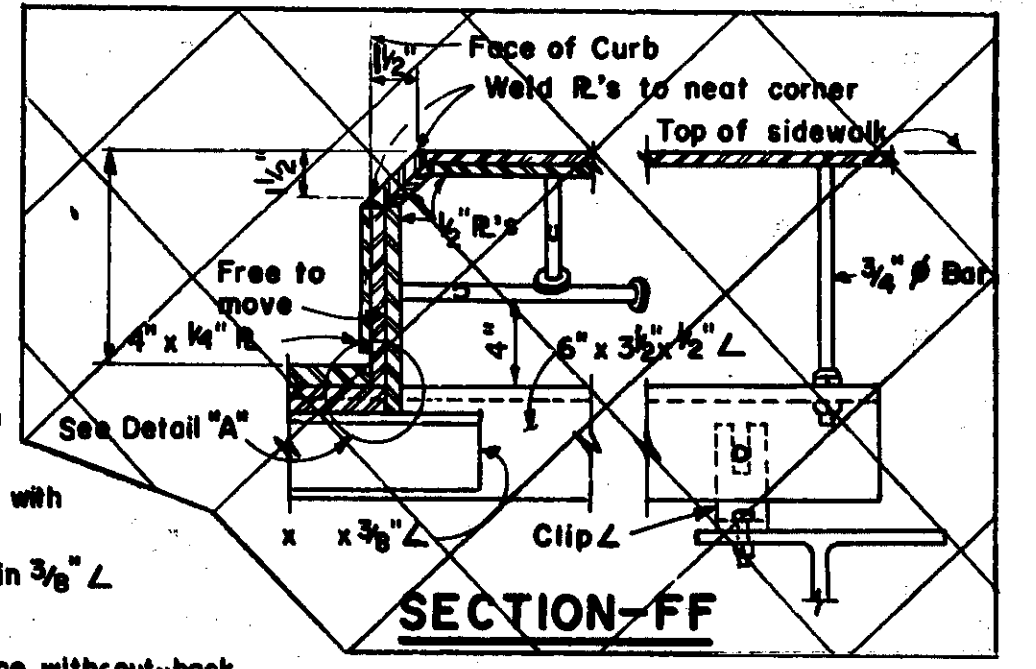
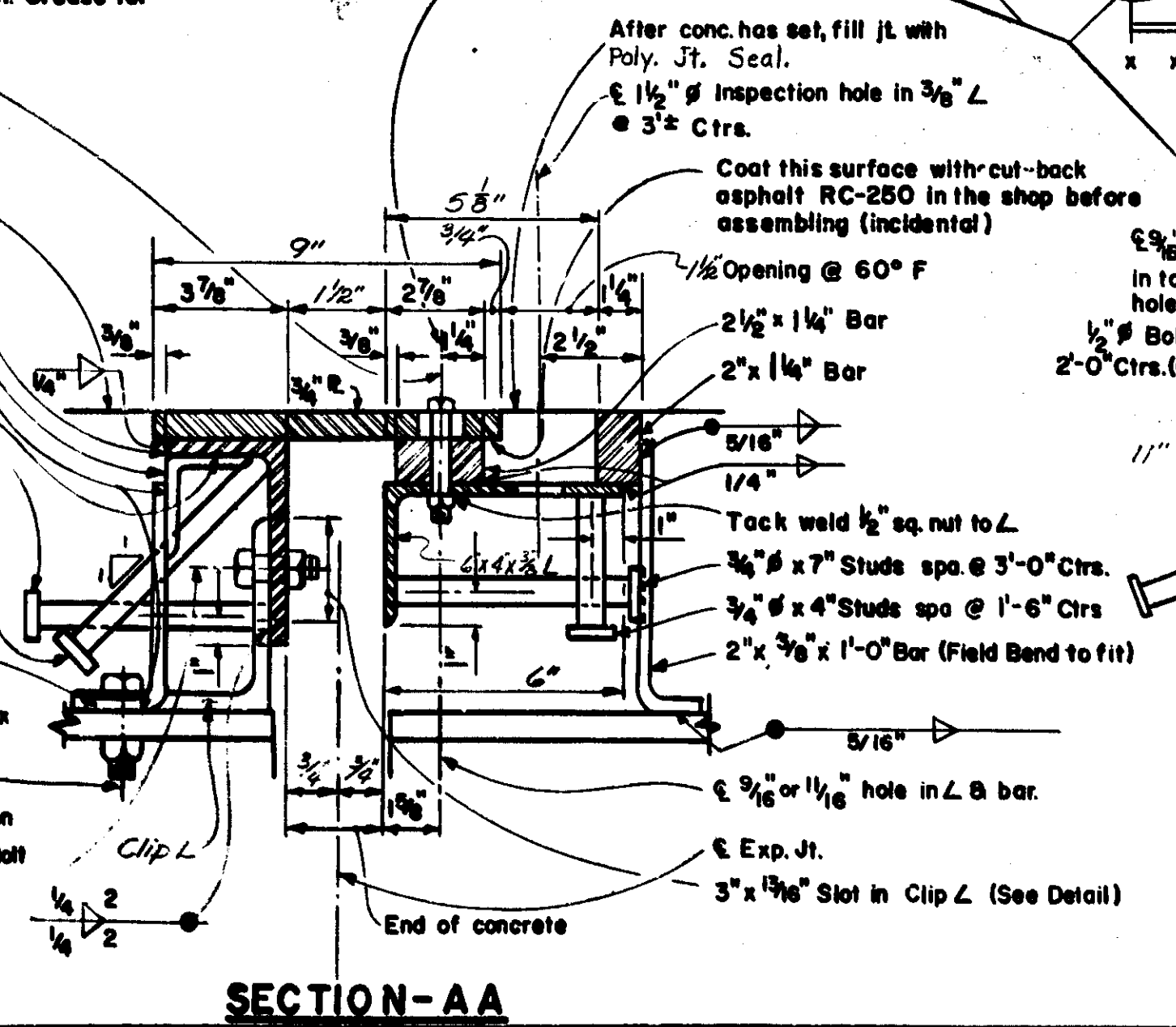
XO1 of 82122-K



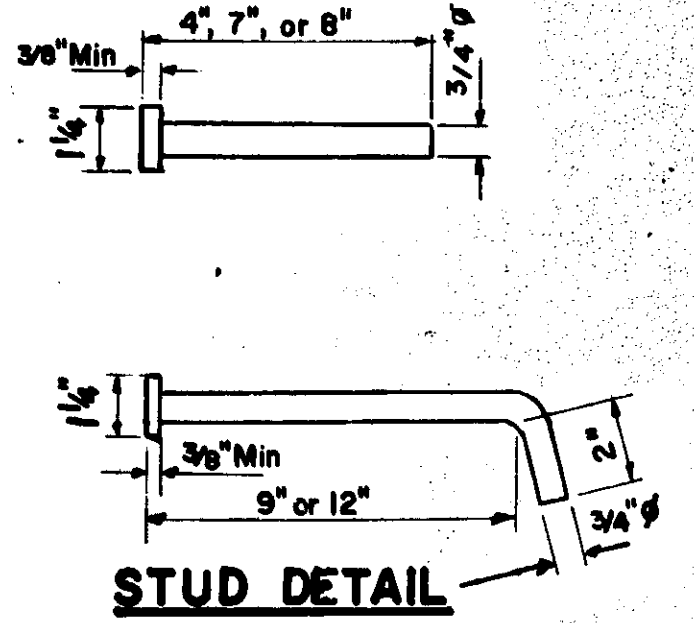
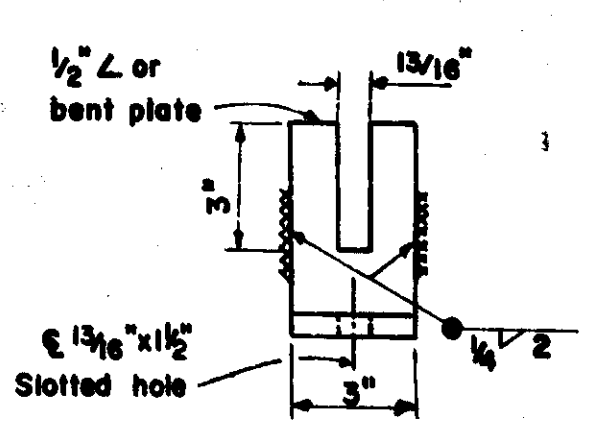
NOTE:
 3/8" Studs may be used instead of 1/2" Studs. The spacing of the 3/8" Studs shall be 2/3 of that shown for 1/2" Studs.

1/2" Bolt with sq head at 2'-0" Ctrs. Bolt to be loosened after 2" x 3/4" x 1'-0" bars are welded to beam flange to allow for temperature movements and removed after concrete has set. Grease for easy removal.

Top of conc. slab
 6" x 3 1/2" x 1/2" L
 3" x 2 1/2" x 3/8" x 3" L
 3/8" Bar @ 5/16"
 L to L @ 5/16"
 3/8" x 7" Stud spaced @ 1'-6"
 3/8" x 6" Stud spaced @ 1'-6"
 Alternate 7" x 6" Stud @ 9"
 2" x 3/8" x 1'-0" Bar (Field bend to fit)
 1/2" slotted hole in flange @ 1/2" x 1/2" x 1/2" slotted holes in Clip L
 1/2" slotted hole for 3/8" erection Bolt & Washer in 1/2" L. Remove Bolt before placing concrete.



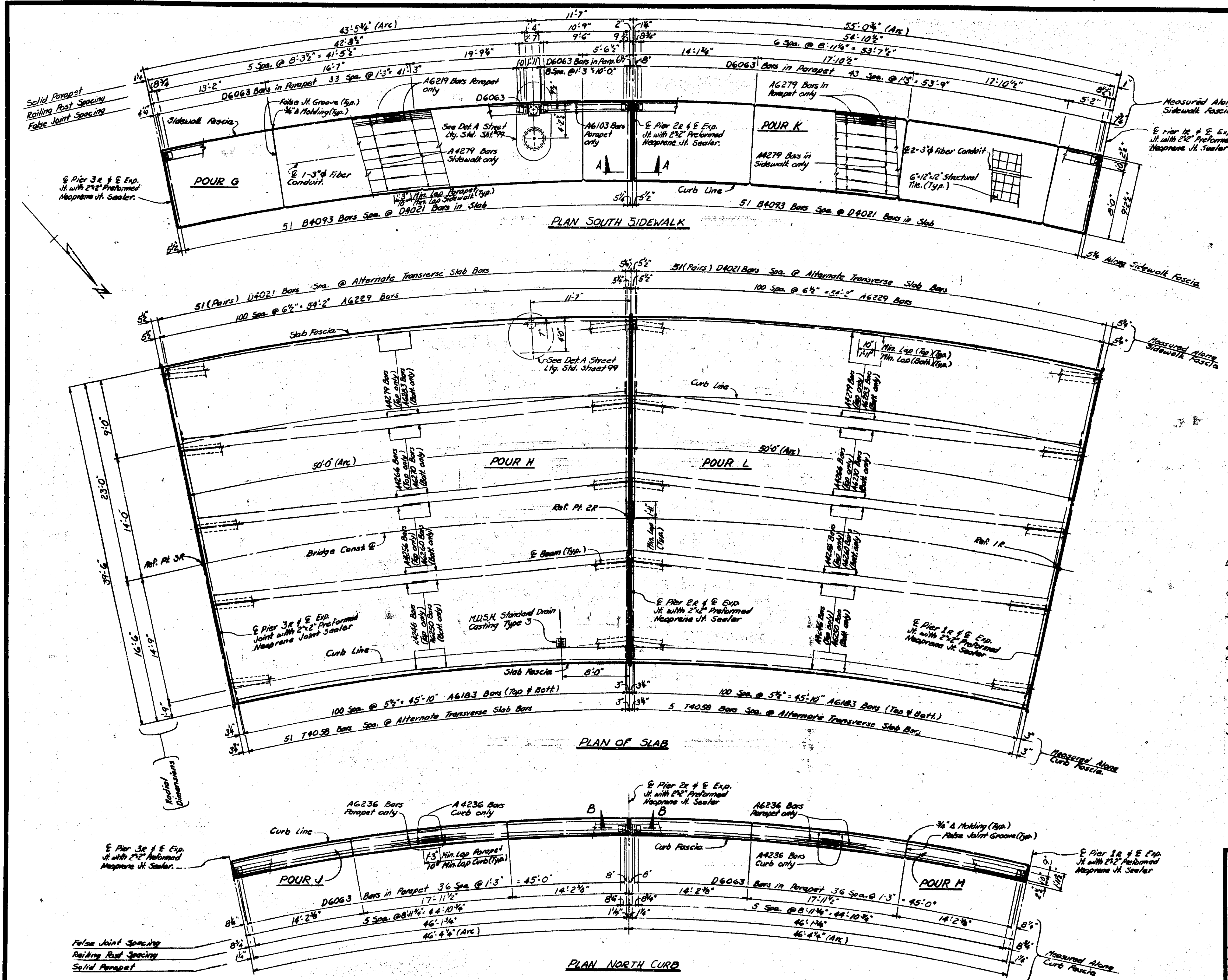
NOTES:
 1. The Metal Expansion Joint shall be bent in the shop to conform with the contour of the top of roadway slab.
 2. Polyurethane Cold Applied Joint Sealer is included in the Superstructure Quantities.
 3. Weight of the Metal Expansion Joint is included in the Structural Steel weight on sheet 57.
 4. Poly. Jt. Seal. indicates Two Component Polyurethane Cold Applied Joint Sealer.



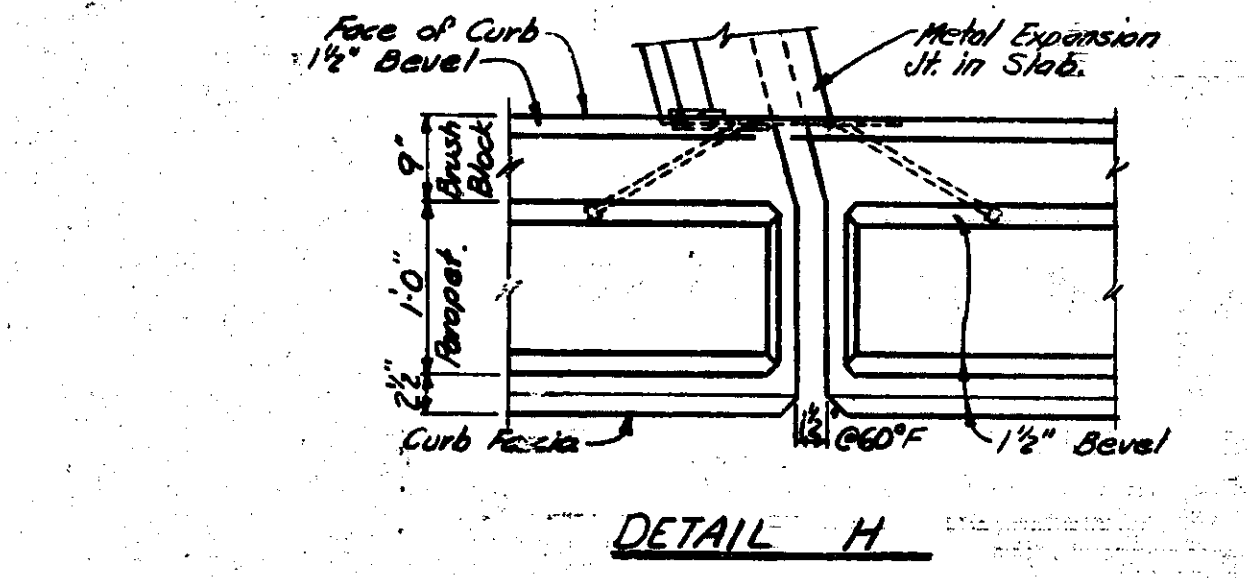
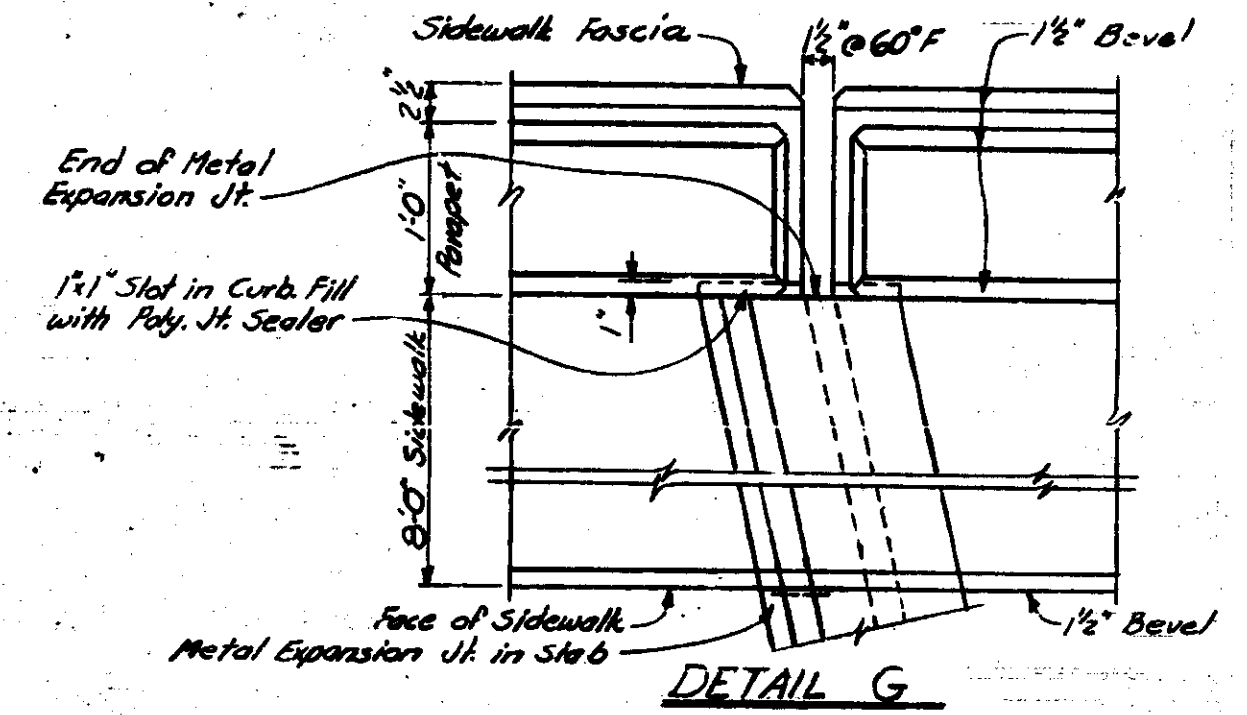
**MICHIGAN DEPARTMENT OF STATE HIGHWAYS
 METAL EXPANSION JOINT DETAILS
 SOUTH SERVICE DRIVE**

NO.	REVISIONS	DATE	BY
1	Revised. Min. Plate Error @ 8mm @ 1.17-67	5-23-67	B.L.T.

DRAWN BY: Woodward
 CHECKED BY: CAB
 SHEET 6 OF 10
XO1 of 82122 K



MISCELLANEOUS QUANTITIES		
ITEM	UNIT	AMOUNT
Water Reducing Retarding Admixture	Gal.	39
2" Preformed Neoprene Joint Sealer	Lin. Ft.	125.0
Bridge Rolling Solid Parapet Type	Lin. Ft.	506.4
3" Fiber Ducts	Lin. Ft.	375
Protective Treatment for Bridge Decks	Sq. Ft.	10245
12"x12"x6" Structural Tile	Each	1320
Drain Casting Type 3	Each	2
Handhole, Frame and Cover	Each	1
Two Component Polyurethane Cold Applied Jt. Sealer	Lin. Ft.	43



NOTES:

- JWP denotes Joint Waterproofing
- Poly. Jt. Sealer indicates Two Component Polyurethane Cold Applied Joint Sealer
- For details of drain castings, bevels, molding and Bridge Rolling, see Standard Sheet R16.
- Edge or grooves denote edging or grooving with an approved tool. Sidewalk pours shall not be cast until slab concrete has attained at least 50% of its design strength as determined by Section 5.01.05 of the Standard Specifications.
- Alphabetical designation of pours is not to be construed as a pour sequence.
- For details of Street Lighting Standard see sheet #99.
- For details of Deck Drainage see sheet #67.
- Protective Treatment for Bridge Decks is to be applied to all superstructure concrete surfaces between fascia lines. (See Supplemental Specification.)

Work this sheet with sheets # 104, 106, 107 & 108.

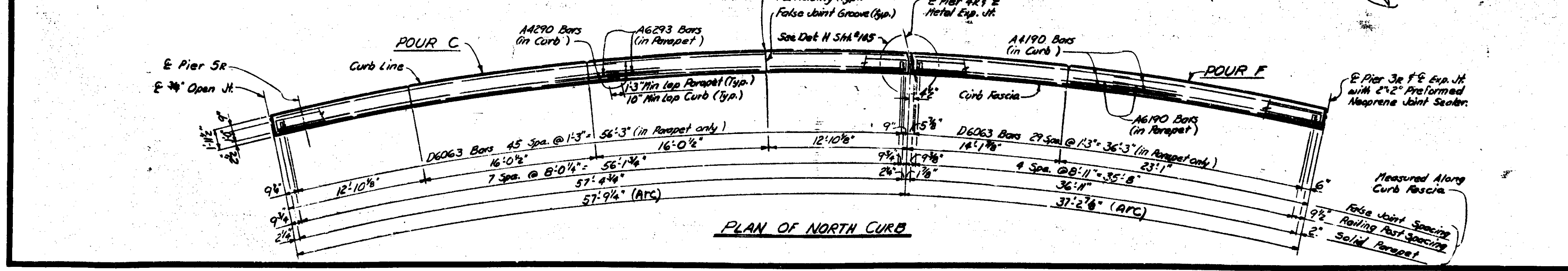
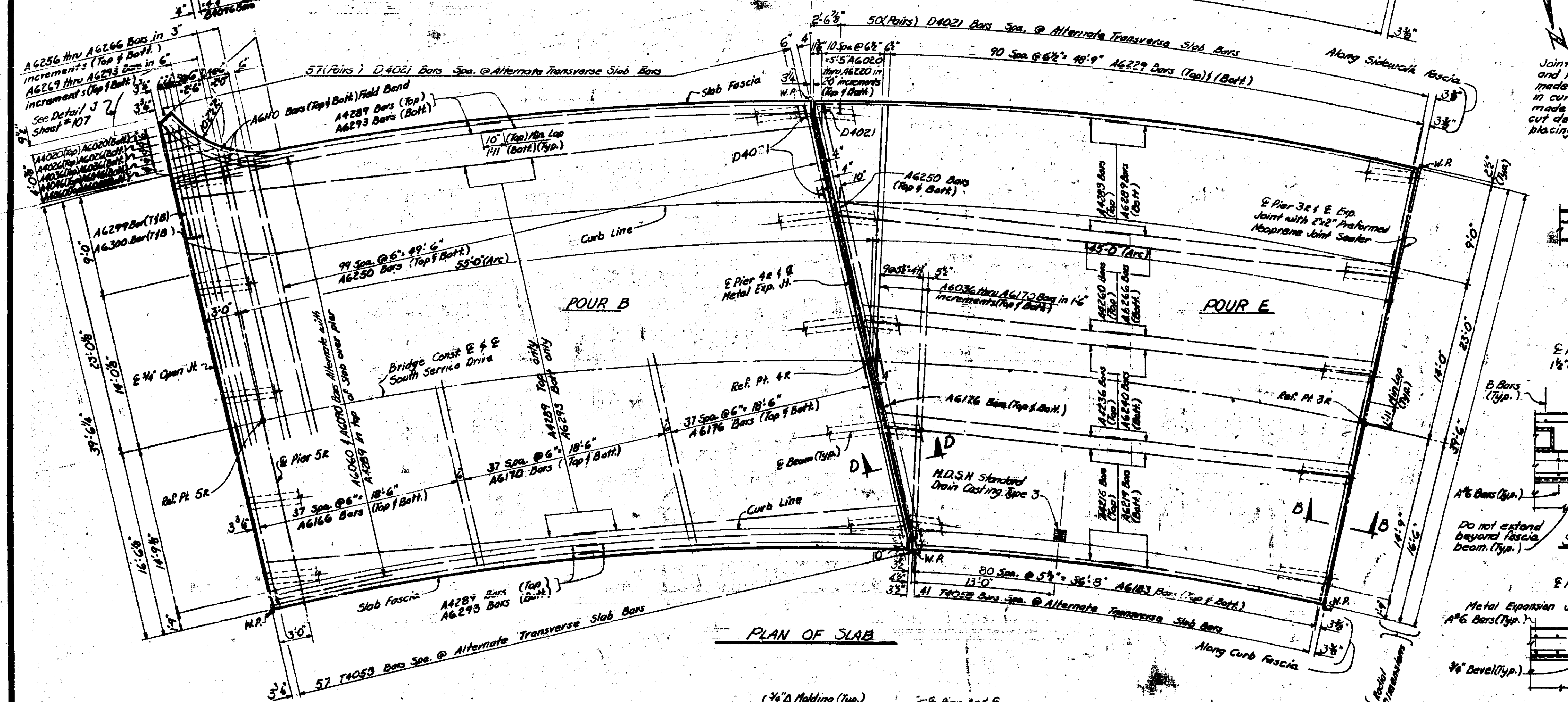
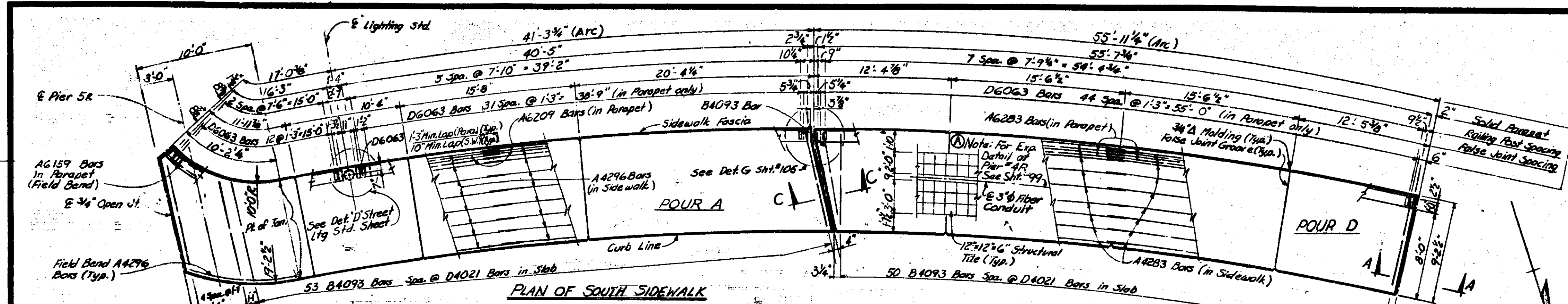
MICHIGAN DEPARTMENT OF STATE HIGHWAYS
SUPERSTRUCTURE DETAILS
SOUTH SERVICE DRIVE

REVISIONS			
NO.	DESCRIPTION	DATE	BY

DESIGNED BY	WOODARD	6-14-61
DRAWN BY	R	6-11-61
CHECKED BY	H.N.B.	6-12-61
DATE		

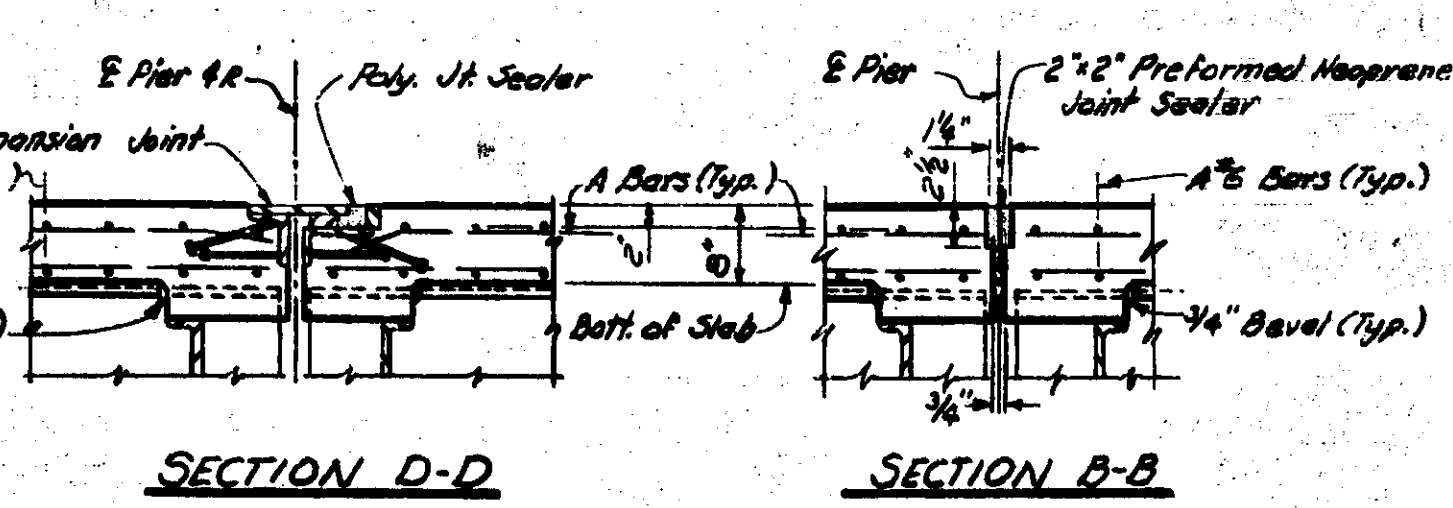
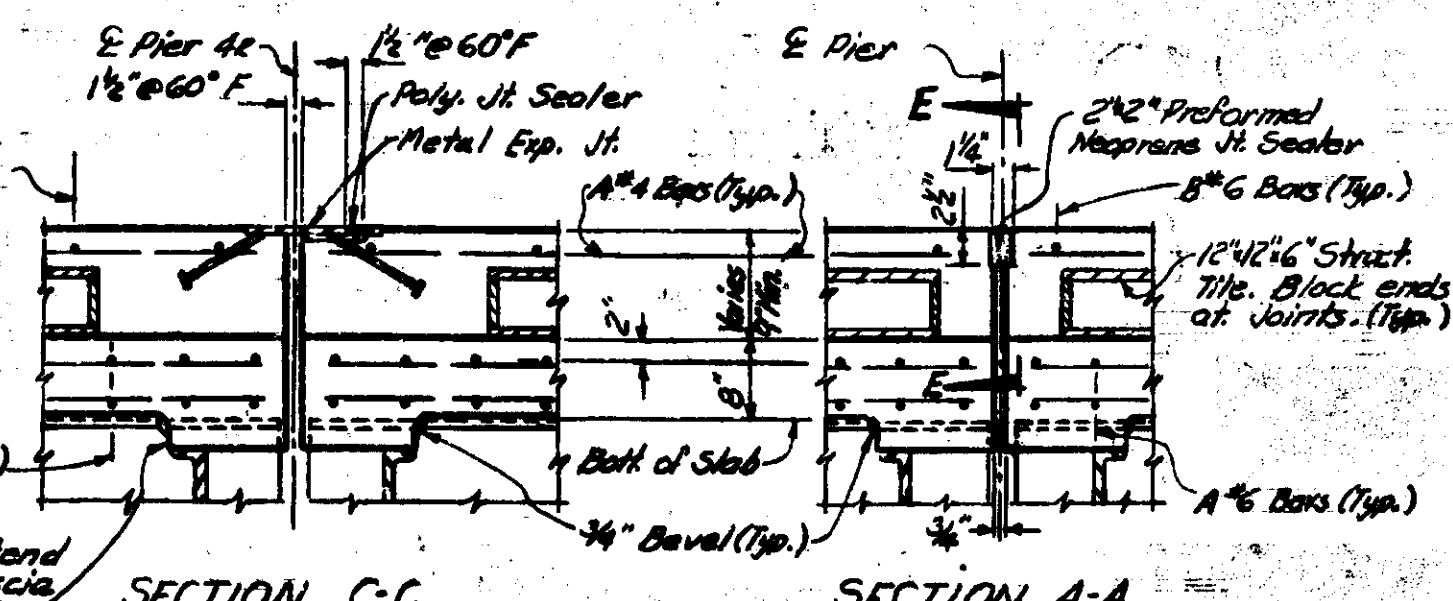
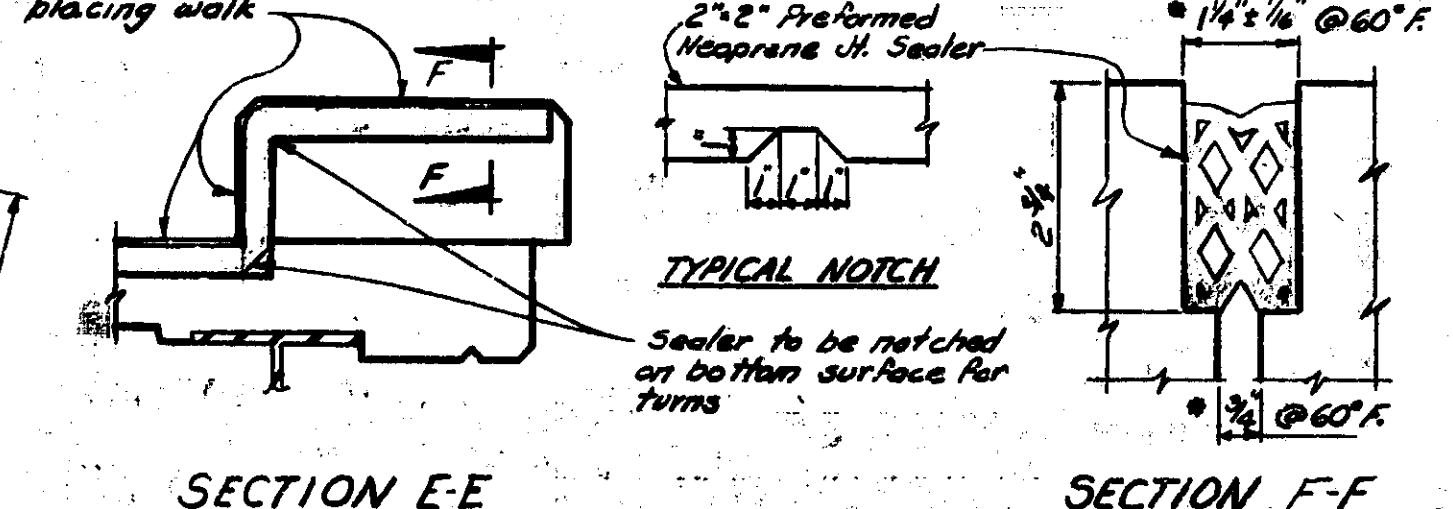
NO. 105 OF 108

CONCRETE QUANTITIES GRADE A(GAA)			
POUR	Cu. Yds.	POUR	Cu. Yds.
A	11.2	J	2.5
B	61.3	K	10.2
C	3.1	L	52.0
D	10.2	M	2.5
E	48.1	N	10.2
F	2.0	O	58.2
G	10.2	P	2.5
H	52.0	Q	
Total Cu. Yds.		336.2	



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

* Increase by 1/8" for each 10° of beam temperature below 60°F for each 70' of slab length or decrease by 1/8" for each 10° of beam temperature above 60°F for each 70' of slab length.



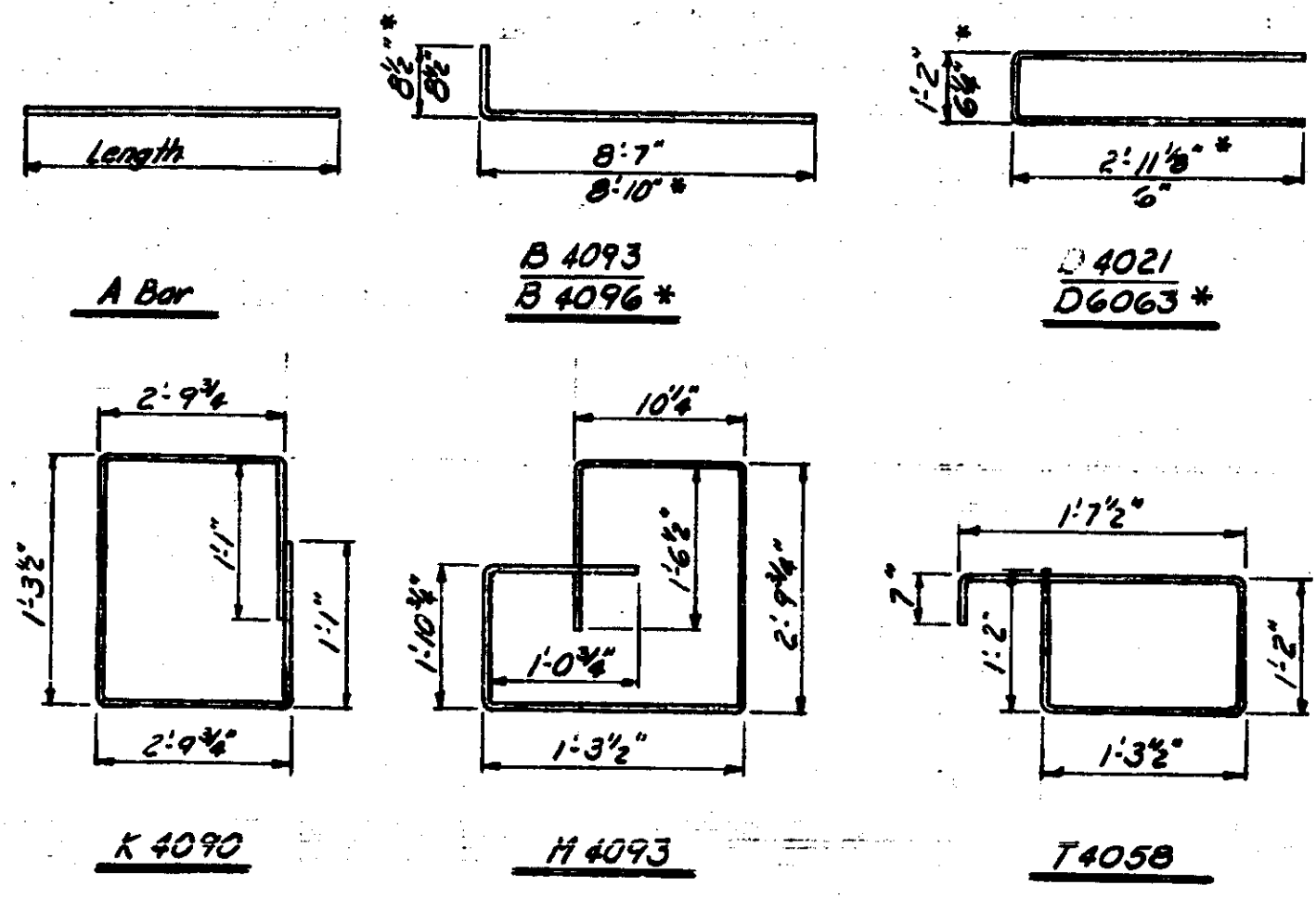
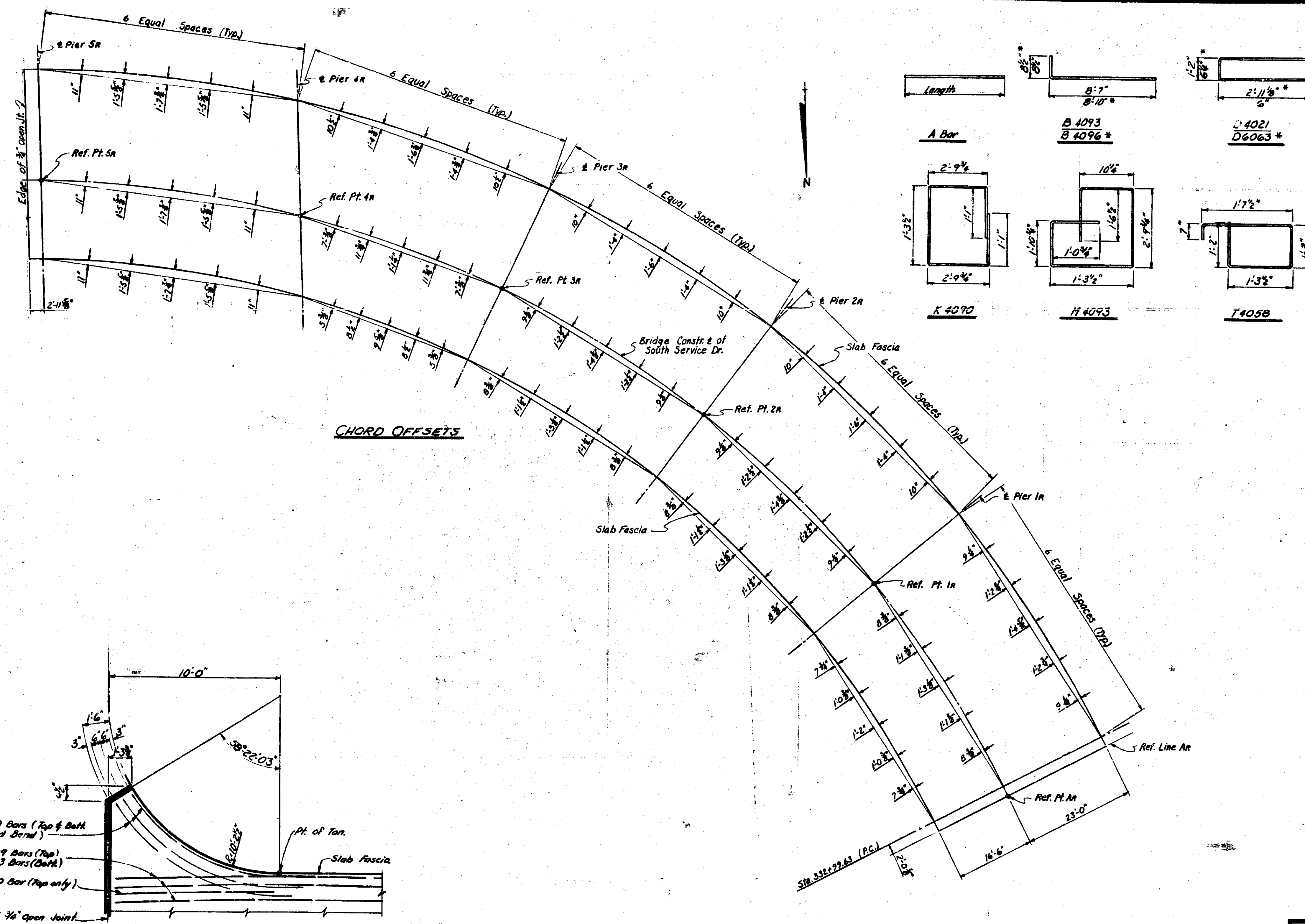
Work this sheet with sheets 104, 105, 107 & B2

**MICHIGAN DEPARTMENT OF STATE HIGHWAYS
SUPERSTRUCTURE DETAILS
SOUTH SERVICE DRIVE**

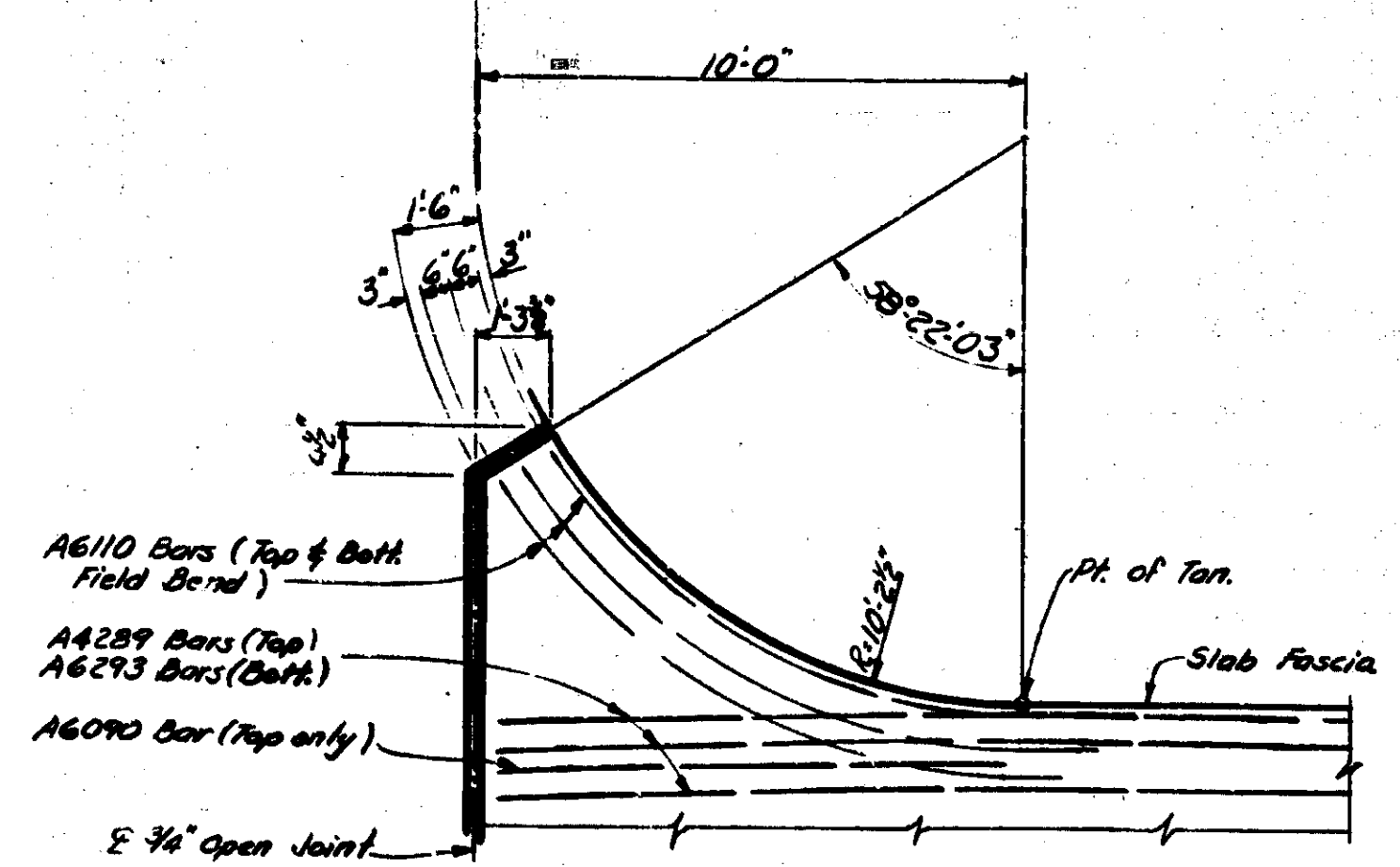
REVISIONS			
NO.	DESCRIPTION	DATE	BY
(1)	Expansion Joint at Pier #4-R	11-5-88	SMR

DRAWN BY: [Signature]
 CHECKED BY: [Signature]
 DATE: 10-6-88

XO1 of 82122K



STEEL REINFORCEMENT					
MARK	NR REQD	WEIGHT	MARK NR REQD WEIGHT		
A 4020	1	1	A 6209	12	374
A 4026	1	2	A 6219	34	1171
A 4036	1	2	A 6220	2	66
A 4046	1	3	A 6229	782	26721
A 4060	1	4	A 6236	36	1271
A 4176	11	129	A 6240	18	649
A 4190	10	127	A 6249	22	818
A 4216	18	258	A 6250	249	9312
A 4230	11	169	A 6256	2	77
A 4243	18	292	A 6259	20	774
A 4246	36	589	A 6260	38	1484
A 4253	12	202	A 6263	2	79
A 4256	24	409	A 6266	20	792
A 4260	12	208	A 6269	20	804
A 4263	12	210	A 6270	36	1460
A 4266	24	425	A 6273	2	82
A 4276	16	294	A 6278	26	1084
A 4279	98	1817	A 6280	22	925
A 4283	38	717	A 6283	58	2461
A 4289	58	1114	A 6289	24	1036
A 4290	10	194	A 6293	94	4129
A 4296	22	434	A 6299	2	89
A 4236	42	657	A 6300	4	180
A 6020	5	9	B 4093	257	1588
A 6026	1	4	B 4096	5	32
A 6036	3	16			
A 6040	2	12			
A 6046	1	7			
A 6030	2	15			
A 6060	17	183	D 4021	523	727
A 6046	2	49	D 6063	411	3857
A 6080	4	48			
A 6090	14	189			
A 6096	2	29			
A 6120	2	30			
A 6103	6	92	K 4090	7	42
A 6110	8	132			
A 6120	2	36			
A 6126	2	38			
A 6140	4	84			
A 6156	2	47	M 4093	19	117
A 6159	6	142			
A 6160	2	48			
A 6166	76	1883			
A 6170	78	1991			
A 6176	80	2103	T 4058	251	989
A 6180	2	54			
A 6183	762	20886			
A 6190	12	342			
A 6200	2	60			
TOTAL WEIGHT				388512	



STEEL REINFORCEMENT DESIGNATIONS
 The first digit of a reinforcing bar number denotes the bar size; the last three digits denote the total length, thus:
 A 4020 = #4 bar 2'-0" long.
 A 6300 = #6 bar 30'-0" long.
 T 4058 = #4 bar 5'-8" long, bent to the shape indicated on the details.

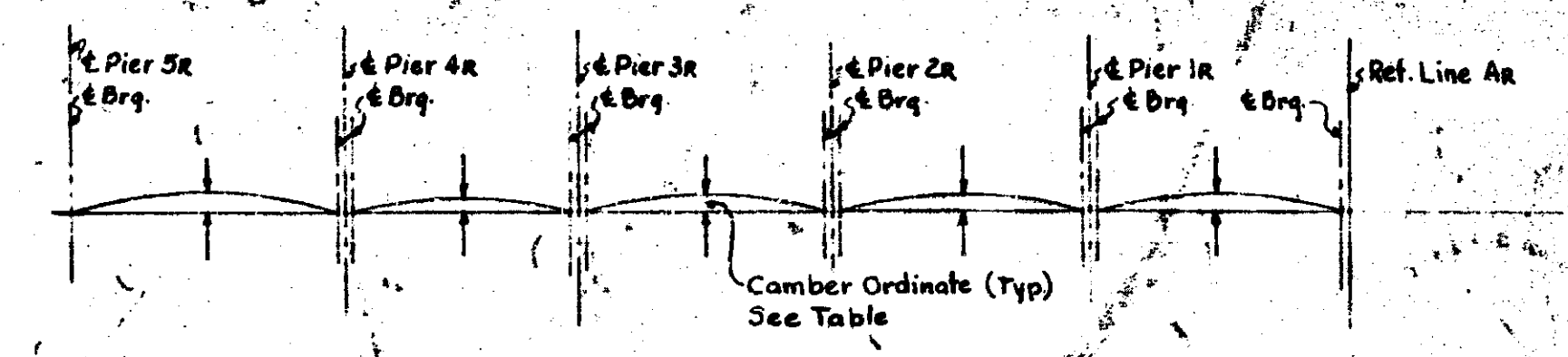
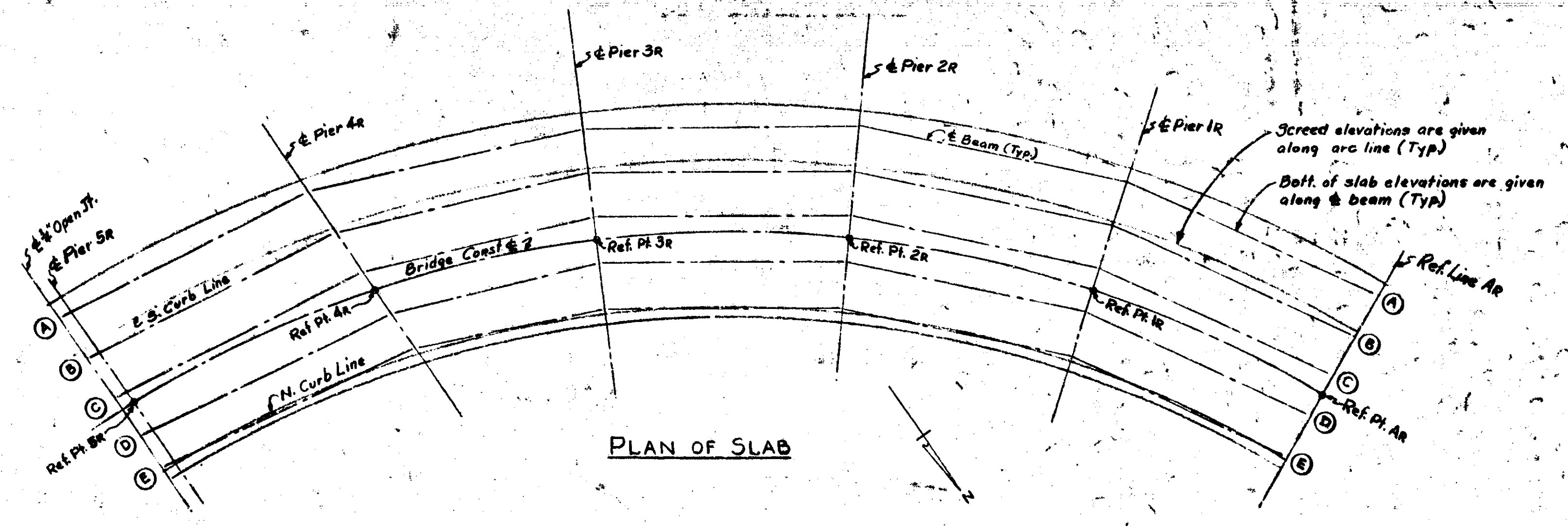
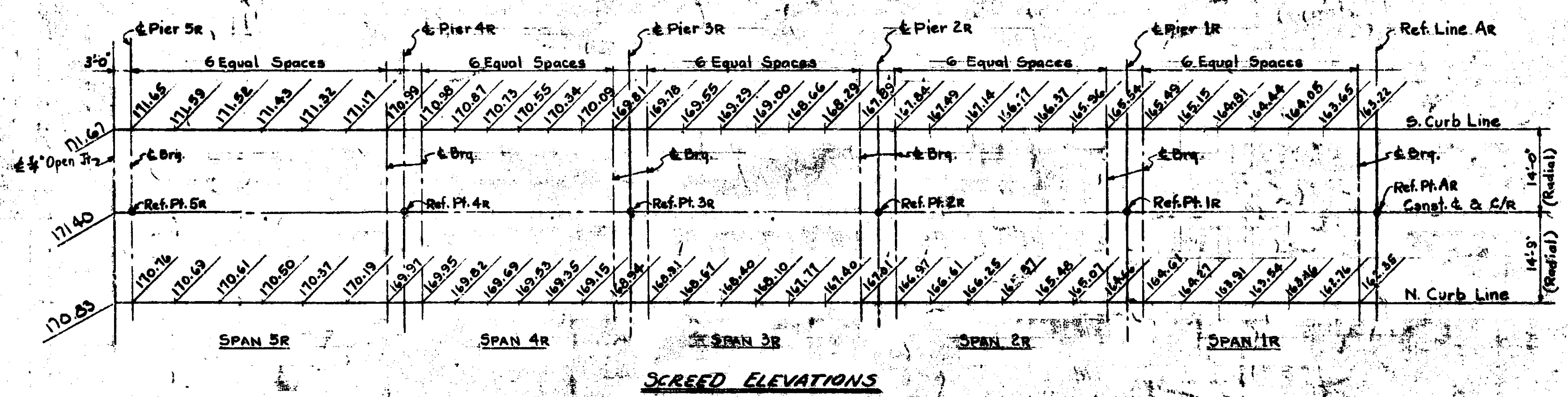
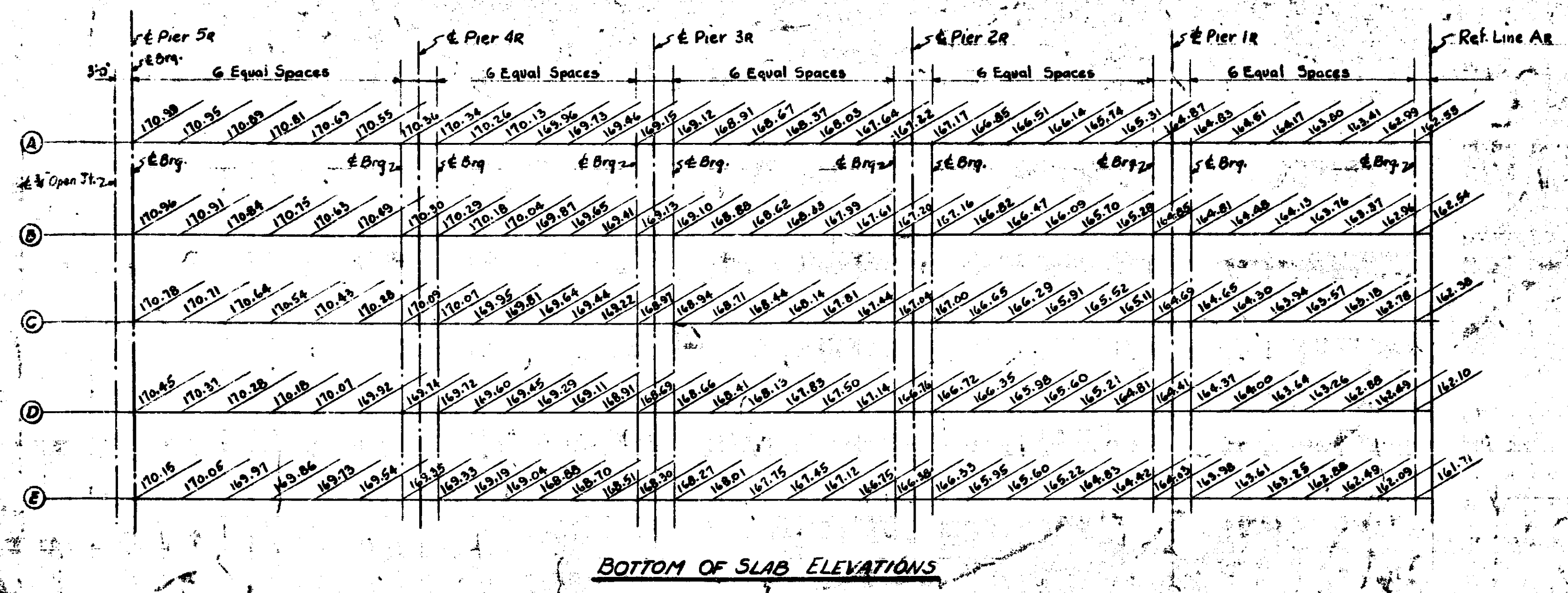
Work this sheet with sheets 104, 105 & 106.

MICHIGAN DEPARTMENT OF STATE HIGHWAYS
SUPERSTRUCTURE DETAILS
SOUTH SERVICE DRIVE

REVISIONS			
NO.	DESCRIPTION	DATE	BY

DESIGNED BY	Woodward	5-27-68
DRAWN BY	JC	5-20-68
CHECKED BY	DTA	5-25-68

X01 of 82122 K



**Structural Steel Erected
(No Other Loads Applied)**

Beam	Span 5R	Span 4R	Span 3R	Span 2R	Span 1R
A	-1 1/8"	-2 1/4"	-2 1/4"	-1 1/8"	-1 1/8"
B	-1 1/8"	-1 1/8"	-2"	-1"	-1"
C	-1 1/8"	-1 1/8"	-1 1/8"	-1/2"	-1/2"
D	-1"	-1"	-1 1/8"	-1/2"	-1/2"
E	-1 1/8"	-1/2"	-1 1/2"	-1/2"	-1/2"

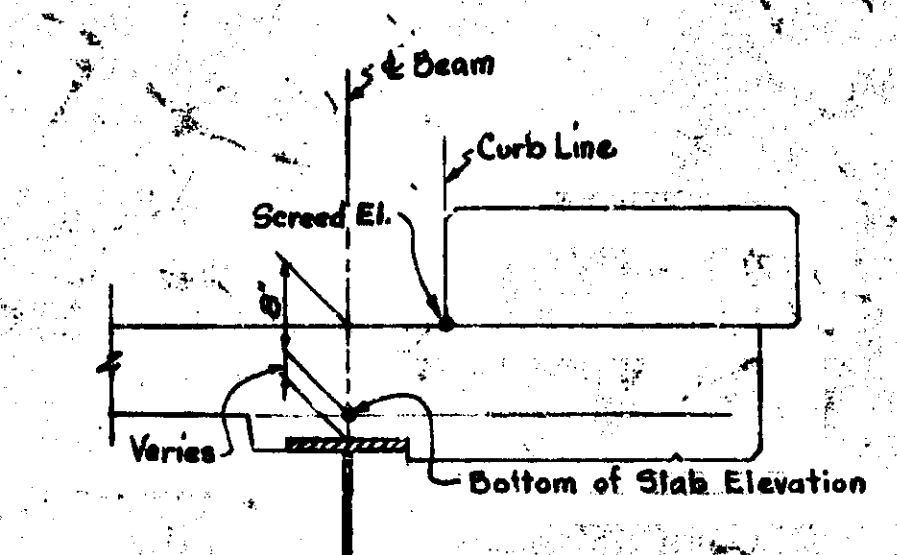
**Forms, shear developers and steel reinforcement in place.
(All Spans Complete)**

Beam	Span 5R	Span 4R	Span 3R	Span 2R	Span 1R
A	-1"	-1 1/8"	-1 1/8"	-1/2"	-1/2"
B	-1"	-1 1/8"	-1 1/8"	-1/2"	-1/2"
C	-1/2"	-1 1/8"	-1 1/8"	-1/2"	-1/2"
D	-1/2"	-1 1/8"	-1 1/8"	-1/2"	-1/2"
E	-1"	-1/2"	-1 1/8"	-1/2"	-1/2"

**Deck Concrete Cast.
(All Spans Complete)**

Beam	Span 5R	Span 4R	Span 3R	Span 2R	Span 1R
A	0	-1/8"	-1/8"	+1/8"	+1/8"
B	0	-1/8"	-3/8"	+1/8"	+1/8"
C	0	-1/8"	-3/8"	+1/8"	+1/8"
D	+1/8"	-1/8"	-1/8"	+1/8"	+1/8"
E	0	-1/8"	-3/8"	+1/8"	+1/8"

(-) Indicates Camber Remaining
(+) Indicates Deflection (Ordinate below straight line)



TYPICAL SECT THRU BEAMS

NOTES:

Screed elevations are based on the condition that no deck concrete has been cast and that formwork, steel reinforcement and shear developers are in place.

Bottom of slab elevations are based on the condition that all structural steel has been erected but no other loads applied. These elevations include allowances for deflection due to forms, steel reinforcement, shear developers in place, deck concrete and railing.

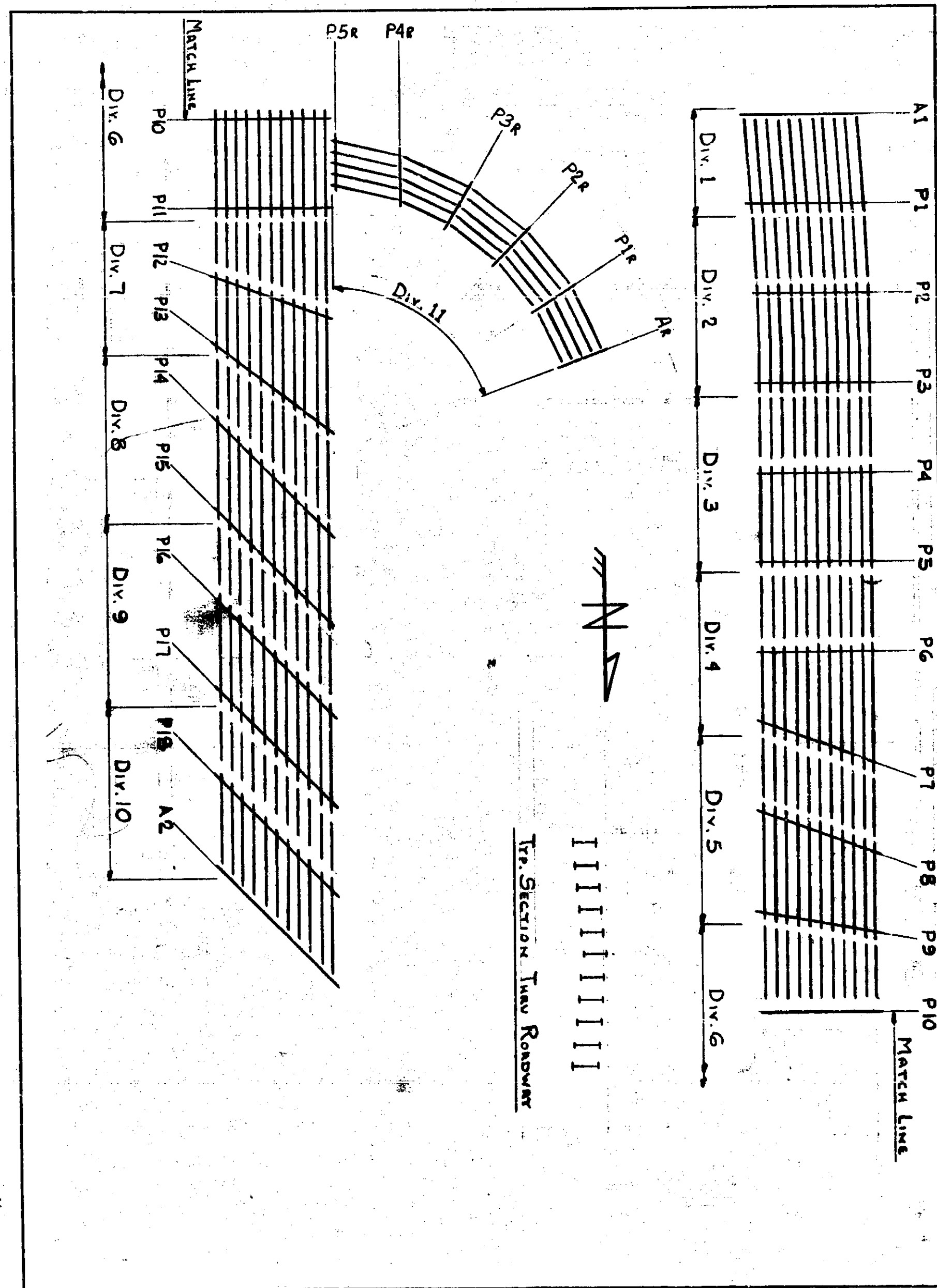
Transverse strike-off finishing machine is to be used in placing deck concrete.

Work this Sheet with Sheets 104, 105, 106 & 107.

**MICHIGAN DEPARTMENT OF STATE HIGHWAYS
SUPERSTRUCTURE DETAILS
SOUTH SERVICE DRIVE**

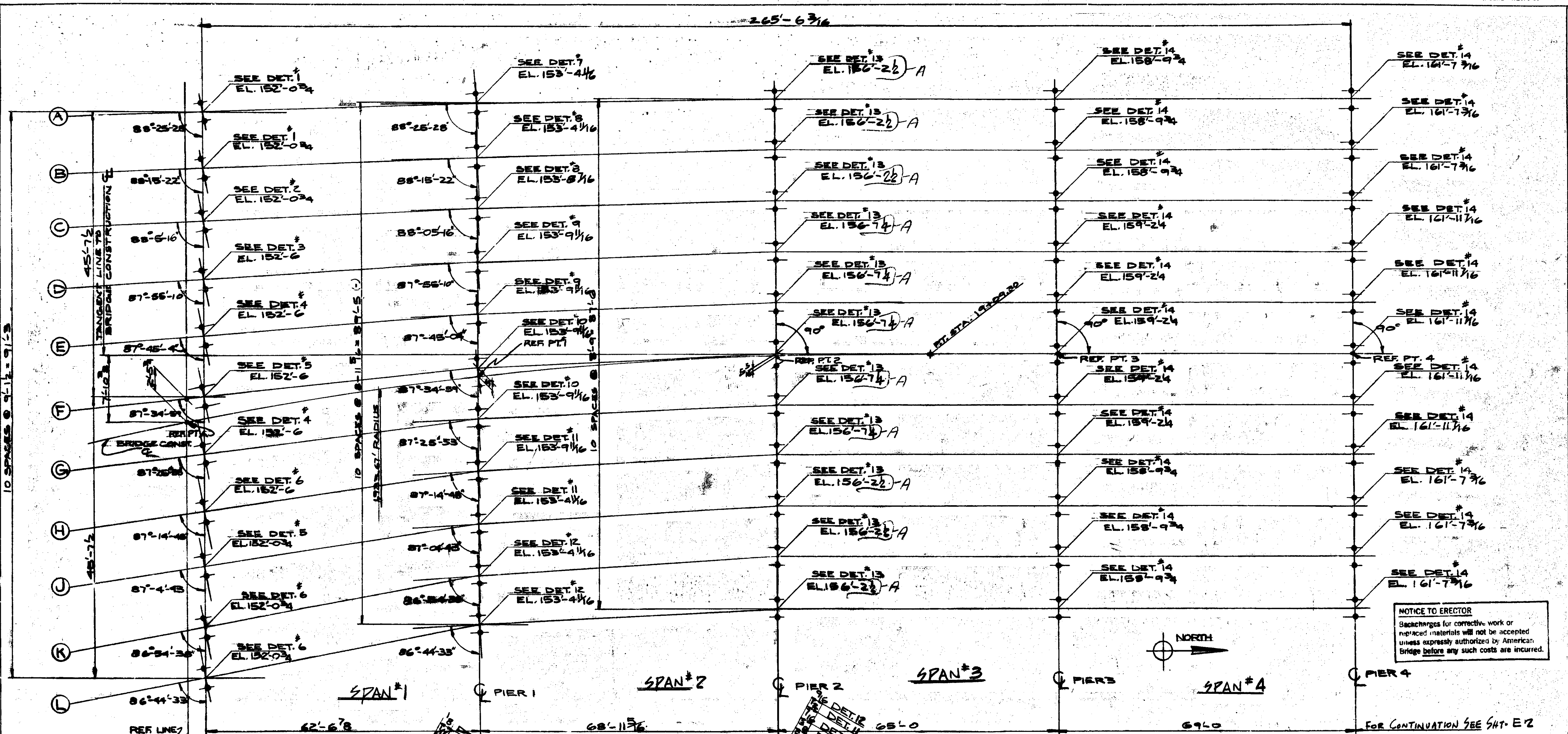
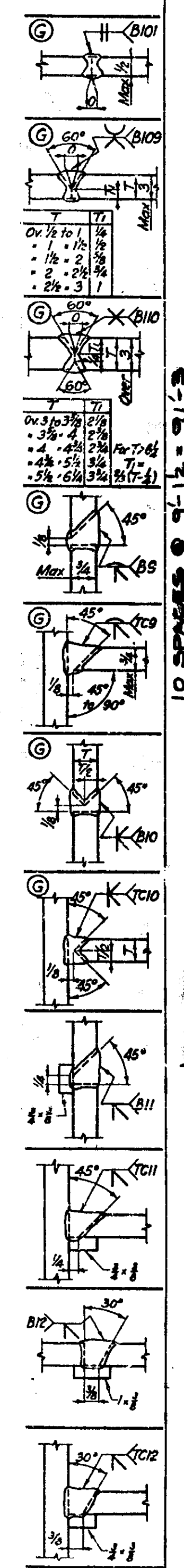
REVISIONS			
NO.	DESCRIPTION	DATE	BY

ROAD NO. 104
 DRAWN BY WOODARD 5-23-67
 CHECKED BY DRA 2-28-68
 SHEET 104 OF 105
XO1 of 82122 K

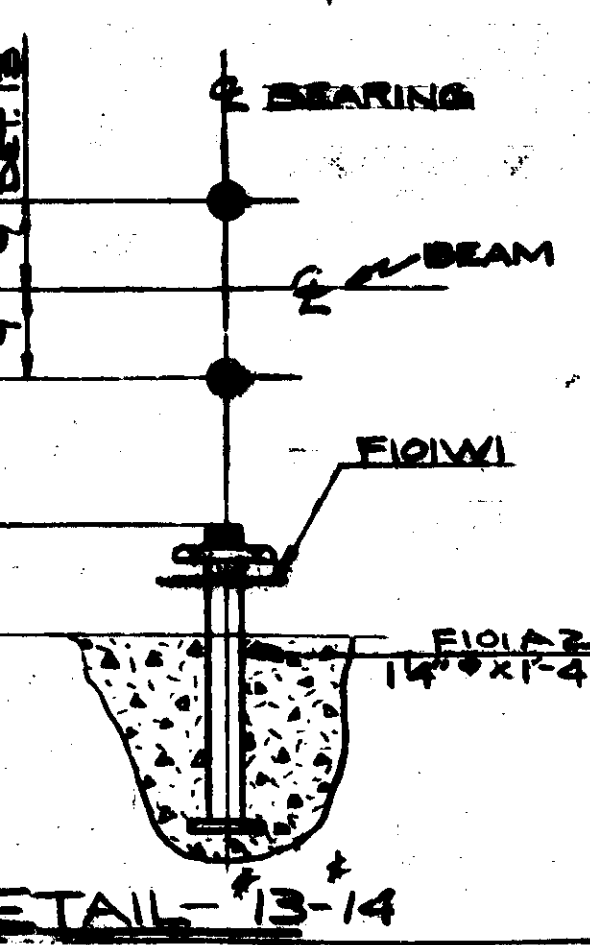
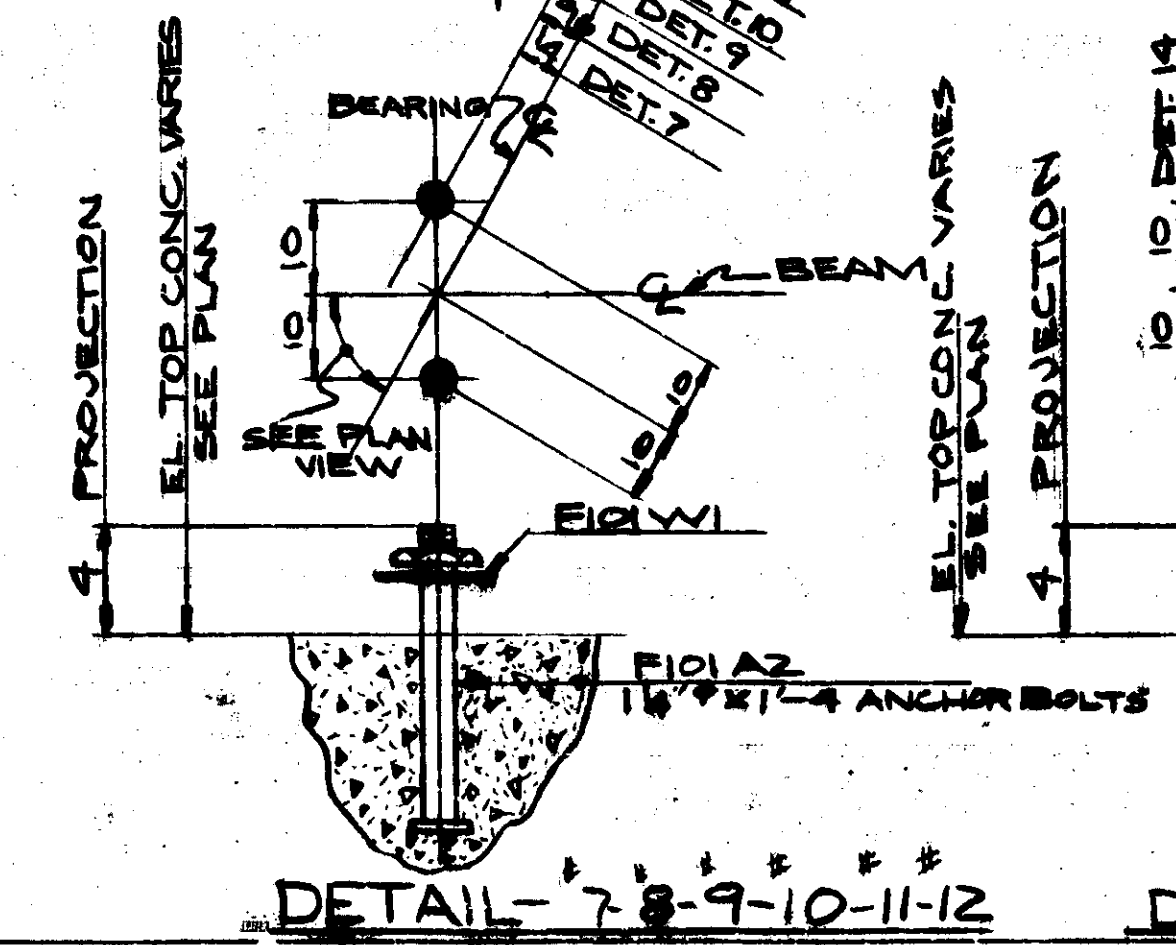
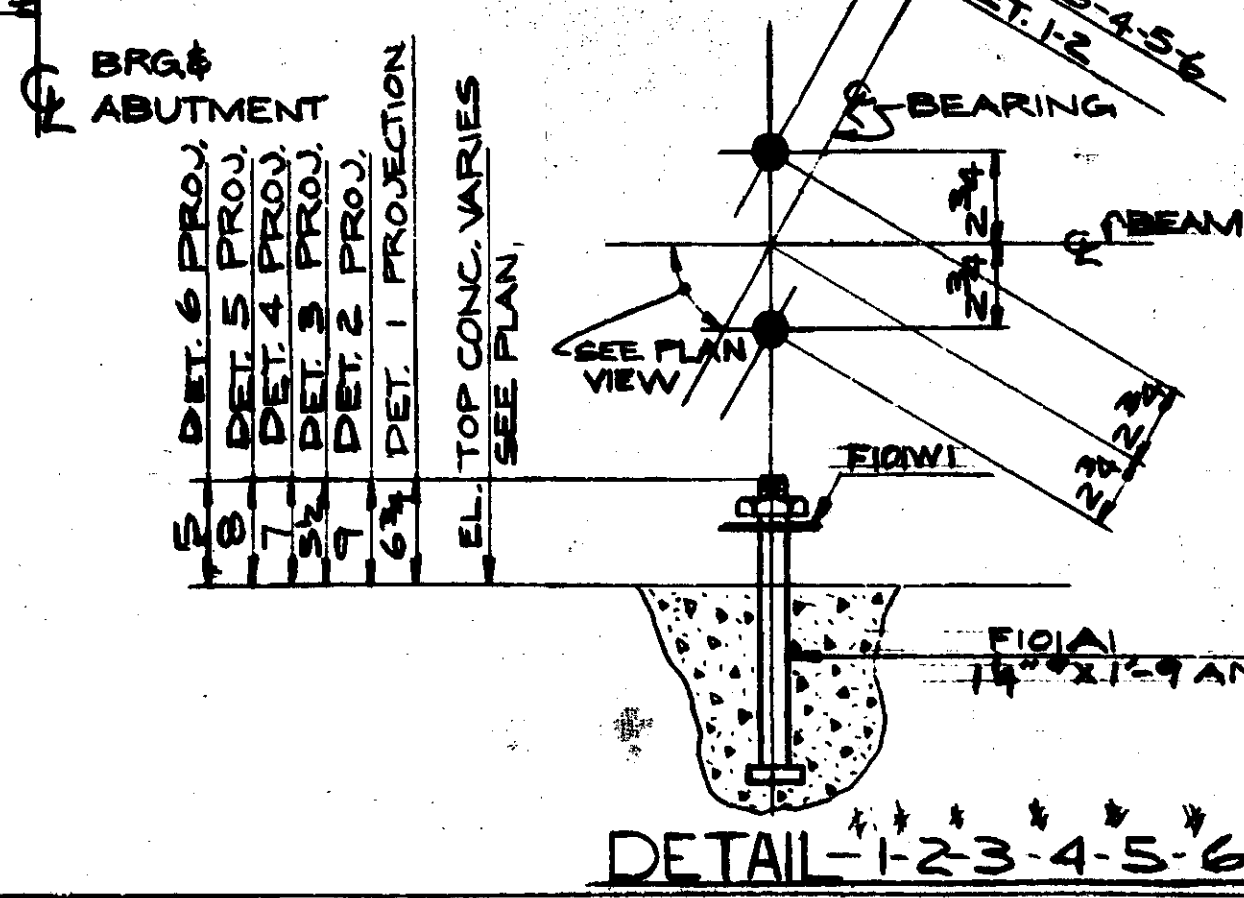
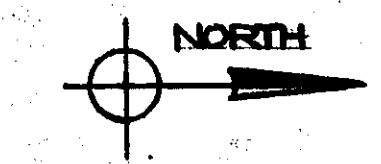


PAINT		RIVETS		NAME OF STRUCTURE		IN CHARGE OF	
CONTACT SURFACES		HOLES		MICHIGAN DEPARTMENT OF STATE HWYS.		AUGUSTINE	
DRAWINGS		DATE		BRIDGE X01 of 82122K		SHEET NO.	
MADE BY		11-18-66		EVERGREEN RD. OVER I-96		R1	
CHECKED BY				DETROIT, MICHIGAN		ORDER NO.	
						K2828	

265'-6 3/4"



NOTICE TO ERECTOR
 Backcharges for corrective work or replaced materials will not be accepted unless expressly authorized by American Bridge before any such costs are incurred.



NOTE!
 ANCHOR BOLTS SHALL BE SET ACCURATELY TO A TEMPLATE. PROJECT ENGINEER SHALL ADJUST THE SPACING OF REINFORCING STEEL AS REQUIRED TO PERMIT PLACING OF THE ANCHOR BOLTS.

MICHIGAN DEPT. OF STATE HIGHWAYS
 BRIDGE X01 OF 82122K
 EVERGREEN ROAD OVER I-96
 (JEFFRIES FREEWAY)
 DETROIT, (WAYNE COUNTY) MICHIGAN

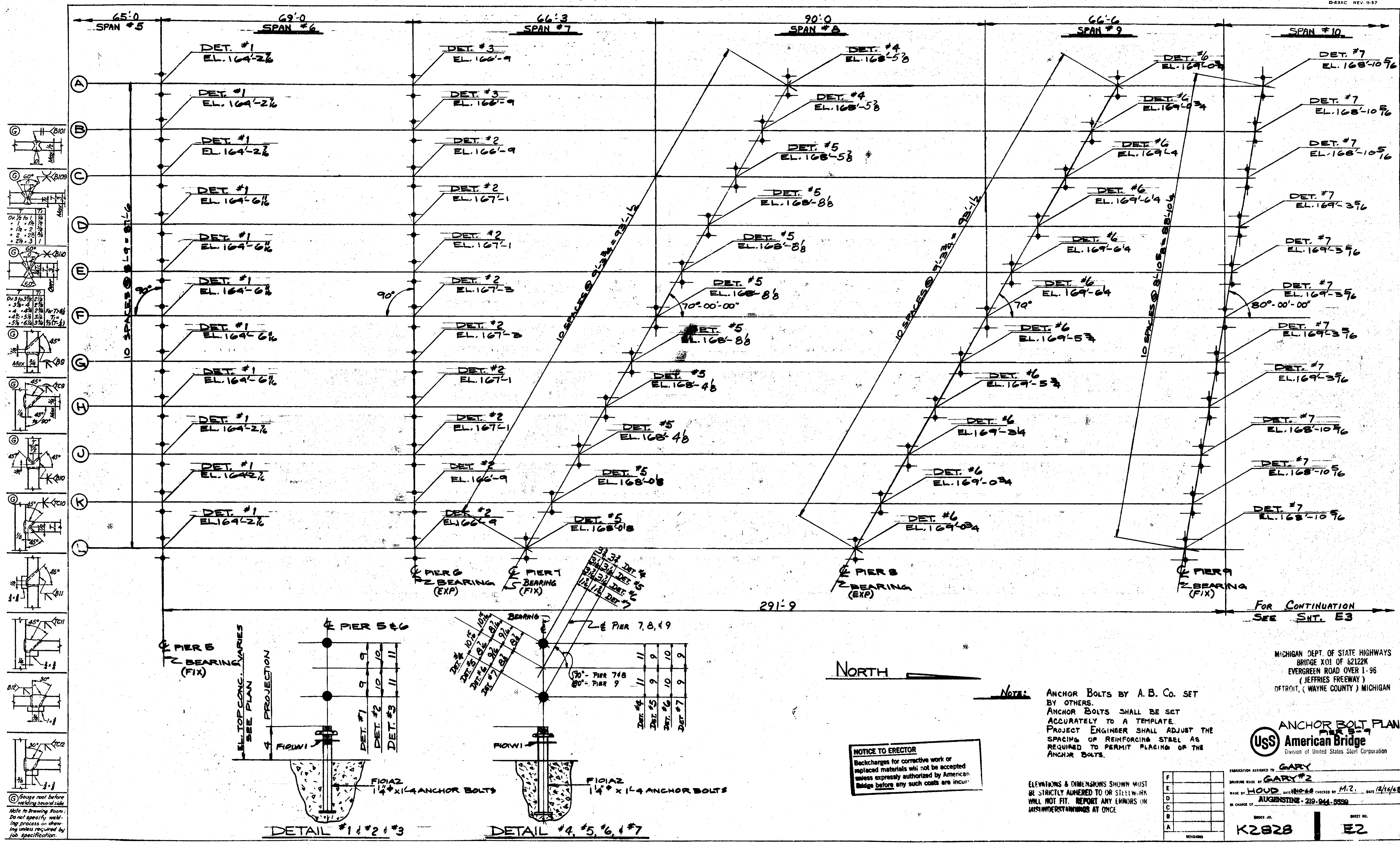
ANCHOR BOLT SET PLAN
 USS American Bridge
 Division of United States Steel Corporation

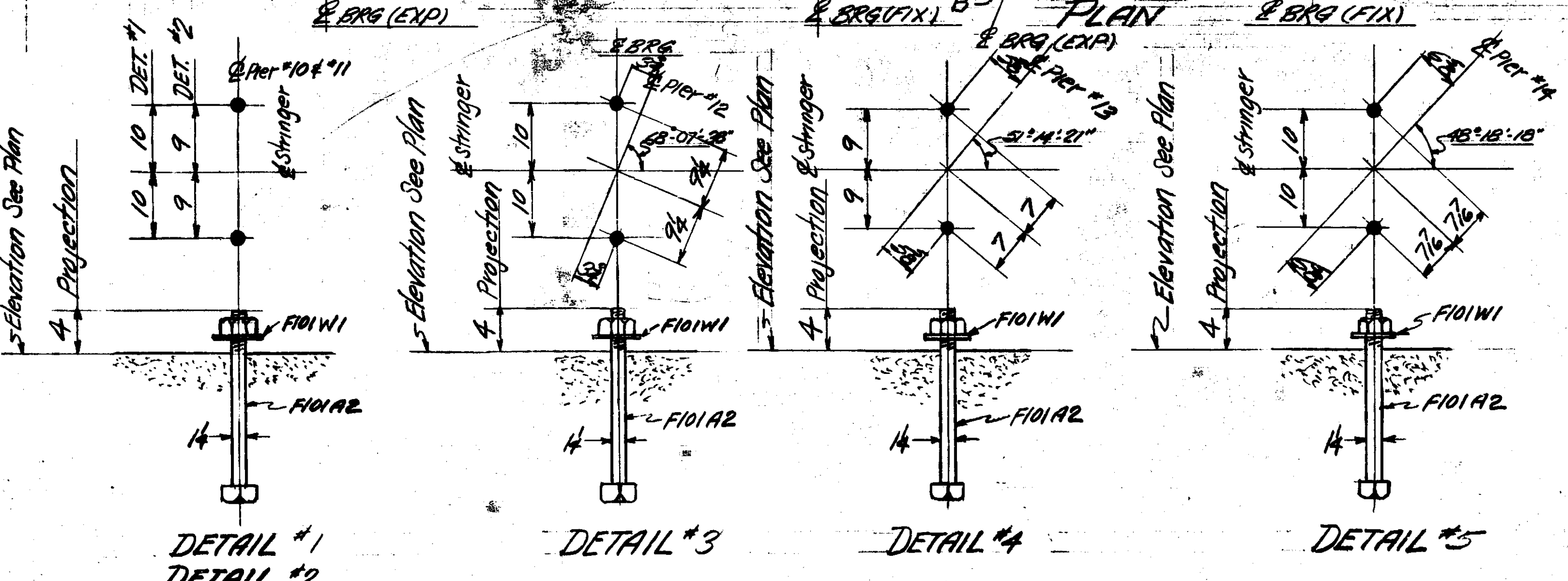
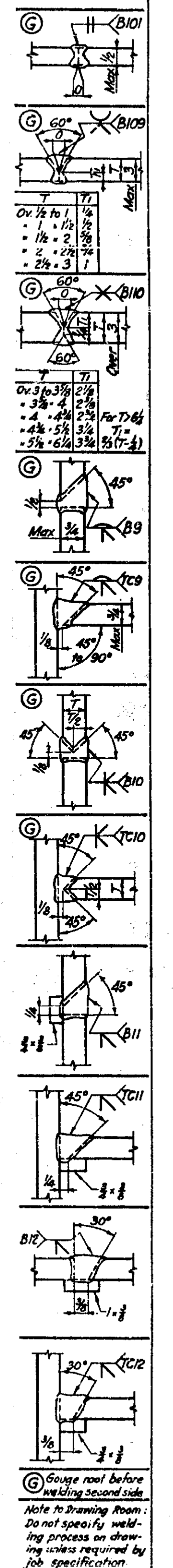
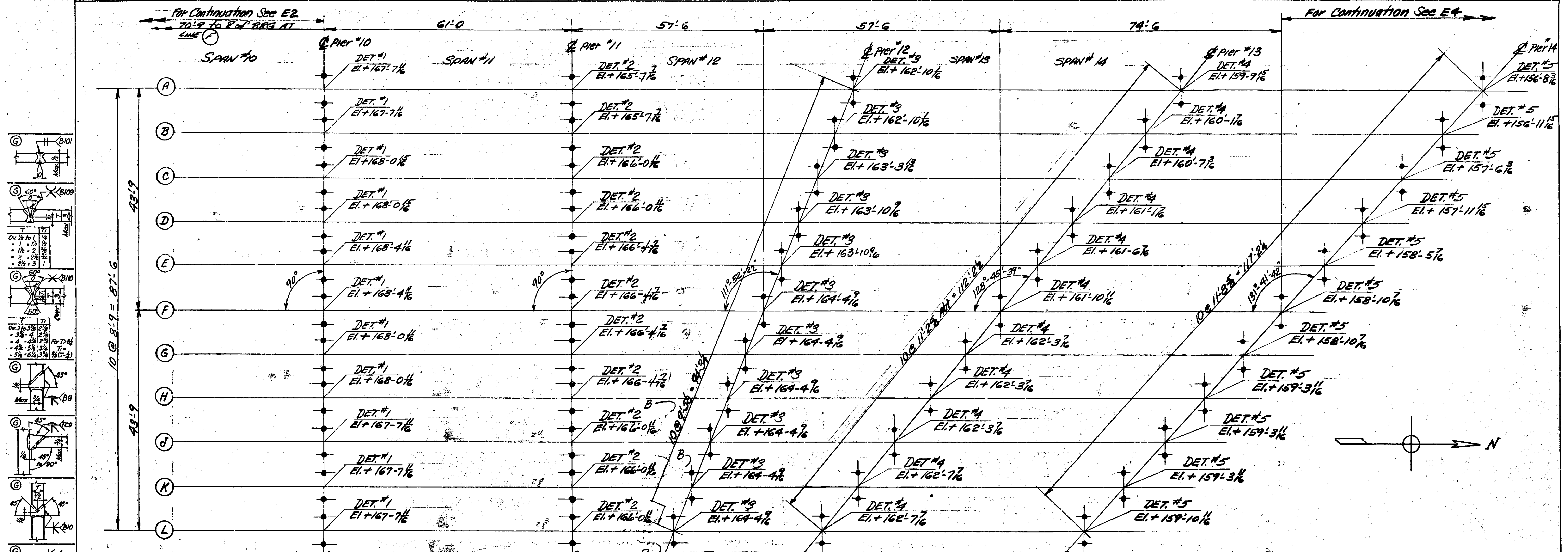
ANCHOR BOLTS
 DIMENSIONS & DIMENSIONS SHOWN MUST BE STRICTLY ADHERED TO OR STEELWORK WILL NOT FIT. REPORT ANY ERRORS OR MISUNDERSTANDINGS AT ONCE.

7			
E			
D			
C			
B			
A			

FABRICATION ASSIGNED TO: GARY
 DRAWING FILED BY: GARY
 MADE BY: HOUD DATE: 10-20-68 CHECKED BY: P.Z. DATE: 11/24/68
 IN CHARGE OF: AUGUSTINE 219-944-5559
 ORDER NO. K2828
 SHEET NO. E1

Scale: 1/4" = 1'-0"
 Note to Drawing Room: Do not specify welding process on drawing unless required by job specification.





NOTE:
Anchor bolts by A.B. Div. Set by others.
Anchor bolts shall be set accurately to a template. Project Engineer shall adjust the spacing of reinforcing steel as required to permit placing of the Anchor Bolts.

NOTICE TO ERECTOR:
BACKCHARGES FOR CORRECTIVE WORK OR REPLACED MATERIAL WILL NOT BE ACCEPTED UNLESS EXPRESSLY AUTHORIZED BY AMERICAN BRIDGE BEFORE ANY SUCH COST ARE INCURRED.

MICHIGAN DEPT. OF STATE HIGHWAY
BRIDGE X01 OF 82188K
EVERGREEN ROAD OVER I-96
(JEFFRIES FREEWAY)
DETROIT, (WAYNE COUNTY) MICHIGAN

**ANCHOR BOLT PLAN
PIERS 10 TO 14 INCL.**

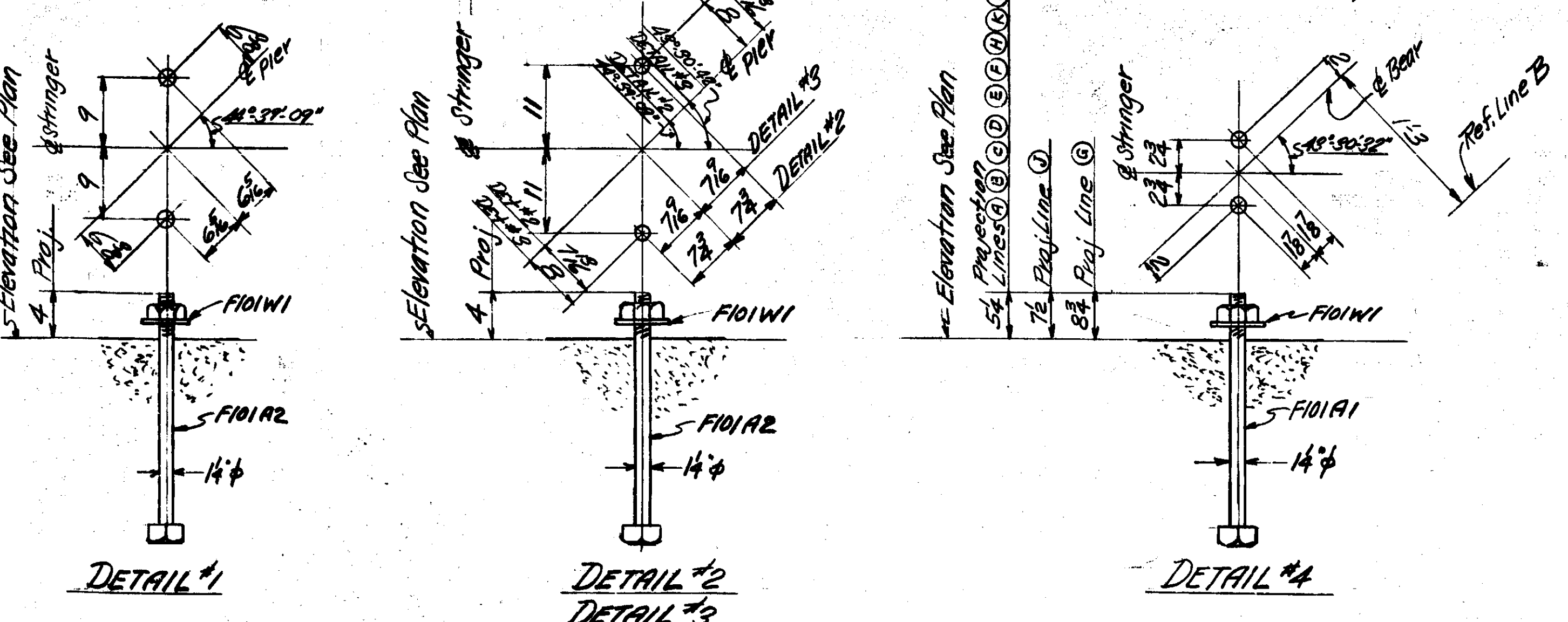
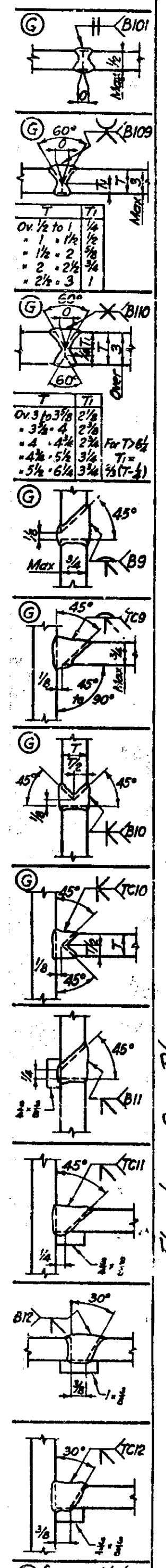
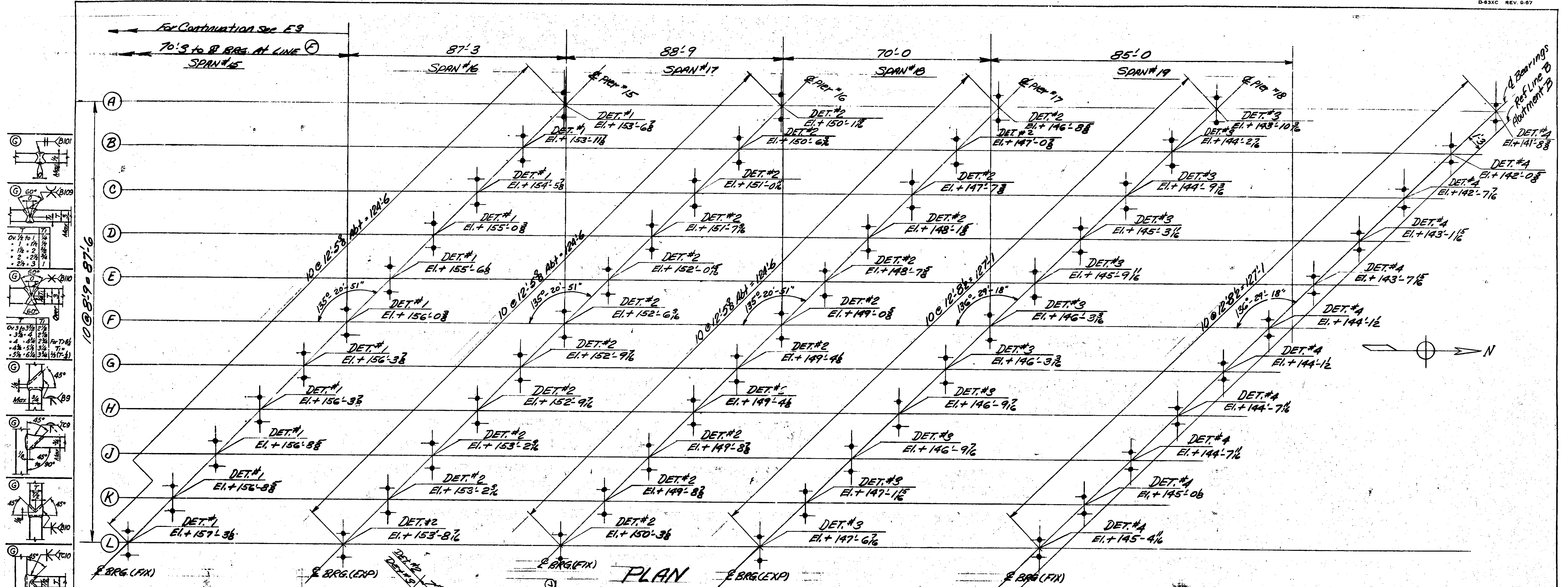


ALL DIMENSIONS & CONNECTIONS SHOWN MUST BE STRICTLY ADHERED TO OR STEELWORK SHALL NOT BE ACCEPTED UNLESS ANY ERRORS OR MISUNDERSTANDINGS AT ONCE.

F			
E			
D			
C			
B	1/27/69		
A	1/21/69		

FABRICATION ASSIGNED TO: Gary
 DRAWING MADE BY: Gary
 MADE BY: R.M.B. DATE: 1/10/69 CHECKED BY: M.Z. DATE: 12/16/68
 IN CHARGE OF: AUGENSTINE - 219-944-5550
 ORDER NO. K2828 SHEET NO. E3

① Gauge read before welding second side.
Note to drawing room: Do not specify welding process on drawing unless required by job specification.



NOTE:
ANCHOR BOLTS BY A.B. DIV. SET BY OTHERS.
Anchor bolts shall be set accurately to a template. Project Engineer shall adjust the spacing of reinforcing steels required to permit placing of the ANCHOR BOLTS.

NOTICE TO ERECTOR
Backcharges for corrective work or replaced materials will not be accepted unless expressly authorized by American Bridge before any such costs are incurred.

ELEVATIONS & DIMENSIONS SHOWN MUST BE STRICTLY ADHERED TO OR STEELWORK WILL NOT FIT. REPORT ANY ERRORS OR MISUNDERSTANDINGS AT ONCE.

MICHIGAN DEPT. OF STATE HIGHWAYS
BRIDGE #01 OF 82122K
EVERGREEN ROAD OVER I-96
(JEFFRIES FREEWAY)
DETROIT, (WAYNE COUNTY) MICHIGAN

ANCHOR BOLT PLAN
Pier 15 to Abut. "B" incl.

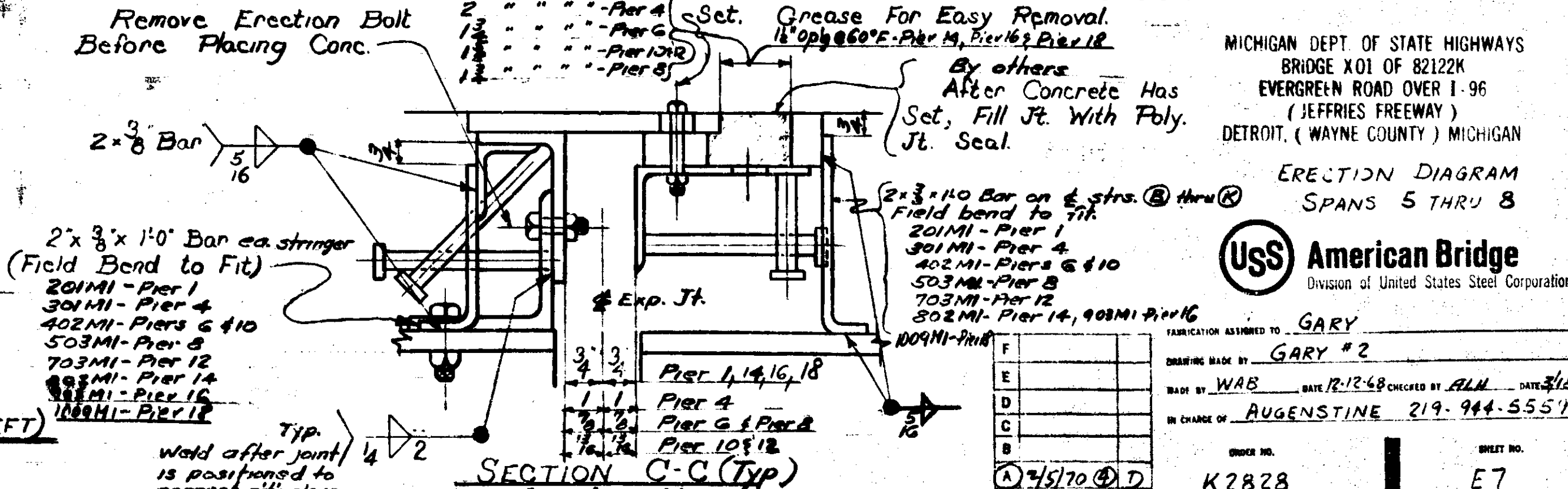
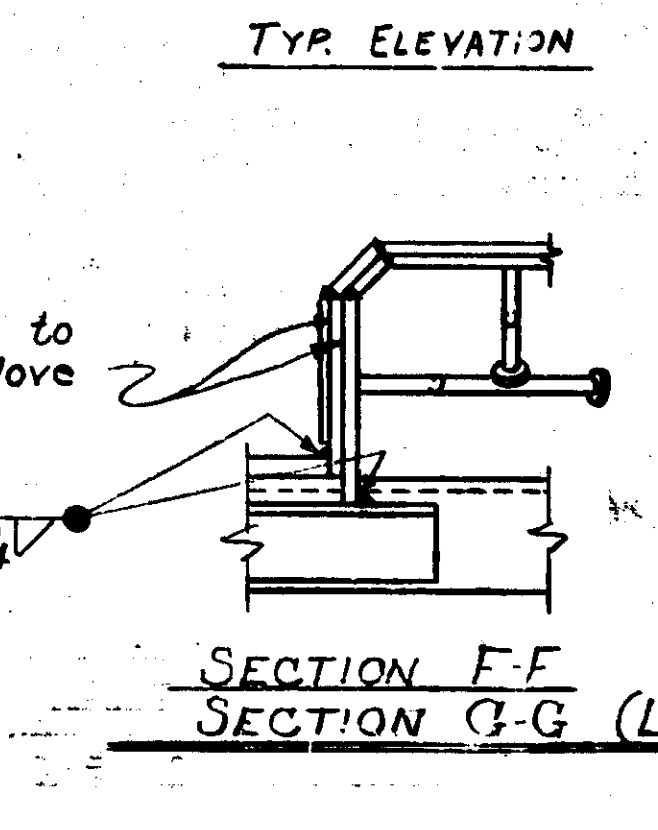
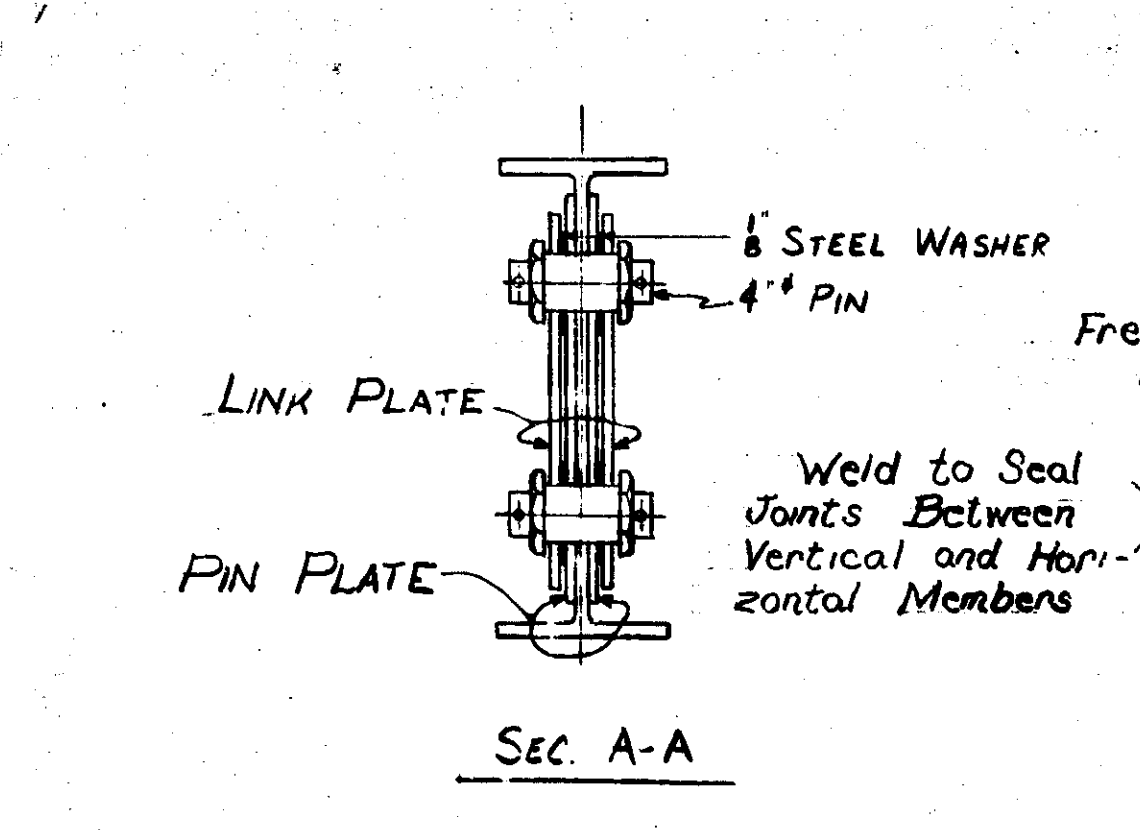
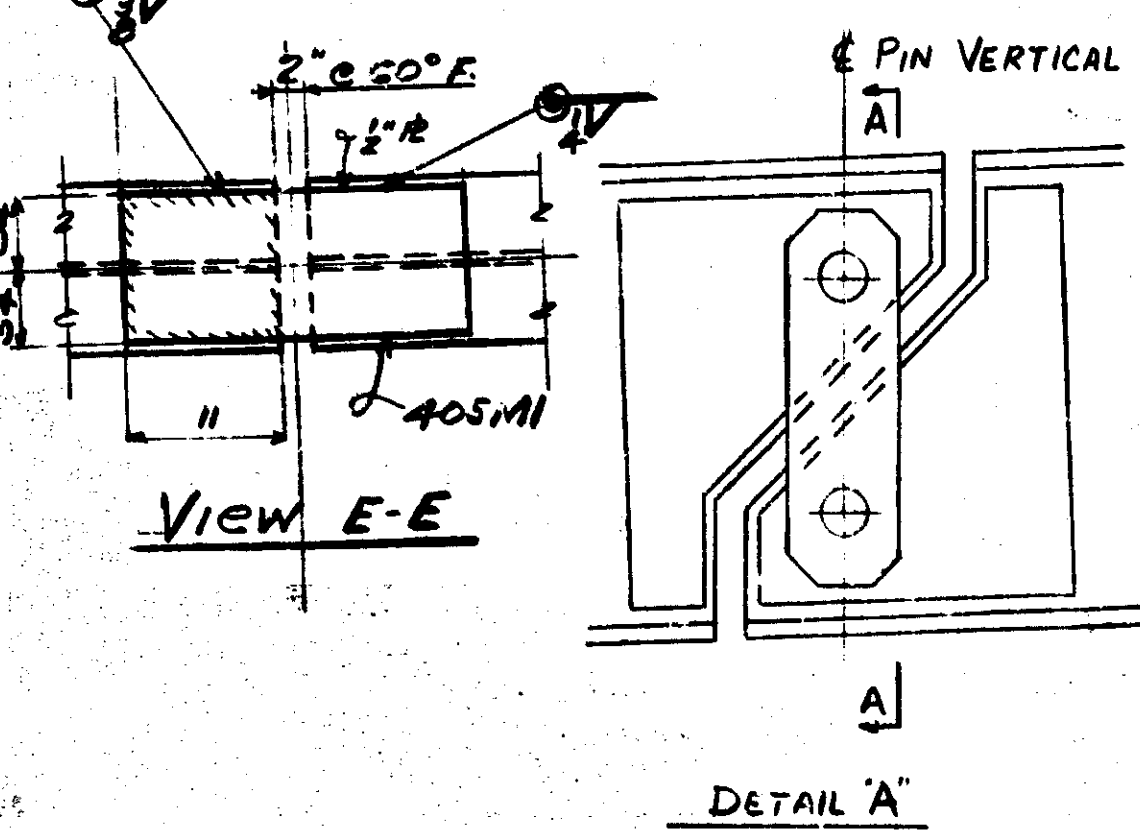
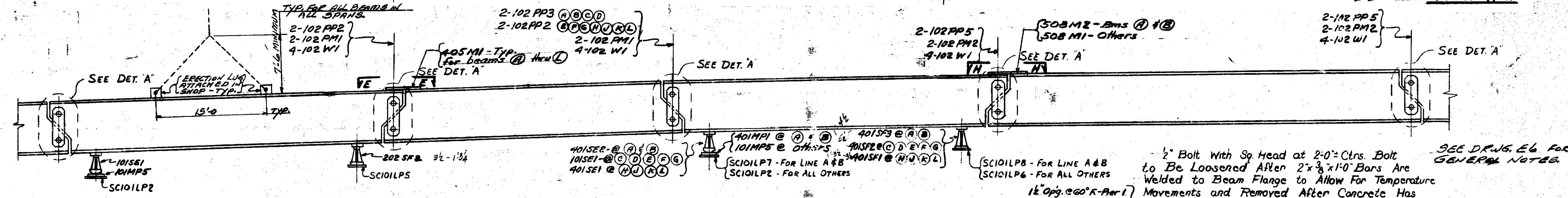
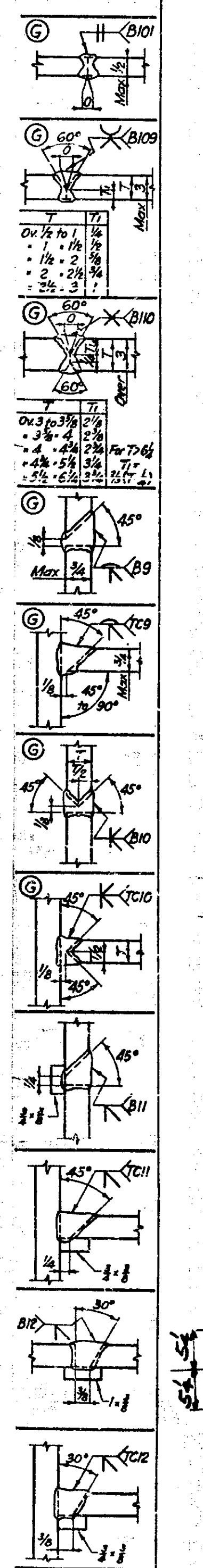
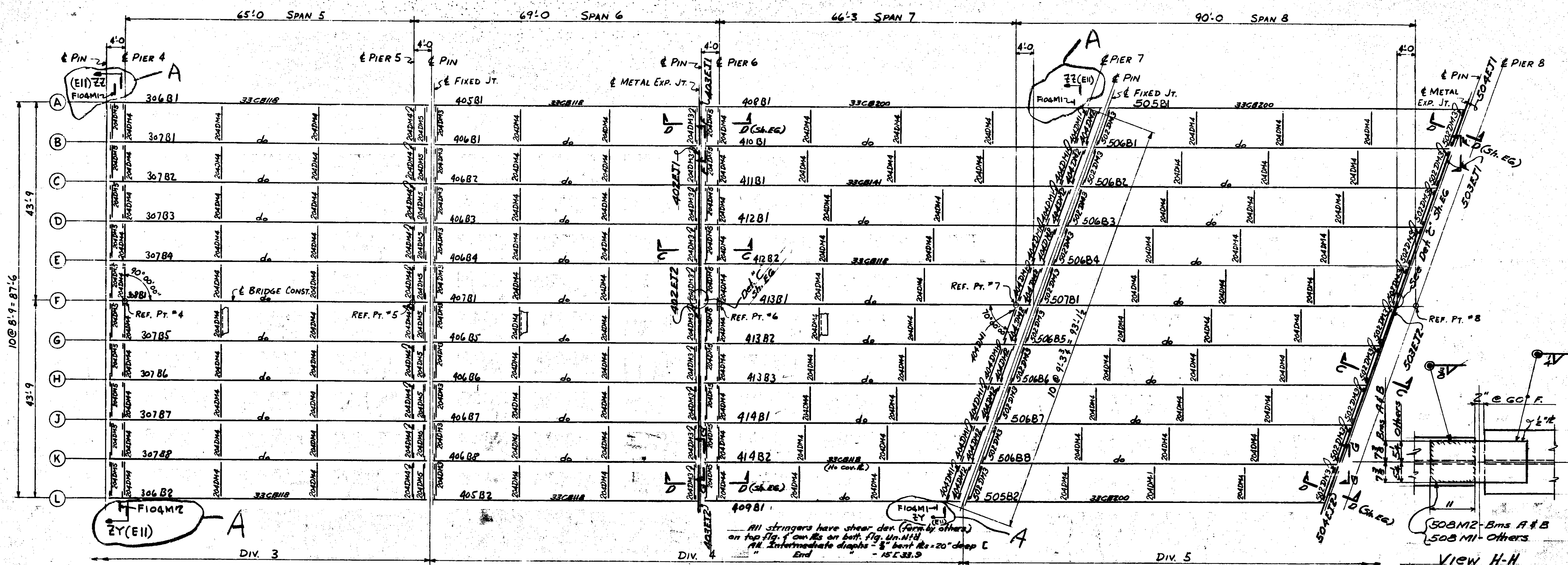
USS American Bridge
Division of United States Steel Corporation

F			
E			
D			
C			
B			
A			

FABRICATION AWARDED TO: Gary
DRAWING MADE BY: Gary #2
DATE: 12/12/68
IN CHARGE OF: AUGENSTINE - 219-944-5850

ORDER NO. K2828 | SHEET NO. E4

① Gauge root before welding second side.
Note to Drawing Room:
Do not specify welding process on drawing unless required by job specification.



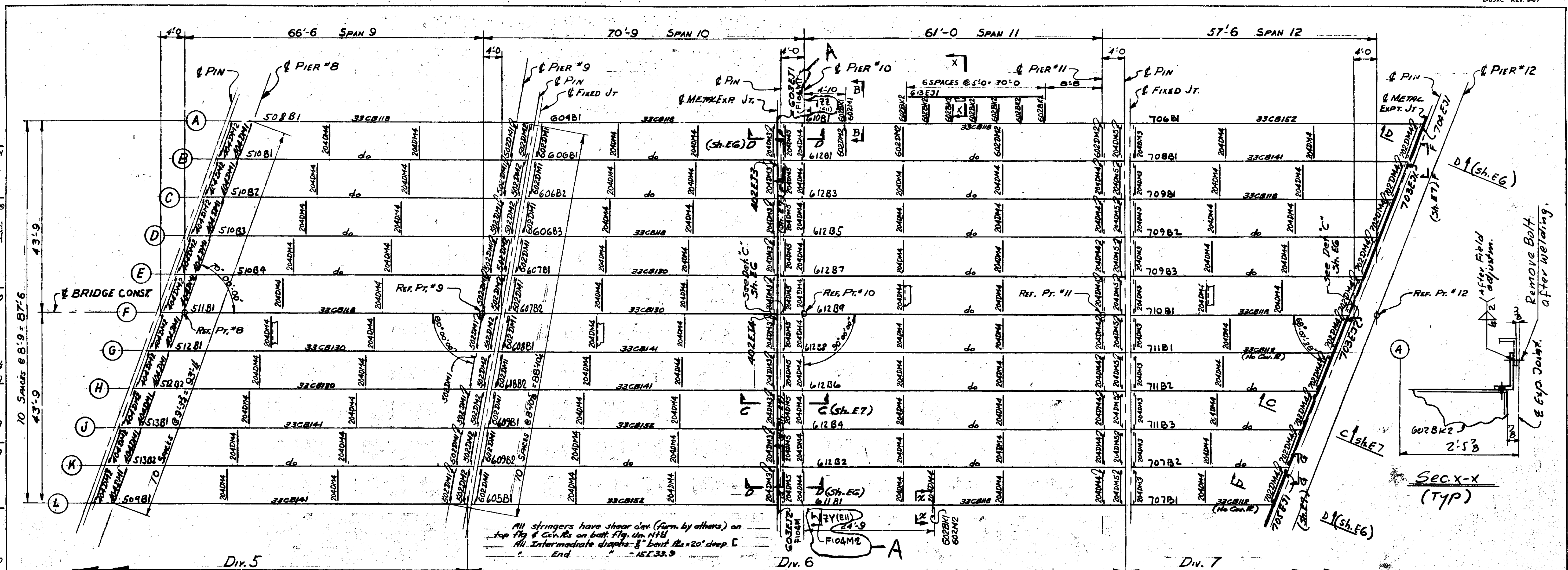
MICHIGAN DEPT. OF STATE HIGHWAYS
 BRIDGE X01 OF 82122K
 EVERGREEN ROAD OVER I-96
 (JEFFRIES FREEWAY)
 DETROIT, (WAYNE COUNTY) MICHIGAN

ERECTION DIAGRAM
 SPANS 5 THRU 8

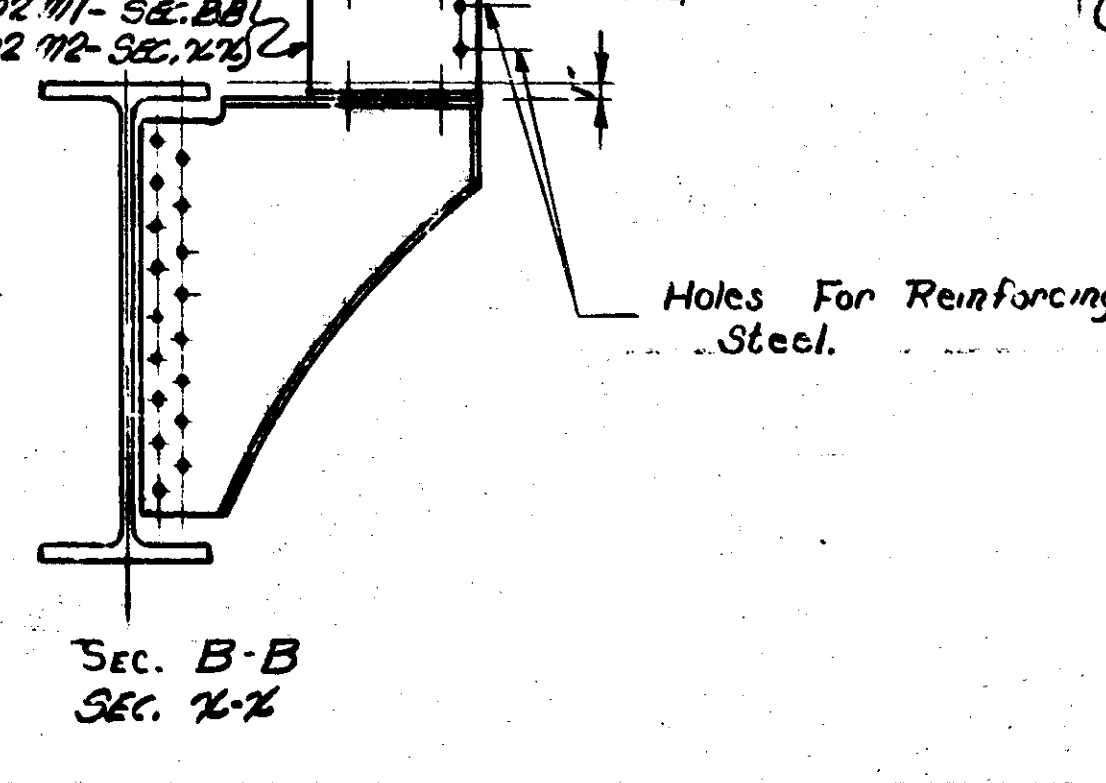
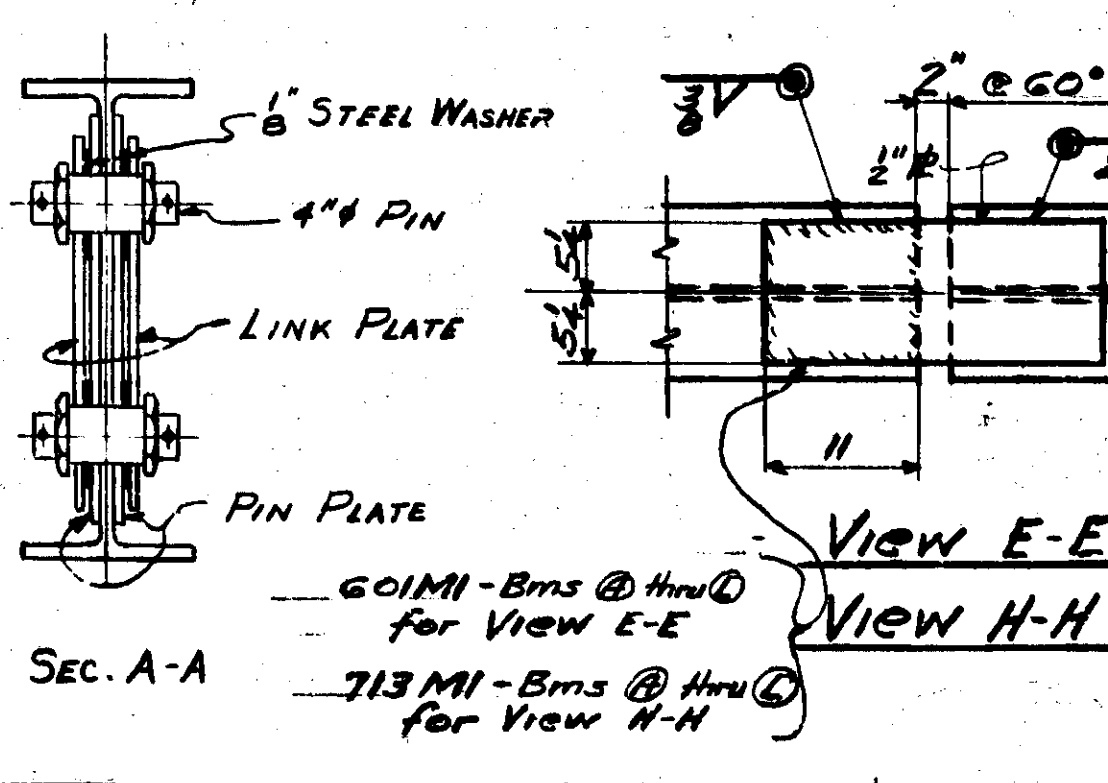
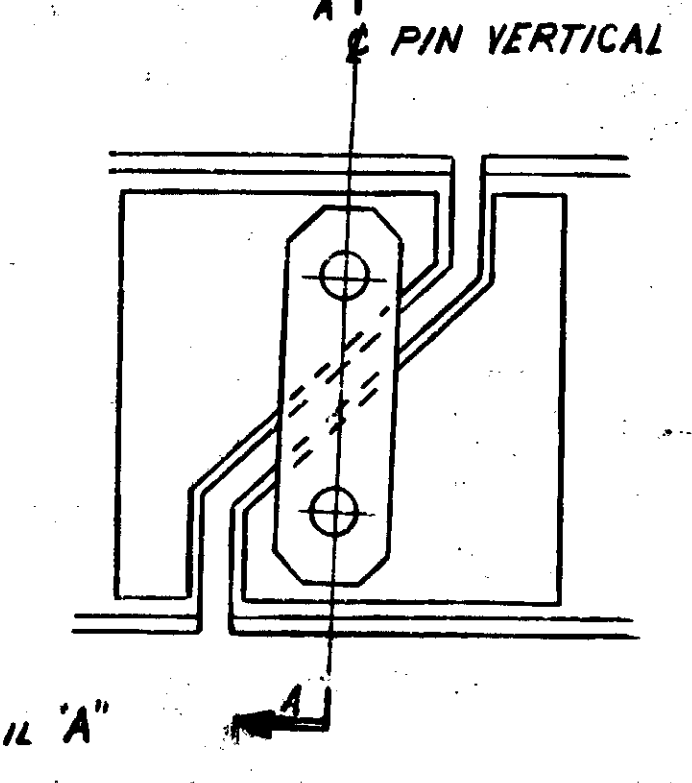
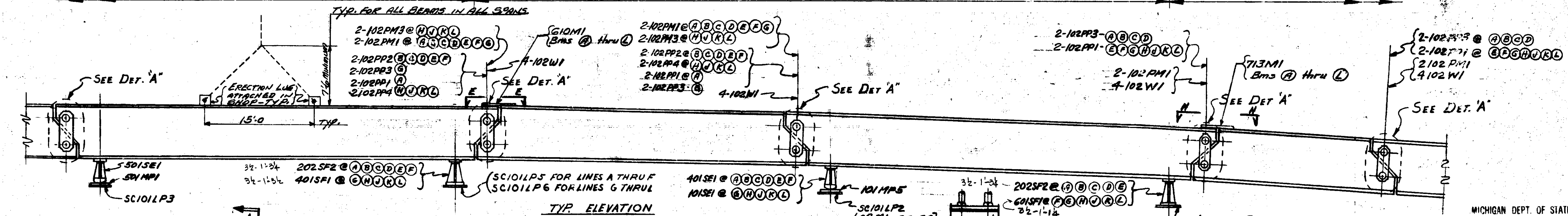
USS American Bridge
 Division of United States Steel Corporation

PREPARED BY: GARY #2
 DRAWING MADE BY: WAB DATE: 12/24/68 CHECKED BY: ALL DATE: 1/15/69
 IN CHARGE OF: AUGENSTINE 219-944-5551
 SHEET NO. E7

Source must be before welding second side. Note to Drawing Room: Do not specify welding process or strength unless required by job specification.



All stringers have shear cleat (furn. by others) on top flg. & cov. fls on both flg. un. N.H.S.I.
 All intermediate diaphragms 3" bent fls 20" deep. L. End - 151-33.9



MICHIGAN DEPT. OF STATE HIGHWAYS
 BRIDGE X01 OF 82122K
 EVERGREEN ROAD OVER I-96
 JEFFRIES FREEWAY
 DETROIT (WAYNE COUNTY) MICHIGAN

ERRECTION DIAGRAM
 SPANS 9 THRU 12
 USS American Bridge
 Division of United States Steel Corporation

F			
E			
D			
C			
B			
A			

REVISIONS

NO. 1

DATE 12/12/68

BY E.B.

CHECKED BY R.L.M.

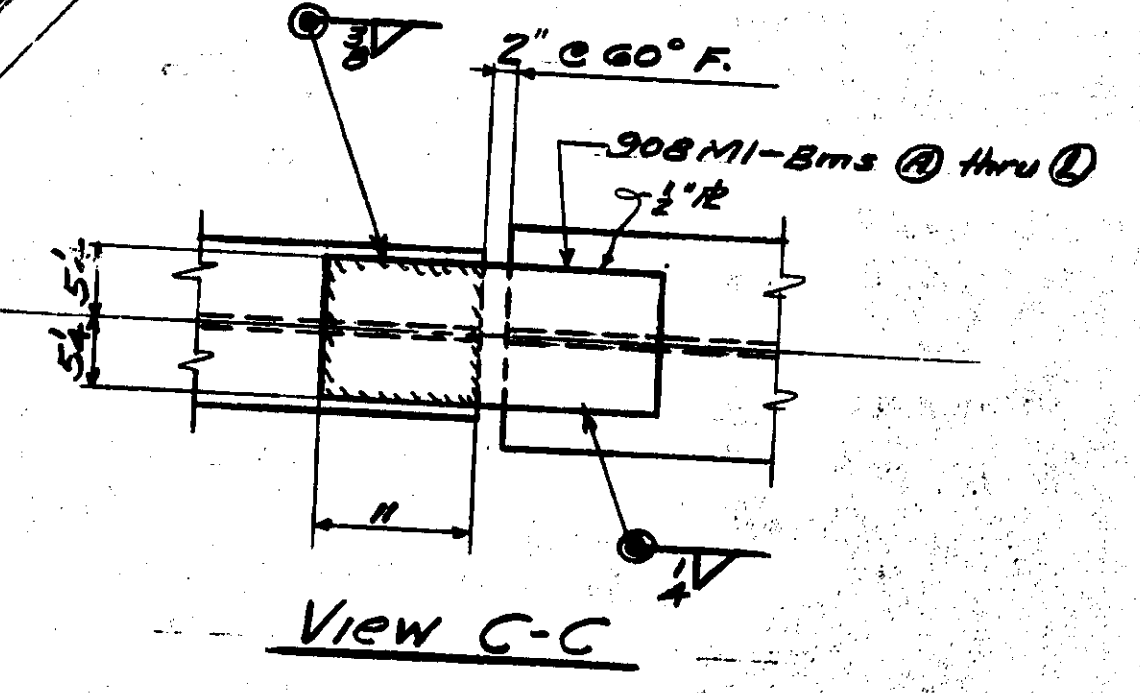
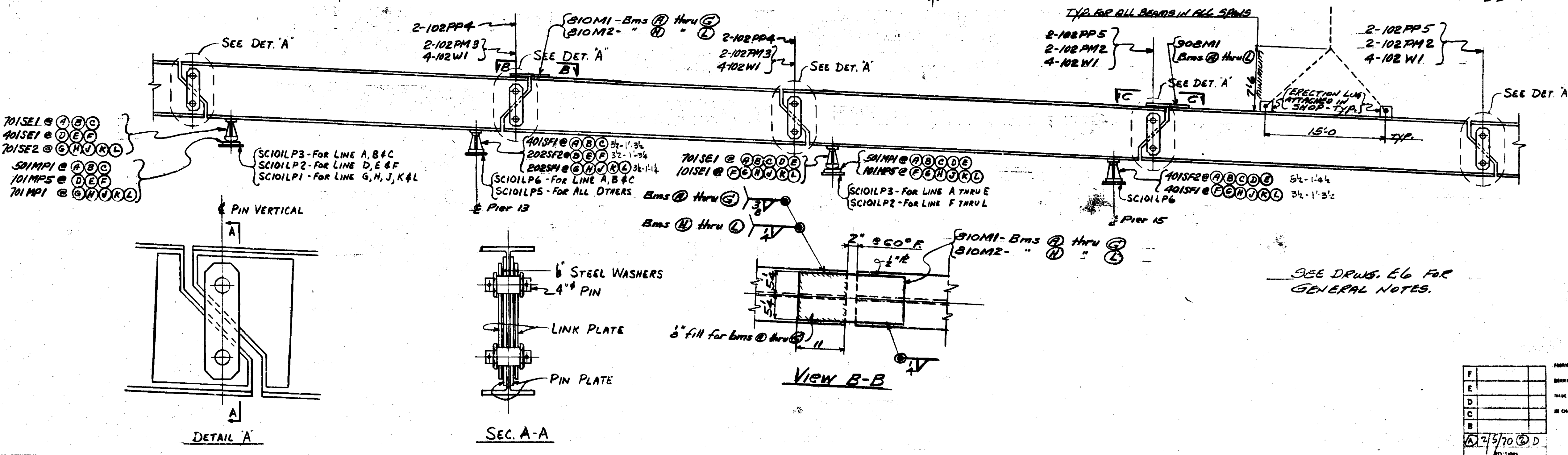
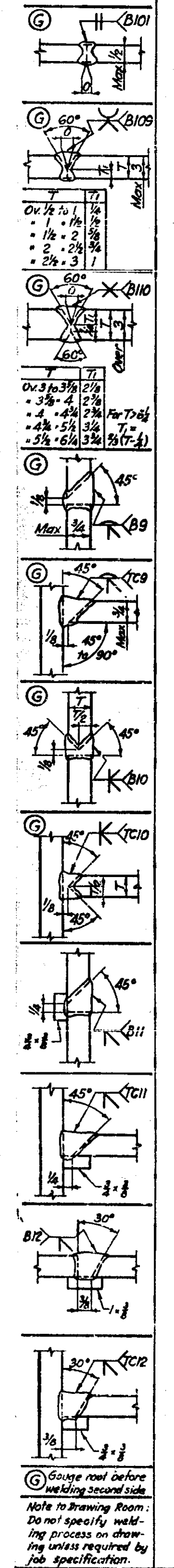
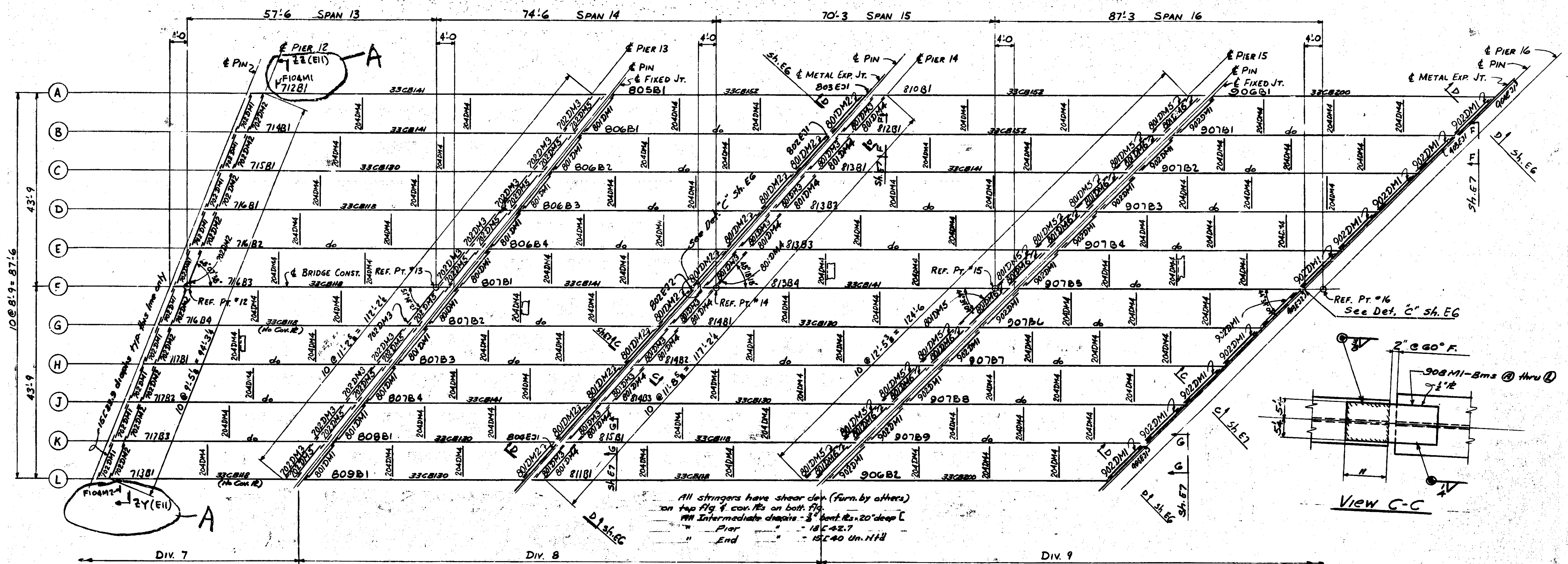
DATE 3/4/69

IN CHARGE AUGENSTINE 219-344-5553

ORDER NO. K2828

SHEET NO. E8

① Square root before welding second side.
 Note in Drawing Room:
 Do not specify welding process or drawing unless required by job specification.



All stringers have shear dev. (furn. by others)
 on top flg & cov. fls on both flg.
 All intermediate diaphragms - 3" bent fls 20" deep
 " Pier " - 18" x 42.7"
 " End " - 15" x 40" un. flt'd

MICHIGAN DEPT. OF STATE HIGHWAYS
 BRIDGE #01 OF 82122K
 EVERGREEN ROAD OVER I-96
 (JEFFRIES FREETWAY)
 DETROIT, (WAYNE COUNTY) MICHIGAN

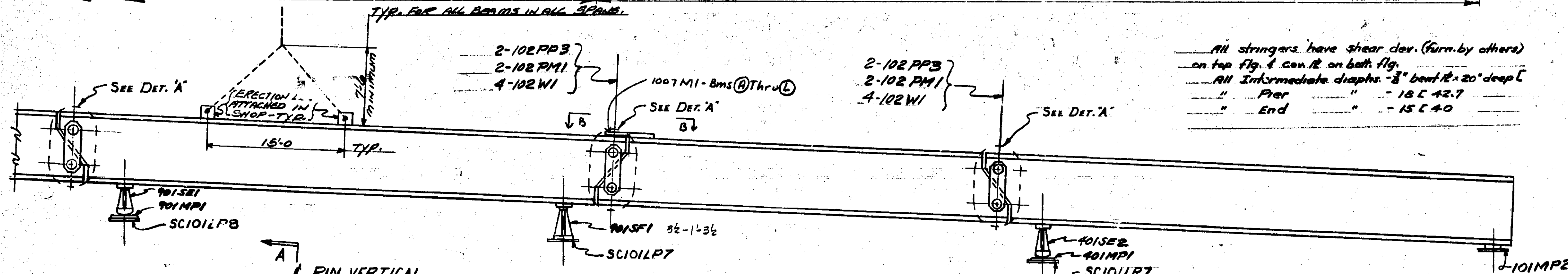
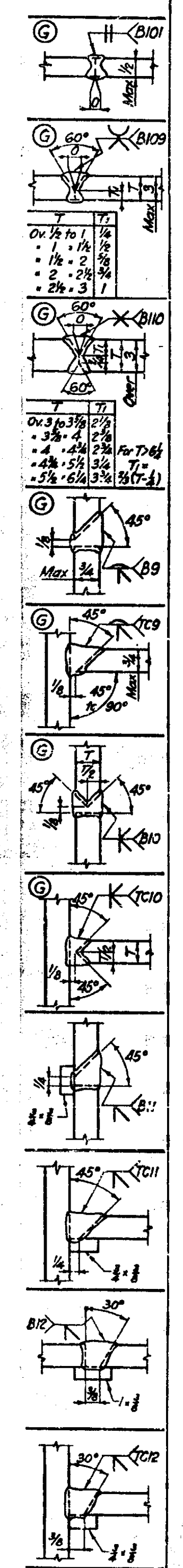
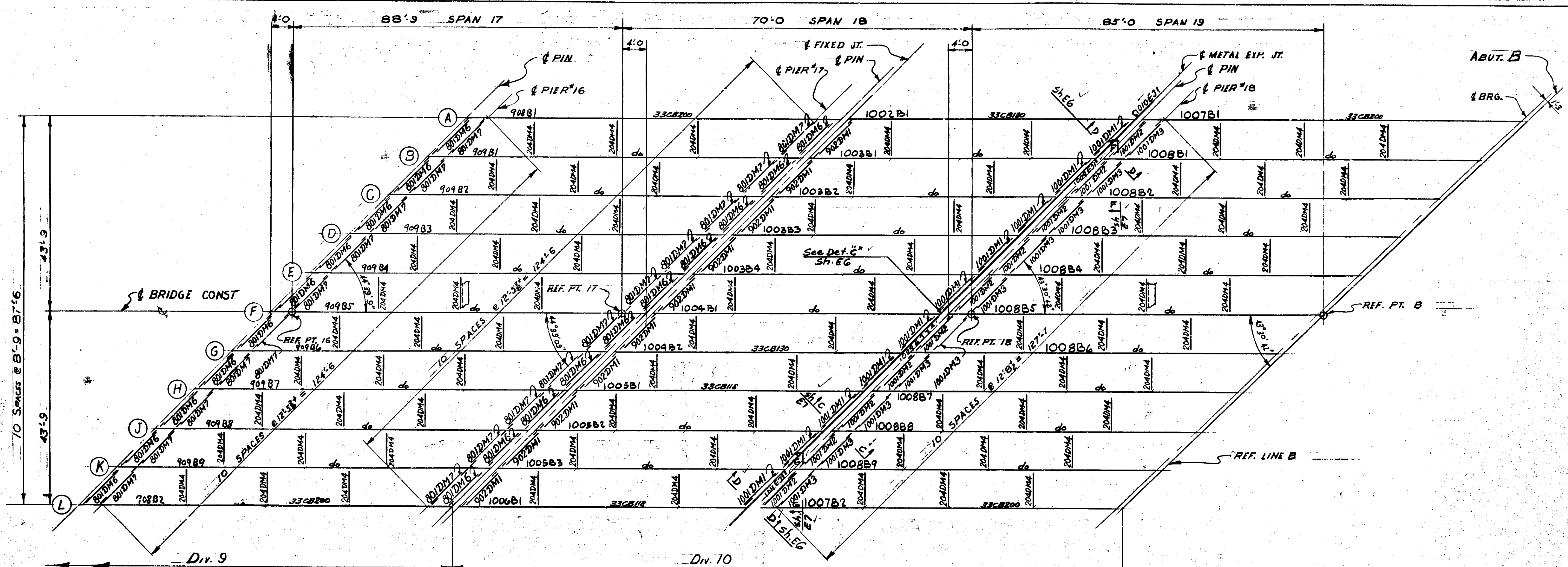
ERECTION DIAGRAM
 SPANS 13 THRU 16

USS American Bridge
 Division of United States Steel Corporation

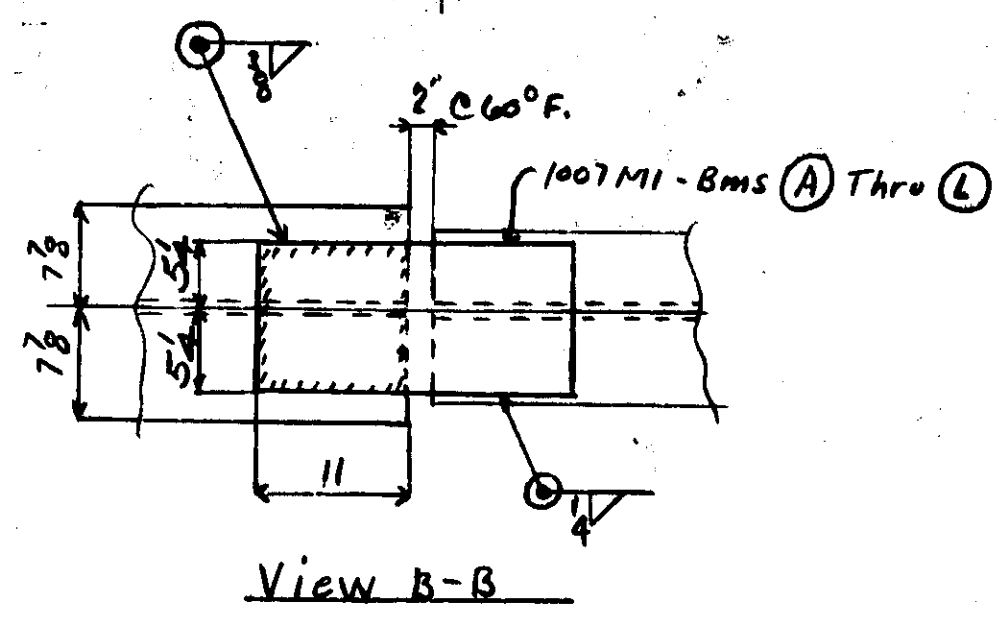
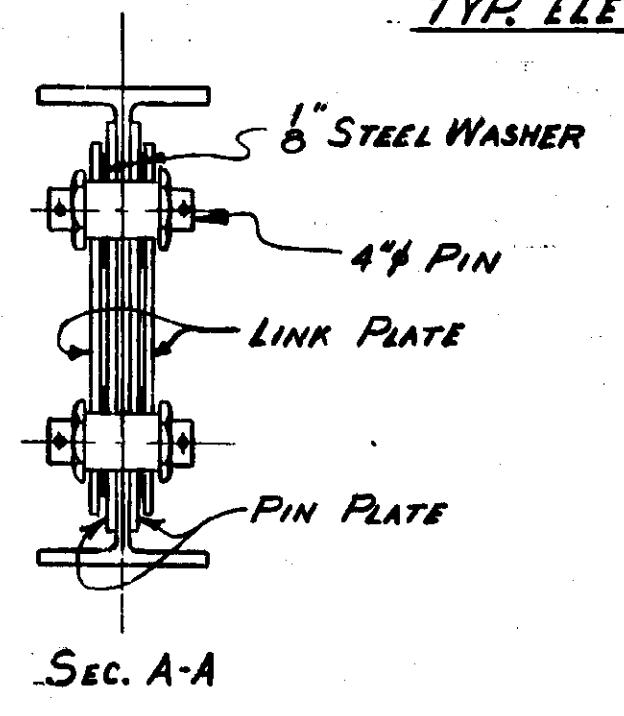
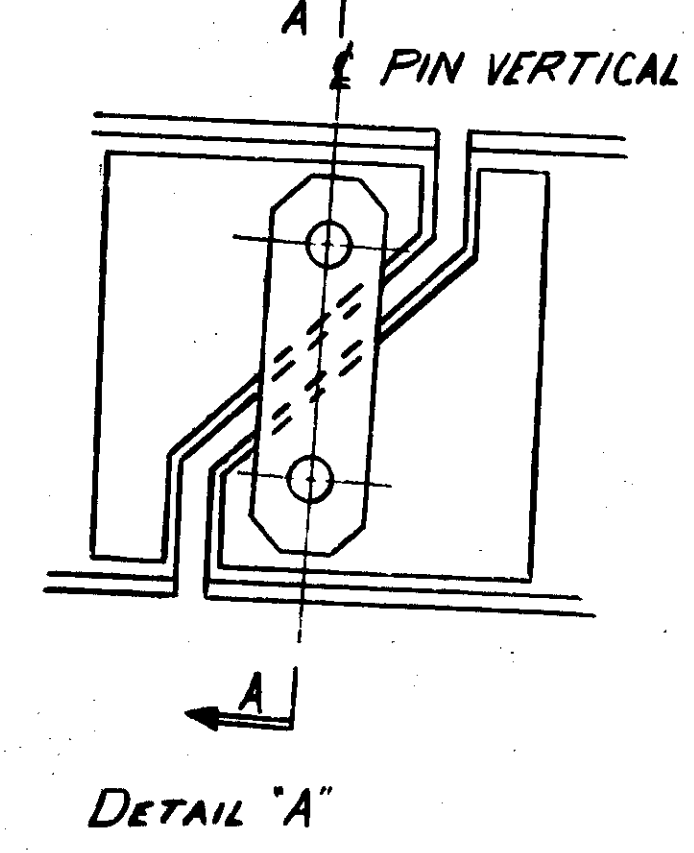
F	DATE	BY	CHECKED
E	12-18-68	GARY #2	ALM
D			
C			
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A			

ORDER NO. K2828 SHEET NO. E9

Check steel before
 welding second side.
 Note reaming room.
 Do not specify weld-
 ing process on draw-
 ing unless required by
 job specification.



All stringers have shear dev. (form by others)
 on top flg. & can fl. on both flg.
 All intermediate diaphragms - 3" bent @ 20" deep C
 Pier " - 15 C 42.7
 " End " - 15 C 40



SEE DRAW. E6 FOR GENERAL NOTES.

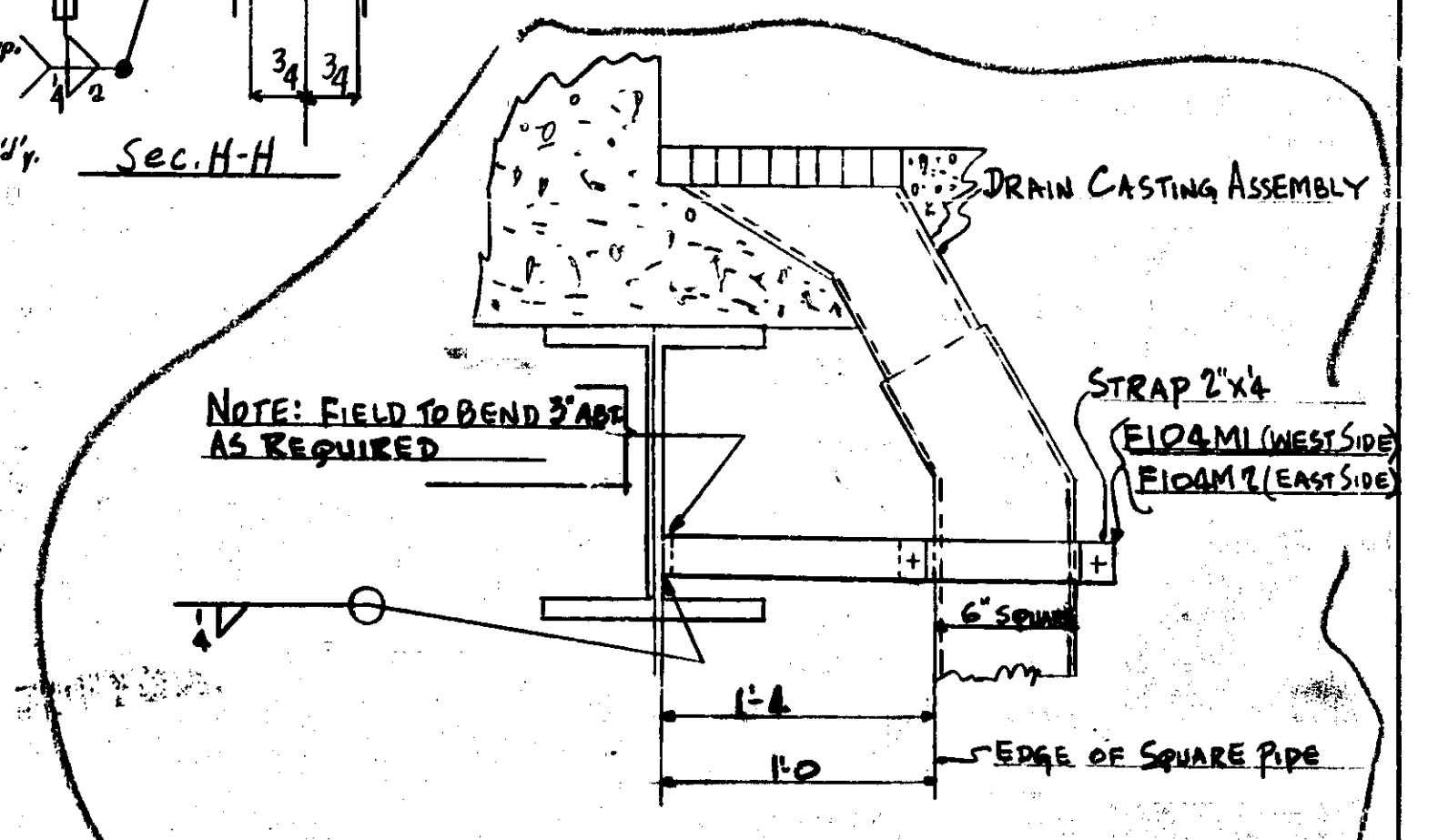
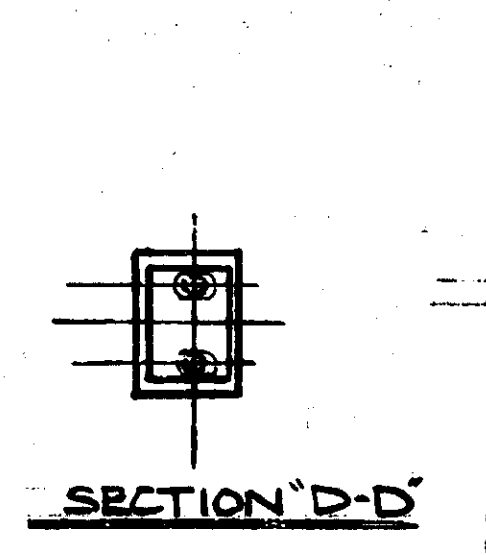
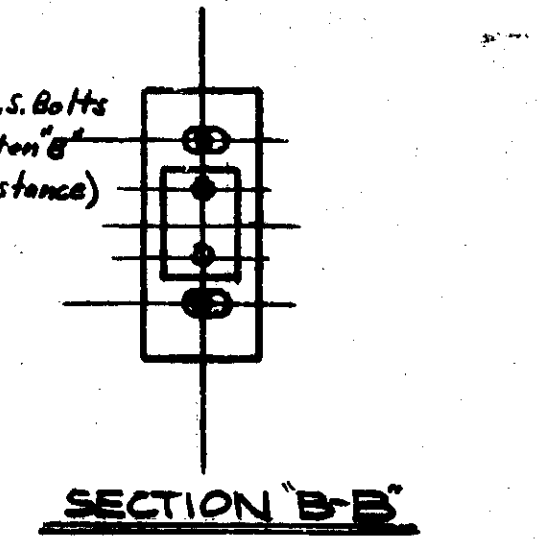
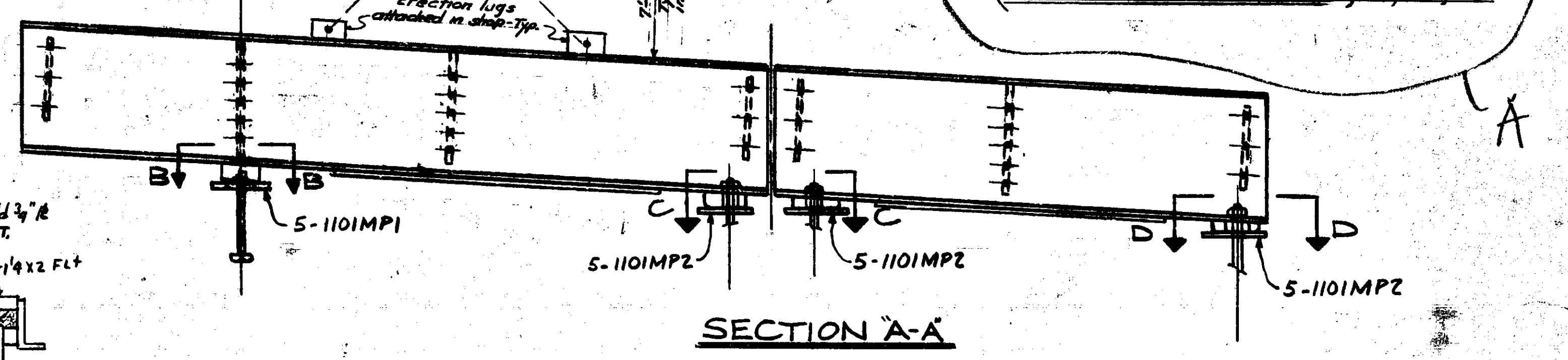
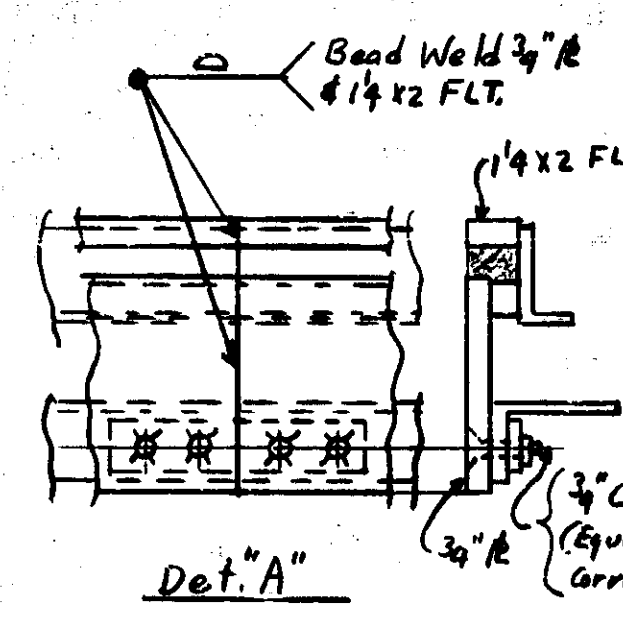
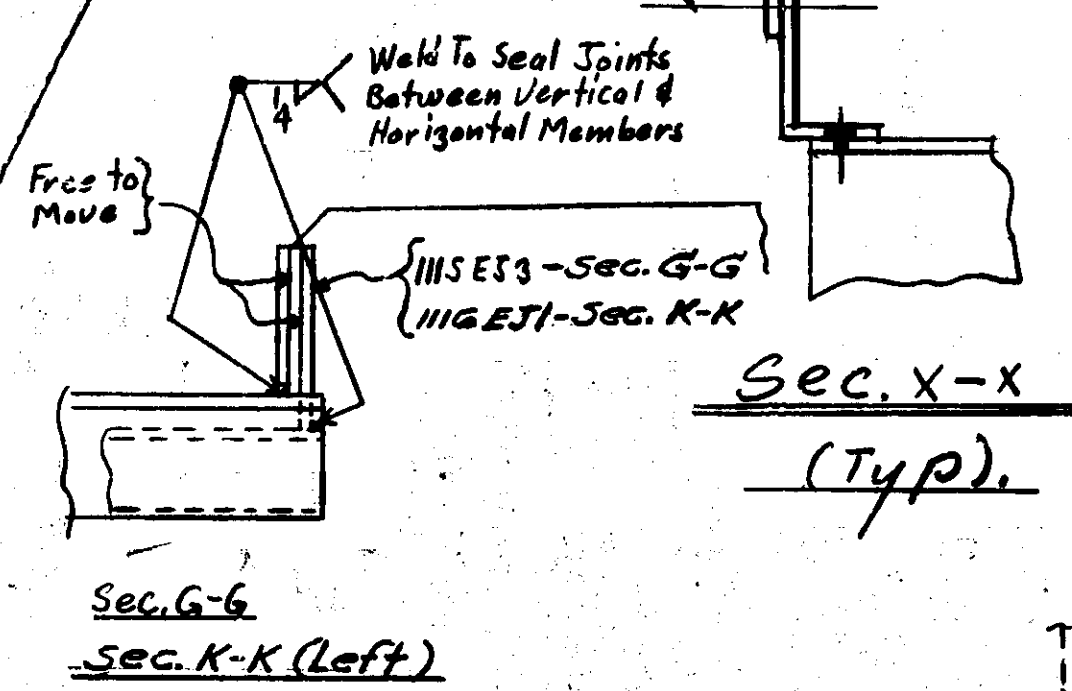
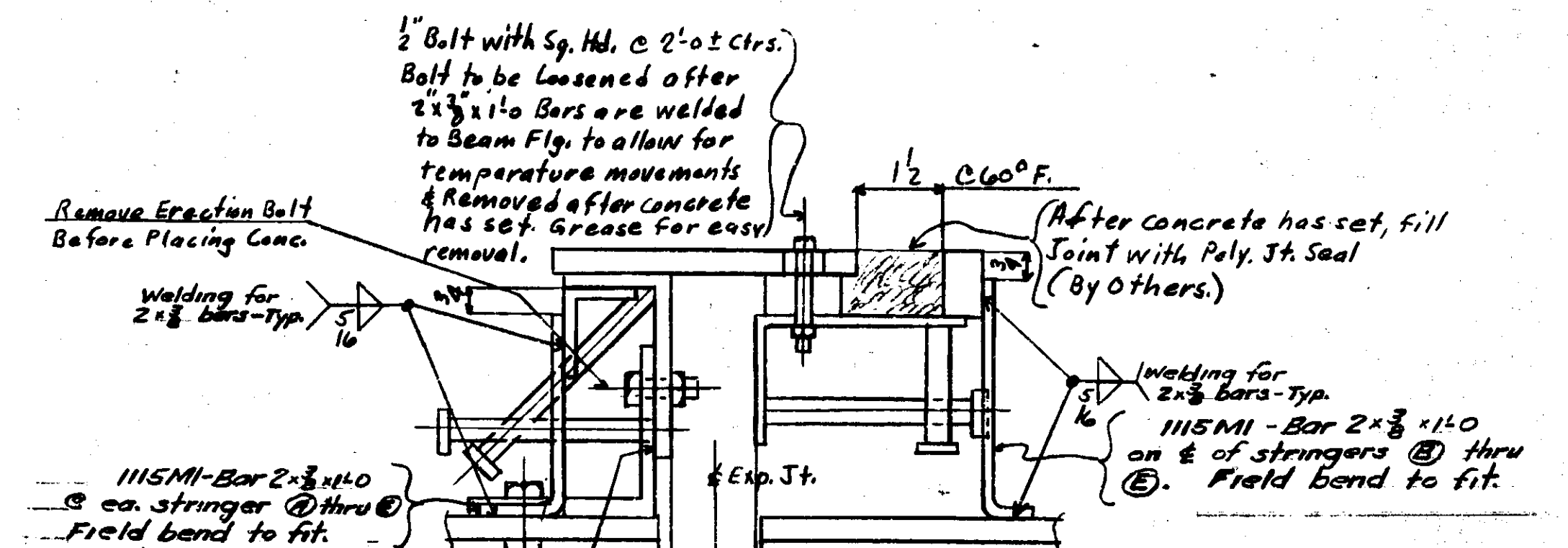
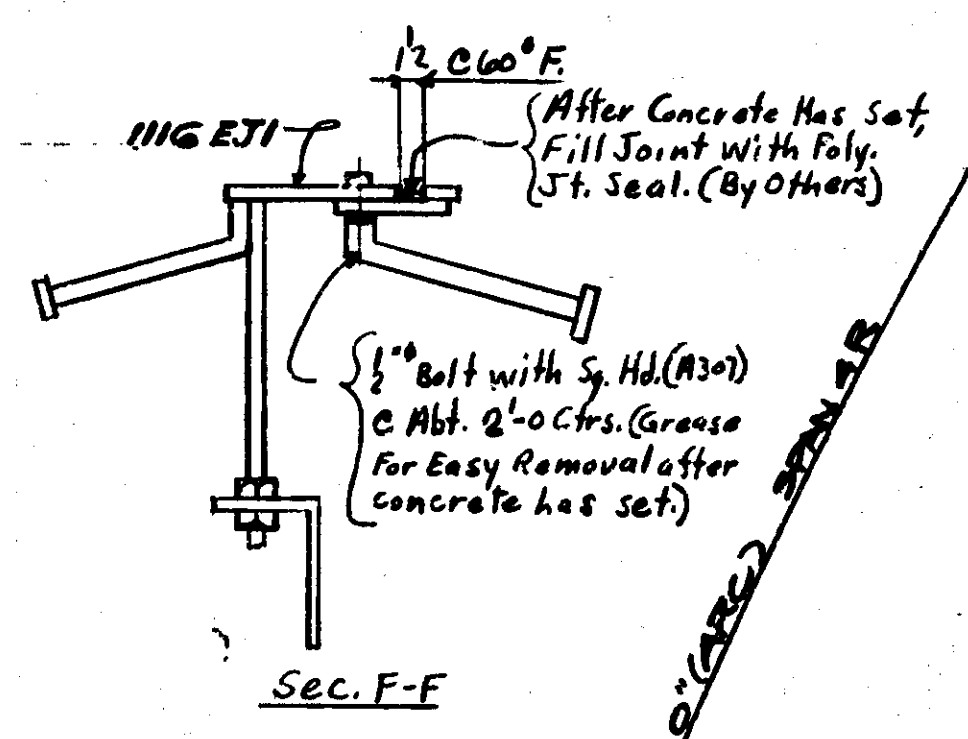
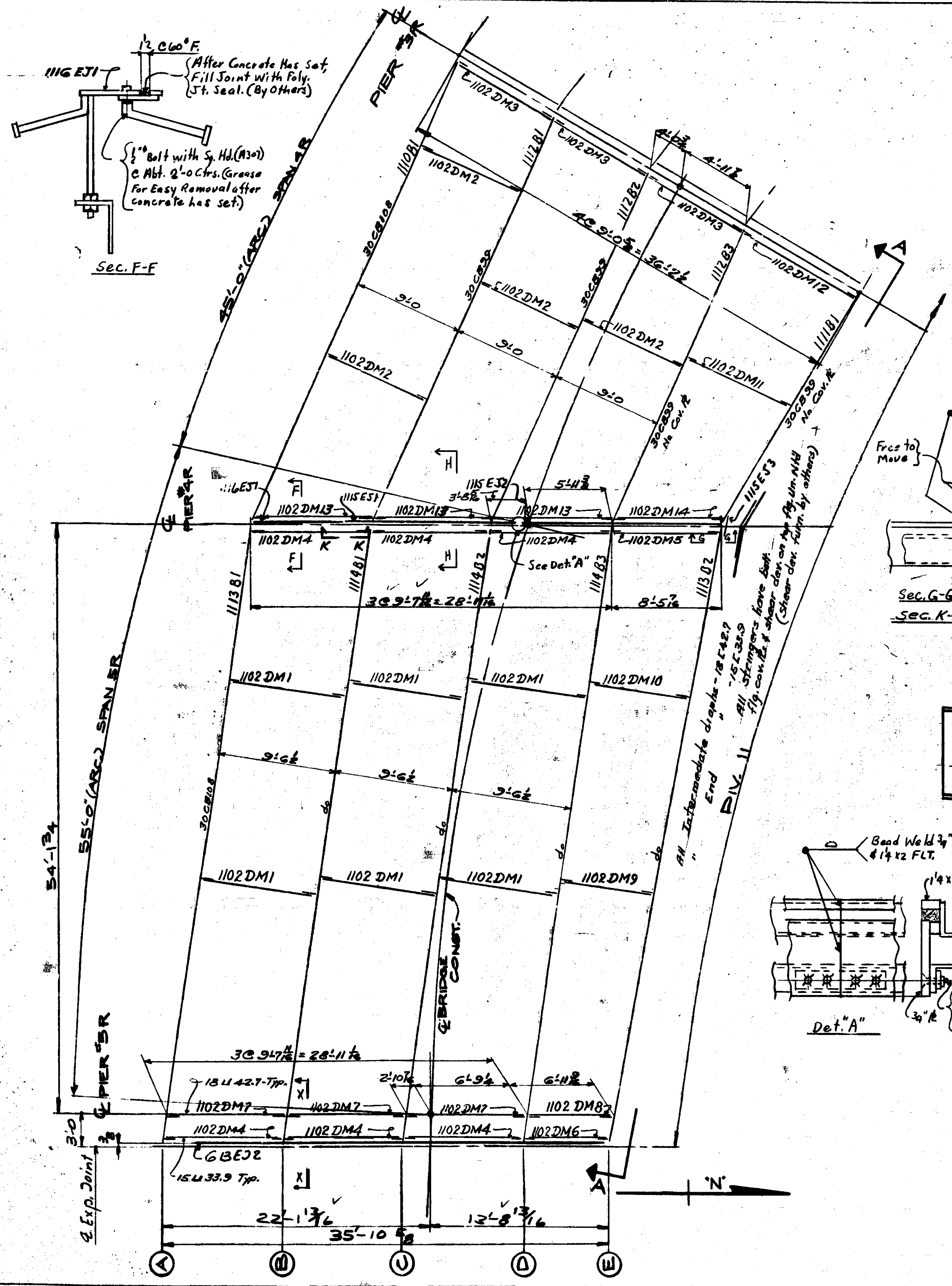
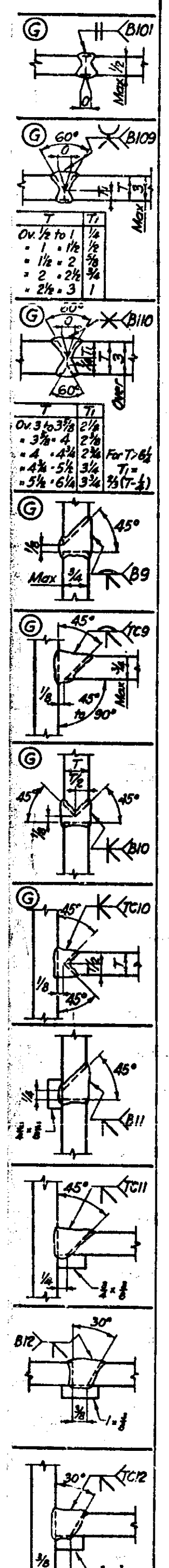
MICHIGAN DEPT. OF STATE HIGHWAY
 BRIDGE X01 OF 82122K
 EVERGREEN ROAD OVER I-96
 (JEFFRIES FREEWAY)
 DETROIT, (WAYNE COUNTY) MI 48226

ERRECTION DIAGRAM
 SPANS 17, 18, & 19

USS American Bridge
 Division of United States Steel Corporation

F	PRODUCTION ASSIGNED TO	FIELD
E	DRAWING MADE BY	GARY #2
D	DATE	MAY 12 1968
C	DESIGNED BY	ALM
B	CHECKED BY	AUGENSTINE 219-944-5559
A	DATE	
	NO. OF SHEETS	10
	SHEET NO.	E10

① Gauge root before welding second side.
 Note to erector: Do not specify welding process on drawing unless required by job specification.



Gen. Notes-
 Field corners to be 3/4" H.S. bolts (with a corrosion resistance equal to Cor-Ten B steel) except for field welding & A307 bolts as shown. For field welding electrodes-See contract specifications.

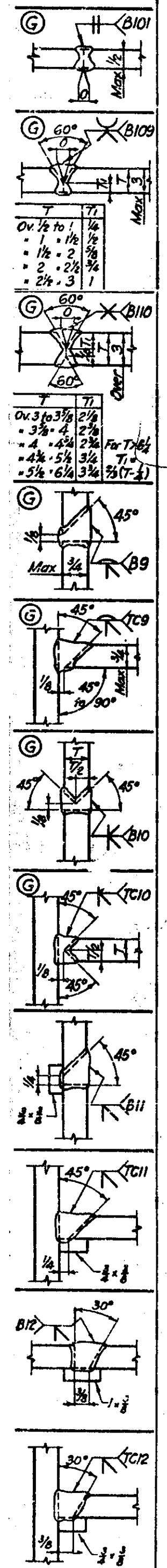
All steel shall be handled carefully and shall be kept free and clean of all foreign materials such as grease, oil, chalk marks, crayon marks, dirt, etc.

MICHIGAN DEPT. OF STATE HIGHWAYS
 BRIDGE X01 OF 82122K
 EVERGREEN ROAD OVER I-96
 (JEFFRIES FREEWAY)
 DETROIT, (WAYNE COUNTY) MICHIGAN
 ERECTION DIAGRAM
 SPANS 5R & 4R

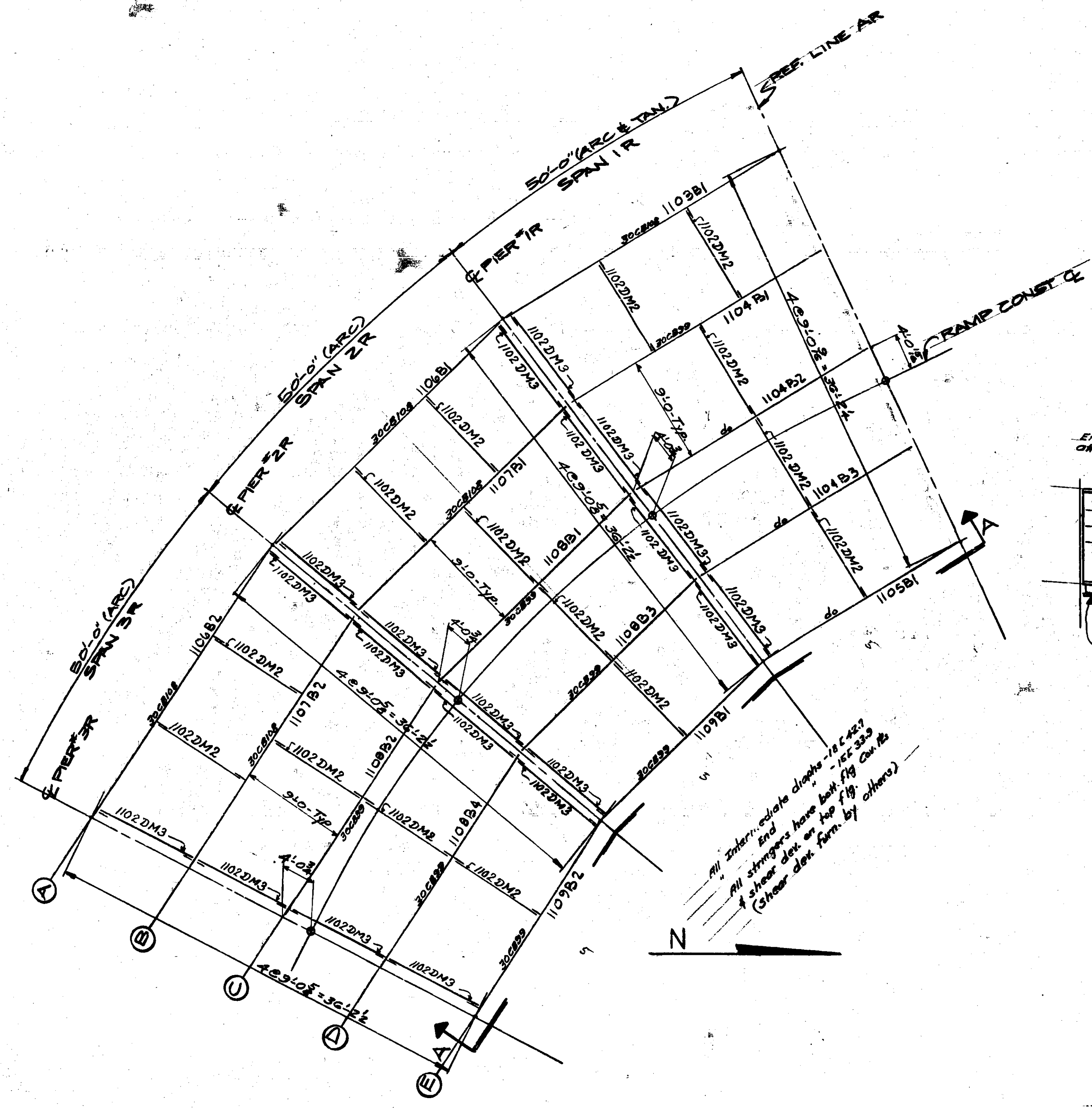
USS American Bridge
 Division of United States Steel Corporation

F	DATE	BY	CHKD
E			
D			
C			
B			
A	7/5/70	UD	

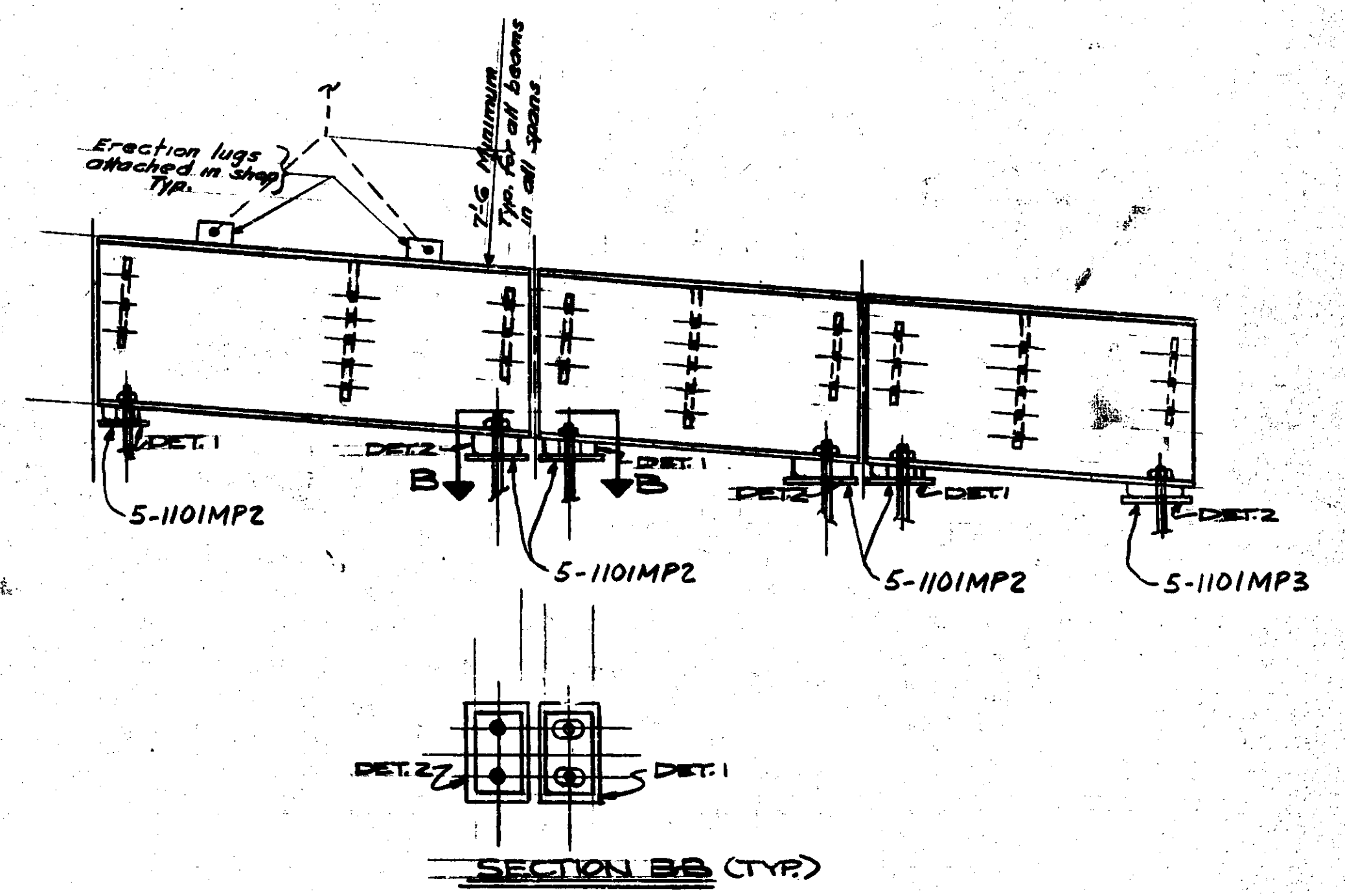
FABRICATION ASSIGNED TO: GARY
 DRAWING MADE BY: GARY
 MADE BY: HOUD. DATE: 7/5/70. CHECKED BY: ALL. DATE: 7/5/70
 IN CHARGE OF: AUGUSTINE 219-944-5659
 SHEET NO.: K2828 E11



① Check steel before installing second side.
Note to Framing Room:
Do not specify welding process on drawing unless required by job specification.



All intermediate diaphragms - 18 C-427
End diaphragms - 15 C-427
All stringers have back - 15 C-427
& shear deck on top flg. C-427
(Shear deck form. by others)



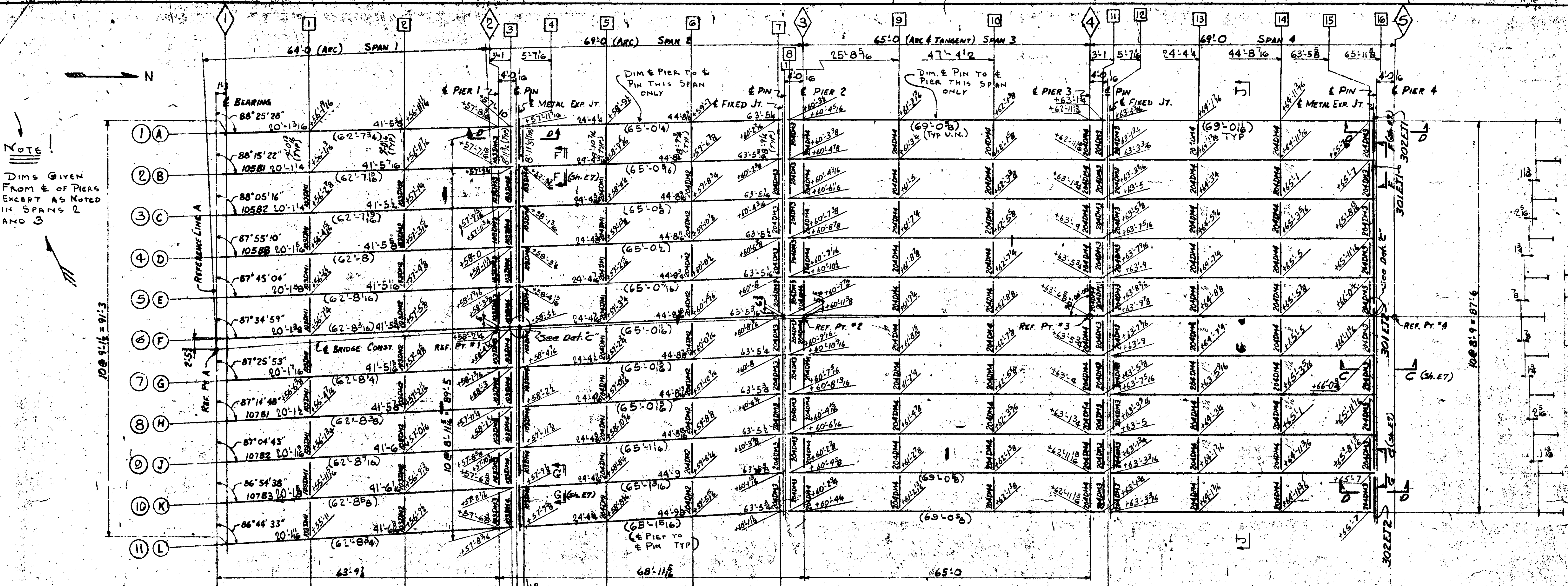
Gen. Notes - See Sh. E11

MICHIGAN DEPT. OF STATE HIGHWAYS
BRIDGE X-01 OF 82122K
EVERGREEN ROAD OVER I-96
(JEFFRIES FREEWAY)
DETROIT (WAYNE COUNTY) MICHIGAN
ERECTION DIAGRAM
SPANS 1R, 2R & 3R

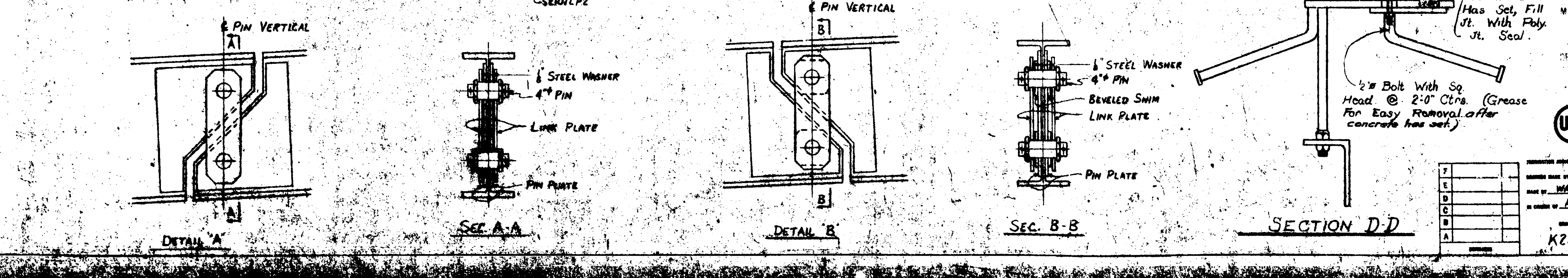
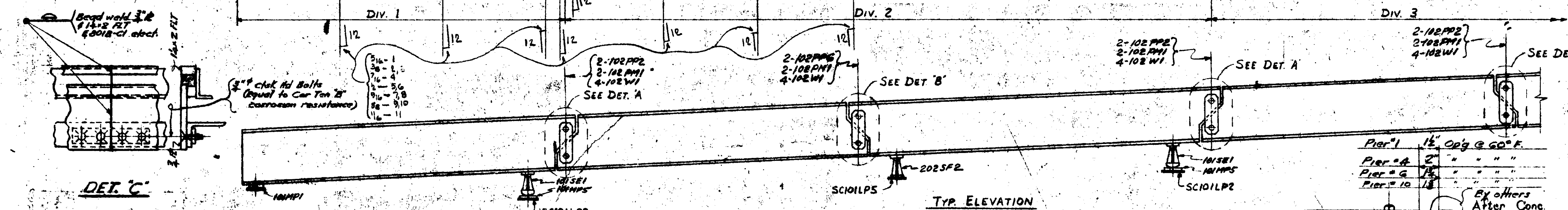
Uss American Bridge
Division of United States Steel Corporation

F			
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A			

FABRICATION ASSISTED BY: GARY Z
DRAWING MADE BY: GARY Z
MADE BY: HQUB DATE: 12/16/68 CHECKED BY: R.M. DATE: 1/16/69
IN CHARGE OF: AUGENSTINE 219-944-5557
ORDER NO. K2828 SHEET NO. E12



NOTE
 DIMS GIVEN FROM E OF PIERS EXCEPT AS NOTED IN SPANS 2 & 3



NOTE 1
 See Sheet #E7 For Sections C-C, F-F & G-G.

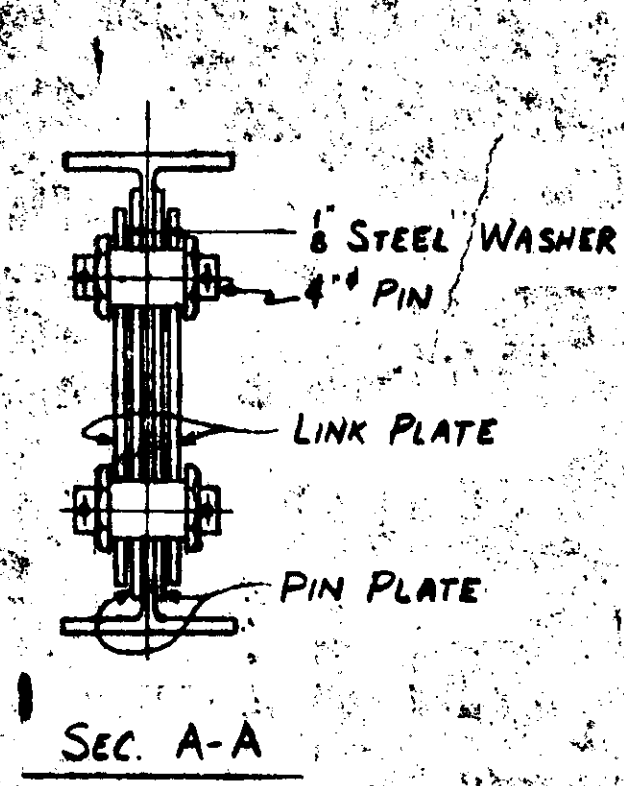
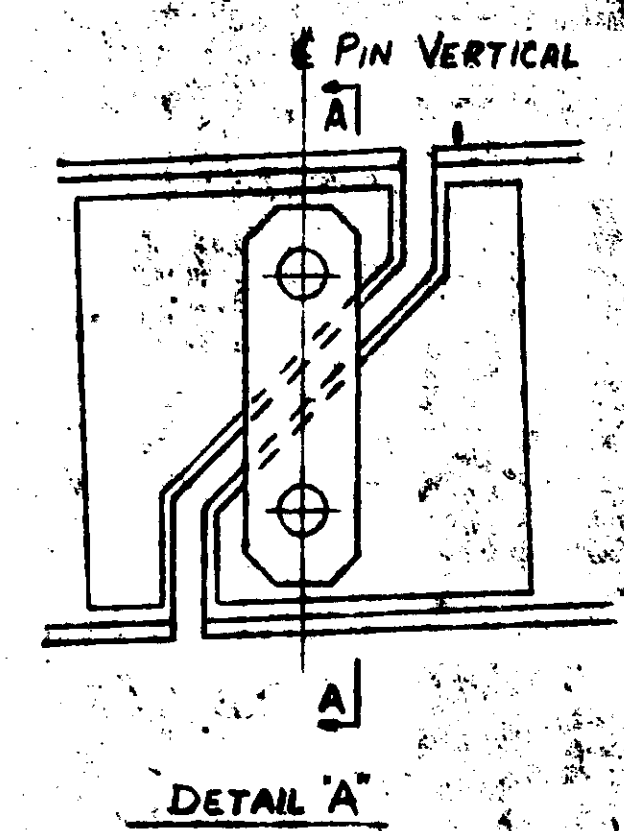
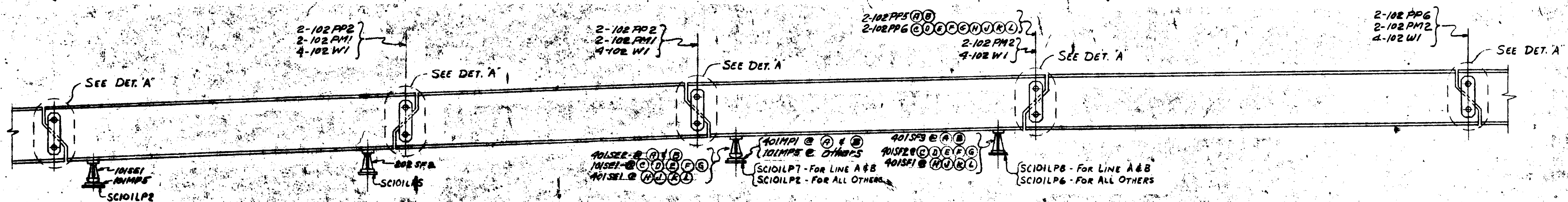
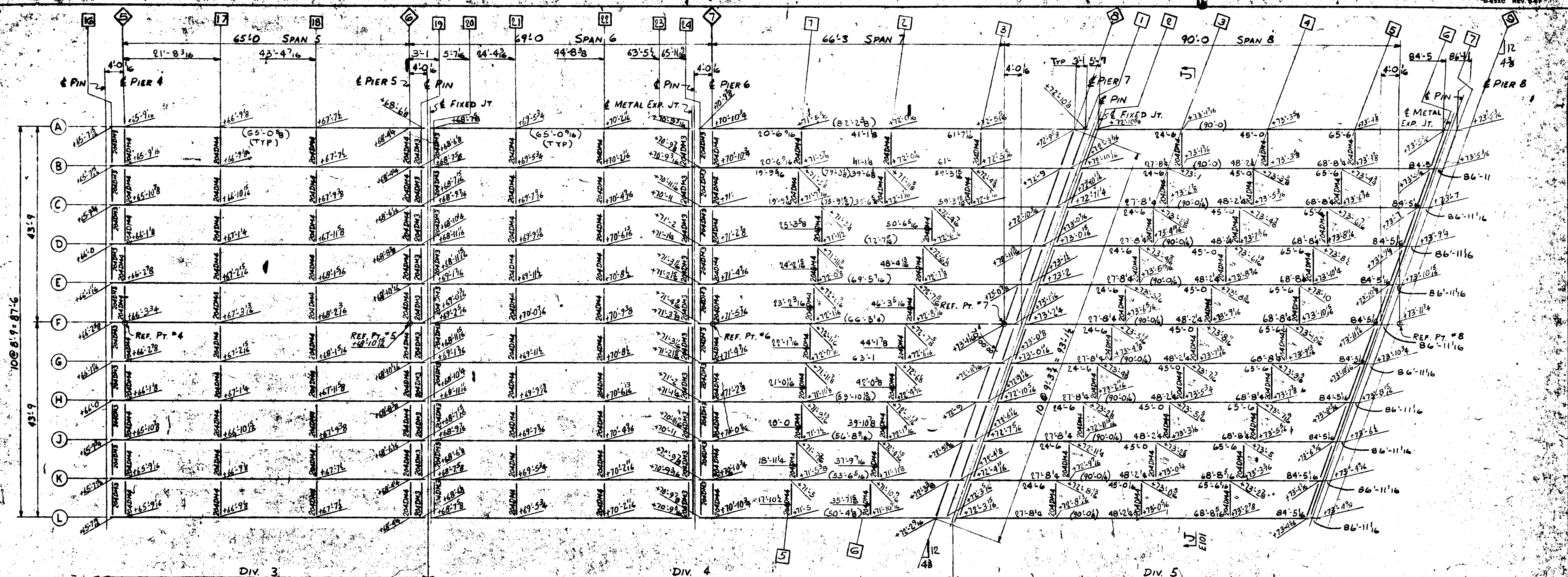
MICHIGAN DEPT OF STATE HIGHWAYS
 BRIDGE #01 OF 82122K
 EVERGREEN ROAD OVER I-96
 (JEFFERIS FREEWAY)
 (WAYNE COUNTY) MICHIGAN

ERECTION DIAGRAM
 SPANS 1 THRU 4



DESIGNED BY GARY
 DRAWN BY GARY #2
 CHECKED BY WAF
 IN CHARGE OF AUGENSTINE 219-944-6667
 SHEET NO. K2828
 DATE 10/1

SECTION - SPANS 4 THRU 19



TYP. ELEVATION

GEN. NOTE:
 USE ELEVATIONS SHOWN AT
 E OF PIER ONLY. FOR REMAINDER
 OF DIAPHRAGMS SEE SEC. J-J
 ON SHEET E101.

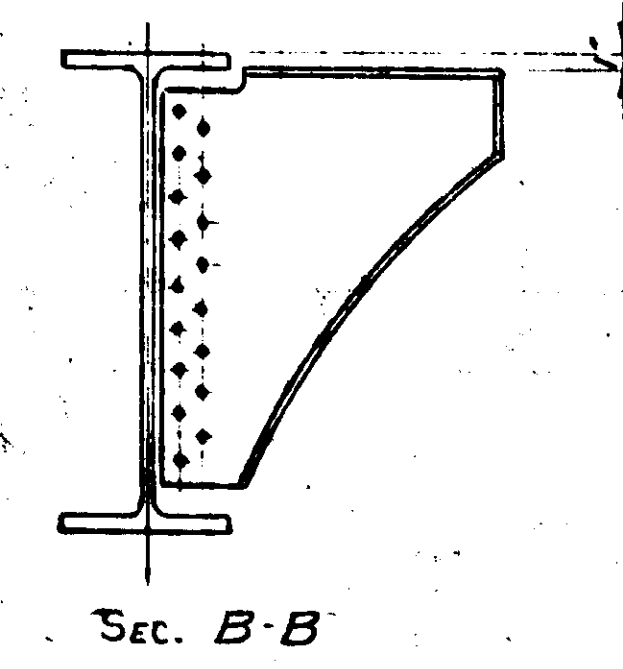
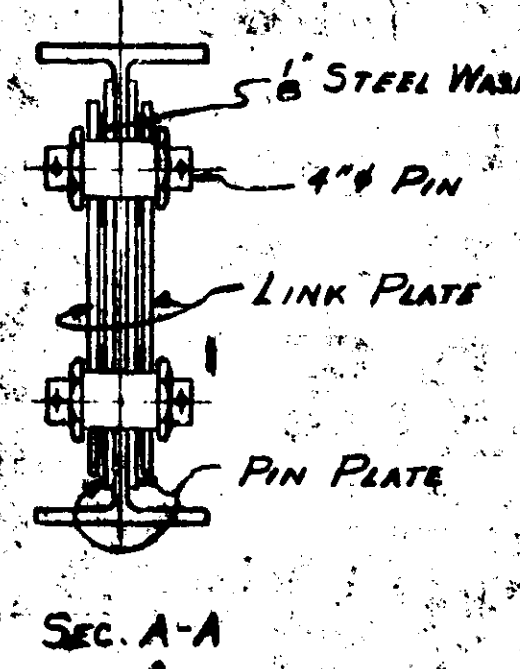
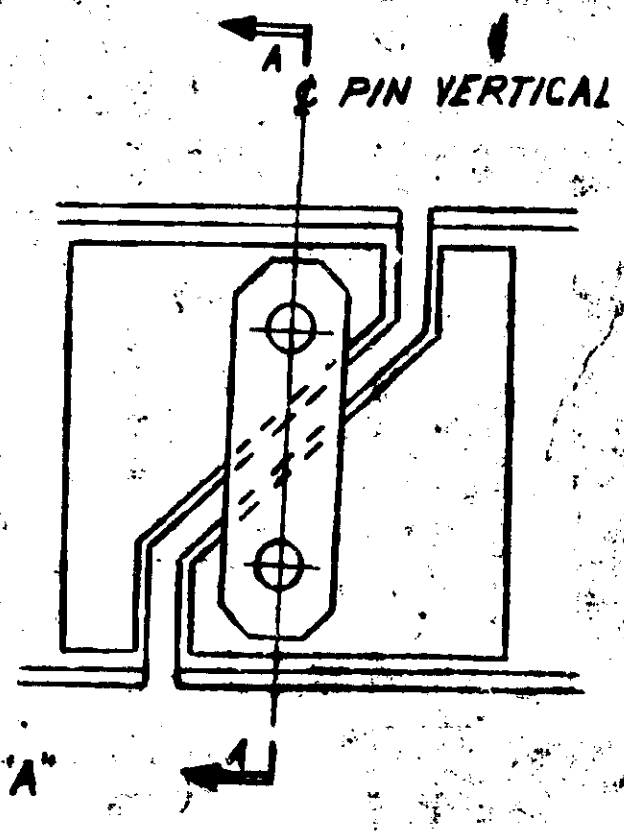
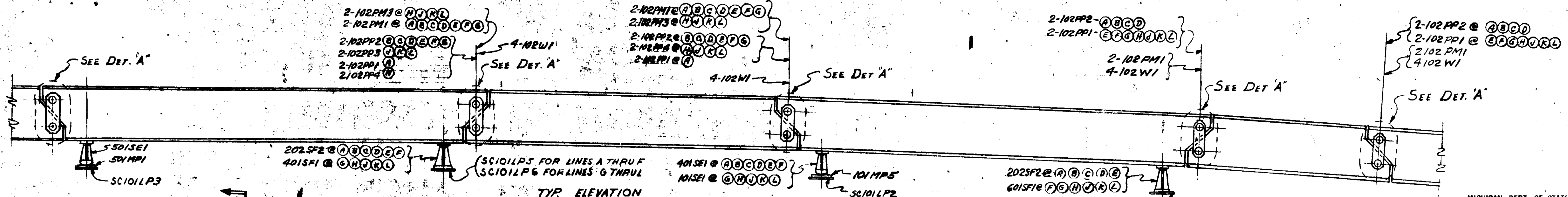
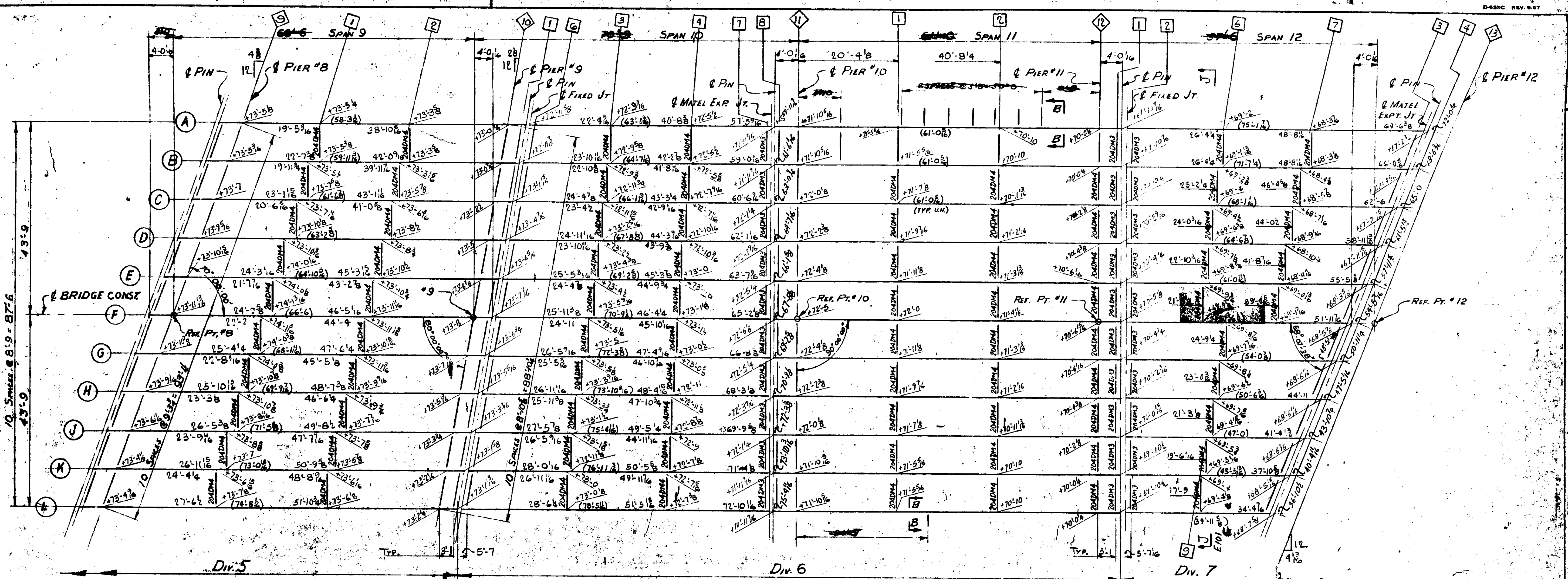
MICHIGAN DEPT. OF STATE HIGHWAYS
 BRIDGE X01 OF 82122K
 EVERGREEN ROAD OVER I-96
 (JEFFRIES FREEWAY)
 DETROIT, (WAYNE COUNTY) MICHIGAN
 ERECTION DIAGRAM
 SPANS 5 THRU 8



F		
E		
D		
C		
B		
A		

DESIGNED BY: GARY
 CHECKED BY: GARY #2
 MADE BY: WAB DATE: 12-2-69
 IN CHARGE OF: AUGENSTINE 219-944-5858
 SHEET NO. K2828
 TOTAL SHEETS E102

Check steel before
 erection. Do not
 specify steel
 unless so shown
 on drawings.
 unless specified
 by specification.



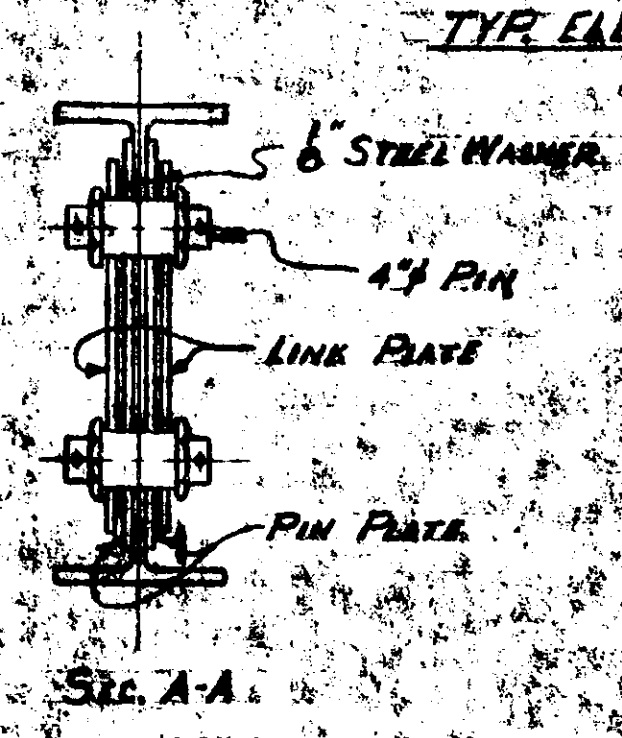
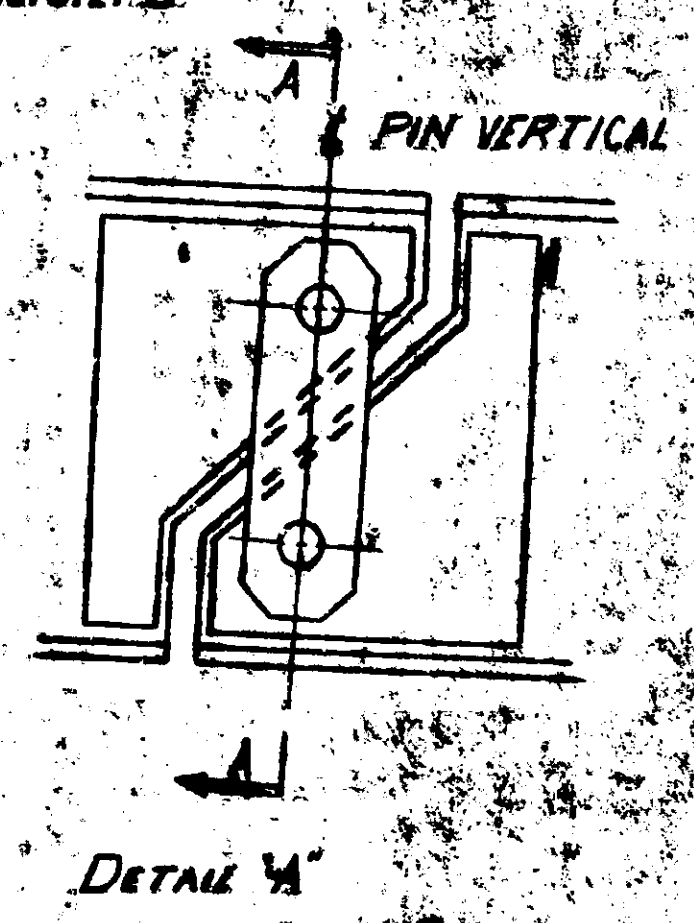
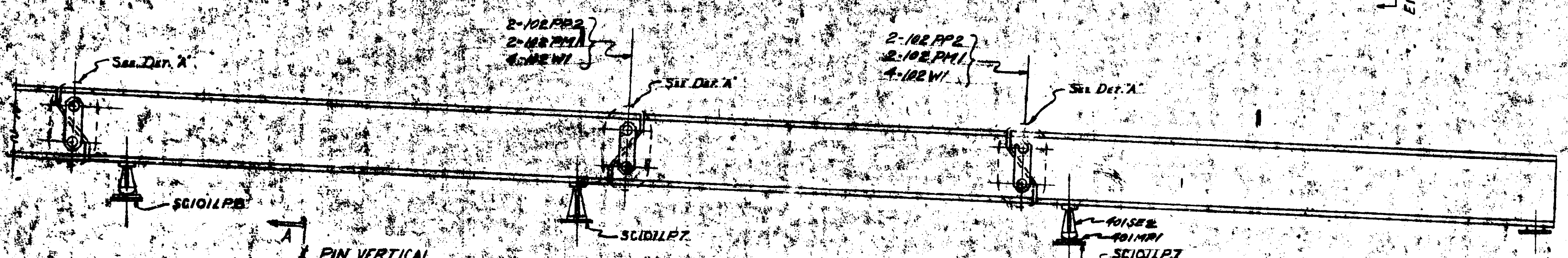
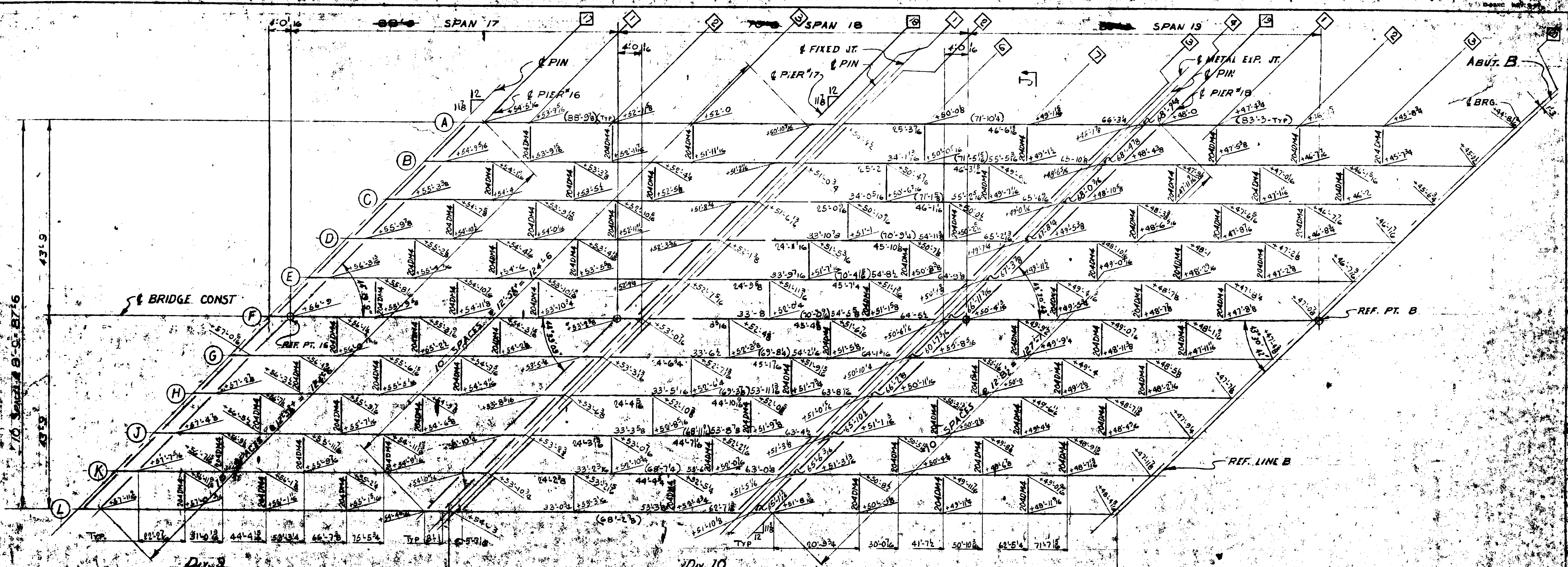
GEN. NOTE:
 USE ELEVATIONS SHOWN AT E OF PIER
 AND E OF PIN ONLY. FOR REMAINDER OF
 DIAPHRAGMS SEE SEC. J-J ON SHEET E101.

MICHIGAN DEPT. OF STATE HIGHWAYS
 BRIDGE NO. 1 OF 82122K
 EVERGREEN ROAD OVER I-96
 (3 LANE FREEWAY)
 RETHOV, WASHTENAW COUNTY, MICHIGAN

ERRECTION DIAGRAM
 SPANS 9 THRU 12
USS American Bridge
 Division of United States Steel Corporation

F			
E			
D			
C			
B			
A			

PRODUCTION DESIGNED BY **GARY**
 DRAWING MADE BY **GARY #2**
 MADE BY **E.B.** DATE 12-12-68 CHECKED BY **DATE**
 IN CHARGE OF **ANGUSTINE 219-944-5559**
 SHEET NO. **K2828** DRAWING NO. **E103**



GEN. NOTE:
 USE ELEVATIONS SHOWN AT E OF PIER AND
 AT PIN ONLY. FOR REMAINDER OF
 DIAPHRAGMS SEE SEC. J-J ON SHEET E101.

MICHIGAN DEPT. OF STATE HIGHWAYS
 BRIDGE X01 OF 82122N
 EVERGREEN ROAD OVER I-96
 (JEFFRIES FREEWAY)
 DETROIT, (WAYNE COUNTY) MICH.

ERRECTION DIAGRAM
 SPANS 17, 18, & 19

USS American Bridge
 Division of United States Steel Corporation

F	
E	
D	
C	
B	
A	

DESIGNED BY GARY
 DRAWN BY GARY
 CHECKED BY E.B.
 IN CHARGE OF AUGENSTINE 219-944-5559
 K2828 E105