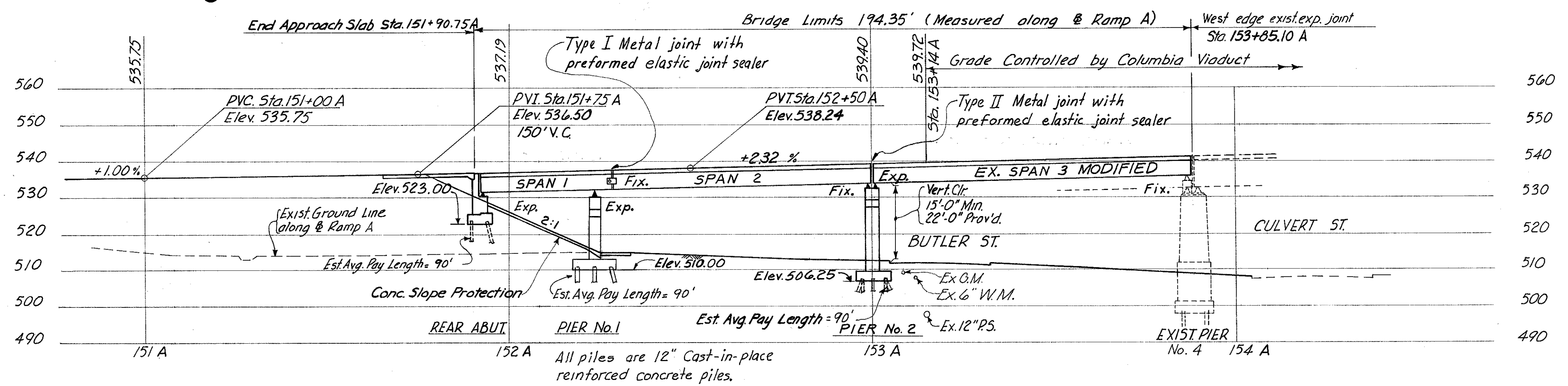


SECTION A-A

NOTE:  
Earthwork limits shown are schematic.  
Actual slopes shall conform to plan cross sections.  
For Bench Marks, See Sh. 33.

PLAN



PROFILE ON BASE LINE

CURVE DATA

<p>Curve No. 3A  <math>\Delta = 92^\circ 53' 08''</math>  <math>R = 230'</math>  <math>T = 241.89'</math>  <math>L = 372.87'</math>  <math>D = 24^\circ 54' 40.4''</math></p>	<p>Curve No. 1C  PC Sta. 10+33.80C  PI Sta. 11+33.27C  PT Sta. 13+47.39C  <math>\Delta = 25^\circ 40' 04''</math>  <math>D = 8^\circ 11' 06.4''</math>  <math>R = 700'</math>  <math>L = 313.59'</math>  <math>T = 159.47'</math></p>
---	---

1984 Traffic Count	ADT = 2400 DHW = 340
PROPOSED STRUCTURE	
TYPE: Steel Plate Girders; span 1 simple span with 3'6" cantilever arm in span 2; Span 2 & 3 simple spans. Reinforced concrete deck and substructure.	
SPANS: Span 1 = 30.5', Span 2 = 76.5', Span 3 = 85.1' measured along Base Line Ramp A.	
LIVE LOAD: HS 20-44	
ROADWAY: Varies, 23.5' f/f parapet (min.)	
SKEW: Varies, see Plan	
WEARING SURFACE: 1" Monolithic Concrete	
ALIGNMENT: See Curve Data	
SUPERELEVATION: Varies, see Plan	
APPROACH SLAB: AS-1-67 25' Long	

EXISTING COLUMBIA VIADUCT  
TYPE: Riveted Plate Girder with reinforced concrete deck  
SPANS: Existing spans to be affected are simple spans  
ROADWAY: 56'-0" f/f curbs with reinforced concrete sidewalk and railing  
PIERS: Reinforced concrete (on piles)  
ALIGNMENT: R = 700' (E Viaduct)

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CINCINNATI, OHIO

### SITE PLAN

## BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT

H & E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	DEV.	DEV.	JDC 4-28-72	JH 11-15-72	

HAMILTON COUNTY  
HAM-471-O.30

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ITEM	TOTAL	UNIT	DESCRIPTION	ESTIMATED QUANTITIES				
				SUPER- STRUCTURE	REAR ABUTMENT	PIER 1	PIER 2	GENERAL
202		Lump Sum	Portions of Structure Removed					Lump
503		Lump Sum	Cofferdams, Cribbs and Sheeting					Lump
503	247	Cu. Yd.	Unclassified Excavation			93	71	83
504	61	Sq. Ft.	Steel Sheet Piling Left in Place (Min. Sect. Modulus of 7 in. <sup>3</sup> per foot of wall)		61			
505		Lump Sum	Test Pile					Lump
506		Lump Sum	Pile test load					Lump
506	1	Each	Subsequent pile test load					1
507	3,510	Lin. Ft.	12" Cast-in-Place Reinforced Concrete Piles			990	1,080	1,440
509	82,705	Lb.	Reinforcing Steel	51,229	5,959	9,712	15,805	
511	220	Cu. Yd.	*Class "C" Concrete, Superstructure	220				
511	79	Cu. Yd.	Class "C" Concrete, Pier Caps and Columns			28	51	
511	43	Cu. Yd.	Class "C" Concrete, Abutment above Footings		43			
511	86	Cu. Yd.	Class "C" Concrete, Footings		25	24	37	
513	191,000	Lb.	Structural Steel	191,000				
514	191,000	Lb.	Field Painting of Structural Steel	191,000				
516	22	Lin. Ft.	Type I Metal Joint with Preformed Elastic Joint Sealer	22				
516	63	Lin. Ft.	Type II Metal Joint with Preformed Elastic Joint Sealer	63				
517	148	Lin. Ft.	Handrail (Concrete with Concrete Posts) As Per Plan	148				
518	23	Cu. Yd.	Porous Backfill		23			
518	28	Lin. Ft.	6" Perforated, Helical Corrugated Metal Pipe, 707.01		28			
518	6	Lin. Ft.	6" Non-Perforated Helical Corrugated Metal Pipe, Including Specials, 707.01		6			
518	3	Each	Drain Inlets					3
518	46	Lin. Ft.	6" Standard Pipe Downspout, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials					46
518	17	Lin. Ft.	6" Standard Pipe Collector, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials					17
601	124	Sq. Yd.	Concrete Slope Protection		124			
625			See Sheet 143 for Lighting Summary					
808	220	Units	Chemical Admixture for Concrete, Type A, B or D	220				
838	3	Hour	Special Pile Tests					3

\* 5 Cu. Yd. Class "C" Concrete, Superstructure is non-participating for Federal Funds.

REFERENCE

SHALL BE MADE TO STANDARD DRAWINGS AS-1-67, REVISED 6-12-69, SD-1-69, SHEETS 1 AND 2 DATED 6-12-69, BR-1-67, SHEET 1 REVISED 10-15-71, RB-1-55, REVISED 2-2-59, AND TO SUPPLEMENTAL SPECIFICATIONS 808 DATED 1-1-71, 836 DATED 1-1-71 AND 838 DATED 3-18-70.

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1969, INCLUDING THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA:

DESIGN LOADING - HS 20-44

CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE  
UNIT STRESS 1333 PSI FOR SUBSTRUCTURE

STRUCTURAL STEEL - ASTM A36 - UNIT STRESS 20,000 PSI.

REINFORCING STEEL - ASTM A615, A616 OR A617 - UNIT STRESS 20,000 PSI.  
IF BARS IN ACCORDANCE WITH ASTM A616 ARE PROVIDED  
THEY SHALL BE SUBJECT TO BEND TESTS AS PER AASHTO  
DESIGNATION M 42-70.

EMBANKMENT CONSTRUCTION:

THE EMBANKMENT SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE BETWEEN THE FORWARD ABUTMENT FOR BRIDGE NO. HAM-471-0047 AND THE REAR ABUTMENT FOR BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT. EXCAVATION SHALL THEN BE MADE FOR THE REAR ABUTMENT AND PIER 1.

PILES

SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 50 TONS PER PILE.

UTILITY LINES:

ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER(S). THE CONTRACTOR AND OWNER(S) ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

PLANS FOR EXISTING BRIDGE:

PRINTS OF THE PLANS OF THE DESIGN AND SHOP DRAWINGS ARE AVAILABLE FOR INSPECTION BY THE PROSPECTIVE BIDDERS AT THE ENGINEERING DIVISION, ROOM 314, CITY HALL, CITY OF CINCINNATI.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE ACCURACY OF THESE PLANS AND TO OBTAIN FIELD MEASUREMENTS OF THE EXISTING STRUCTURE IN ORDER TO INSURE A PROPER FIT BETWEEN THE EXISTING AND PROPOSED WORK.

PAINTING EXISTING STEEL:

EXISTING PAINT THAT IS DAMAGED BY THE CONTRACTOR IN THE RECONSTRUCTION OF THE EXISTING STRUCTURE SHALL BE REPAINTED IN ACCORDANCE WITH SECTION 514.06. SUCH WORK SHALL BE INCIDENTAL TO ITEM 514, "FIELD PAINTING OF STRUCTURAL STEEL".

PORTIONS OF STRUCTURE REMOVED

IN ORDER TO ATTACH NEW STRUCTURE ONTO EXISTING STRUCTURE, PORTIONS OF THE EXISTING STRUCTURE SHALL BE REMOVED.

COST OF ALL REMOVALS OF THE EXISTING STRUCTURE SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE BID FOR ITEM 202, "PORTIONS OF STRUCTURE REMOVED".

FOR INFORMATION ONLY - APPROXIMATE REMOVAL QUANTITIES ARE - CONCRETE, 83 cu. yds. STRUCTURAL STEEL, 15,000 lbs.

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QUANTITIES  
BY JHO, FN, SL, DATE 3-9-72  
CHECKED BY JDC, DATE 4-24-72

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					2/39
ESTIMATED QUANTITIES AND GENERAL NOTES BRIDGE NO. HAM-471- RAMPA OFF COLUMBIA VIADUCT H&E BRIDGE NO. 8					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVIEWED
	DH		JDC 4-26-72	JHO 11-15-72	

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JAN 0 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

258  
494

HAMILTON COUNTY  
HAM-471-0.30

METAL JOINT WITH PREFORMED ELASTIC JOINT SEALER:

DESCRIPTION

THIS WORK SHALL CONSIST OF THE MANUFACTURE OF SHOP PREFABRICATED JOINT SYSTEMS AS SHOWN ON THE PLANS.

THE PREFABRICATED JOINT SHALL BE CONSTRUCTED OF STRUCTURAL STEEL SECTIONS, WITH POLYCHLOROPRENE SEALERS SECURELY BONDED IN PLACE.

THE METAL SURFACES IN DIRECT CONTACT WITH THE POLYCHLOROPRENE SEALERS SHALL BE SAND BLASTED AND PROPERLY TREATED (SO AS TO PROVIDE A HIGH STRENGTH BOND BETWEEN THE SEAL AND MATING METAL SURFACES). THEN THE SEALER SHALL BE SECURELY BONDED TO THE METAL WITH AN APPROVED ADHESIVE.

ALL STEEL COMPONENTS OF THE ASSEMBLY EXCEPT THOSE AREAS NOTED ABOVE WHICH ARE IN CONTACT WITH THE SEALERS SHALL BE PAINTED IN ACCORDANCE WITH SECTION 514.

MATERIALS

PHYSICAL PROPERTIES OF PREFORMED ELASTIC JOINT SEALER AND LUBRICANT ADHESIVE.  
SEE SECTION 705.11.

STEEL COMPONENTS - ASTM A 36.

BASIS OF PAYMENT

THE CONTRACT UNIT PRICE PER LINEAL FOOT BID FOR ITEM 516 TYPE I OR II METAL JOINT WITH PREFORMED ELASTIC JOINT SEALER, SHALL BE FULL PAYMENT FOR ALL STRUCTURAL STEEL, POLYCHLOROPRENE SEALERS, ADHESIVES, PAINT AND ALL LABOR AND MATERIALS NECESSARY TO FABRICATE AND INSTALL THE JOINTS IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

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CINCINNATI, OHIO

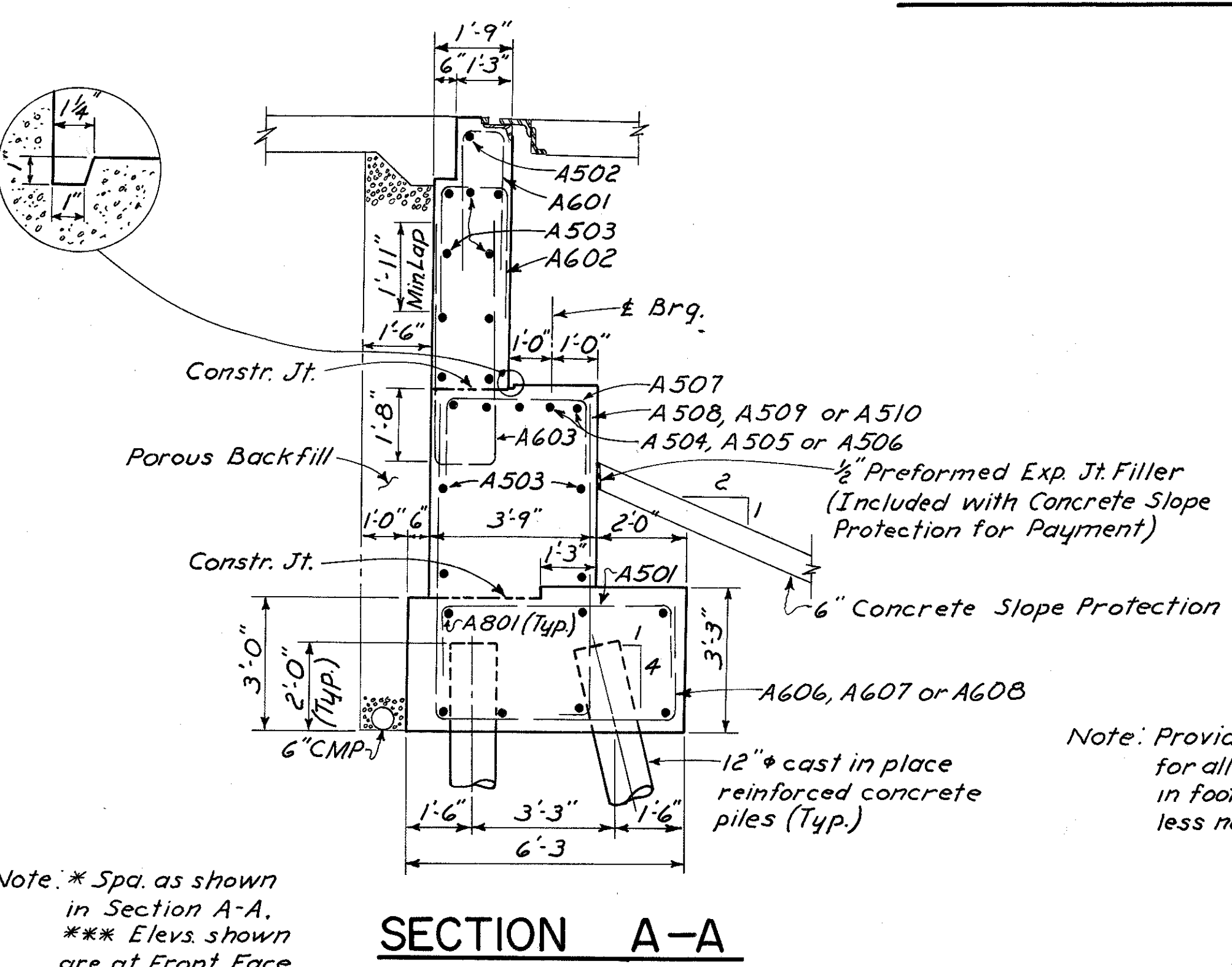
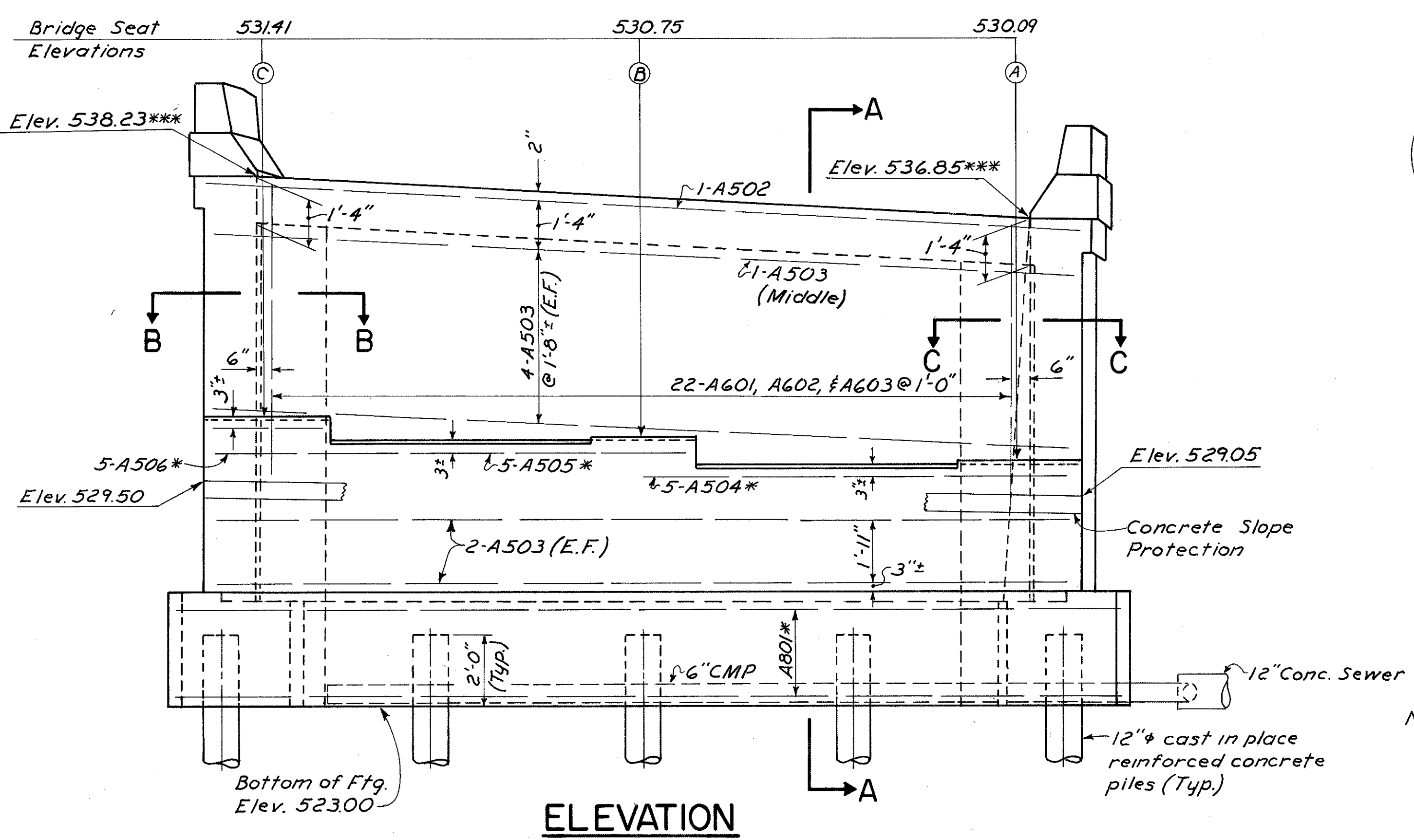
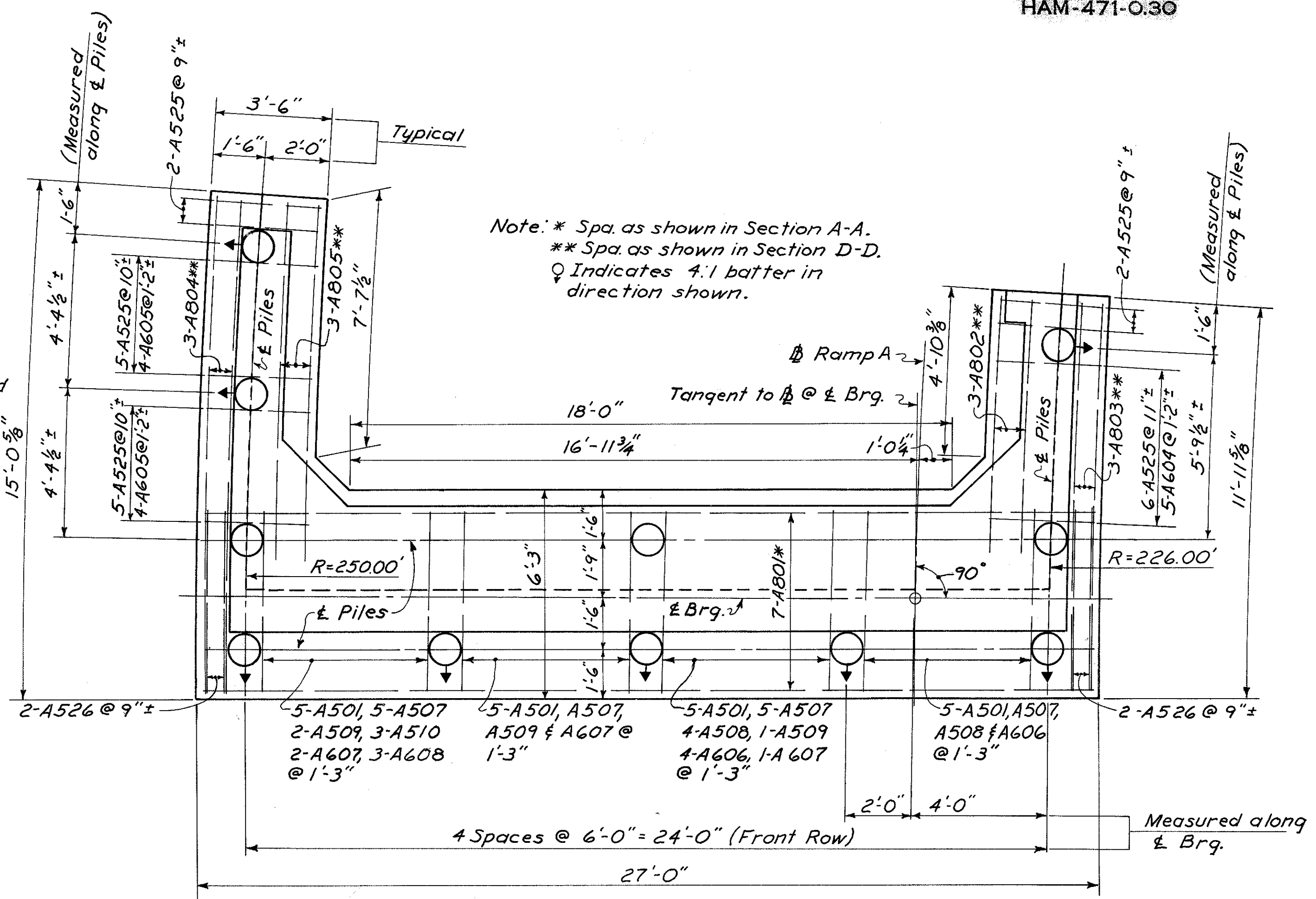
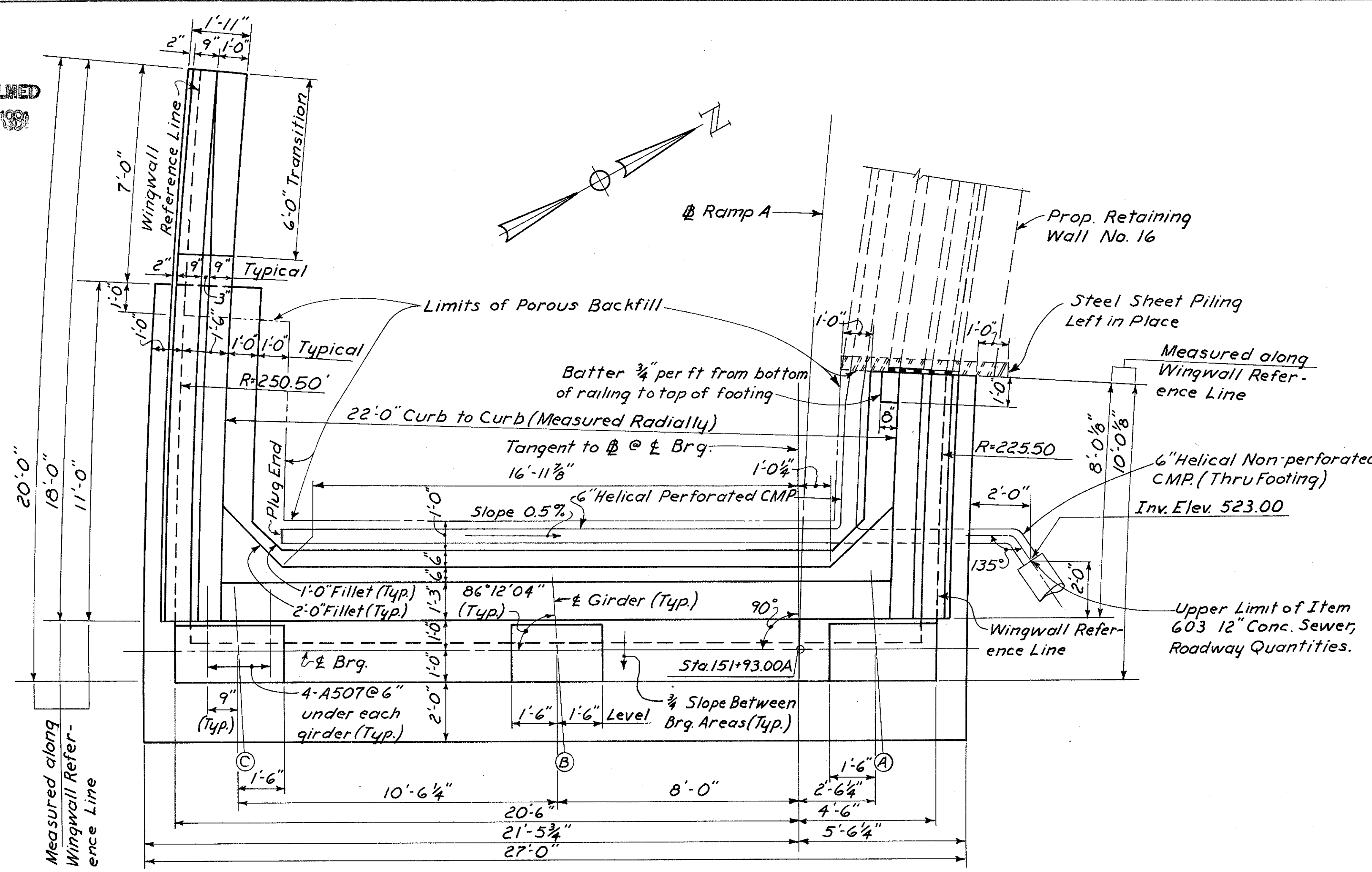
3 / 39

GENERAL NOTES  
BRIDGE NO. HAM-471-  
RAMP A OFF COLUMBIA  
VIADUCT

H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	DH		JDC 4-26-78	JHO 11-15-72	

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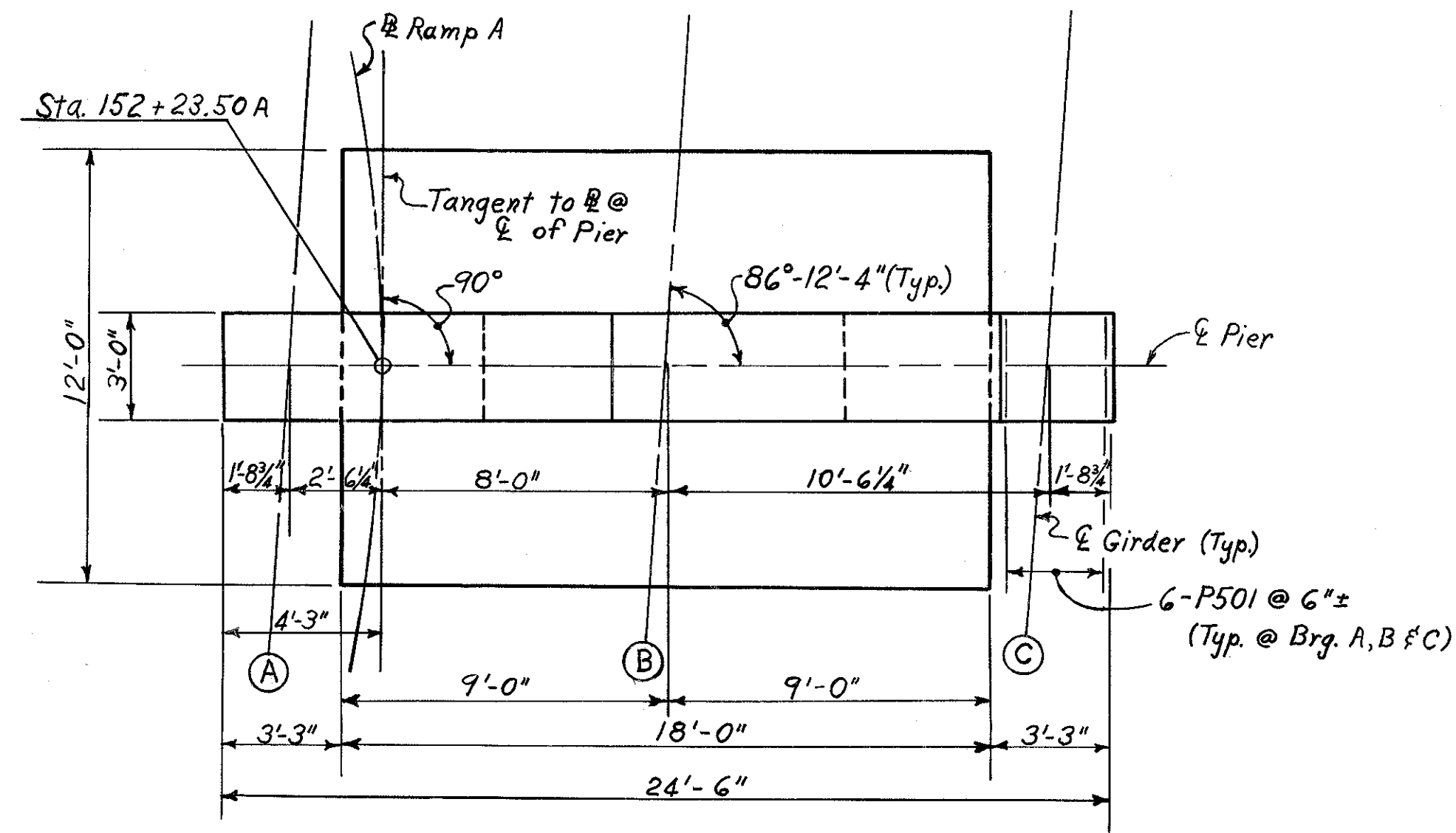
4/39

**REAR ABUTMENT  
BRIDGE NO. HAM-471-  
RAMP A OFF COLUMBIA  
VIADUCT**

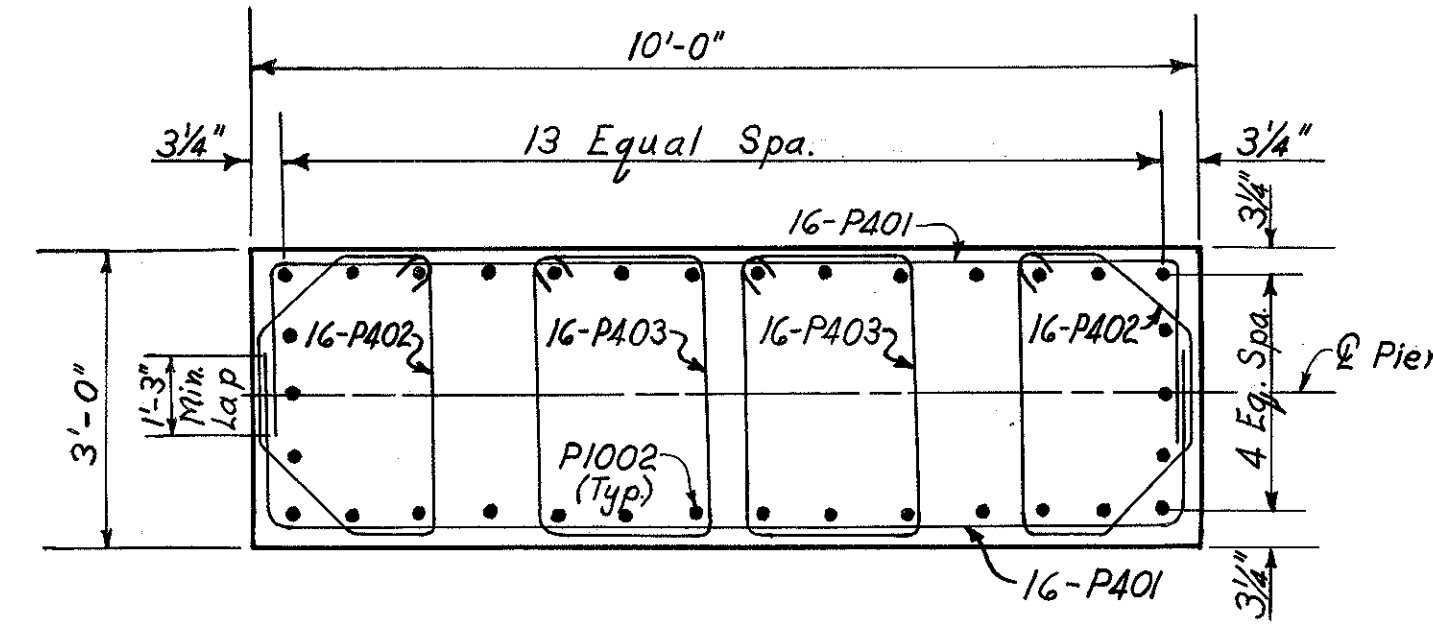
H & E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SL	RJF	RJF	JDC	JHD 11-15-72	

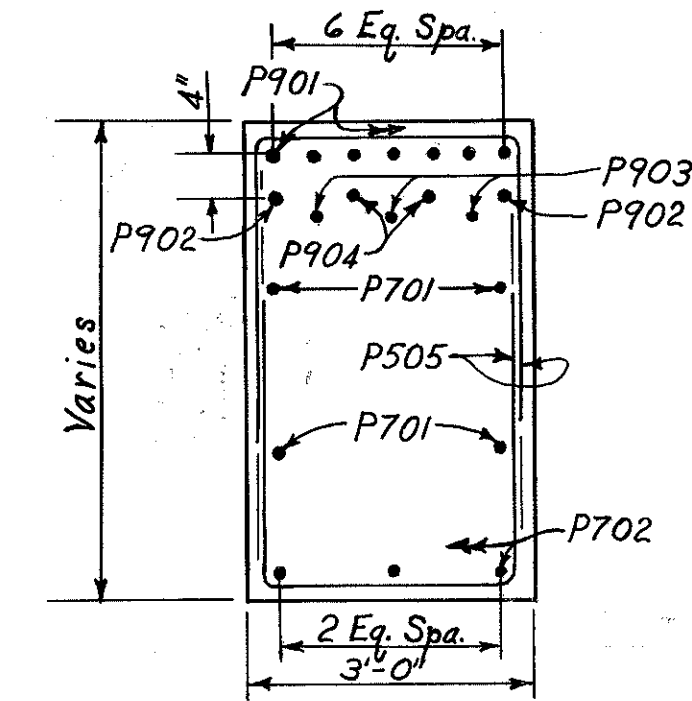




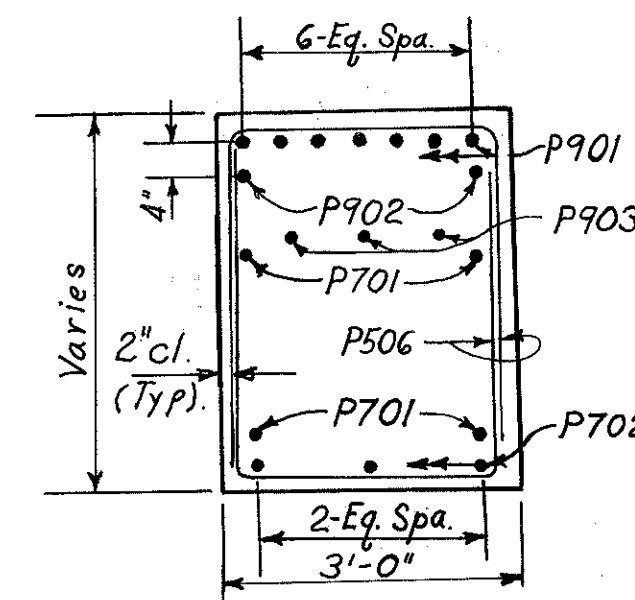
**PLAN**  
(Piles not shown)



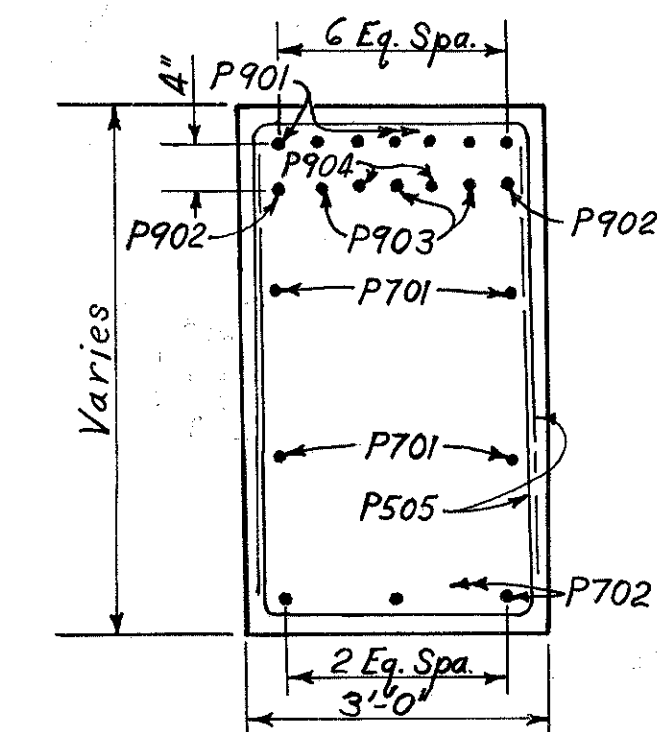
**SECTION A-A**



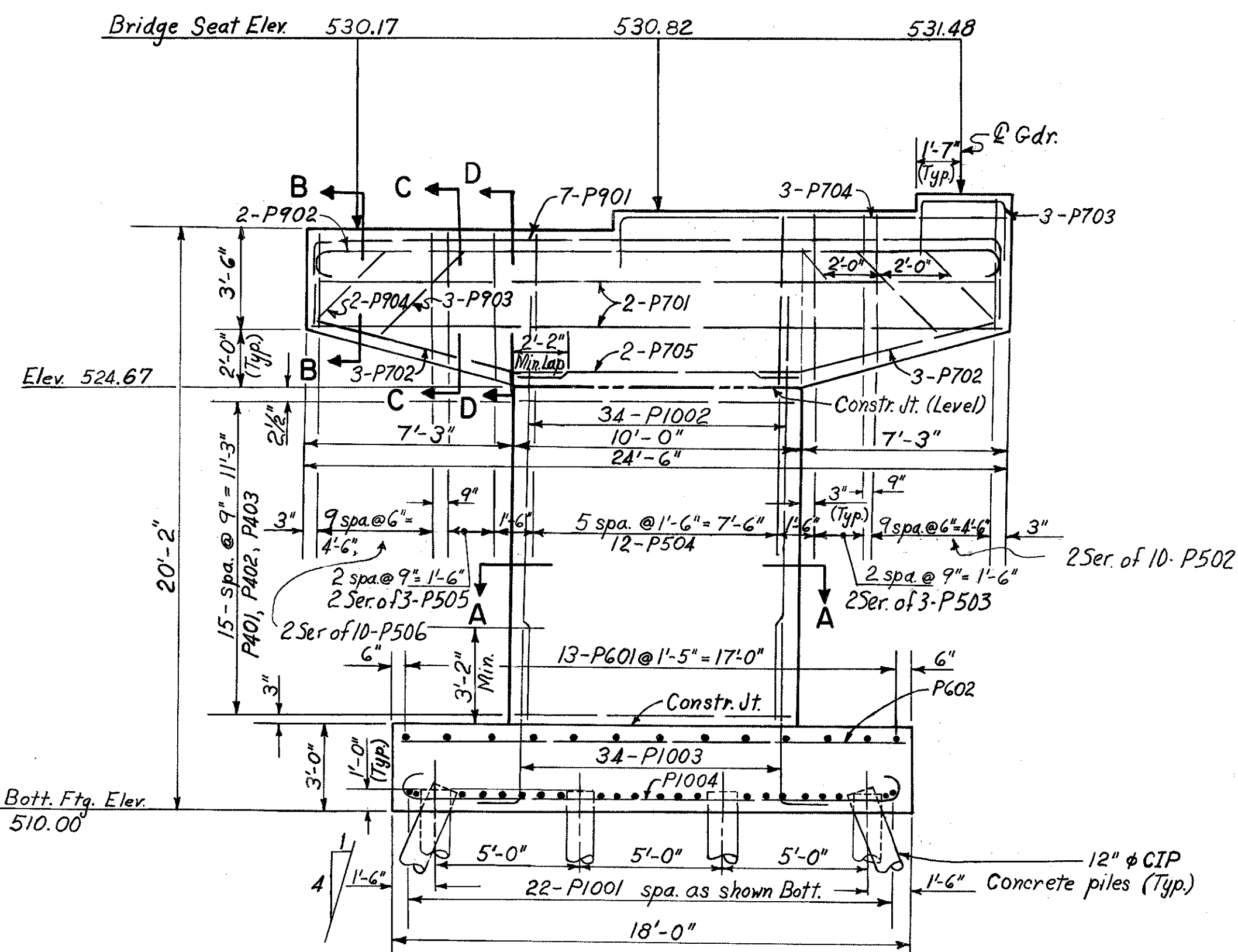
**SECTION C-C**



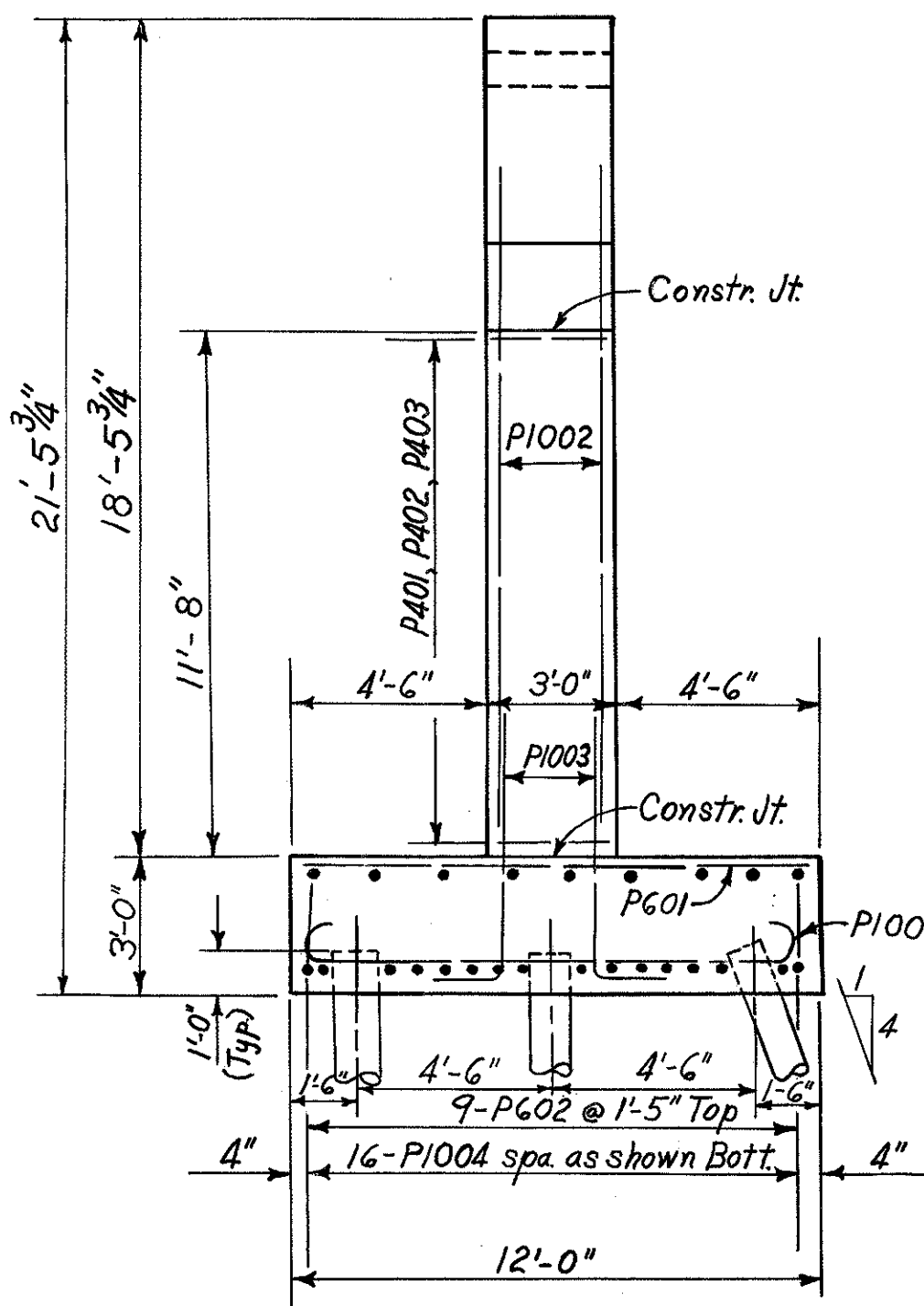
**SECTION B-B**



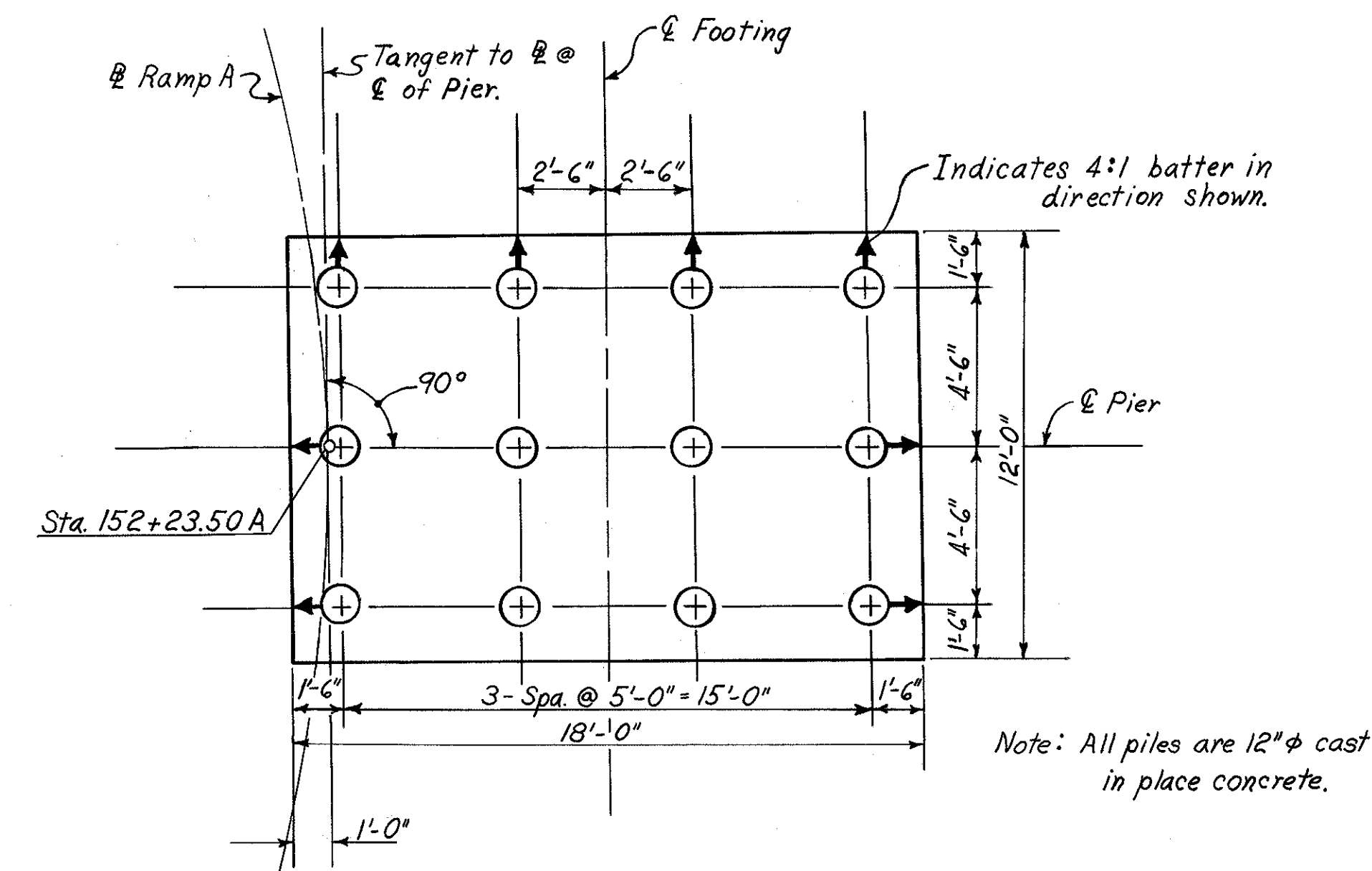
**SECTION D-D**



**ELEVATION**



**END VIEW**



**FOOTING PLAN**

Notes: All concrete shall be Class "C" concrete. Provide 3" clearance for all reinforcing steel in footing, minimum, unless noted otherwise.

Note: All piles are 12" diameter cast in place concrete.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					6/39
<b>PIER No. 1</b> BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT					
H & E BRIDGE No. 8					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
SL	MDP	MDP	JDC 12-6-71	JH 11-13-72	

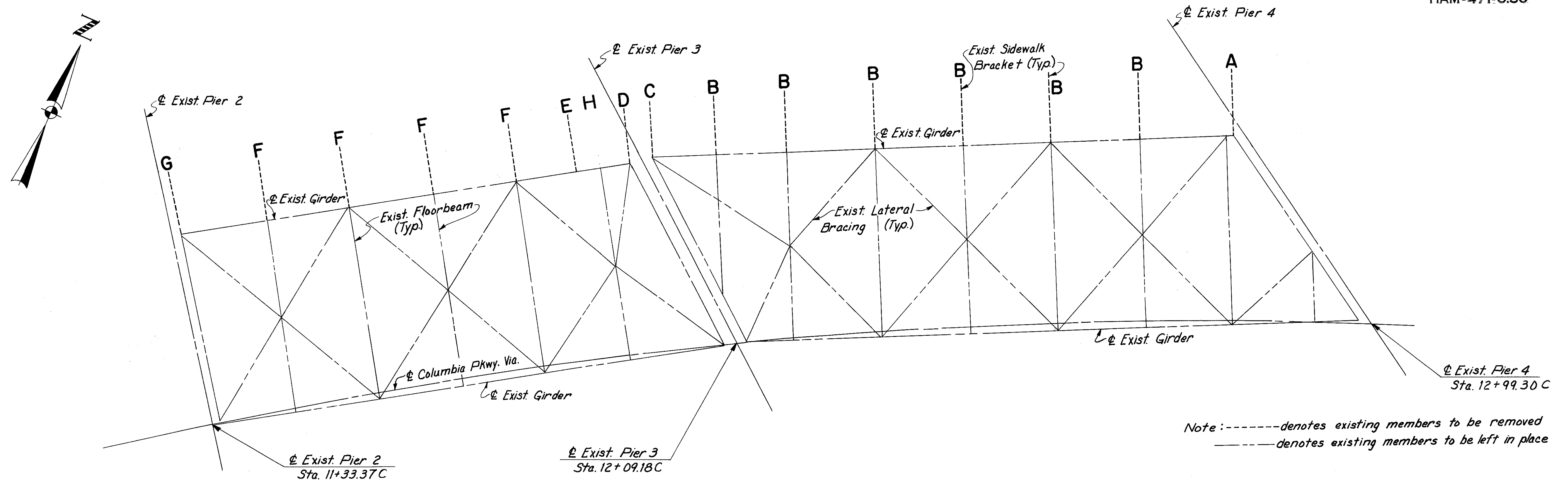


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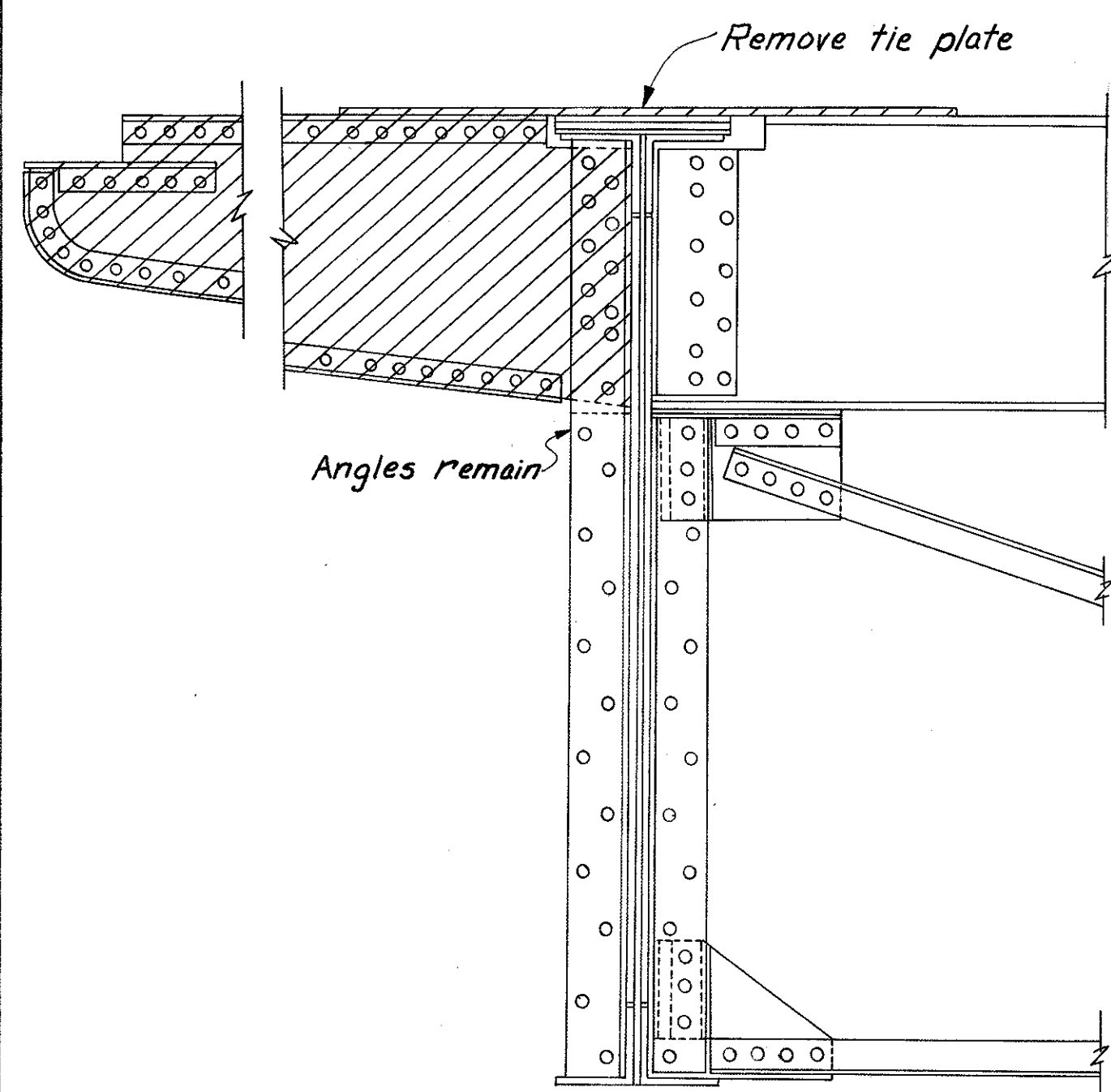
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

263  
494

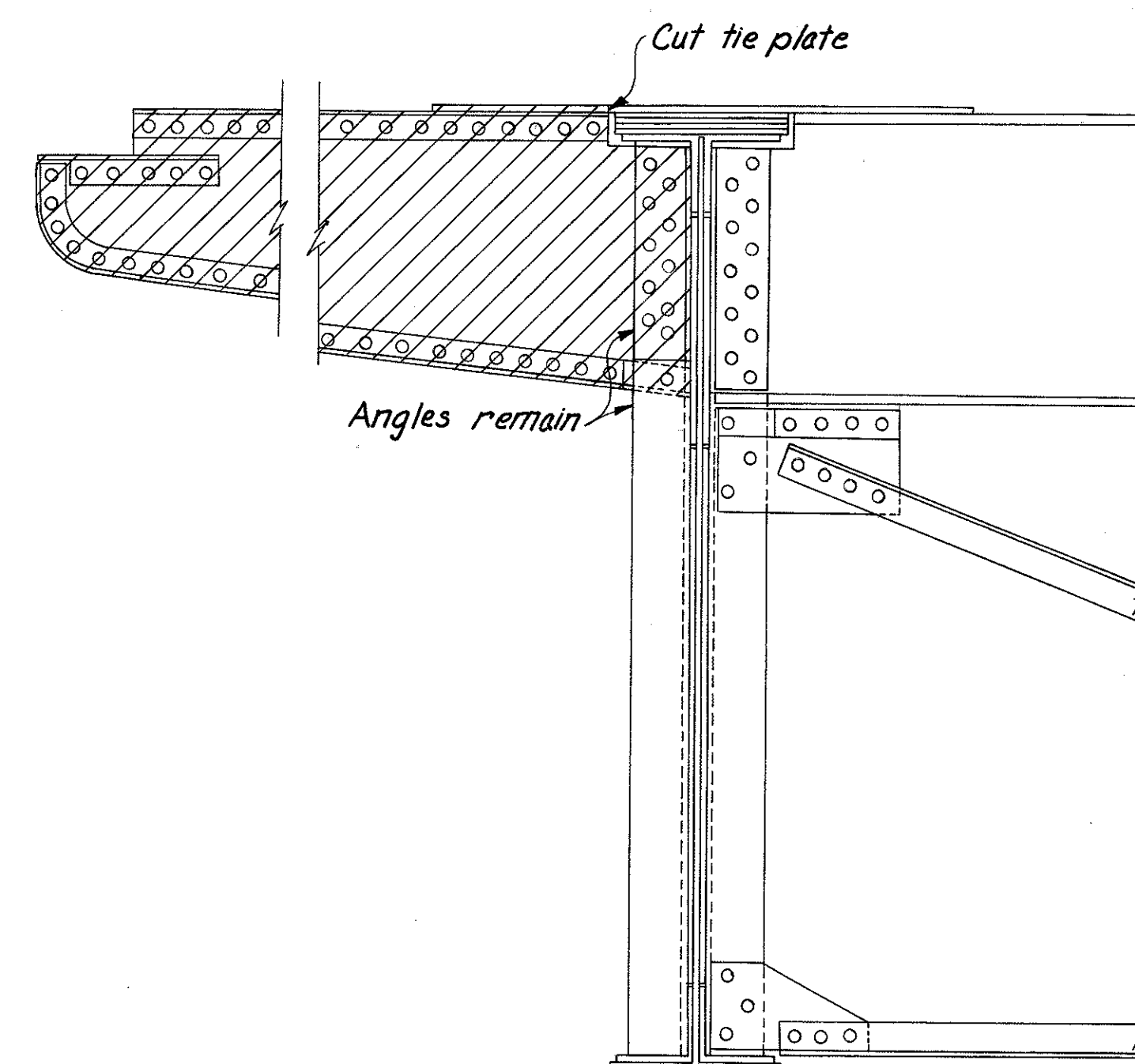
HAMILTON COUNTY  
HAM-471-0.30



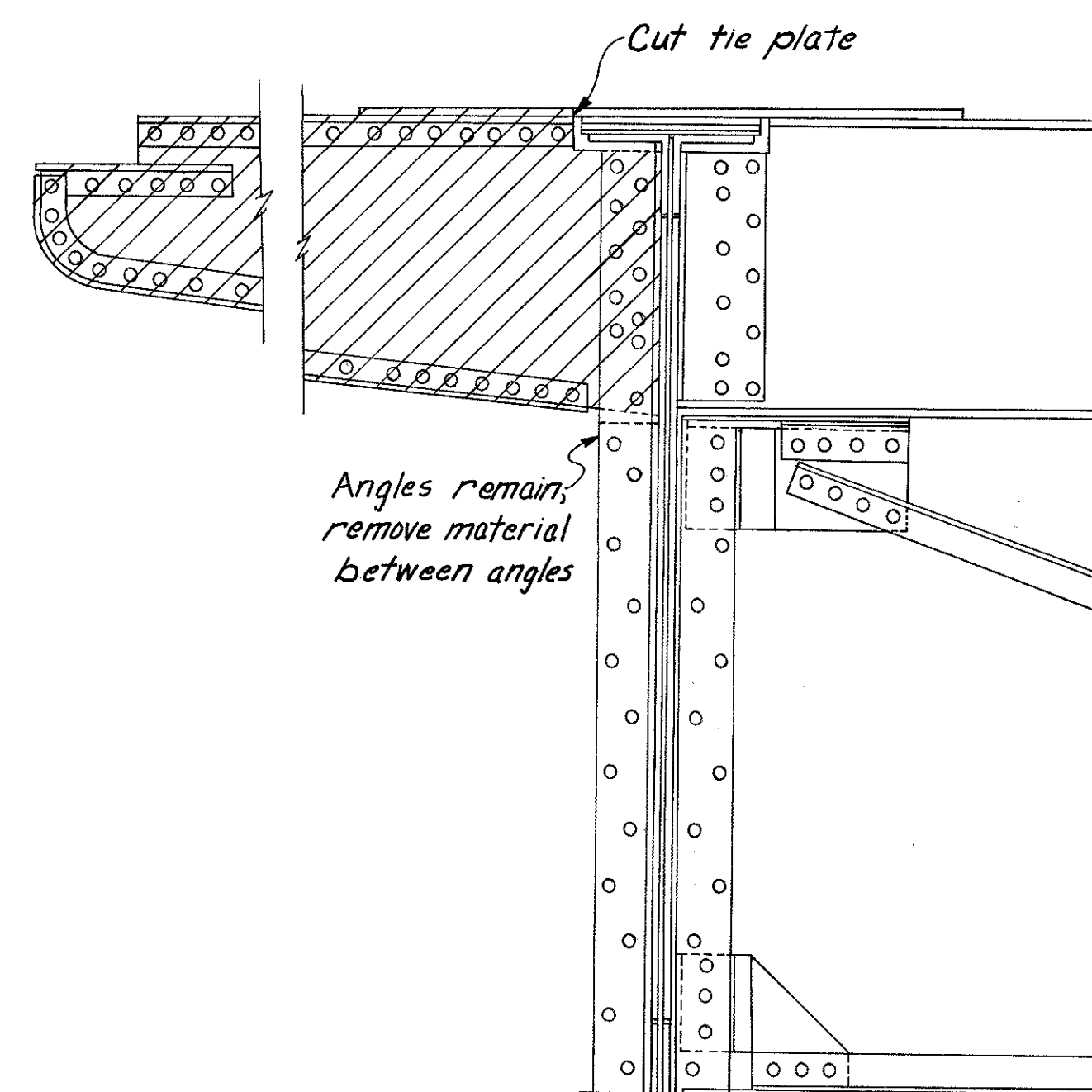
**EXISTING STRUCTURE  
FRAMING PLAN**



**REMOVAL A**

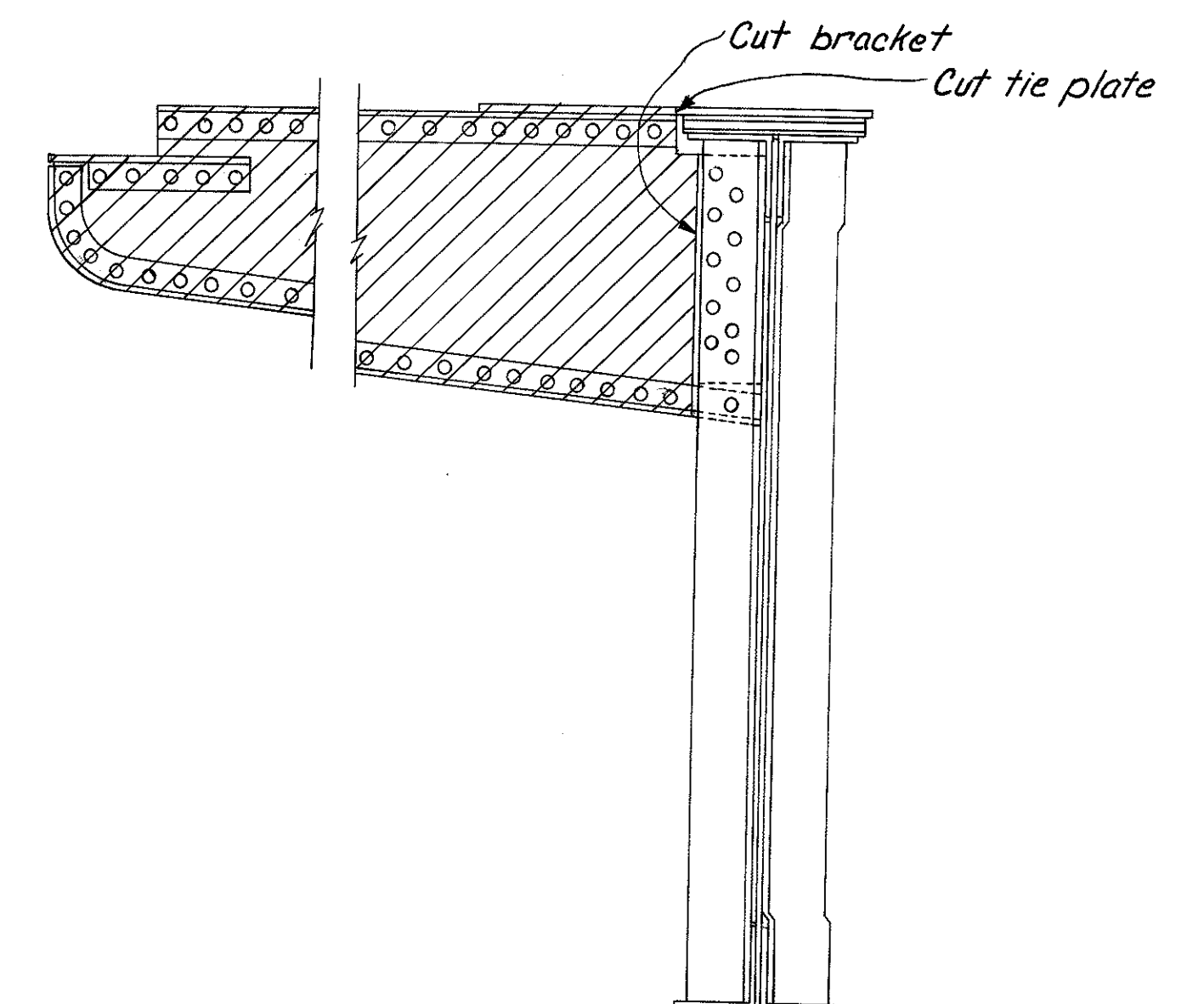


**REMOVAL B**



**REMOVAL C**

Note: Steel to be removed is indicated by cross-hatching.



**REMOVAL E**

Note: For Removal D, F, G, and H see sheet 264.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					8/39
<b>STRUCTURAL STEEL BRIDGE NO. HAM-471- RAMPA OFF COLUMBIA VIADUCT H &amp; E BRIDGE NO. 8</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.E.M.		J.O.	J.H.S. 11-13-72	

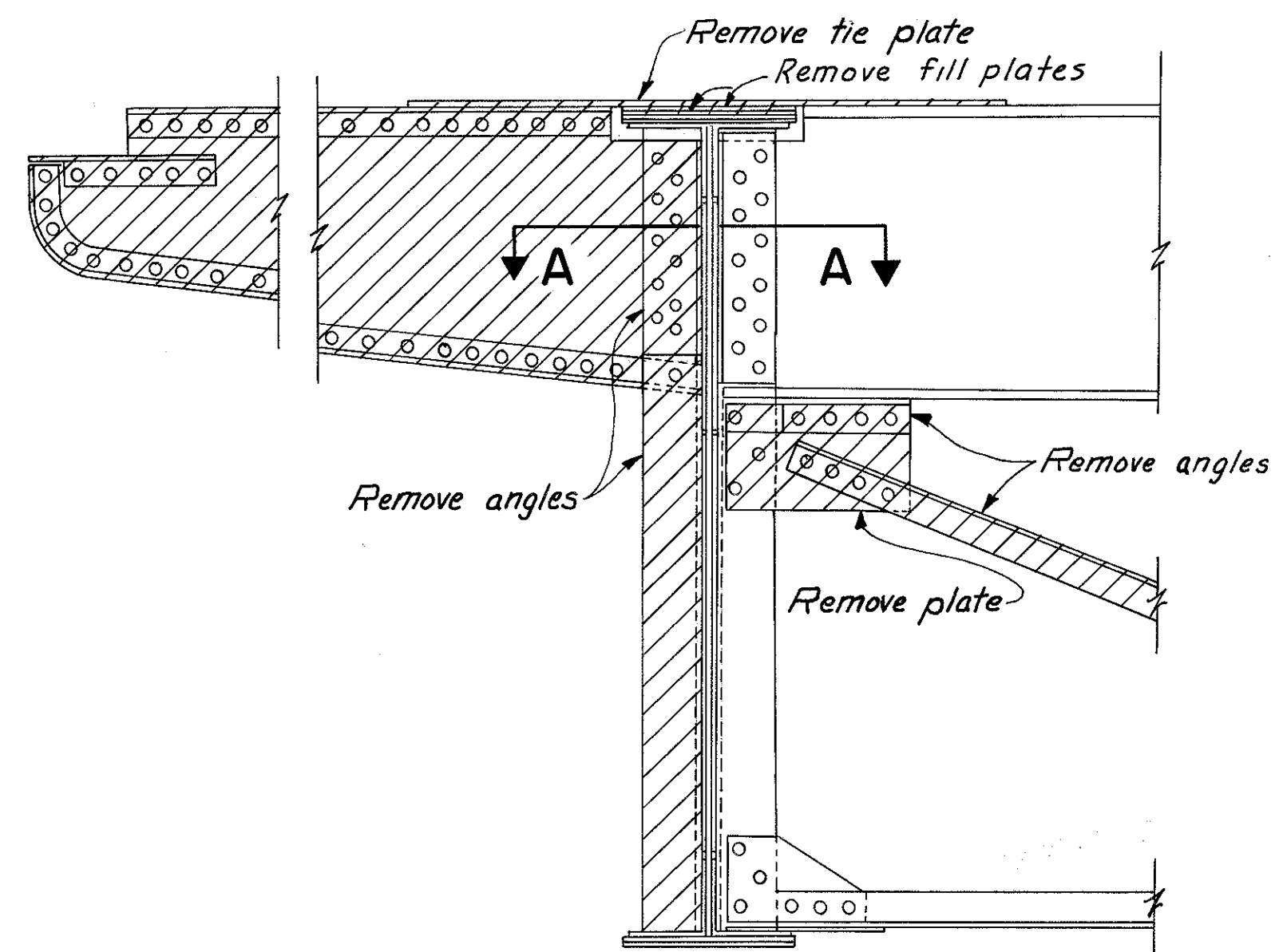


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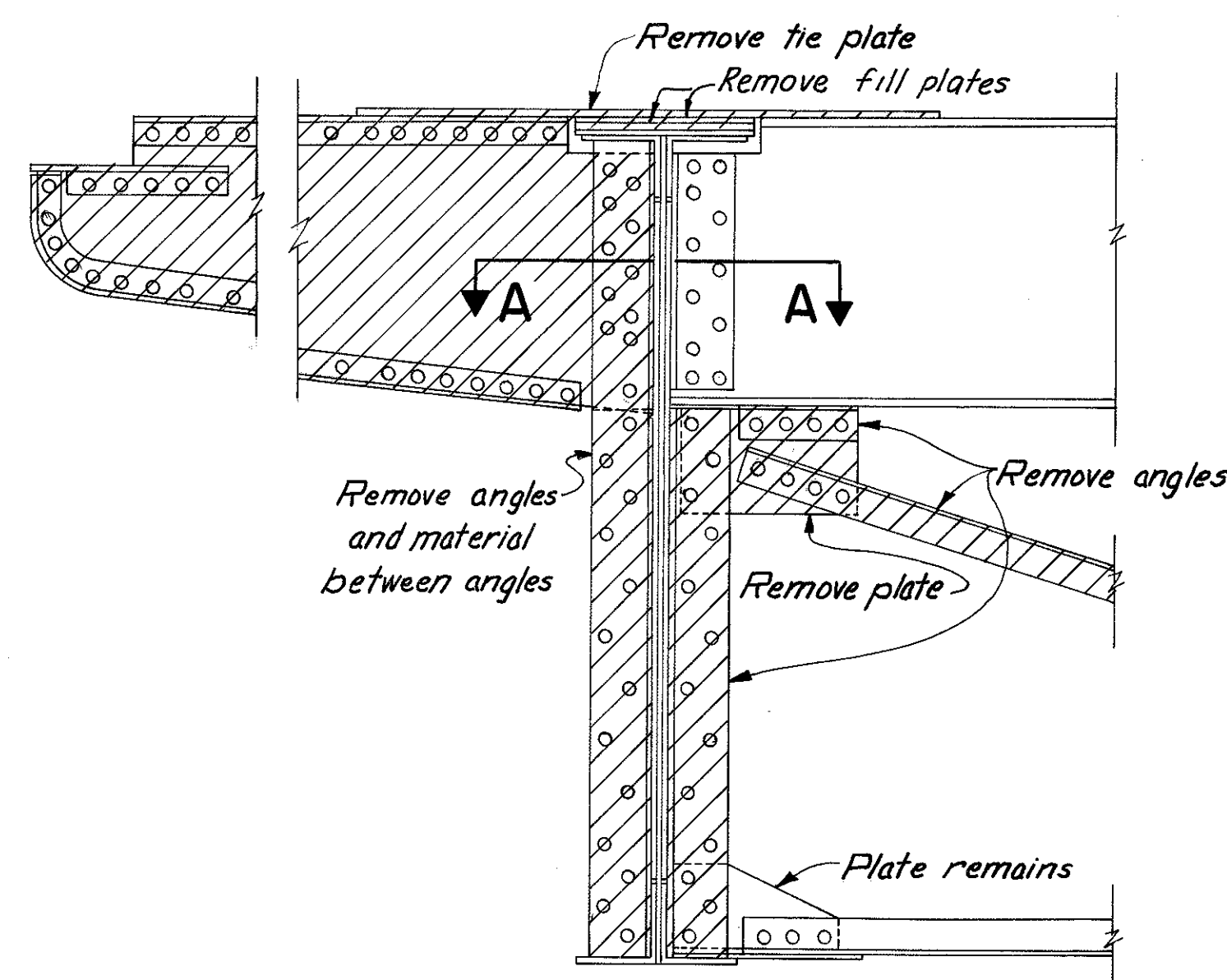
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

264  
494

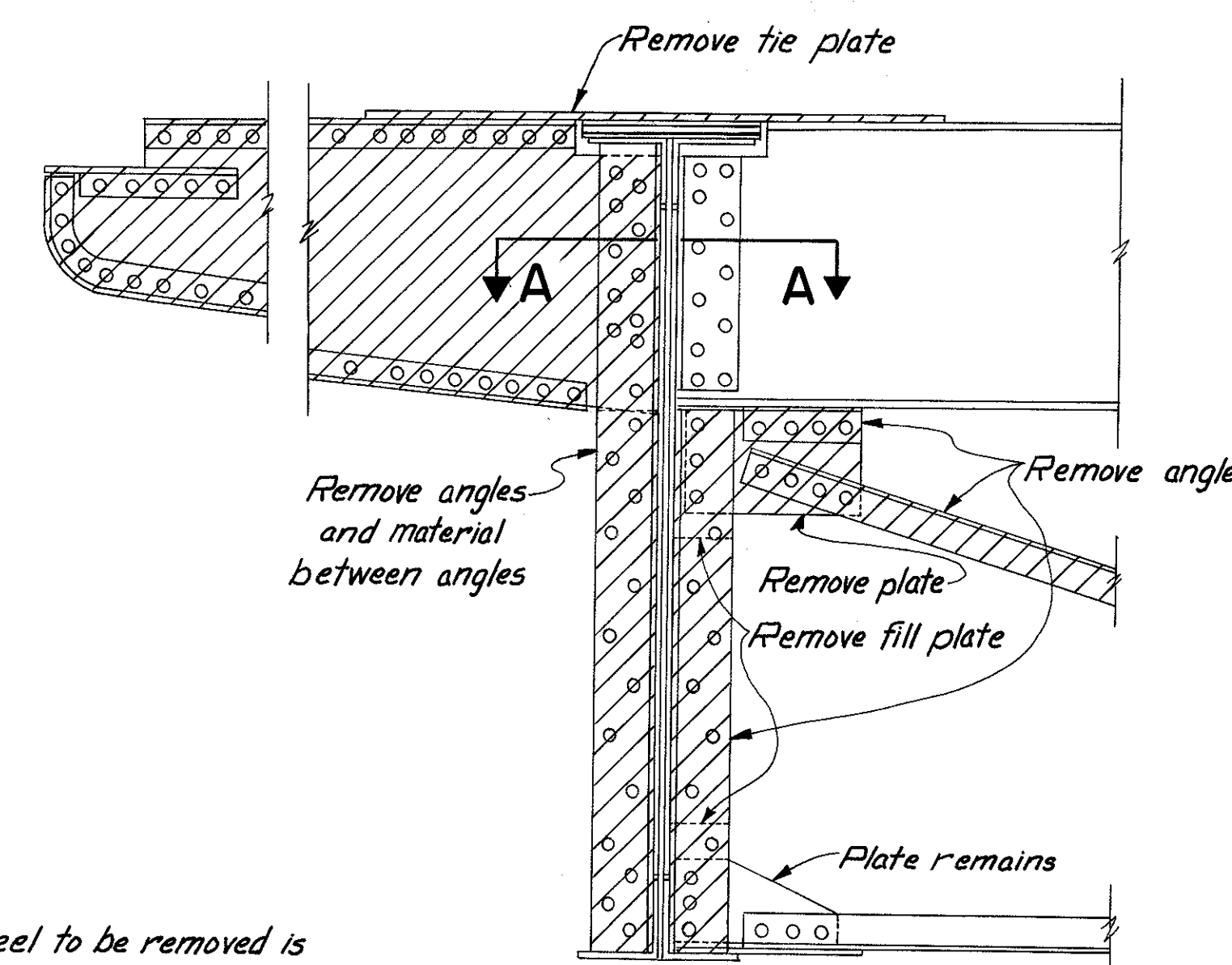
HAMILTON COUNTY  
HAM-471-0.30



**REMOVAL F**

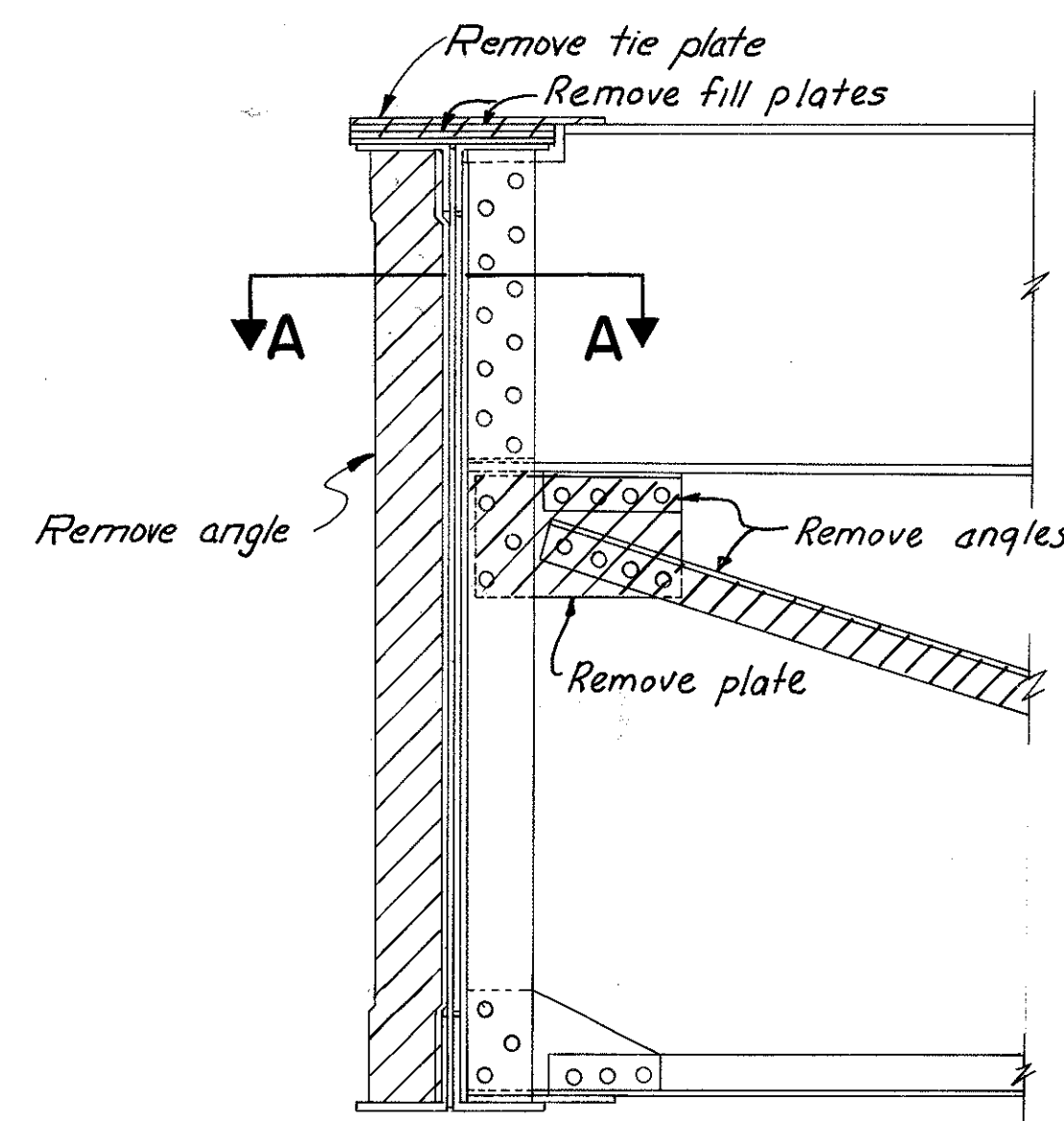


**REMOVAL G**



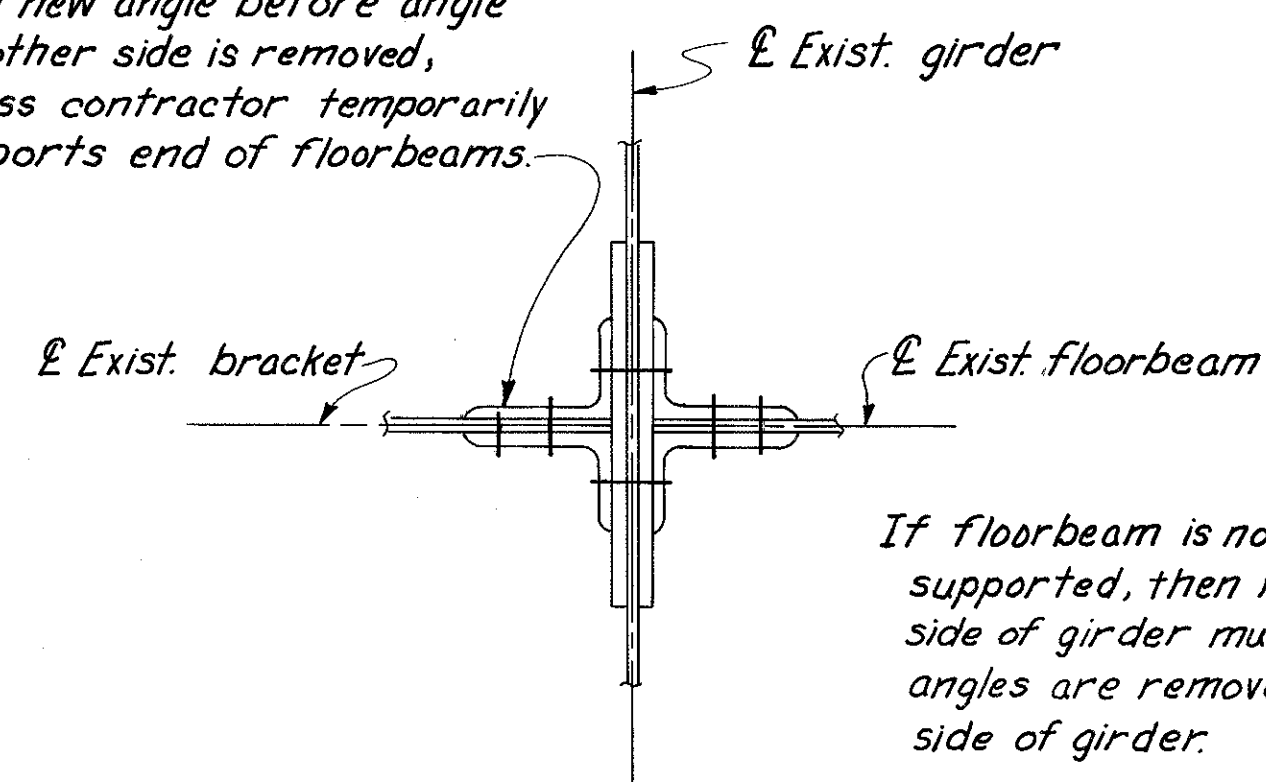
**REMOVAL D**

Note: Steel to be removed is indicated by cross-hatching.



**REMOVAL H**

Angle on one side of bracket must be removed and replaced with new angle before angle on other side is removed, unless contractor temporarily supports end of floorbeams.



**SECTION A-A**

If floorbeam is not temporarily supported, then revisions on floorbeam side of girder must be made before angles are removed from bracket side of girder.

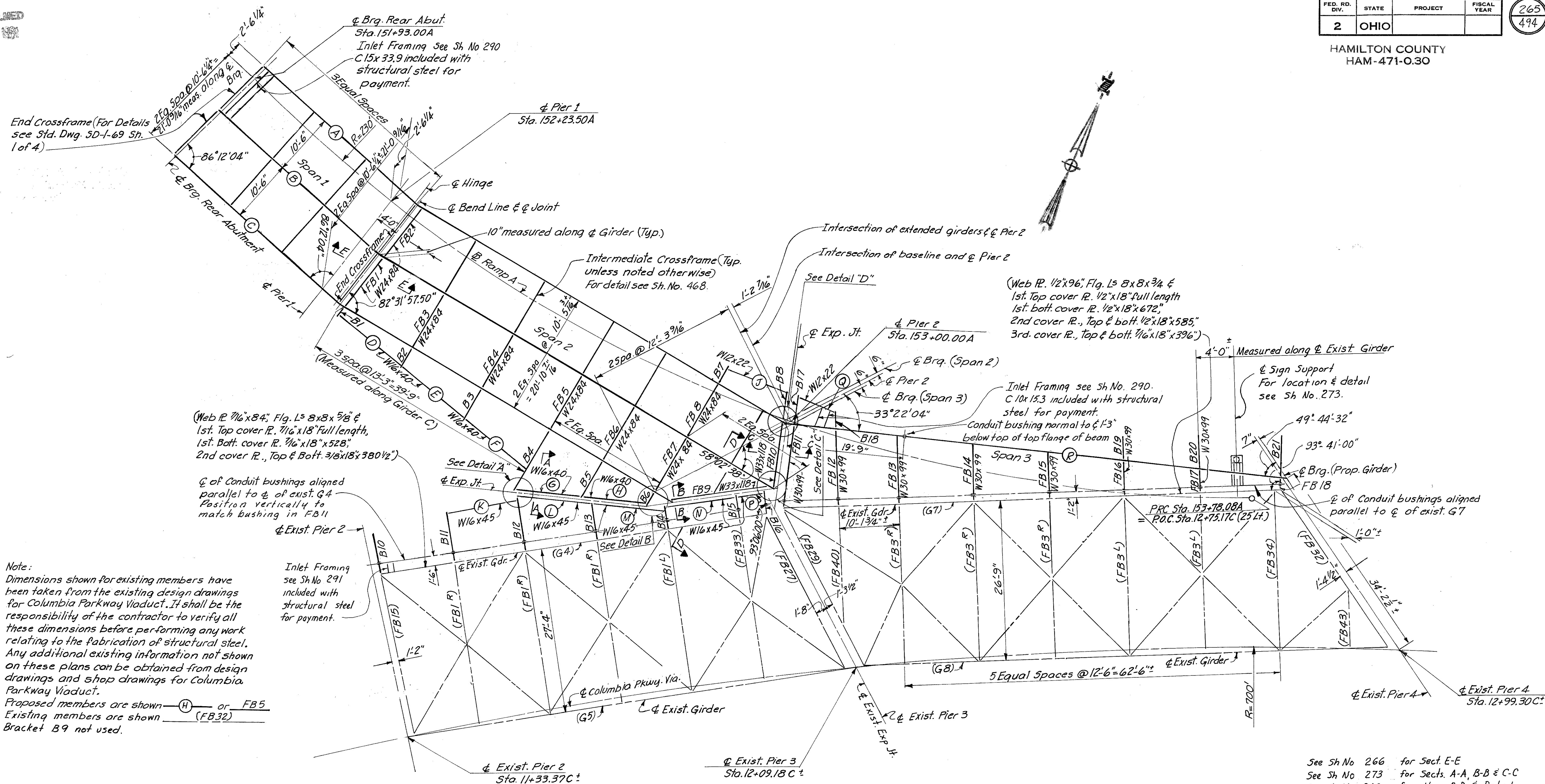
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					9/39
<b>STRUCTURAL STEEL</b>					
BRIDGE NO. HAM-471-					
RAMP A OFF COLUMBIA					
VIADUCT					
<b>H &amp; E BRIDGE NO. 8</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	JEM.		J.O.	JHO 11-15-72	

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FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

265  
494

HAMILTON COUNTY  
HAM-471-0.30



FRAMING PLAN

LEGEND FOR ALL STRUCTURAL STEEL SHEETS

- + Indicates new bolts in new members
- Indicates existing rivets or bolts (to remain)
- ⊕ Indicates new bolts in existing holes
- \* Indicates new bolts in existing members (new holes)

See Sh No 266 for Sect. E-E  
See Sh No 273 for Sects. A-A, B-B & C-C  
See Sh No 268 for View D-D & Details A, B, C & D.  
Work this sheet with sheet 284.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				10/39
<b>STRUCTURAL STEEL</b> <b>BRIDGE NO. HAM-471-</b> <b>RAMP A OFF COLUMBIA</b> <b>VIADUCT</b>				
<b>H&amp;E BRIDGE NO. 8</b>				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	FN	VWS	J.O.	J40 11-15-72
				REVISED

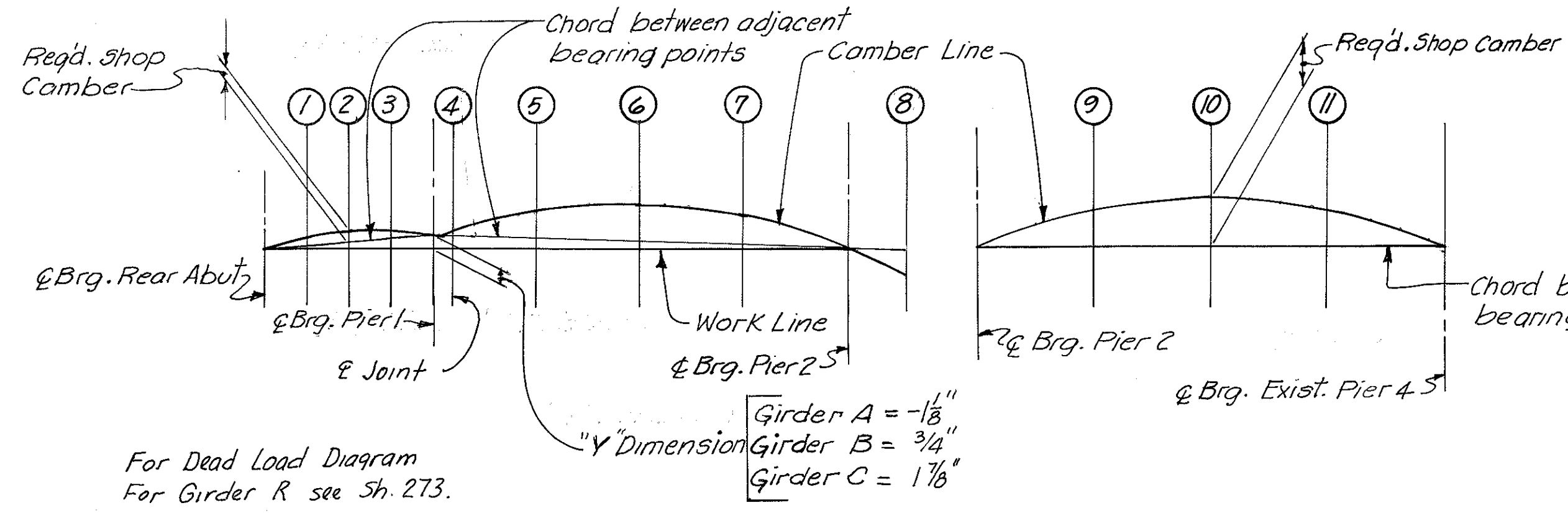


Note: For Section F-F, see Section A-A Std. Dwg. 5D-1-69 Sh. No. 1. For Curb plate detail at abutment see Std. Dwg. 5D-1-69 Sh. No. 2. 1/2"x2"x18" anchor bars as shown on Std. Dwg. 5D-1-69 should be revised to indicate 3/4" clear from top of slab.

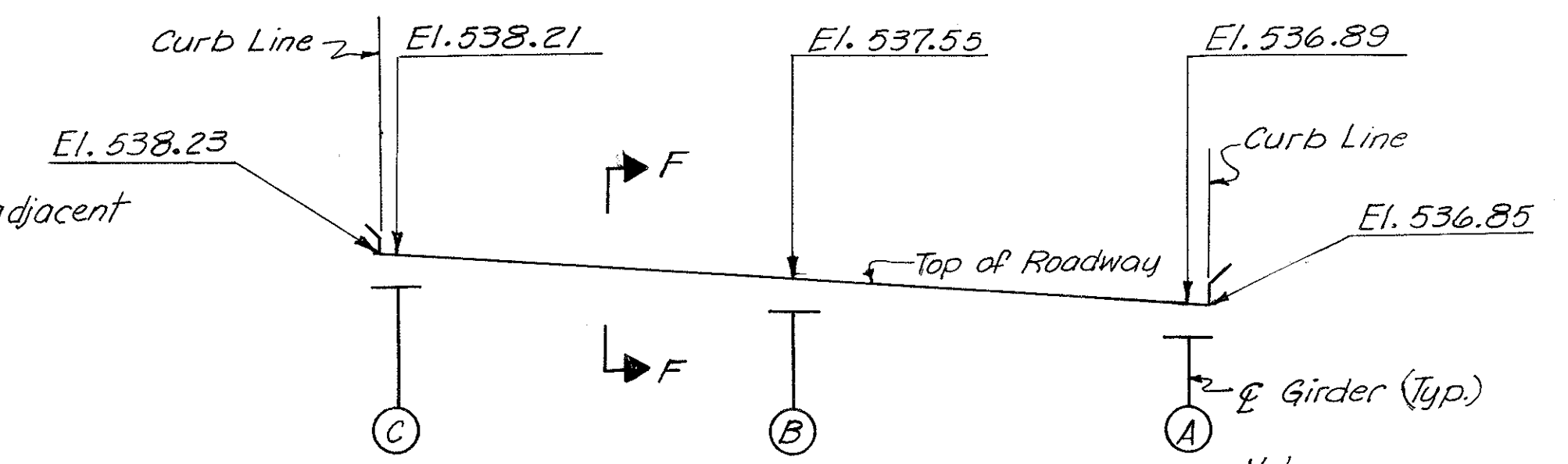
DEFLECTION AND CAMBER CHART (dimensions in inches)															
	Girder	SPAN 1				SPAN 2				SPAN 3					
		1/4 Pt.	1/2 Pt.	3/4 Pt.	Joint	1/4 Pt.	1/2 Pt.	3/4 Pt.	Joint	1/4 Pt.	1/2 Pt.	3/4 Pt.			
Deflection due to Steel Weight	A	0	0	0	0	1/16	1/8	1/16	0	0	0	0	0	0	0
	B	0	0	0	0	1/16	1/16	1/16	0	0	0	0	0	0	0
	C	0	0	0	0	1/16	1/16	1/16	0	0	0	0	0	0	0
Deflection due to Remaining Dead Load	A	0	0	0	0	5/16	1/2	3/8	0	0	0	0	0	0	0
	B	0	0	0	0	1/8	1/4	3/16	-1/8	0	0	0	0	0	0
	C	0	0	0	0	3/16	5/16	1/4	-1/16	0	0	0	0	0	0
Adjustments required for *	A	-3/8	-1/2	-3/8	0	-3/4	-3/8	-7/16	0	0	0	0	0	0	0
	B	-3/8	-1/2	-3/8	3/8	-1/4	-1/8	-7/16	1/8	1/8	0	0	0	0	0
	C	-1/2	-3/8	-1/2	3/8	-1/8	-1/4	-7/16	0	0	0	0	0	0	0
Required Shop Camber	A	-3/8	-1/2	-3/8	0	0	0	0	0	0	0	0	0	0	0
	B	-3/8	-1/2	-3/8	3/8	-1/4	-1/8	-7/16	3/8	3/8	0	0	0	0	0
	C	-1/2	-5/8	-1/2	5/8	1/8	1/8	1/4	-1/2	0	0	0	0	0	0

Note: Negative (-) deflection denotes upward deflection  
 Negative (-) camber is measured below chord between brgs.  
 Negative (-) superelevation & V.C. correction is measured below chord between brgs.

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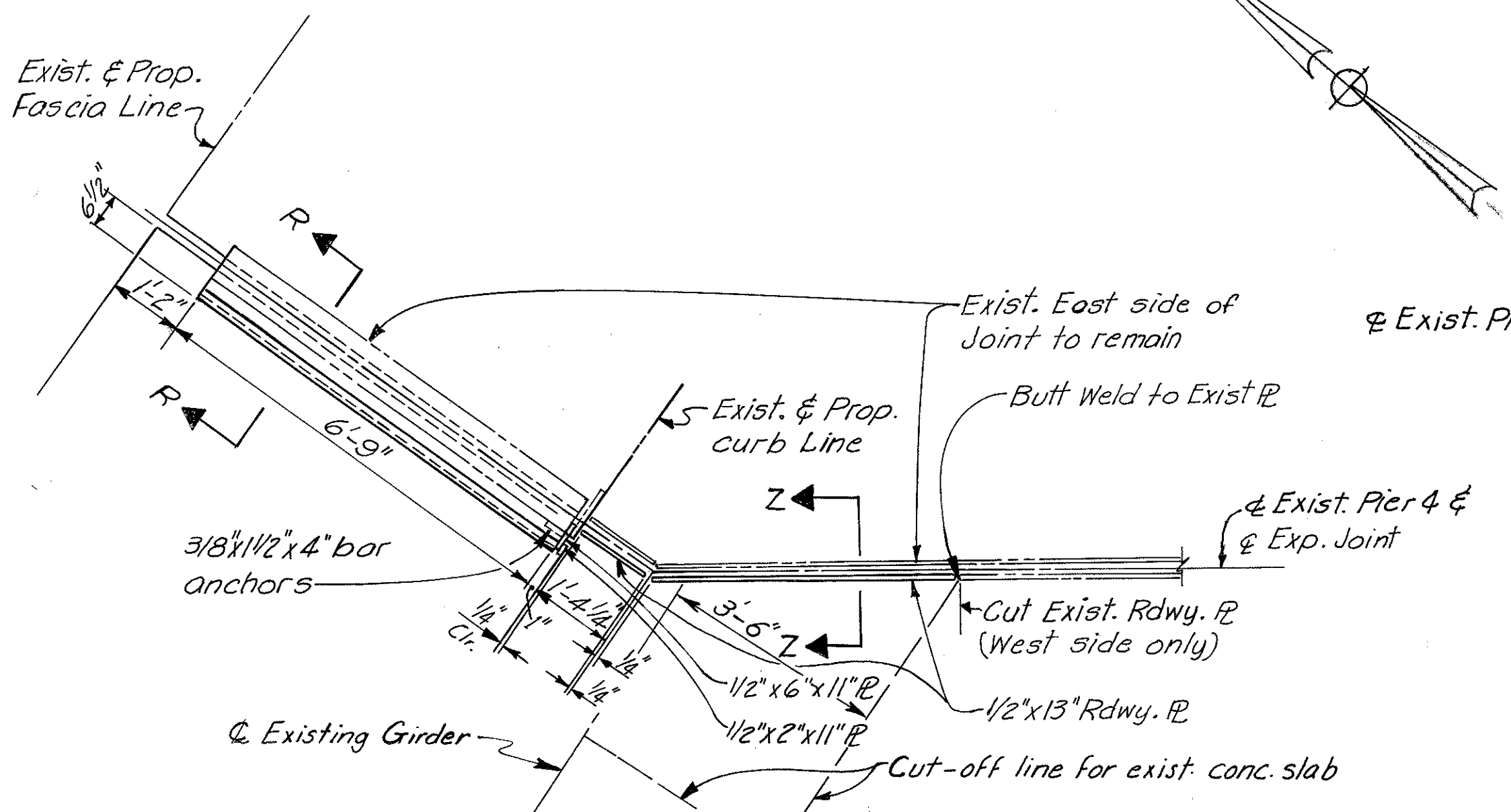
CAMBER DIAGRAM



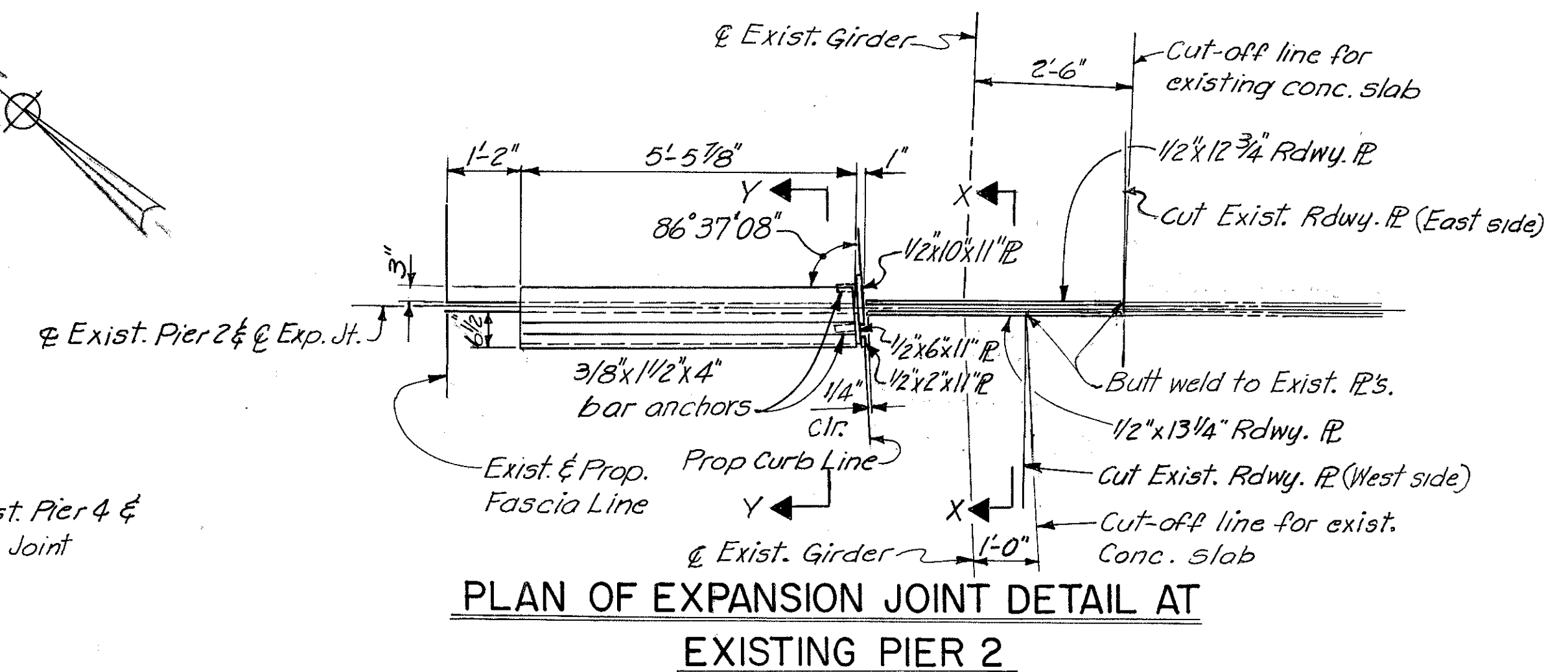
CROSS SECTION OF END DAM AT REAR ABUTMENT

Note: Elevations given at Front face of backwall (Back of 7'x4"x1/2'L)

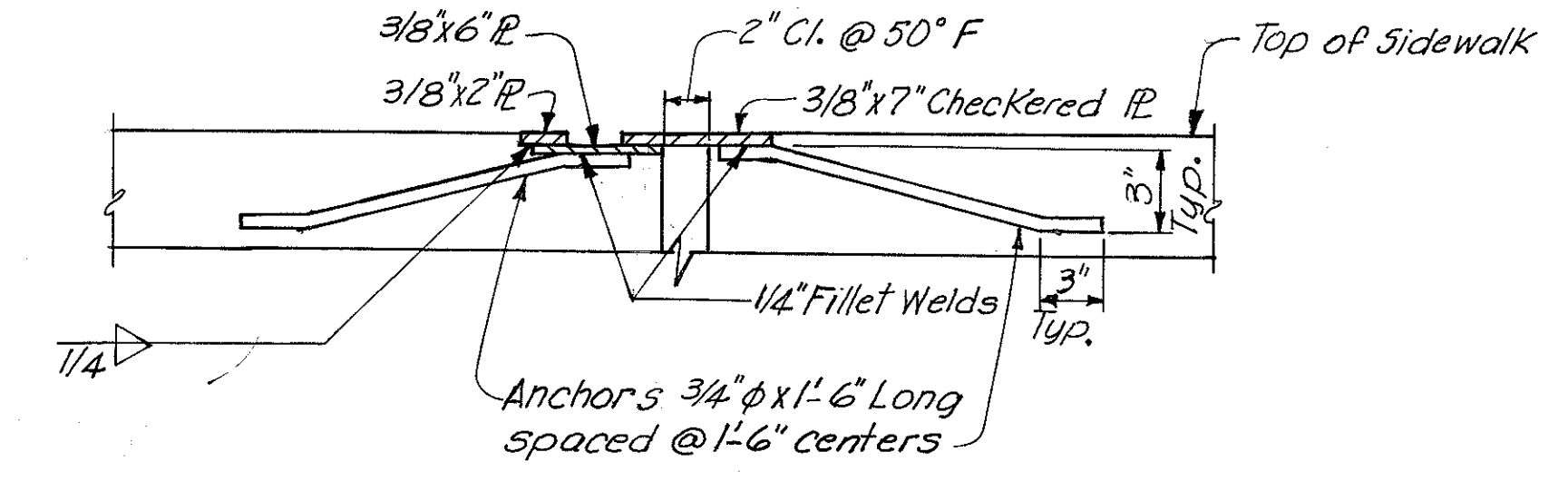
\* Vertical Curve, Horizontal Curve & Superelevation Transition



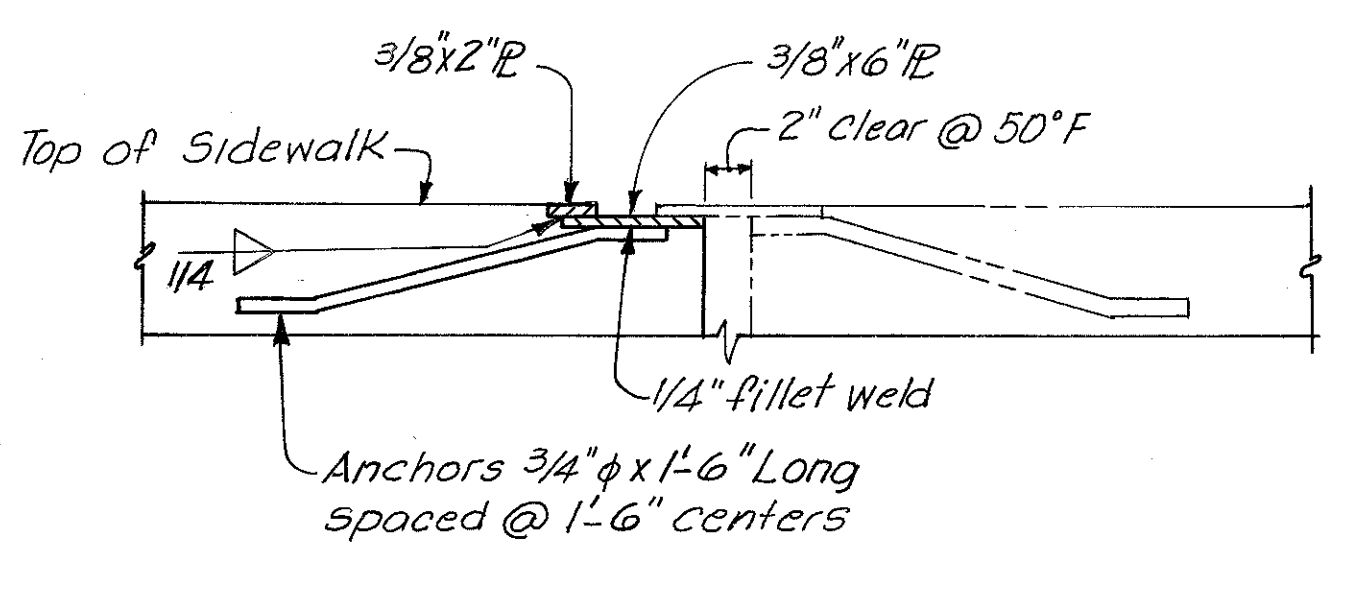
PLAN OF EXPANSION JOINT DETAIL AT EXISTING PIER 4



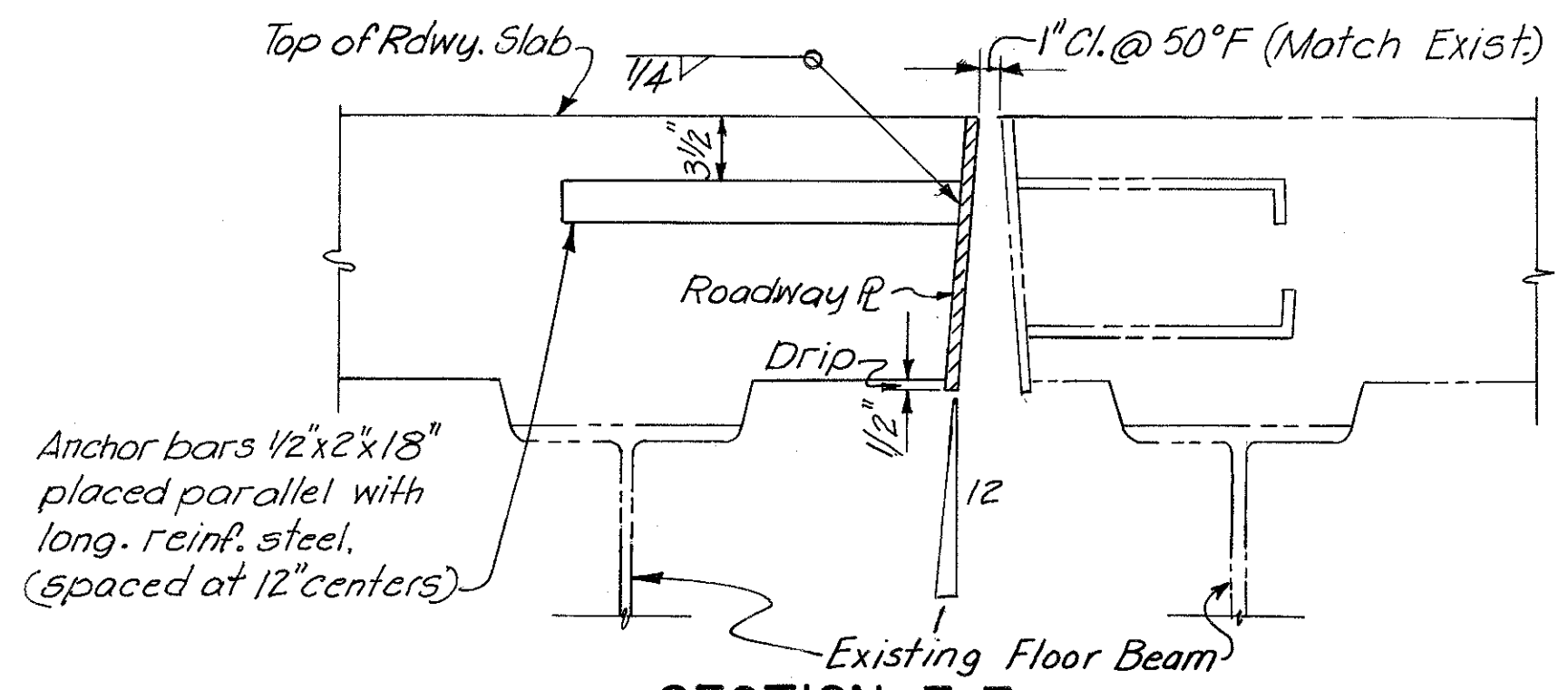
PLAN OF EXPANSION JOINT DETAIL AT EXISTING PIER 2



SECTION Y-Y

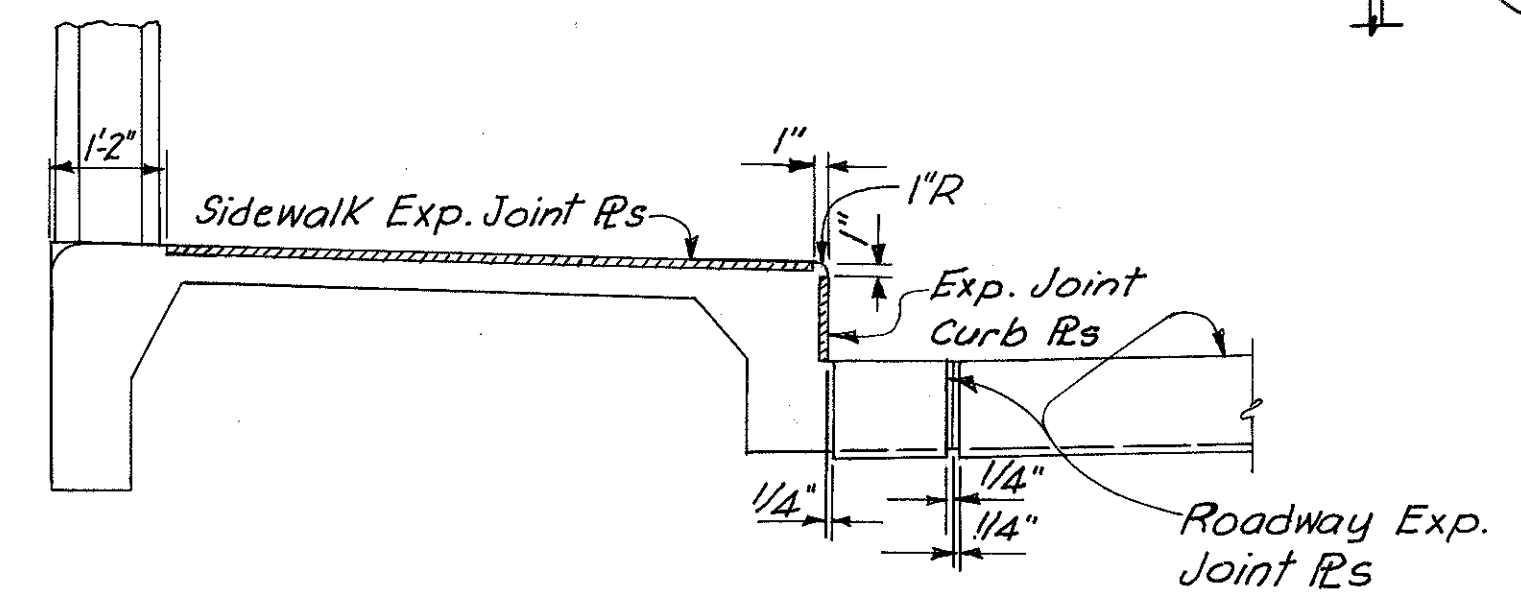


SECTION R-R

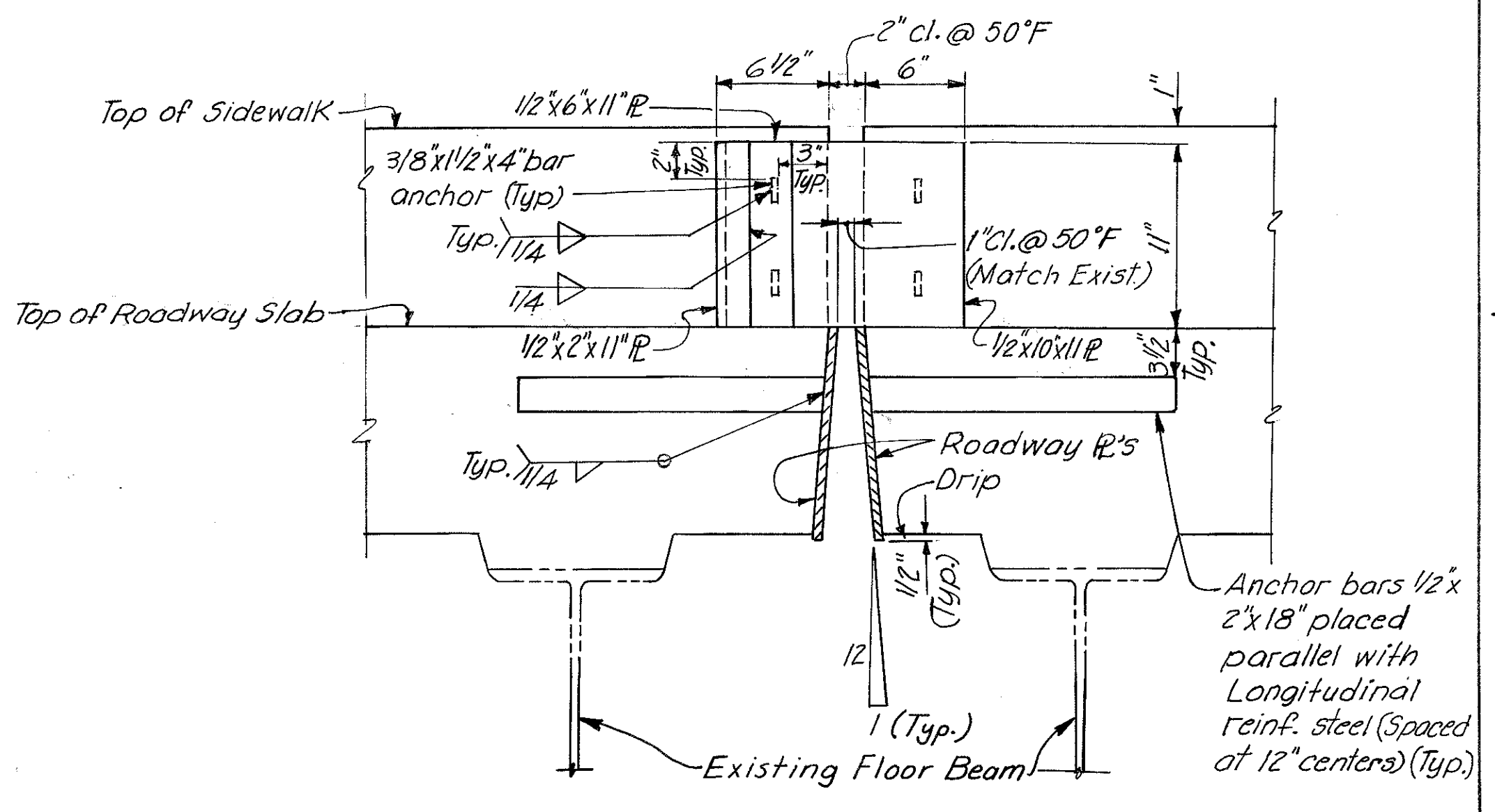


SECTION Z-Z

Note: For curb plate details see Section X-X



SECTION THRU EXP. JOINT AT EXISTING PIER 4  
(Section @ Existing Pier 2 Similar)



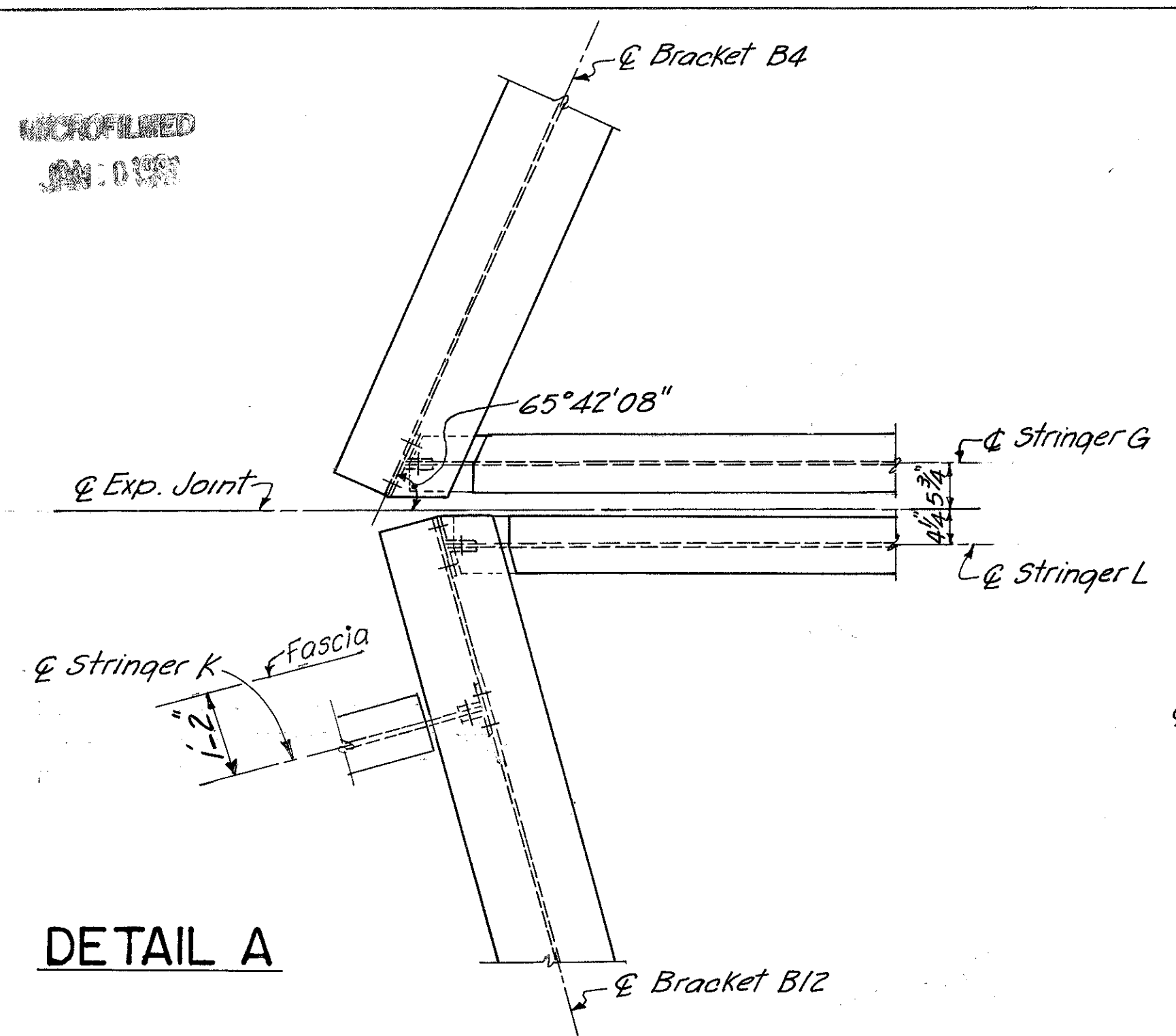
SECTION X-X

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO 12/39

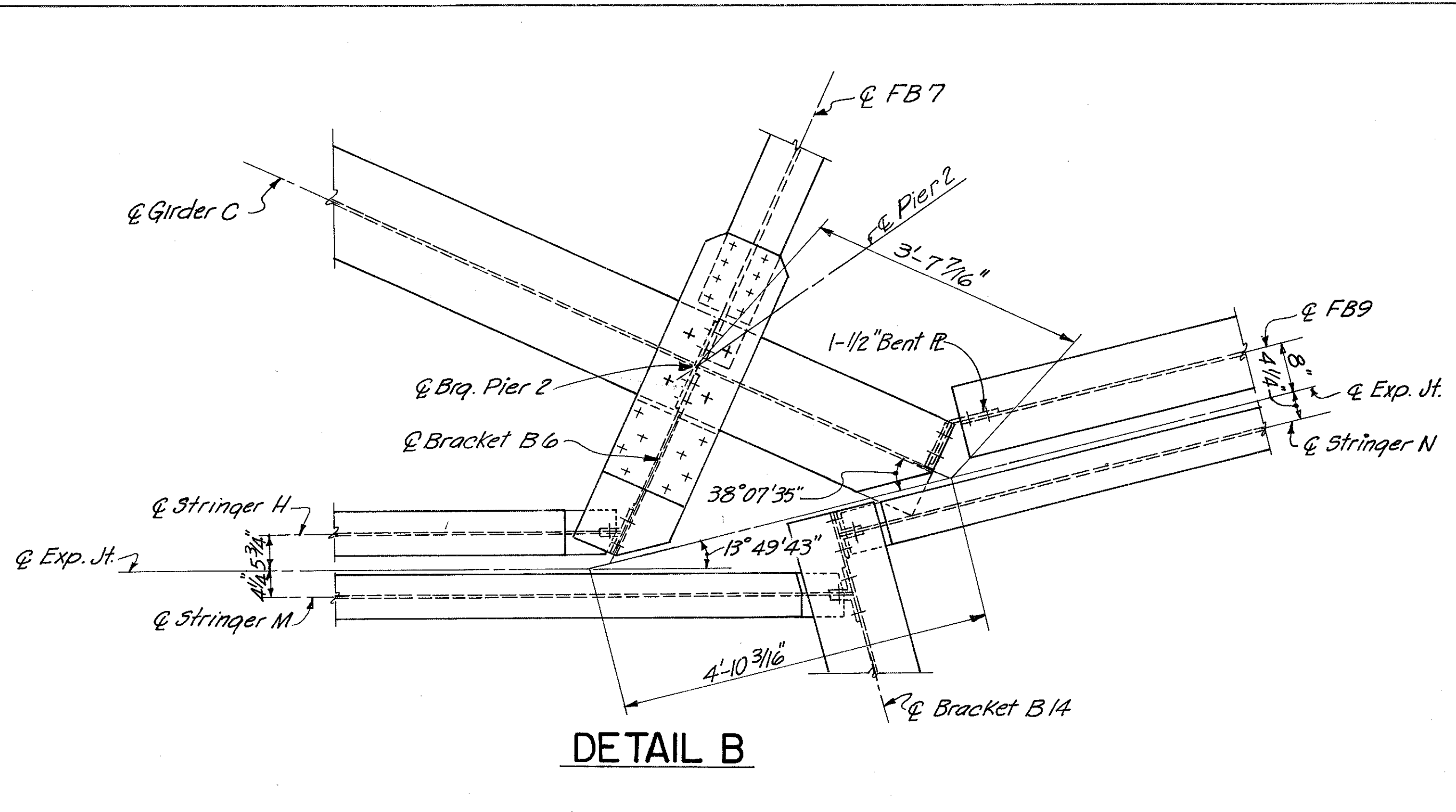
**STRUCTURAL STEEL BRIDGE NO. HAM-471-RAMP A OFF COLUMBIA VIADUCT**

H&E BRIDGE NO. 8

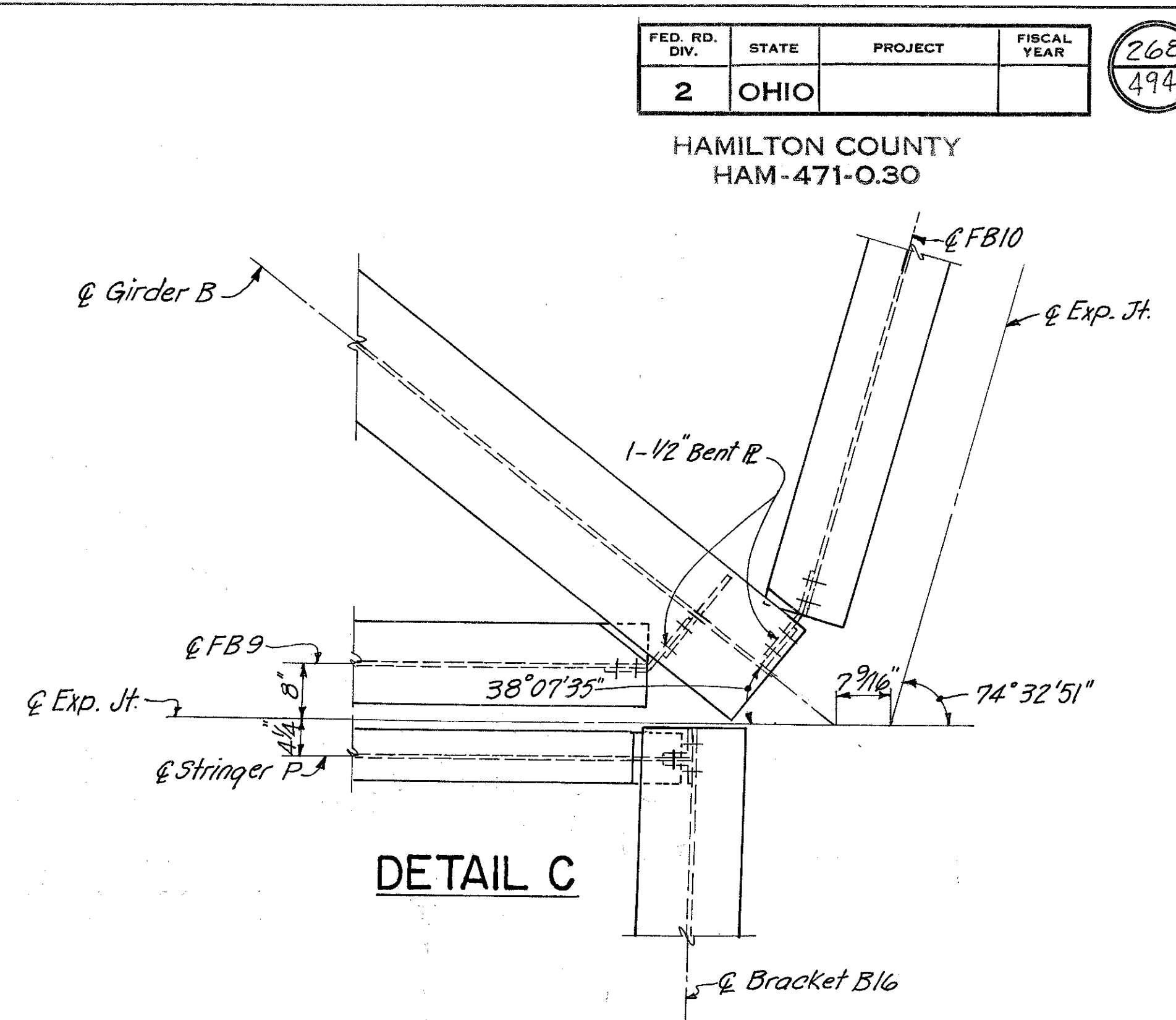
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVIS
FN	FN	VWS	JDC	JHO 11-15-72	



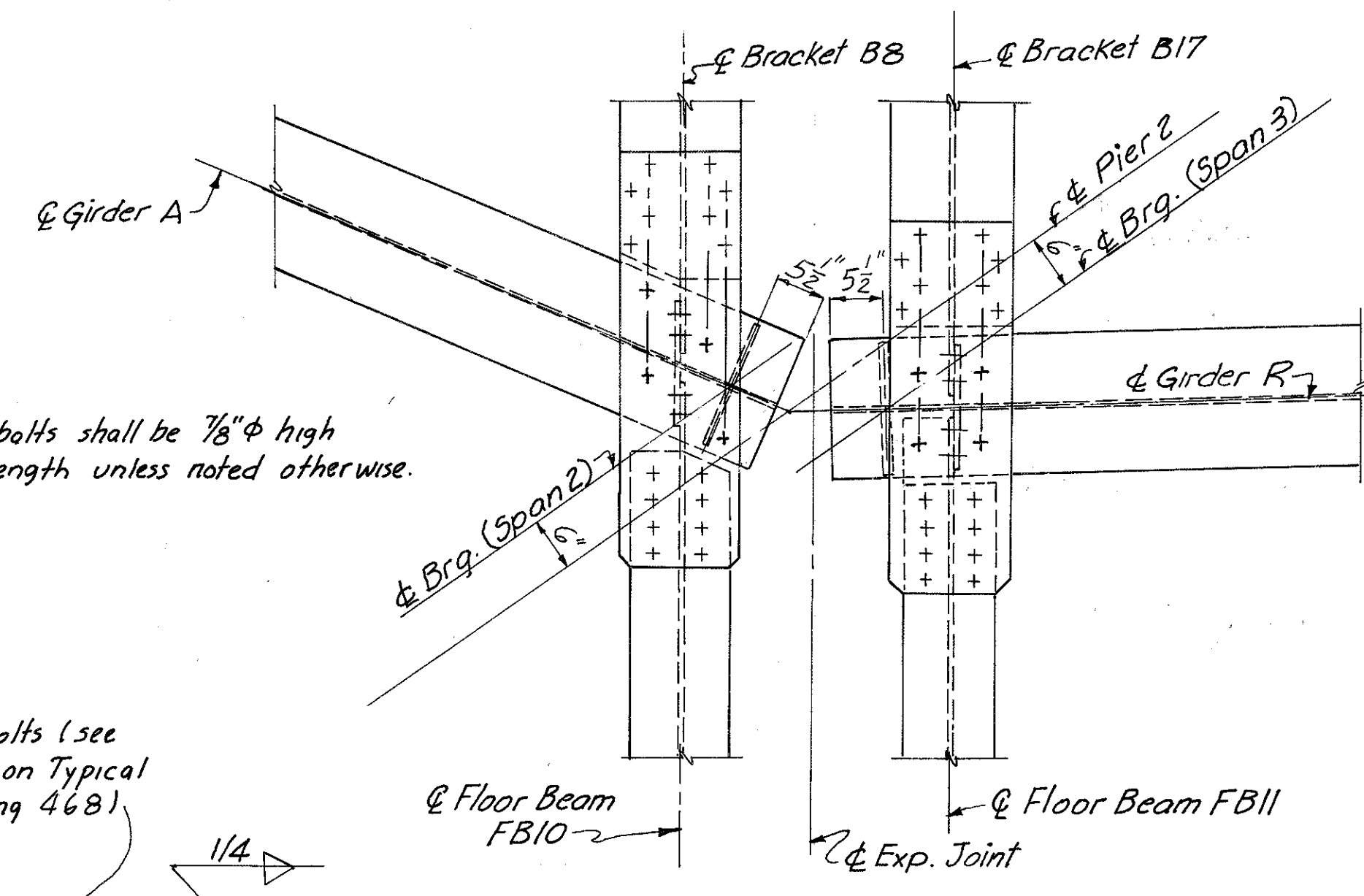
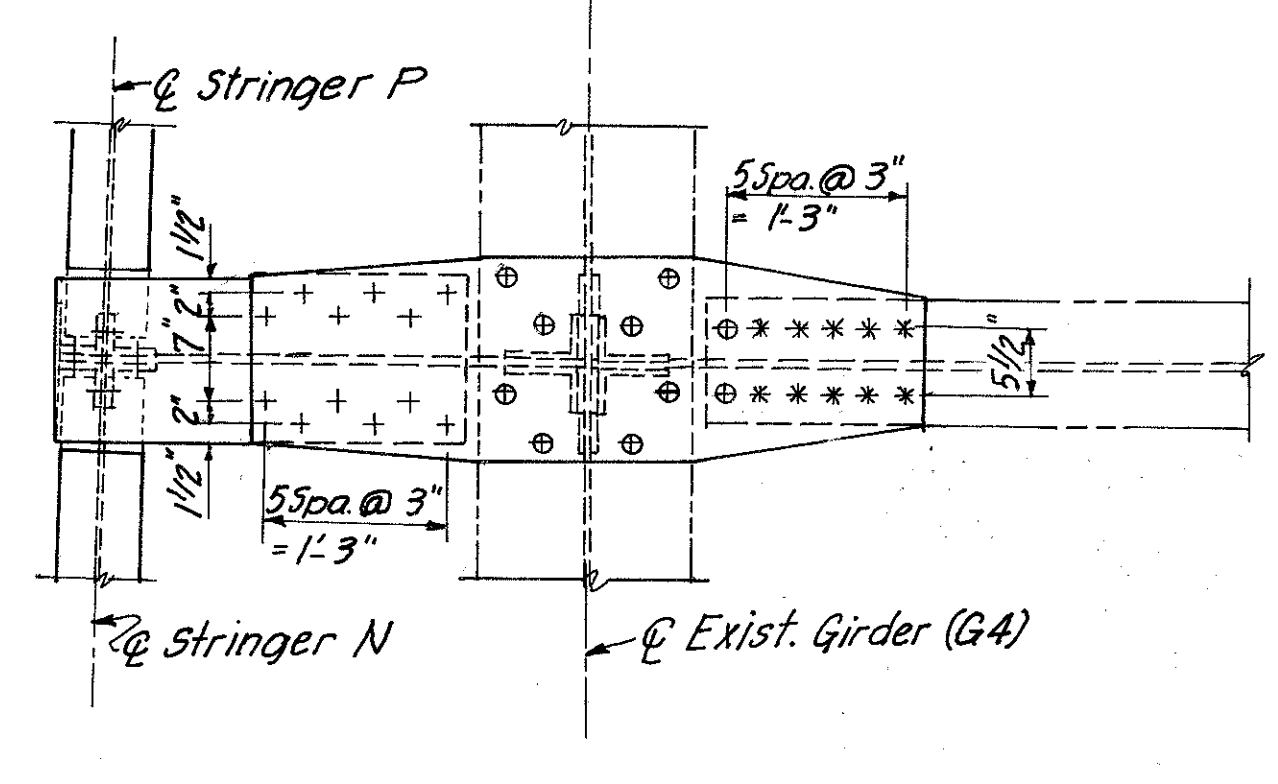
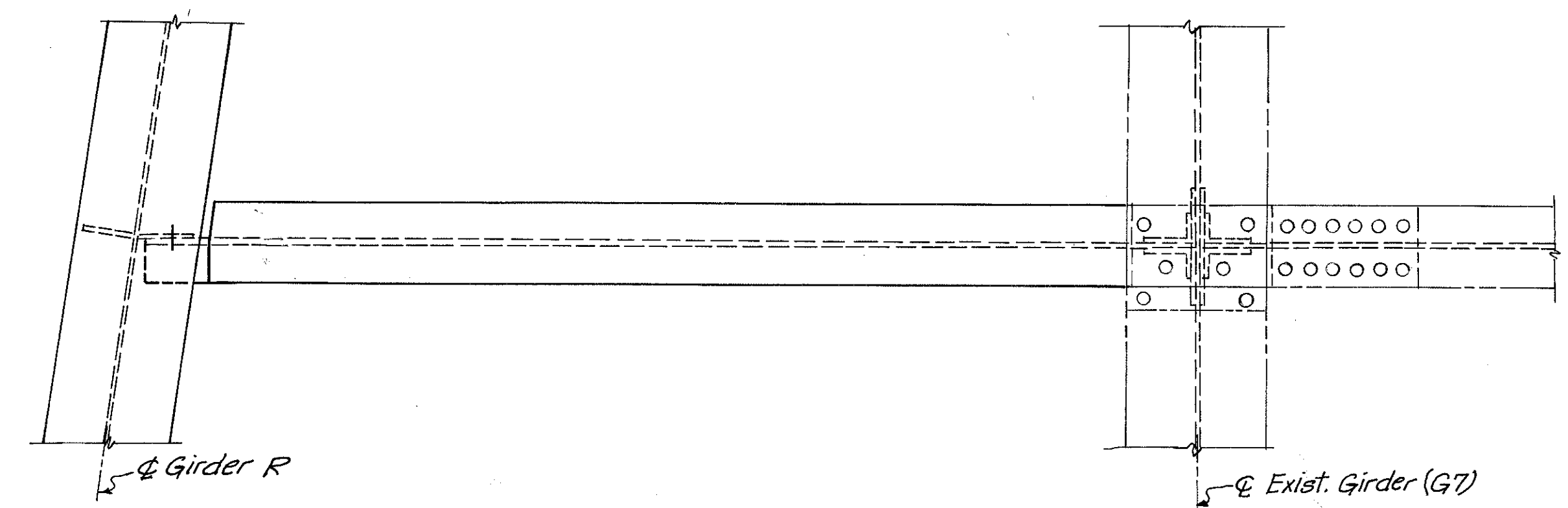
DETAIL A



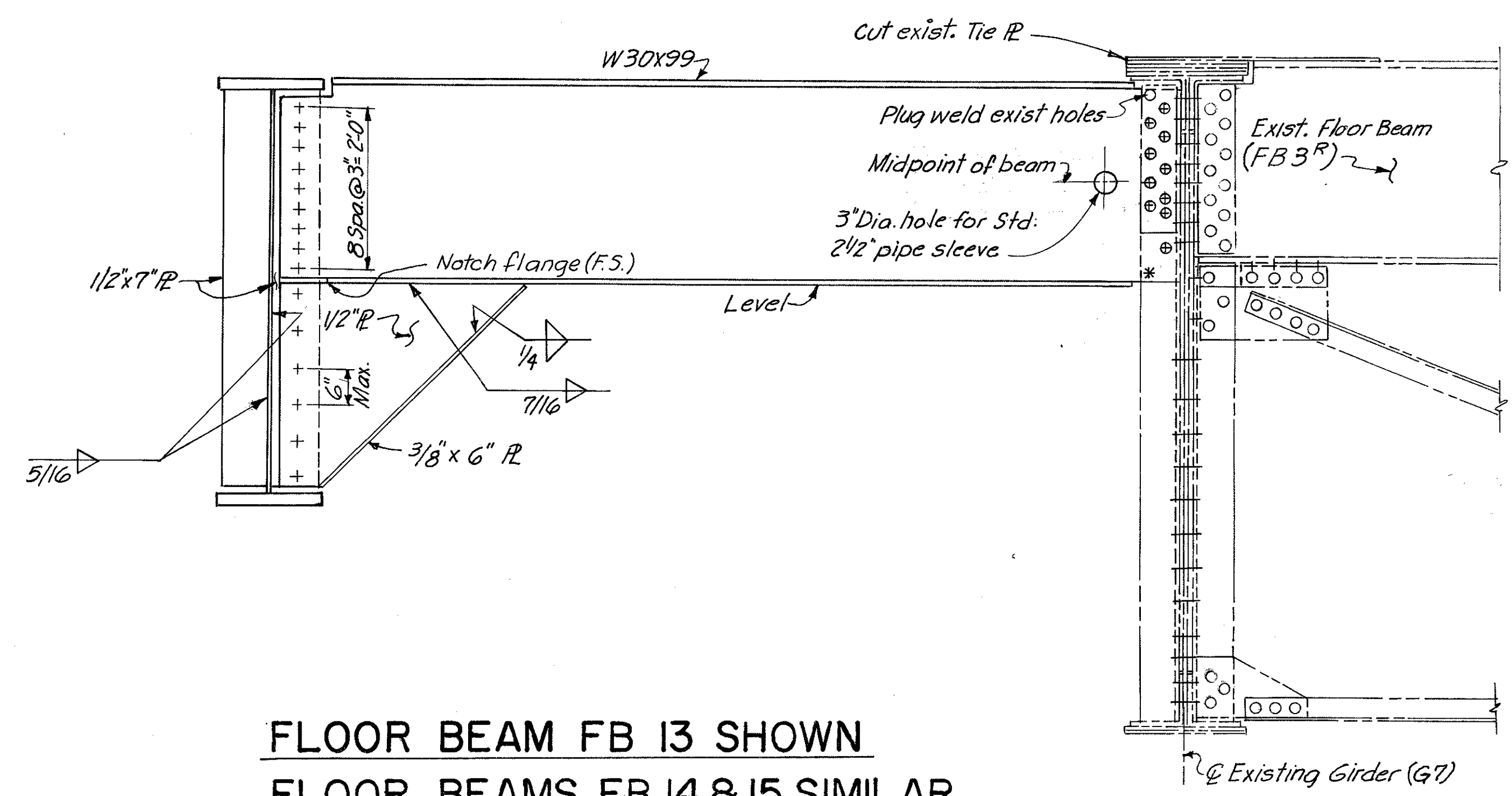
DETAIL B



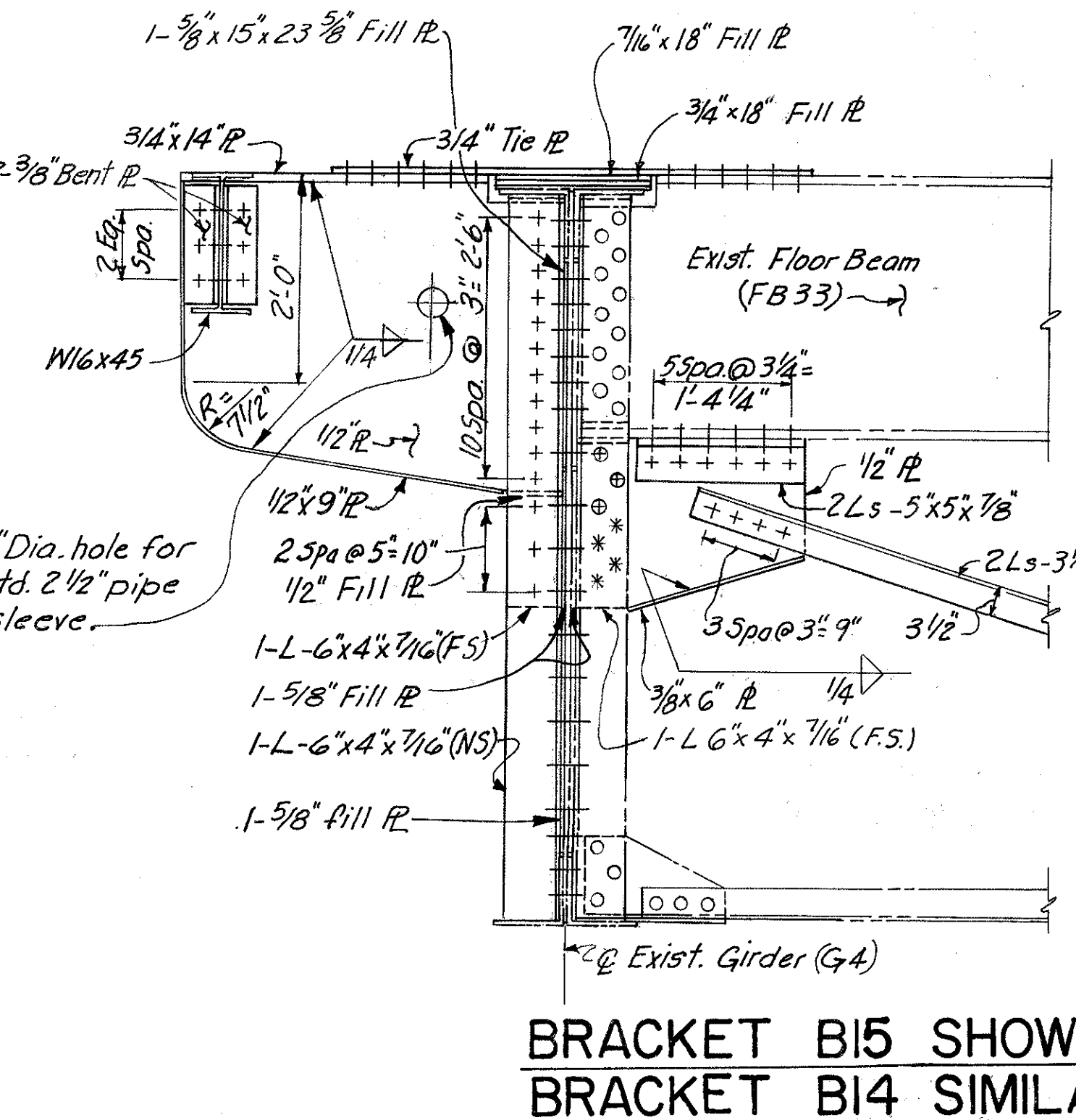
DETAIL C



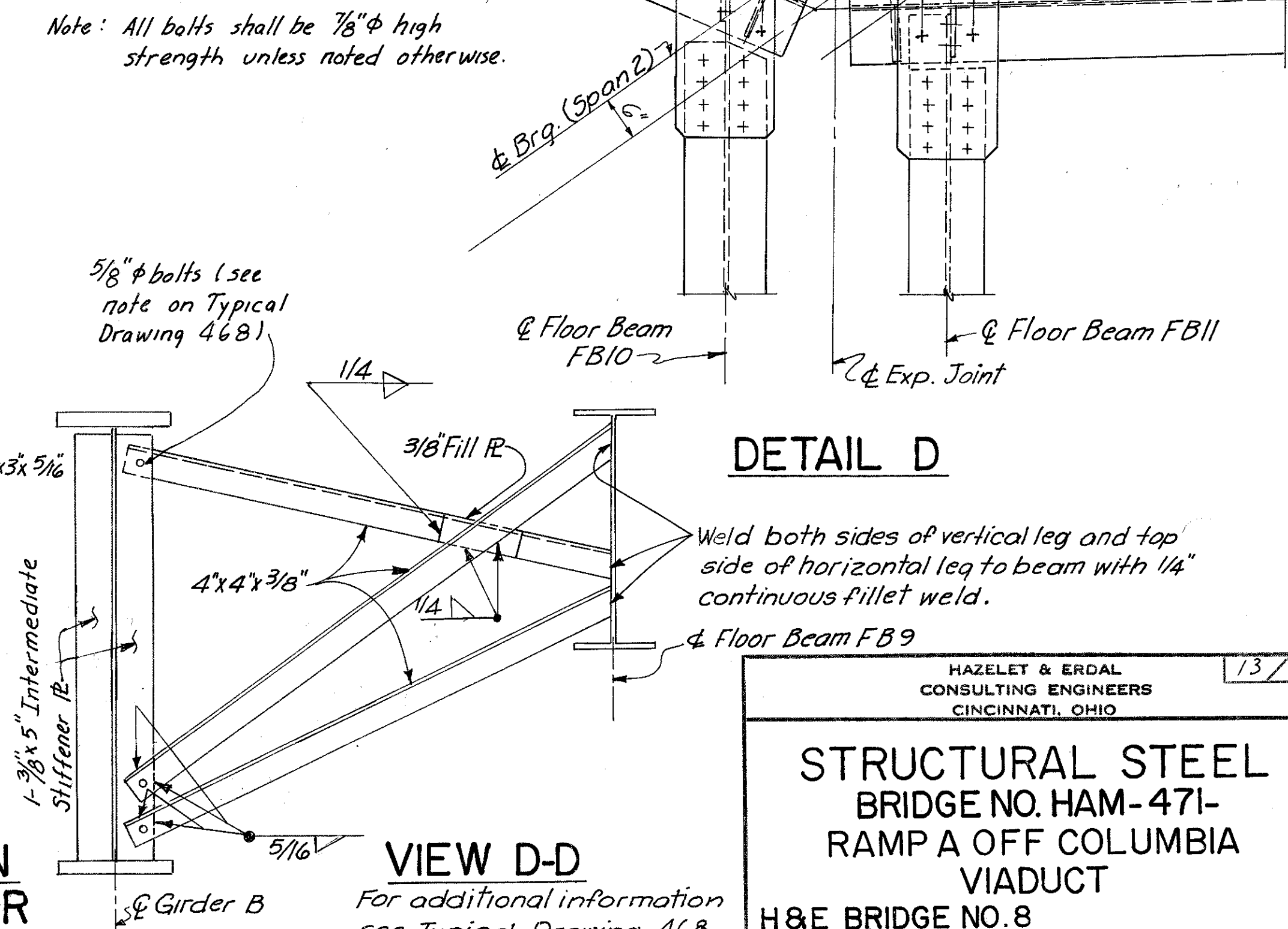
DETAIL D



FLOOR BEAM FB 13 SHOWN  
FLOOR BEAMS FB 14 & 15 SIMILAR



BRACKET B15 SHOWN  
BRACKET B14 SIMILAR



VIEW D-D  
For additional information see Typical Drawing 468.

Note: All bolts shall be 7/8" φ high strength unless noted otherwise.

5/8" φ bolts (see note on Typical Drawing 468).

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

13/39

**STRUCTURAL STEEL**  
BRIDGE NO. HAM-471-  
RAMP A OFF COLUMBIA  
VIADUCT

H&E BRIDGE NO. 8

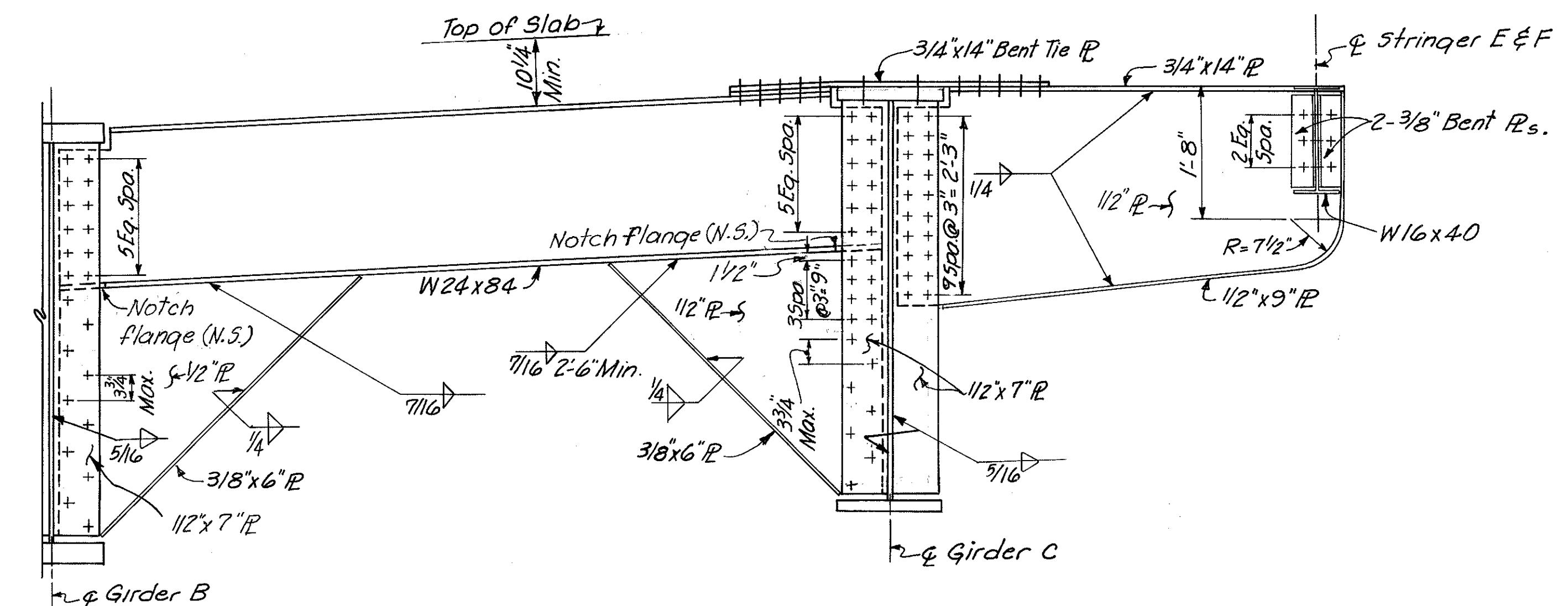
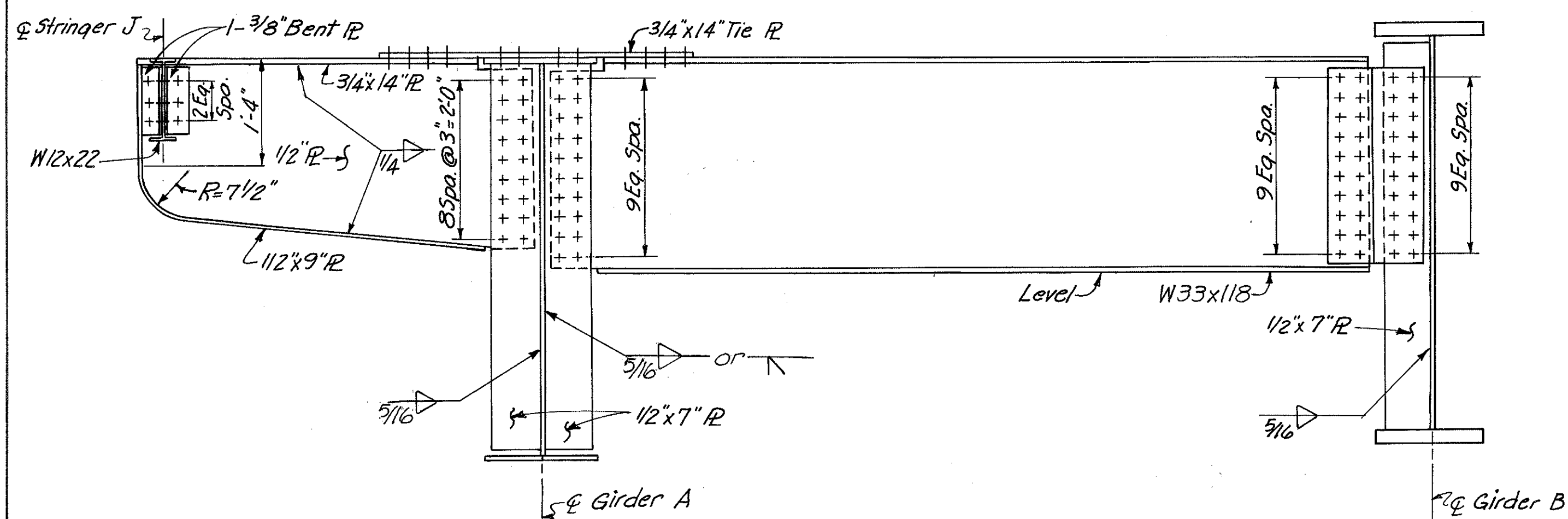
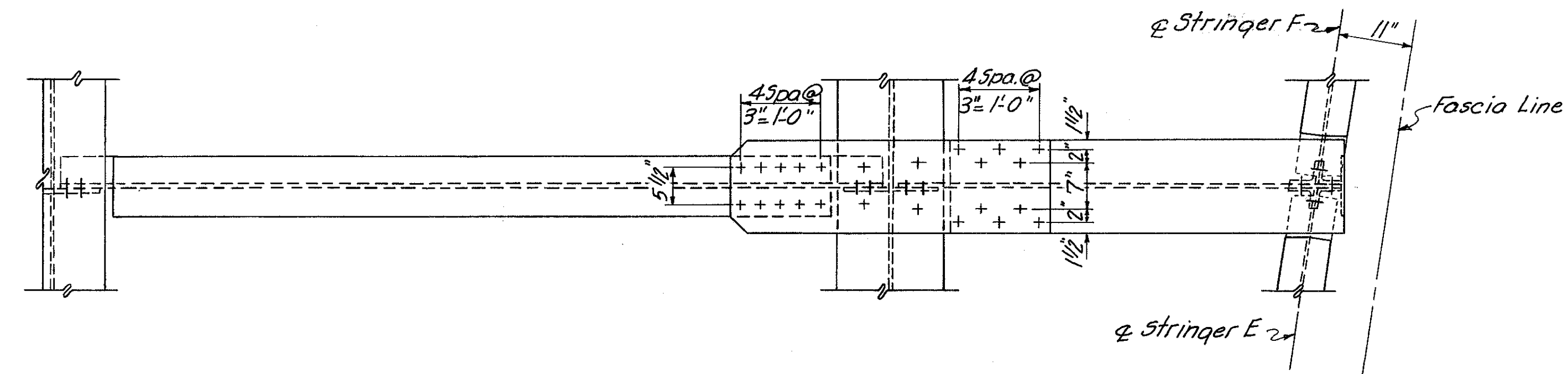
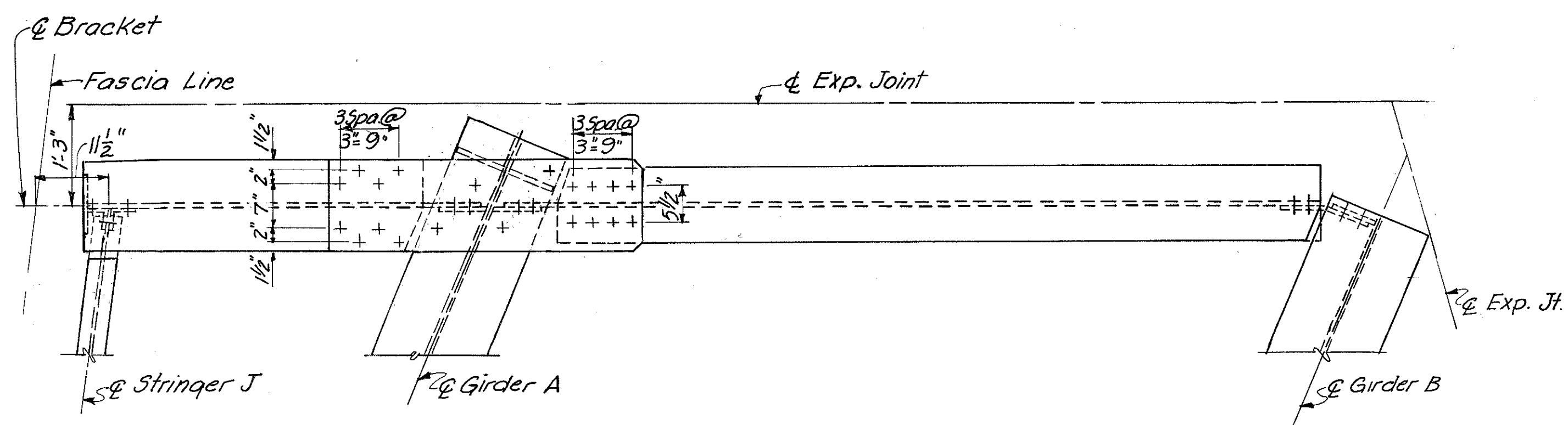
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
FN	FN	VWS	J.O.	3/40 11-15-72	

MICROFILMED  
JAN. 0 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

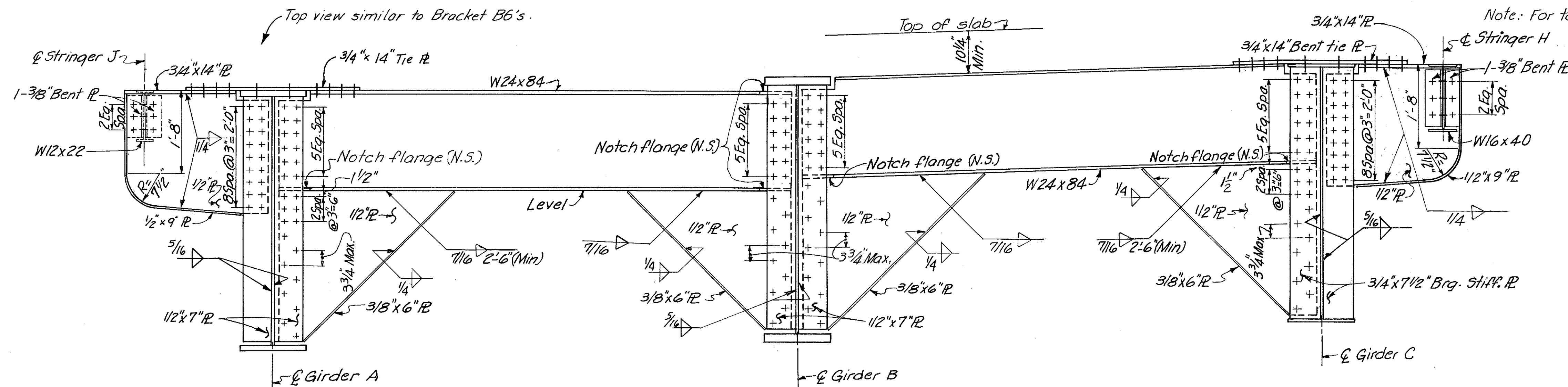
269  
494

HAMILTON COUNTY  
HAM-471-0.30



BRACKET B8 FLOOR BEAM FB 10

FLOOR BEAM FB4 BRACKET B3



BRACKET B7 FLOOR BEAM FB 8

FLOOR BEAM FB7 BRACKET B6 SHOWN  
FLOOR BEAM FB3 BRACKET B2 SIMILAR

Note: All bolts shall be 7/8" high strength unless otherwise noted.

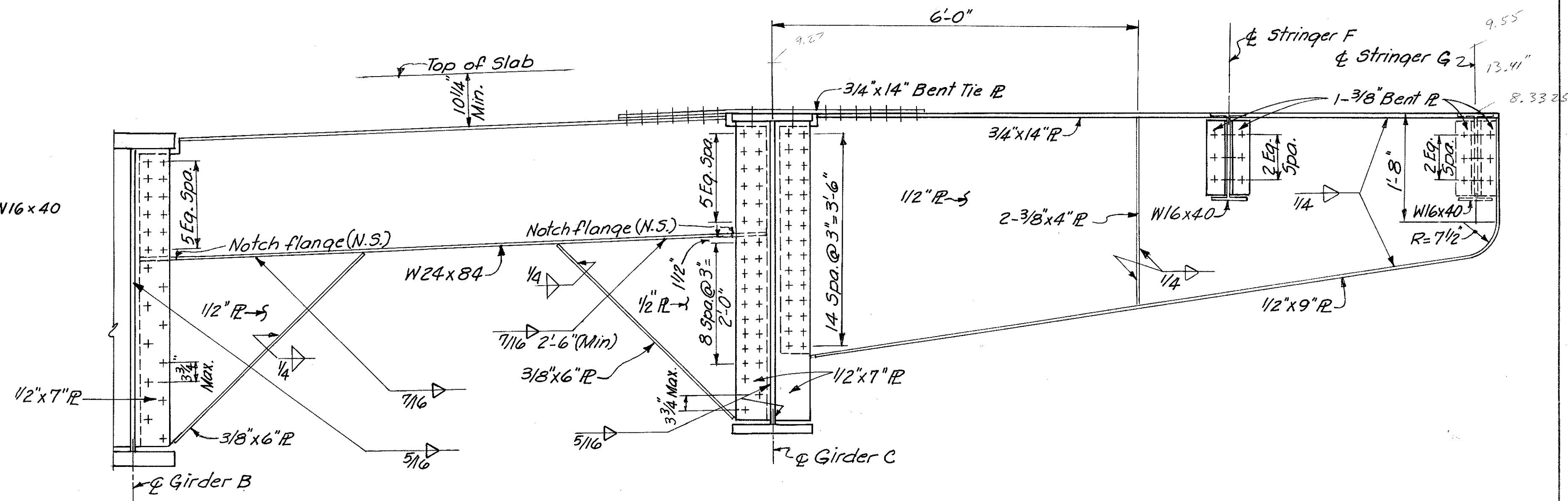
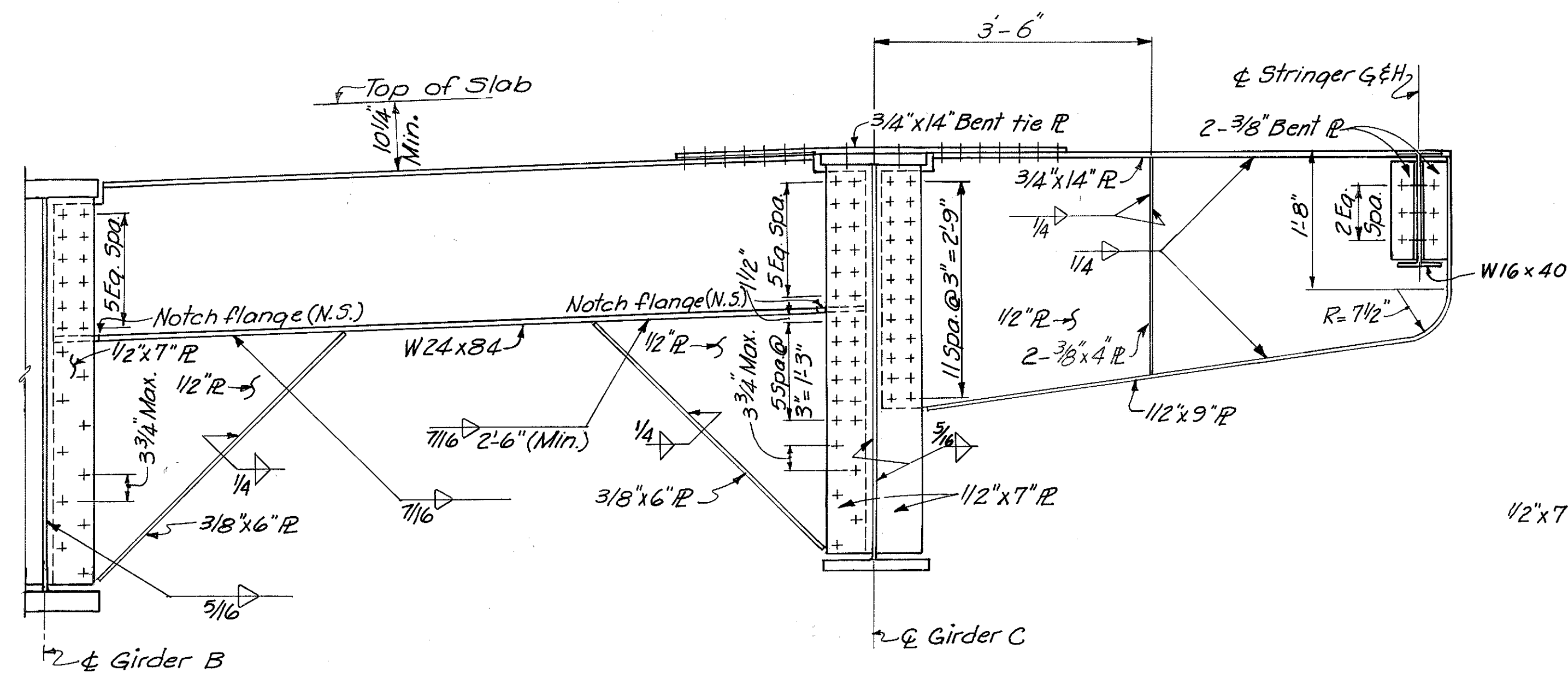
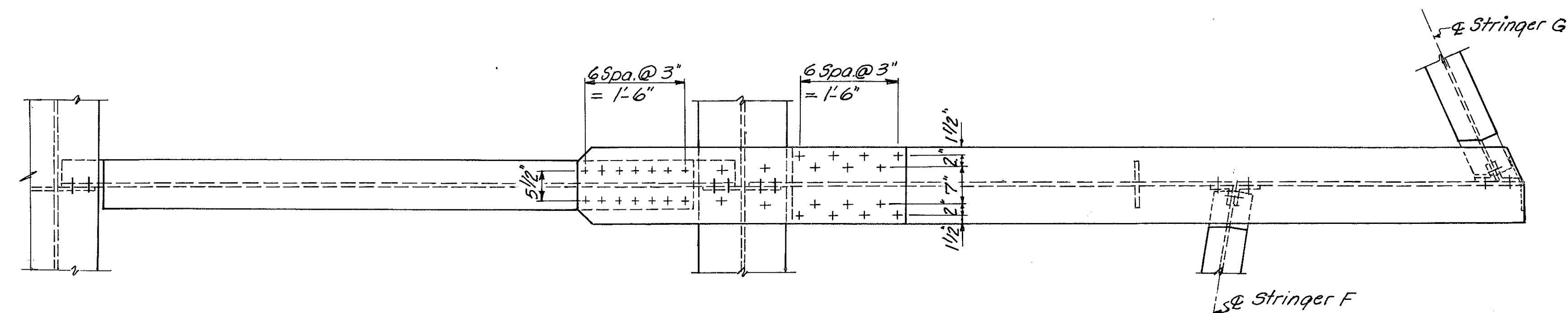
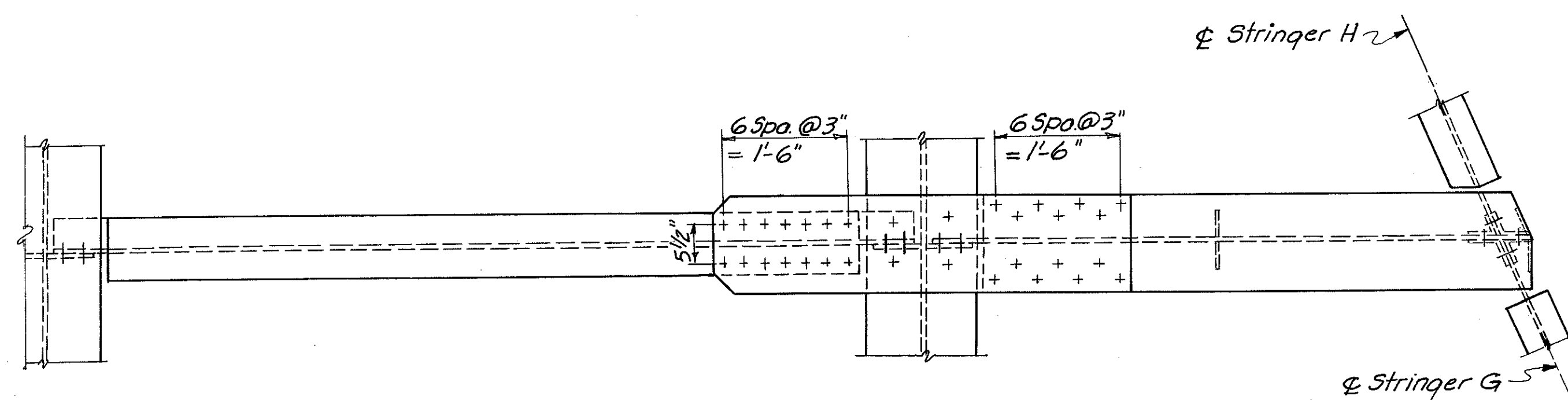
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					14/39
<b>STRUCTURAL STEEL</b>					
BRIDGE NO. HAM-471-					
RAMP A OFF COLUMBIA					
VIADUCT					
H&E BRIDGE NO. 8					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
FN	FN	VW5	J.O.	J.H.O. 11-15-72	

MICROFILMED  
JAN. 0 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

270  
494

HAMILTON COUNTY  
HAM-471-0.30



FLOOR BEAM FB6 BRACKET B5

FLOOR BEAM FB5 BRACKET B4

Note: All bolts shall be 7/8"  $\phi$  high strength unless otherwise noted.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					15/39
<b>STRUCTURAL STEEL</b> BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT					
H&E BRIDGE NO. 8					
DESIGNED FN	DRAWN FN	TRACED VW5	CHECKED J.O.	REVIEWED DATE J.H.C. 11-15-72	REVISED





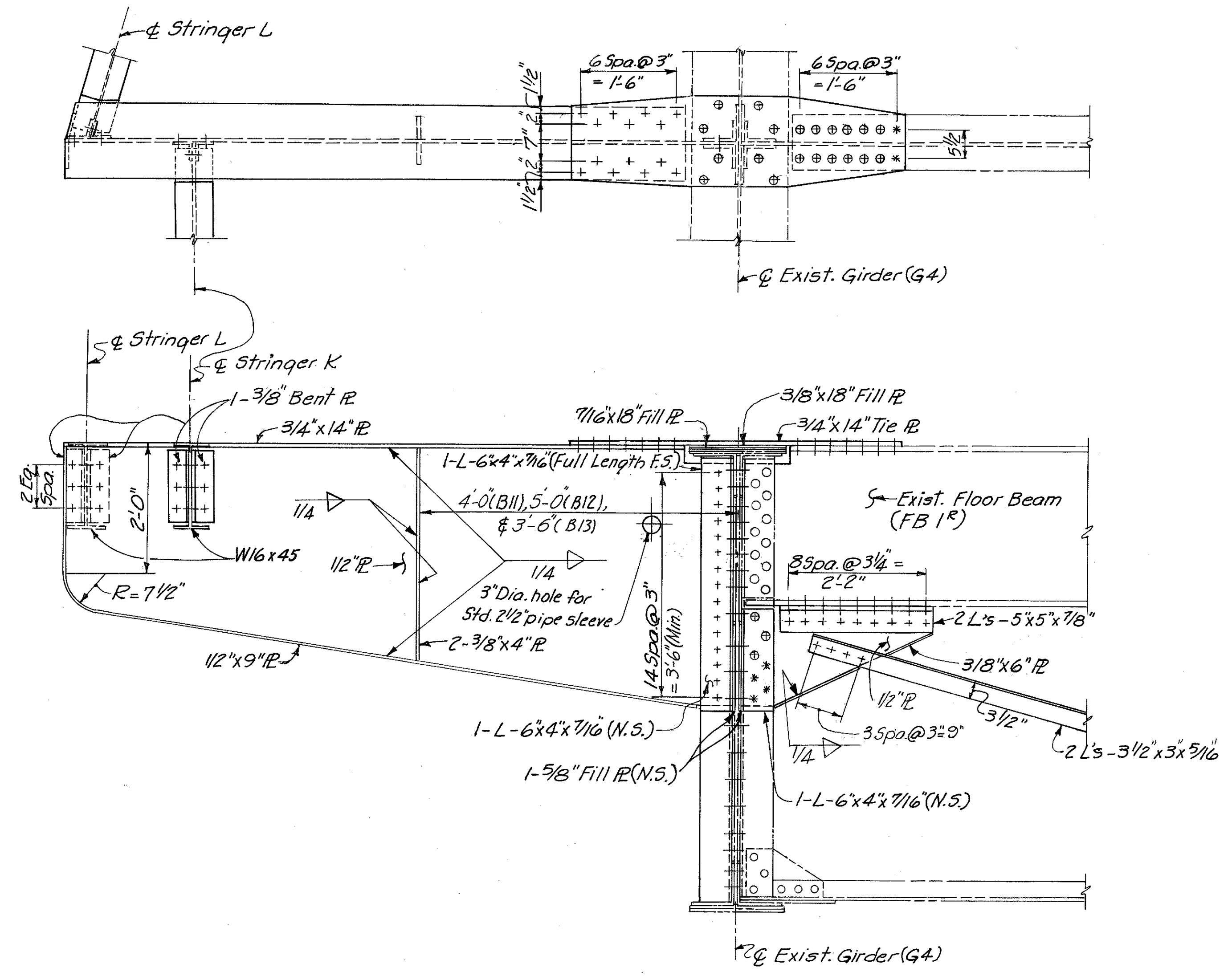
MICROFILMED  
JAN 0 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

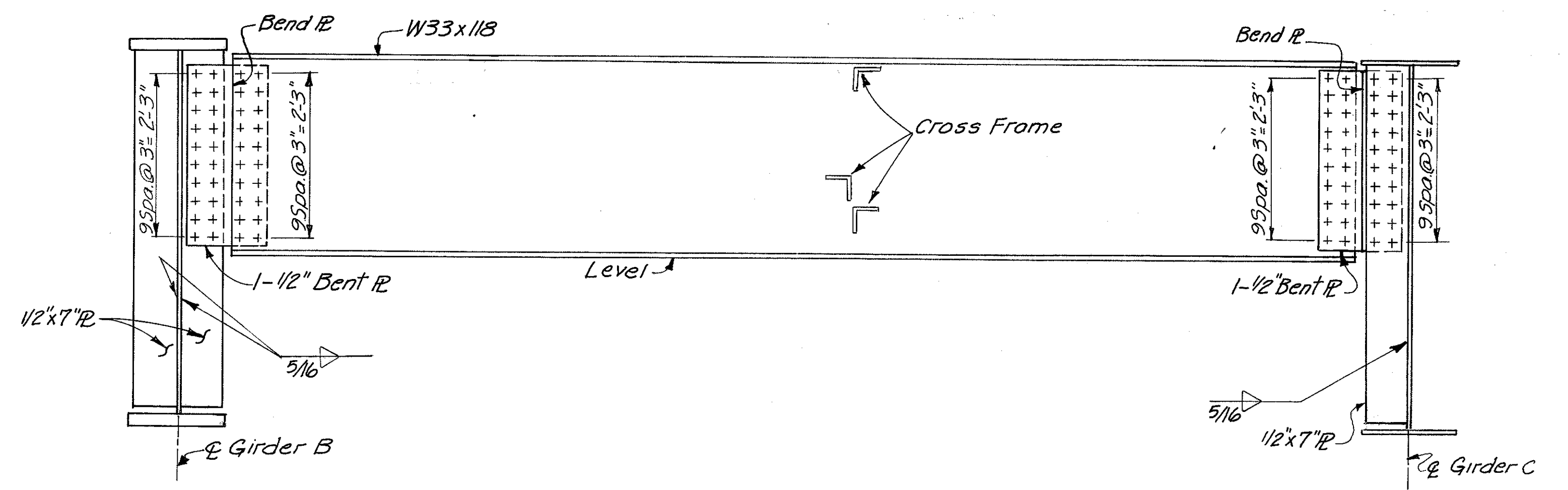
272  
494

HAMILTON COUNTY  
HAM-471-0.30

Note: For top view see Detail B & C Sh. No. 268.

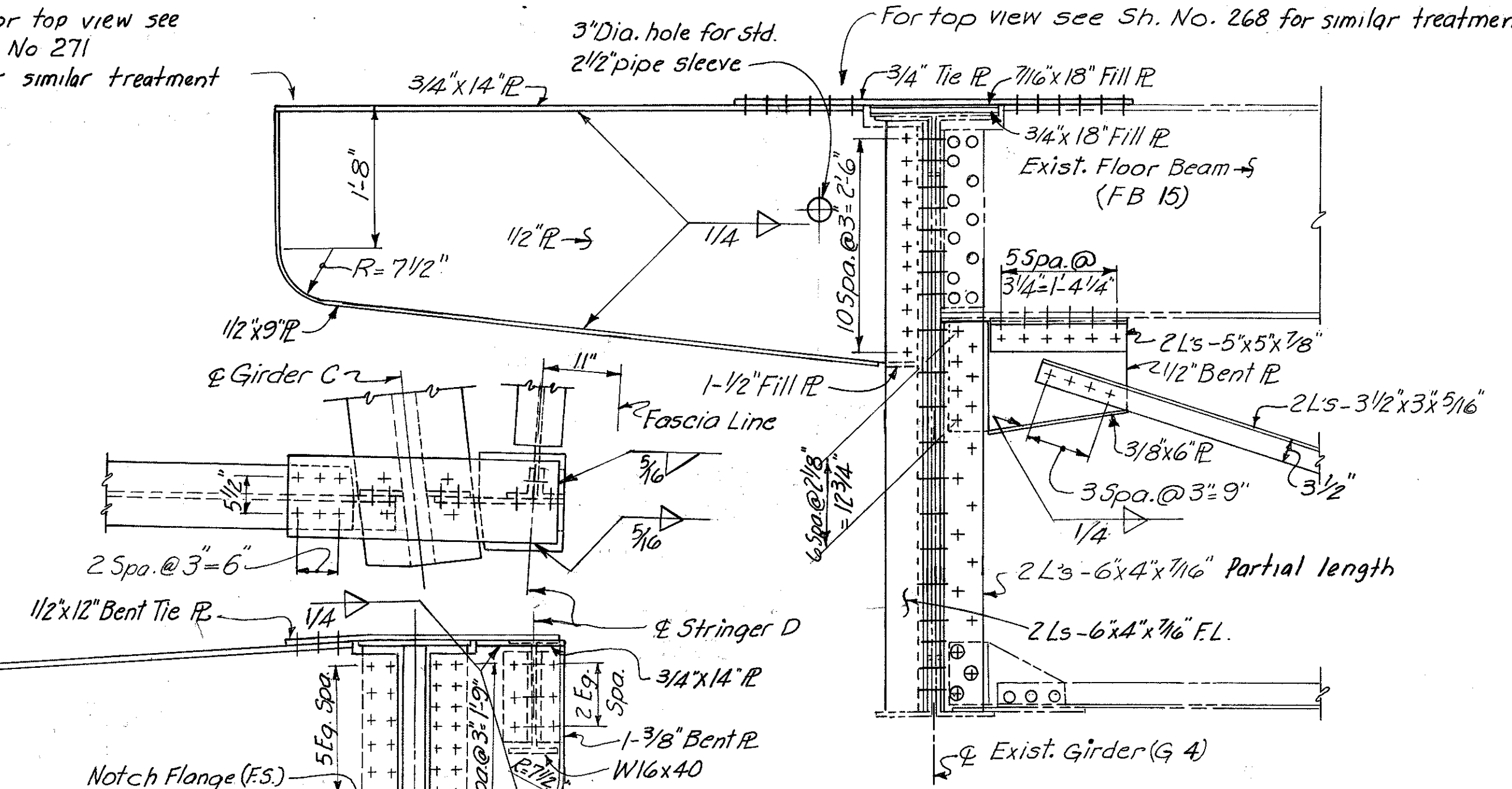


BRACKET B12 SHOWN  
BRACKET B11 & B13 SIMILAR

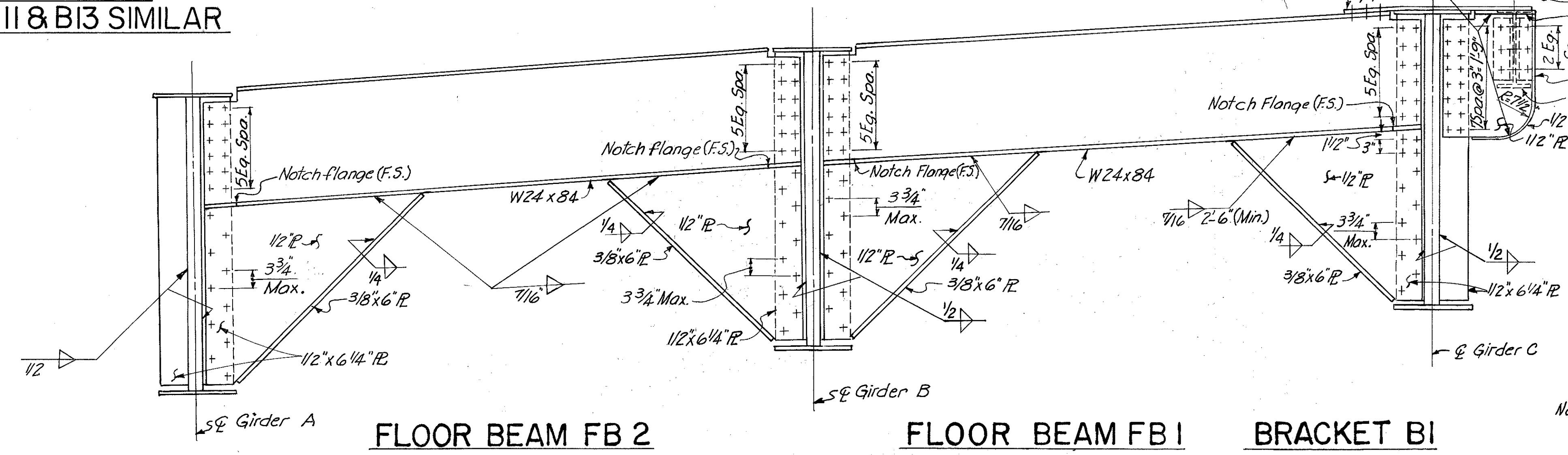


FLOOR BEAM FB 9

For top view see Sh No 271 for similar treatment  
3" Dia. hole for Std. 2 1/2" pipe sleeve  
For top view see Sh. No. 268 for similar treatment



BRACKET B10 SHOWN  
BRACKET B16 SIMILAR



FLOOR BEAM FB 2

FLOOR BEAM FB 1

BRACKET B1

Note: All bolts shall be 7/8" high strength unless otherwise noted.

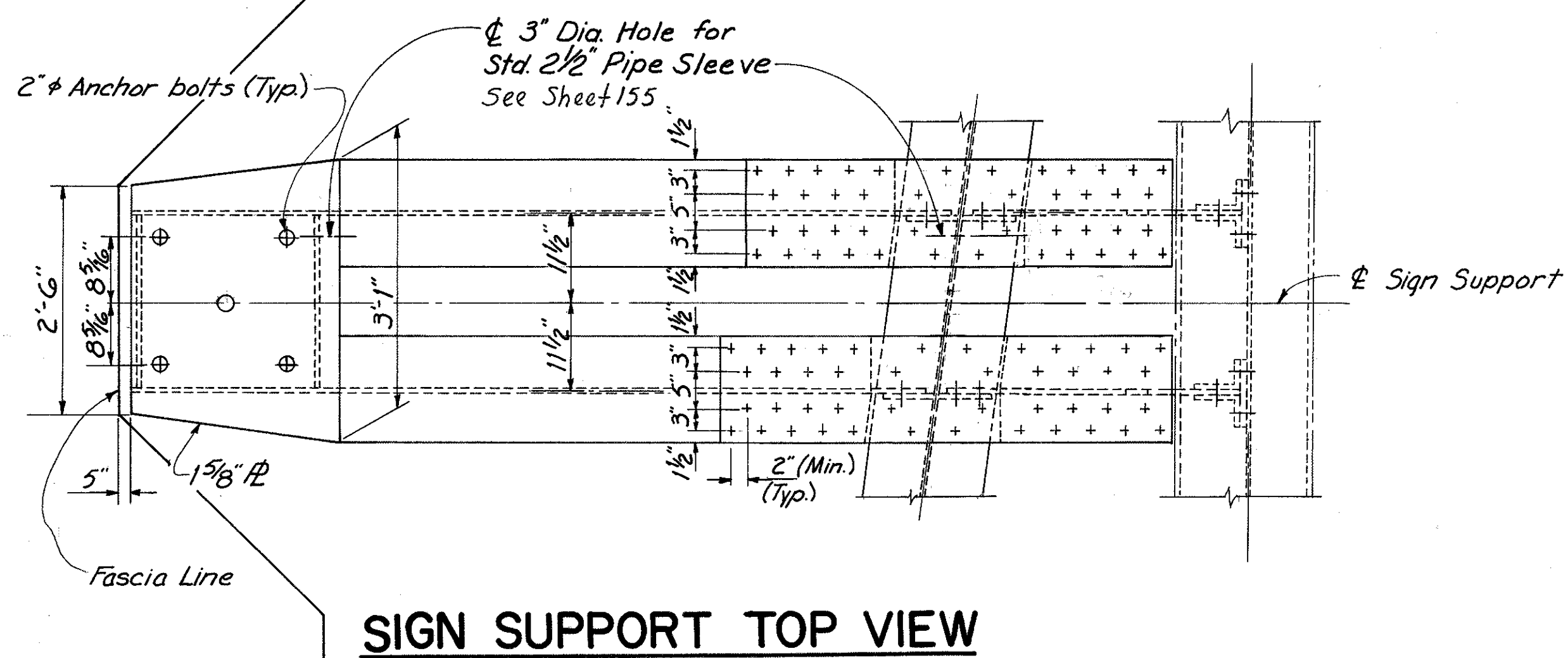
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				17/39
<b>STRUCTURAL STEEL</b>				
BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT				
H & E BRIDGE NO. 8				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
FN	FN	VWS	J.O.	3/16 11-15-72

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

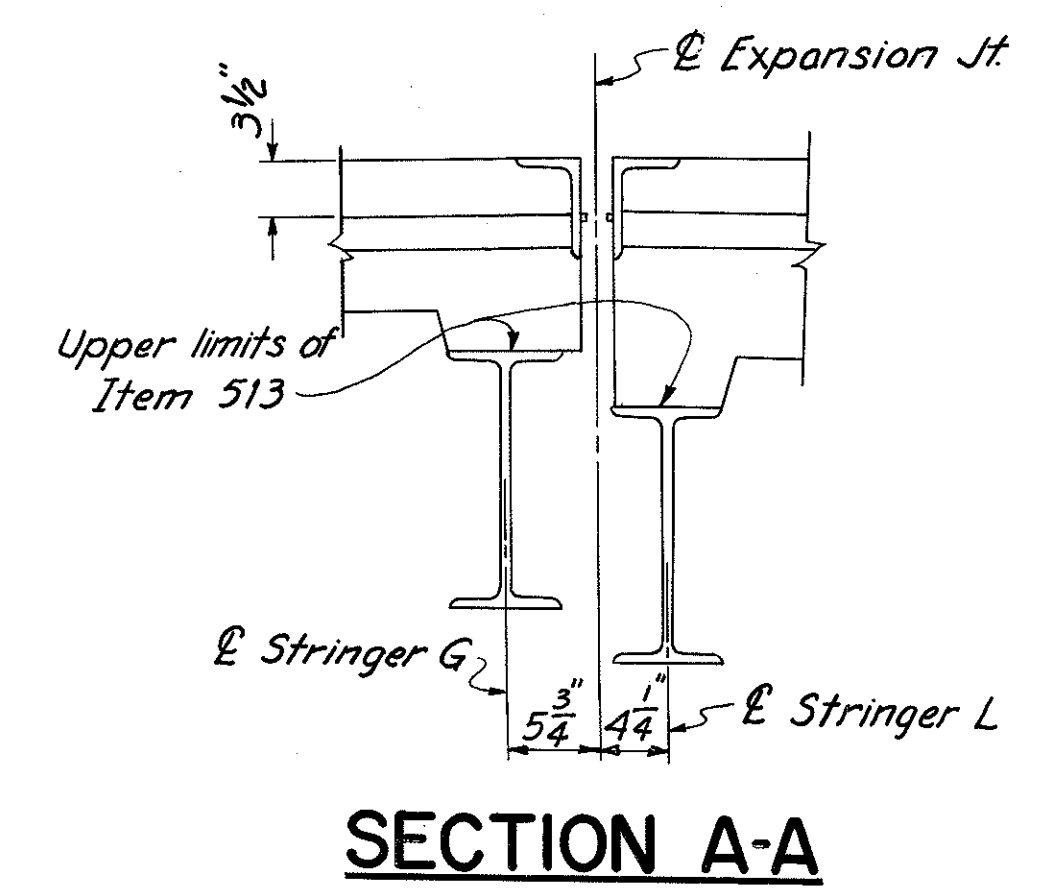
273  
494

HAMILTON COUNTY  
HAM-471-0.30

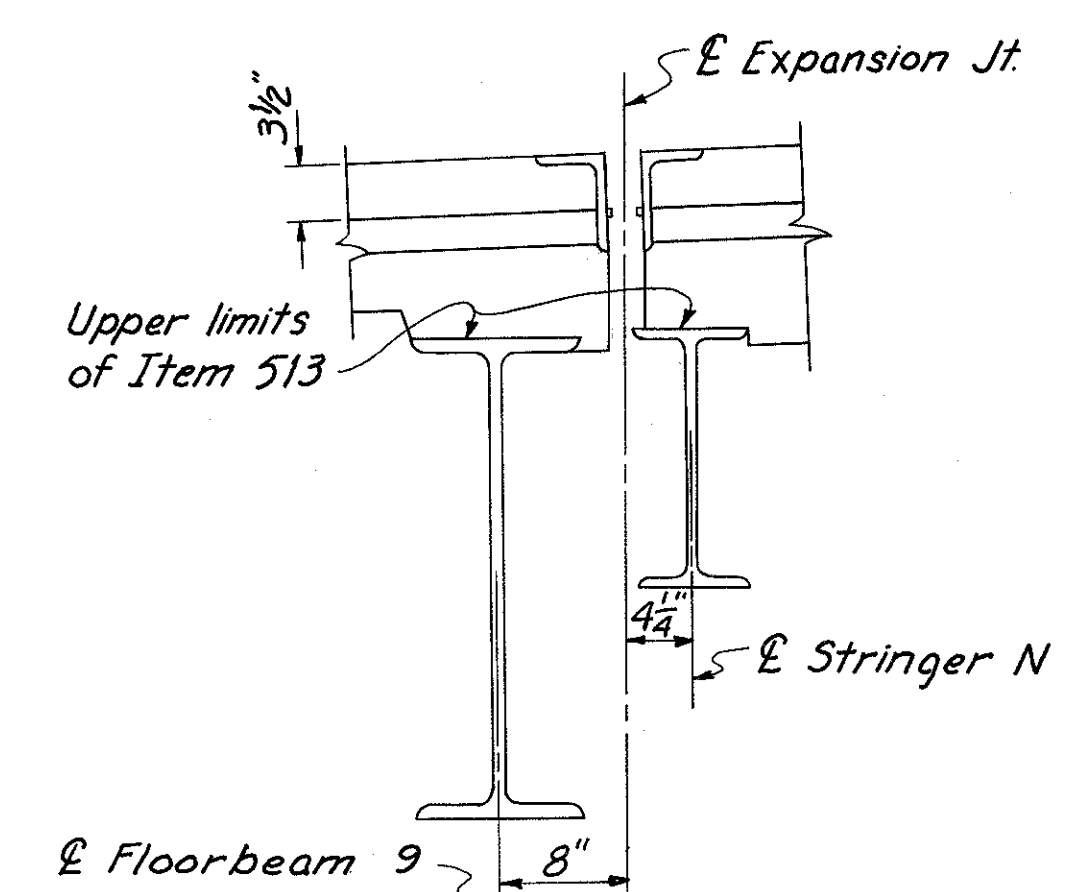
MICROFILMED  
JRM : 0 1981



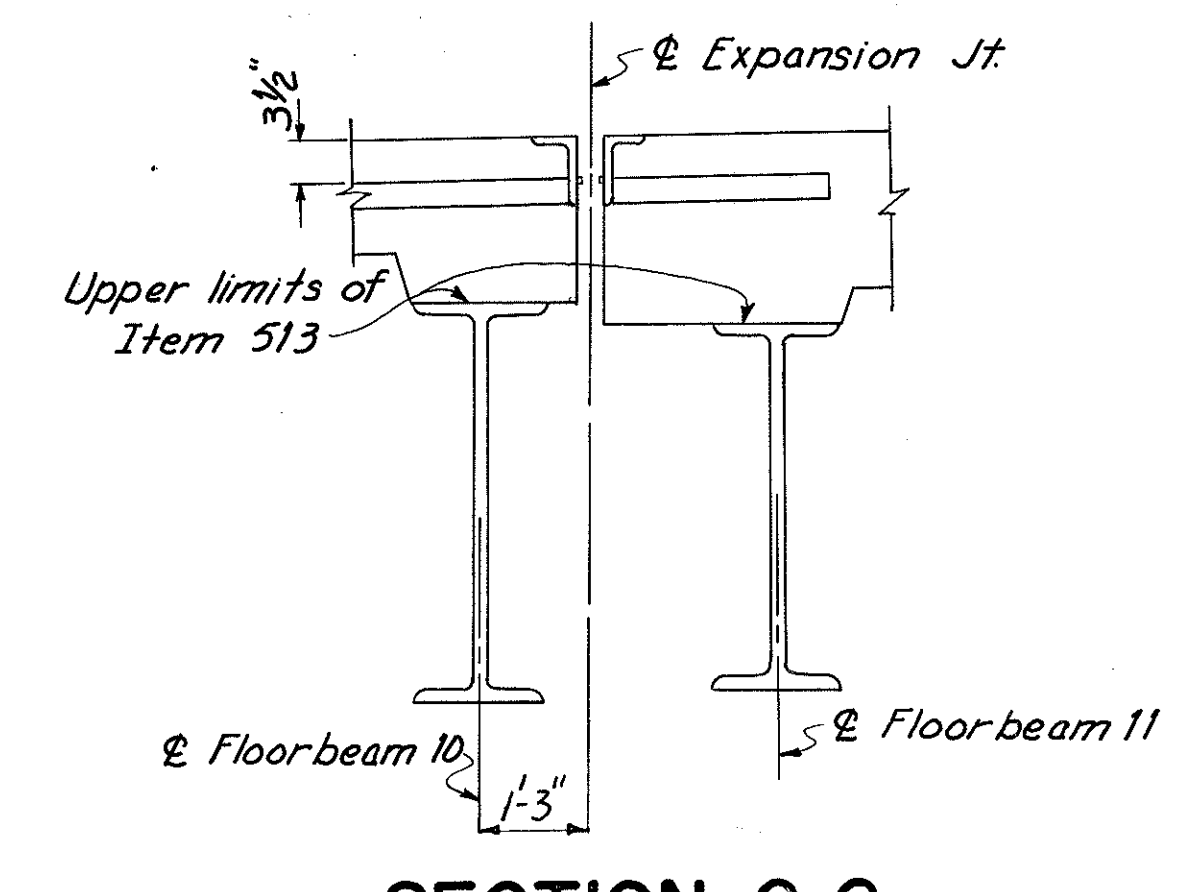
**SIGN SUPPORT TOP VIEW**



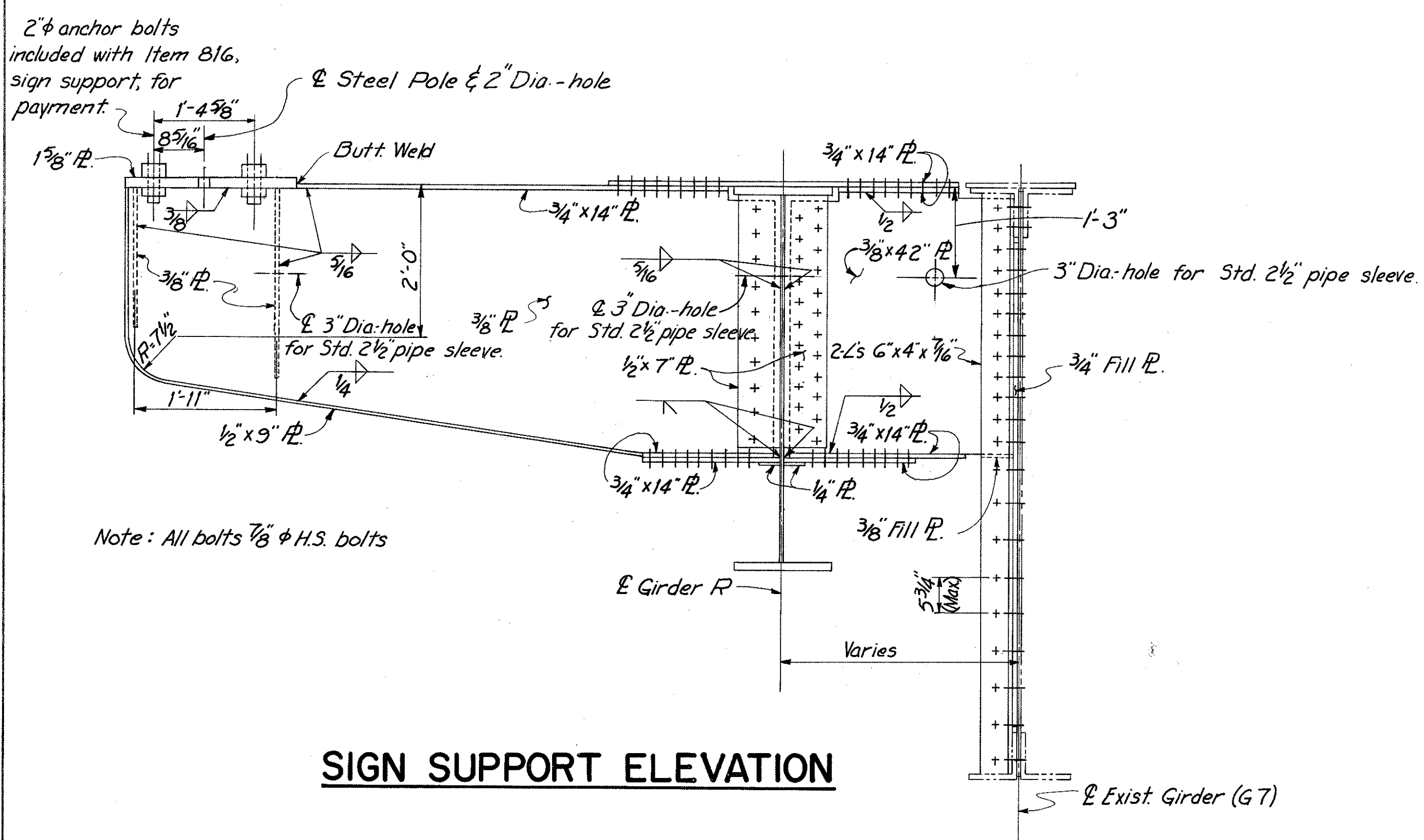
**SECTION A-A**



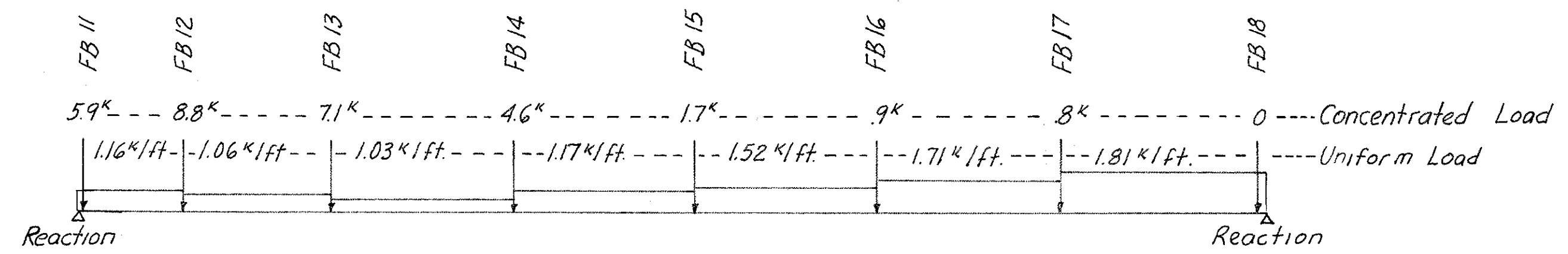
**SECTION B-B**



**SECTION C-C**



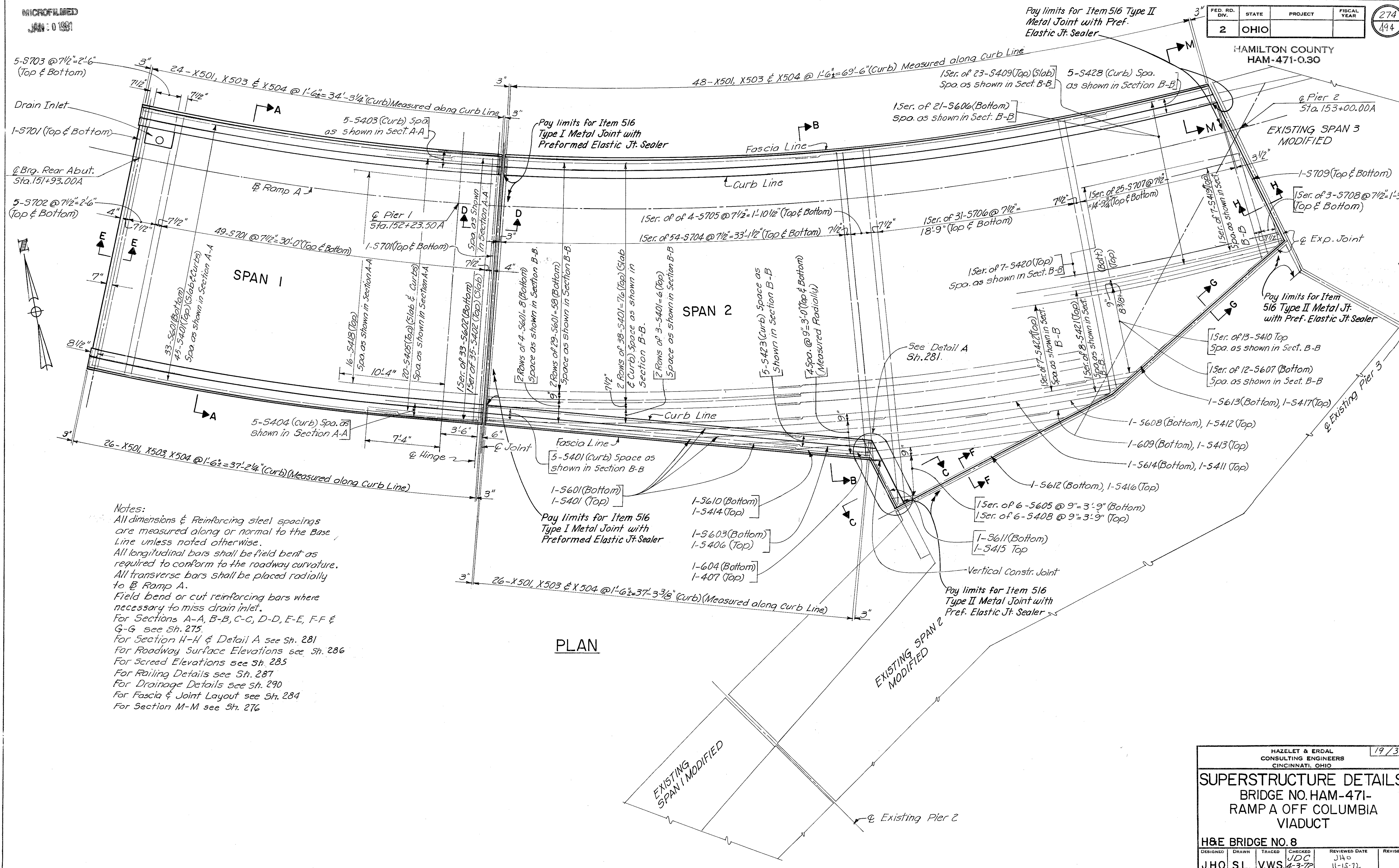
**SIGN SUPPORT ELEVATION**



**DEAD LOAD DIAGRAM FOR GIRDER R**

HAZELT & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						18/39
<b>STRUCTURAL STEEL BRIDGE NO. HAM-471- RAMPA OFF COLUMBIA VIADUCT</b>						
<b>H&amp;E BRIDGE NO.</b>						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
FN	JEM	JEM	FN	JH0 11-15-72		

HAMILTON COUNTY  
HAM-471-0.30

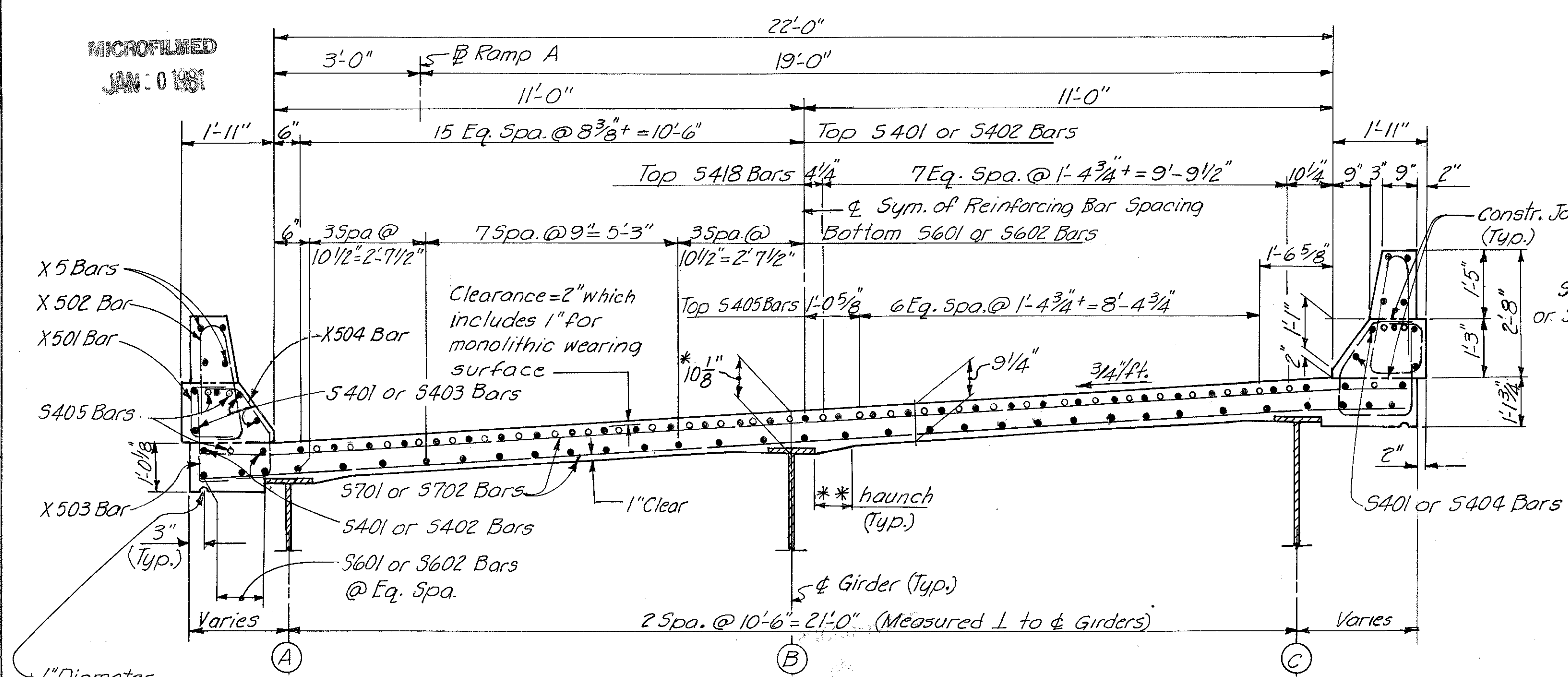


Notes:  
 All dimensions & Reinforcing steel spacings are measured along or normal to the Base Line unless noted otherwise.  
 All longitudinal bars shall be field bent as required to conform to the roadway curvature.  
 All transverse bars shall be placed radially to Ramp A.  
 Field bend or cut reinforcing bars where necessary to miss drain inlet.  
 For Sections A-A, B-B, C-C, D-D, E-E, F-F & G-G see Sh. 275.  
 For Section H-H & Detail A see Sh. 281  
 For Roadway Surface Elevations see Sh. 286  
 For Scream Elevations see Sh. 285  
 For Railing Details see Sh. 287  
 For Drainage Details see Sh. 290  
 For Fascia & Joint Layout see Sh. 284  
 For Section M-M see Sh. 276

PLAN

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
19/39					
<b>SUPERSTRUCTURE DETAILS</b> BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT					
<b>H&amp;E BRIDGE NO. 8</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
J.H.O.	S.L.	V.W.S.	J.D.C.	11-15-72	

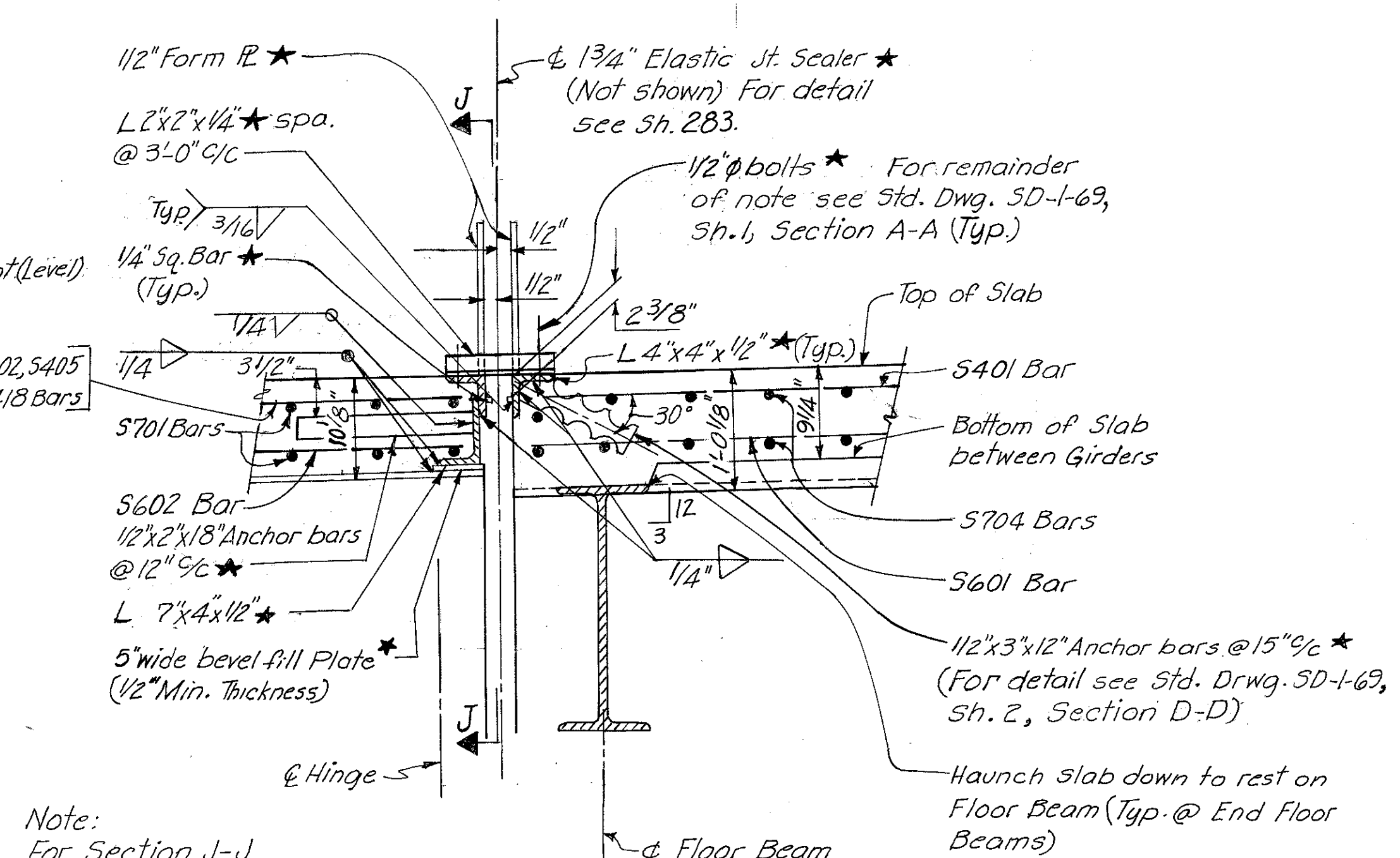
HAMILTON COUNTY  
HAM-471-0.30



SECTION A-A

\* This is the nominal dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per Sec. 511.18 of the Construction and Material Specifications.

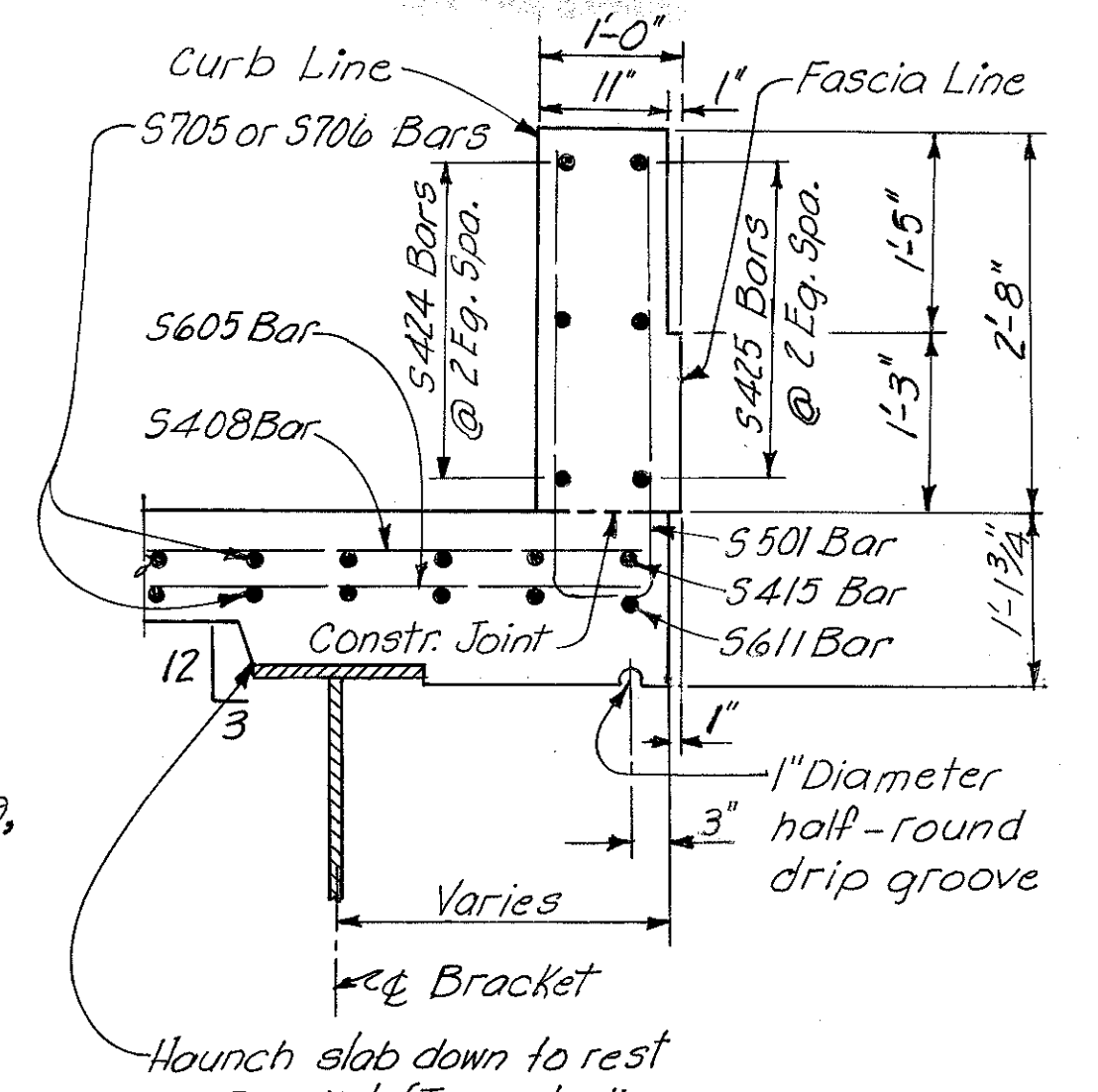
\*\* A typical haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.



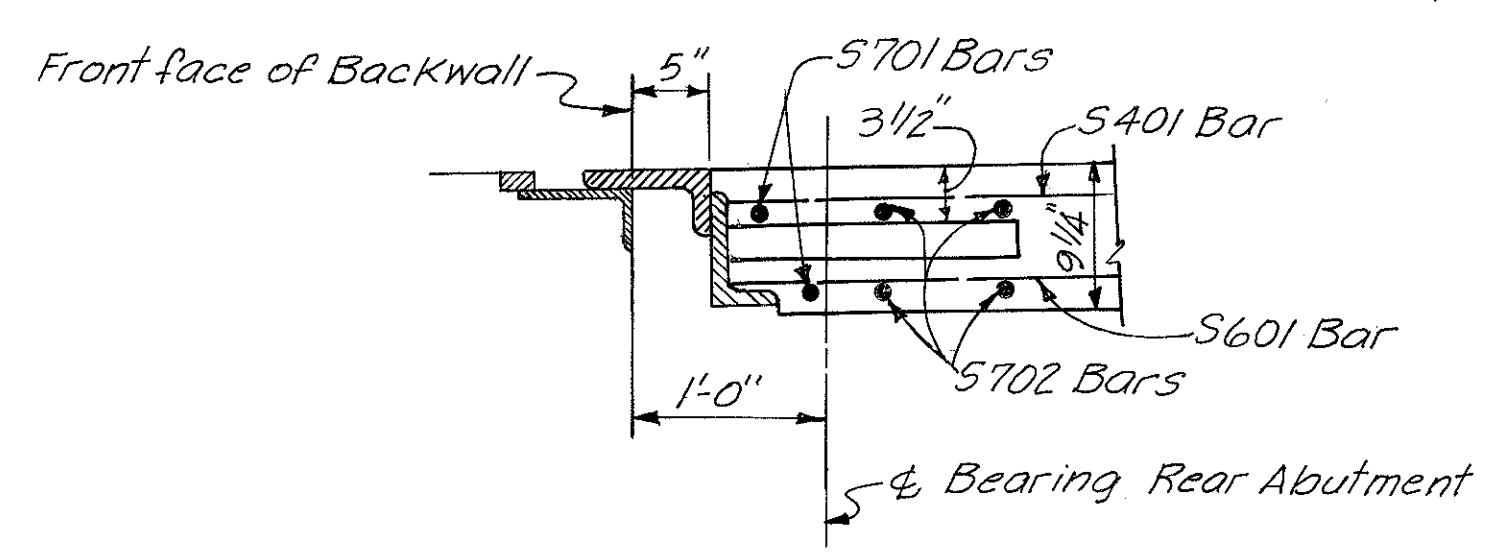
SECTION D-D

Note: For Section J-J see Sh. 281.

Note: Items marked with a Star (\*) to be included with Item 516, Type I Metal Joint with Preformed Elastic Joint Sealer, for payment.

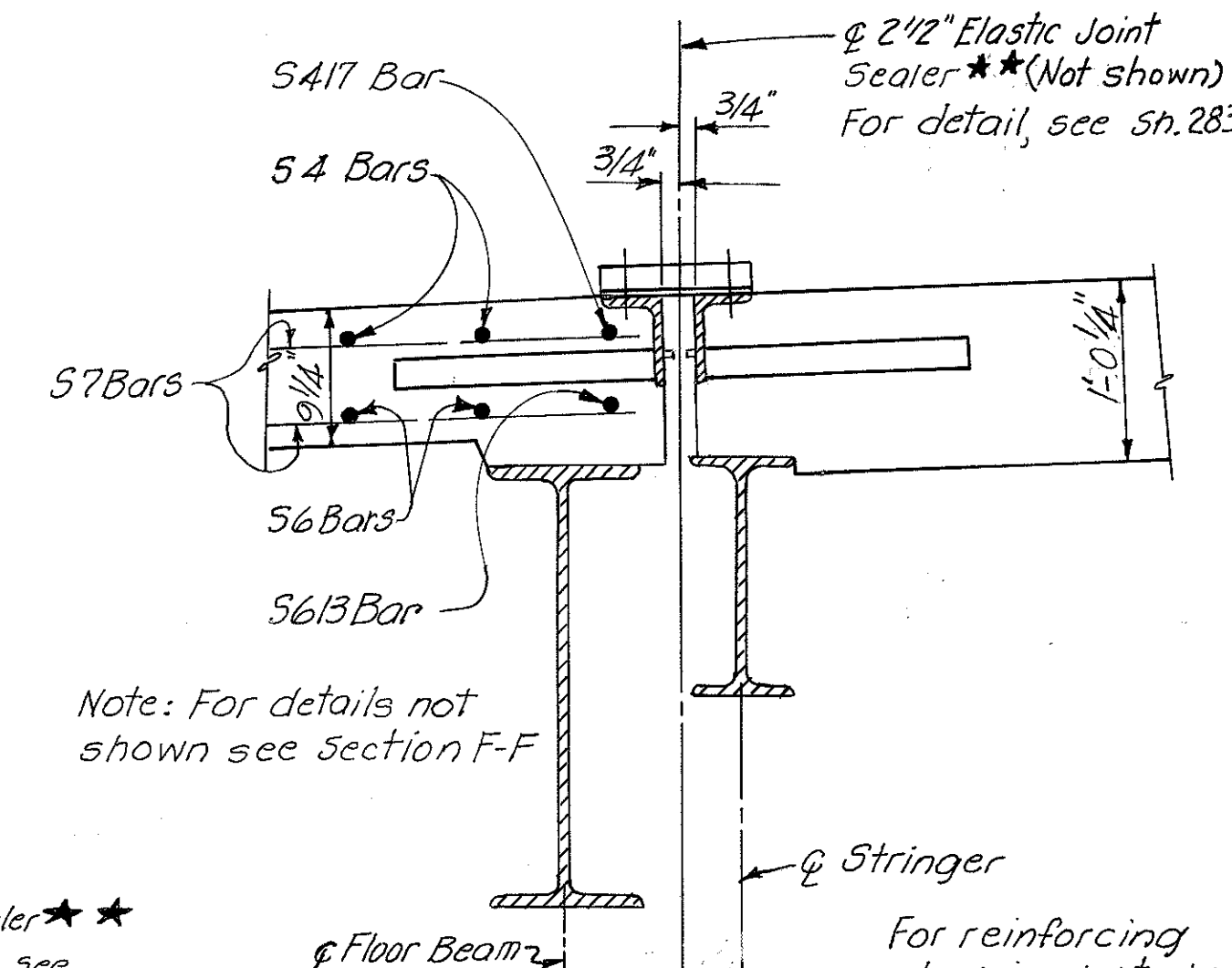


SECTION C-C



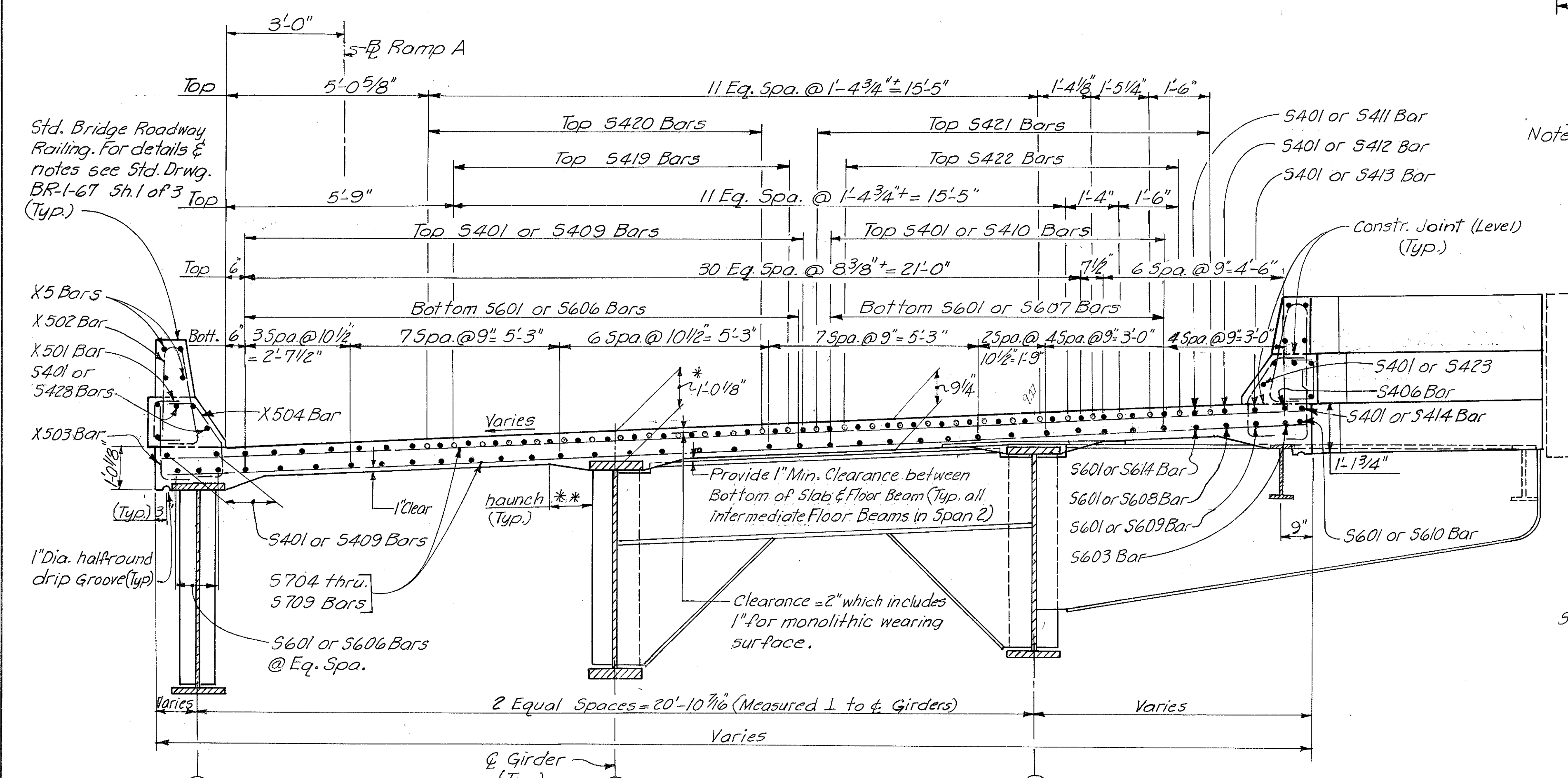
SECTION E-E

Note: For details not shown see Section A-A, Std. Dr. SD-1-69, Sh. 1



SECTION G-G

Note: Items marked with two stars \*\* to be included with Item 516, Type II Metal Joint with Preformed Elastic Joint Sealer, for payment. Note: For location of Sections A-A, B-B, C-C, D-D, E-E, F-F & G-G and other notes see Sh. 274.



SECTION B-B

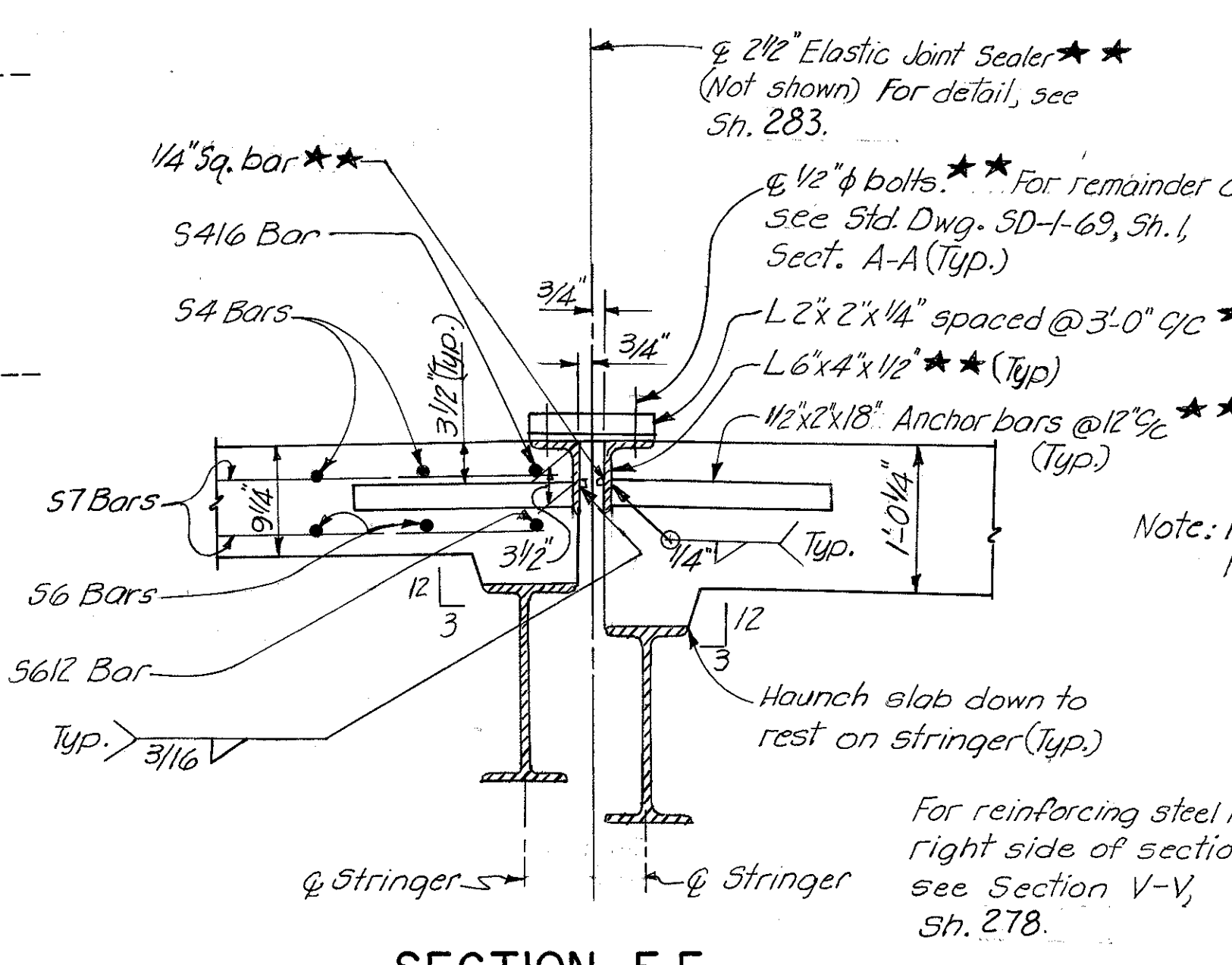
Std. Bridge Roadway Railing. For details & notes see Std. Drwg. BR-1-67 Sh. 1 of 3 (Typ.)

1" Dia. half-round drip Groove (Typ.)

5704 thru 5709 Bars

Clearance = 2" which includes 1" for monolithic wearing surface.

Provide 1" Min. Clearance between Bottom of Slab & Floor Beam (Typ. all intermediate Floor Beams in Span 2)



SECTION F-F

For reinforcing steel in right side of section see Section V-V, Sh. 278.

HAZLET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**SUPERSTRUCTURE DETAILS**  
BRIDGE NO. HAM-471-  
RAMP A OFF COLUMBIA  
VIADUCT

H&E BRIDGE NO. 8

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
J.H.O.	S.L.	V.W.S.	J.D.C.	11-15-72	

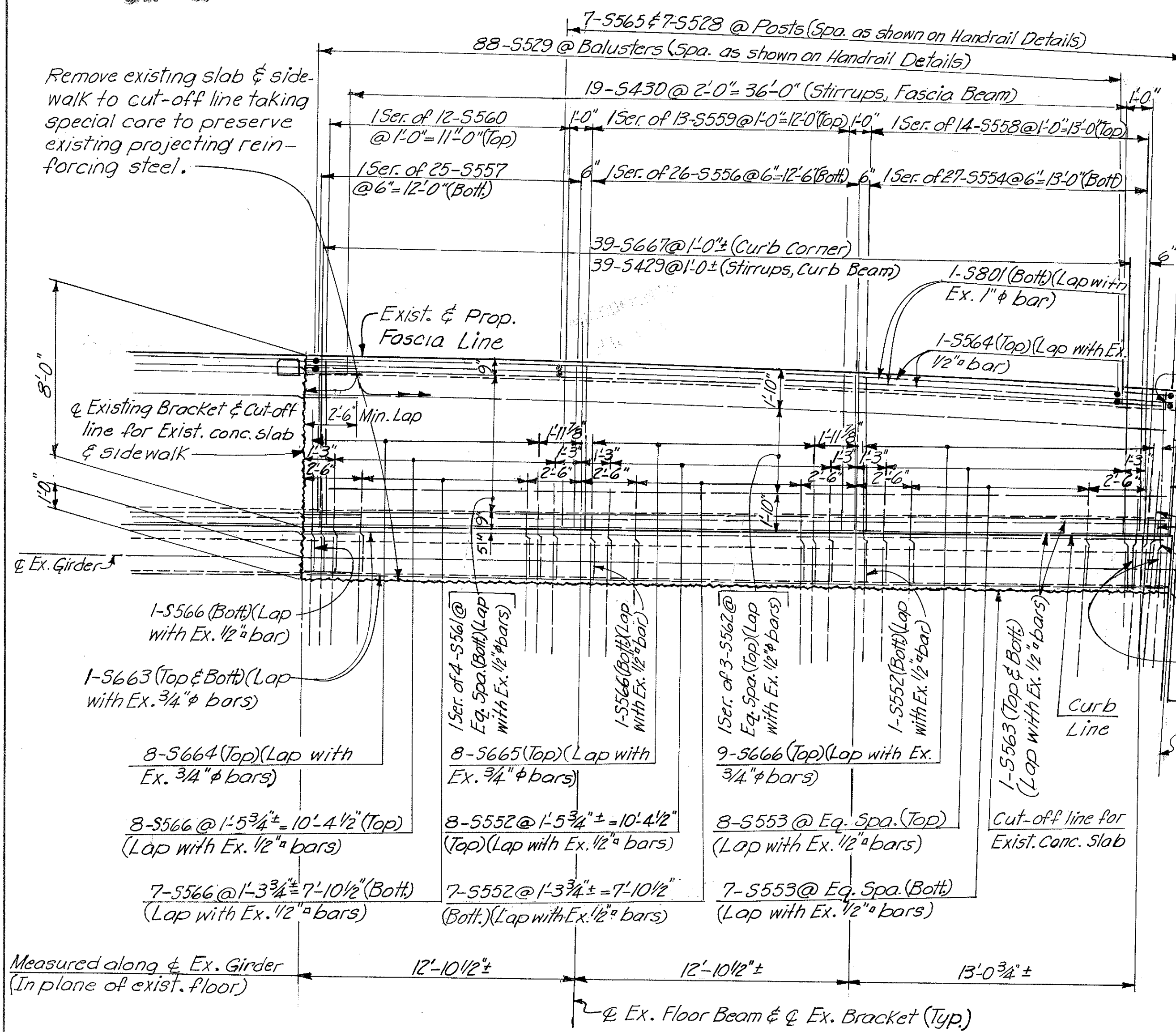
20 / 39

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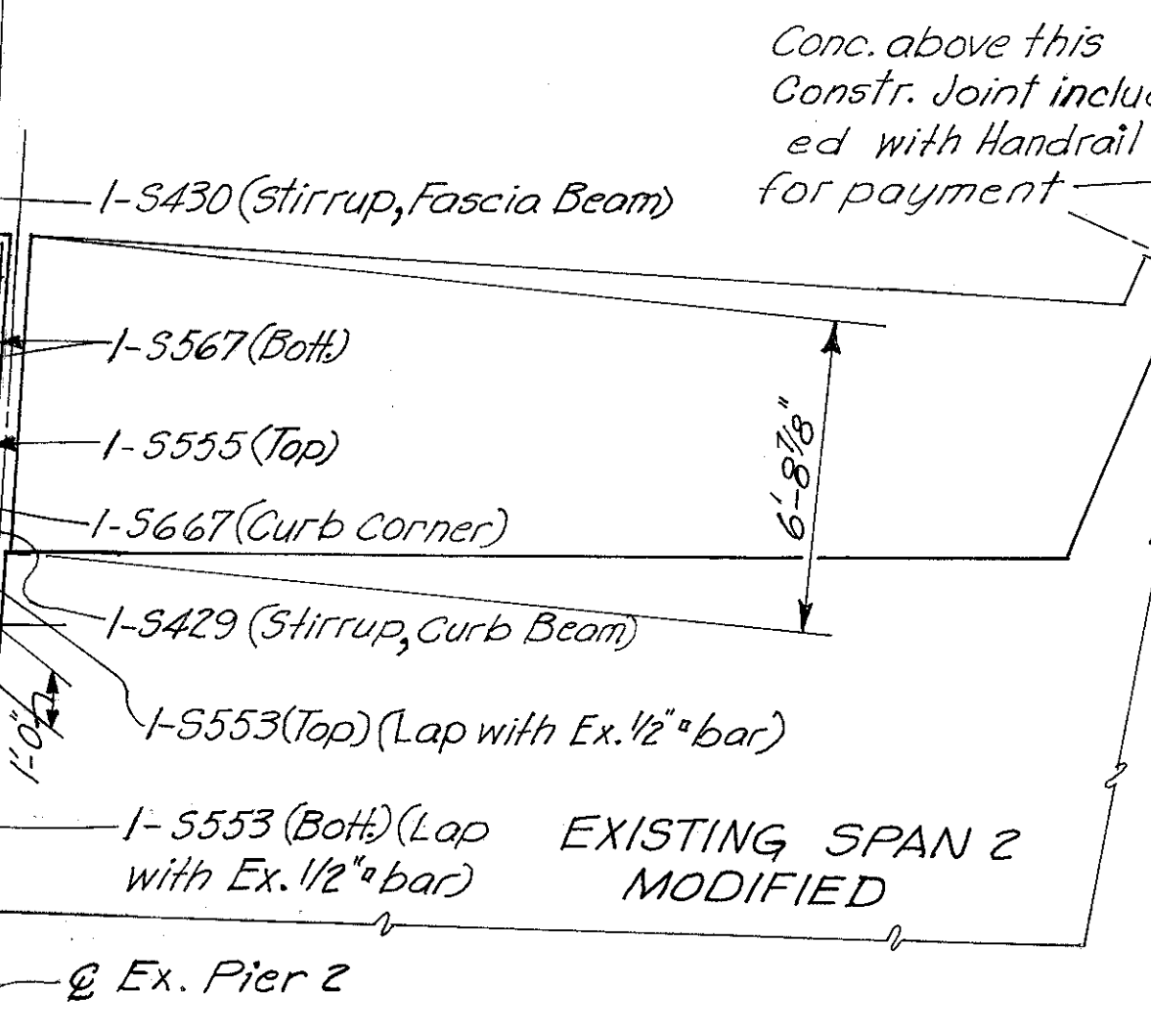
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

276  
494

HAMILTON COUNTY  
HAM-471-0.30

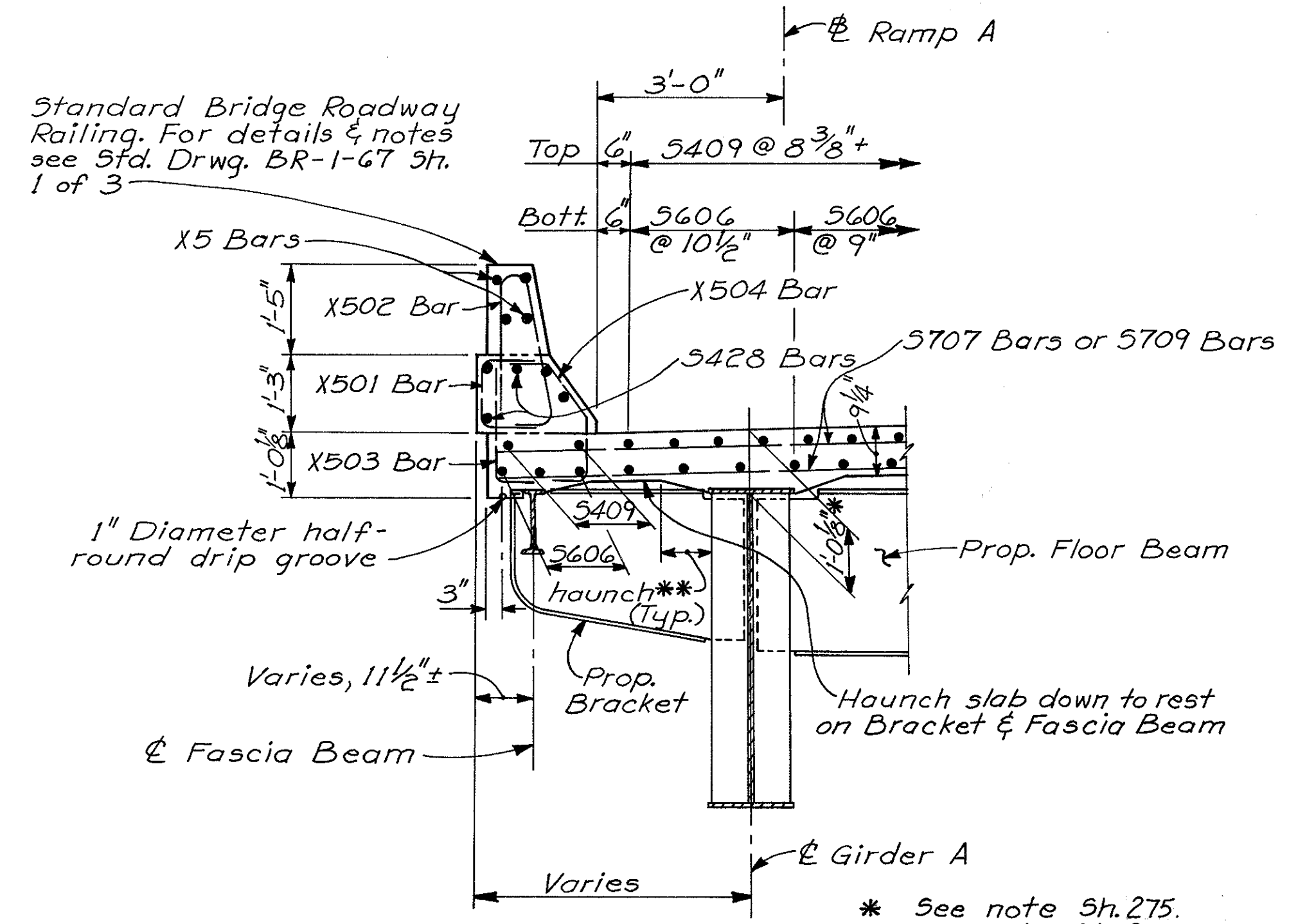


EXISTING SPAN 1 MODIFIED  
**PLAN**



**SECTION Z-Z**

Note: Existing reinforcing steel which is to be lapped shall project a minimum of 2 feet beyond slab cut-off line unless noted otherwise.



**SECTION M-M**

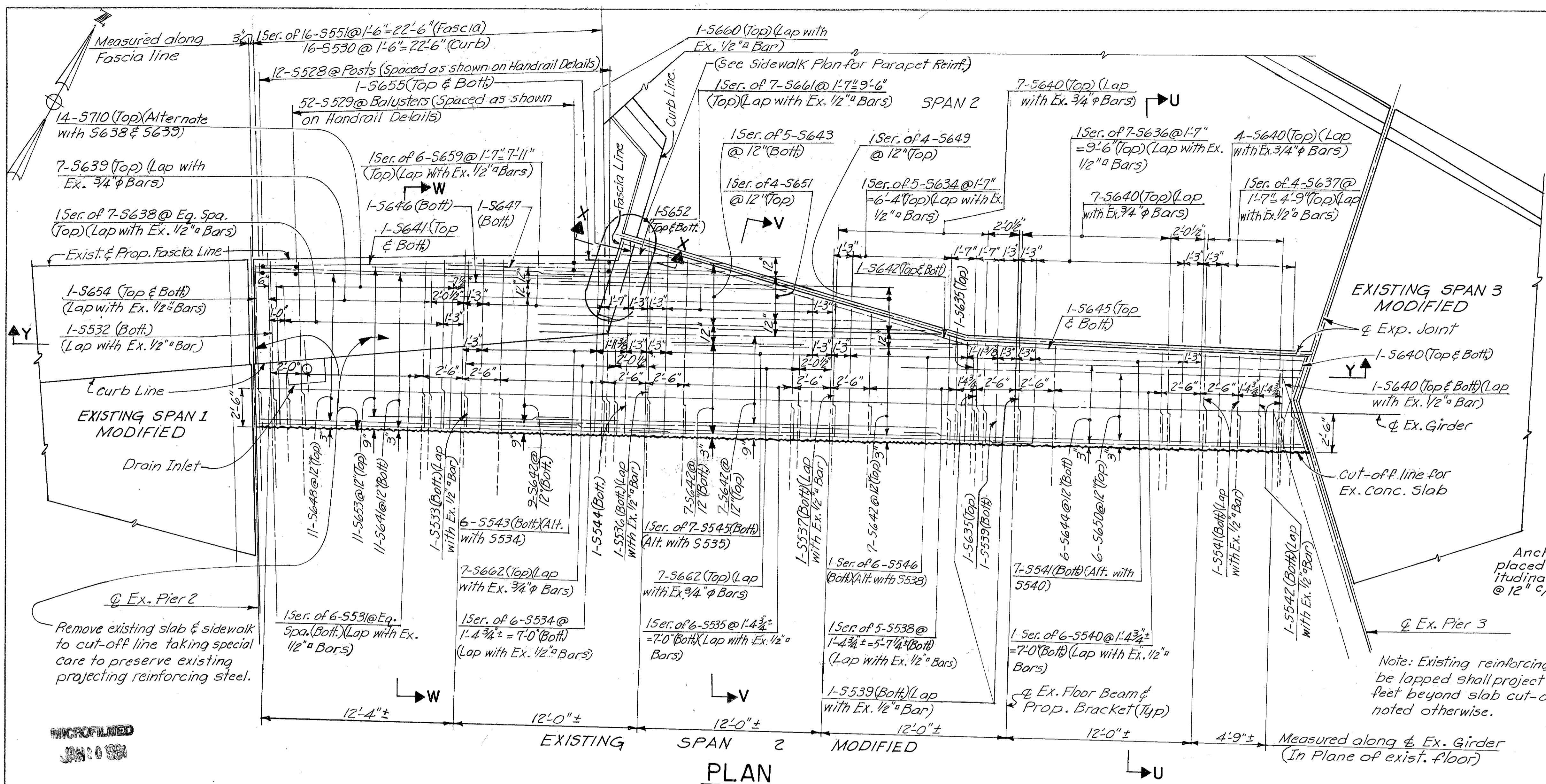
Notes:  
For Plan of Expansion Joint Detail at Existing Pier 2 see Sh. 267.  
For location of Section M-M see Sh. 274  
For Handrail details see Sh. 289.  
For other notes see Sh. 274.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					21 / 39
<b>SUPERSTRUCTURE DETAILS</b>					
<b>BRIDGE NO. HAM-471-</b>					
<b>RAMP A OFF COLUMBIA</b>					
<b>VIADUCT</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
S.L.	V.W.S.	JDC	JDC	11-15-72	

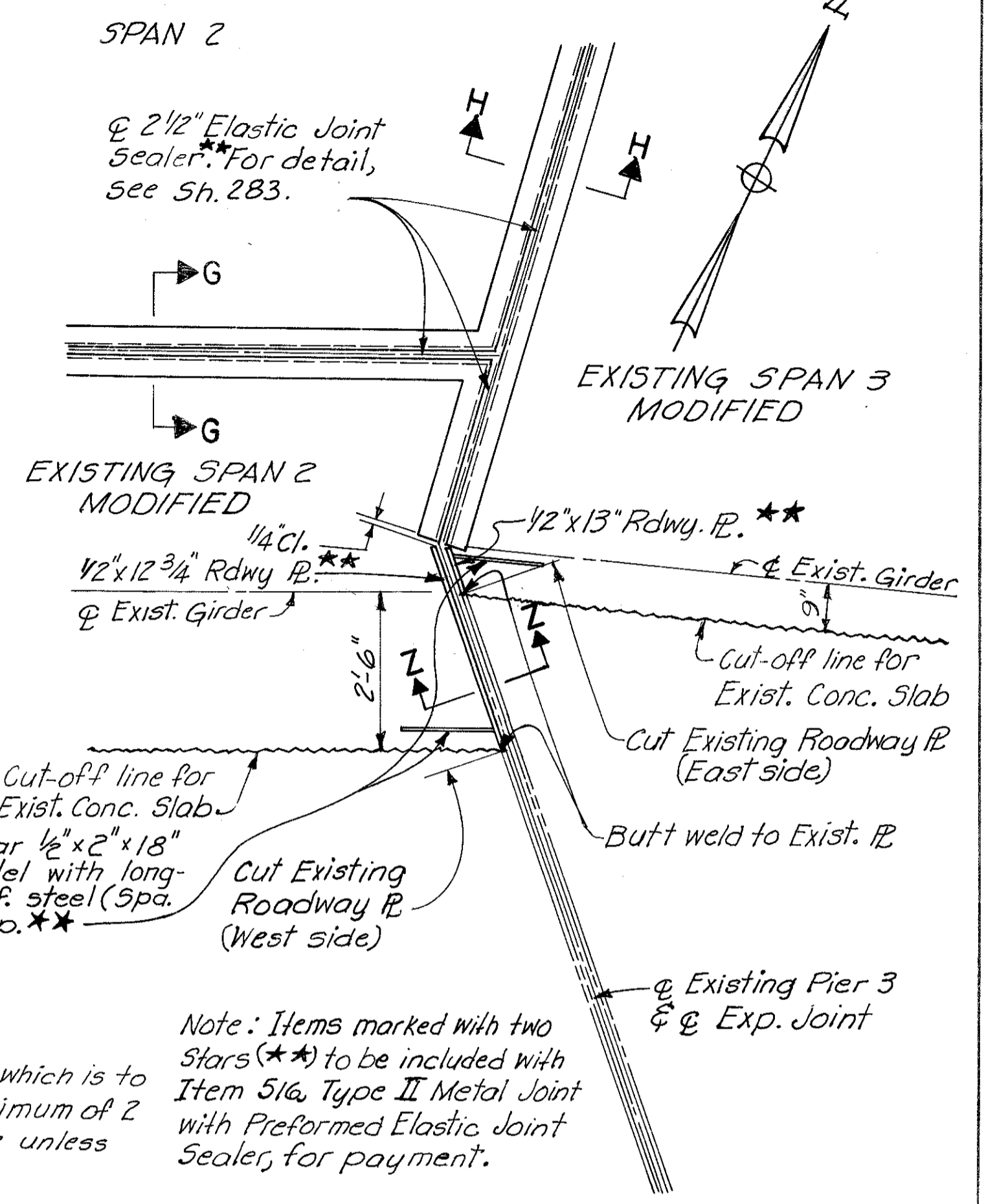
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

277  
494

HAMILTON COUNTY  
HAM-471-0.30



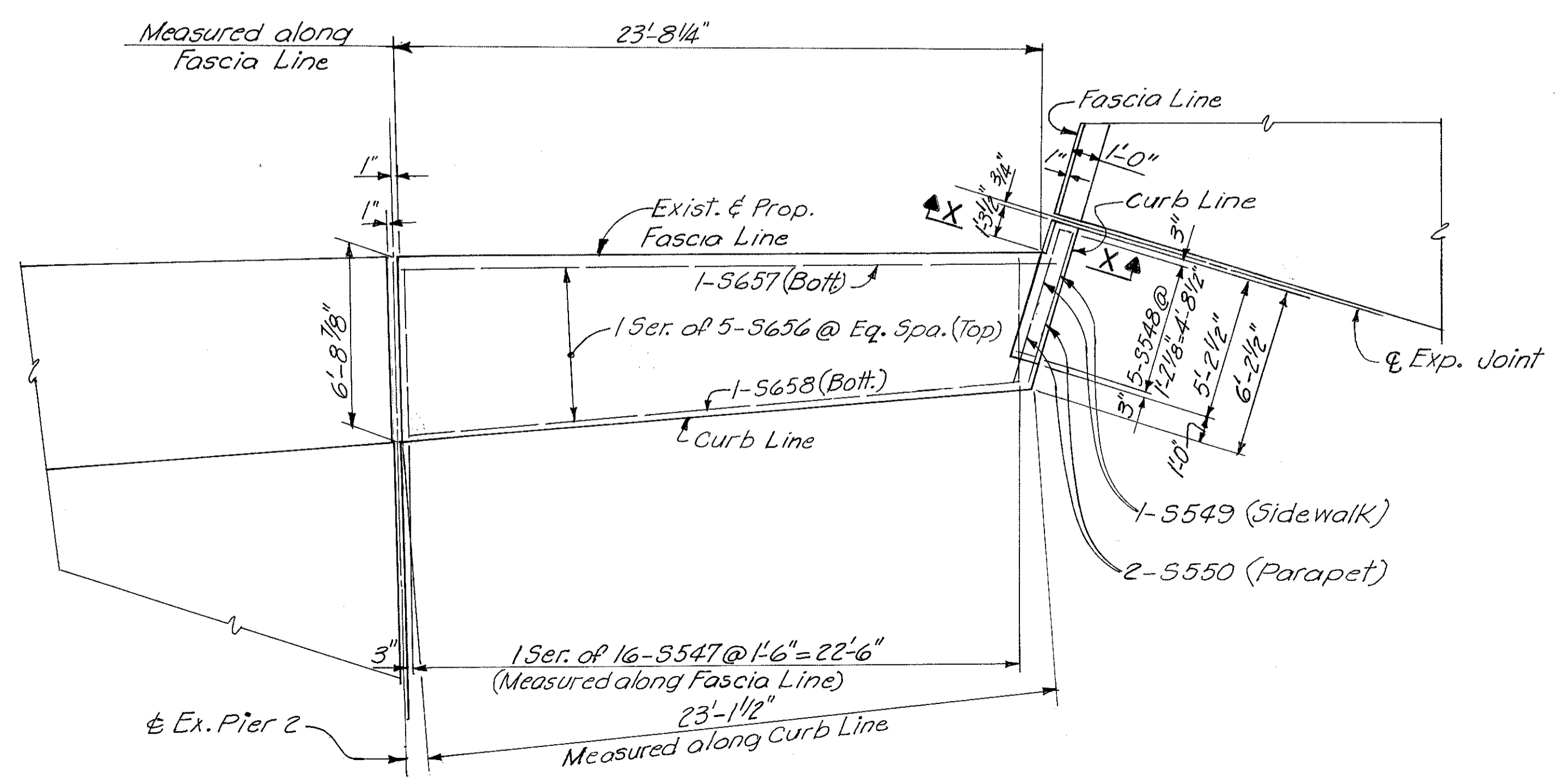
MICROFILMED  
JUN 10 1981



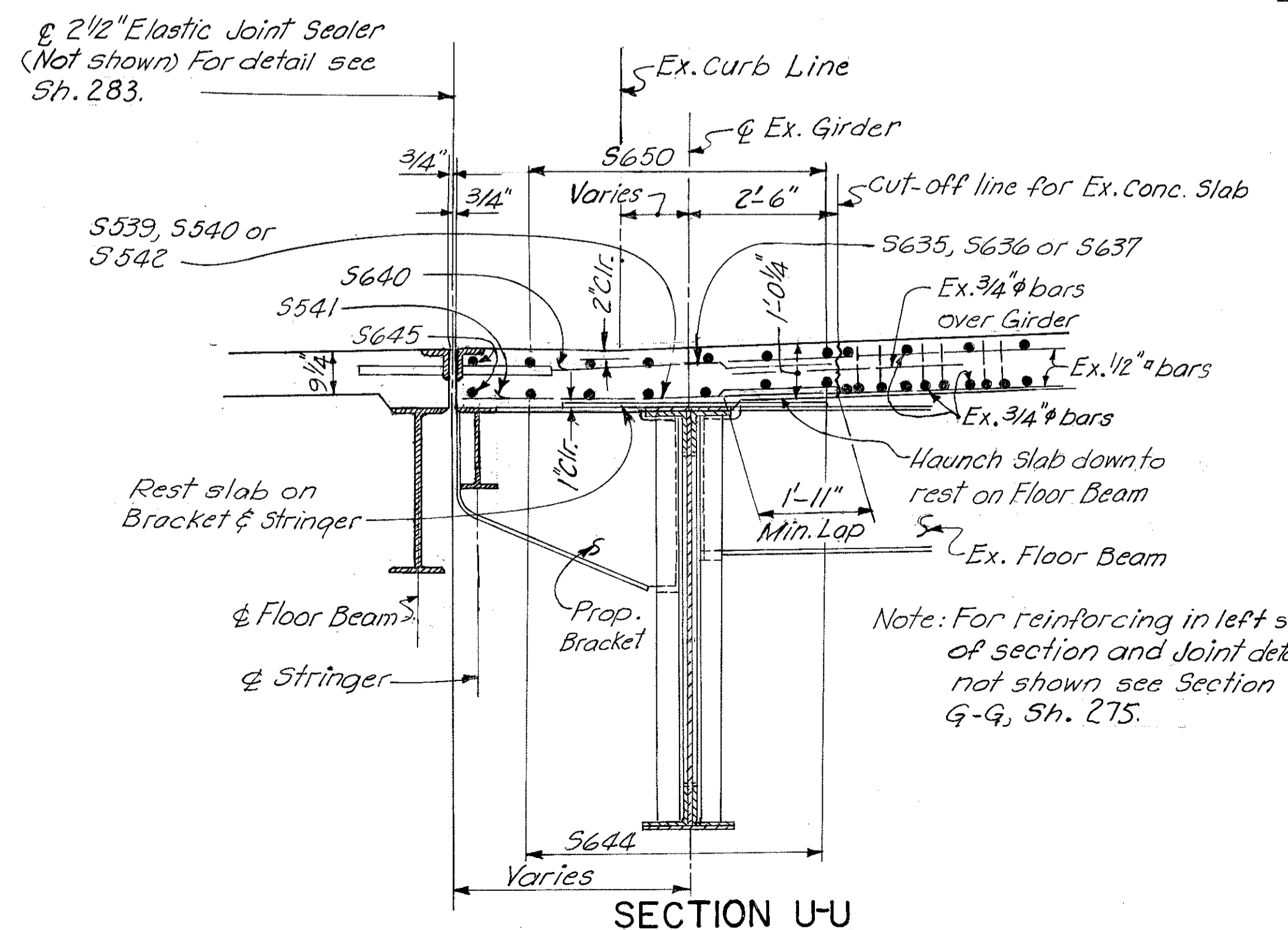
**PLAN OF EXPANSION JOINT DETAIL AT EXISTING PIER 3**

For Section G-G See Sh. 275.  
For Section H-H See Sh. 281.  
For Section Z-Z See Sh. 267.

Notes:  
For Sections V-V, W-W & X-X see Sh. 278.  
For Section Y-Y see Sh. 279.  
For Handrail details see Sh. 289.  
For Drainage details see Sh. 291.  
For other notes see Sh. 274.  
For Plan of Expansion Joint Detail at Exist. Pier 2 see Sh. 267.



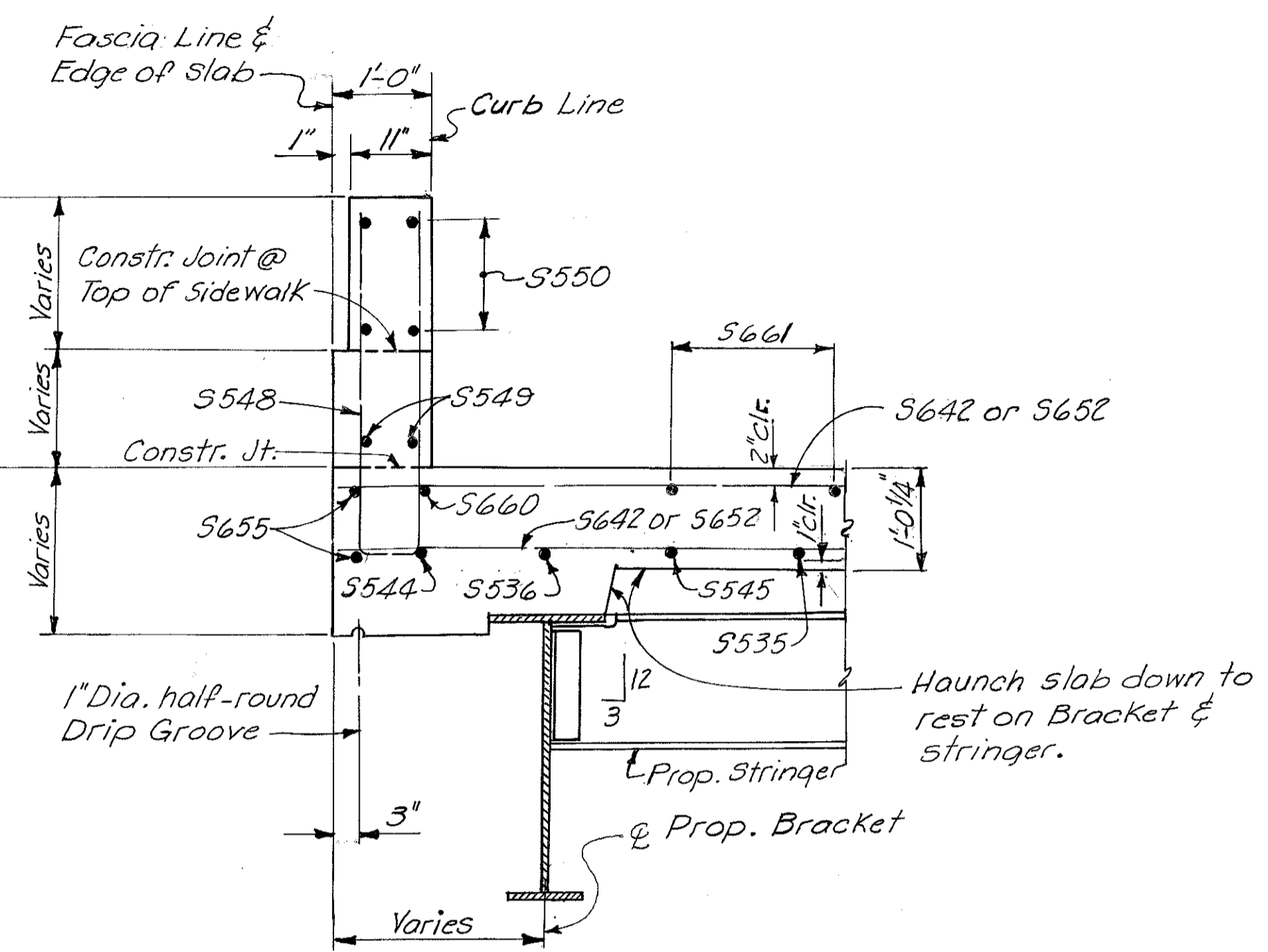
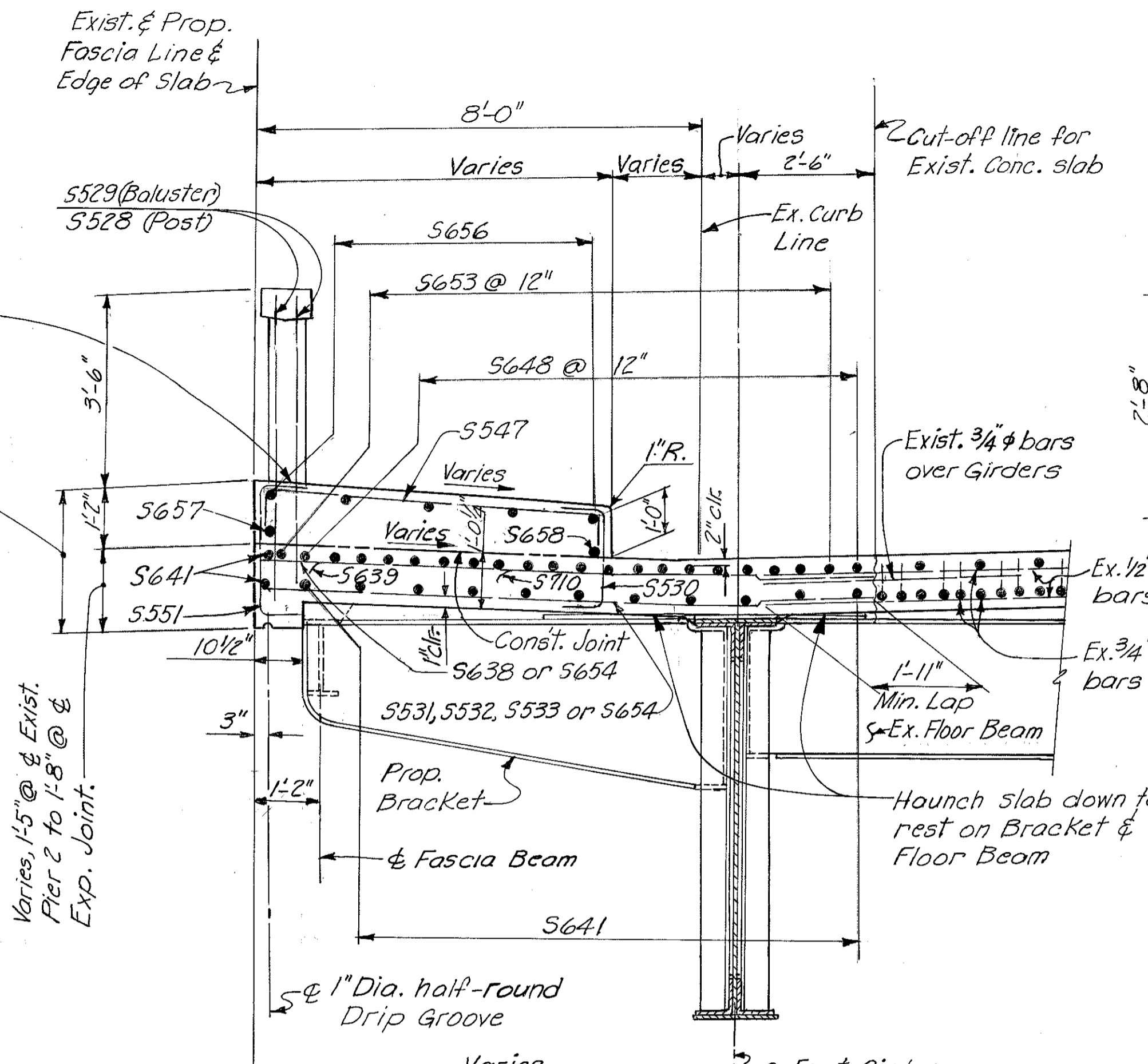
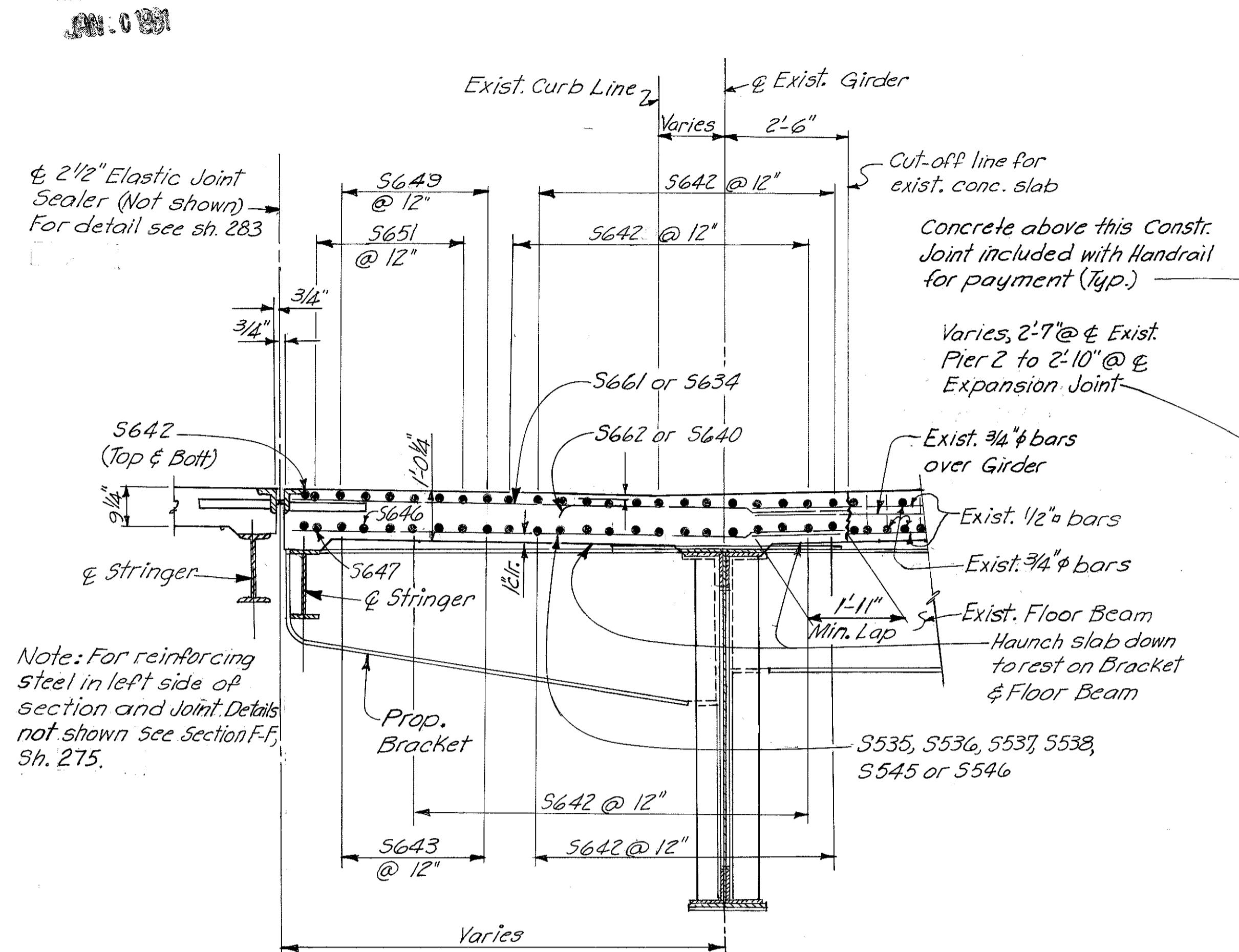
**SIDEWALK PLAN**



**SECTION U-U**

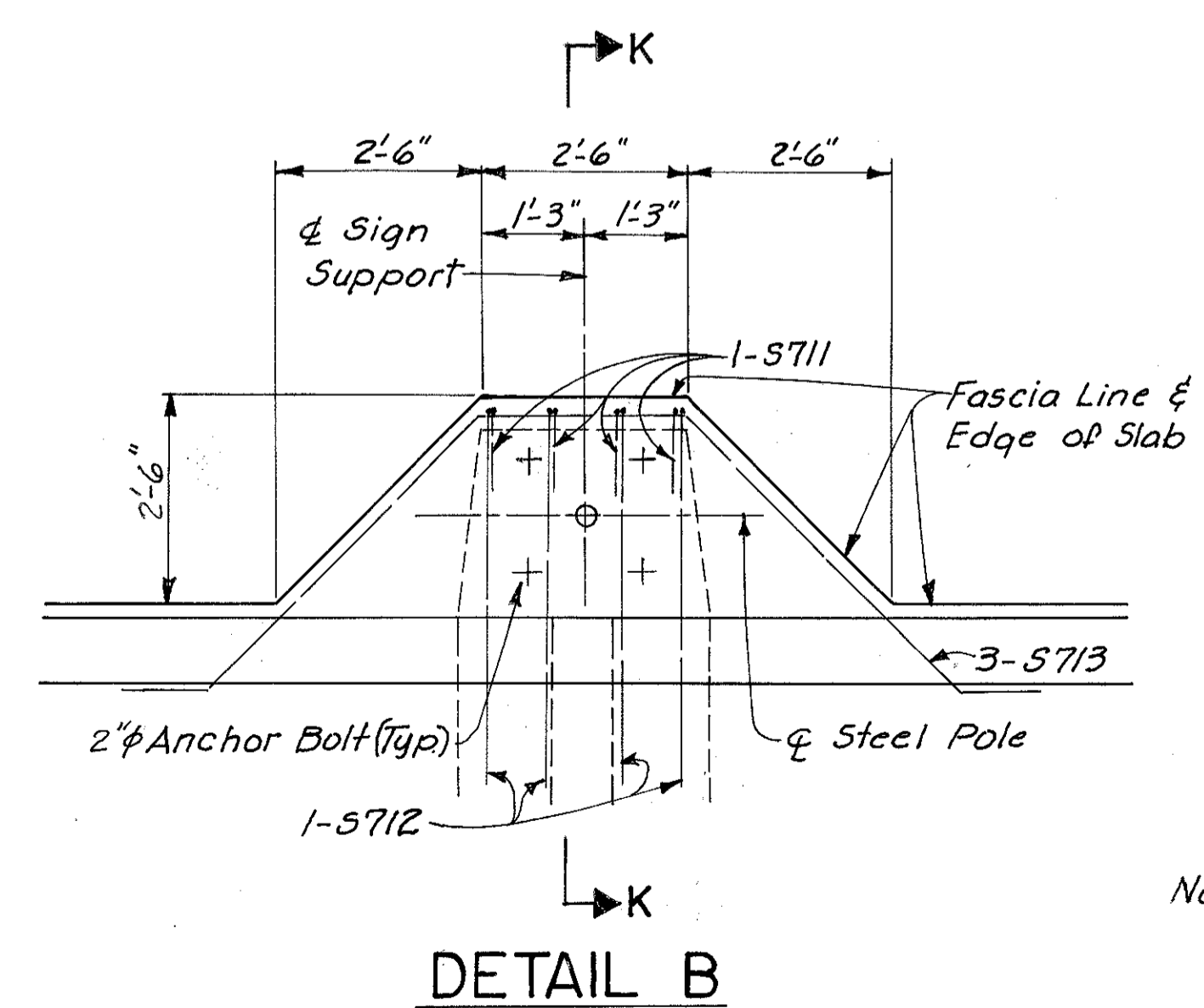
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					22/39
<b>SUPERSTRUCTURE DETAILS</b>					
BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT					
H&E BRIDGE NO. 8					
DESIGNED S.L.	RAWN S.L.	TRACED V.W.S.	CHECKED JDC 4-4-72	REVIEWED DATE JHO 11-15-72	REVISED

MICROFILMED  
JAN. 10 1981

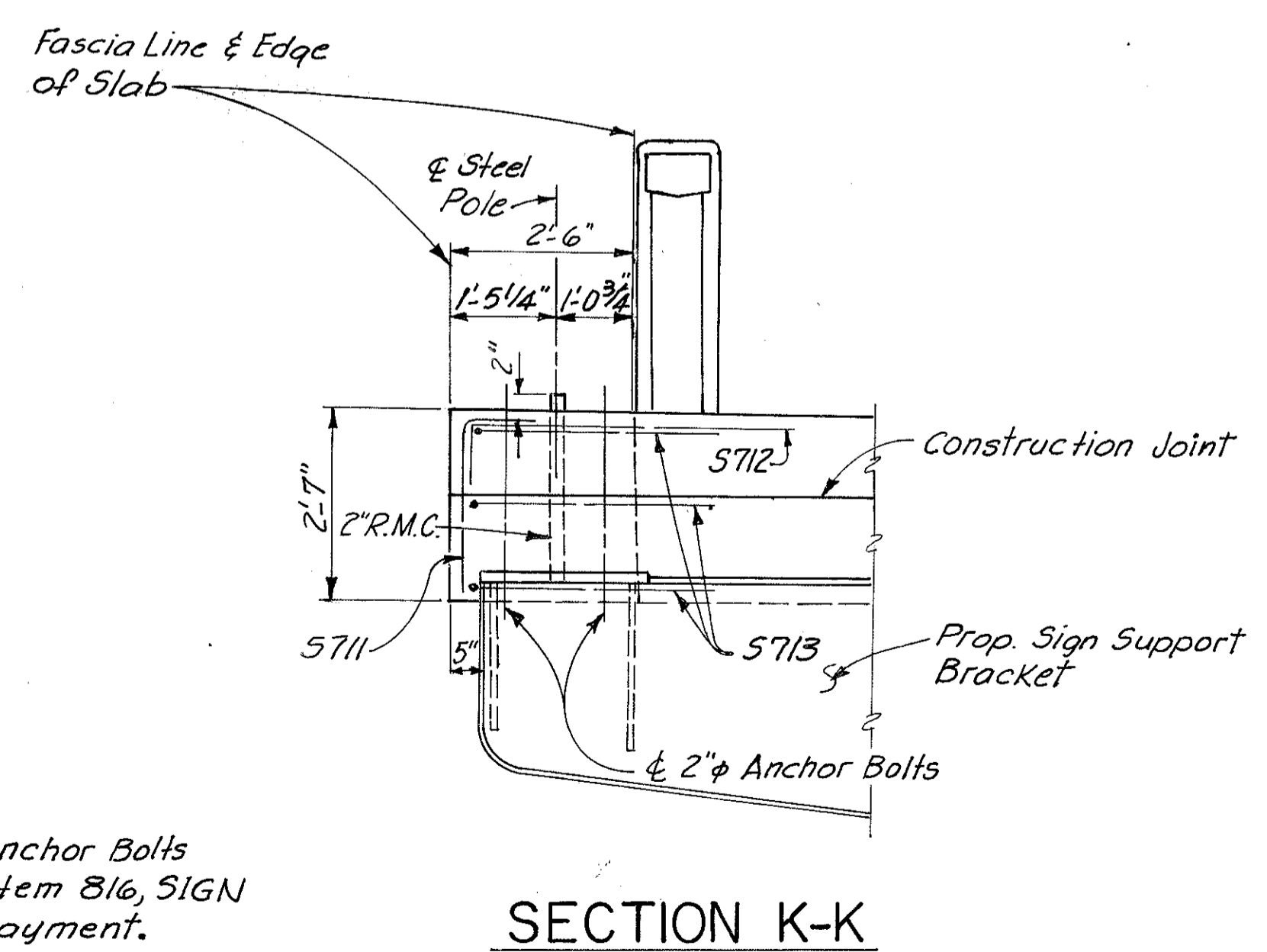


Note: For reinforcing steel in left side of section and joint details not shown see Section F-F, Sh. 275.

Varies, 1.5" @ & Exist. Pier 2 to 1.8" @ & Exp. Joint.



Note: 2" R.M.C. & 2" Anchor Bolts included with Item 816, SIGN SUPPORT, for payment.



Notes:  
For location of Detail B see Sh. 280.  
For location of Sections V-V, W-W & X-X see Sh. 277.  
For other notes see Sh. 274.

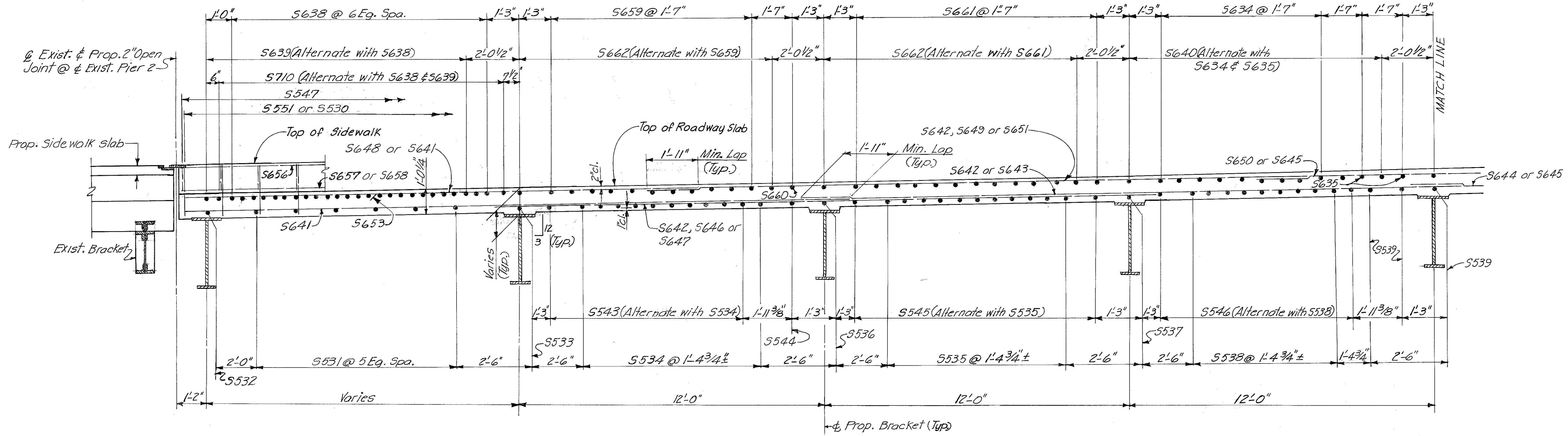
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO		23/39
<b>SUPERSTRUCTURE DETAILS</b>		
<b>BRIDGE NO. HAM-471-</b>		
<b>RAMPA OFF COLUMBIA</b>		
<b>VIADUCT</b>		
<b>H&amp;E BRIDGE NO. 8</b>		
DESIGNED	DRAWN	TRACED
S.L.	S.L.	V.W.S.
CHECKED	JDC	REVISED DATE
		11-15-72
REVISIONS		

MICROFILMED  
JAN. 6 1981

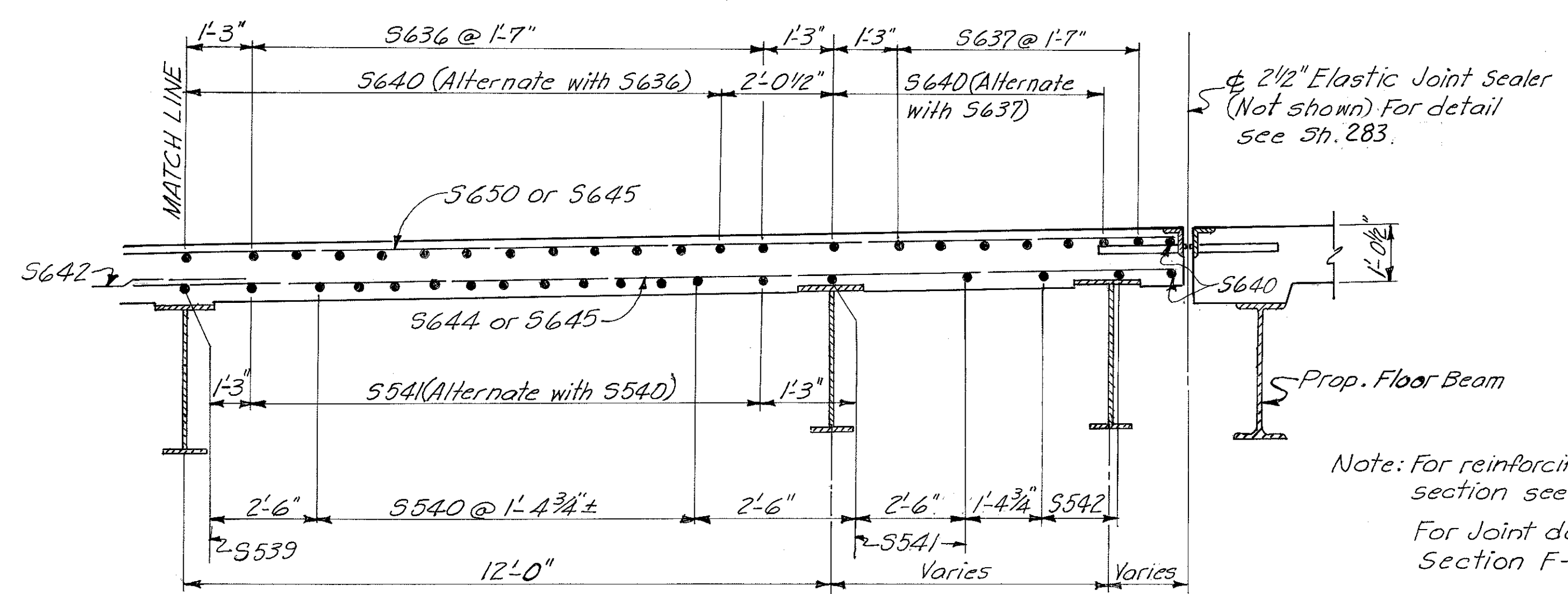
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

279  
494

HAMILTON COUNTY  
HAM-471-0.30



**SECTION Y-Y**

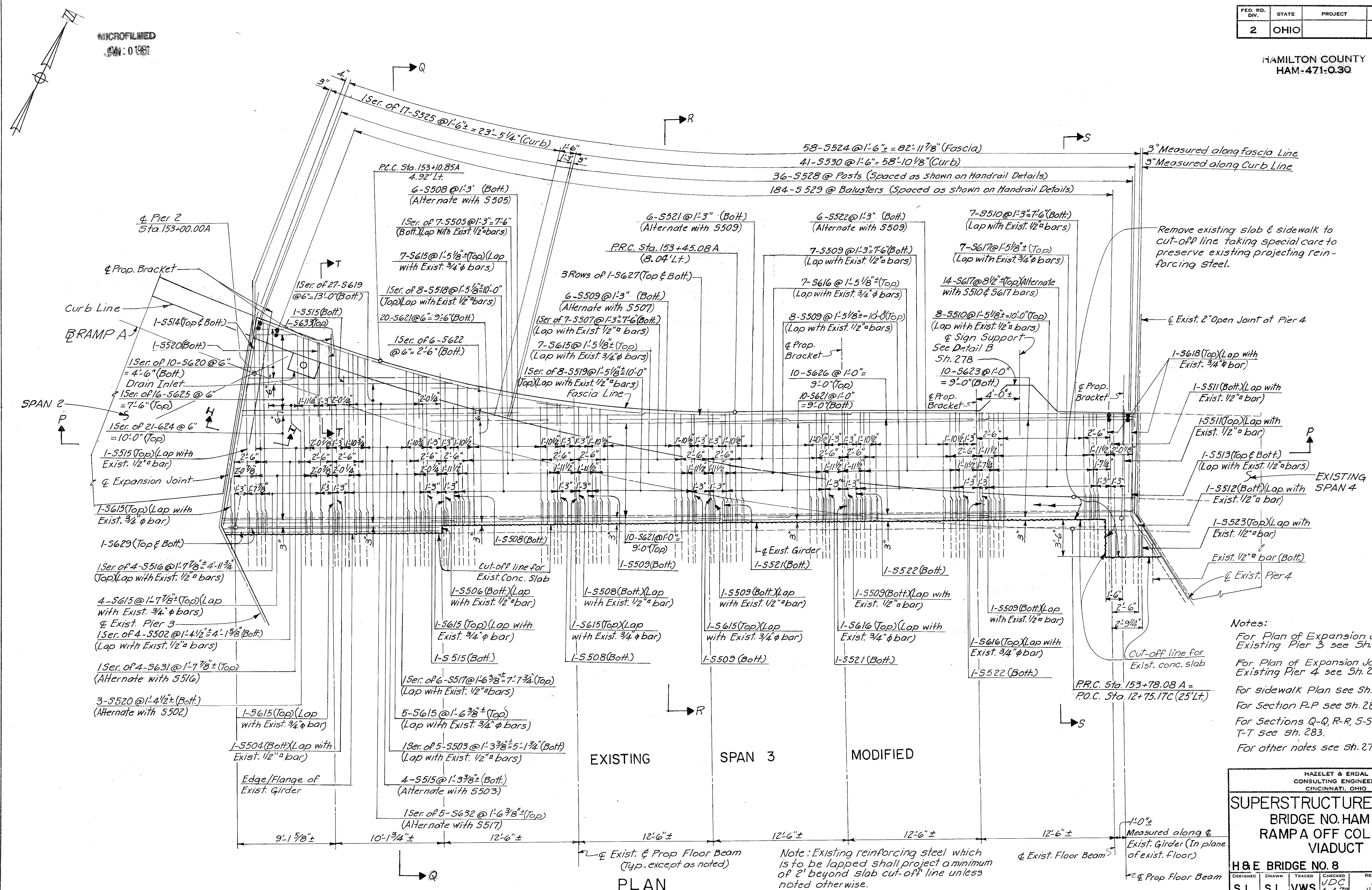


Notes:  
For location of Section Y-Y see Sh. 277  
For other notes see Sh. 274

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				24/39
<b>SUPERSTRUCTURE DETAILS</b>				
<b>BRIDGE NO. HAM-471-</b>				
<b>RAMP A OFF COLUMBIA</b>				
<b>VIADUCT</b>				
<b>H &amp; E BRIDGE NO. 8</b>				
DESIGNED	DRAWN	CHECKED	TRACED	REVIEWED DATE
S.L.	S.L.	V.W.S.	JDC	JAG
			4-4-72	11-15-72



HAMILTON COUNTY  
HAM-471-0.3Q



Remove existing slab & sidewalk to cut-off line taking special care to preserve existing projecting reinforcing steel.

Notes:  
 For Plan of Expansion Joint Detail at Existing Pier 3 see Sh. 277.  
 For Plan of Expansion Joint Detail at Existing Pier 4 see Sh. 267.  
 For sidewalk Plan see Sh. 281.  
 For Section P-P see Sh. 282.  
 For Sections Q-Q, R-R, S-S & T-T see Sh. 283.  
 For other notes see Sh. 274.

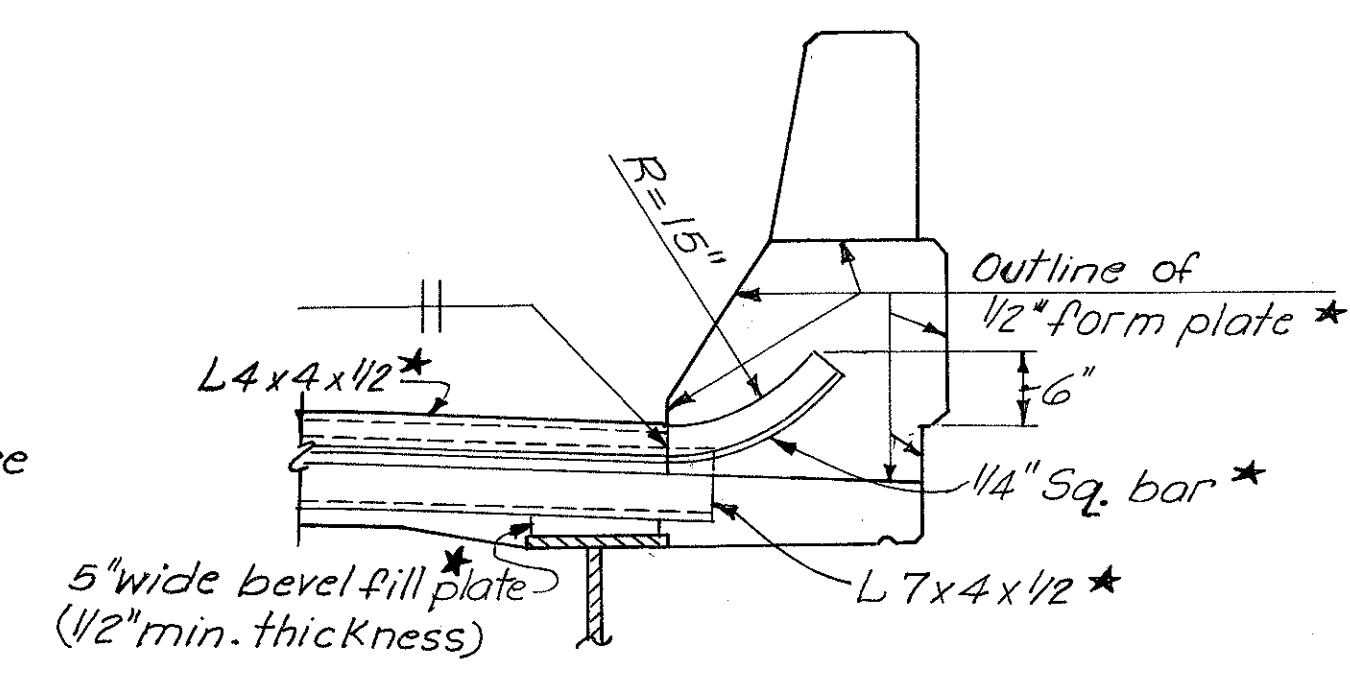
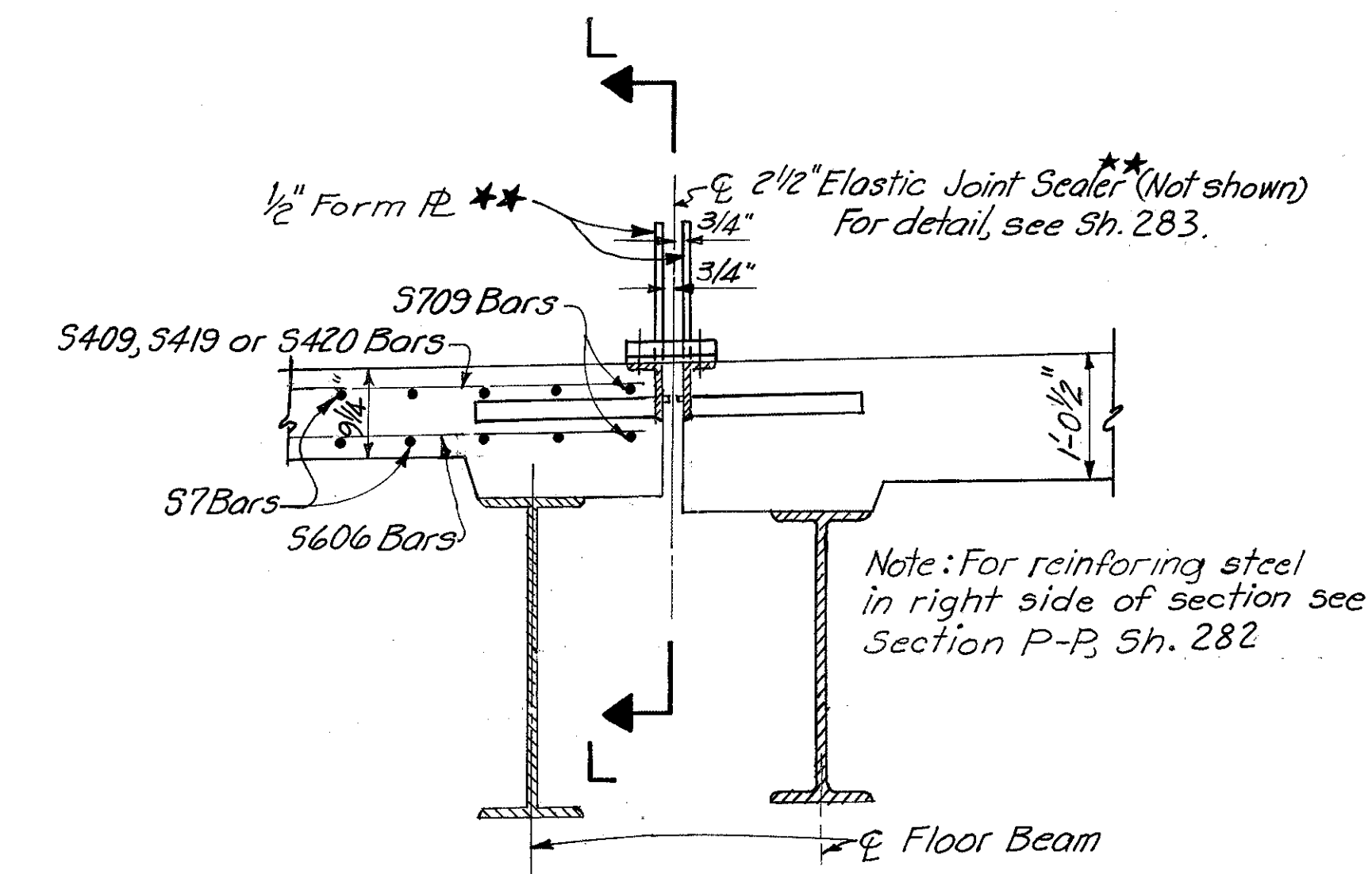
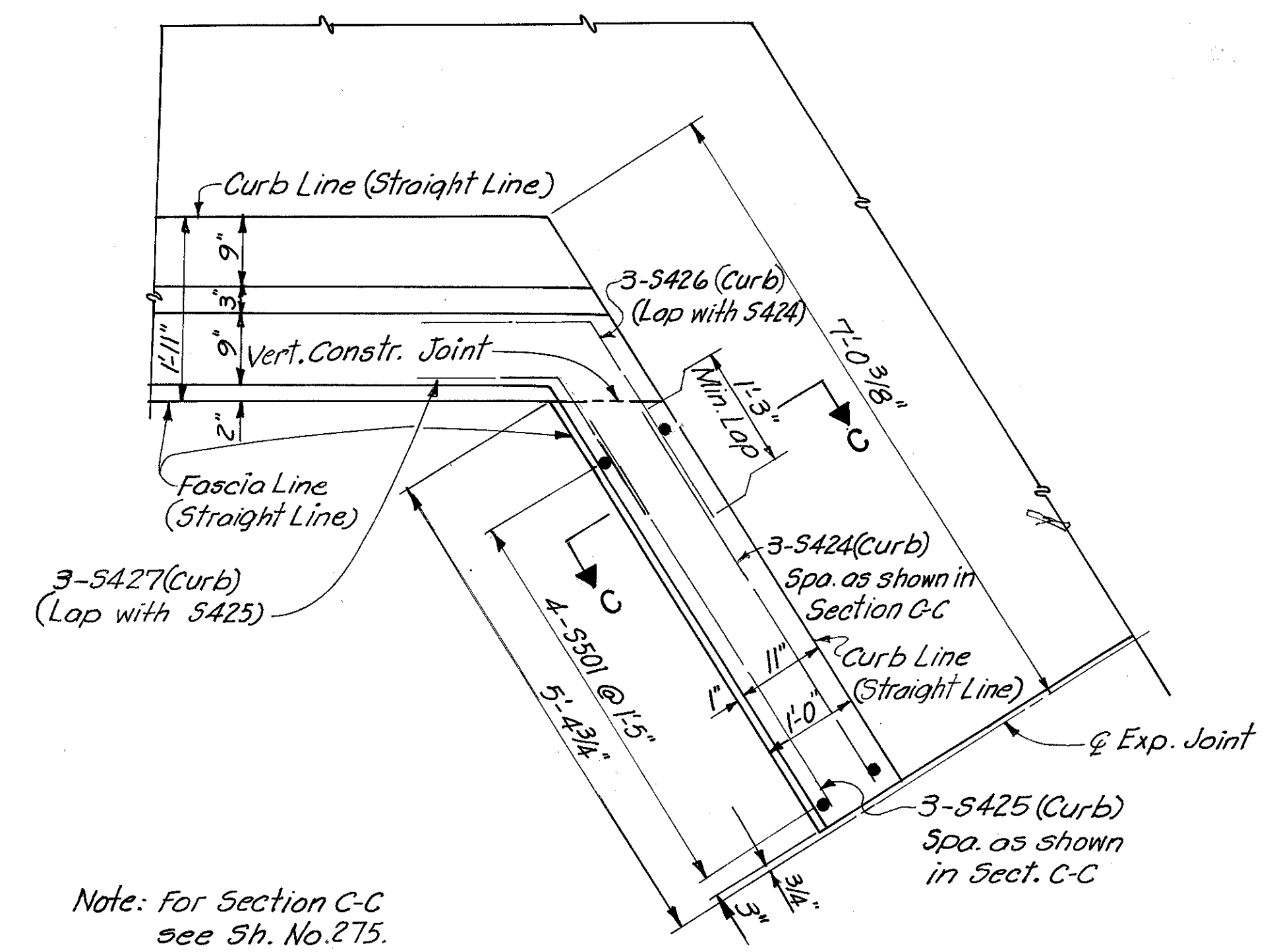
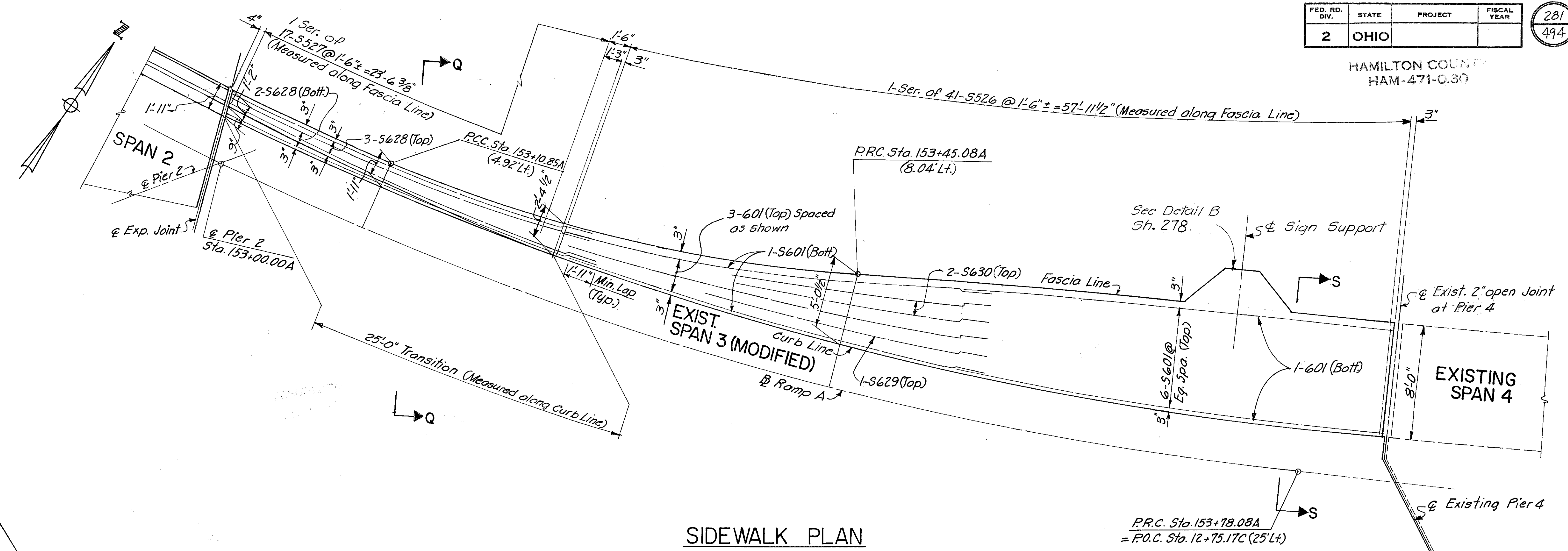
Note: Existing reinforcing steel which is to be lapped shall project a minimum of 2' beyond slab cut-off line unless noted otherwise.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					25/39
<b>SUPERSTRUCTURE DETAILS</b>					
BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT					
H & E BRIDGE NO. 8					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
S.L.	S.L.	V.W.S.	JDC 4-4-72	JHO 11-15-72	

PLAN

MICROFILMED  
001-01981

MICROFILMED  
001-01981



Notes:  
For location of Detail A & Section H-H see Sh. 274.  
For location of Section J-J see Sh. 275.  
For Handrail details see Sh. 289.  
For other notes see Sh. 274.

\*\* See Note Sh. 275.  
Note: Section L-L similar to Section J-J

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					26/39
<b>SUPERSTRUCTURE DETAILS</b>					
BRIDGE NO. HAM-471-RAMP A OFF COLUMBIA VIADUCT					
H & E BRIDGE NO. 8					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
S.L.	S.L.	V.W.S.	JDC	JH	
			4-4-78	11-15-72	

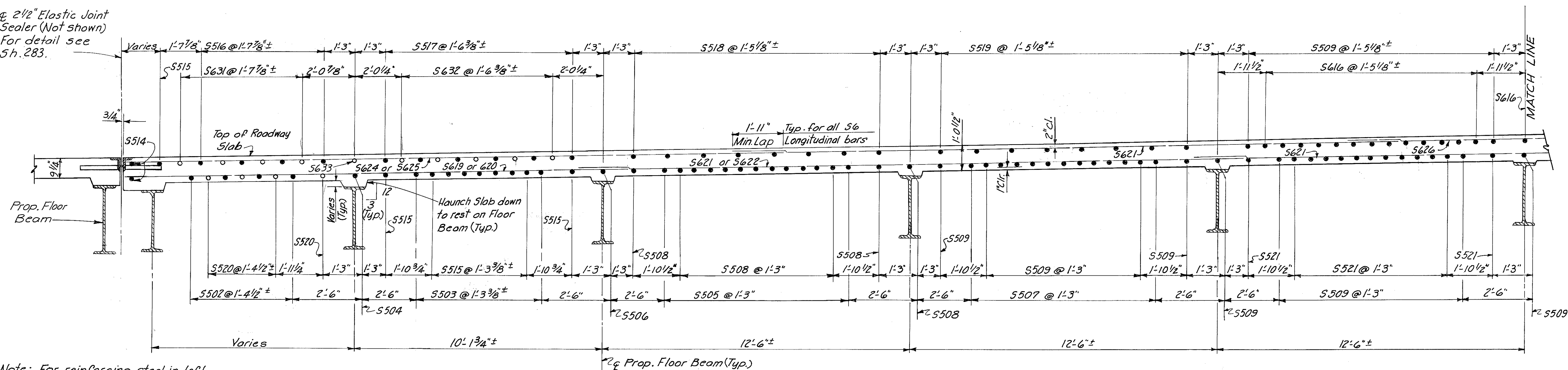
MICROFILMED  
JAN. 0 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

282  
494

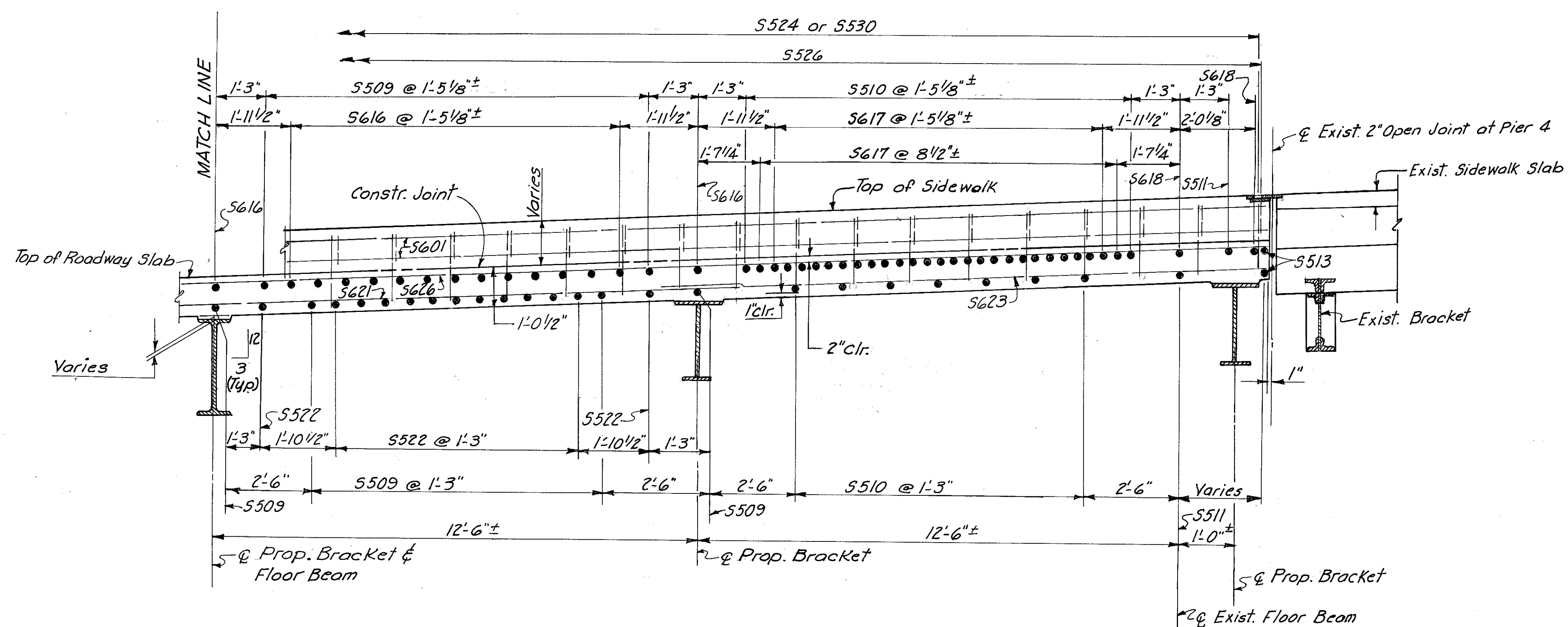
HAMILTON COUNTY  
HAM-471-0.30

2 1/2" Elastic Joint Sealer (Not shown)  
For detail see Sh. 283.



Note: For reinforcing steel in left side of section and joint details not shown see Section H-H, Sh. 281.

SECTION P-P

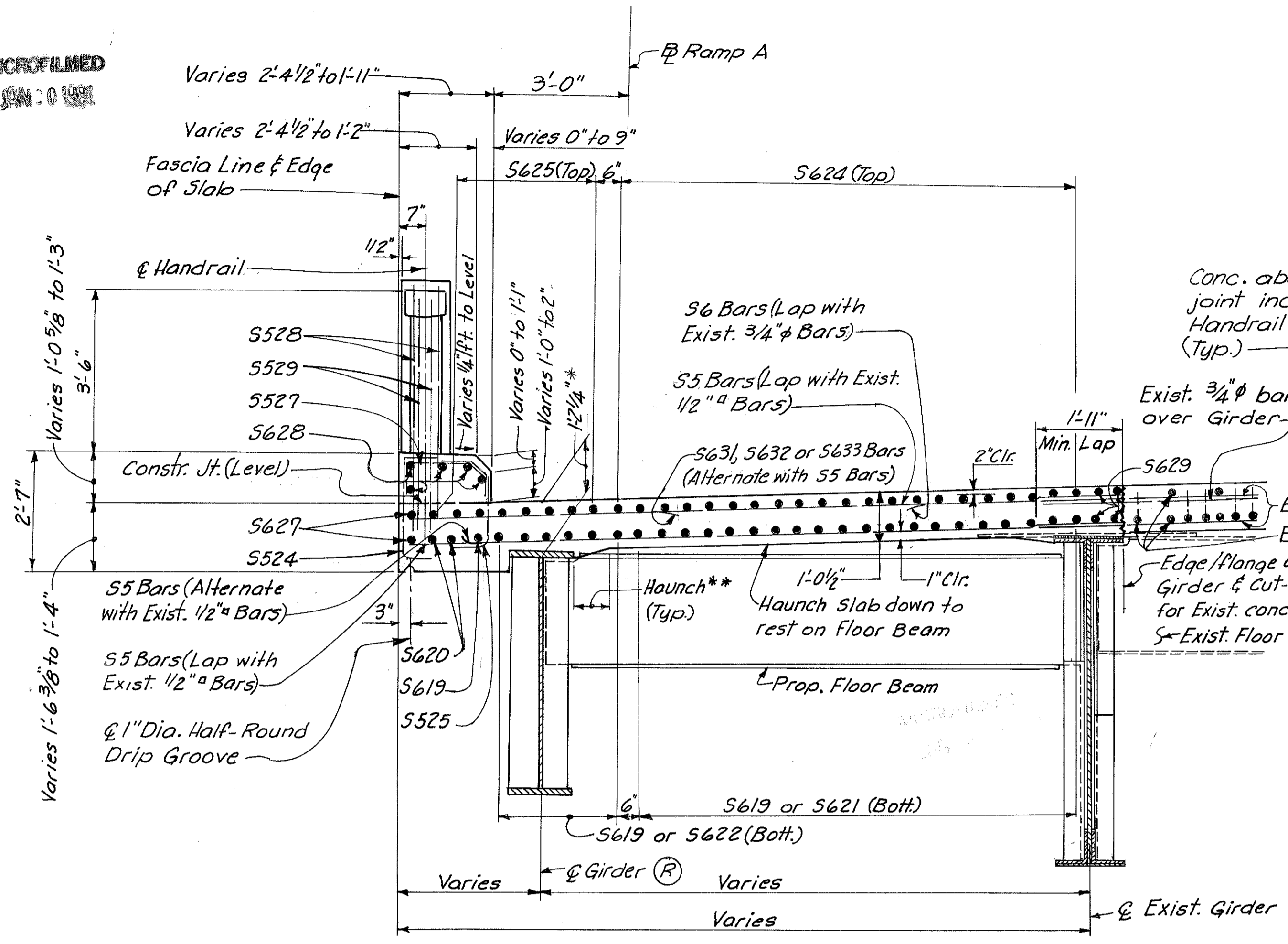


Notes:  
For location of Section P-P see Sh. 280.  
For other notes see Sh. 274.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				27/39
<b>SUPERSTRUCTURE DETAILS</b>				
BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT				
H&E BRIDGE NO. 8				
DESIGNED S.L.	DRAWN S.L.	TRACED V.W.S.	CHECKED JDC	REVIEWED DATE JWS 11-15-72
			REVISIONS	

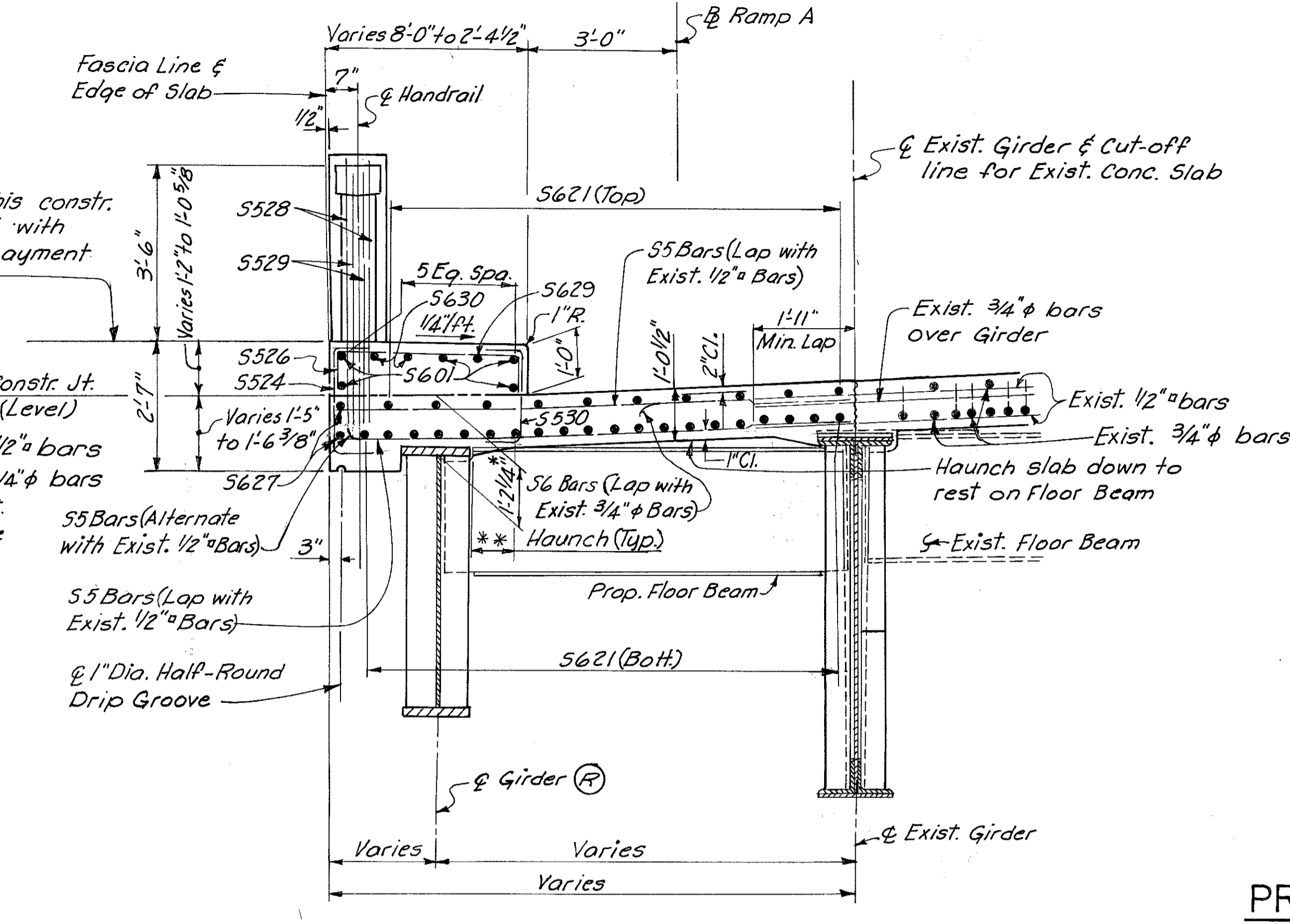
MICROFILMED  
JAN 0 1981

HAMILTON COUNTY  
HAM-471-0.30

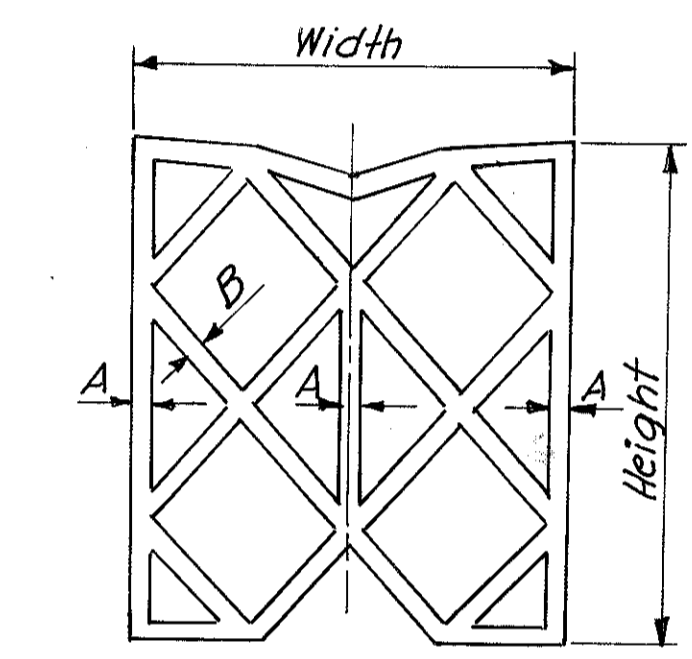


SECTION Q-Q  
(In Transition)

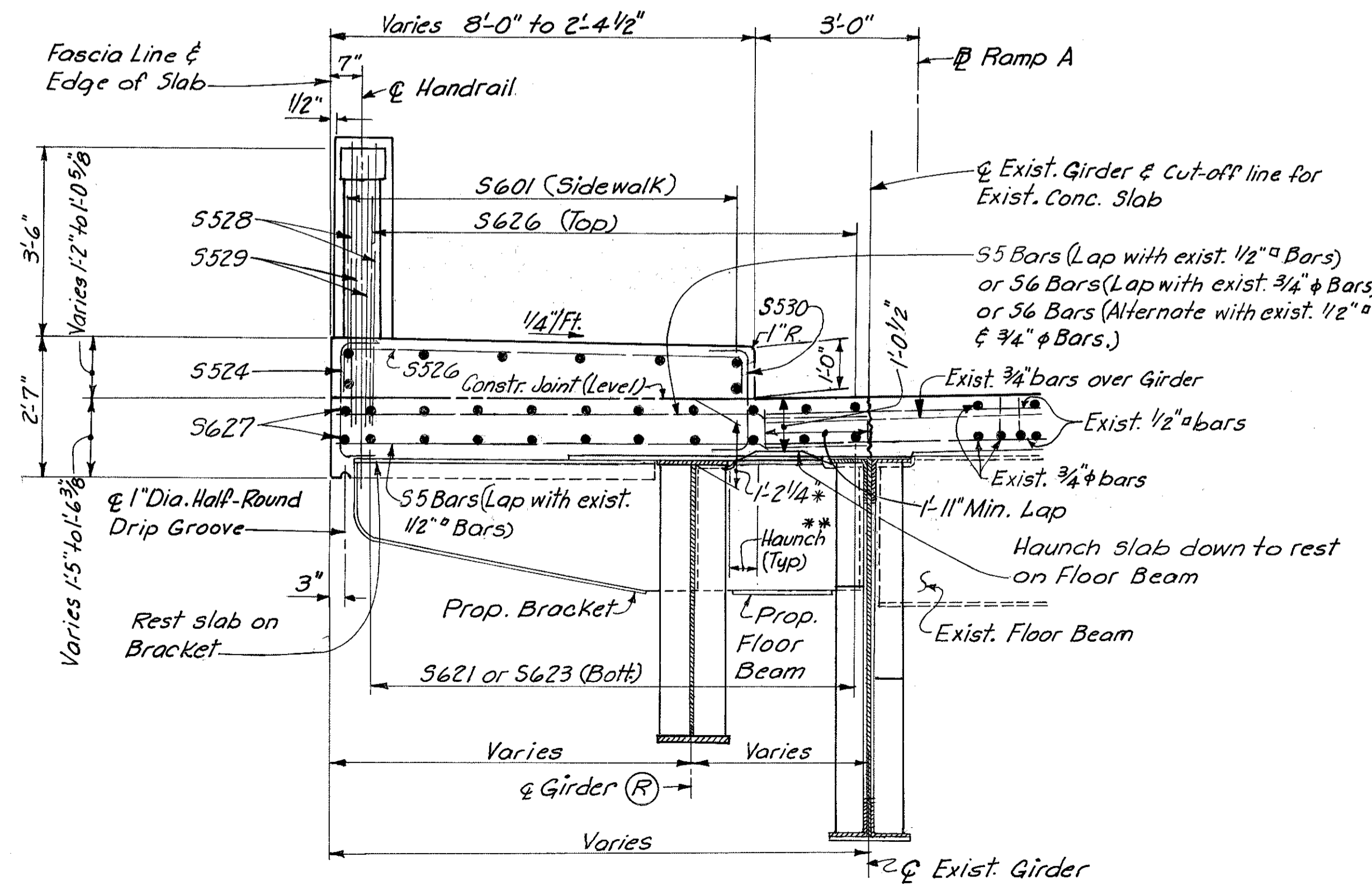
\* See note Sh. 275.  
\*\* See note Sh. 275.



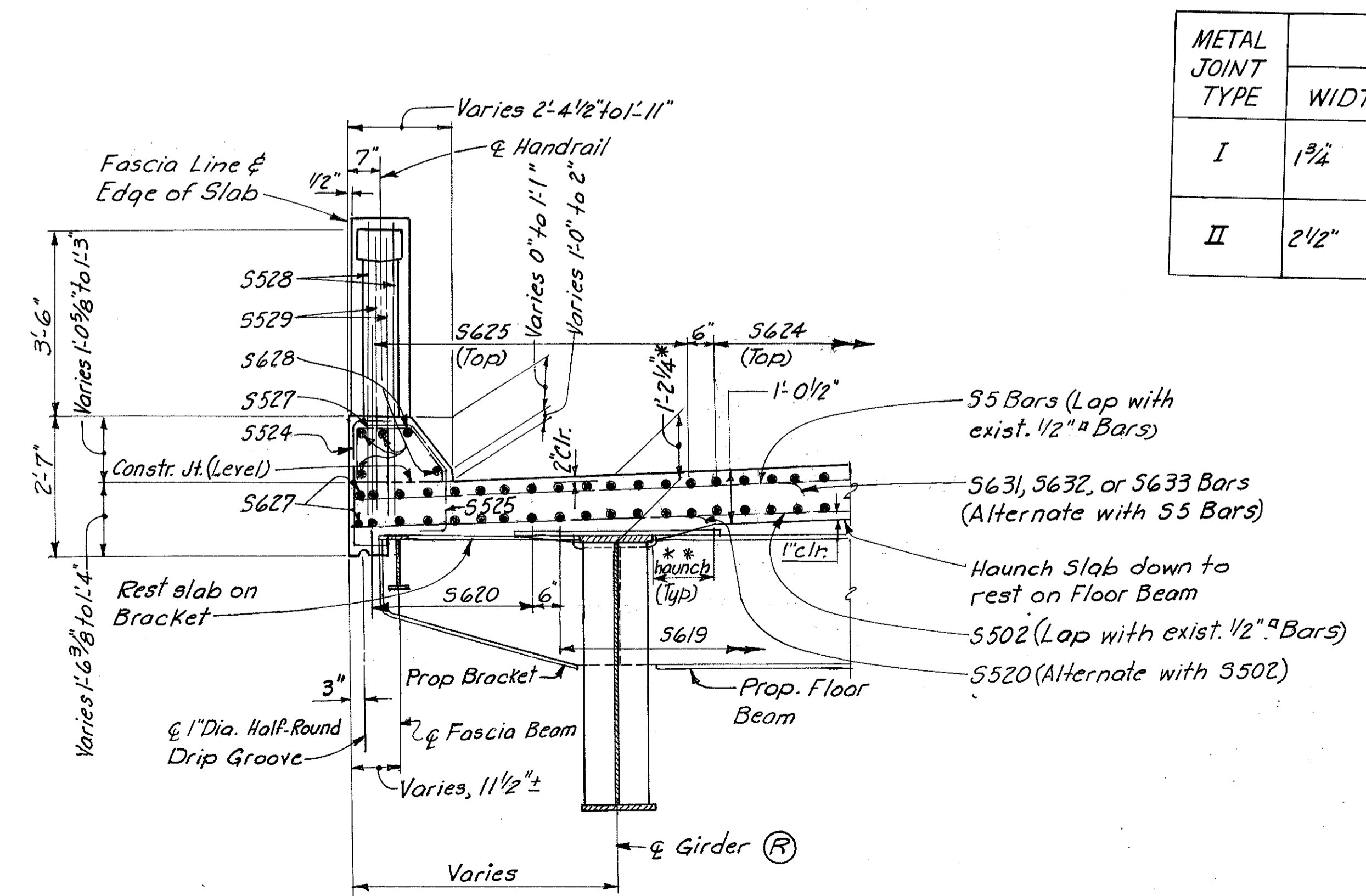
SECTION R-R



PREFORMED ELASTIC  
JOINT SEALER



SECTION S-S



SECTION T-T

METAL JOINT TYPE	SEAL TOLERANCES		
	WIDTH	HEIGHT	THICKNESS
I	3/4" +3/16"	2" ± 1/8"	1/8" +1/32"
	-0"		-1/64"
II	2 1/2" +1/4"	2 3/4" ± 1/8"	3/16" +3/64"
	-0"		-1/64"

Notes:  
For location of Sections Q-Q, R-R, S-S & T-T see Sh. 280.  
For other notes see Sh. 274.

HAZLET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

28/39

**SUPERSTRUCTURE DETAILS**  
BRIDGE NO. HAM-471-  
RAMP A OFF COLUMBIA  
VIADUCT

H&E BRIDGE NO. 8

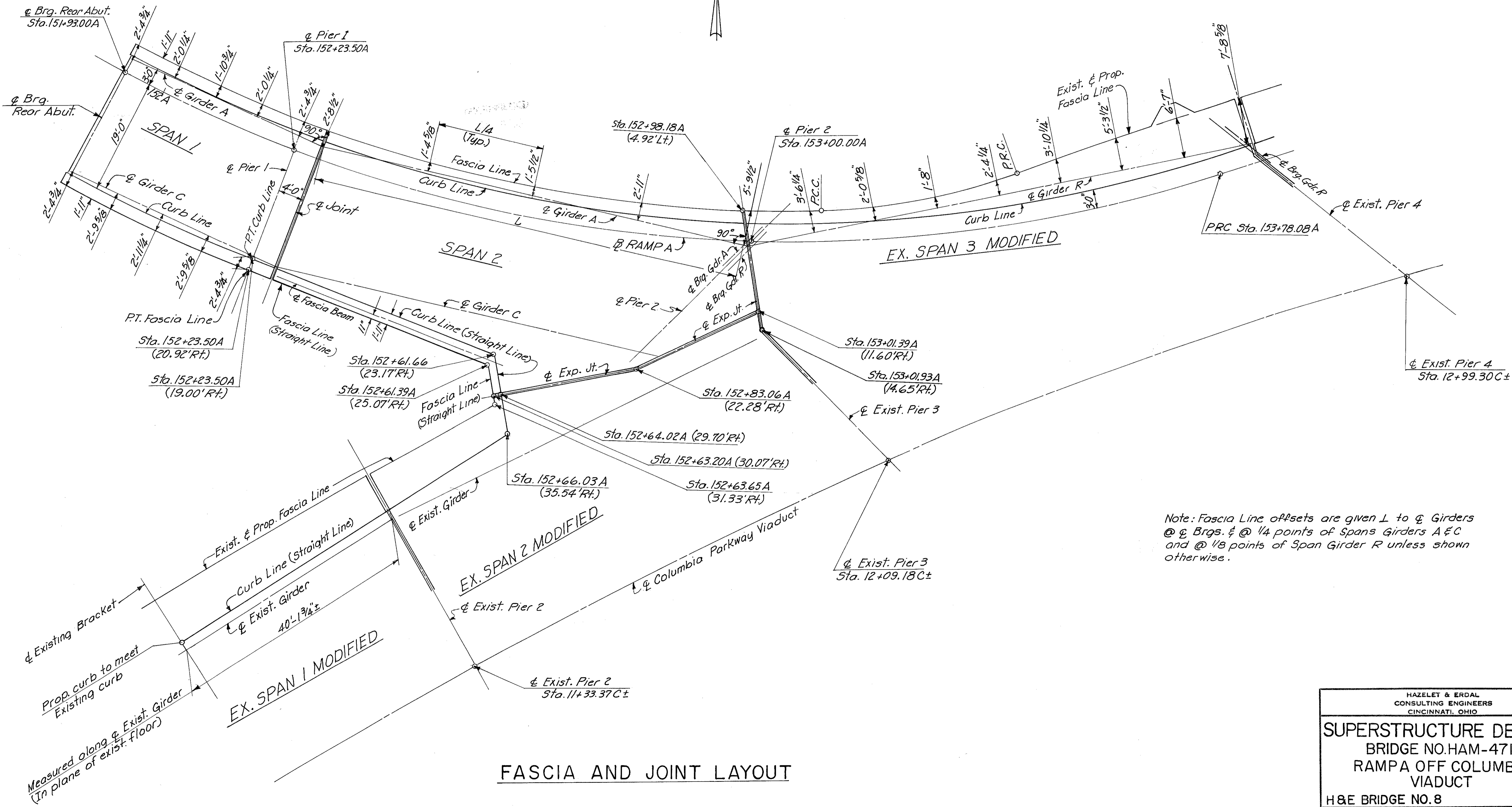
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
S.L.	S.L.	VWS.	JDC	JH6	
			4-5-72	11-15-72	

MICROFILMED  
JAN 0 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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HAMILTON COUNTY  
HAM-471-0.30



Note: Fascia Line offsets are given  $\perp$  to  $\phi$  Girders @  $\phi$  Brgs. & @  $1/4$  points of Spans Girders A & C and @  $1/8$  points of Span Girder R unless shown otherwise.

FASCIA AND JOINT LAYOUT

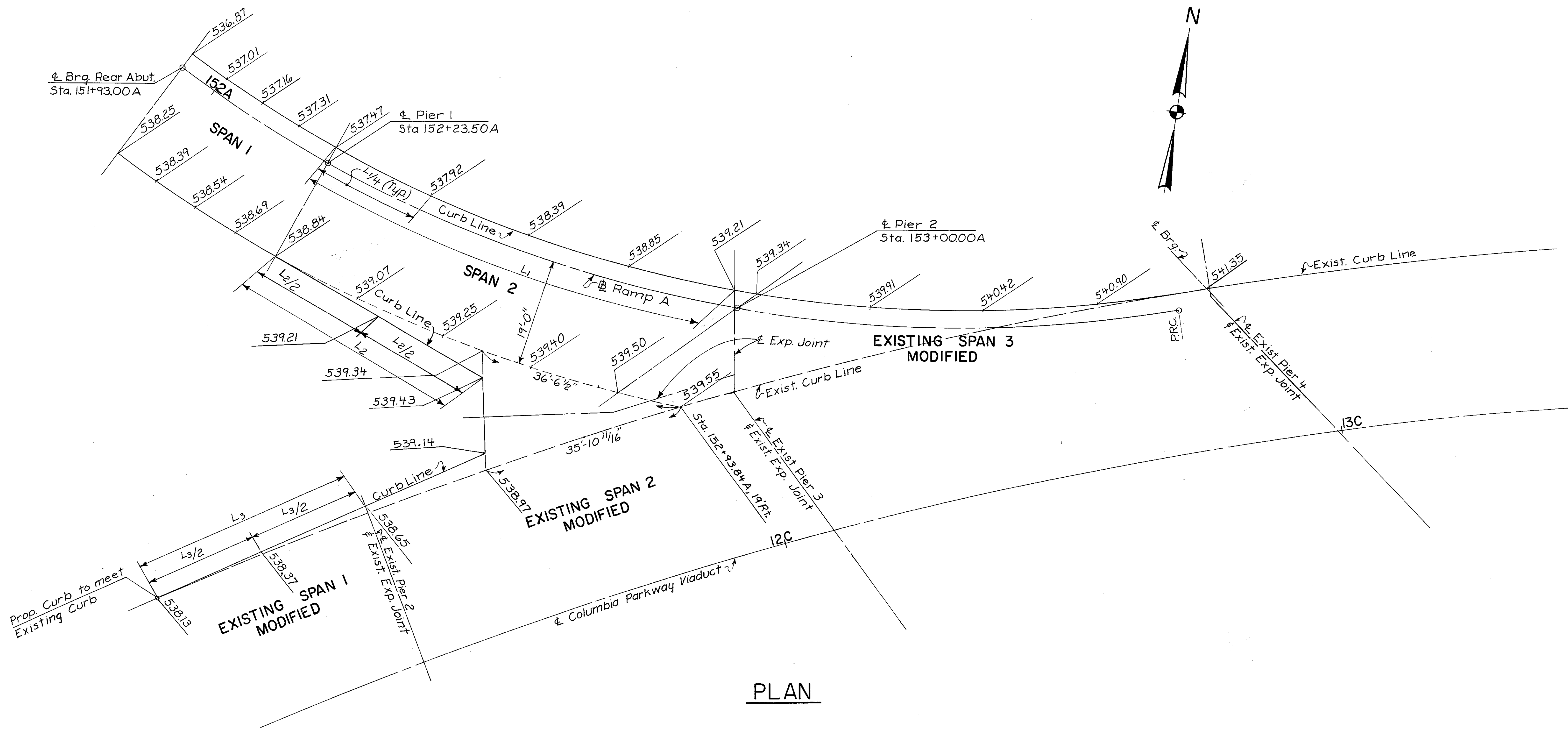
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					29/39
SUPERSTRUCTURE DETAILS					
BRIDGE NO. HAM-471-					
RAMPA OFF COLUMBIA VIADUCT					
H&E BRIDGE NO. 8					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
S.L.	V.W.S.	JDC	JHO	11-15-72	

MICROFILMED  
JAN. 0 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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494

HAMILTON COUNTY  
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Notes: Screed elevations shown equal final grade elevations plus anticipated dead load deflection due to weight of deck concrete.  
All elevations shown are at  $\perp$  Piers or Brqs. and at  $\frac{1}{4}$  points of spans (measured along curb lines) unless shown otherwise.

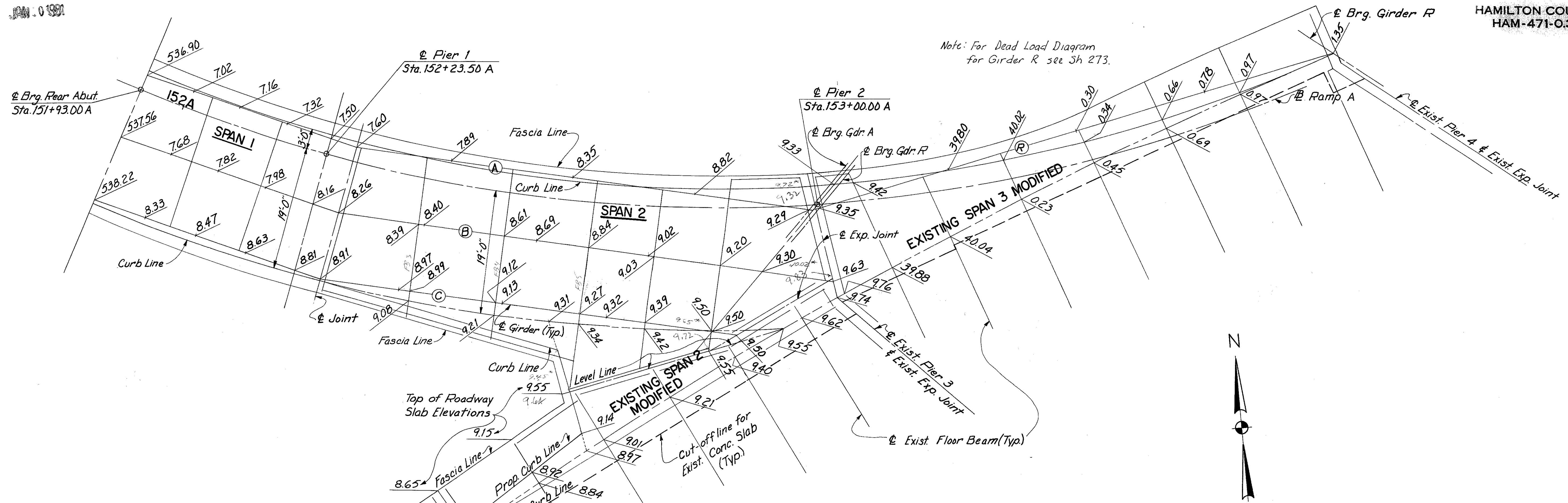
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					30 / 39
<b>SCREED ELEVATIONS BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT</b>					
H & E BRIDGE NO. 8					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
R.J.F.	R.J.F.	JDC	JDC	JHO 11-15-72	

MICROFILMED  
JAN. 0 1991

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

286  
494

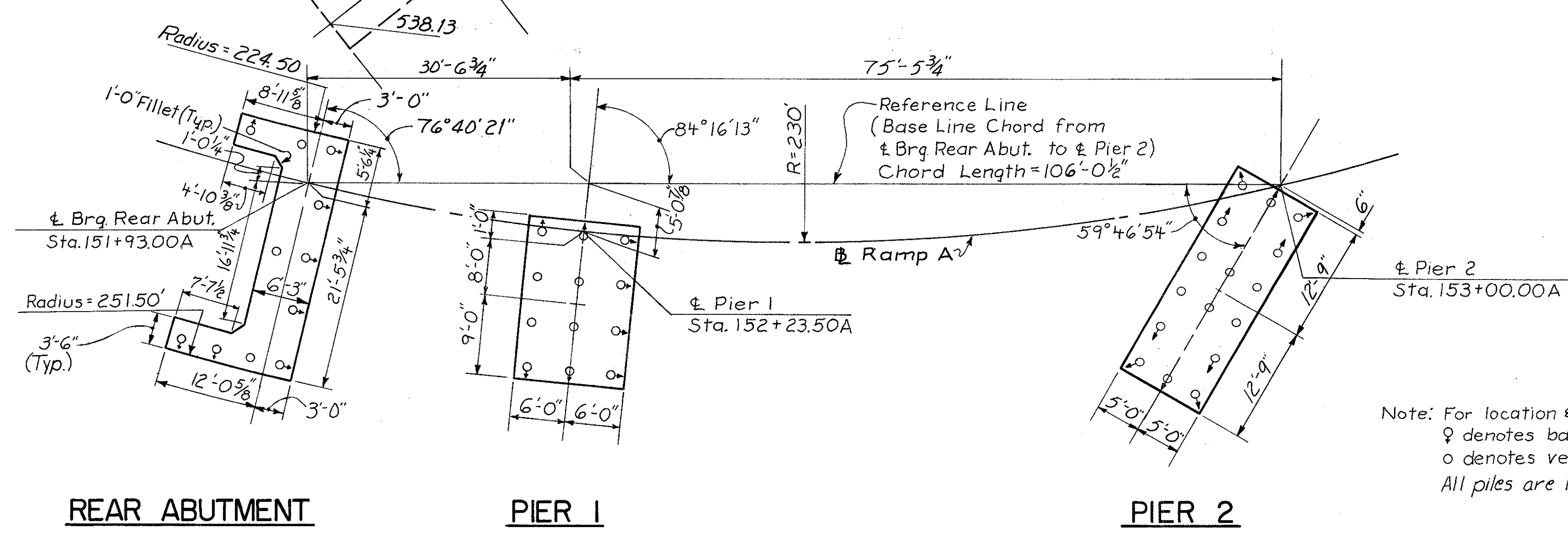
HAMILTON COUNTY  
HAM-471-0.30



Note: For Dead Load Diagram for Girder R. see Sh 273.

**ROADWAY SURFACE ELEVATIONS**

Note: Elevations are final top of slab elevations.  
Elevations are given along  $\phi$  Girders at  $\phi$  Piers, Brgs., and  $\frac{1}{4}$  points of girder spans unless shown otherwise.



Note: For location & batter of Piles see sh. No. 259, 261 & 262.  
 $\phi$  denotes battered piles (batter varies)  
 $\circ$  denotes vertical piles  
All piles are 12"  $\phi$  cast-in-place concrete.

REAR ABUTMENT

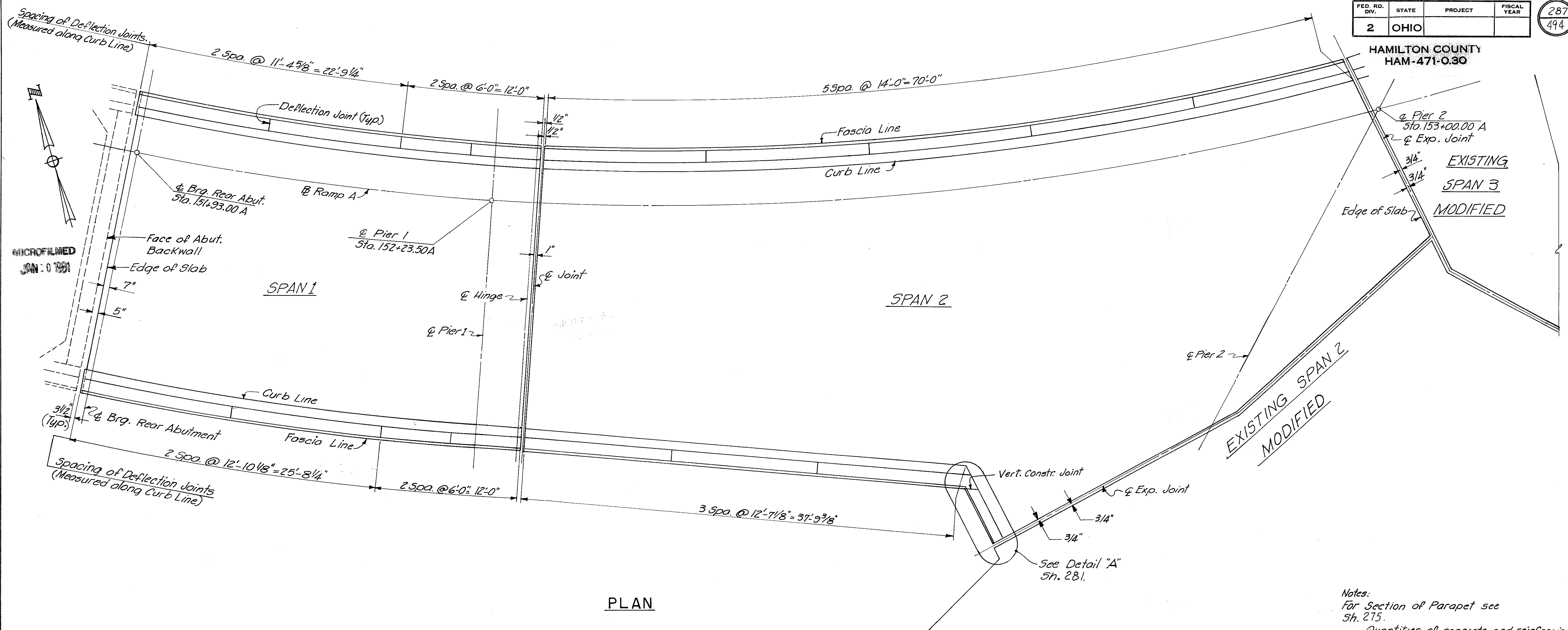
PIER 1

PIER 2

**STAKE-OUT PLAN**

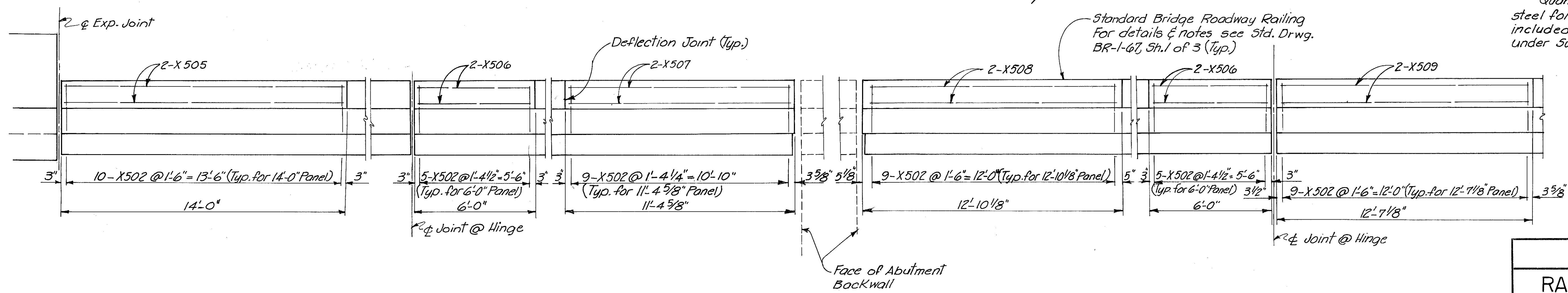
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						31/39
<b>STAKE-OUT PLAN AND ROADWAY ELEVATIONS</b>						
BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT						
H & E BRIDGE NO. 8						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
	R.J.F.		JDC 4-5-72	JH 11-15-72		

HAMILTON COUNTY  
HAM-471-0.30



PLAN

Notes:  
For Section of Parapet see Sh. 275.  
Quantities of concrete and reinforcing steel for railing on this sheet shall be included with their appropriate Item under Superstructure for payment.



ELEVATION OF NORTH RAILING

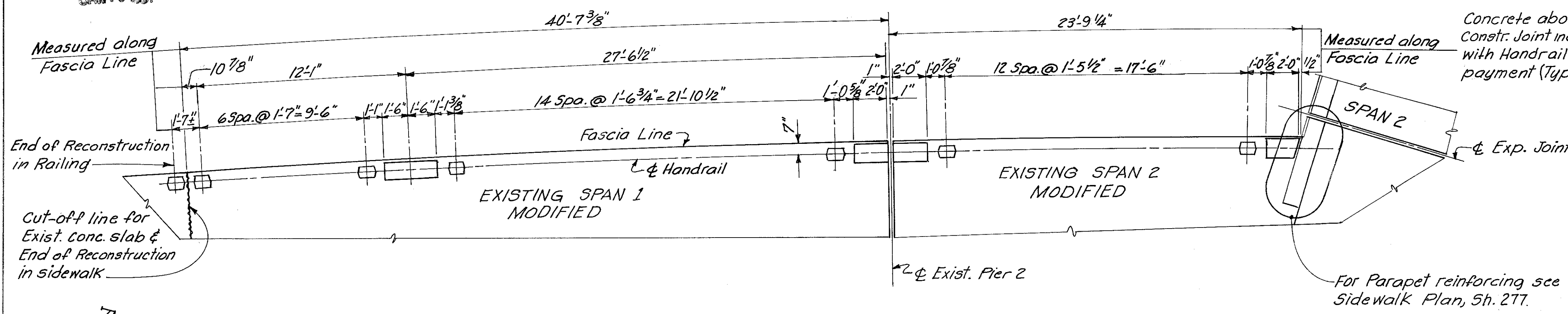
ELEVATION OF SOUTH RAILING

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					32/39
<b>RAILING AND LIGHTING BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT</b>					
<b>H&amp;E BRIDGE NO. 8</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
S.L.	V.W.S.	JDC	JDC	JHS 11-15-72	

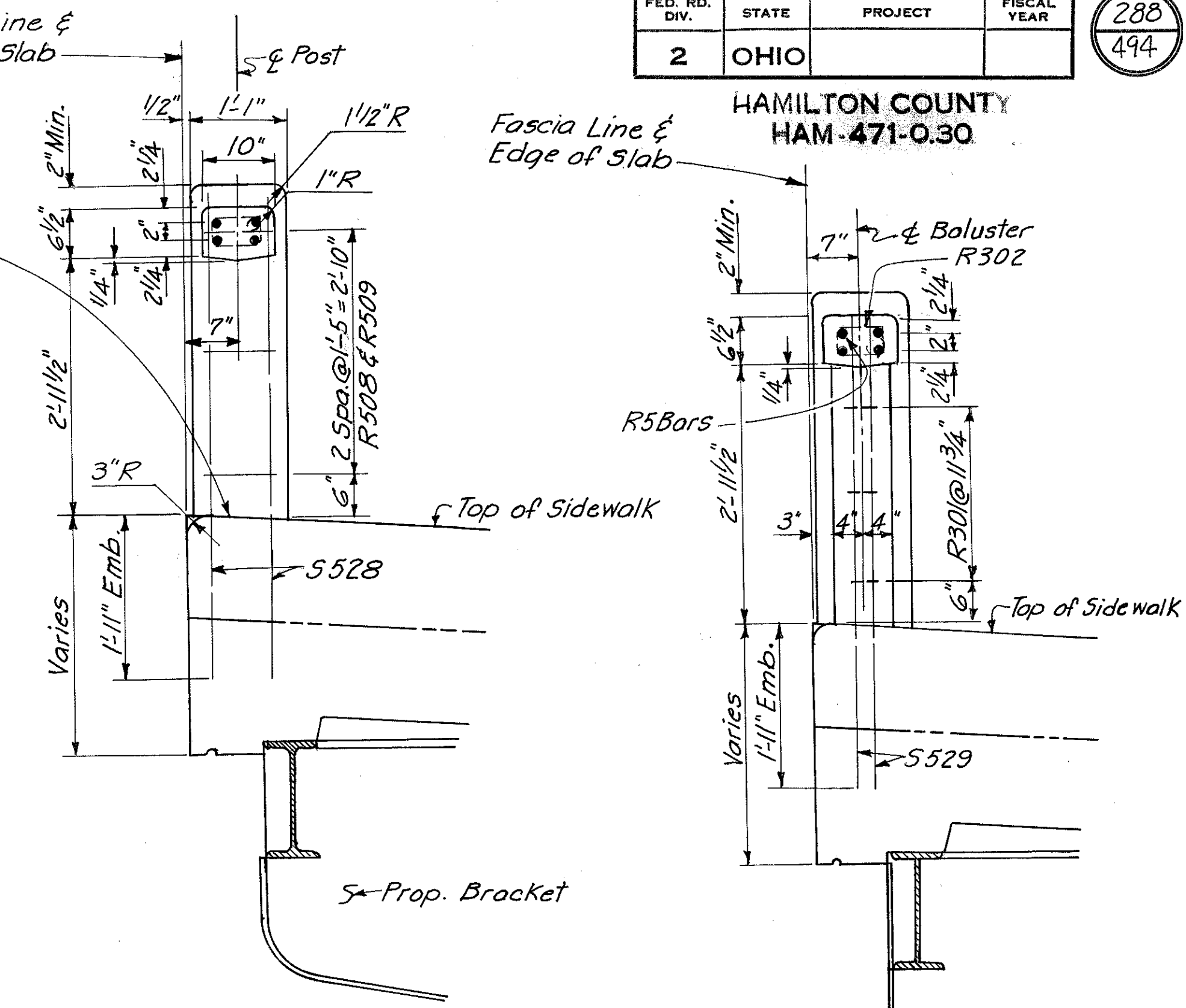


HAMILTON COUNTY  
HAM-471-0.30

MICROFILMED  
JAN. 0 1991

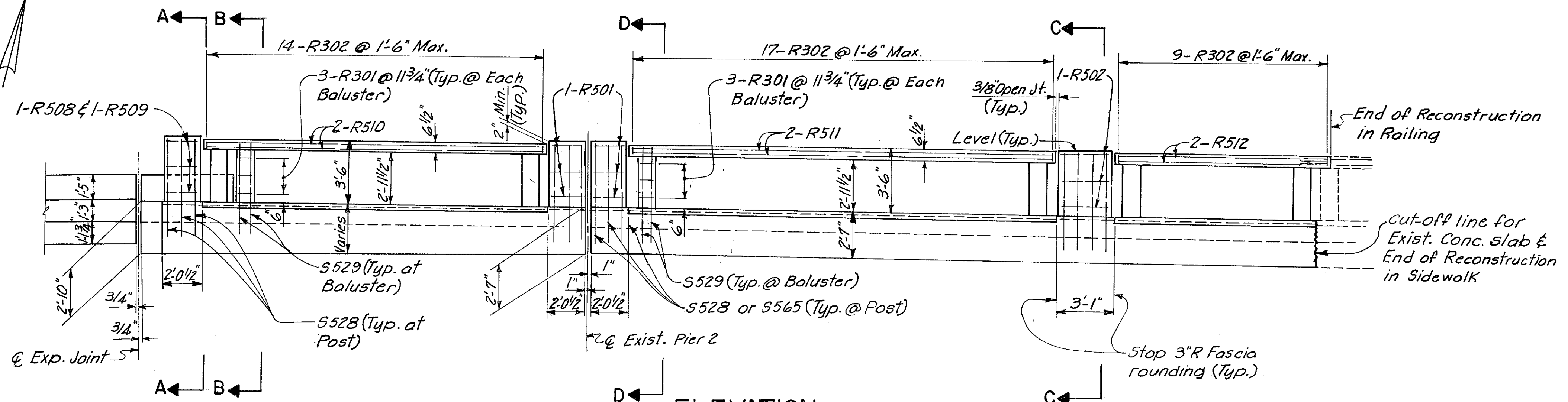


PLAN OF HANDRAIL

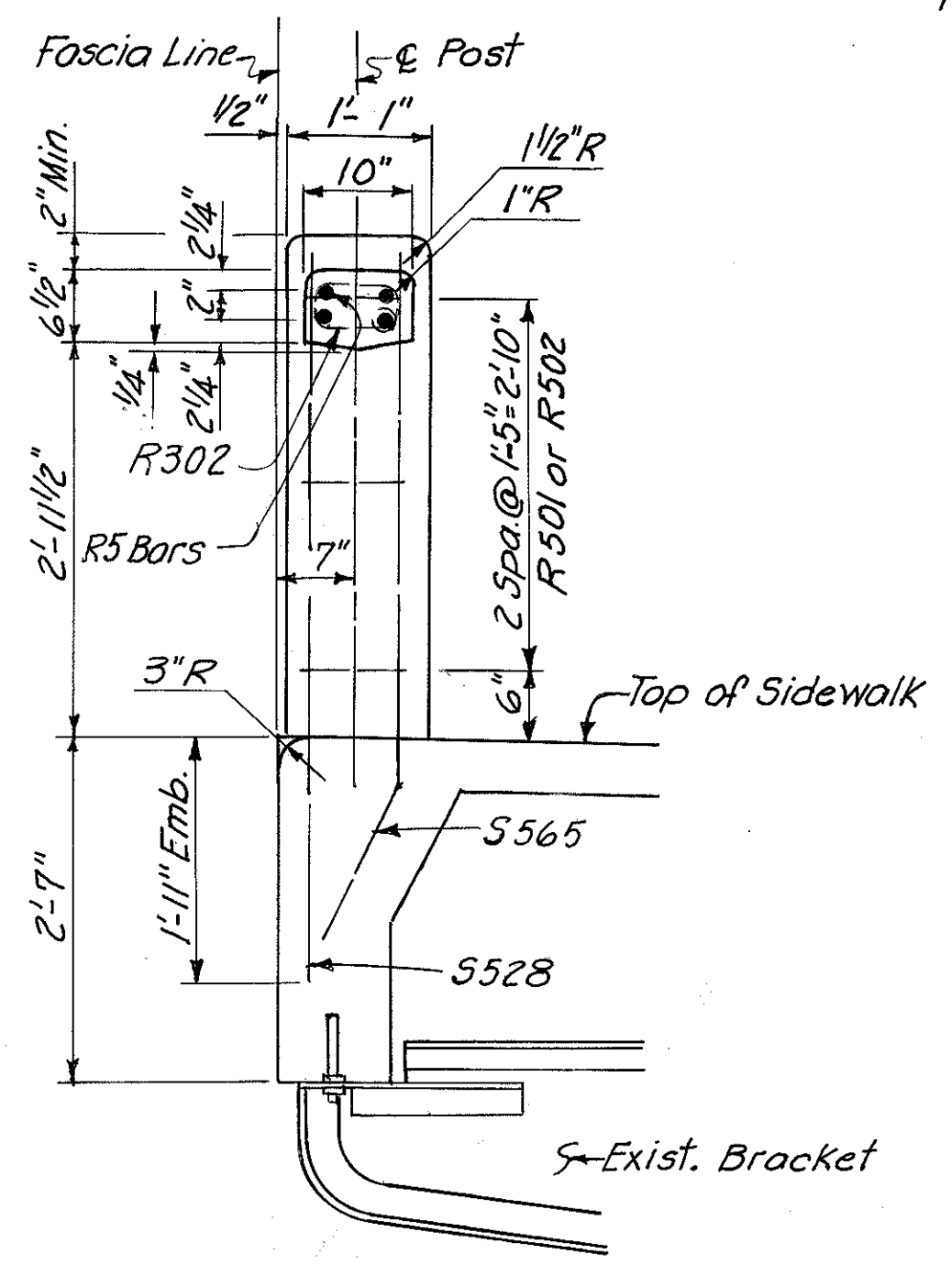


SECTION A-A

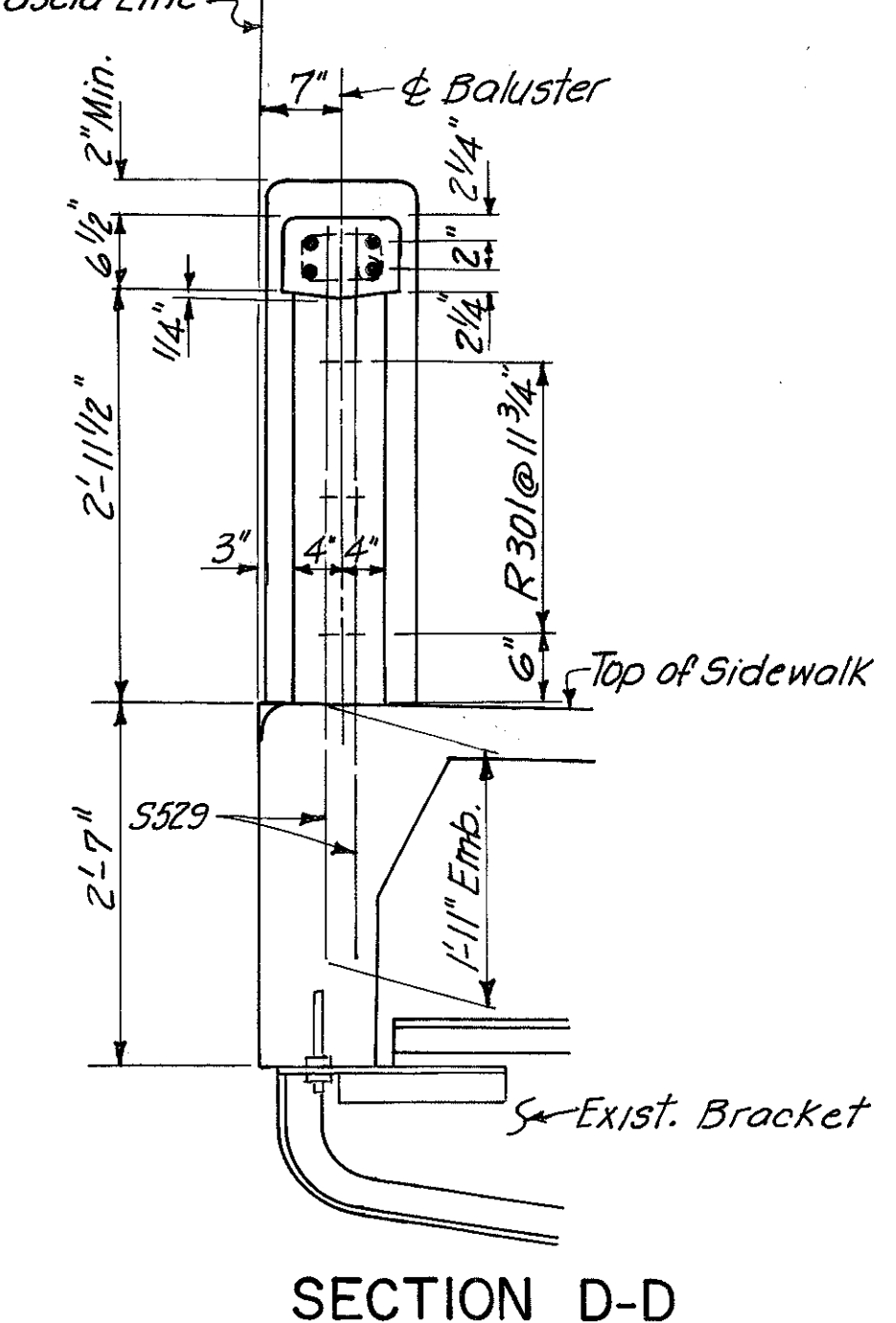
SECTION B-B



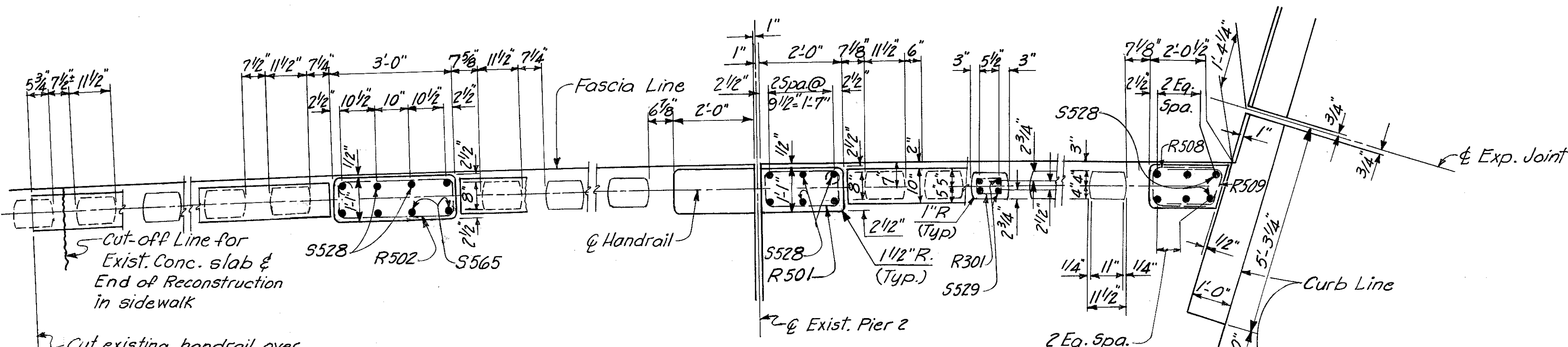
ELEVATION (LOOKING SOUTH)



SECTION C-C



SECTION D-D



TYPICAL HANDRAIL DETAILS

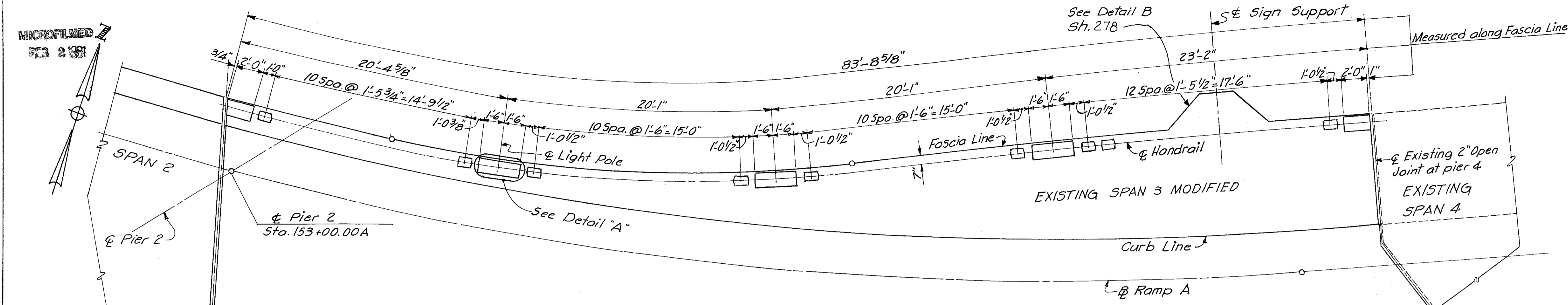
Note:  
R bars are included with Handrail for payment.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO		33/39
<b>RAILING AND LIGHTING BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT</b>		
H&E BRIDGE NO. 8		
DESIGNED	DRAWN	CHECKED
S.L.	V.W.S.	JDC
TRACED	REVIEWED DATE	REVISED
4-5-72	11-15-72	

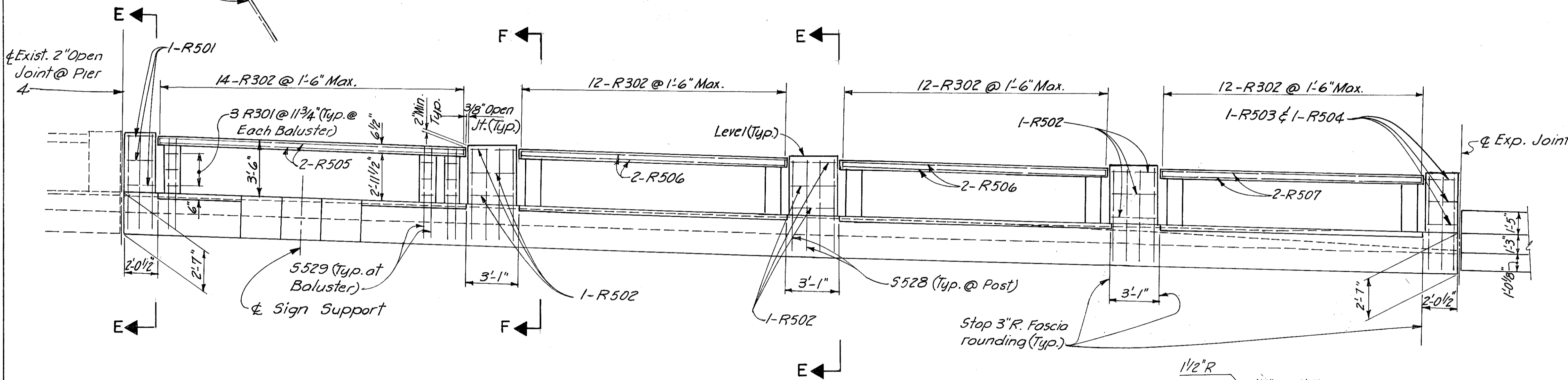
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

289  
494

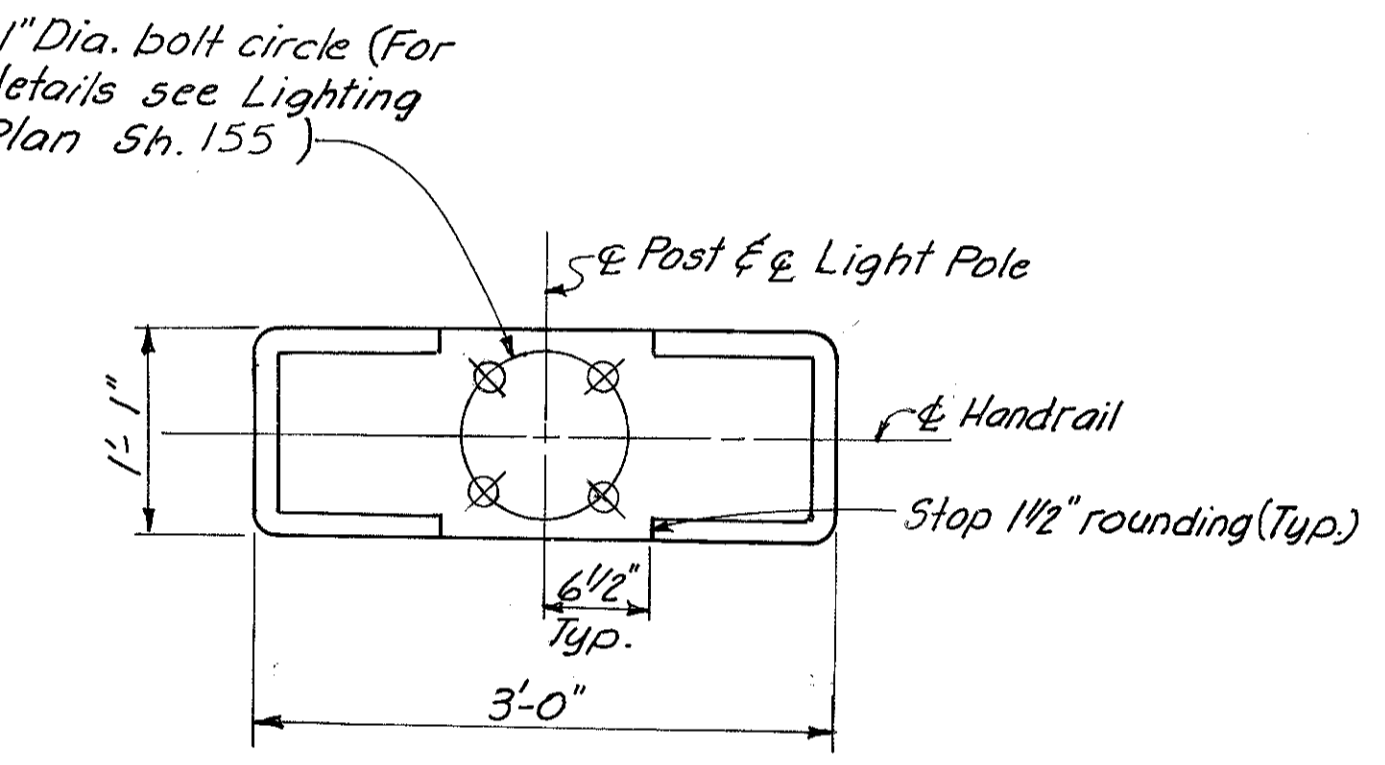
HAMILTON COUNTY  
HAM-471-0.30



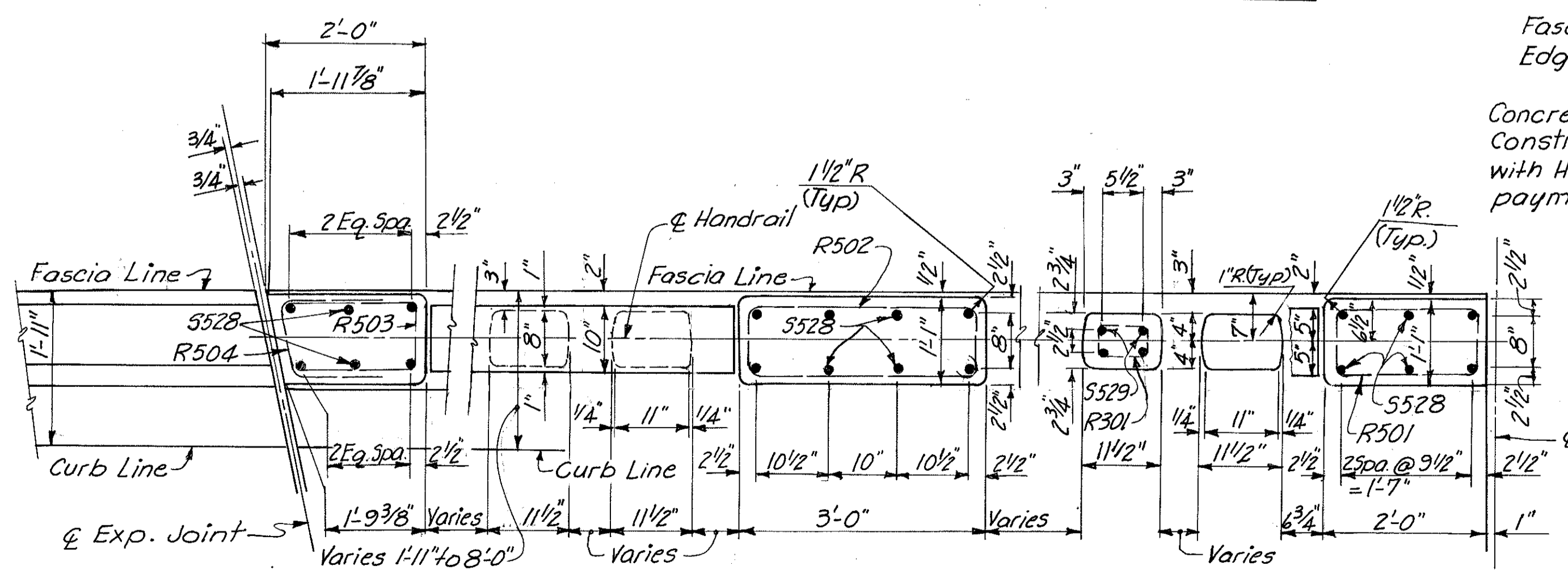
PLAN OF HANDRAIL



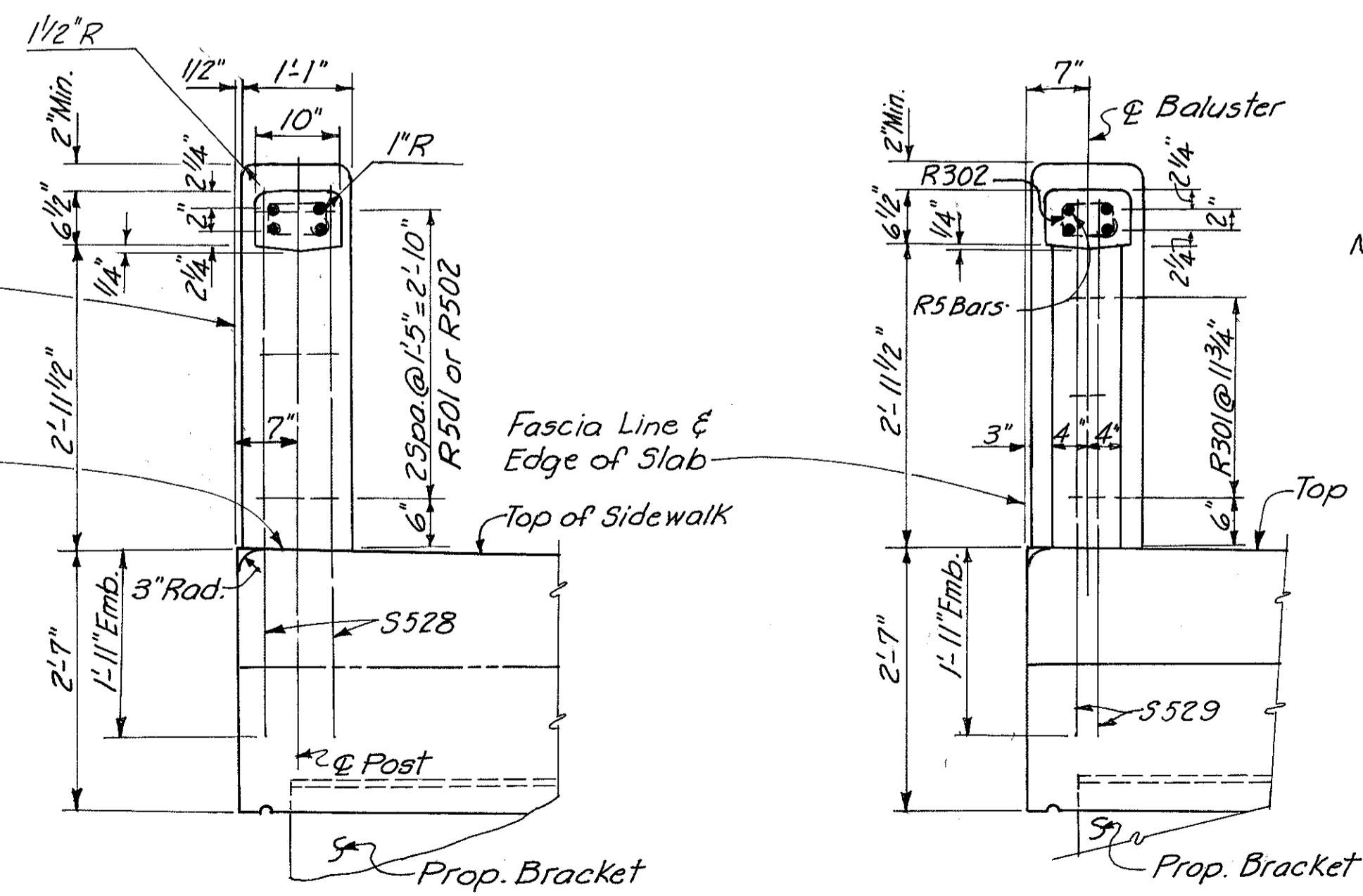
ELEVATION (LOOKING SOUTH)



DETAIL A



TYPICAL HANDRAIL DETAILS



SECTION E-E

SECTION F-F

Notes: R bars are included with Handrail for payment.  
For Lighting details see Sh. 155.

HAZELT & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
<b>RAILING AND LIGHTING BRIDGE NO HAM-471-RAMP A OFF COLUMBIA VIADUCT</b>					
H&E BRIDGE NO. 8					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
S.L.	V.W.S.	JDC	JH	11-15-72	

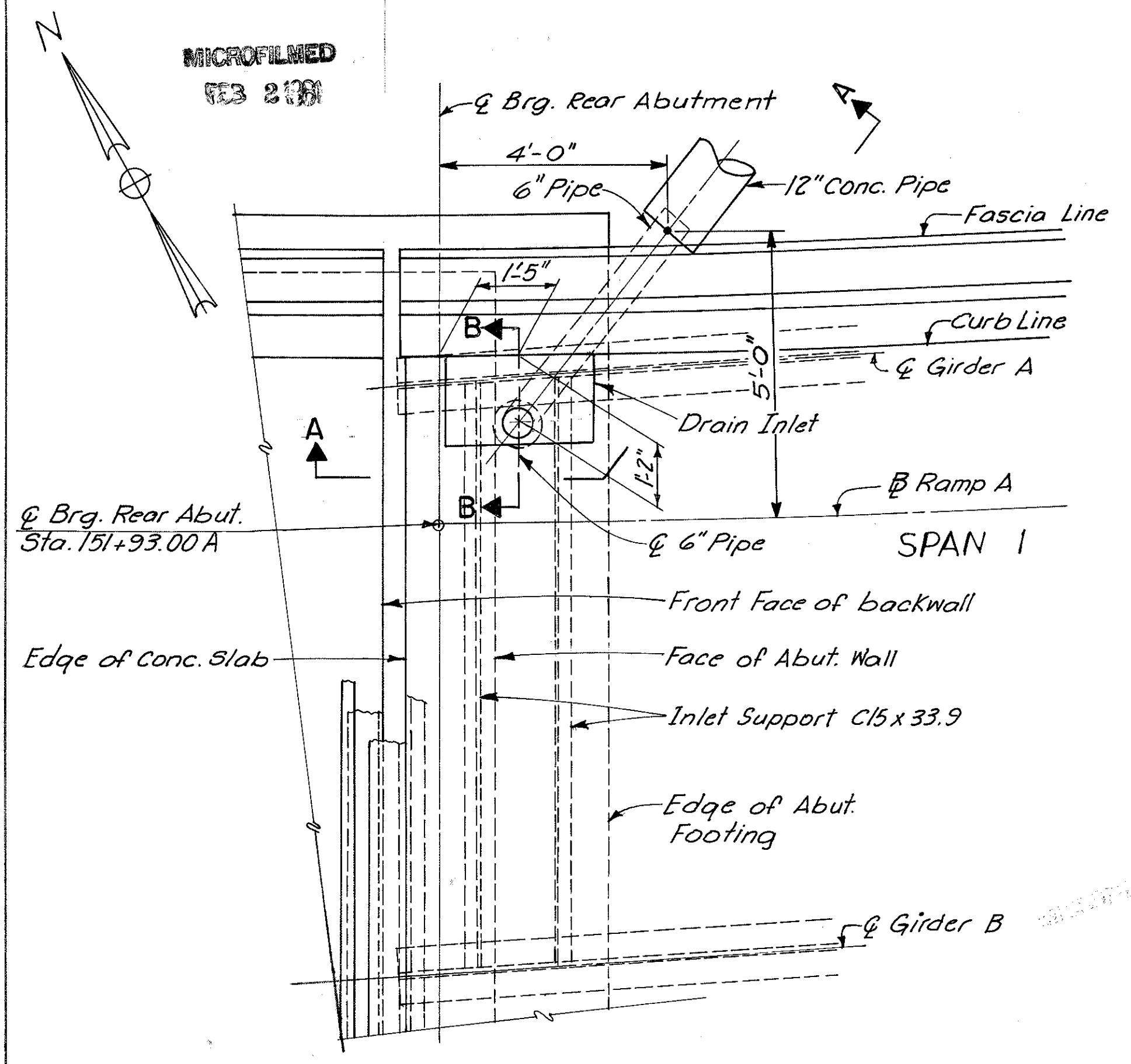
34/39

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FCB 21981

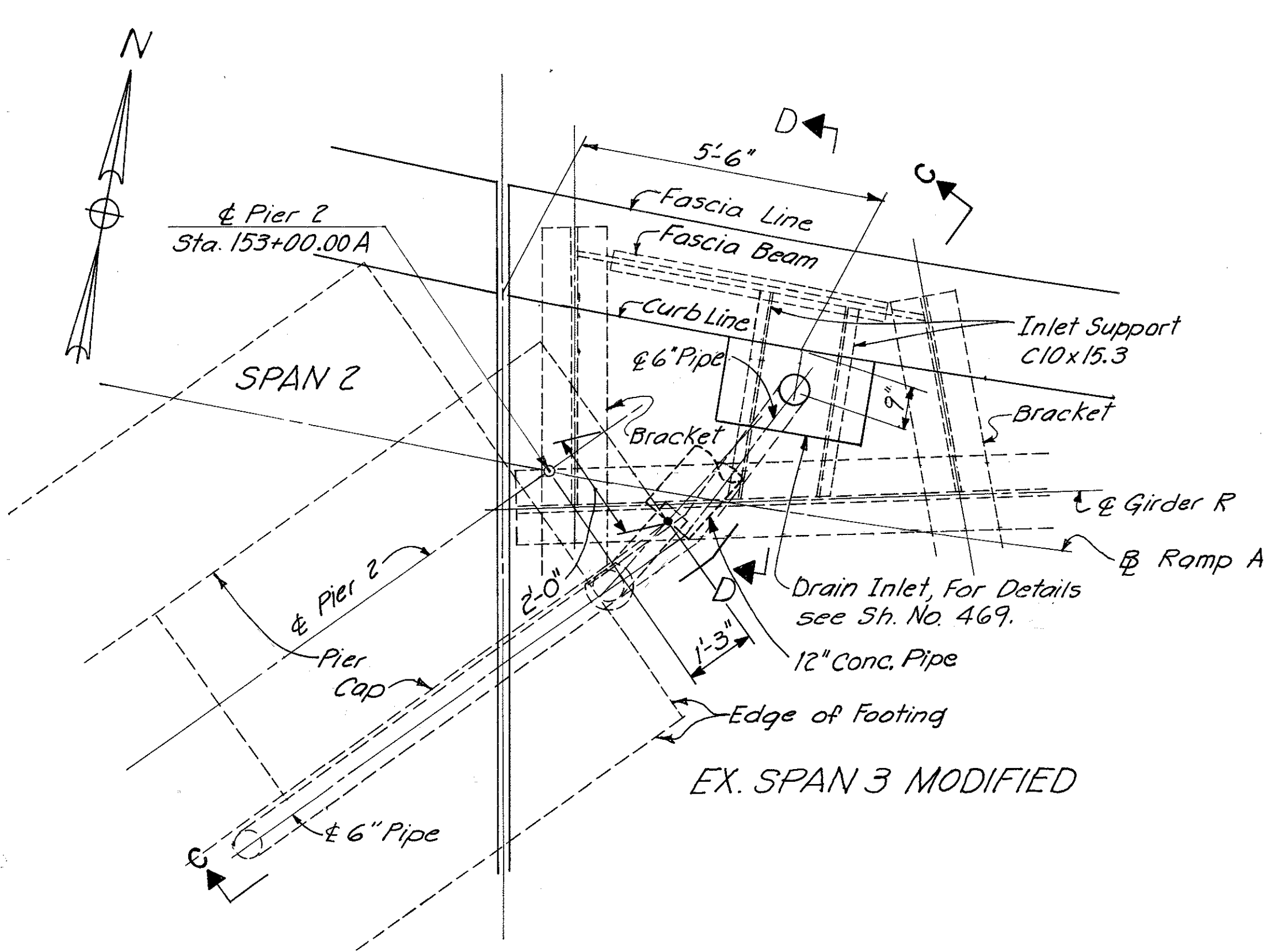
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

290  
494

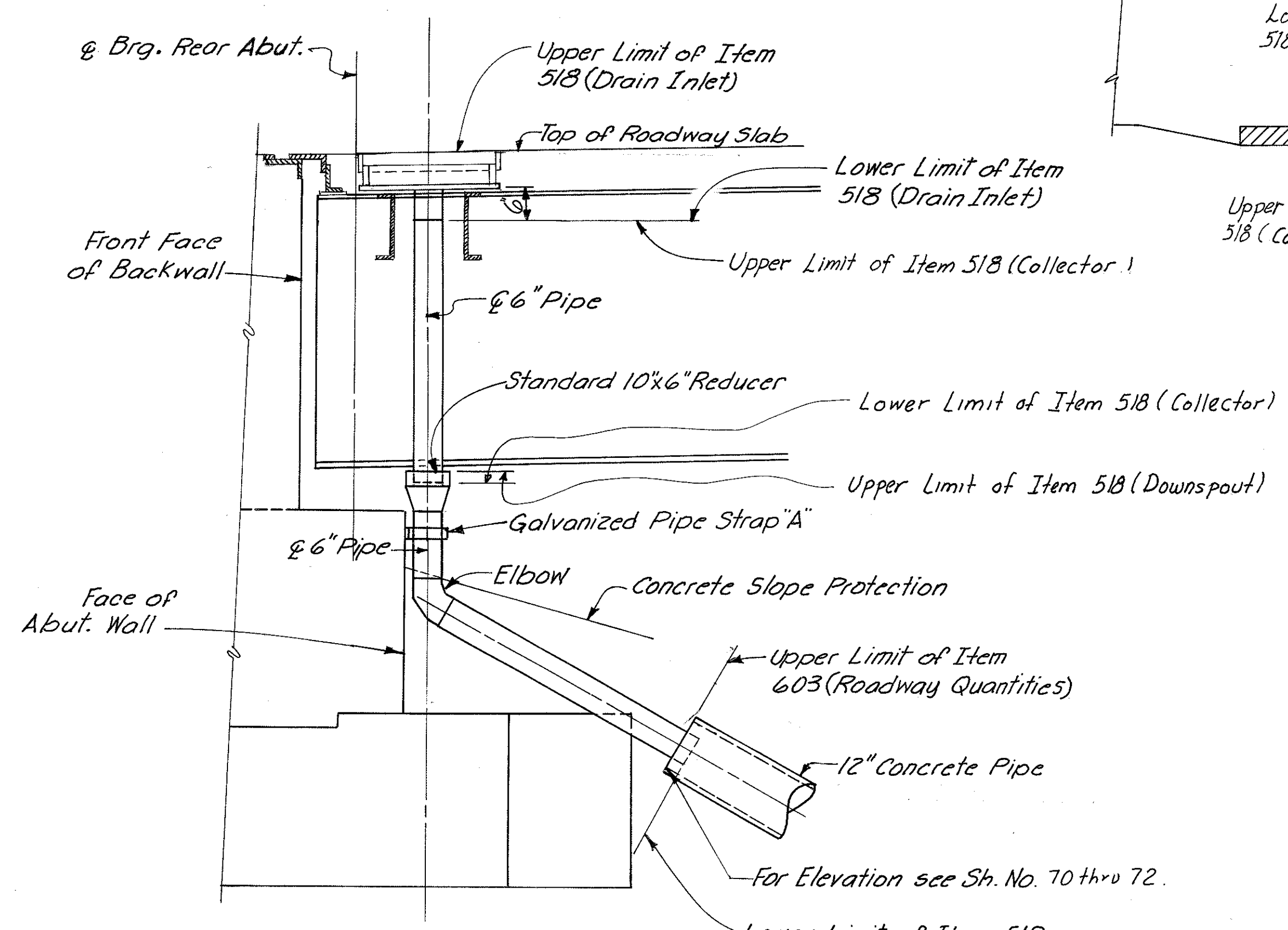
HAMILTON COUNTY  
HAM-471-0.30



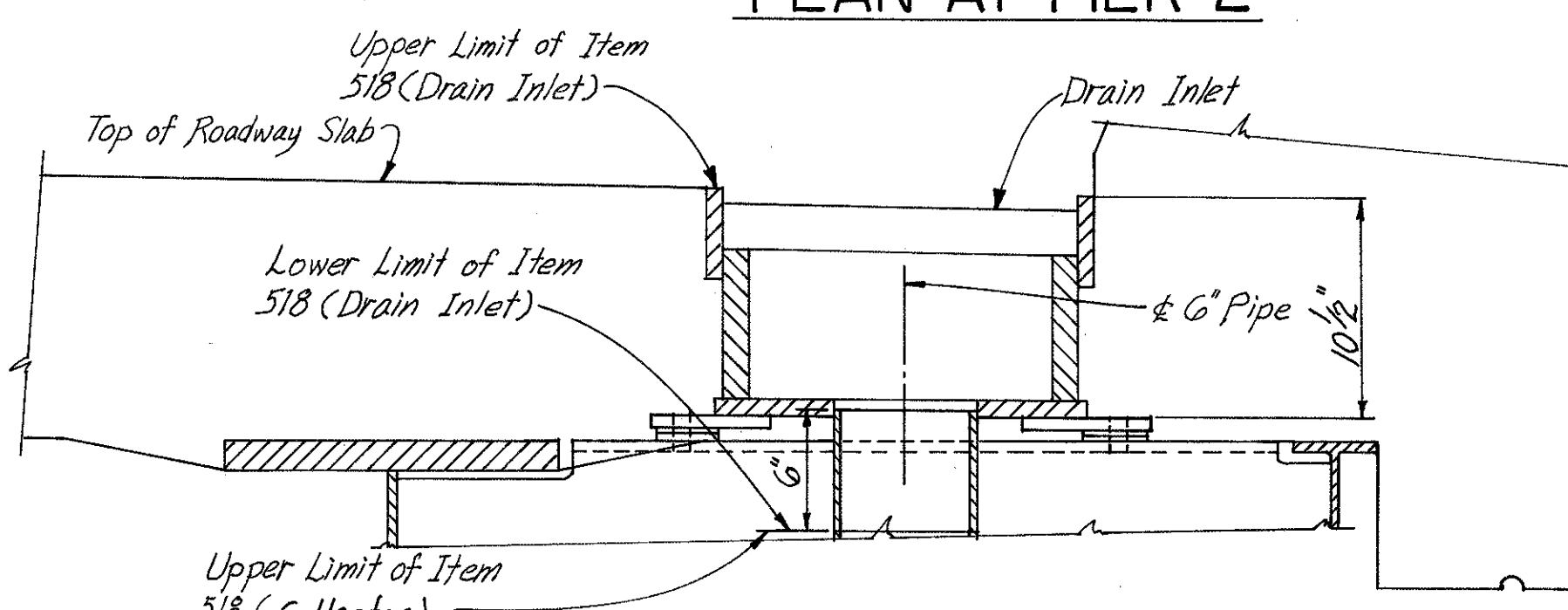
PLAN AT ABUTMENT



PLAN AT PIER 2

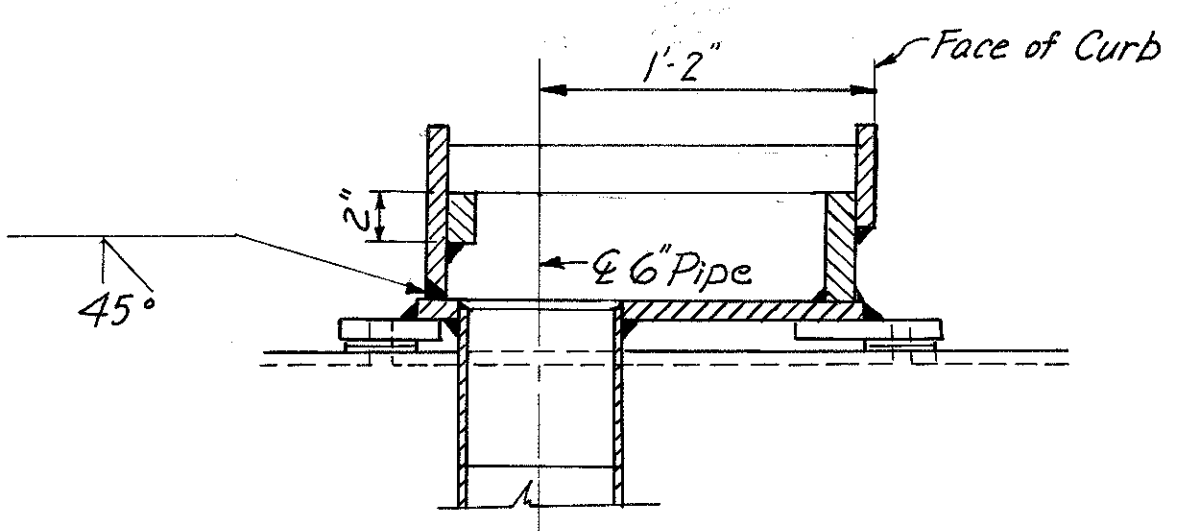


SECTION A-A



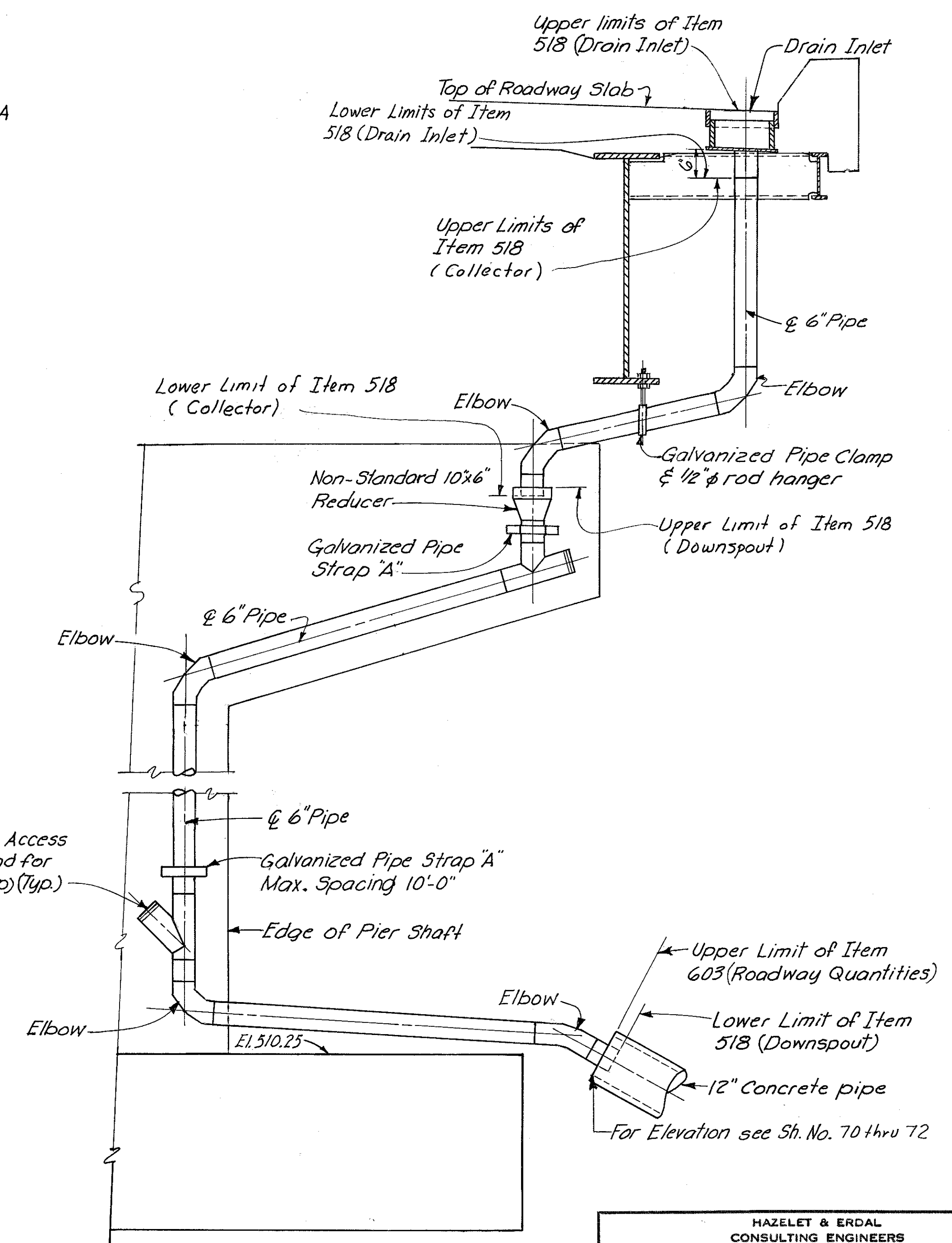
SECTION D-D

For Details not shown see Sh. No. 469.



SECTION B-B

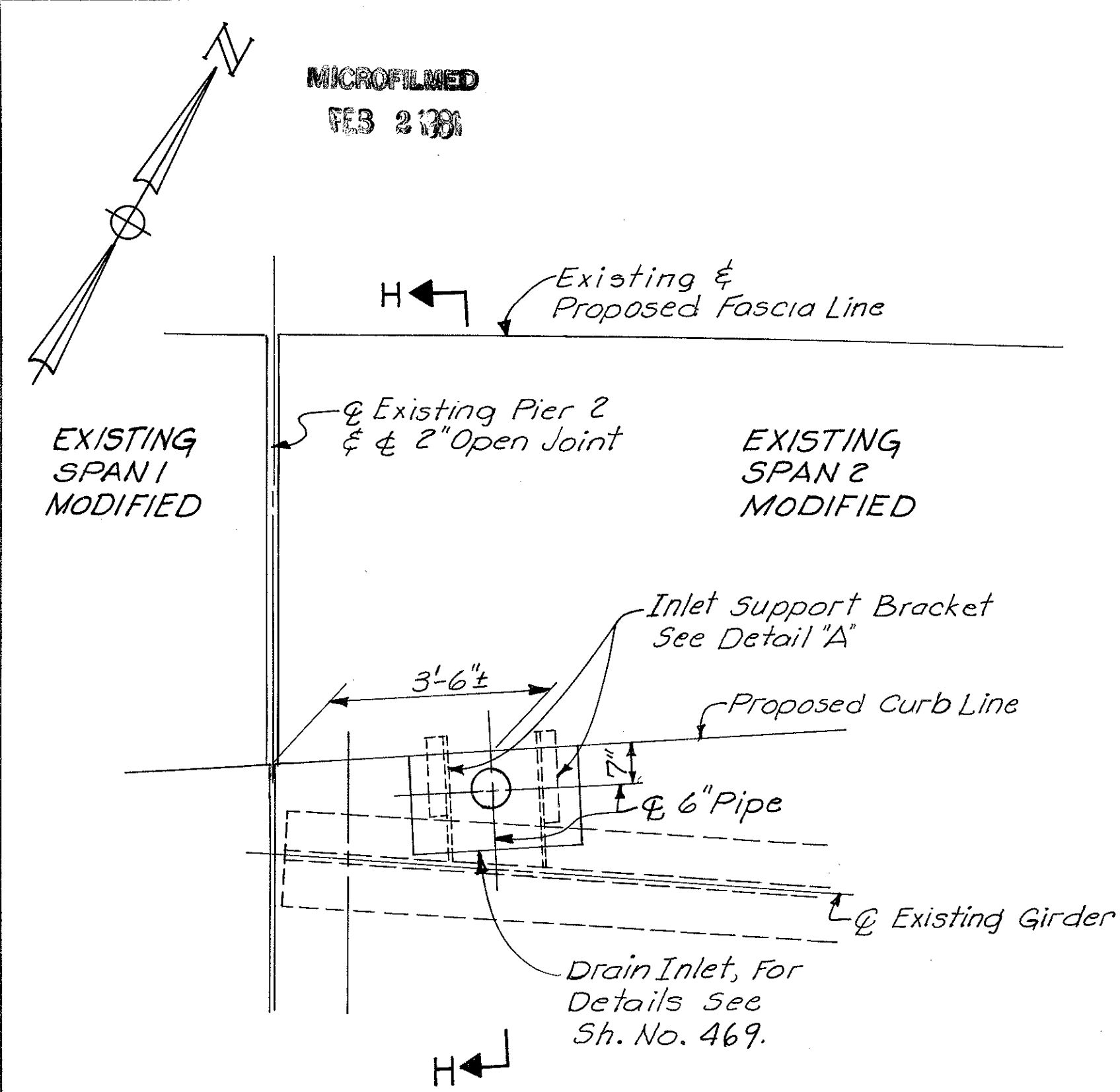
For Details not shown see Sh. No. 469.



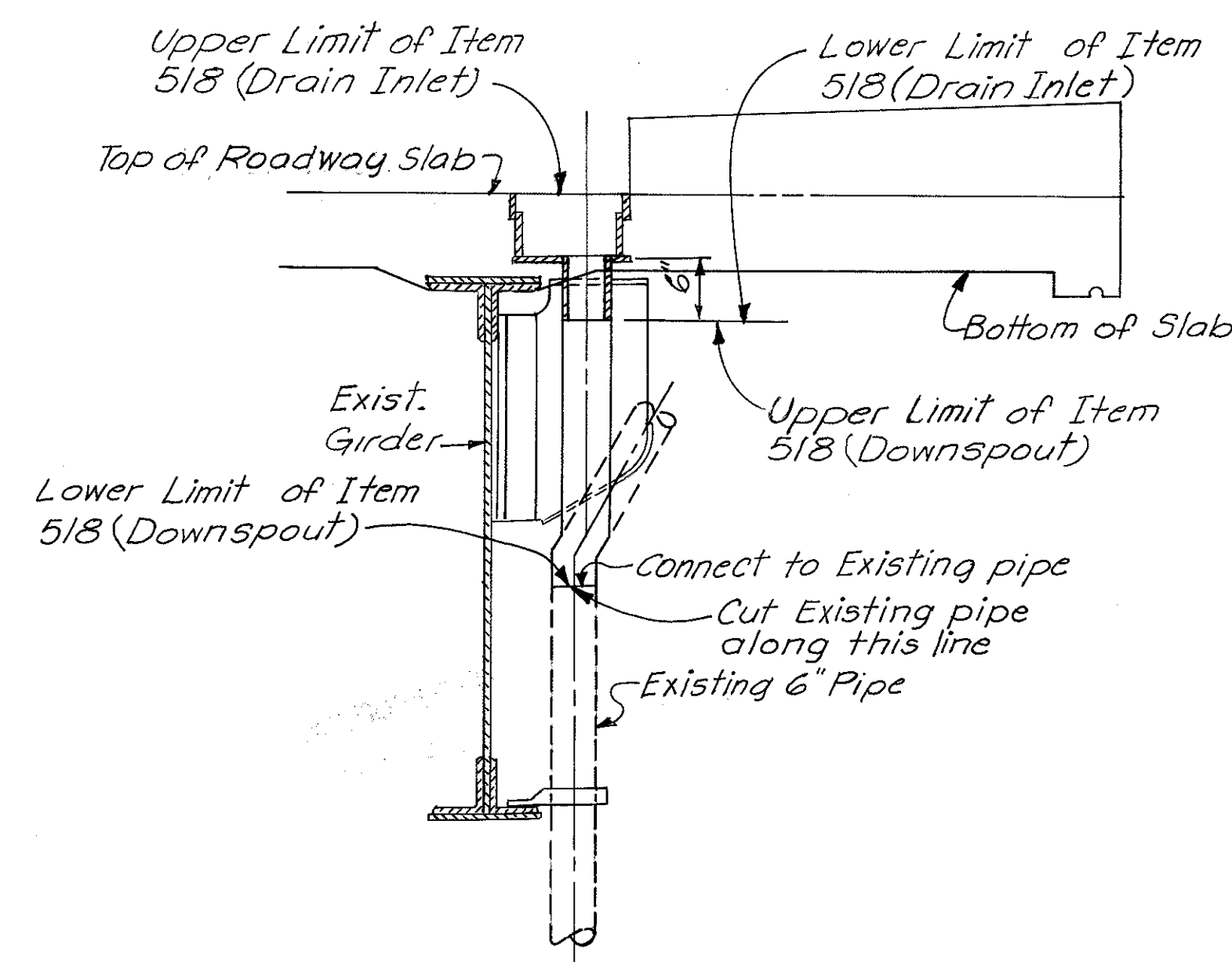
SECTION C-C

Note: For details not shown & notes see Typical Drainage Details, sh. 469.

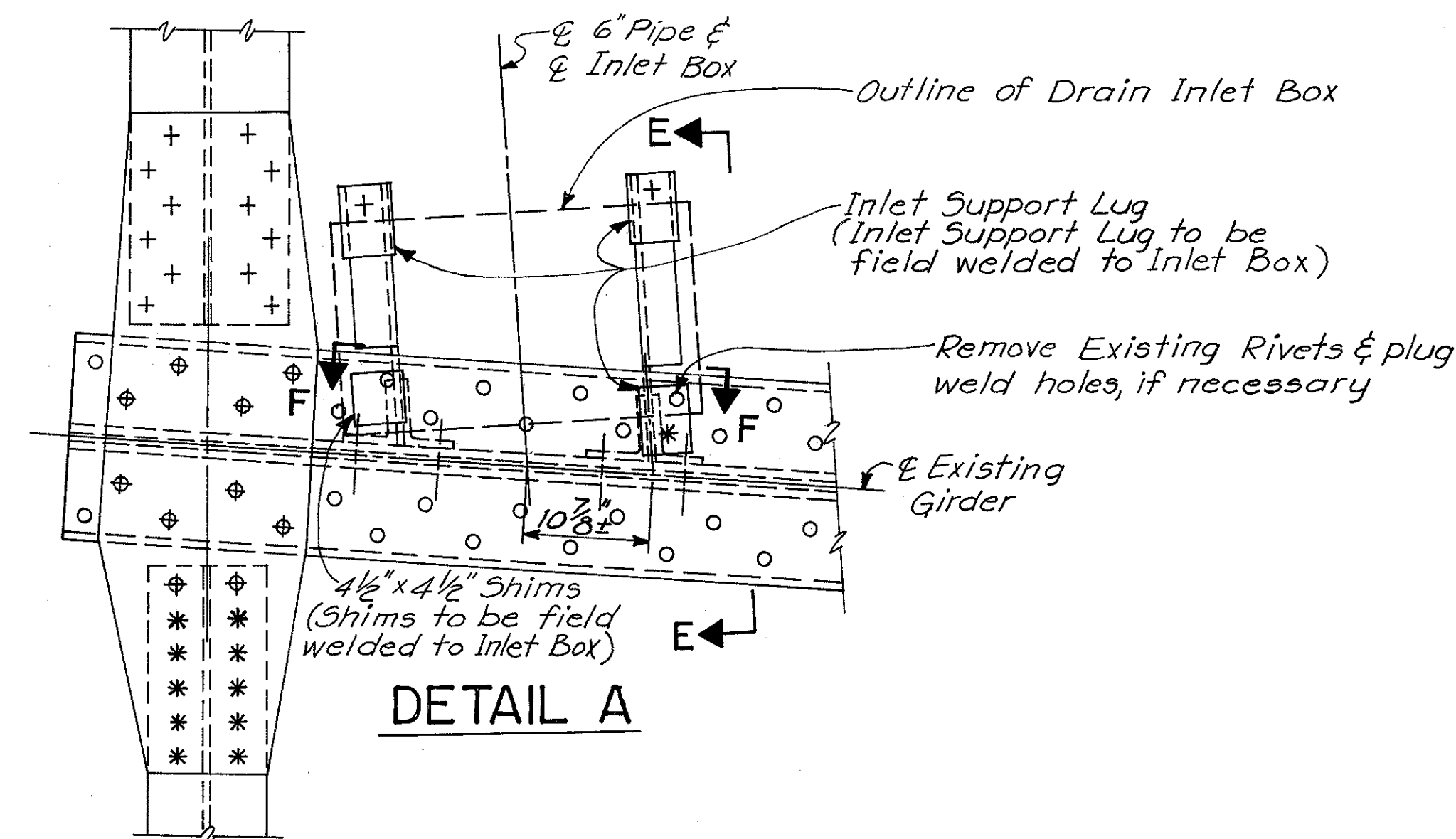
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					35/39
<b>DRAINAGE DETAILS</b> BRIDGE NO. HAM-471- RAMPA OFF COLUMBIA VIADUCT					
<b>H&amp;E BRIDGE NO. 8</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	S.L. V.W.S.	JDC	JW	11-15-72	



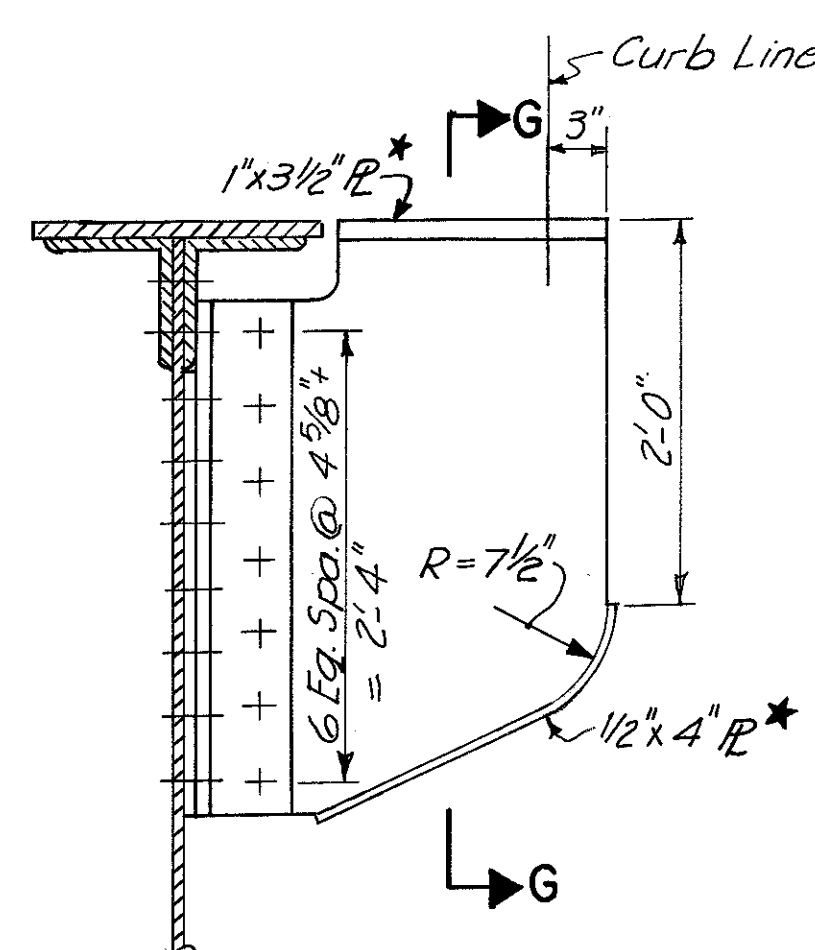
PLAN AT EXIST. PIER 2



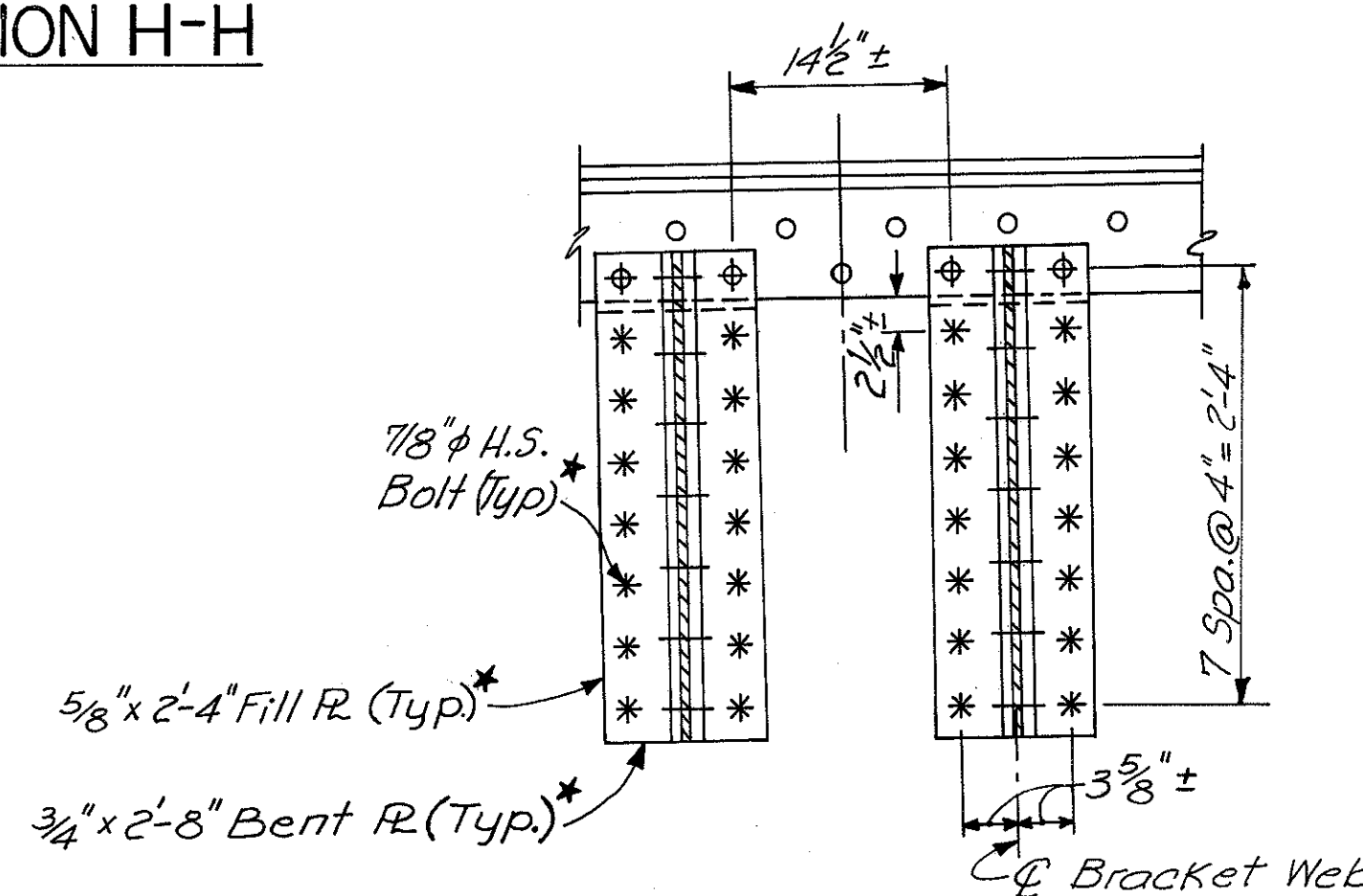
SECTION H-H



DETAIL A

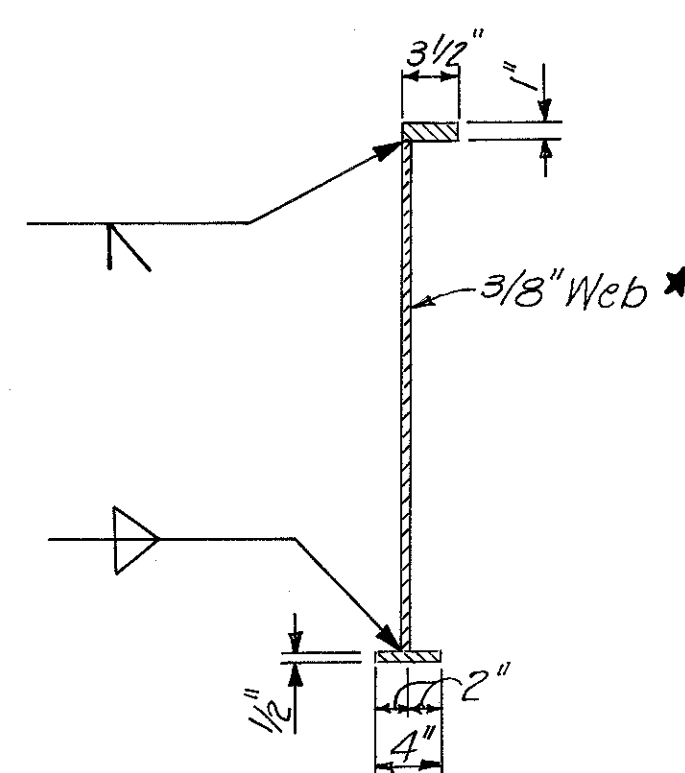


SECTION E-E



SECTION F-F

\* Included with Item 513, Structural Steel, for payment.



SECTION G-G

**LEGEND**  
 o Indicates Existing Rivet.  
 ♦ Indicates Existing Rivet to be replaced with 7/8" φ H.S. Bolt.  
 + Indicates 7/8" φ H.S. Bolt thru new members.  
 \* Indicates 7/8" φ H.S. Bolt thru new members & existing members (new holes).

Note: For details not shown & notes see Typical Drainage Details, Sh. No. 469.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				36/39
<b>DRAINAGE DETAILS</b> BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT				
<b>H&amp;E BRIDGE NO. 8</b>				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	S.L.	V.W.S.	JDC	JH
			4-13-72	11-15-72





HAMILTON COUNTY  
HAM-471-0-30

MICROFILMED  
FEB 2 1981

SUPERSTRUCTURE (CONTINUED)										
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	DIMENSIONS					
					A	B	C	D	E	
S601	Str.	30'-0"	116	5,227						
S602	Str.	6'-6" to 9'-10"	1 Ser. of 33	405						
S603	Str.	25'-0"	1	38						
S604	Str.	18'-4"	1	28						
S605	Str.	8'-10" to 2'-4"	1 Ser. of 6	73						
S606	Str.	12'-9" to 21'-0"	1 Ser. of 21	532						
S607	Str.	20'-1" to 6'-10"	1 Ser. of 12	243						
S608	Str.	13'-0"	1	20						
S609	Str.	5'-0"	1	8						
S610	Str.	11'-6"	1	17						
S611	Str.	7'-6"	1	11						
S612	Str.	23'-6"	1	35						
S613	Str.	24'-0"	1	36						
S614	Str.	23'-1"	1	35						
S615	Str.	4'-9"	28	200						
S616	Str.	10'-0"	16	240						
S617	Str.	9'-10"	21	310						
S618	Str.	13'-3"	2	40						
S619	Str.	21'-6" to 19'-2"	1 Ser. of 27	825						
S620	Str.	17'-8" to 3'-8"	1 Ser. of 10	160						
S621	Str.	26'-11"	40	1,617						
S622	Str.	20'-0" to 4'-0"	1 Ser. of 6	108						
S623	Str.	15'-10"	10	238						
S624	Str.	27'-9" to 26'-0"	1 Ser. of 21	848						
S625	Str.	31'-0" to 3'-8"	1 Ser. of 16	417						
S626	Str.	34'-6"	10	518						
S627	Str.	29'-1"	6	262						
S628	Str.	27'-10"	5	209						
S629	Str.	20'-0"	5	150						
S630	Str.	18'-0"	2	54						
S631	Str.	10'-0" to 8'-0"	1 Ser. of 4	54						
S632	Str.	7'-0" to 5'-0"	1 Ser. of 5	45						
S633	Str.	8'-0"	1	12						
S634	Str.	8'-7" to 6'-10"	1 Ser. of 5	58						
S635	Str.	6'-6"	2	20						
S636	Str.	6'-5" to 6'-2"	1 Ser. of 7	66						
S637	Str.	6'-2" to 5'-11"	1 Ser. of 4	36						
S638	Str.	10'-9" to 11'-2"	1 Ser. of 7	115						
S639	Str.	10'-6"	7	110						
S640	Str.	5'-3"	22	173						
S641	Str.	26'-7"	13	519						
S642	Str.	26'-0"	32	1,250						
S643	Str.	19'-0" to 4'-3"	1 Ser. of 5	87						
S644	Str.	20'-1"	6	181						
S645	Str.	24'-2"	2	73						
S646	Str.	22'-0"	1	33						
S647	Str.	18'-2"	1	27						
S648	Str.	20'-7"	11	340						
S649	Str.	25'-0" to 14'-0"	1 Ser. of 4	117						
S650	Str.	26'-1"	6	235						
S651	Str.	23'-0" to 12'-2"	1 Ser. of 4	106						
S652	Str.	3'-6"	2	11						
S653	Str.	13'-0"	11	215						
S654	Str.	10'-7"	2	32						
S655	16	3'-3"	2	10	1'-11"	1'-3"	2'-0"	7"		
S656	Str.	24'-3" to 22'-10"	1 Ser. of 5	177						
S657	Str.	24'-3"	1	36						
S658	Str.	22'-10"	1	34						
S659	Str.	11'-3" to 11'-5"	1 Ser. of 6	102						
S660	Str.	12'-5"	1	19						
S661	Str.	11'-10" to 9'-3"	1 Ser. of 7	111						
S662	Str.	6'-0"	14	126						
S663	Str.	39'-9"	4	239						
S664	Str.	2'-10"	8	34						
S665	Str.	2'-11"	8	35						
S666	Str.	3'-0"	9	41						
S667	30	5'-2"	40	310	1'-10"	1'-7"	1'-1"	2'-3"	1'-8"	

SUPERSTRUCTURE (CONTINUED)										
MARK	TYPE	LENGTH	TOTAL NO. OF BARS	TOTAL WEIGHT	DIMENSIONS					
					A	B	C	D	E	
S701	Str.	25'-2"	102	5,247						
S702	Str.	21'-11"	10	448						
S703	Str.	1'-5"	10	29						
S704	Str.	25'-2" to 29'-4"	2 Ser. of 54	6,015						
S705	Str.	29'-11" to 34'-5"	2 Ser. of 4	526						
S706	Str.	34'-3" to 26'-7"	2 Ser. of 31	3,855						
S707	Str.	26'-5" to 17'-3"	2 Ser. of 25	2,231						
S708	Str.	11'-6" to 3'-0"	2 Ser. of 3	89						
S709	Str.	14'-6"	2	59						
S710	Str.	7'-0"	14	200						
S711	17	3'-1"	4	25	1'-0"	2'-3"				
S712	17	5'-5"	4	44	1'-0"	4'-7"				
S713	44	13'-10"	3	85	2'-5"	3'-4"	4'-8 1/2"	3'-4"	1'-0"	
S801	Str.	40'-2"	2	214						

TOTAL WEIGHT, SUPERSTRUCTURE = 51,229 Lbs.

REPLACEMENT BARS			
MARK	TYPE	LENGTH	NO. OF BARS
RE401	Str.	6'-3"	1
RE501	Str.	6'-7"	1
RE601	Str.	6'-11"	2
RE701	Str.	7'-2"	1
RE801	Str.	7'-6"	1
RE901	Str.	7'-10"	1
RE1001	Str.	8'-2"	1

NOTES:  
 BAR SIZE IS INDICATED IN THE BAR MARK. THE FIRST DIGIT WHERE THREE DIGITS ARE USED, AND THE FIRST TWO DIGITS WHEN FOUR ARE USED, INDICATE THE BAR SIZE NUMBER. FOR EXAMPLE S519 IS A NO. 5 SIZE BAR AND P1025 IS A NO. 10 SIZE.  
 FOR BAR BENDING SCHEDULE SEE SH.NO. 470

TOTAL WEIGHT OF REINFORCING STEEL = 82,705 Lbs.

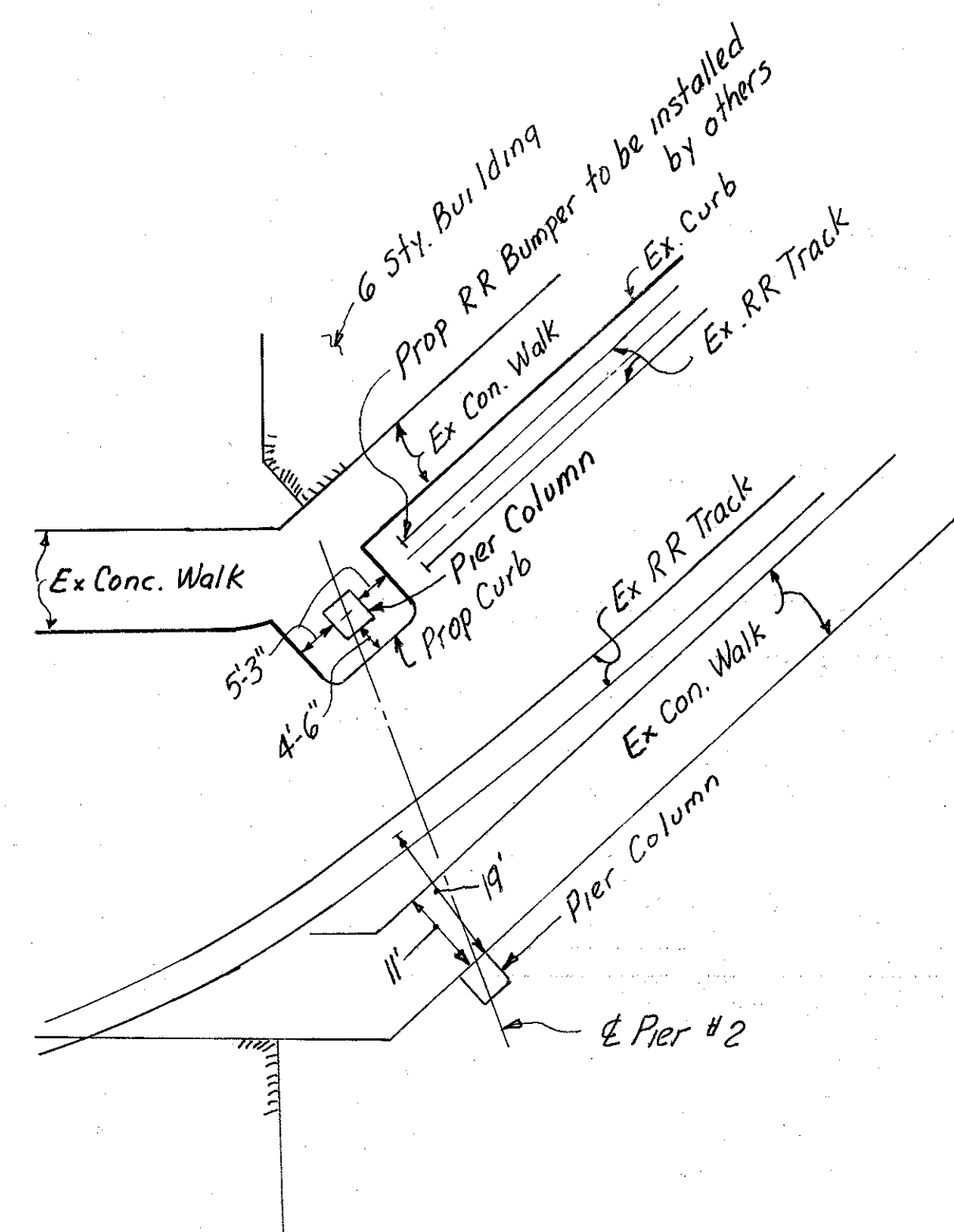
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				39 / 39
<b>REINFORCING STEEL LIST</b>				
BRIDGE NO. HAM-471- RAMP A OFF COLUMBIA VIADUCT				
<b>H&amp;E BRIDGE NO. 8</b>				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	ARR		JDC	JHS 11-15-72
			4-18-72	

MICROFILMED  
FEB 2 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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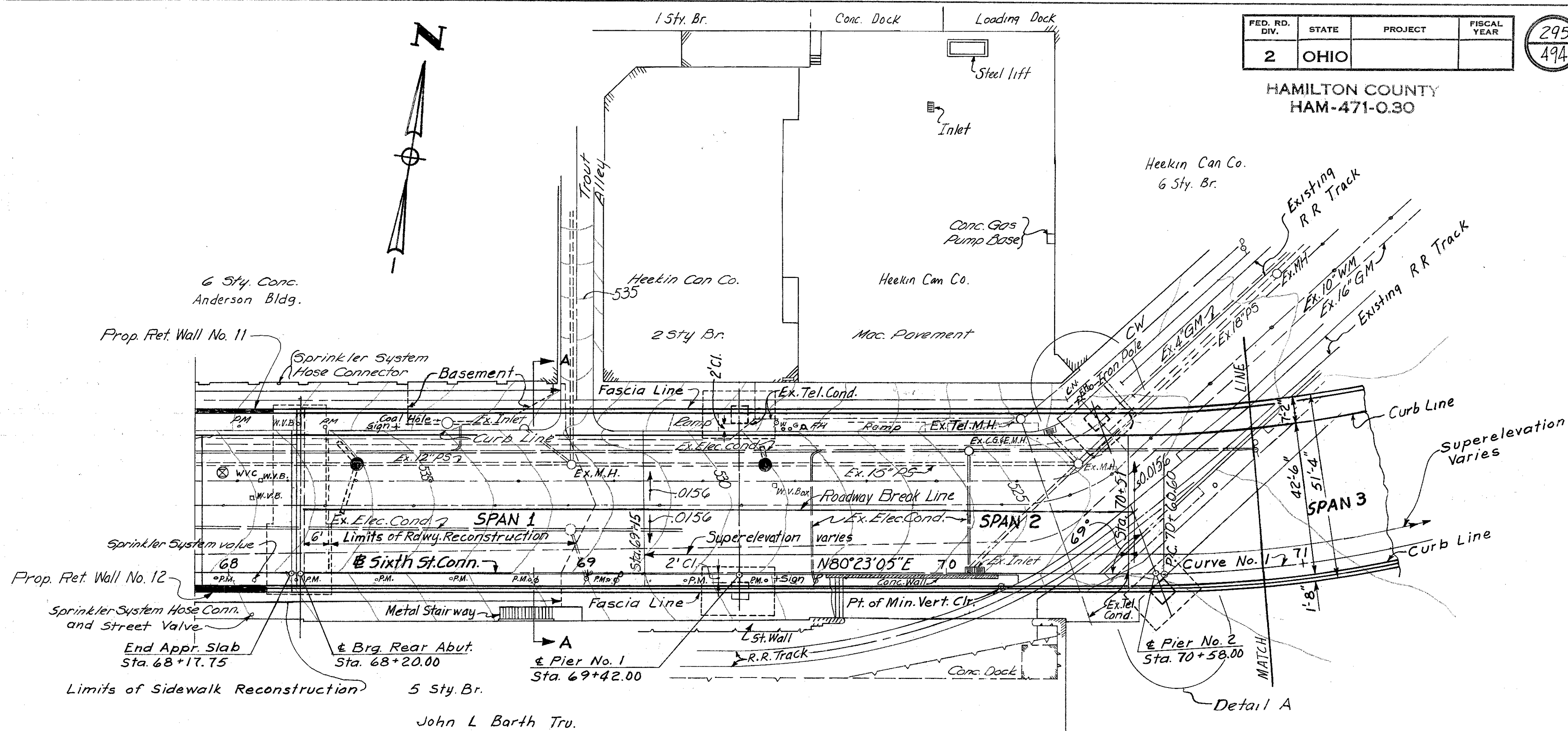
DETAIL A

**VERTICAL CURVE I**  
 PVI Sta. 70+00.00  
 PVI Elev. 557.50  
 L = 200  
 g<sub>1</sub> = +3.0 %  
 g<sub>2</sub> = +2.36 %

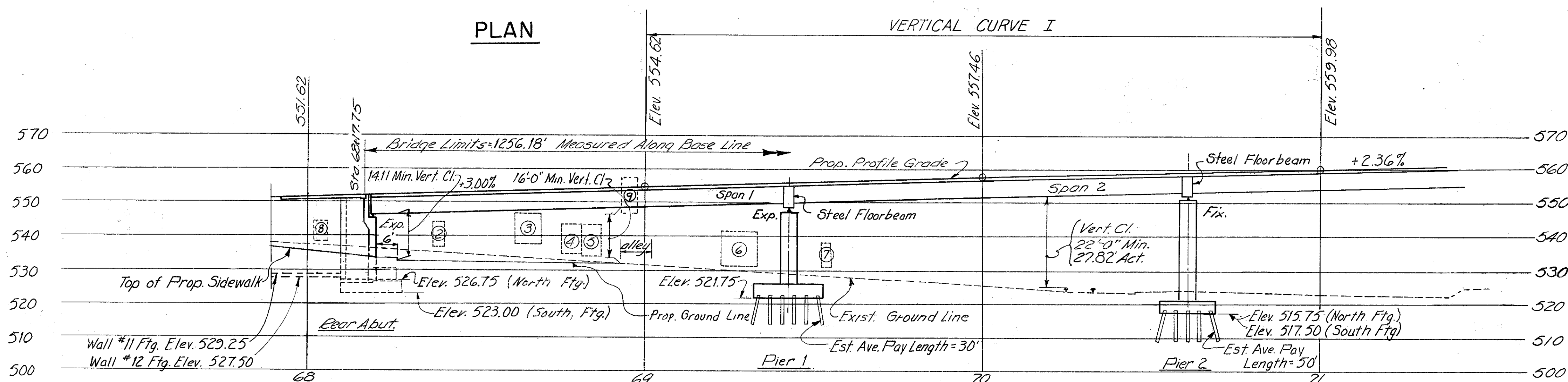
**VERTICAL CURVE II**  
 PVI Sta. 74+00.00  
 PVI Elev. 566.94  
 L = 300  
 g<sub>1</sub> = +2.36 %  
 g<sub>2</sub> = -1.0 %

**VERTICAL CURVE III**  
 PVI Sta. 78+68.00  
 PVI Elev. 562.26  
 L = 200'  
 g<sub>1</sub> = -1.0 %  
 g<sub>2</sub> = -5.5 %

Vertical Curve data does not apply to bridge or graphic curve elevations. The bridge elevations were obtained by adding 1/2" to elevations obtained from vertical curve data.



PLAN



**PROFILE ON BASE LINE**

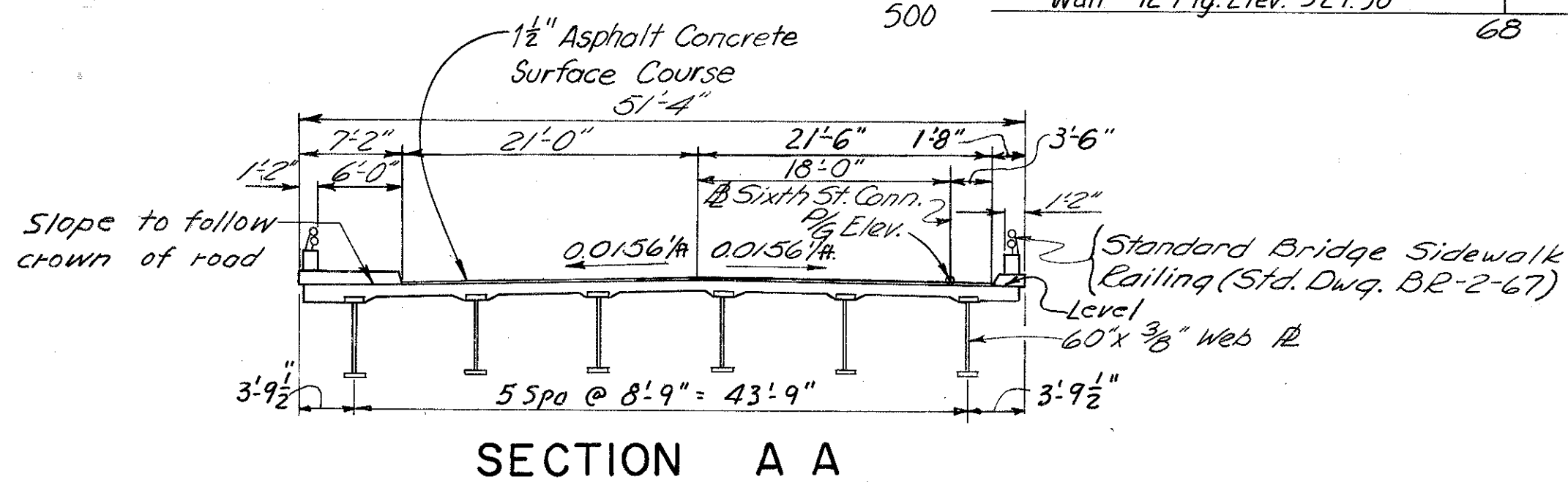
- Door Openings N. Side of Sixth St:
- ② Door
  - ③ Loading Dock
  - ④ Door
  - ⑤ Overhead Door & Entr. to Elevator
  - ⑥ Door & Loading
  - ⑦ Entrance Door
- Door Openings S. Side of Sixth St:
- ⑧ Door
  - ⑨ Door at top of Stairway

**NOTE**

Piers 4, 5, and 6 as shown on sheet 296 have been constructed under a previous contract. The remaining substructure units, and all the superstructure shall be constructed under this contract.

Piers 3 and 4 are parallel.  
 Piers 7, 8 and 9 are parallel.  
 Pier 1 is parallel to E. Brg. Rear Abutment and perpendicular to base line Sixth St. Connection. For Base Line Curve Data, See Sh. 296.

All Piles are 12" C.I.P. Reinforced Concrete Piles. For roadway cross-section at Sta 68+17.75 see Sh. 119.



SECTION A A

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
SITE PLAN BRIDGE NO. HAM.-471-0044 SIXTH STREET CONNECTION OVER SOUTHBOUND I-471					
H & E BRIDGE NO. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
HLL	RJR	W.L.	J.H.O.	11-13-72	

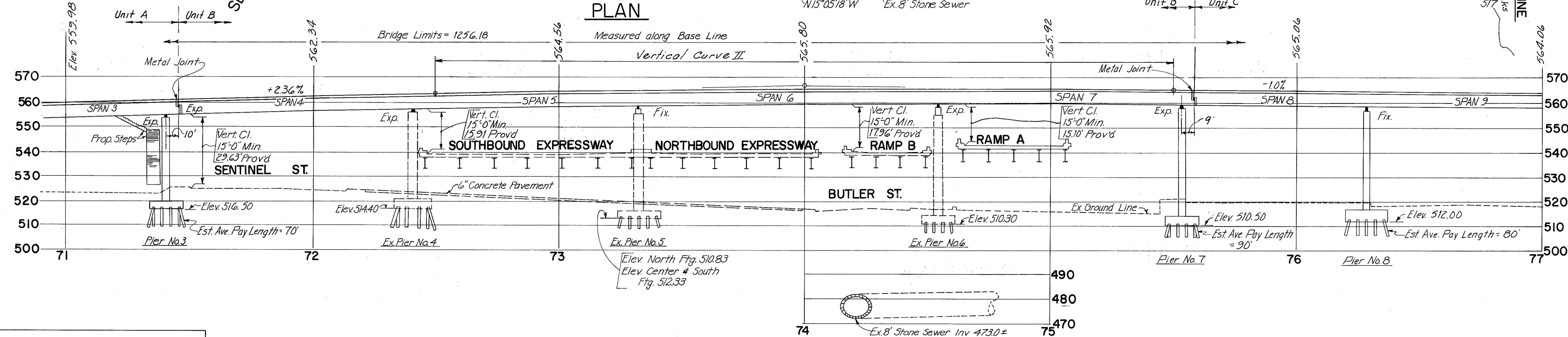
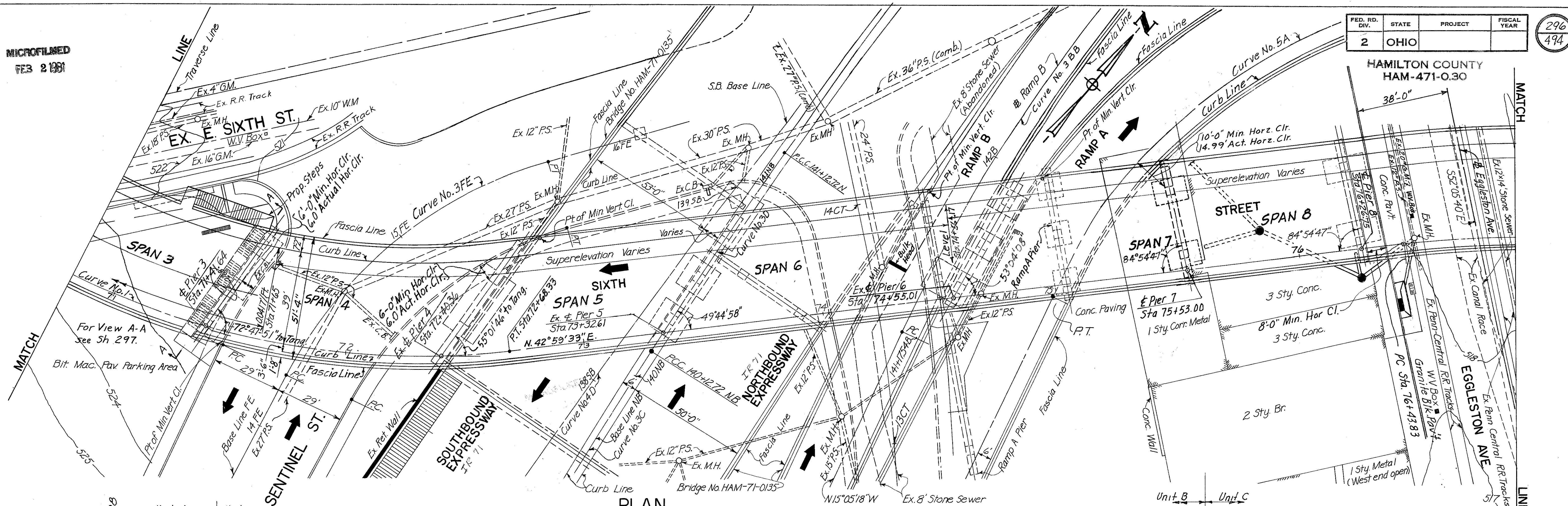


MICROFILMED  
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FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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HAMILTON COUNTY  
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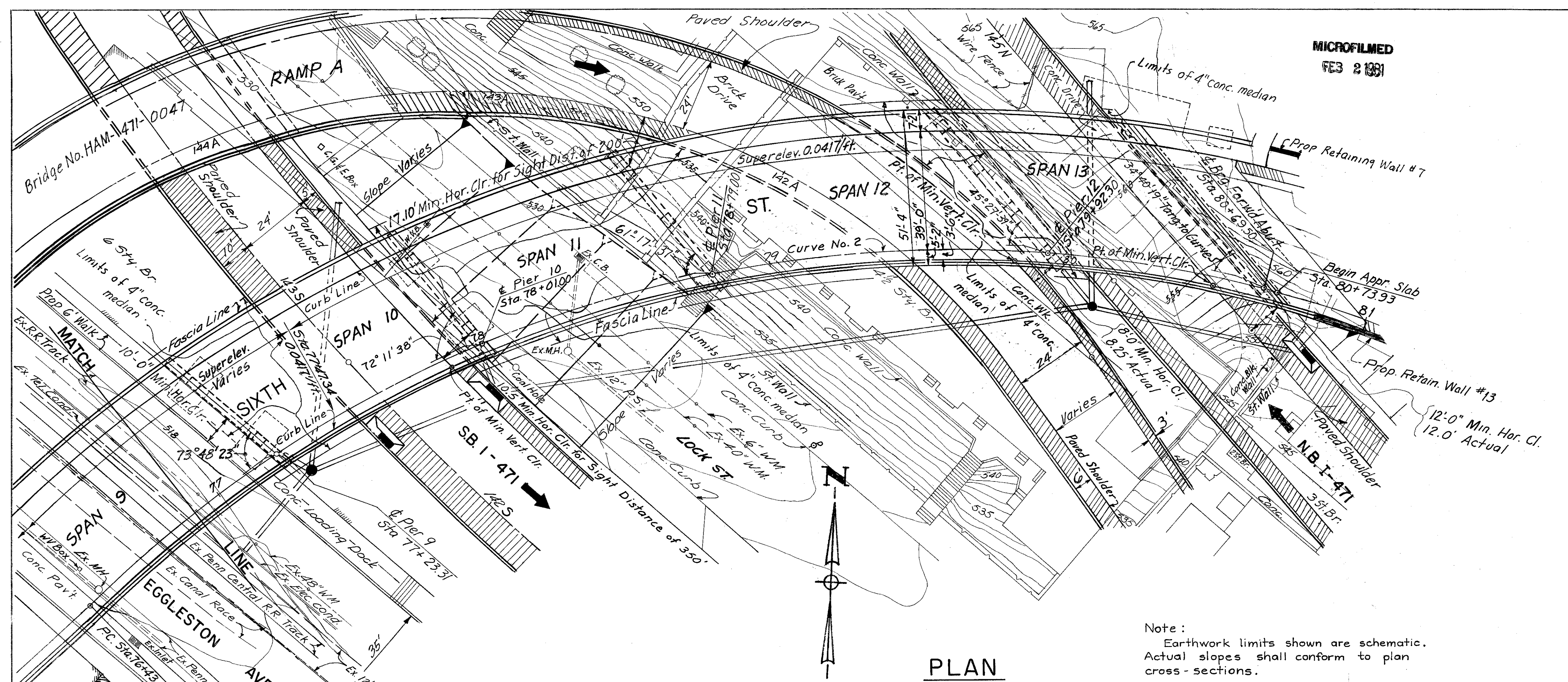
SPAN	LENGTH	SPAN	LENGTH
1	122.00'	9	96.56'
2	116.00'	10	77.69'
3	83.64'	11	78.00'
4	98.72'	12	113.30'
5	92.25'	13	77.20'
6	122.40'		
7	97.99'		
8	73.75'		

PROFILE ON BASE LINE

**NOTE**  
For Notes See Sh. 295  
For Structure Section A-A, See Sh. 295.  
For Bench Marks see Sh. 33.

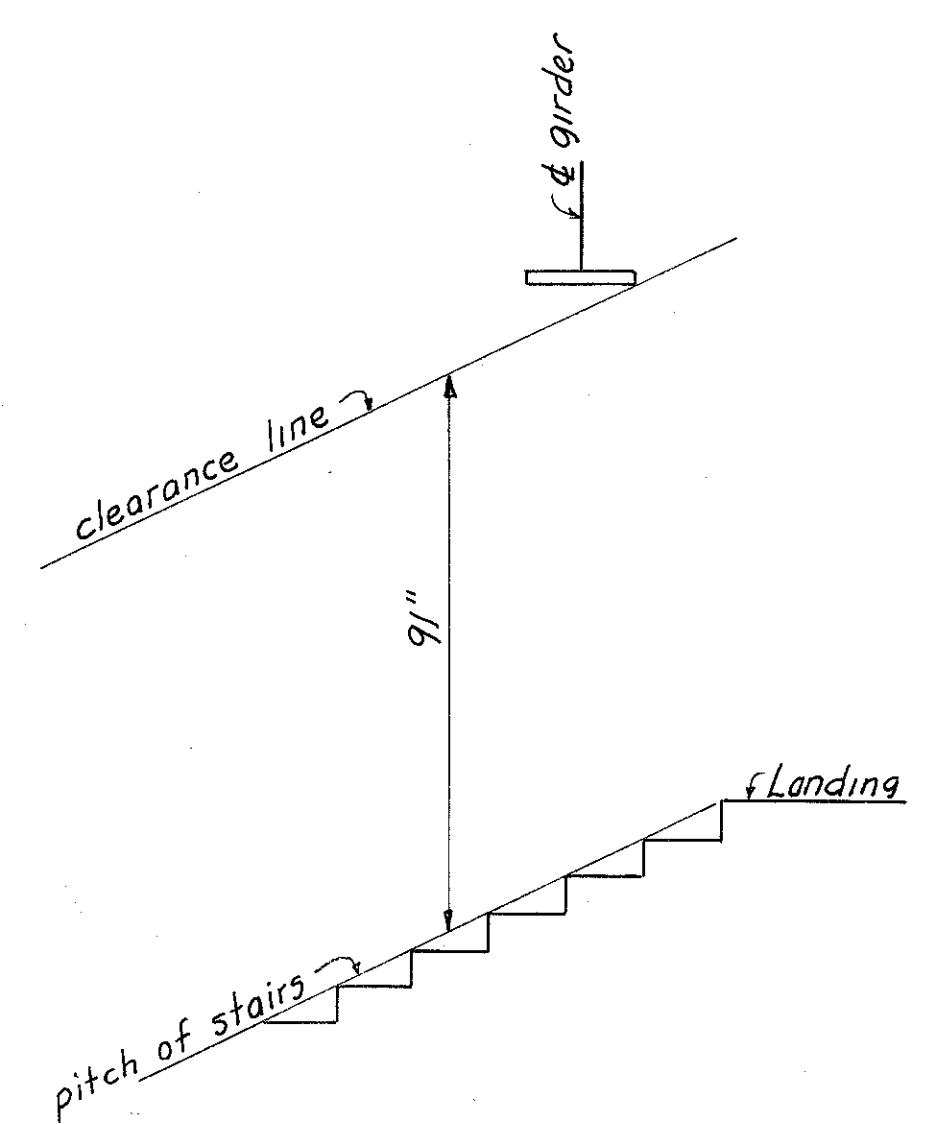
CURVE DATA	PROPOSED STRUCTURE	1984 Traffic Count	ATD = 18,400 DHV = 1,920
<b>CURVE NO. 1</b> P.I. Sta. 71+68.31 R=318.31 Δ=37°23'32" L=207.74 D=18°00'00" T=107.72  <b>CURVE NO. 2</b> P.I. Sta. 81+00.38 R=410.00 Δ=96°09'01" L=688.04 D=13°58'28.5" T=456.55	TYPE: Continuous Welded Plate Girder with reinforced concrete deck and substructure. SPANS: Lengths Vary, see tabulation ROADWAY: 42'6" Curbs with a 6" Curb on the South Side and a 6" Sidewalk on the North Side LIVE LOADING: HS 20-44 and the Interstate Alternate Loading SKEW: Varies, see plan. SURFACE COURSE: 1/2" Asphalt concrete. ALIGNMENT: Varies, see plan SUPERELEVATION: Varies, see plan APPROACH SLABS: A5-1-67 30' Long	HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO	2 / 64
<b>SITE PLAN</b> BRIDGE NO. HAM. 471-0044 SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H & E BRIDGE NO. 9		DESIGNED DRAWN TRACED CHECKED Y. L.	REVIEWED DATE 11-13-74 REVISED 7-3-73

MICROFILMED  
FEB 2 1981



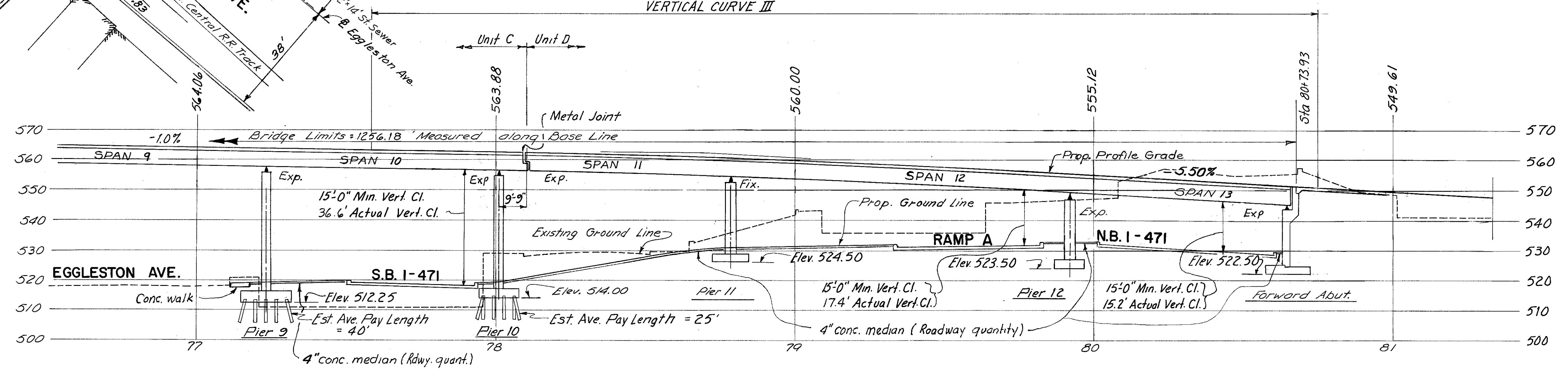
PLAN

Note:  
Earthwork limits shown are schematic.  
Actual slopes shall conform to plan  
cross-sections.



VIEW A-A

(For location see Sh 296.)



PROFILE ON BASE LINE

NOTE

Piers 7, 8, and 9 are parallel  
Piers 10, 11, and 12 are parallel to & Brq Forward Abut.  
For Curve No. 2 Data, See Sh. 296.  
For Table of Span Lengths, See Sh. 296.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO			3/64
<b>SITE PLAN</b>			
BRIDGE NO. HAM.-471-0044			
SIXTH STREET CONNECTION			
OVER SOUTHBOUND I-471			
<b>H &amp; E BRIDGE NO. 9</b>			
DESIGNED	DRAWN	TRACED	CHECKED
	HLL	EVE	W.L.
			REVIEWED DATE
			J14b 11-13-72
			REVISED

MICROFILMED  
FEB 2 1981

## GENERAL NOTES

FEDERAL REGION	STATE	PROJECT	FISCAL YEAR
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HAMILTON COUNTY  
HAM-471-0044

REFERENCE

SHALL BE MADE TO STANDARD DRAWINGS

AS-1-67, REVISED 6-12-69  
SD-1-69, SHEETS 1 AND 2 DATED 6-12-69  
BR-2-67, REVISED 10-15-71  
RB-1-55, REVISED 2-2-59  
FSB-1-62, REVISED 1-15-63

AND TO SUPPLEMENTAL SPECIFICATIONS:

808 DATED 1-1-71  
836 DATED 1-1-71  
838 DATED 3-18-70  
927 DATED 1-1-71

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1969, INCLUDING THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA:

DESIGN LAODING--HS20-44 "AND THE INTERSTATE ALTERNATE LOADING".

CONCRETE CLASS C - UNIT STRESS 1200 PSI FOR SUPERSTRUCTURE  
UNIT STRESS 1333 PSI FOR SUBSTRUCTURE

STRUCTURAL STEEL ASTM A36 - UNIT STRESS 20,000 PSI.

REINFORCING STEEL ASTM A615, A616 OR A617 - UNIT STRESS 20,000 PSI.  
IF BARS IN ACCORDANCE WITH ASTM A 616 ARE PROVIDED, THEY SHALL BE SUBJECT TO BEND TESTS AS PER AASHO DESIGNATION M42-70.

PILES

SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 50 TONS PER PILE FOR PIERS 1, 2, 3, 7, 8, 9 AND 10.

FOUNDATION BEARING PRESSURE:

REAR AND FORWARD ABUTMENT FOOTINGS AND PIER 11 AND 12 FOOTINGS ARE DESIGNED FOR A MAXIMUM BEARING PRESSURE OF 2 1/2 TONS PER SQ. FT.

UTILITY LINES

ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER(S). THE CONTRACTOR AND OWNER(S) ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

STAINLESS STEEL FASTENERS

SHALL BE PROPERLY PASSIVATED TO REMOVE SURFACE IMPURITIES AND SHALL BE FURNISHED WITH A LUSTROUS FINISH.

FIELD VERIFICATIONS

BEFORE ANY ADDITIONAL CAP WORK AT PIERS 5 & 6 IS DONE AND BEFORE ANY FABRICATION OF STRUCTURAL STEEL IS STARTED, THE CONTRACTOR MUST FIRST DETERMINE THE EXACT LOCATION OF EXISTING PIERS 4, 5 AND 6.

EMBANKMENT CONSTRUCTION

BEFORE THE BACKWALL IS CONSTRUCTED THE EMBANKMENT SHALL BE CONSTRUCTED UP TO THE LEVEL OF THE SUBGRADE WITH A 1:1 SLOPE FROM THE BRIDGE SEAT TO THE SUBGRADE, FOR A MINIMUM DISTANCE OF 200 FT. BACK OF THE ABUTMENT.

PREBORED HOLES

ALL THE PILES IN THE NORTH FOOTING OF PIER NO. 1 AND THE PILES THAT ARE INDICATED ON SHEET 309 AT PIER NO. 2 SHALL BE STARTED IN PREBORED HOLES. HOLES TO BE PREBORED TO ELEVATION 515.00 AT PIER NO.1 AND ELEVATION 510.00 AT PIER NO. 2.

DECK REINFORCING BARS:

At the Contractor's option, a portion (not to exceed 25%) of the upper longitudinal bars (S401) in the deck slab may be placed beneath the upper transverse bars for support of the top mat.

MAINTENANCE OF TRAFFIC: Refer to sheets 13 and 13A

EXPLORATORY EXCAVATION

Before beginning construction of retaining walls 11 and 12 or the rear abutment, pier 1 and pier 2 of Bridge No. HAM-471-0044, the Contractor shall excavate exploratory pits (at least 5'x5') at locations as hereafter indicated. These pits shall extend laterally to face of building foundation wall and vertically a sufficient depth to determine elevations for the building footings and the amount of their projections beyond the presently exposed face of the foundation wall. All pertinent dimensions and elevations shall be adequately referenced to the base-line of survey and its controls. This information shall be properly recorded and 5 copies submitted to the Director at least 15 weeks before construction is scheduled to begin (on any of these named portions of the work) in order to permit evaluation of the data with respect to the need or desirability for modifications in the design or to details as presently shown on the project plans for these walls & piers.

All excavation and backfill for exploratory pits which falls beyond the normal limits of structure excavation shall be paid for at the unit price bid for Item 503, unclassified excavation. Any excavations below proposed footing elevations shall be backfilled with granular material in accordance with Sec. 203. Any extra cost (due to exploratory pits) for cofferdams, cribs and sheeting shall be included in the lump sum bid for each of the pertinent 503 cofferdam items for payment.

Pits will be required at the following locations

- Allen Temple, African M.E. Church, Parcel 5262  
Two pits (one near each end) along north wall.
  - John L. Barth "Tr.", Parcel 5261  
Four pits along north wall (one between Sta. 67+50-67+60, one between 68+00-68+13, one between 68+13-68+30 and one between 69+40-69+60)
  - Anderson-Hanig Realty Co., Parcel 5265  
Two pits along south wall (one between 67+50-67+80, and one between 68+10-68+30)
  - The Heekin Can Co., Parcel 5266A (2 story brk.)  
One pit along south wall between Sta. 69+30-69+60
  - The Heekin Can Co., 6 story brick  
One pit at south corner, approx. Sta. 70+35
- The above identified parcels are shown on plan sheet 488.

Elevations have been established as follows, but the Contractor shall verify them in his recorded data.

- Allen Temple  
Sta. 66+66, Elev. 538.77 basement floor  
66+82, Elev. 539.62 basement floor  
66+66, 11' Rt., Elev. 539.36, bottom of window well.  
67+35, 11' Rt., Elev. 539.09, bottom of window well.
- John L. Barth "Tr."  
68+13 (back) 530.91, basement flr.  
68+13 (ahead) 520.00, basement flr.  
69+50, 525.40, ground surface, inside of building.
- Anderson-Hanig Realty Co., 533.8-534.64 basement flr.
- Heekin Can Co. (2 story brick)  
Approx. Sta. 69+40, Elev. 522.16, Elevator shaft basement.
- Heekin Can Co. (6 story brick)  
Approx. Sta. 70+35, Elev. 508.7, basement floor.

CRACK AND CONDITION SURVEY

Prior to the start of construction of Ret. Wall 11, 12, piers 1 and 2, and rear abutment of HAM-471-0044, the Contractor will make a "crack and condition" survey of Right-of-Way Parcels 5264, 5265, 5266A, 5262 and 5261 including suitable photographs of the buildings immediately adjacent to the named units of construction. Copies of this survey will be furnished to the respective property owners for their concurrence and acceptance, and to the Engineer for his use and file prior to construction, as fore-said.

The Contractor will exercise extreme care during the construction of the above mentioned piers, retaining walls and abutment so as to insure against damage to the adjacent buildings.

Following completion of the construction adjacent to the affected buildings, the "crack and condition" survey will be repeated, and damage to the buildings, if any, resulting from the construction operations shall be repaired to the satisfaction of the property owners by the Contractor at his own expense.

It is understood that the responsibility for the construction adjacent to the buildings remains entirely with the Contractor, and he alone shall be responsible for any damage, to the above mentioned property owners from said construction.

Any additional cost due to the procedures outlined above shall be considered a subsidiary obligation of the Contractor and shall be included in the unit prices bid for the various relevant items in the proposal.

HAZLET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

4/64

GENERAL NOTES  
BRIDGE NO. HAM-471-0044  
SIXTH STREET CONNECTION OVER  
SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CS		Y.L.	11-13-72	

Revised 7-3-73

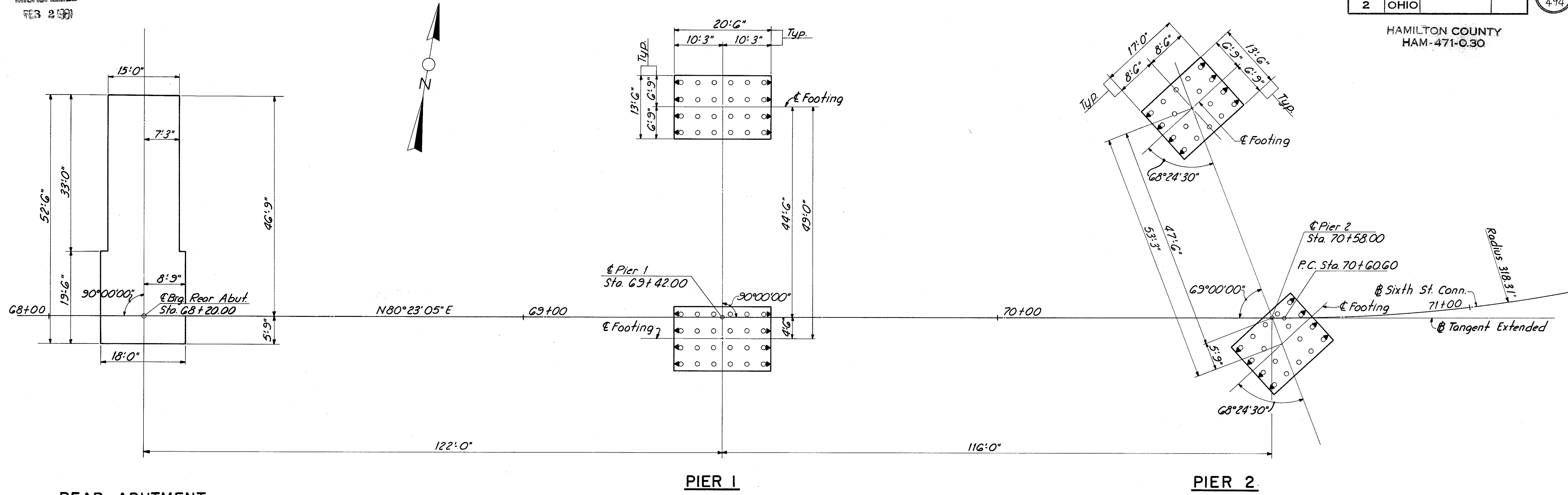


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FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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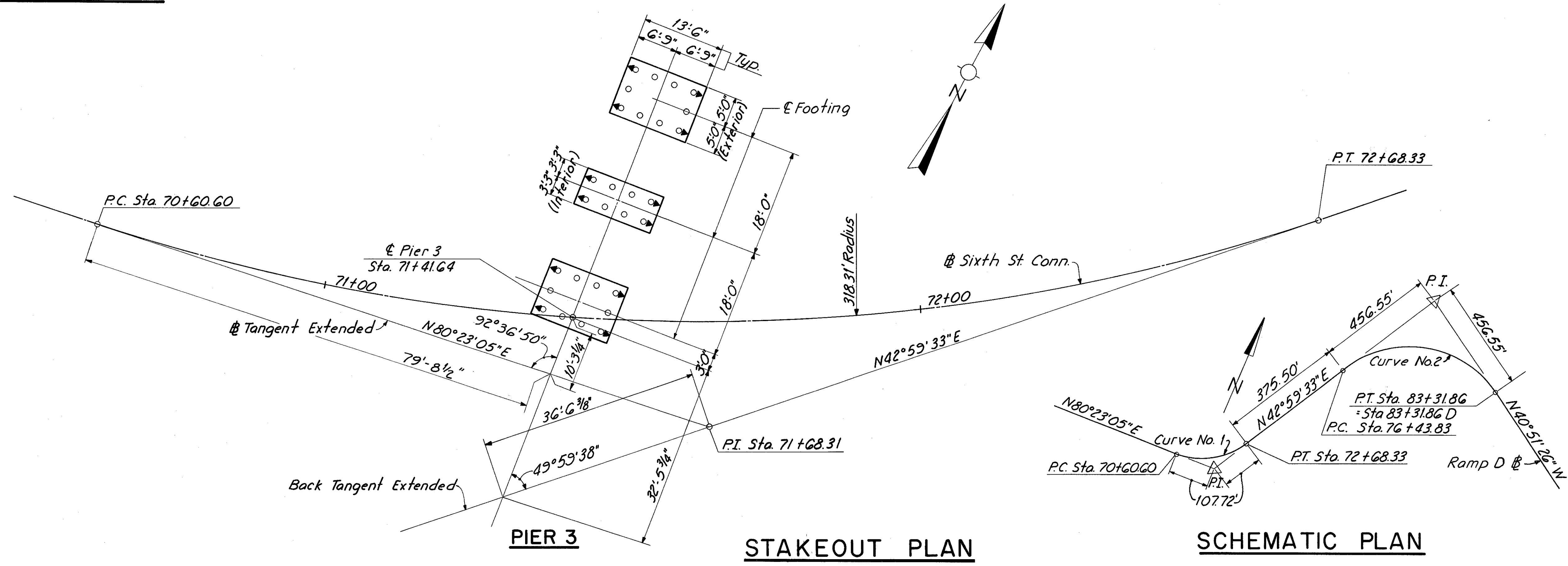
HAMILTON COUNTY  
HAM-471-0.30



**REAR ABUTMENT**

**PIER 1**

**PIER 2**



**STAKEOUT PLAN**

**SCHEMATIC PLAN**

Note:  
For location of piling see sh. 308, 309 & 310.

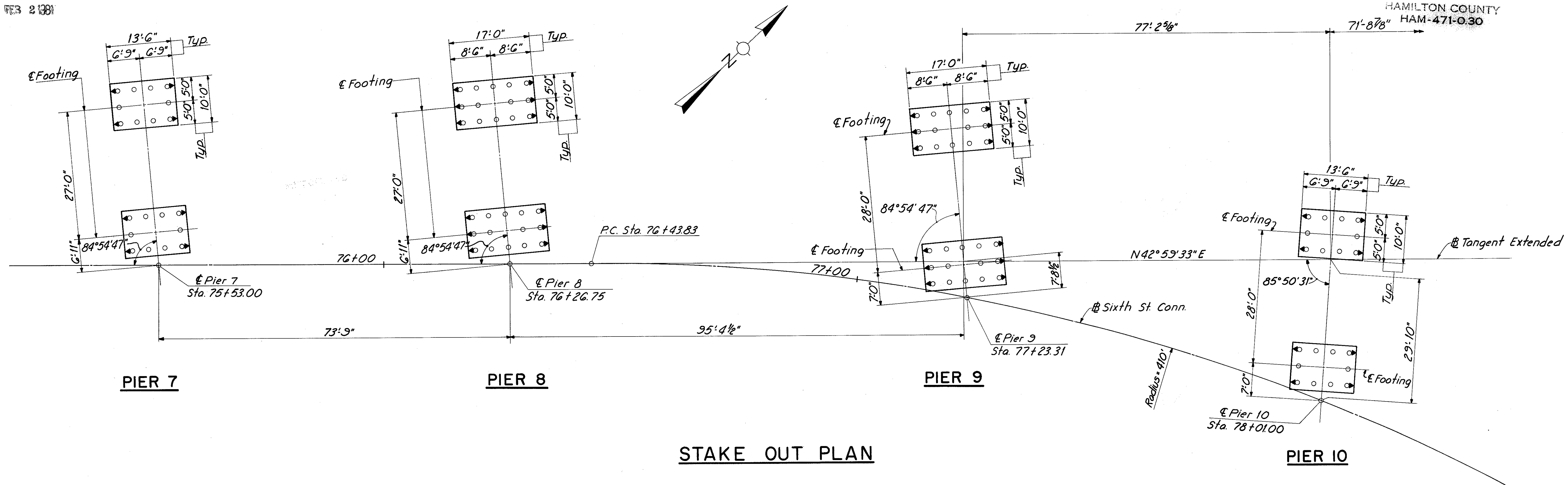
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					6/64
<b>STAKE OUT PLAN</b> <b>BRIDGE NO. HAM-471-0044</b> <b>SIXTH STREET CONNECTION OVER</b> <b>SOUTHBOUND I-471 H&amp;E BRIDGE NO.9</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JHD		Y.L.C.	JH	
			12-6-71	11-13-72	

MICROFILMED  
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FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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HAMILTON COUNTY  
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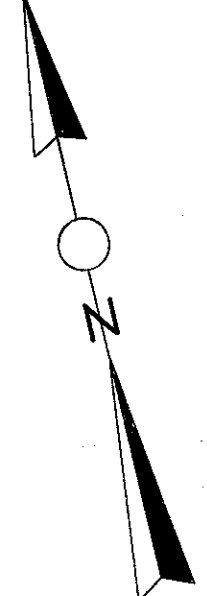


**STAKE OUT PLAN**

Note:  
For location of piling see sh. 313 thru 316.  
For Schematic Plan see sh. 300

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					7/64
<b>STAKEOUT PLAN</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
<b>SOUTH STREET CONNECTION OVER SOUTHBOUND I-471 H&amp;E BRIDGE NO.9</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	JHD		JH	11-13-72	

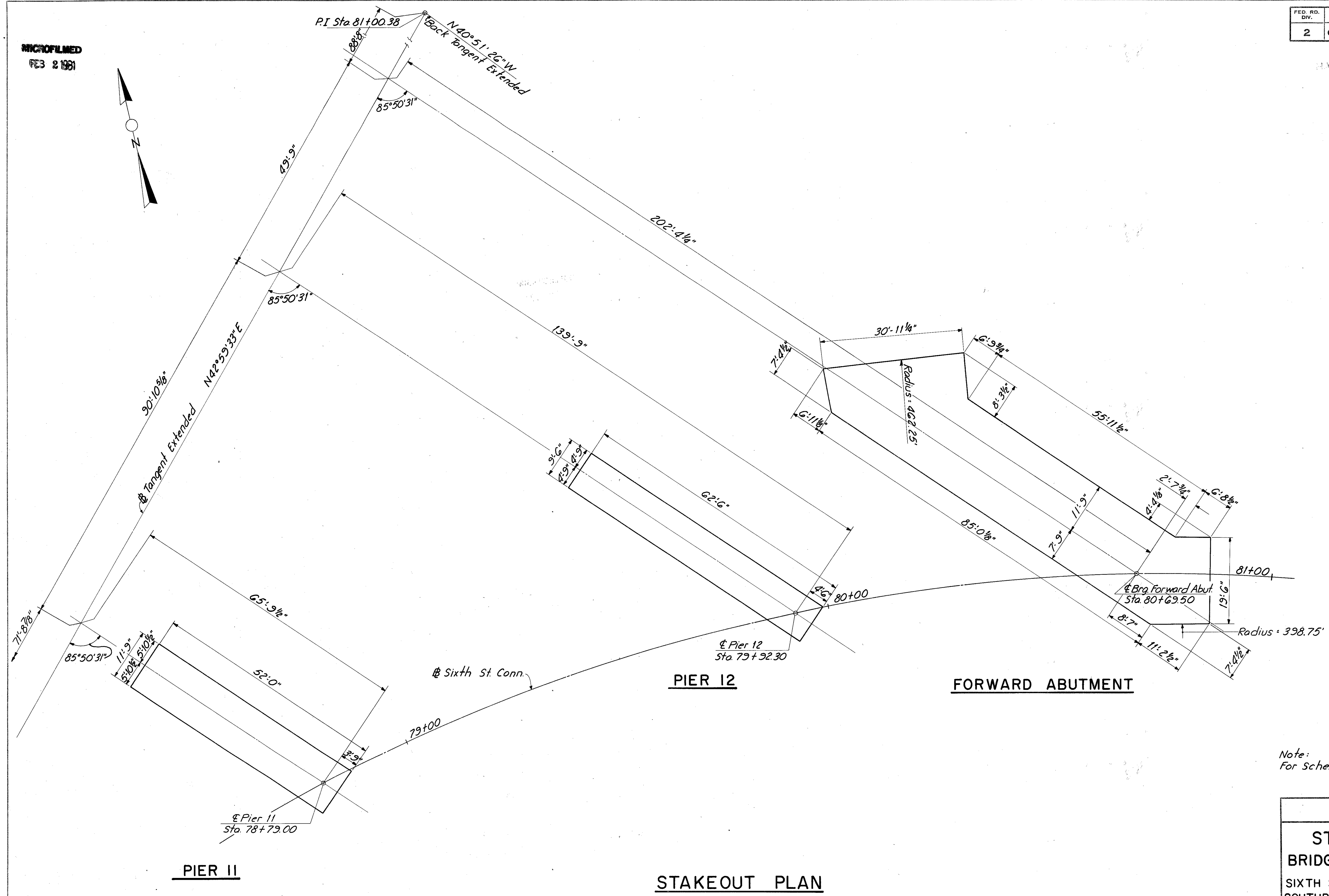
MICROFILMED  
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FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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Note:  
For Schematic Plan see sh. 300.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					8/64
<b>STAKEOUT PLAN</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
<b>SIXTH STREET CONNECTION OVER</b>					
<b>SOUTHBOUND I-471 H&amp;E BRIDGE NO.9</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JHD		W.L.	JHD	
			12-6-71	11-13-72	

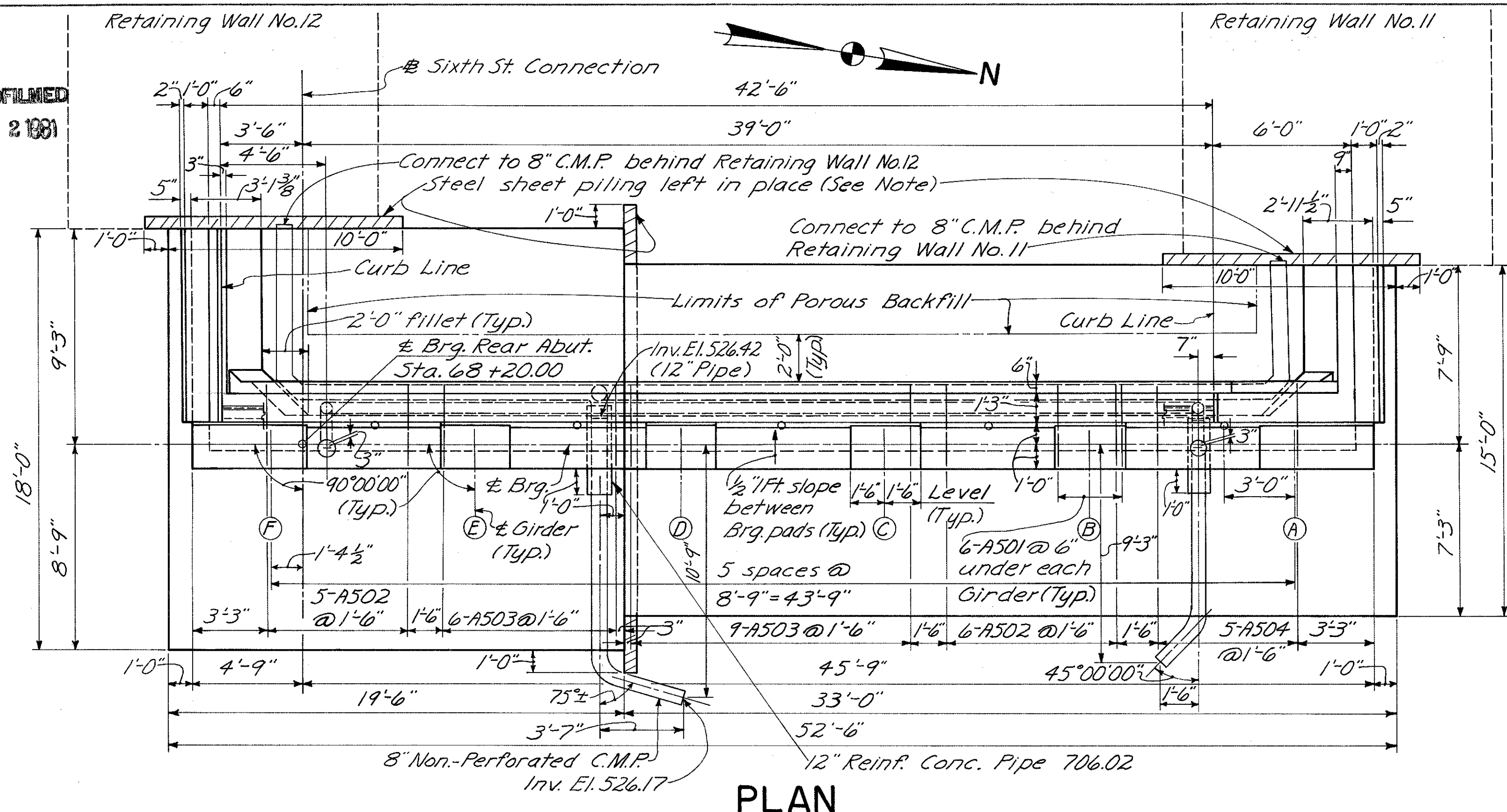
**STAKEOUT PLAN**

MICROFILMED  
FEB 2 1981

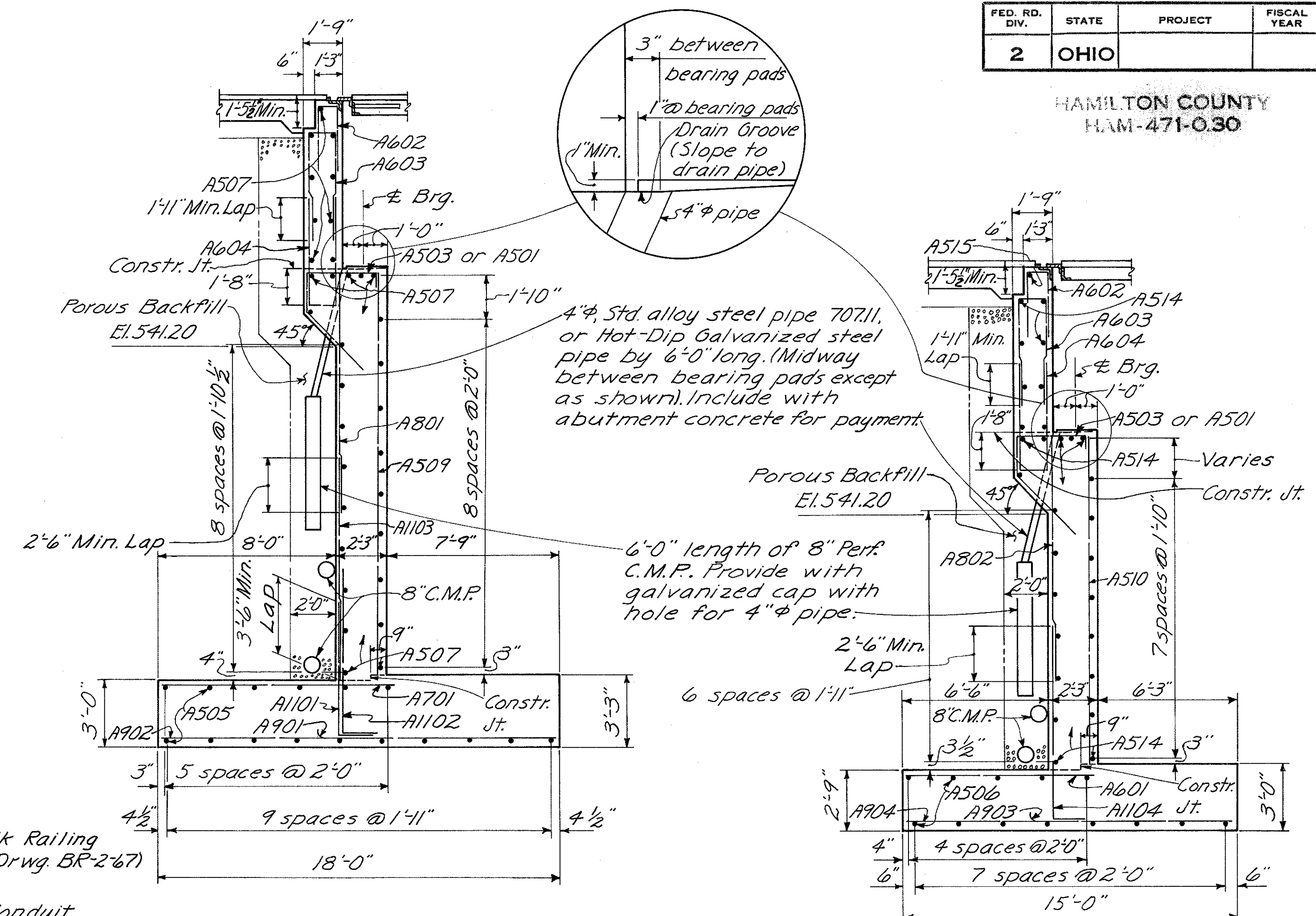
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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HAM-471-030

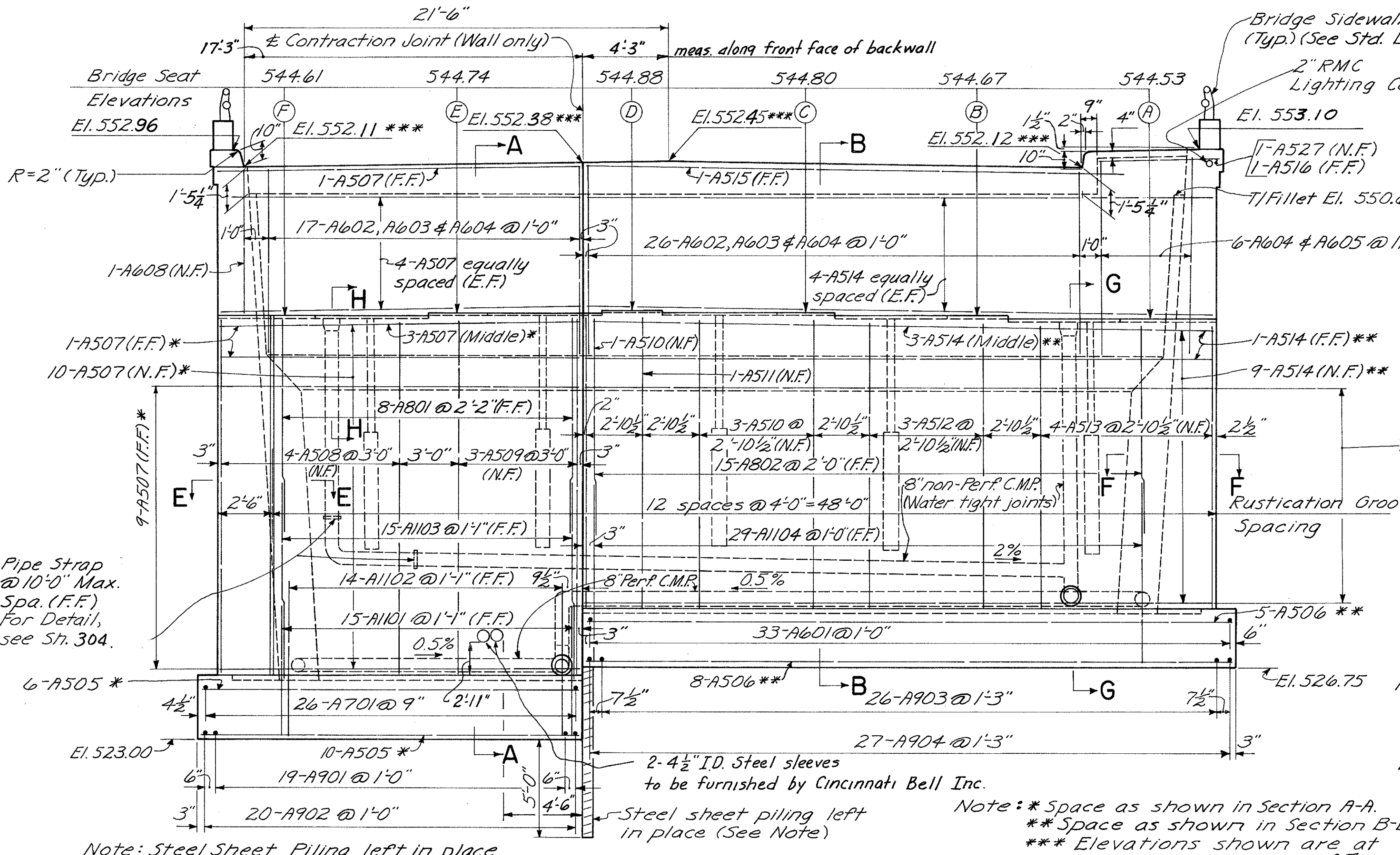


PLAN

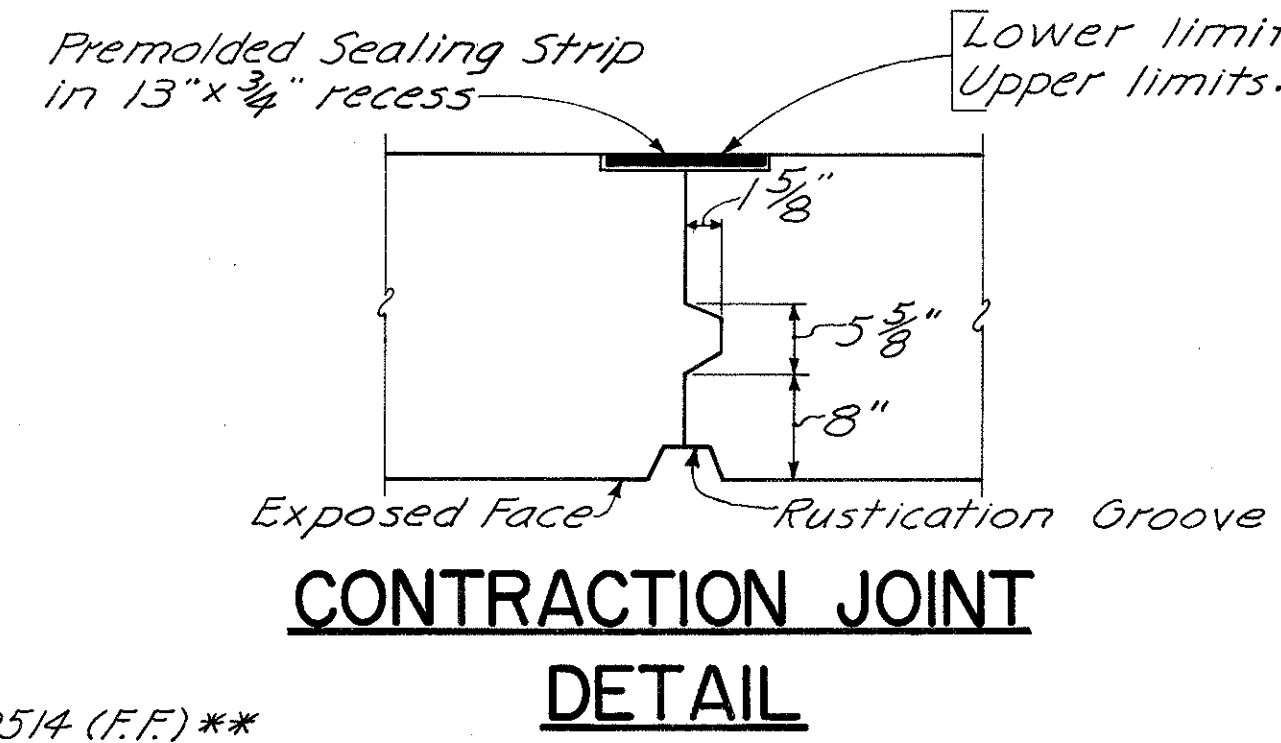


SECTION A-A

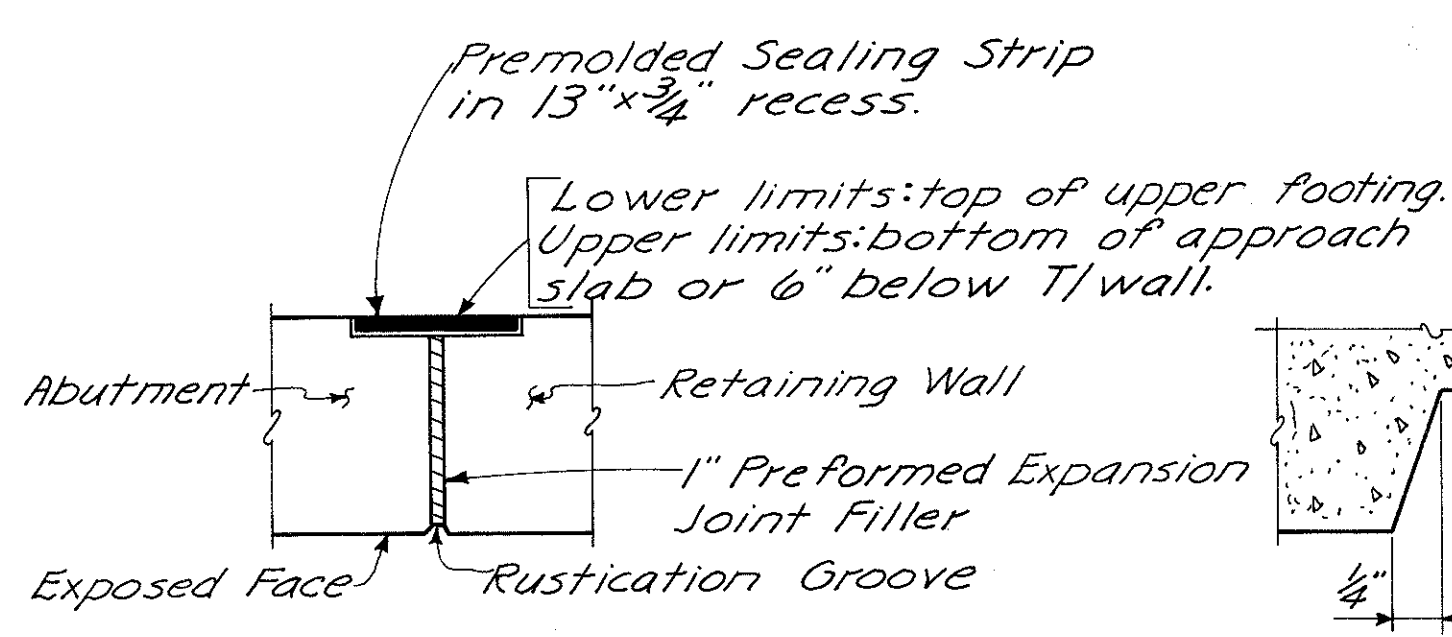
SECTION B-B



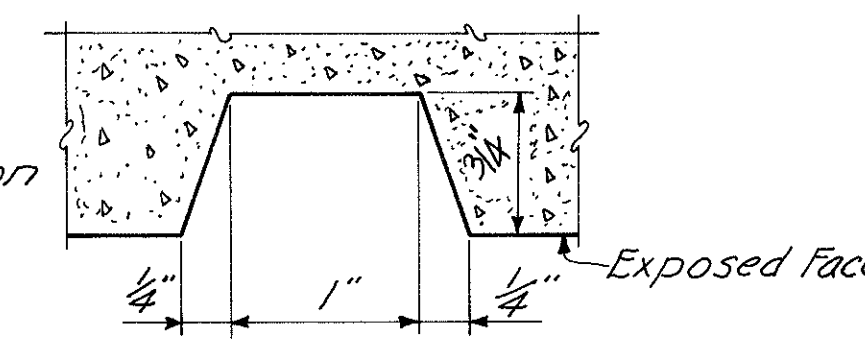
ELEVATION



CONTRACTION JOINT DETAIL



EXPANSION JOINT DETAIL



RUSTICATION GROOVE DETAIL

Notes: POROUS BACKFILL, 2'-0" thick outside back edge of Abutment and Wingwalls, shall extend up to the plane of the subgrade and laterally to the limits of the wingwalls as shown in plan.  
 N.F. denotes Near Face, F.F. denotes Far Face, and E.F. denotes Each Face.  
 For Wingwall Details, see Sh. 304.  
 For Sections E-E, F-F, G-G, and H-H, see Sh. 304.  
 For Roadway and Curb End Finish Details, see Sh. 325 and Std. Drwg. SD-1-69, Sh. No. 142.  
 Provide 3" clearance to reinforcing steel in footing, minimum.

Note: Steel Sheet Piling left in place shall have a minimum section modulus of 70 inch<sup>3</sup> per foot of wall. Used piling in good condition may be used.

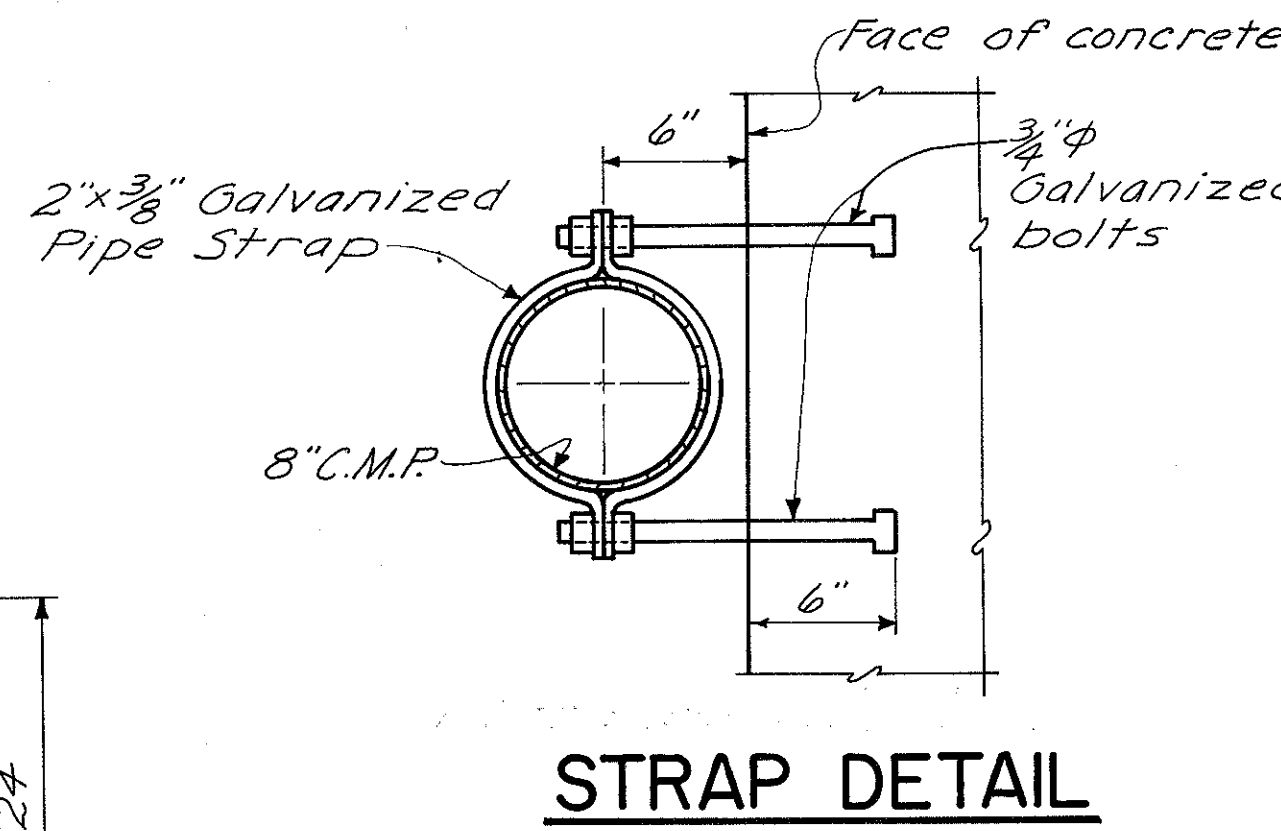
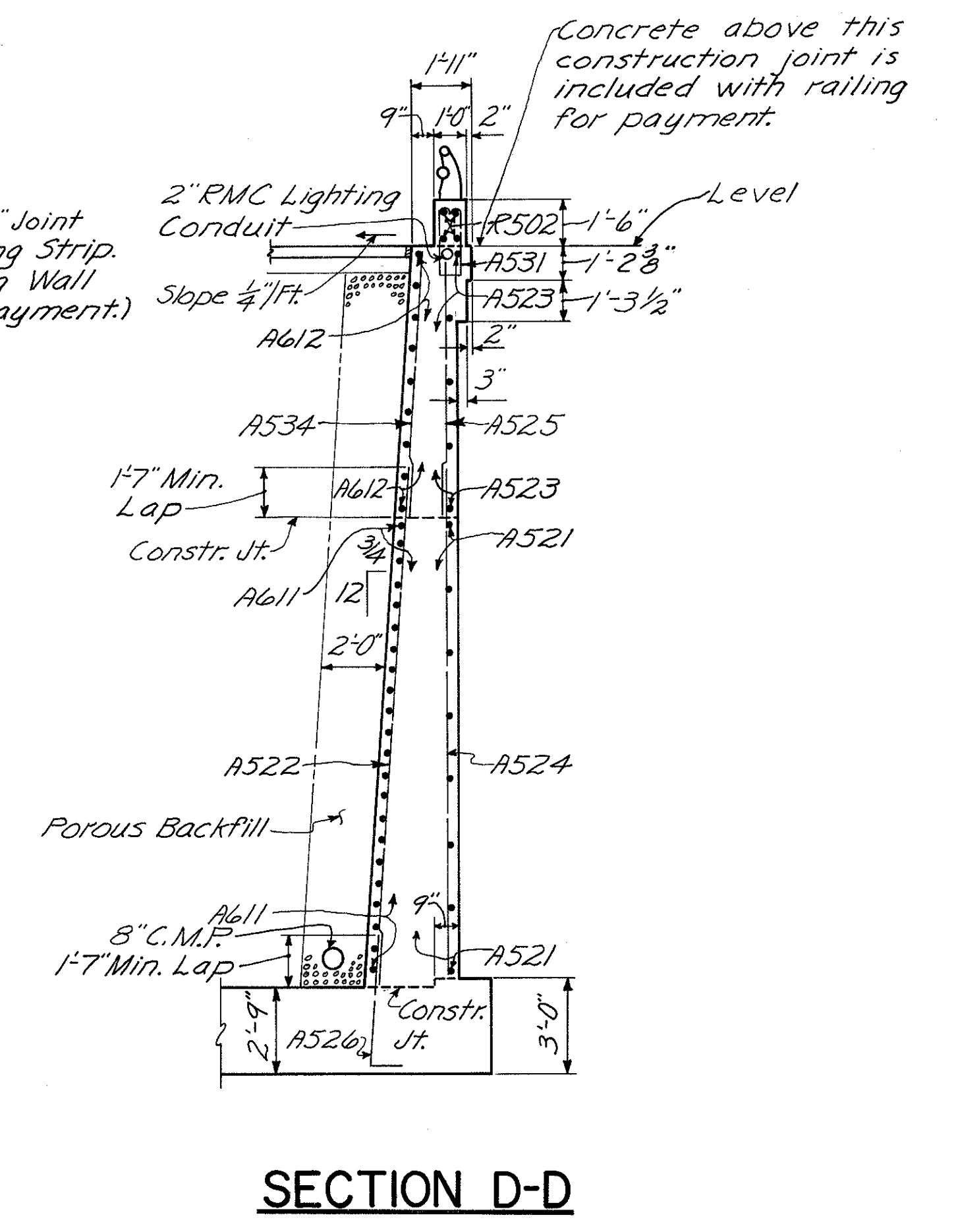
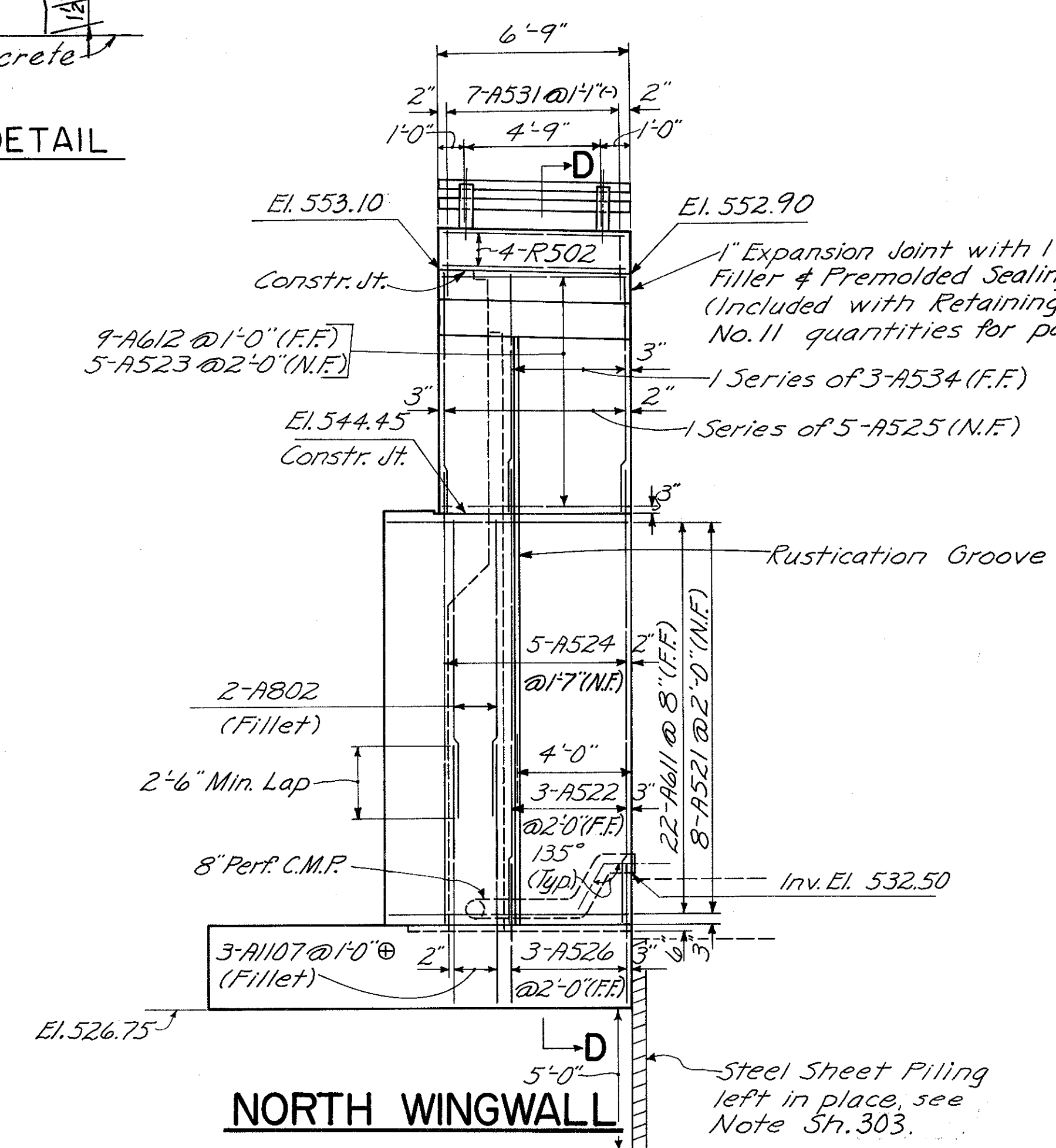
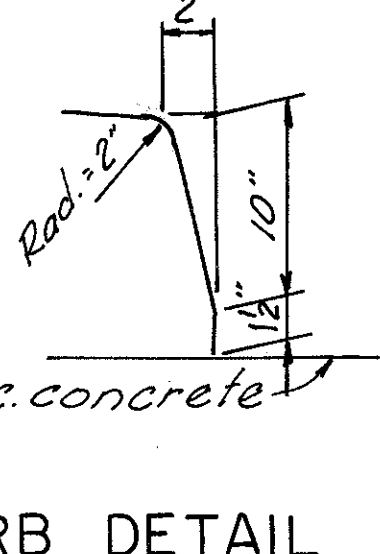
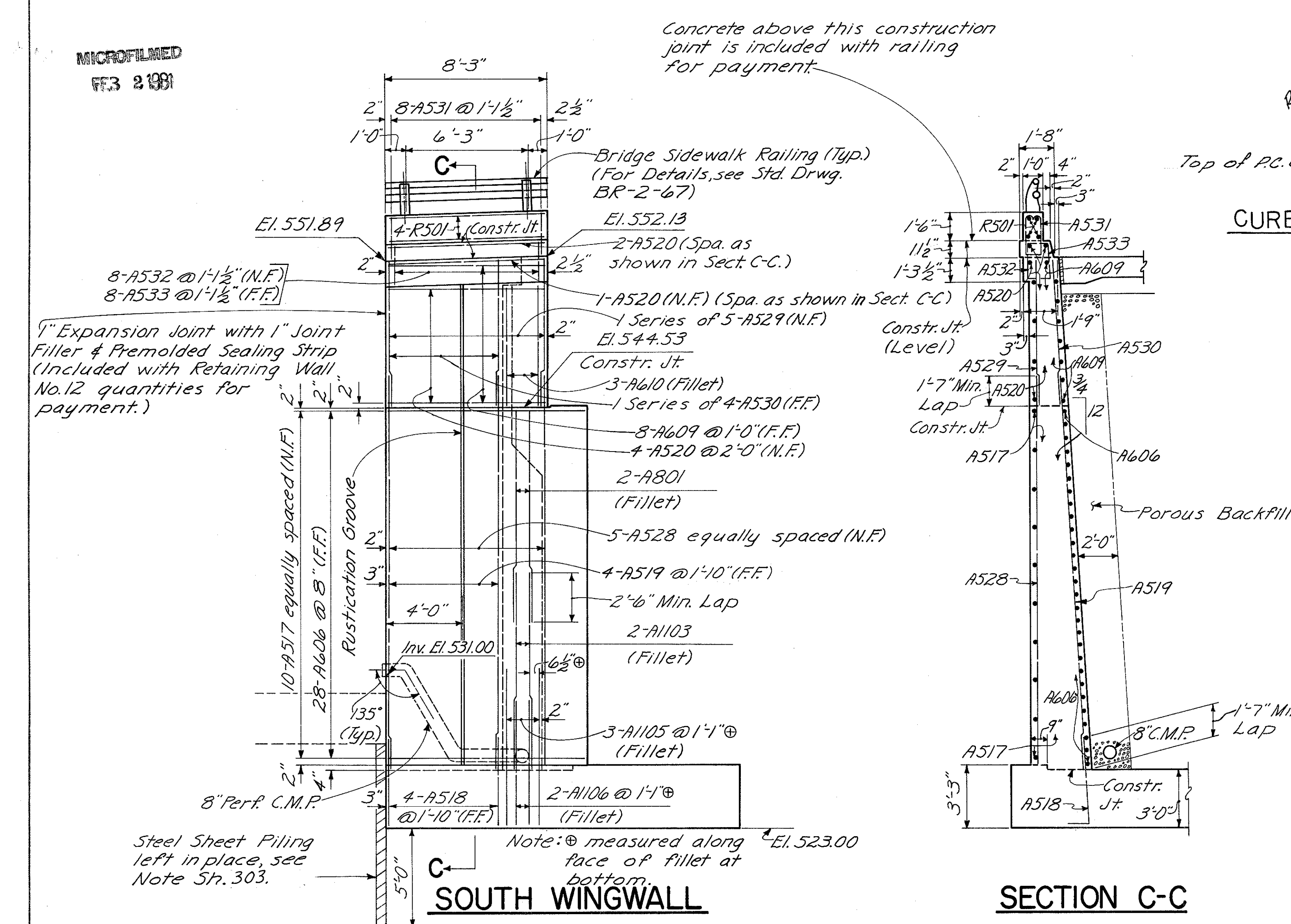
Note: \* Space as shown in Section A-A.  
 \*\* Space as shown in Section B-B.  
 \*\*\* Elevations shown are at Front Face of Backwall. (Top of steel, 1/4" below top of wearing surface course)

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				9/64
<b>REAR ABUTMENT</b>				
BRIDGE NO. HAM-471-0044				
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9				
DESIGNED WL	DRAWN CES	TRACED	CHECKED V.L. 1-10-72	REVIEWED DATE J.H.S. 11-13-72

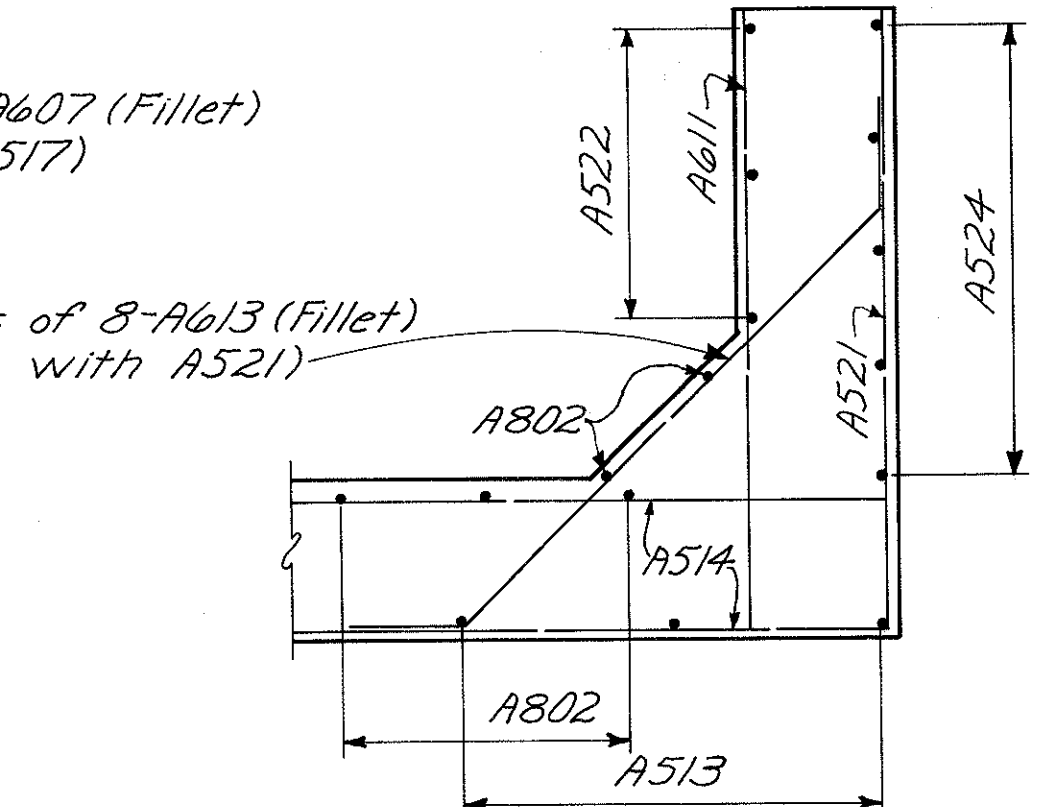
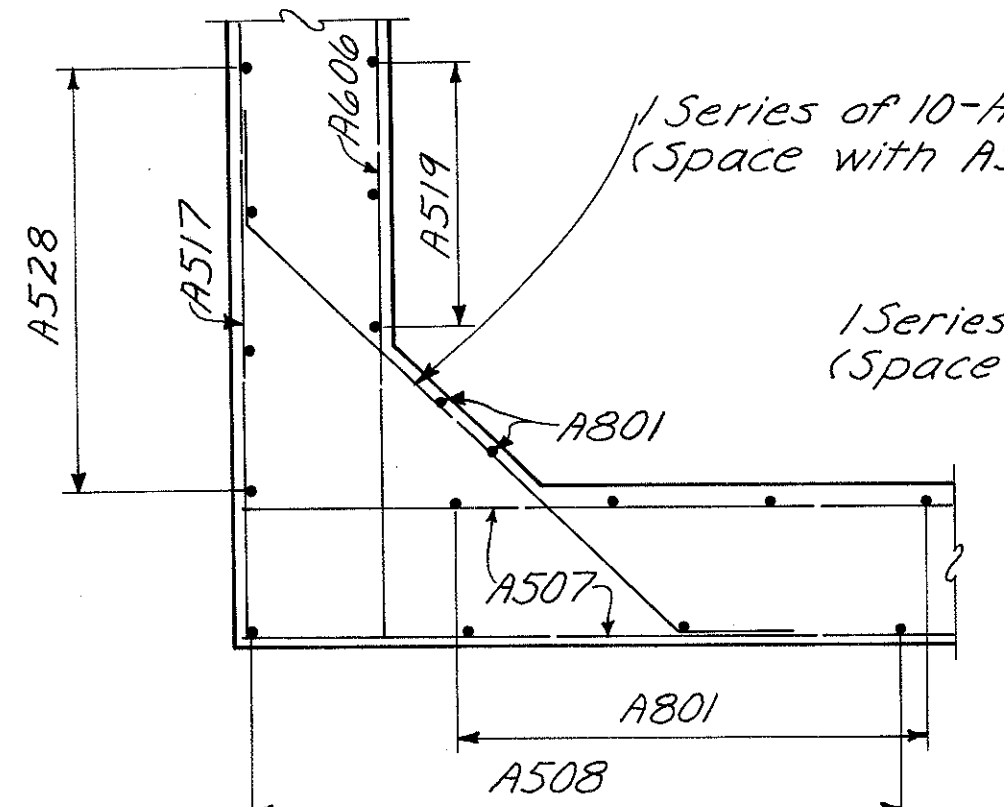
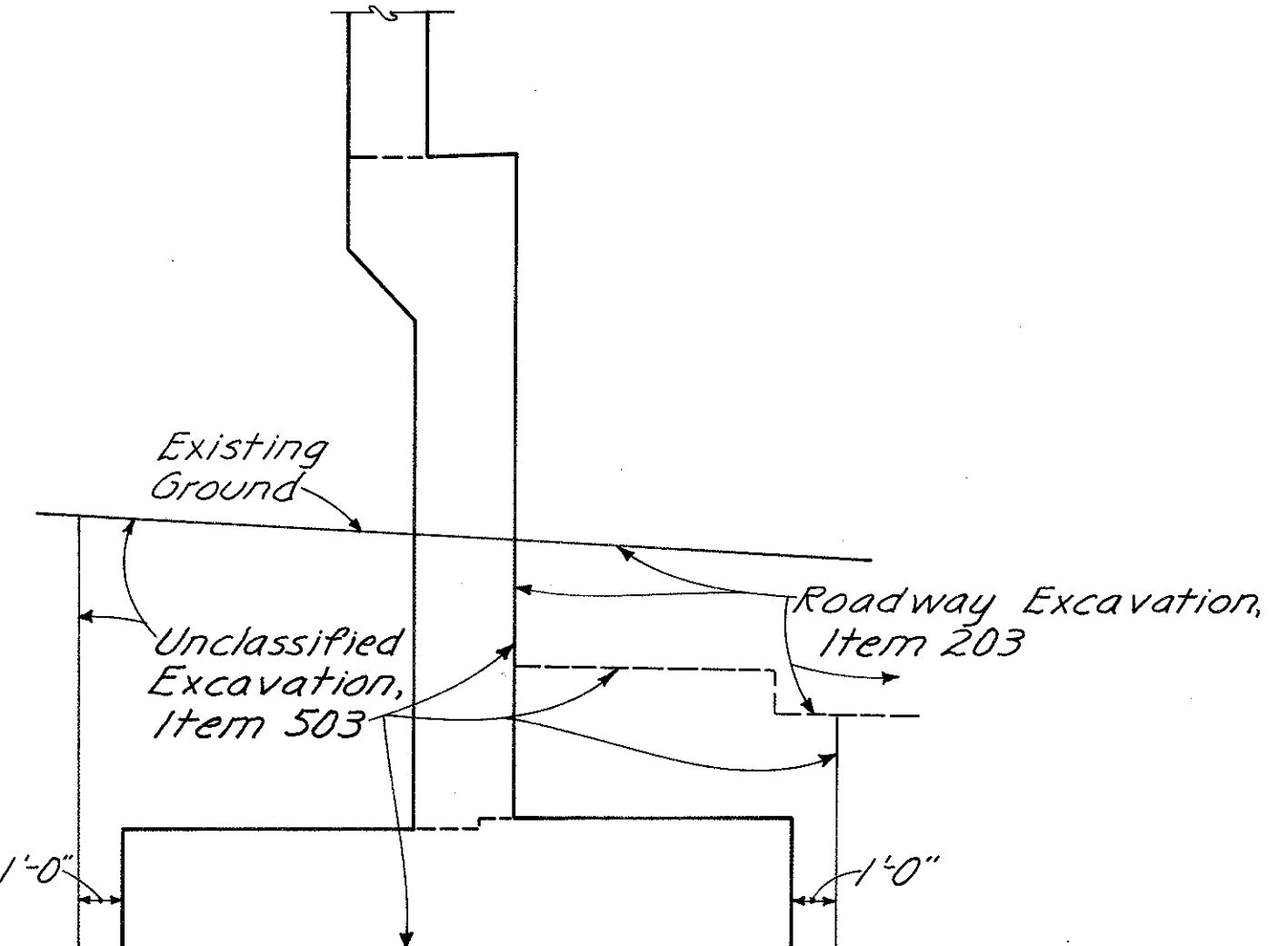
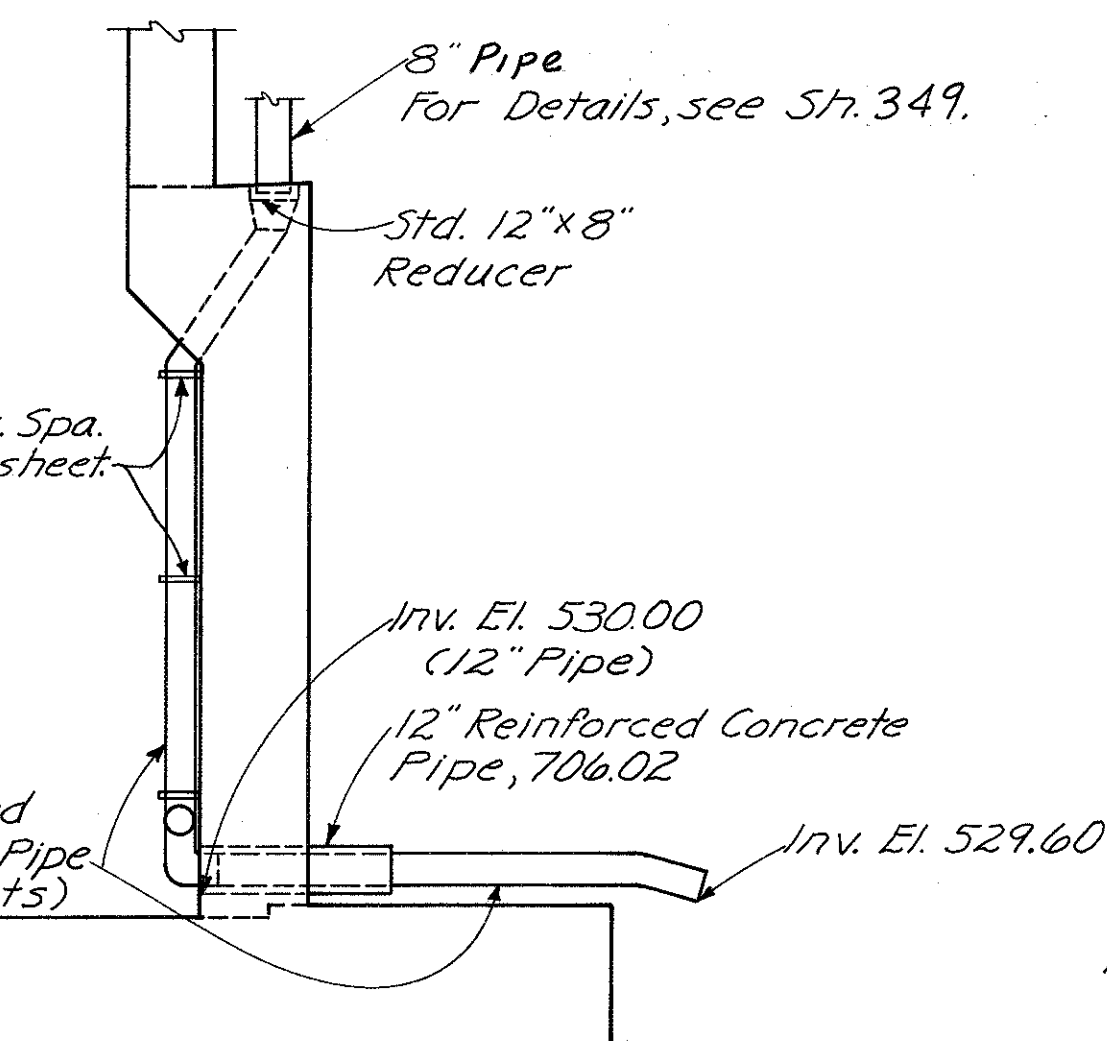


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FEB 2 1981

HAMILTON COUNTY  
HAM-471-030



For Notes, see Sh. 303.



HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

10/64

**REAR ABUTMENT**

BRIDGE NO. HAM-471-0044

SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVIEWED
W.L.	CES		W.L.	JH	
			1-10-72	11-13-72	

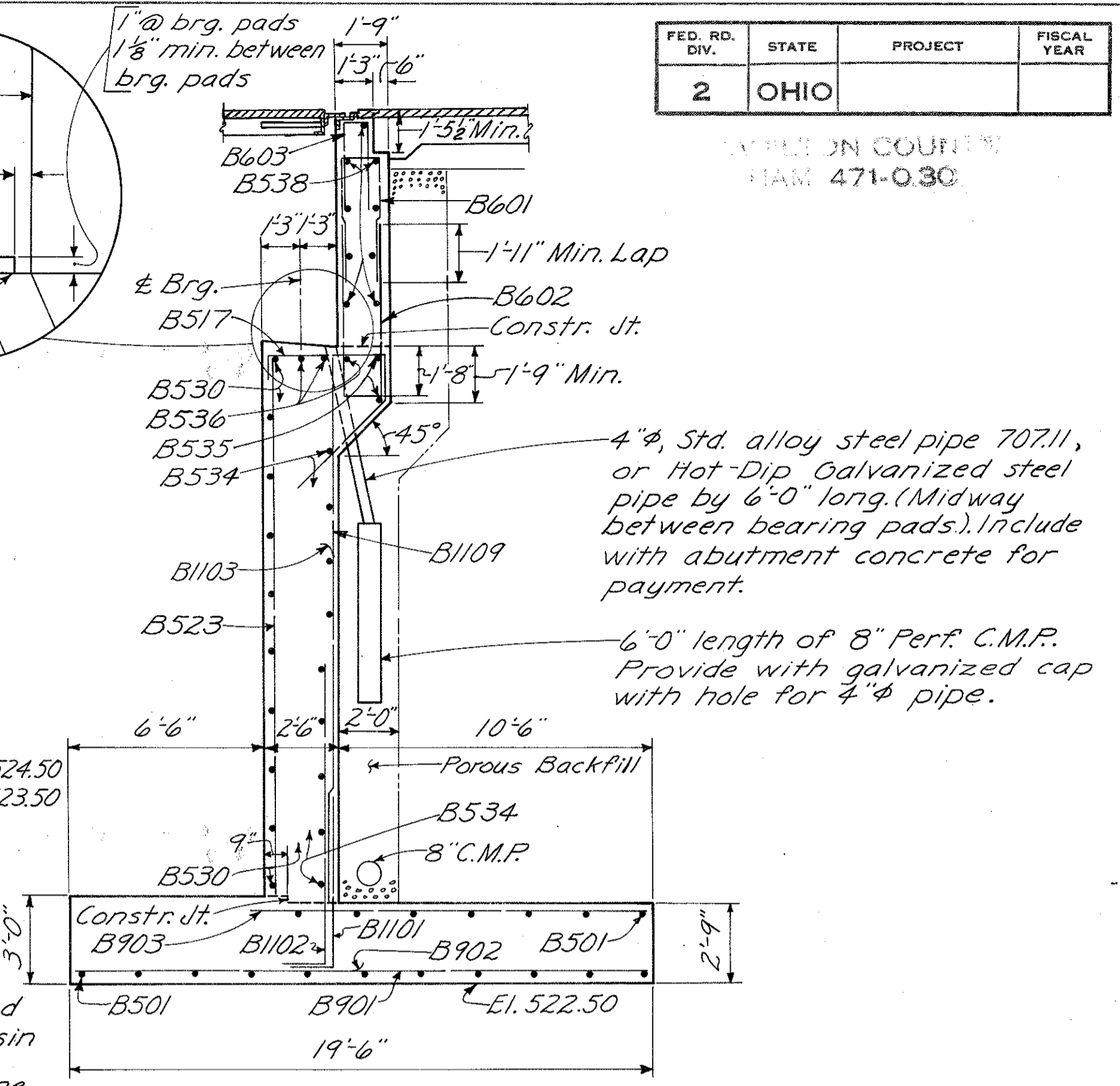
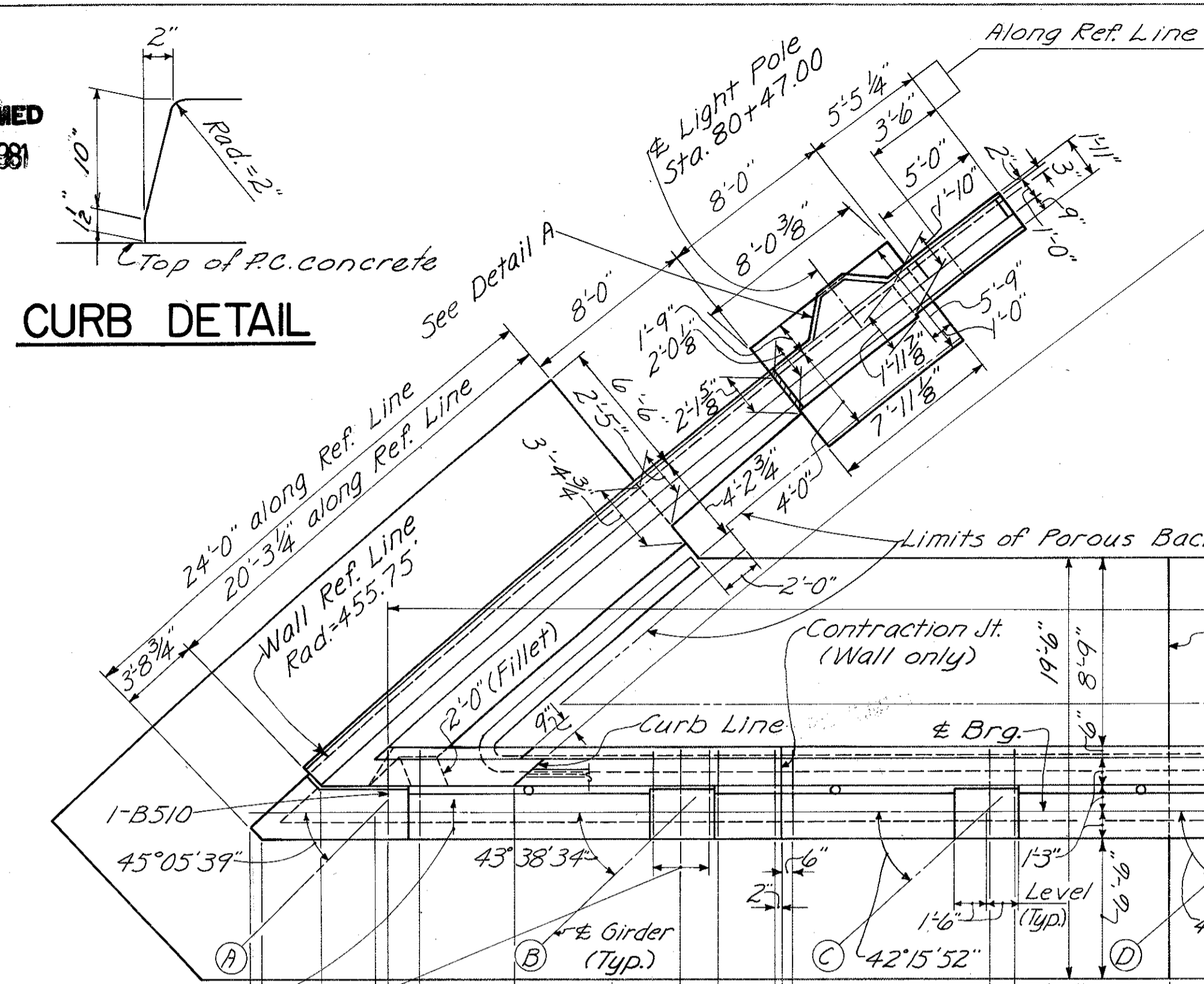
MICROFILMED  
FEB 2 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

305  
494

STATE OF OHIO  
HAM 471-0-30

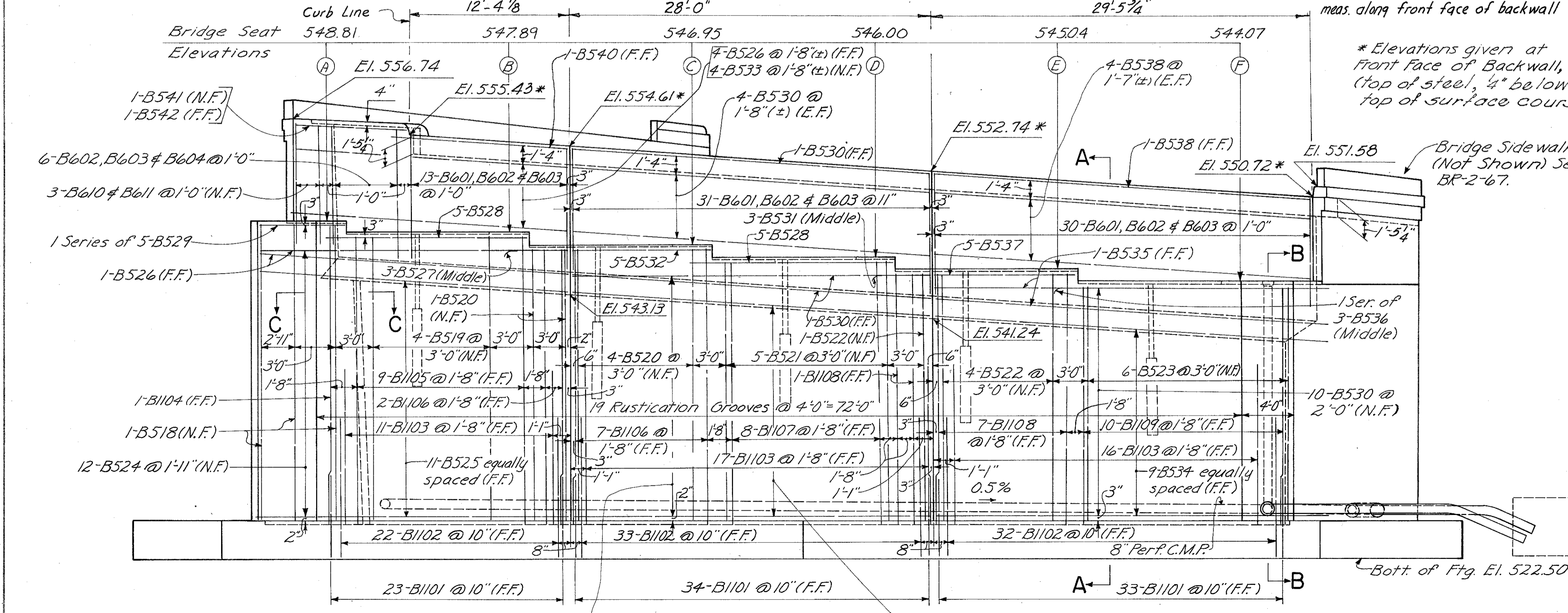
**CURB DETAIL**



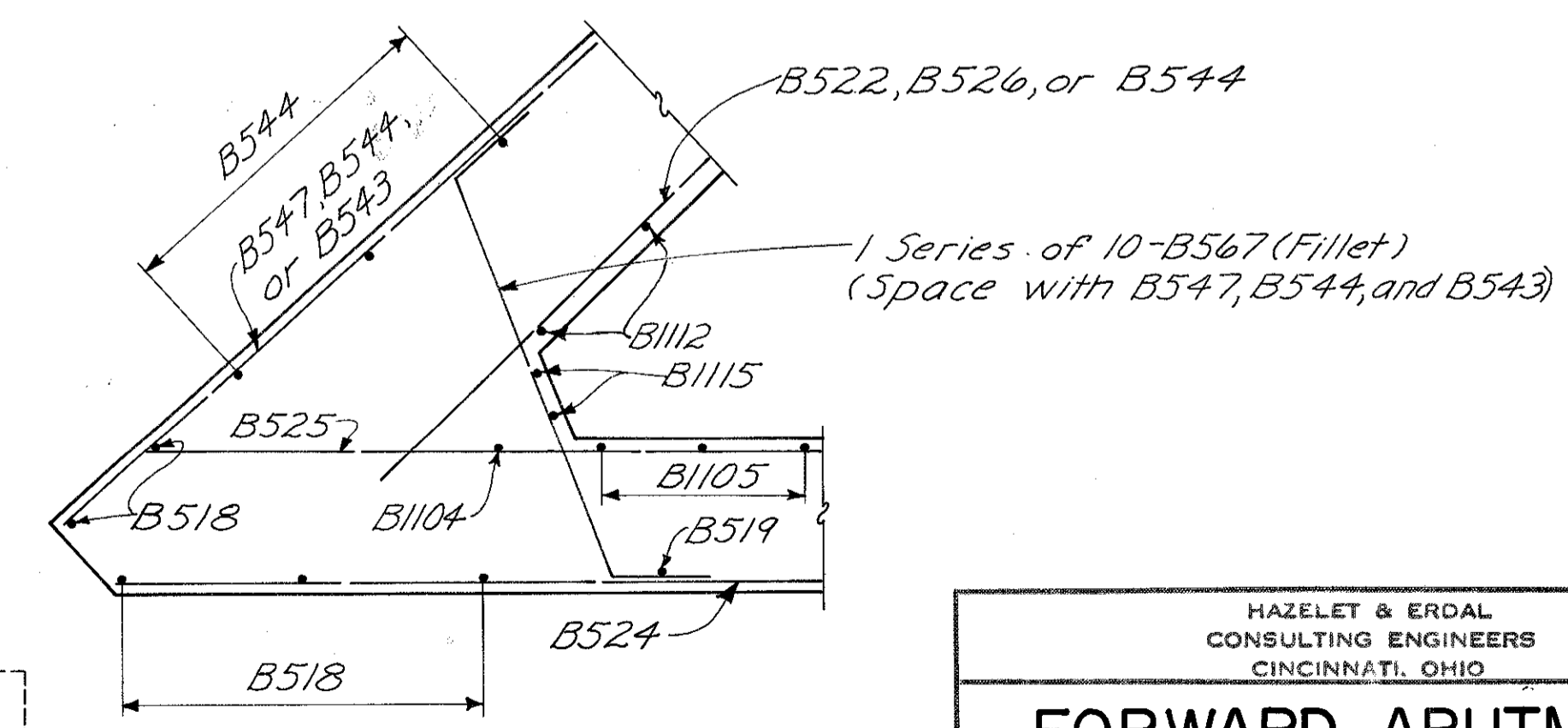
**SECTION A-A**

Notes: POROUS BACKFILL, 2'-0" thick outside back edge of Abutment and Wingwalls, shall extend up to the plane of the subgrade and laterally to the limits of the wingwalls as shown in plan. N.F. denotes Near Face, F.F. denotes Far Face, E.F. denotes Each Face. Provide 3" clearance to reinforcing steel in footing, minimum. For Detail A, see Sh. 306. For Wingwall Details, see Sh. 306 & 307. For Section B-B, see Section G-G Sh. 304 for similar details. For Contraction Joint Detail, Expansion Joint Detail, and Rustication Groove Detail, see Sh. 303. For Footing Plan, see Sh. 306. For Roadway and Curb End Finish Details, see Std. Drwg. SD-1-69, Sh. No. 142, and Section K-K on sheet 325. For Light Pole Details, see Sh. No. 306. For Typical Lighting Details, see Sh. 154. Work this Drwg. with Lighting Plan, Sh. No. 146.

**PLAN**



**ELEVATION**



**SECTION C-C**

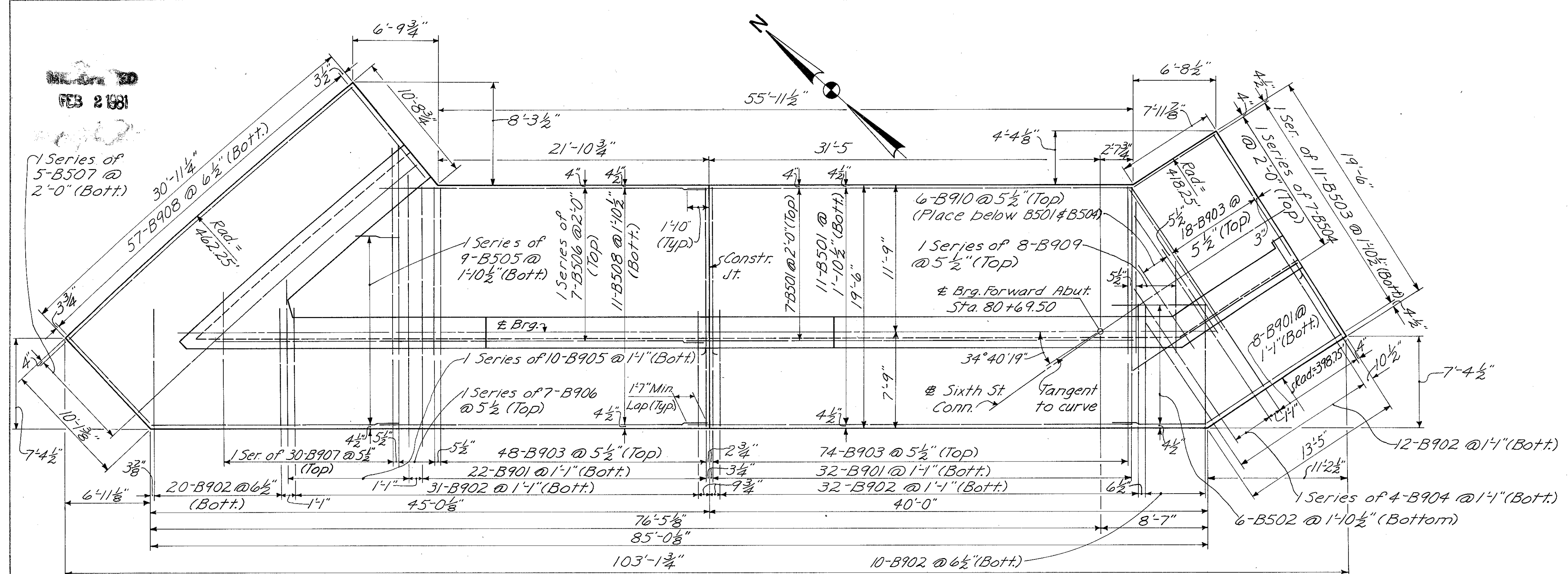
HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

11/64

**FORWARD ABUTMENT**  
BRIDGE NO. HAM-471-0-44  
SIXTH STREET CONNECTION OVER  
SOUTHBOUND I-471 H&E BRIDGE NO.9

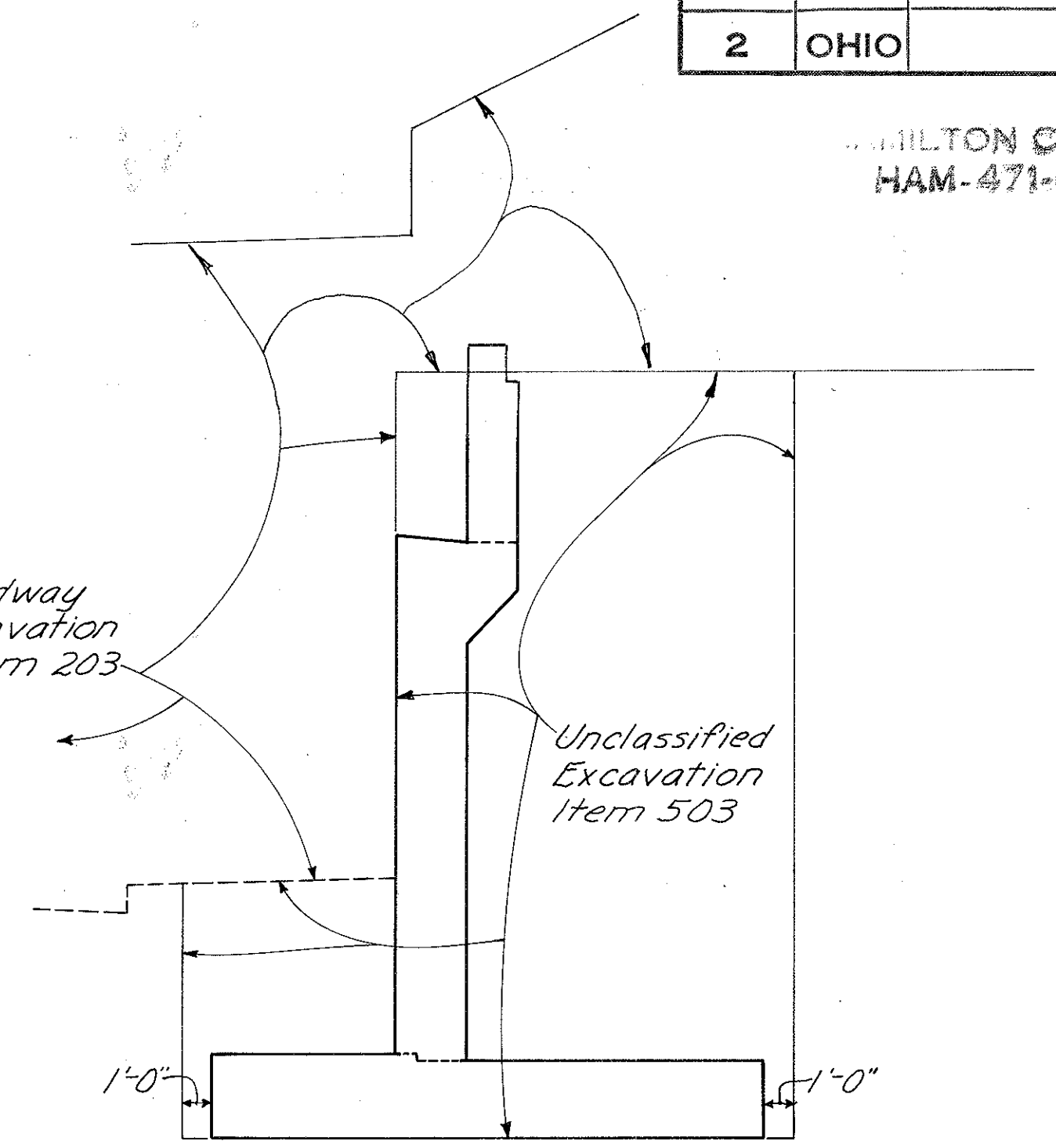
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CES		W.L.	J.H.	
			1-14-72	11-15-72	

HAMILTON COUNTY  
HAM-471-0.30

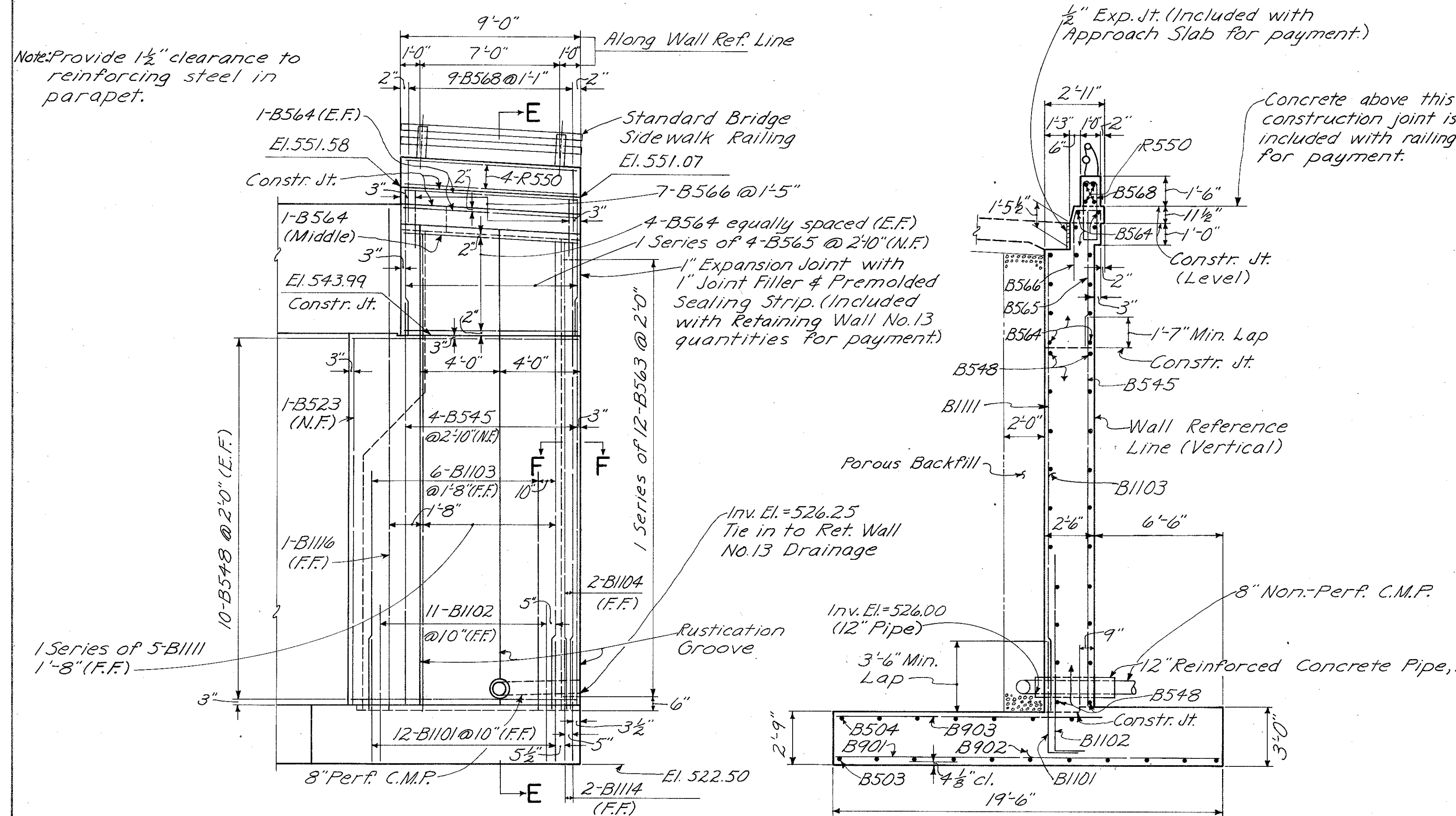


**FOOTING PLAN**

Roadway  
Excavation  
Item 203

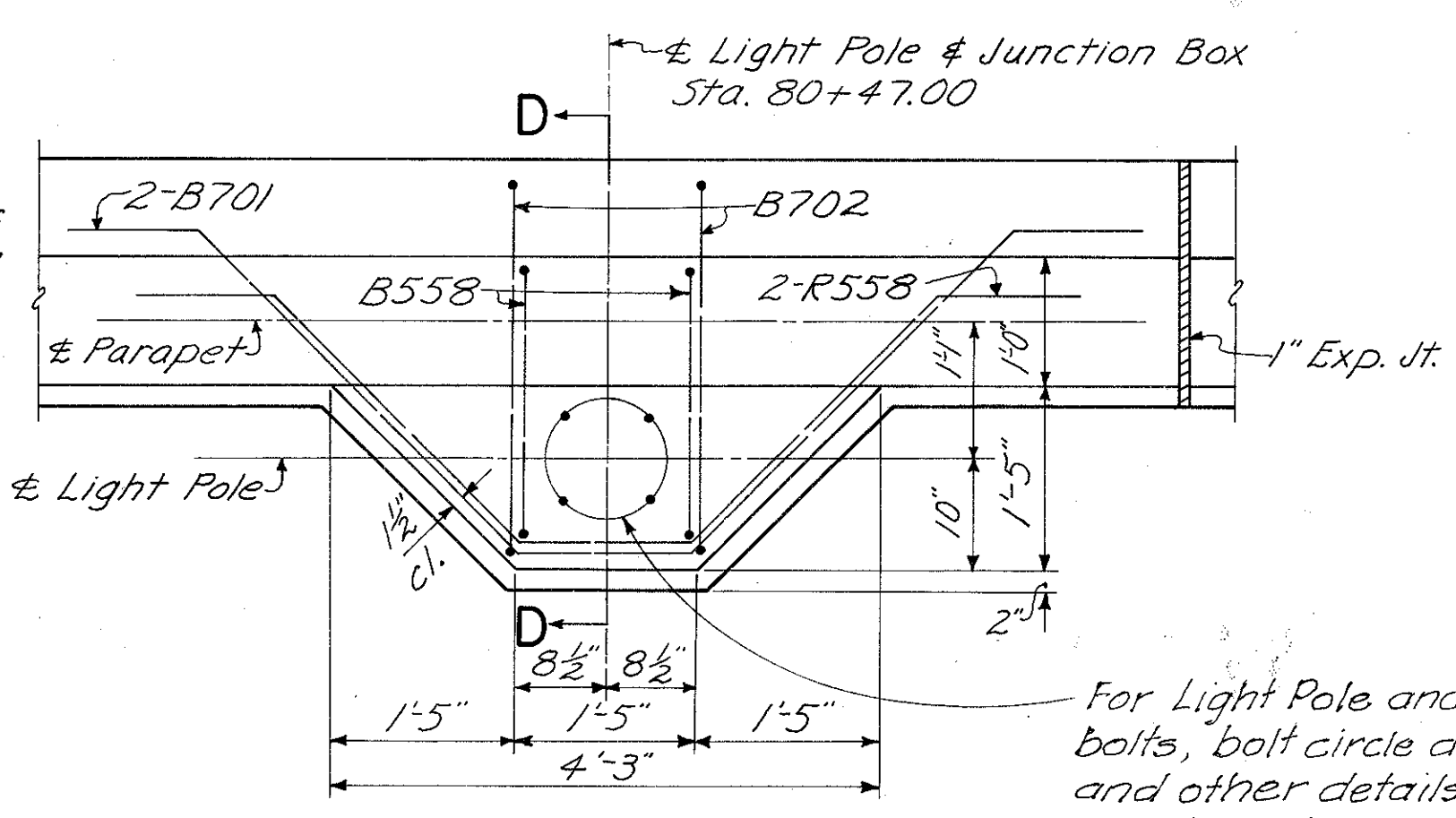


**TYPICAL EXCAVATION SECTION**

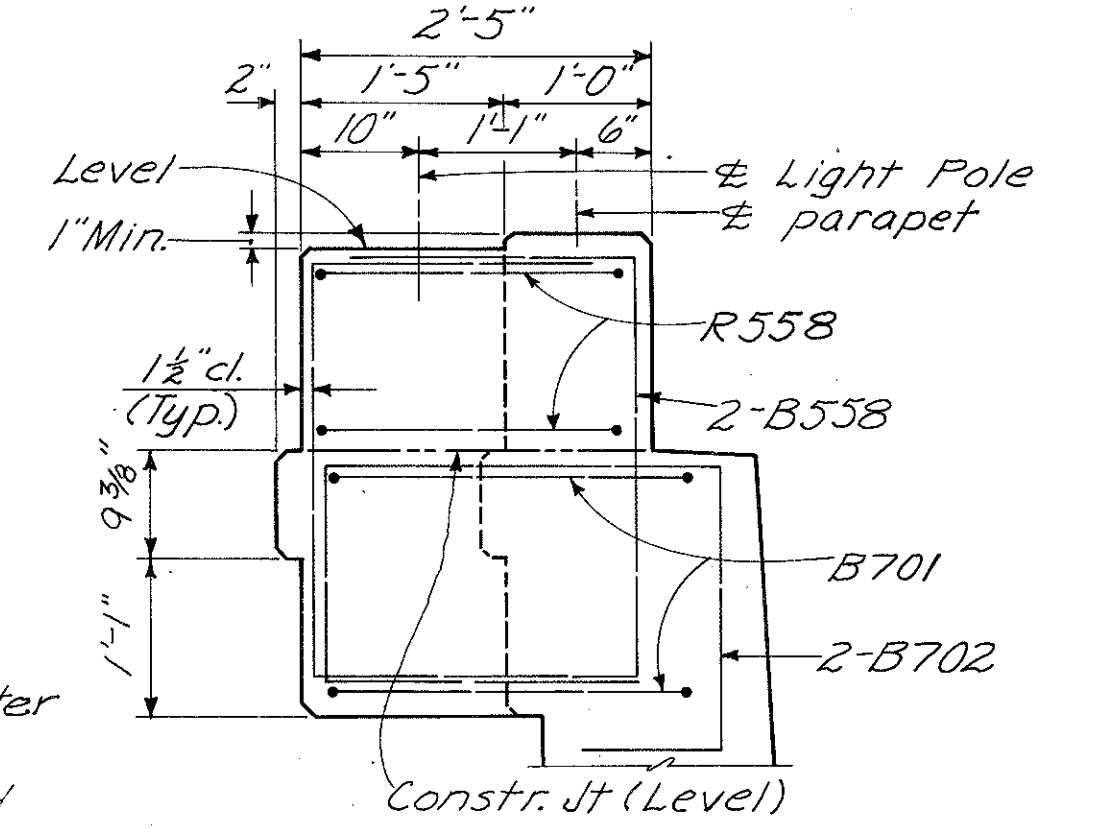


**SOUTH WINGWALL ELEVATION**

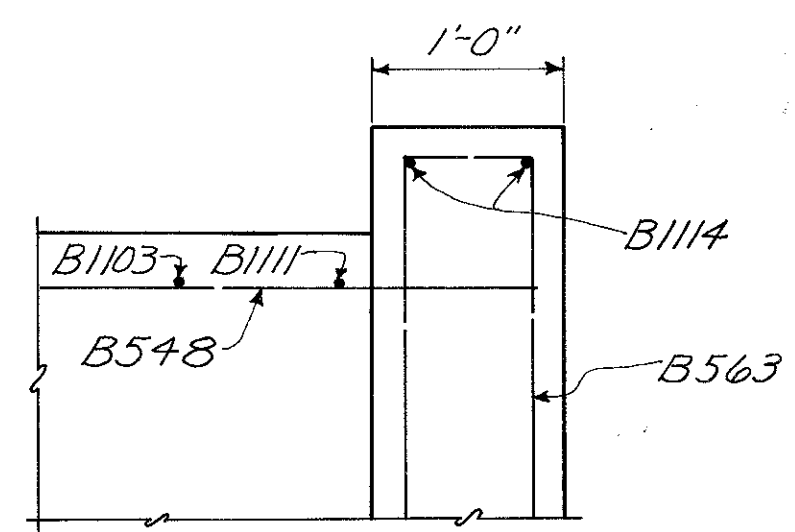
**SECTION E-E**



**DETAIL A**



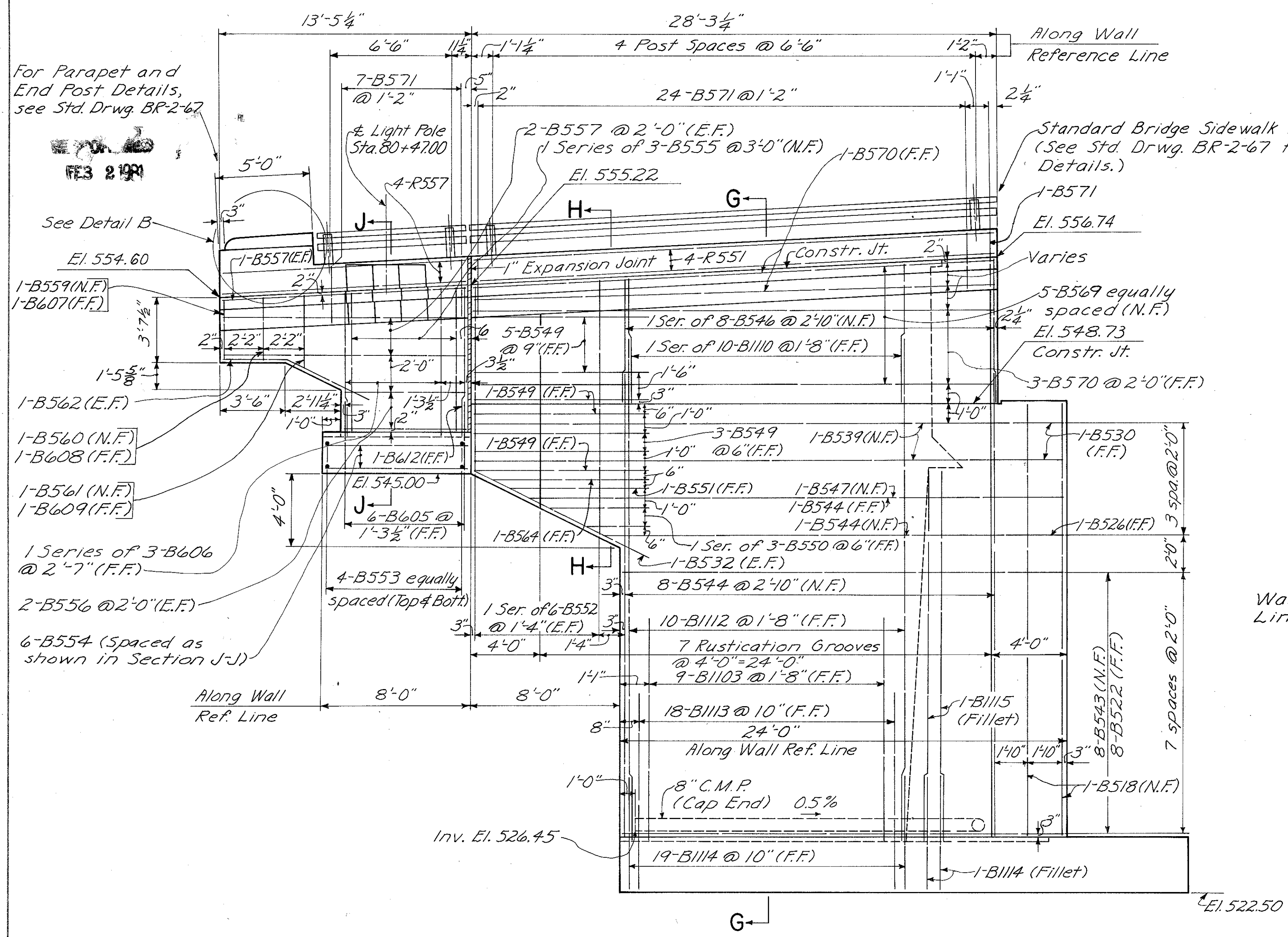
**SECTION D-D**



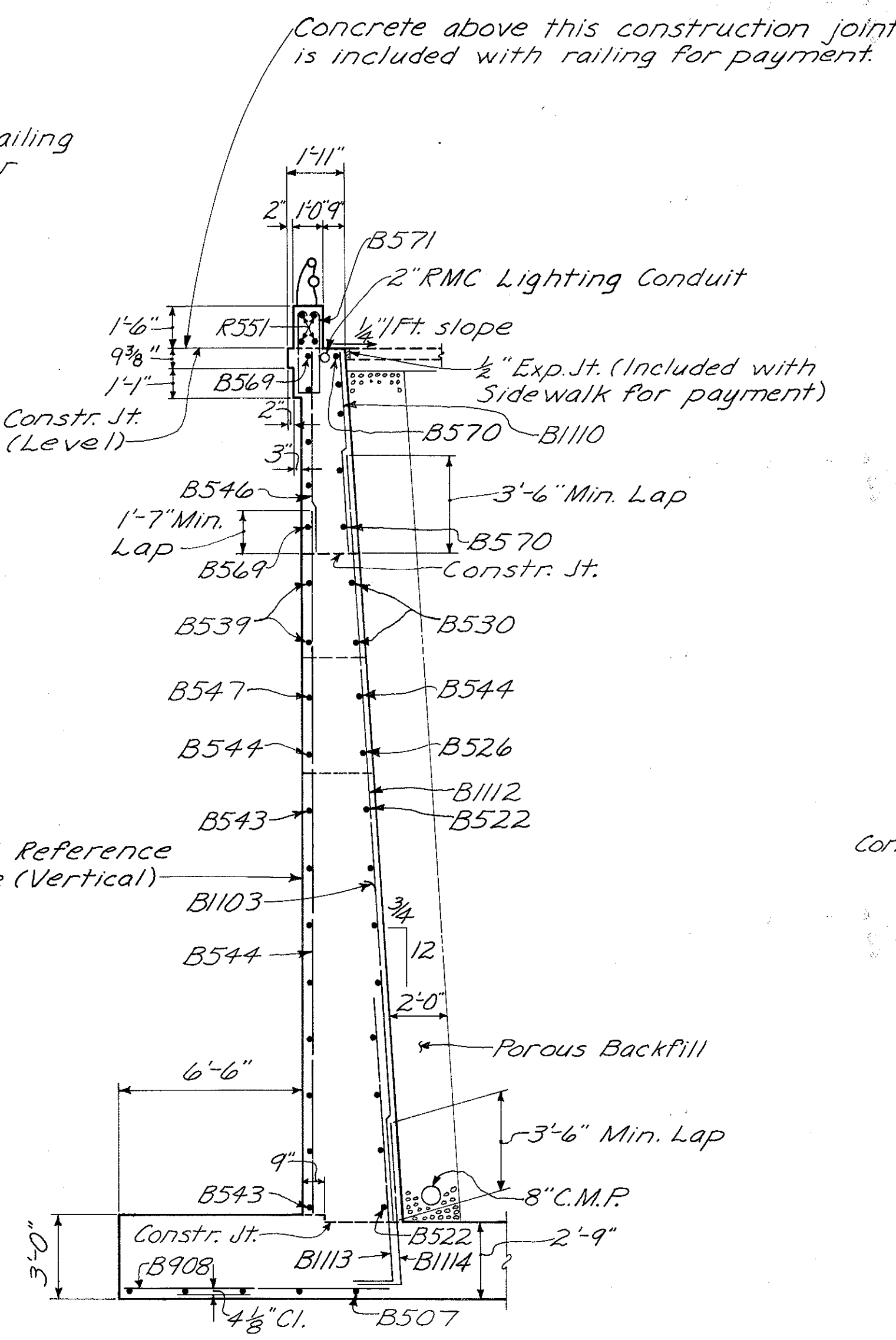
**SECTION F-F**

For Notes, see Sh. 305.

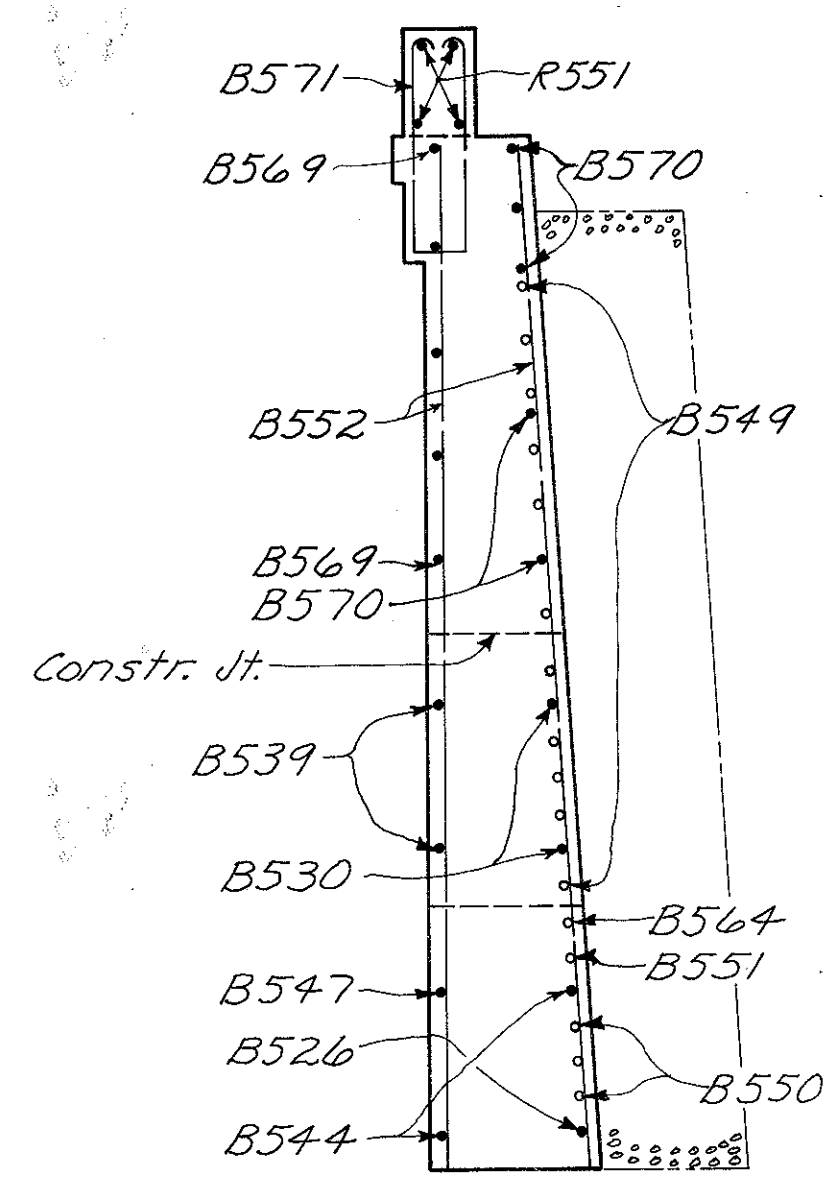
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					12/64
<b>FORWARD ABUTMENT</b>					
BRIDGE NO. HAM-471-0044					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9					
DESIGNED WL	DRAWN CES	TRACED	CHECKED W.L.	REVIEWED DATE JHO 11-13-72	REVISED



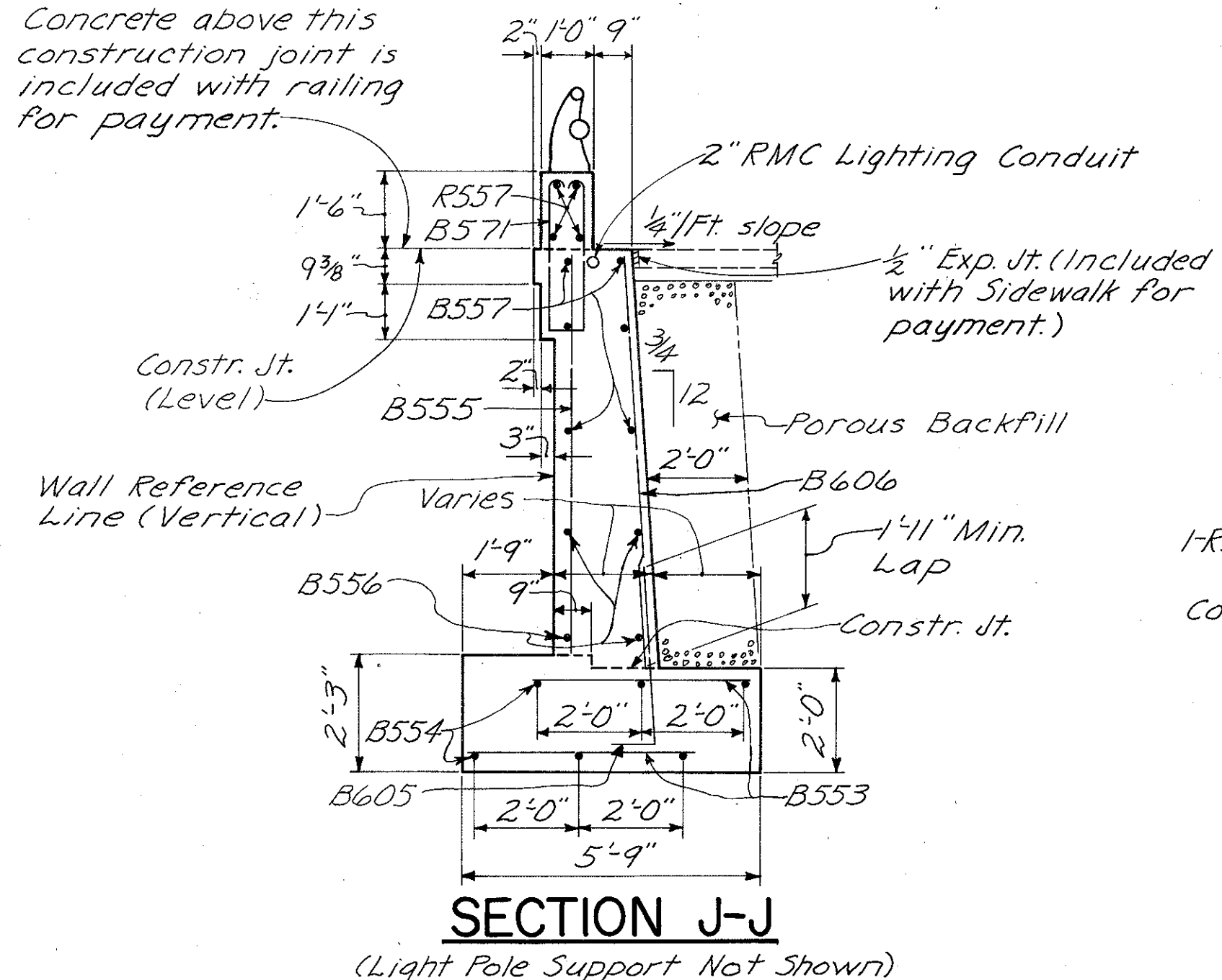
**NORTH WINGWALL ELEVATION**



**SECTION G-G**

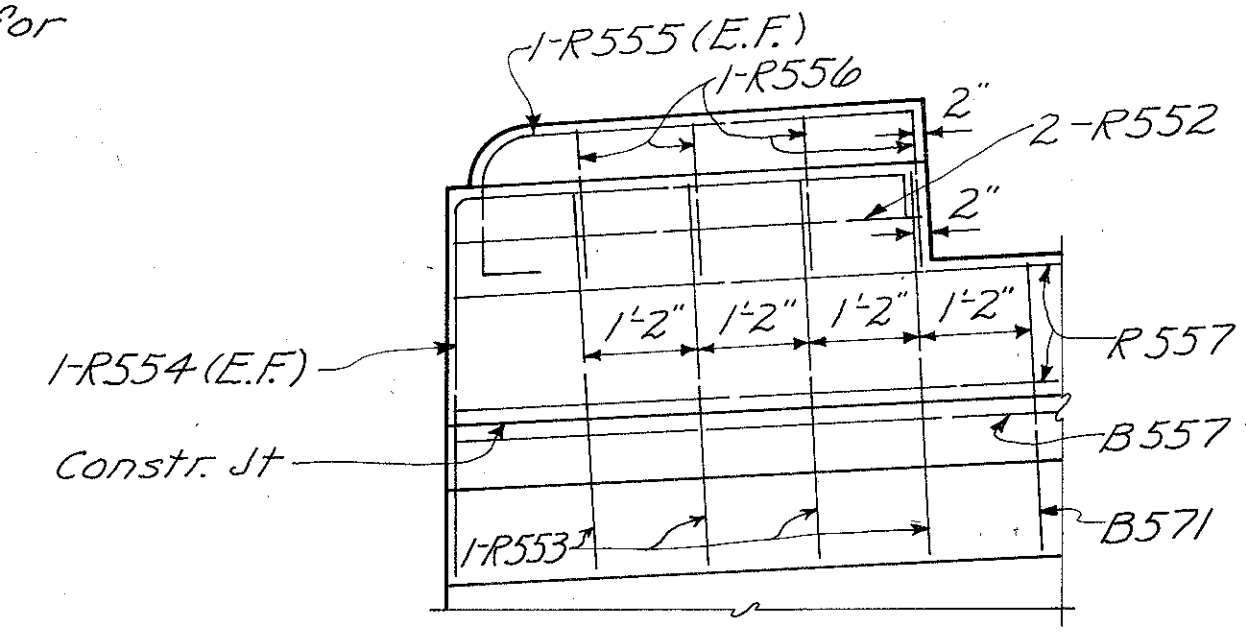


**SECTION H-H**



**SECTION J-J**

(Light Pole Support Not Shown)

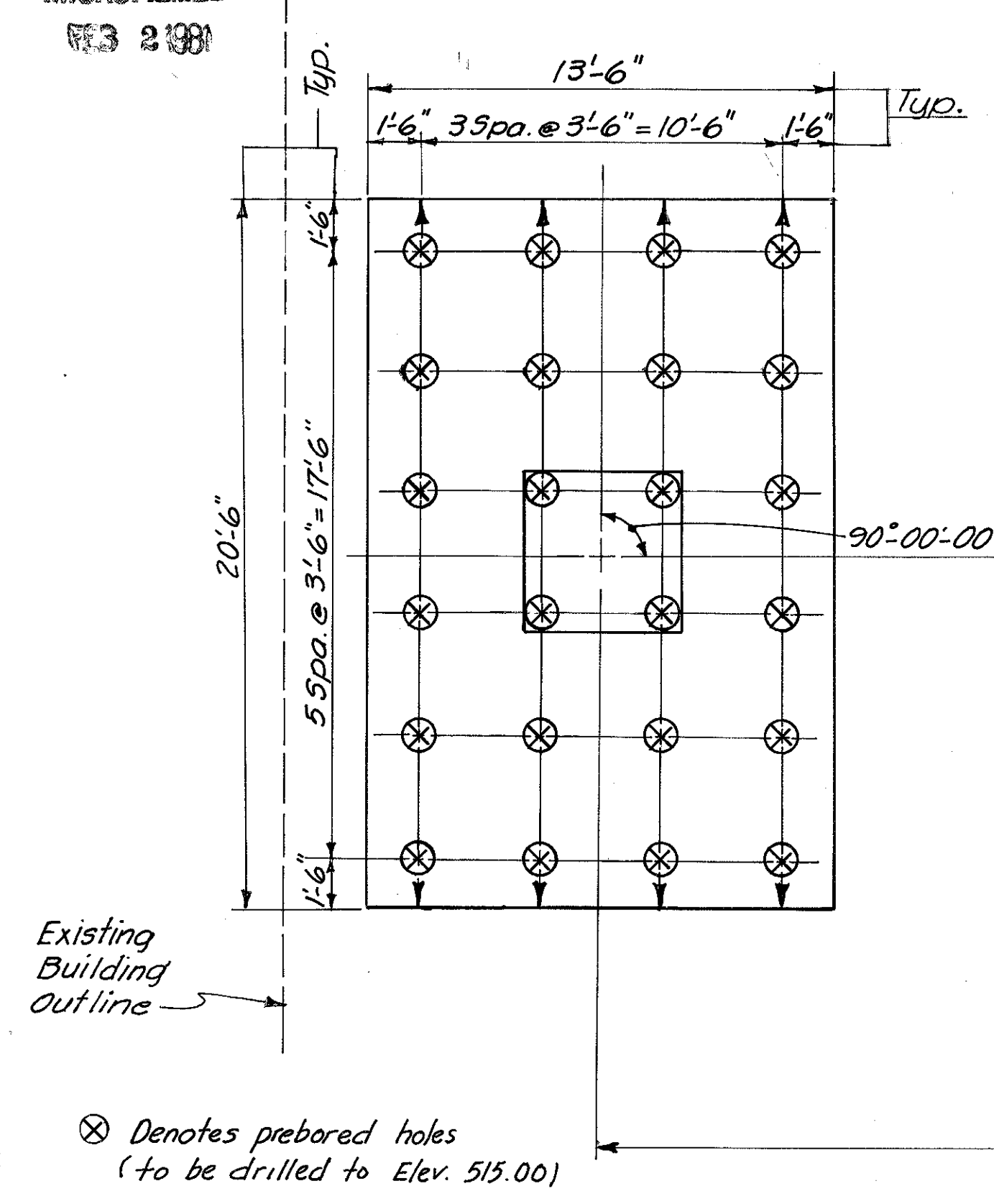


**DETAIL B**

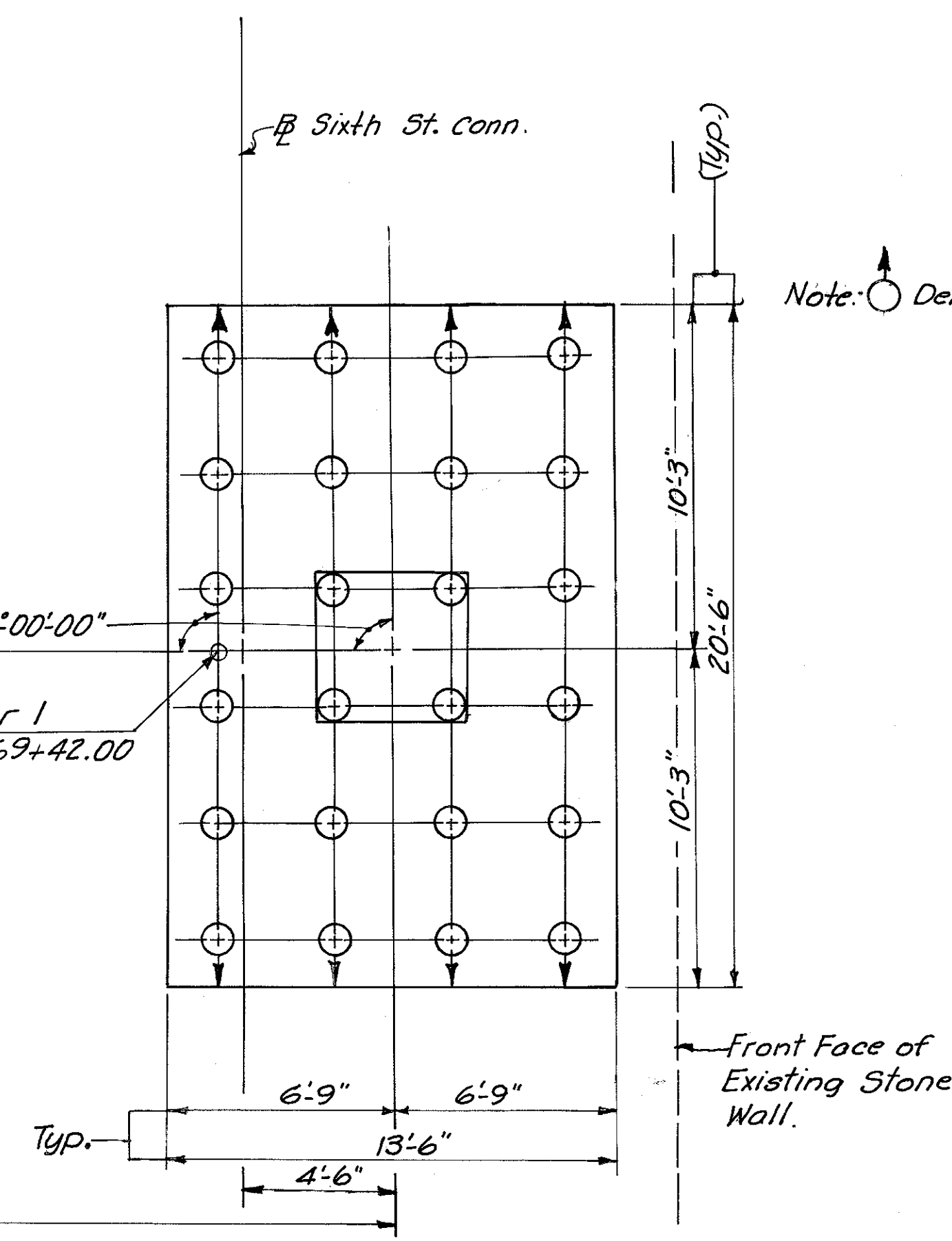
For Notes, see Sh. 305.

HAZELT & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				13/64
<b>FORWARD ABUTMENT</b>				
BRIDGE NO. HAM-471-0044				
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
WL	CE5		WV2	JH6
			1-14-72	11-13-72

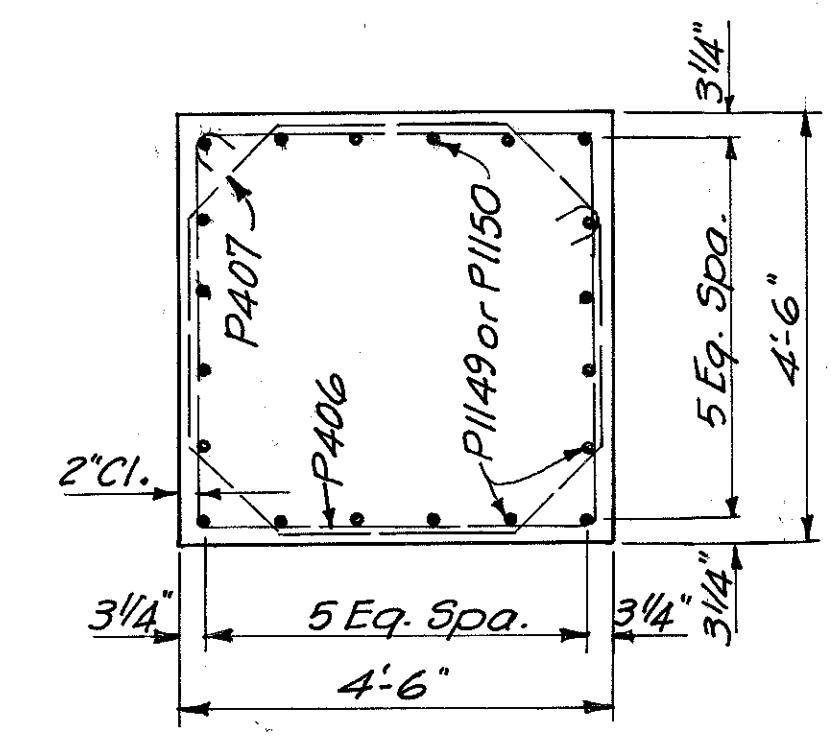
MICROFILMED  
REF 21981



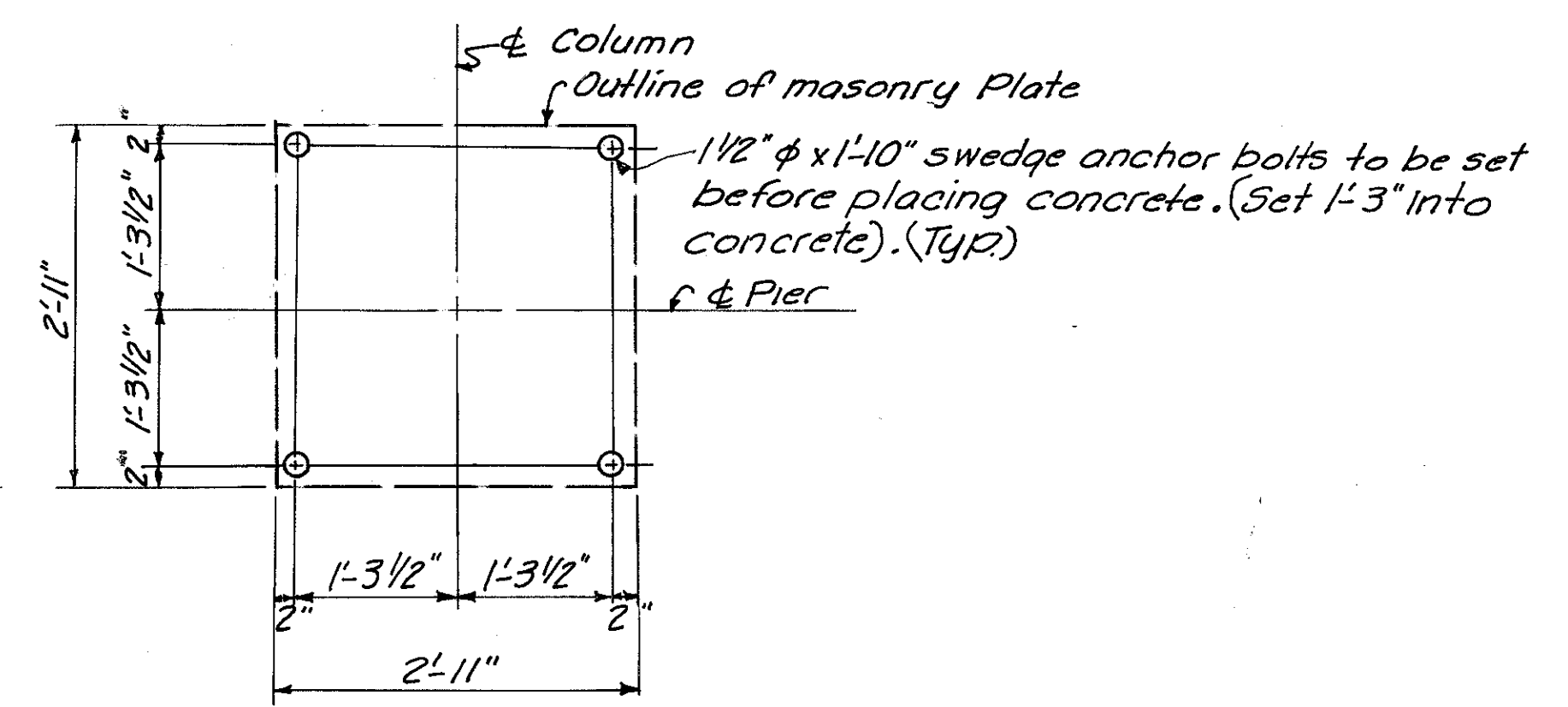
PLAN



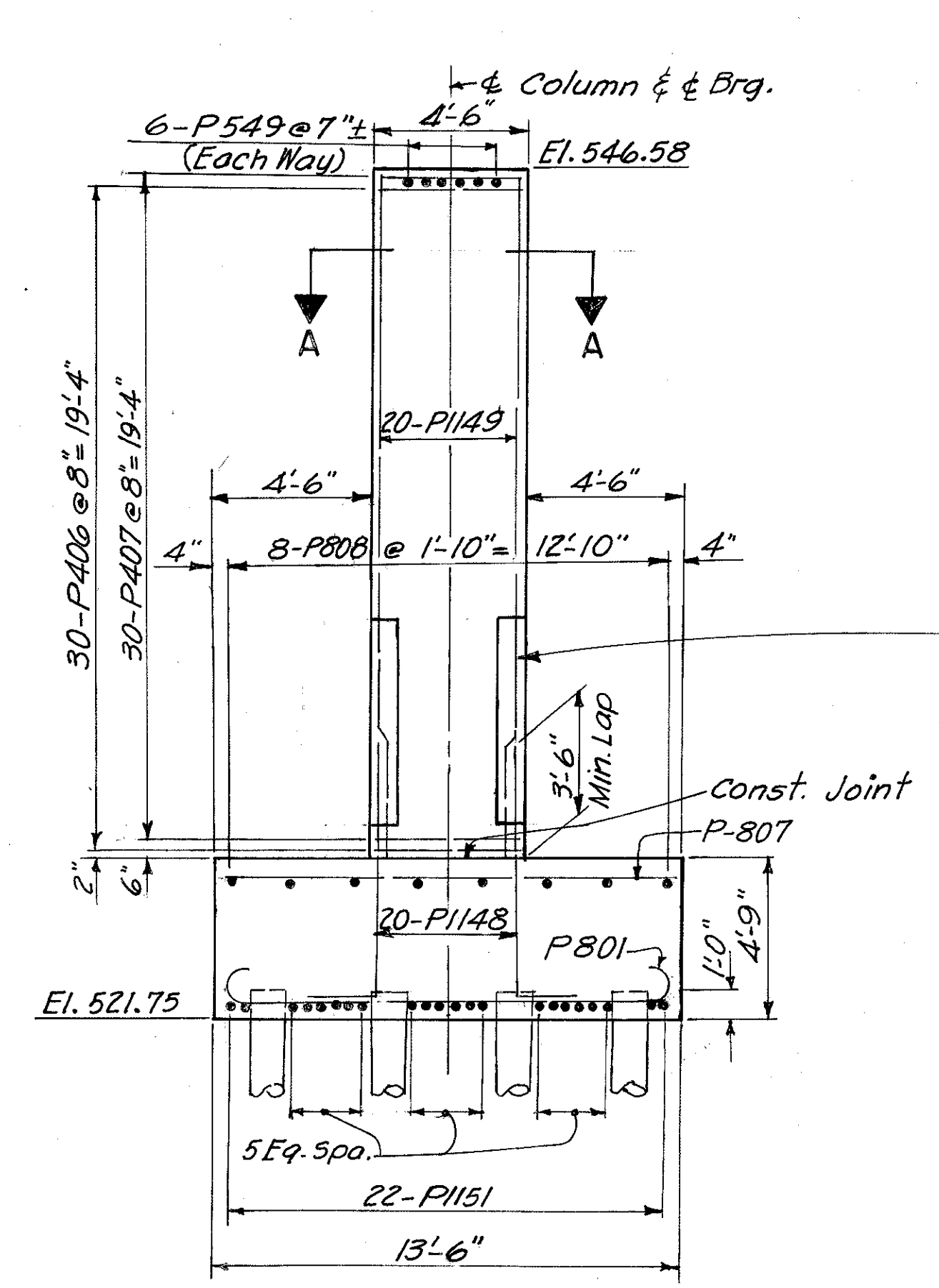
Note: ⊙ Denotes battered Pile



SECTION A-A

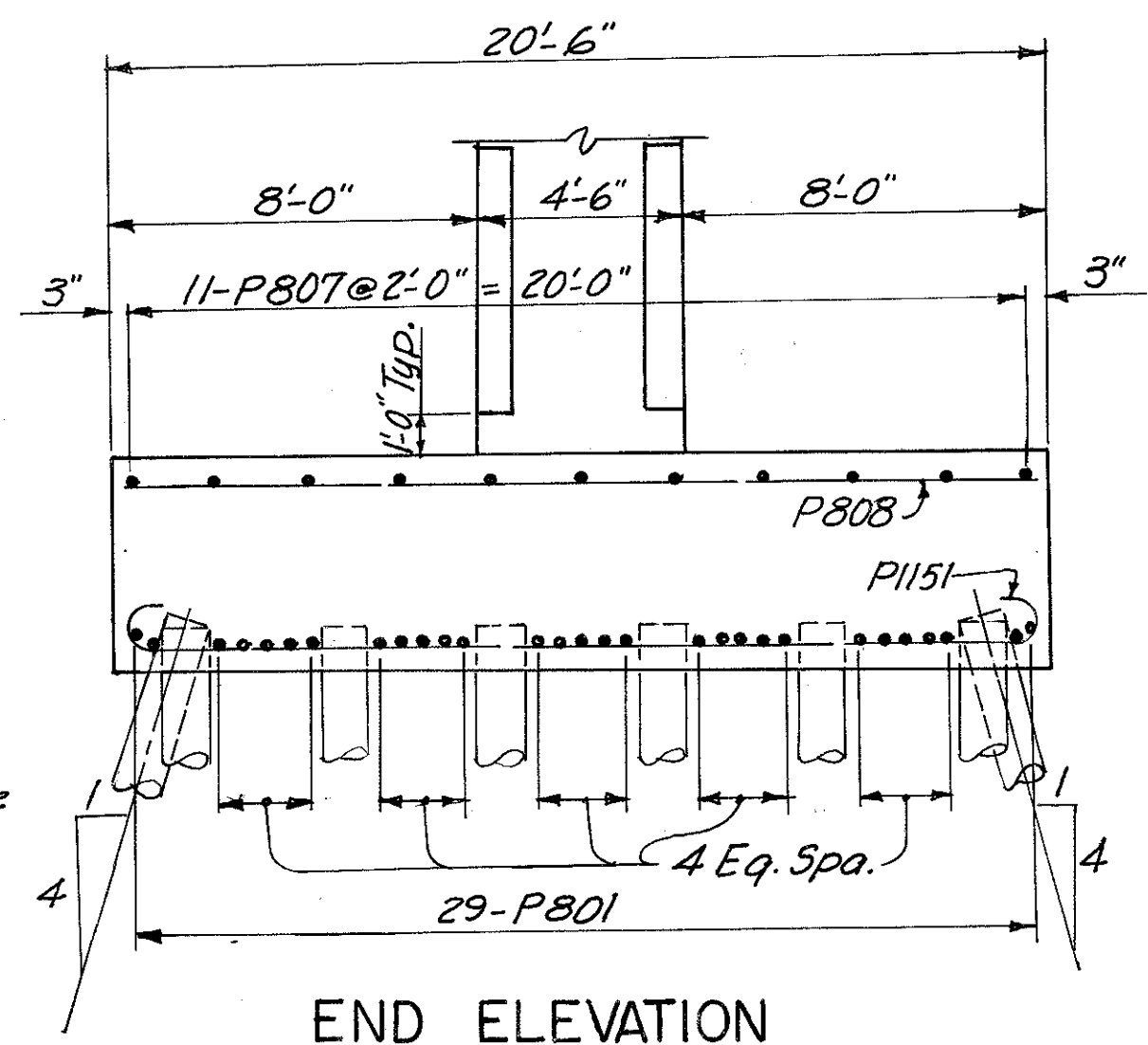
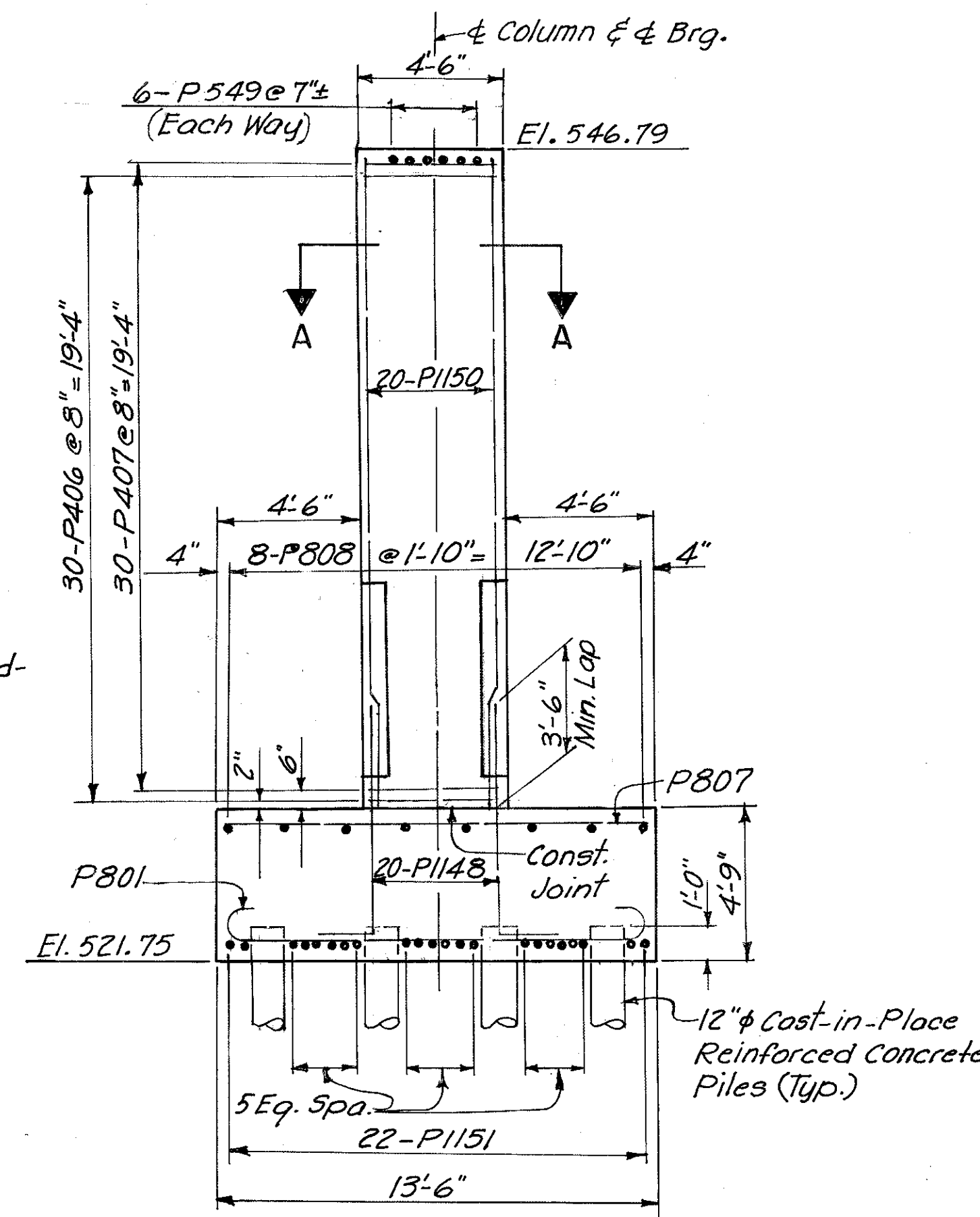


ANCHOR BOLT DETAIL



ELEVATION

L 4x4x3/8 Armor Angles on all Corners.  
For details of angles see Sh. 325  
Armor Angles shall be painted in accordance with Construction & Material Specifications, Section 514.



END ELEVATION

Note: Provide 3" clearance to reinforcing steel in footings, minimum.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					14/64
<b>PIER NO. 1</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.E.M.	V.W.S.	W.L.	J.H.	
			12-17-71	11-13-72	

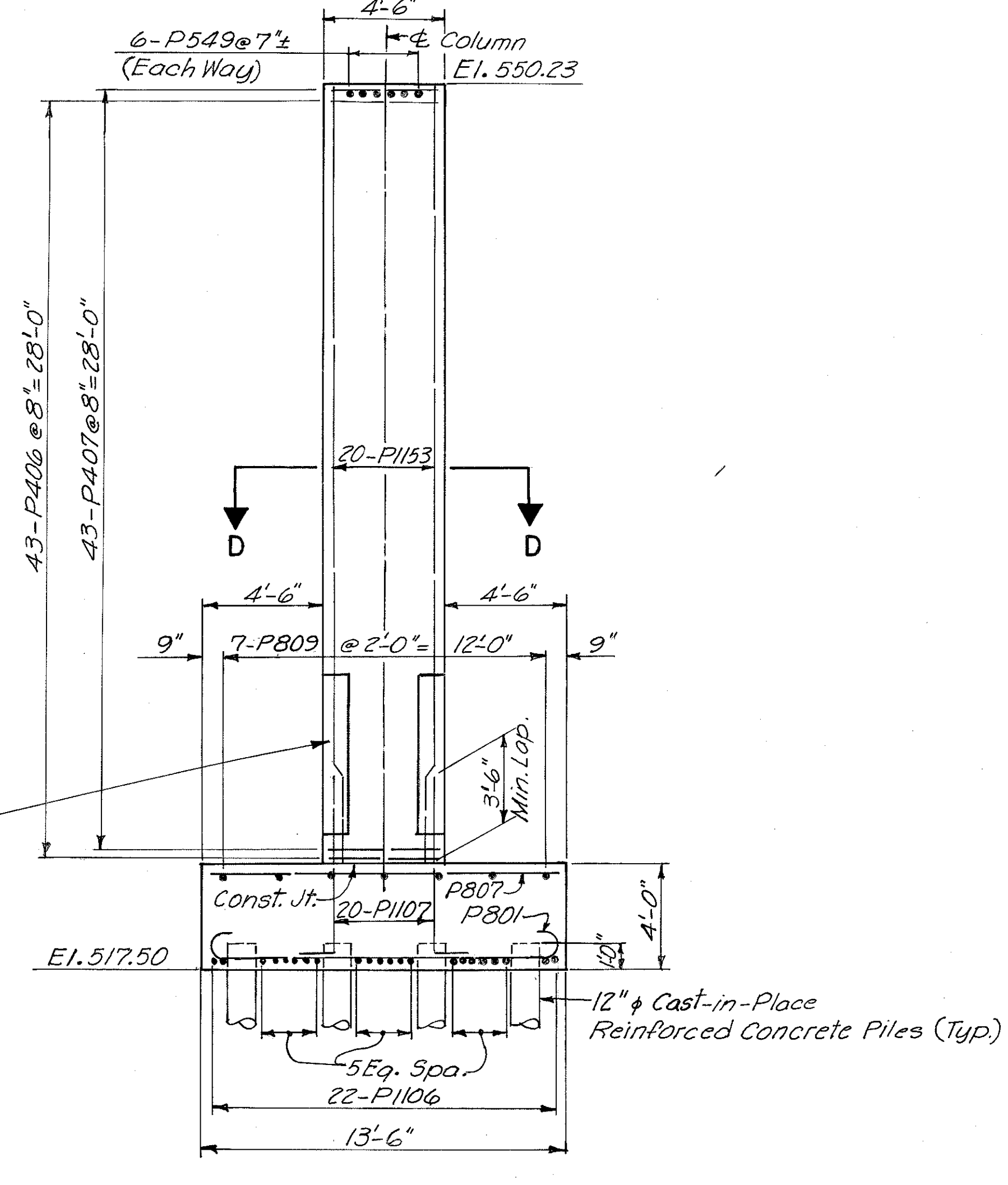
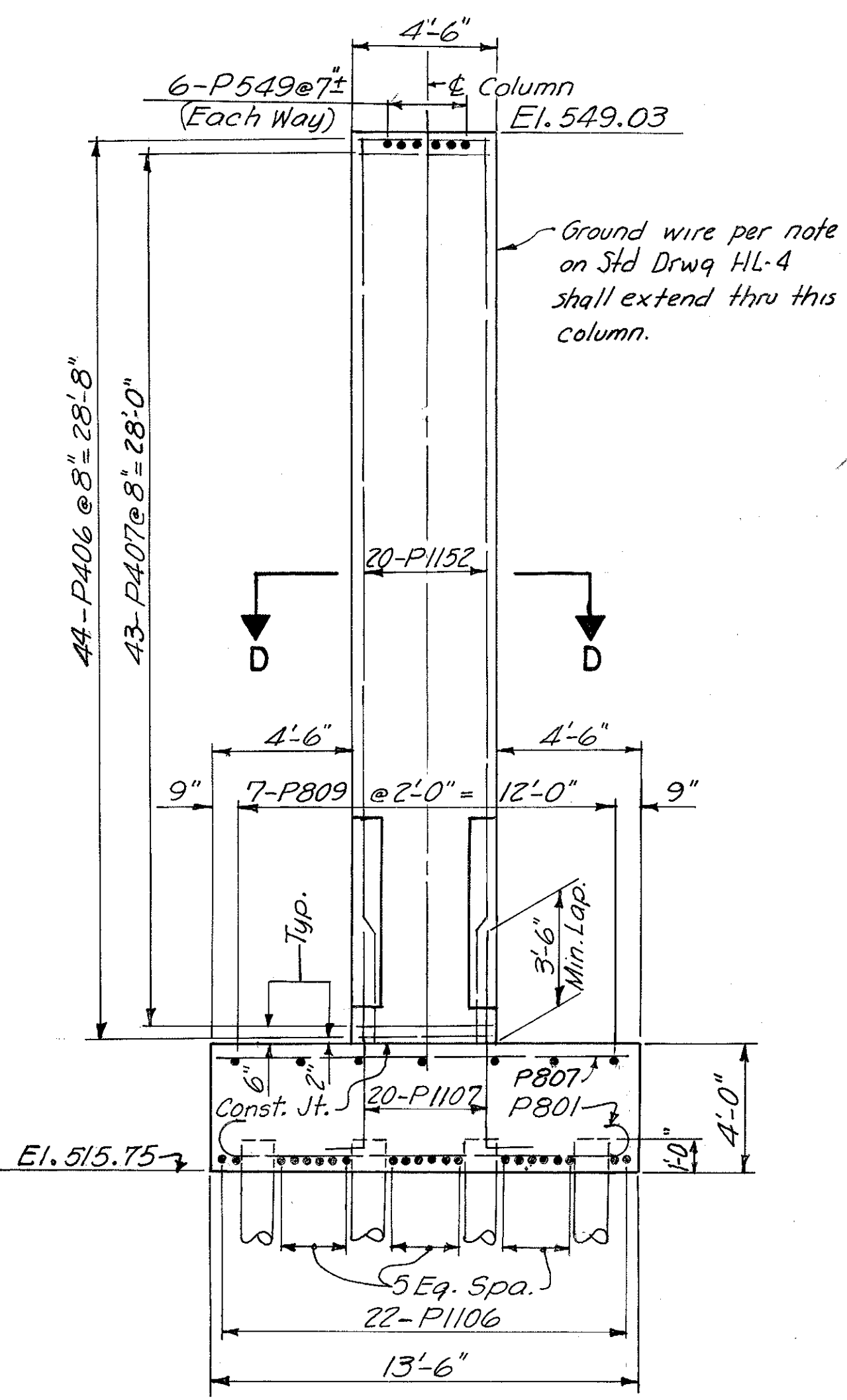
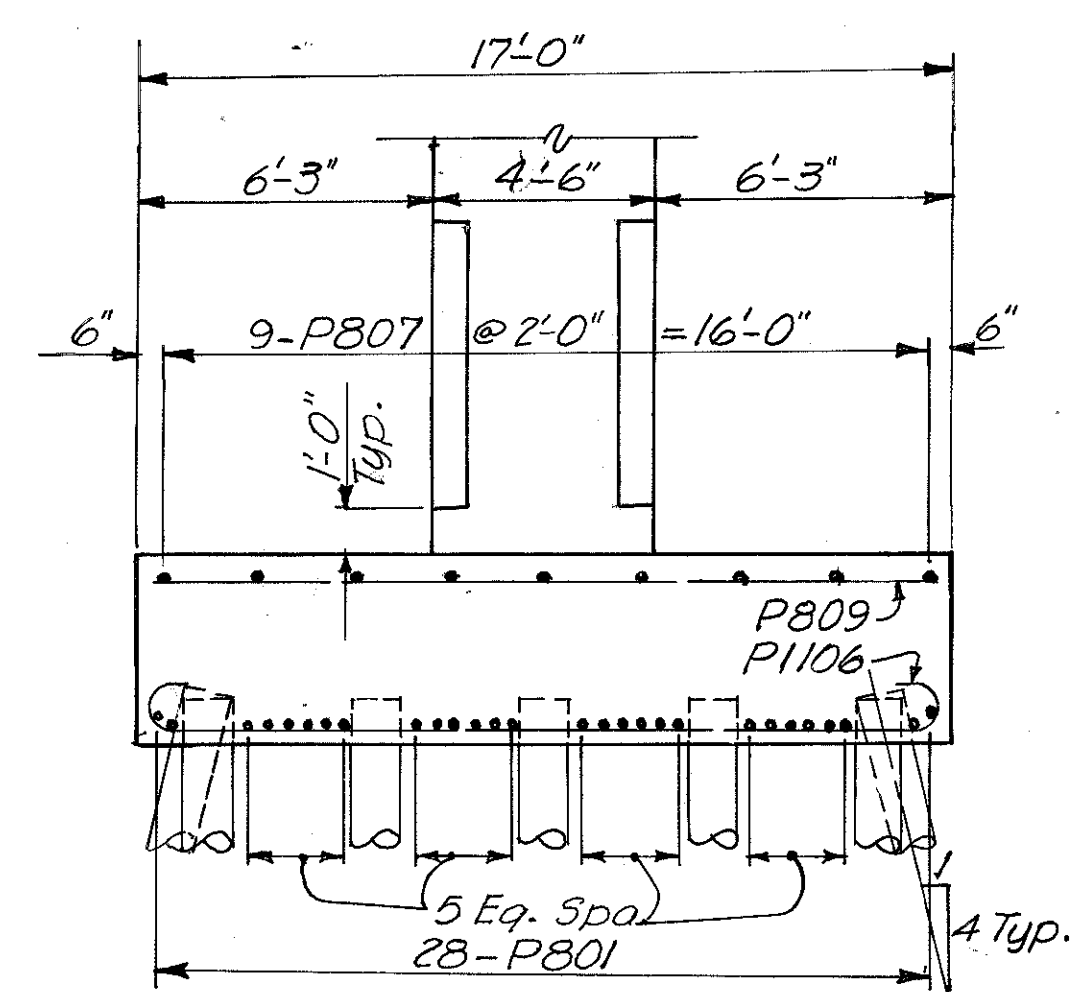
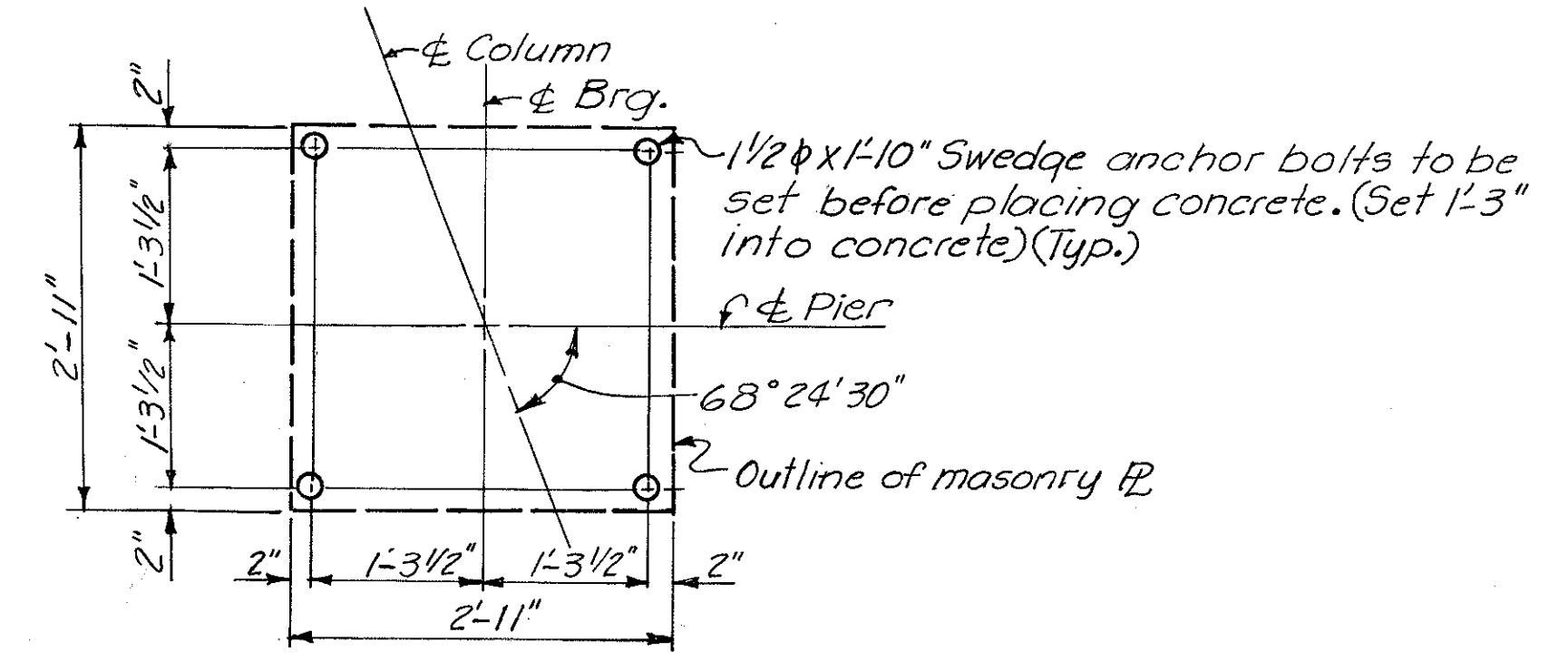
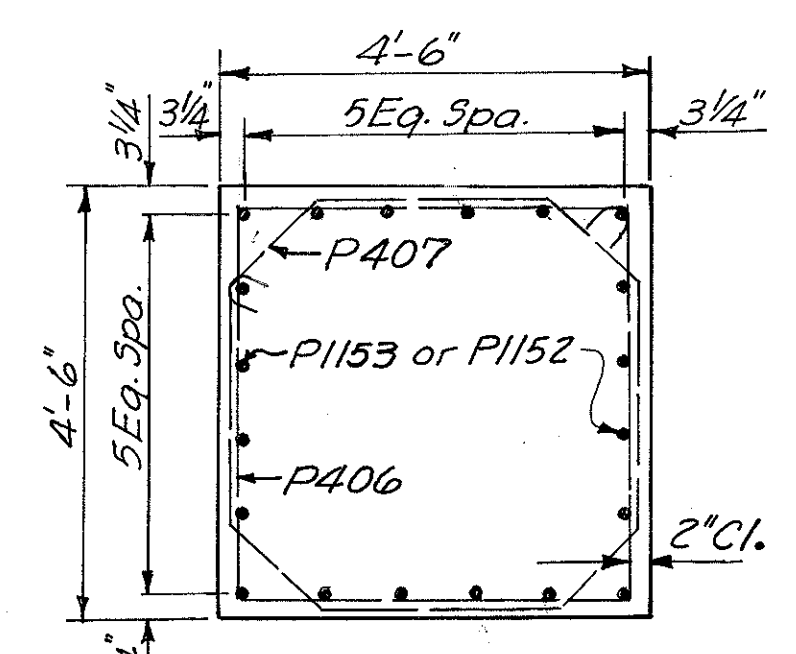
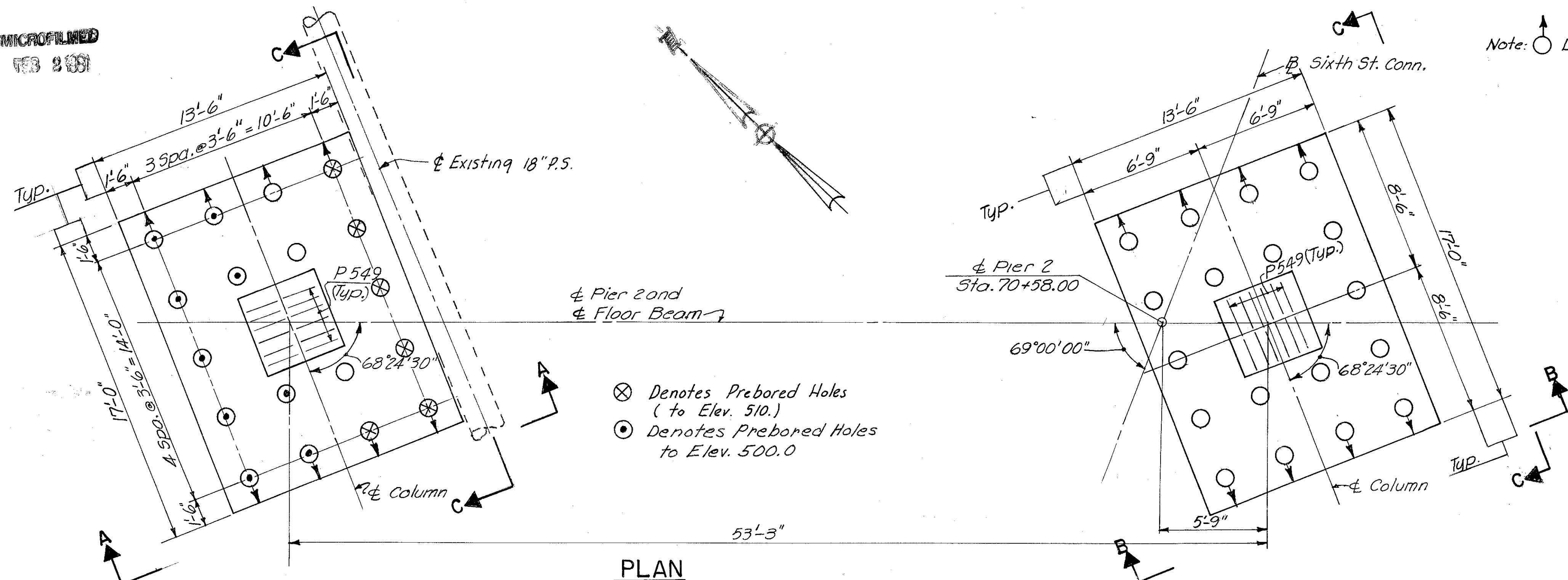
MICROFILMED  
FEB 2 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

309  
494

HAMILTON COUNTY  
HAM-471-030

Note:  Denotes battered pile.



- ⊗ Denotes Prebored Holes (to Elev. 510.)
- ⊙ Denotes Prebored Holes to Elev. 500.0

L 4x4x3/8 Armor Angles on all corners.  
For details of angles see Sh.325  
Armor Angles shall be painted in accordance with Construction & Material Specifications, Section 5k.

Note: Provide 3" clearance to reinforcing steel in footings, minimum.

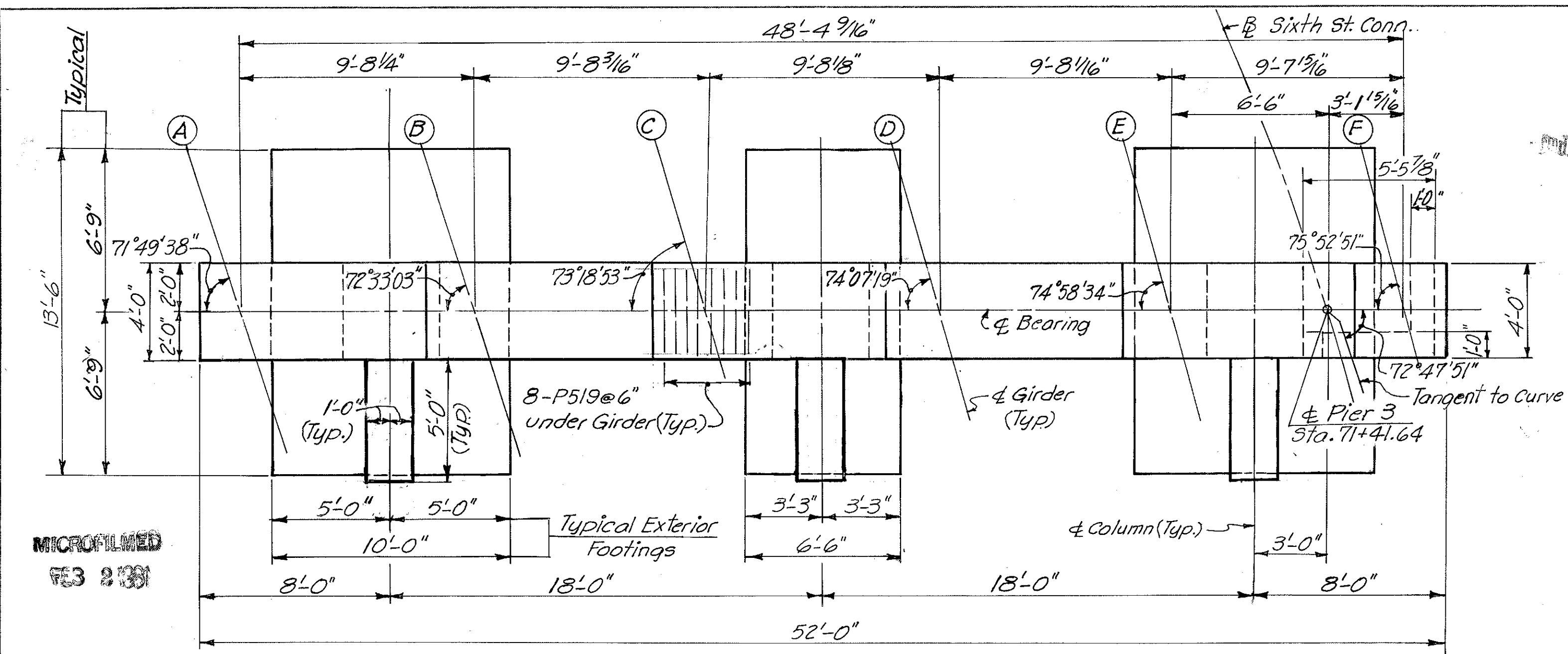
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						15/64
<b>PIER NO. 2</b>						
<b>BRIDGE NO. HAM-471-0044</b>						
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
W.L.	J.E.M.	V.W.S.	W.L.	JHS 11-13-72		

Revised 7-3-73

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

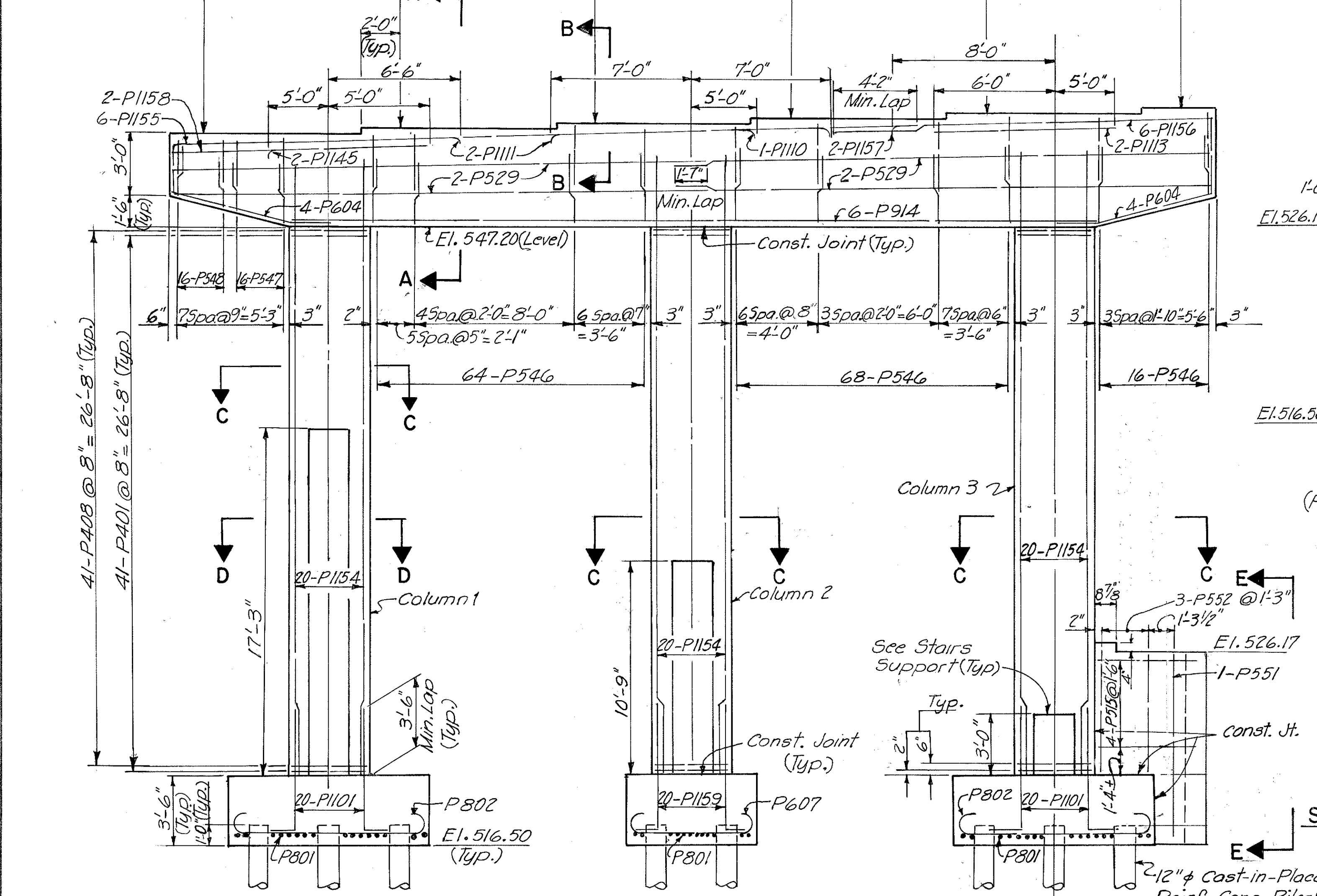
310  
494

HAMILTON COUNTY  
HAM-471-0.30



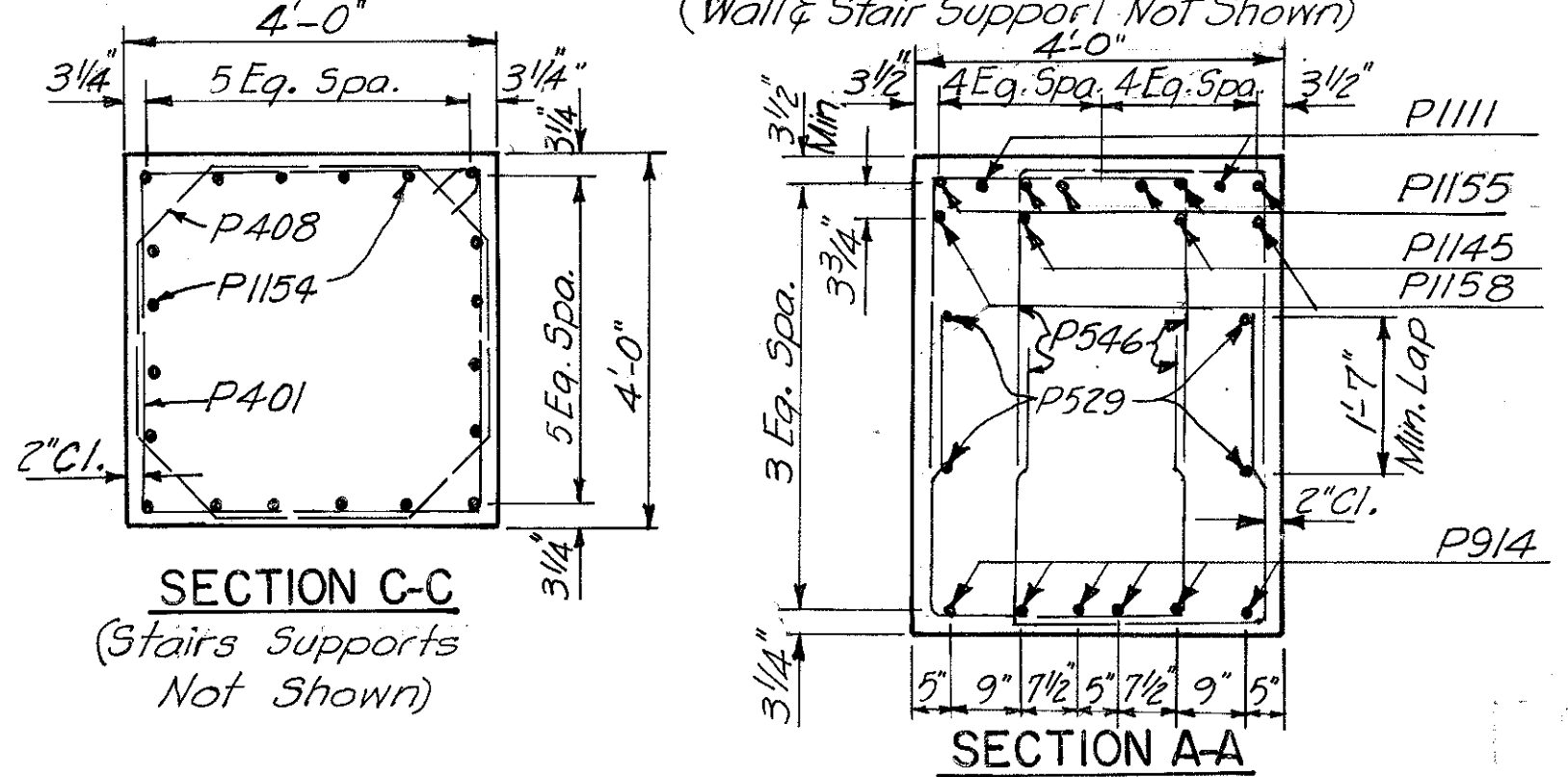
**PLAN**  
(Piles Not Shown)

Bridge Seat Elevations 551.70 552.01 552.30 552.59 552.87 553.14

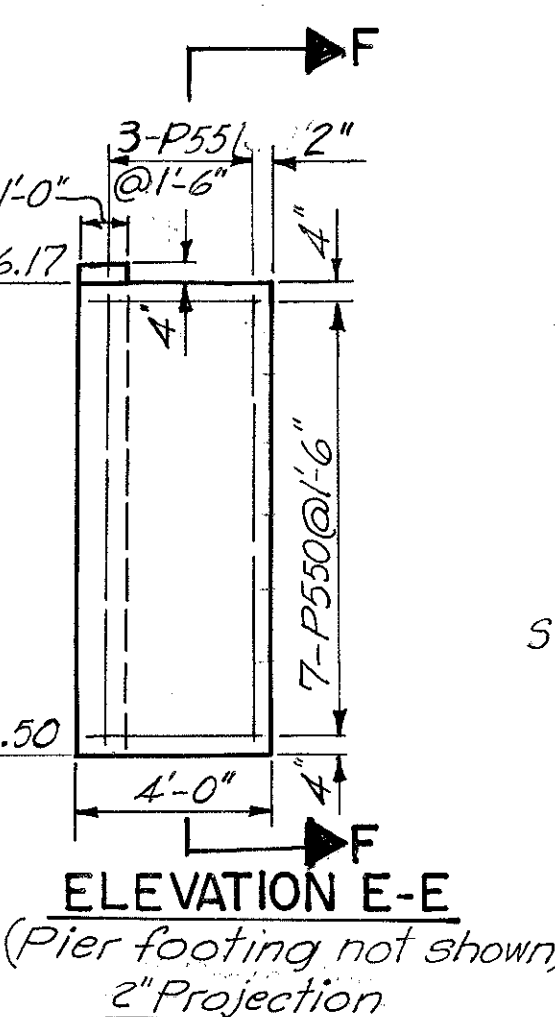


**ELEVATION**

**TYPICAL EXTERIOR FOOTING**  
(Wall & Stair Support Not Shown)

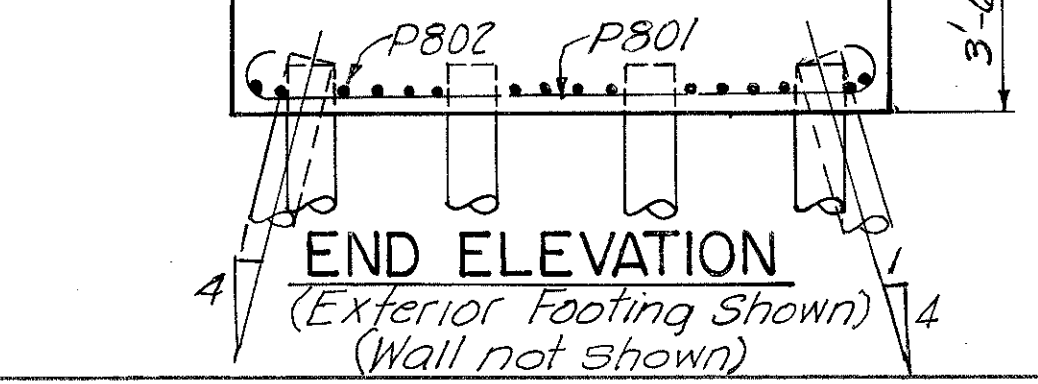


**SECTION C-C**  
(Stairs Supports Not Shown)



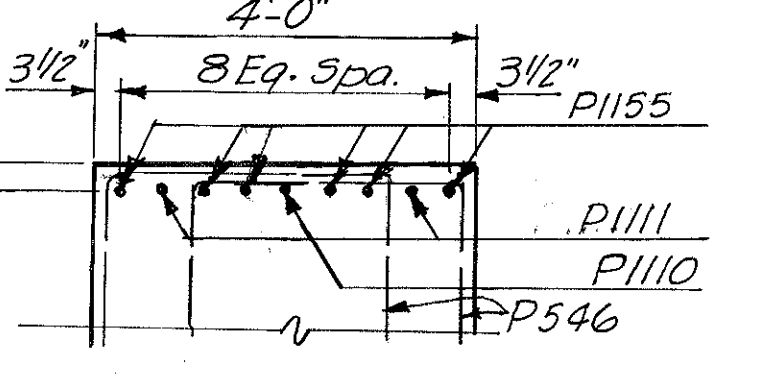
**ELEVATION E-E**  
(Pier footing not shown)  
2" Projection (Typ.)

**SECTION F-F**

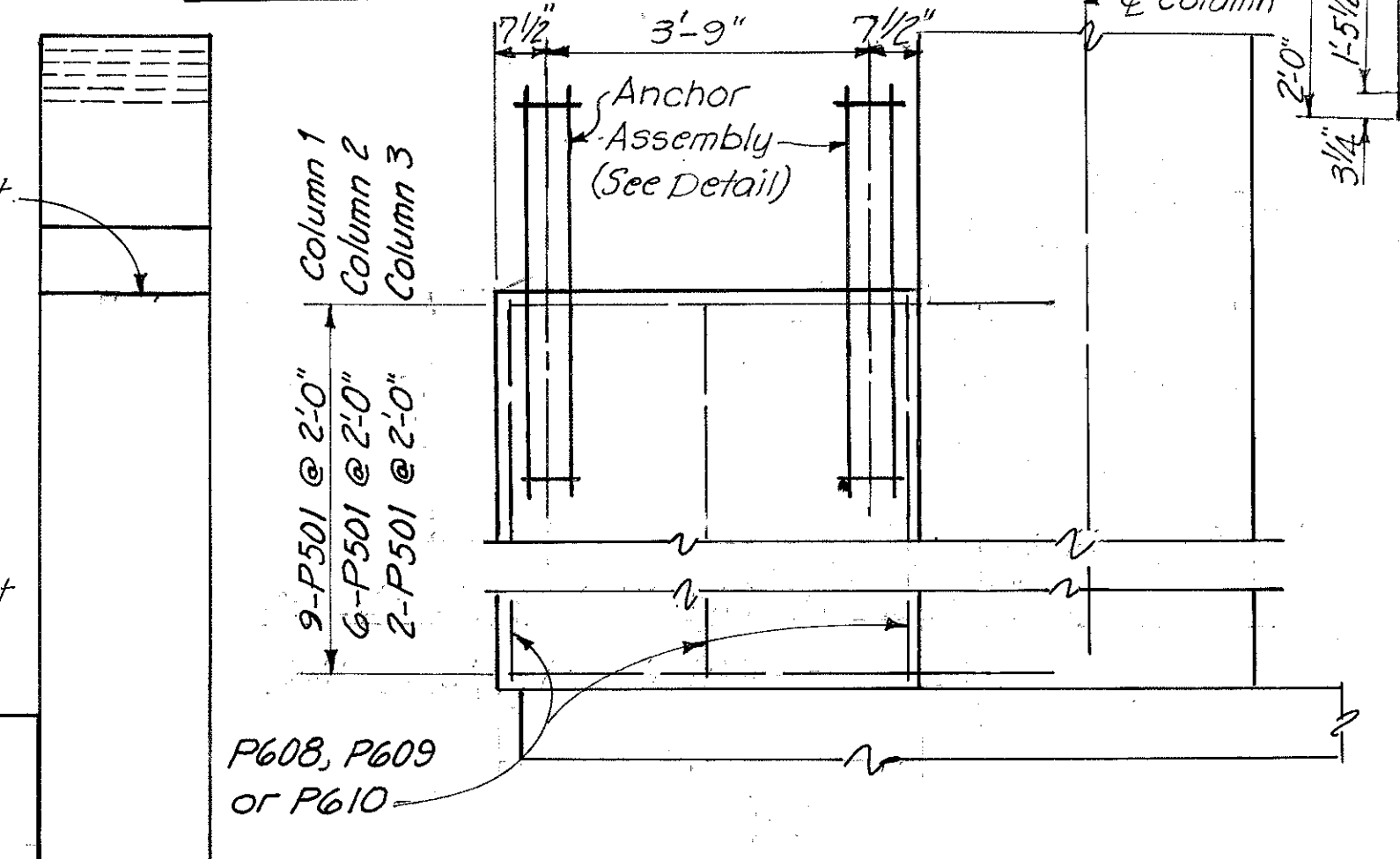


**END ELEVATION**  
(Exterior Footing Shown)  
(Wall not shown)

**SECTION B-B**

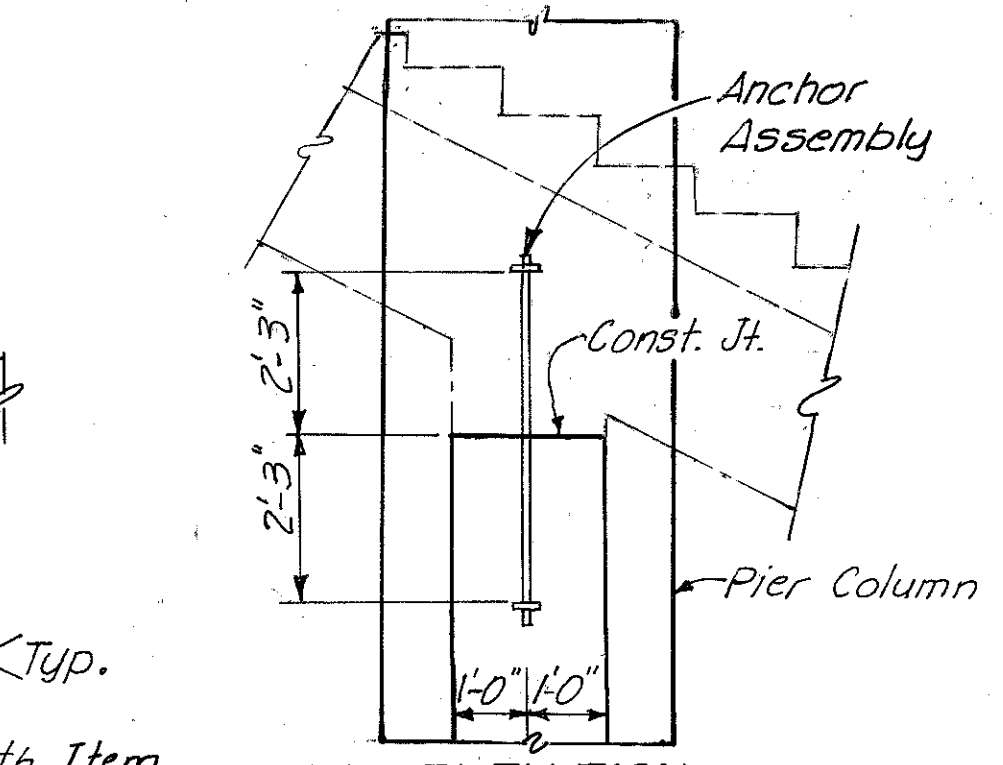


**SECTION A-A**



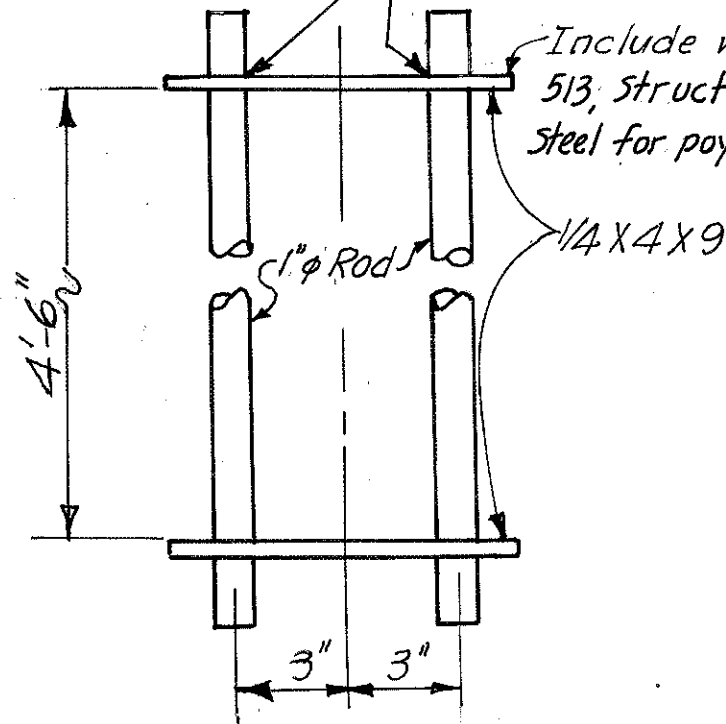
**ELEVATION**  
(Stairs Support)

**SECTION D-D**



**END ELEVATION**

**ANCHOR ASSEMBLY DETAIL**  
(6 Req'd.)



Note: Provide 3" clearance to reinforcing steel in footings, minimum.

Work with STAIR DETAILS Sh. 340, 341 & 342

HAZLET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**PIER NO. 3**  
**BRIDGE NO. HAM-471-0044**  
SIXTH STREET CONNECTION OVER  
SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
W.L.	J.E.M.	V.W.S.	J.H.S.	11-13-72	

MICROFILMED  
753 2331

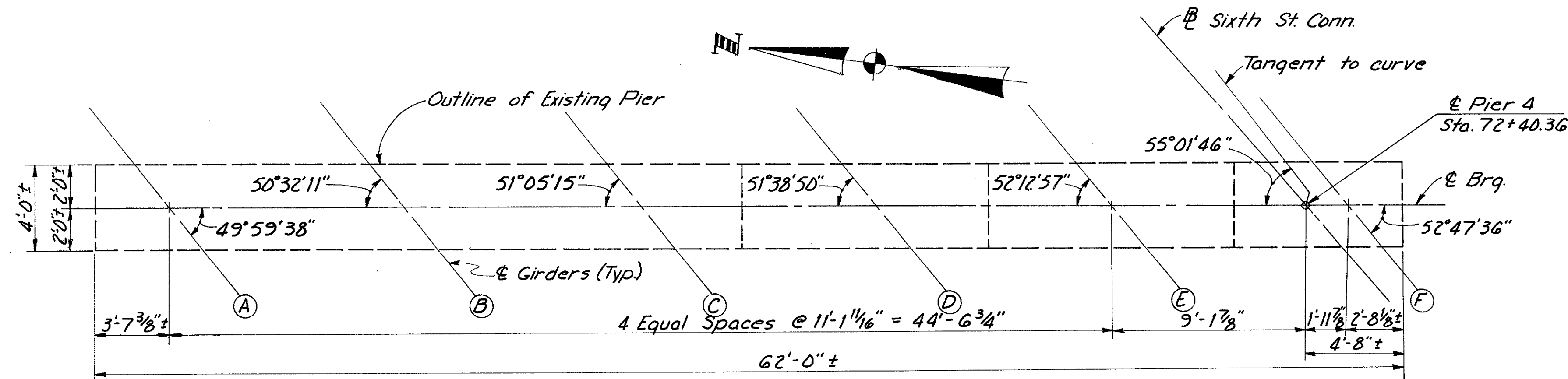
Note:  $\odot$  Denotes battered pile.

MICROFILMED  
7/3 2/81

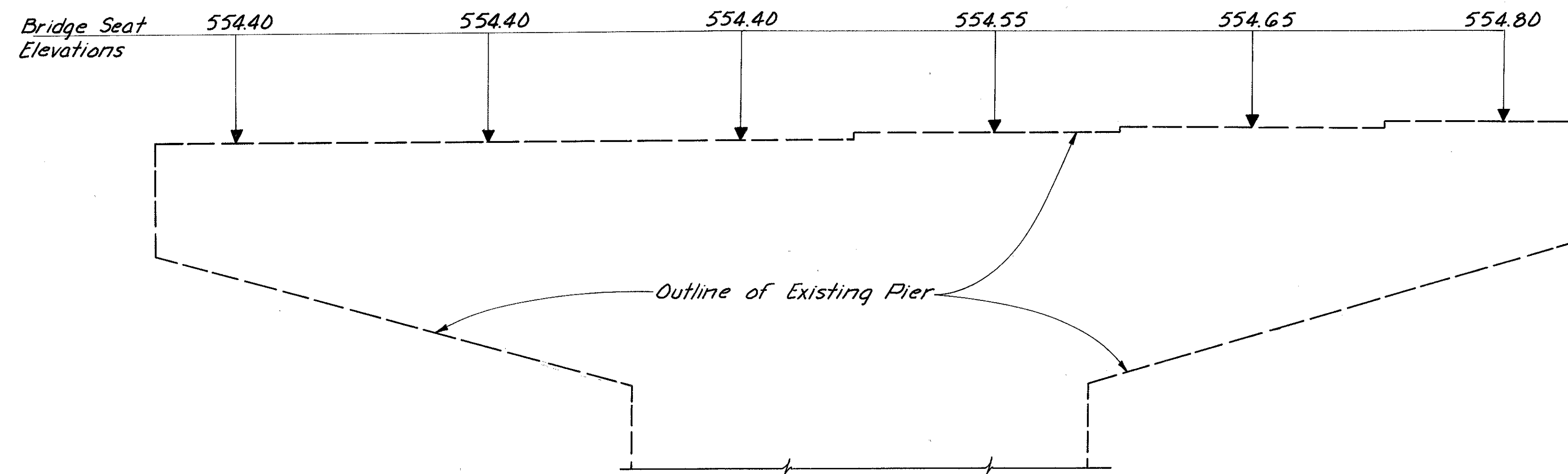
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

311  
494

HAMILTON COUNTY  
HAM-471-0.30



PLAN



ELEVATION

Note

Pier 4 has been constructed under a previous contract. It shall be the responsibility of the Contractor to verify all existing bridge seat elevations and dimensions marked (±). The Contractor shall revise, if necessary, the proposed heights of the bearing details and shall grind, if necessary, the existing concrete areas underneath the proposed masonry plates, in order to provide a level bearing surface. The cost of this work shall be considered as included in the unit price bid for Item 513, "Structural Steel."

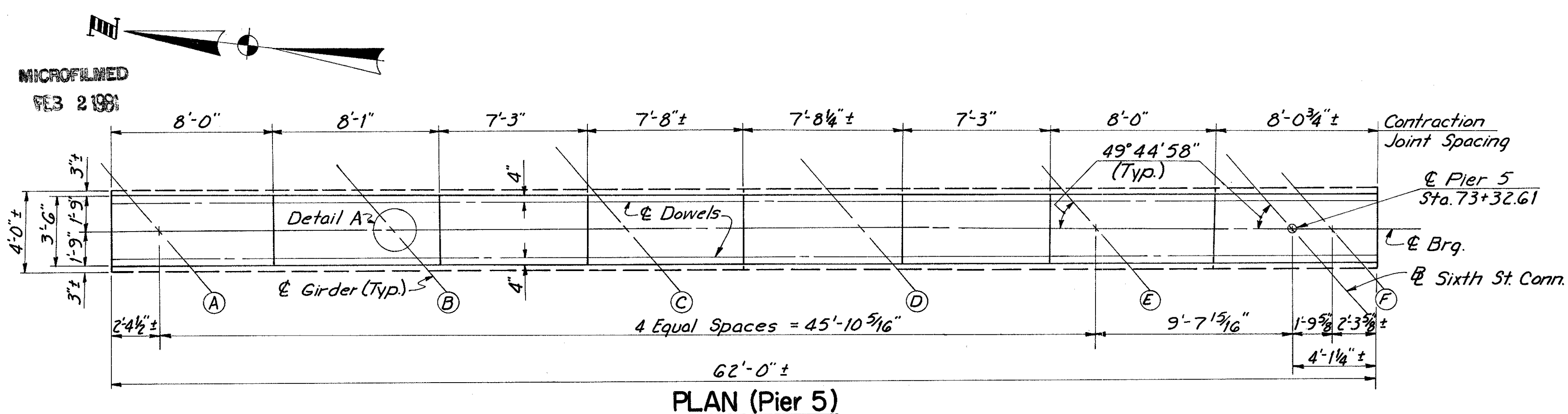
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					17/64
<b>PIER NO. 4</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
<b>SIXTH STREET CONNECTION OVER</b>					
<b>SOUTHBOUND I-471 H&amp;E BRIDGE NO. 9</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JEM		W.L. 7-12-72	JHS 11-13-72	



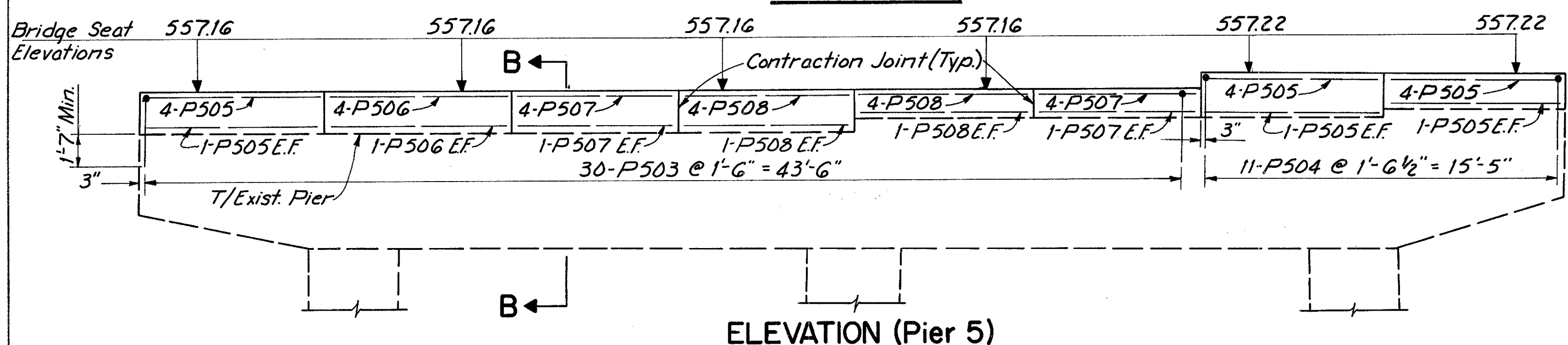
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

312  
494

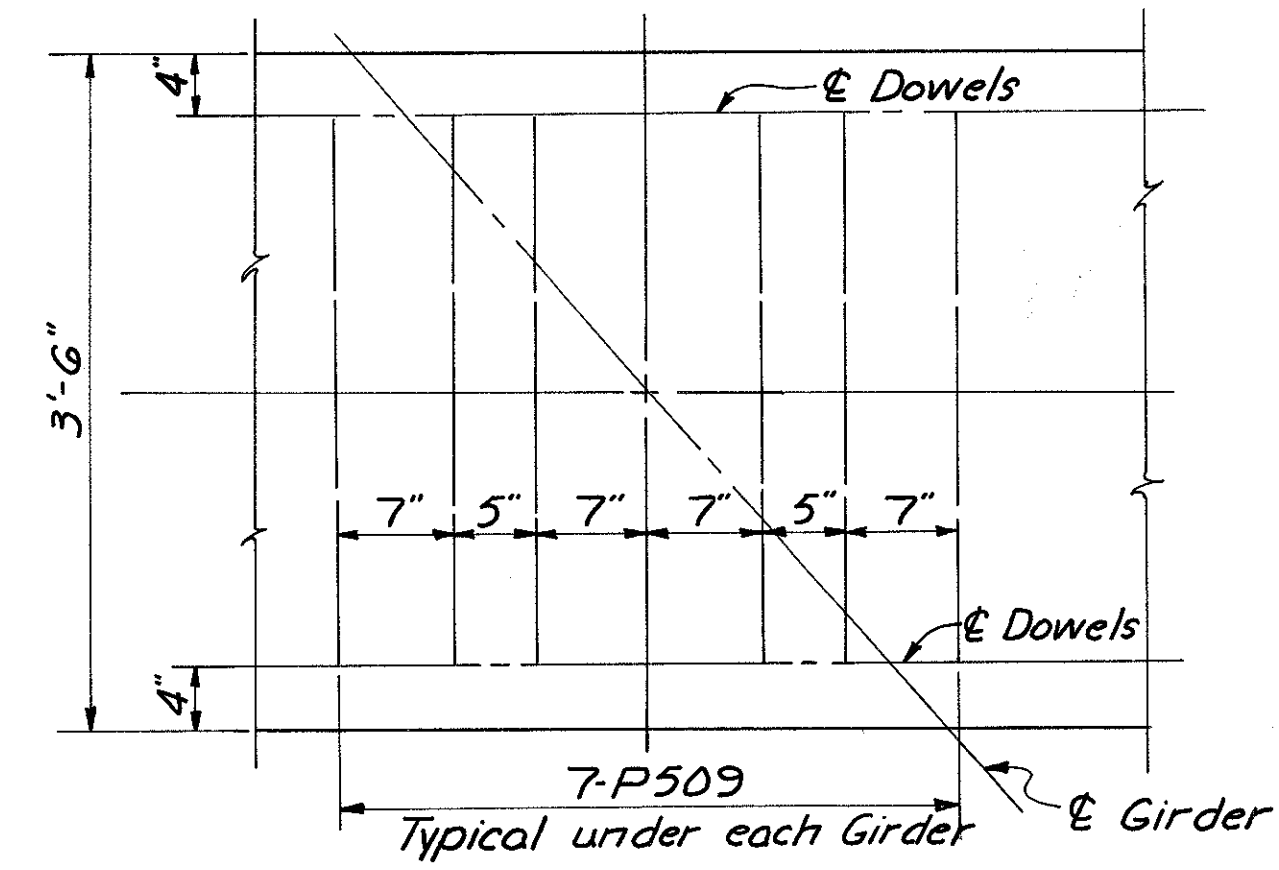
HAMILTON COUNTY  
HAM-471-030



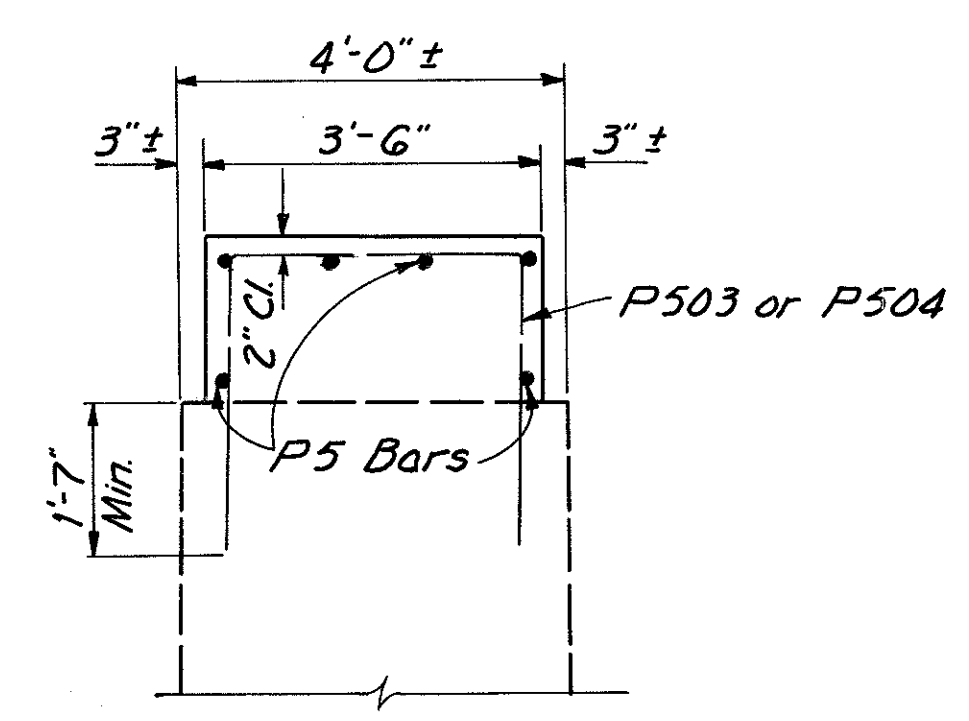
PLAN (Pier 5)



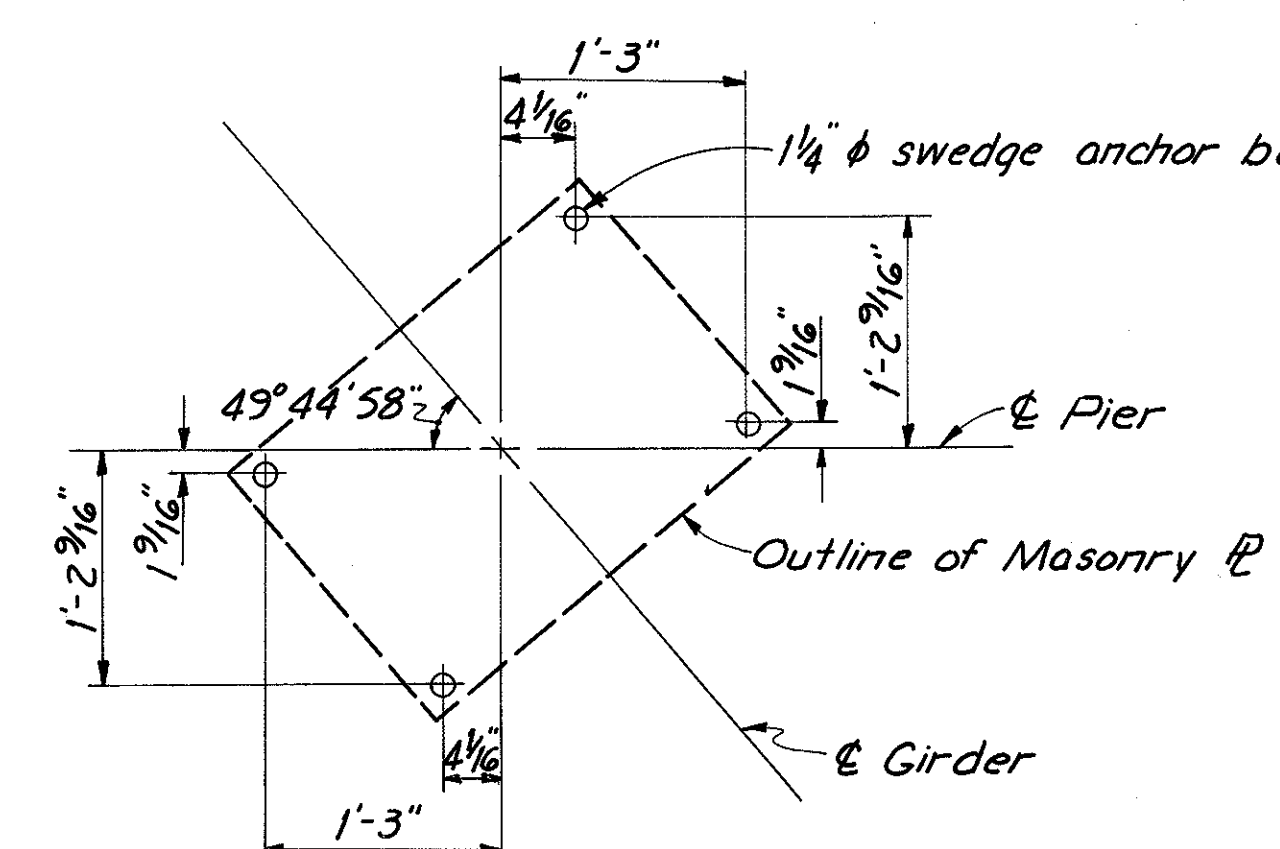
ELEVATION (Pier 5)



DETAIL A (Pier 5)

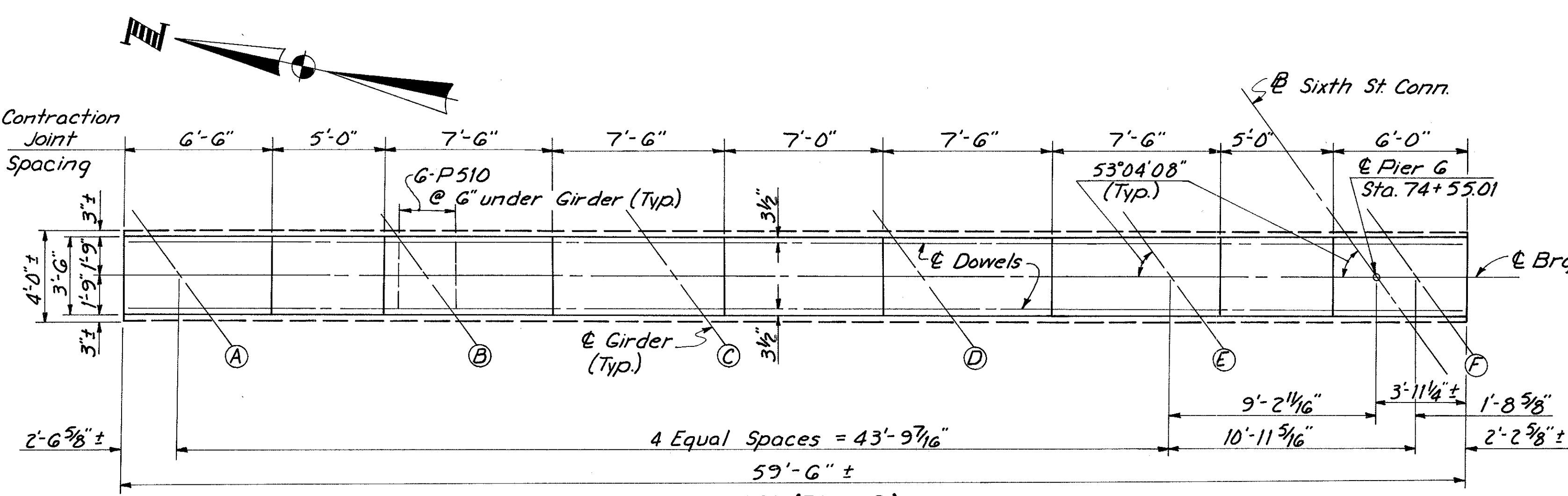


SECTION B-B (Pier 5)

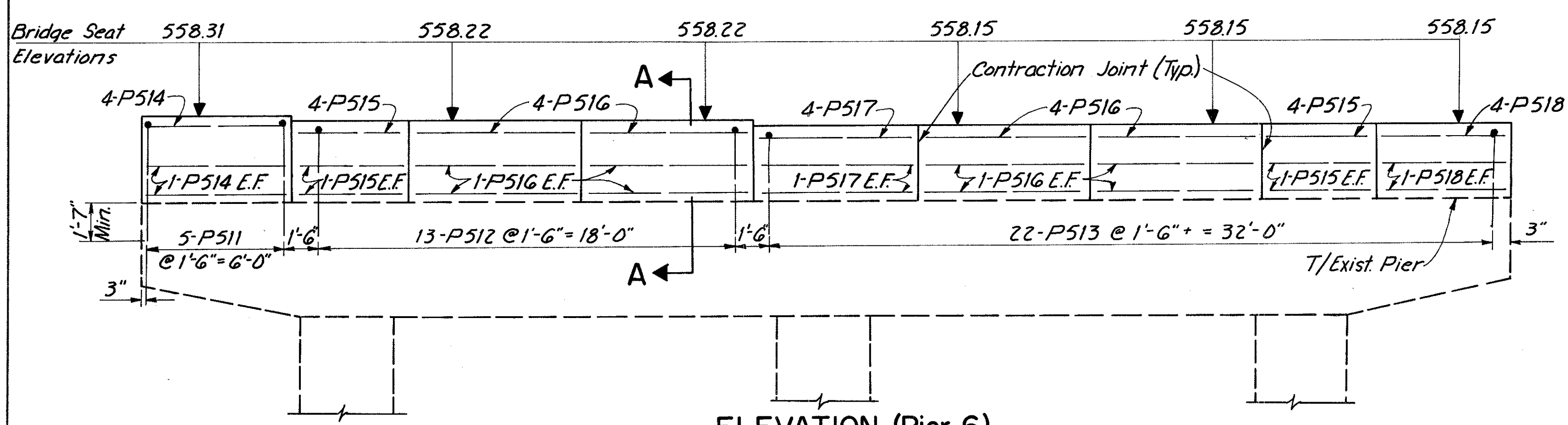


ANCHOR BOLT LAYOUT (Pier 5)

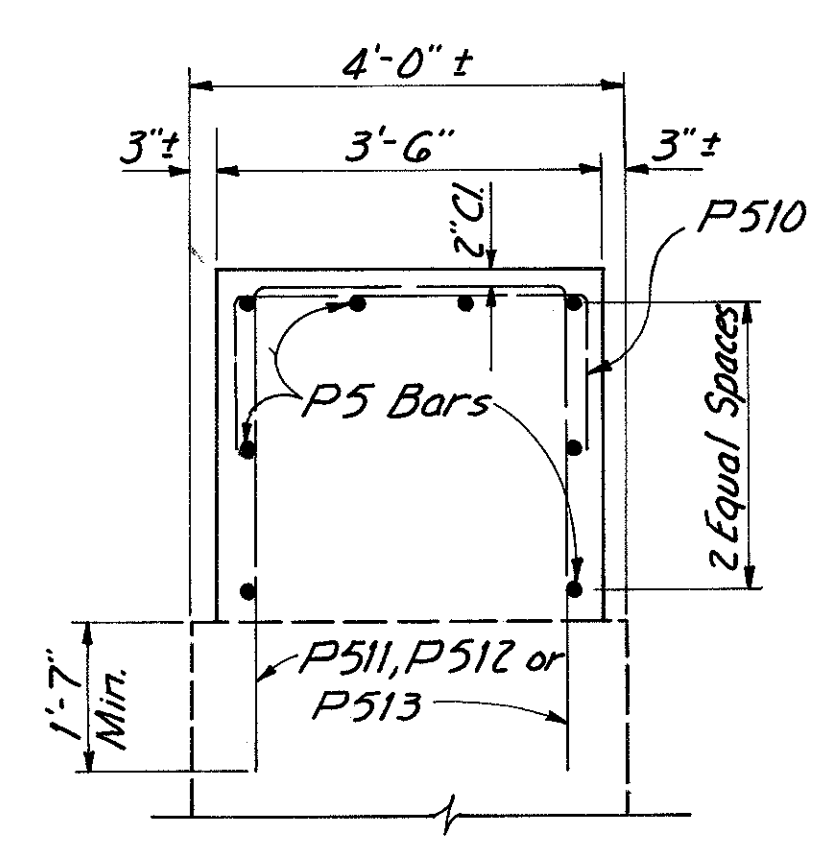
Note: Special care shall be taken in placing reinforcing steel in the cap so as to avoid interference with the drilling of anchor bolt holes.



PLAN (Pier 6)



ELEVATION (Pier 6)



SECTION A-A (Pier 6)

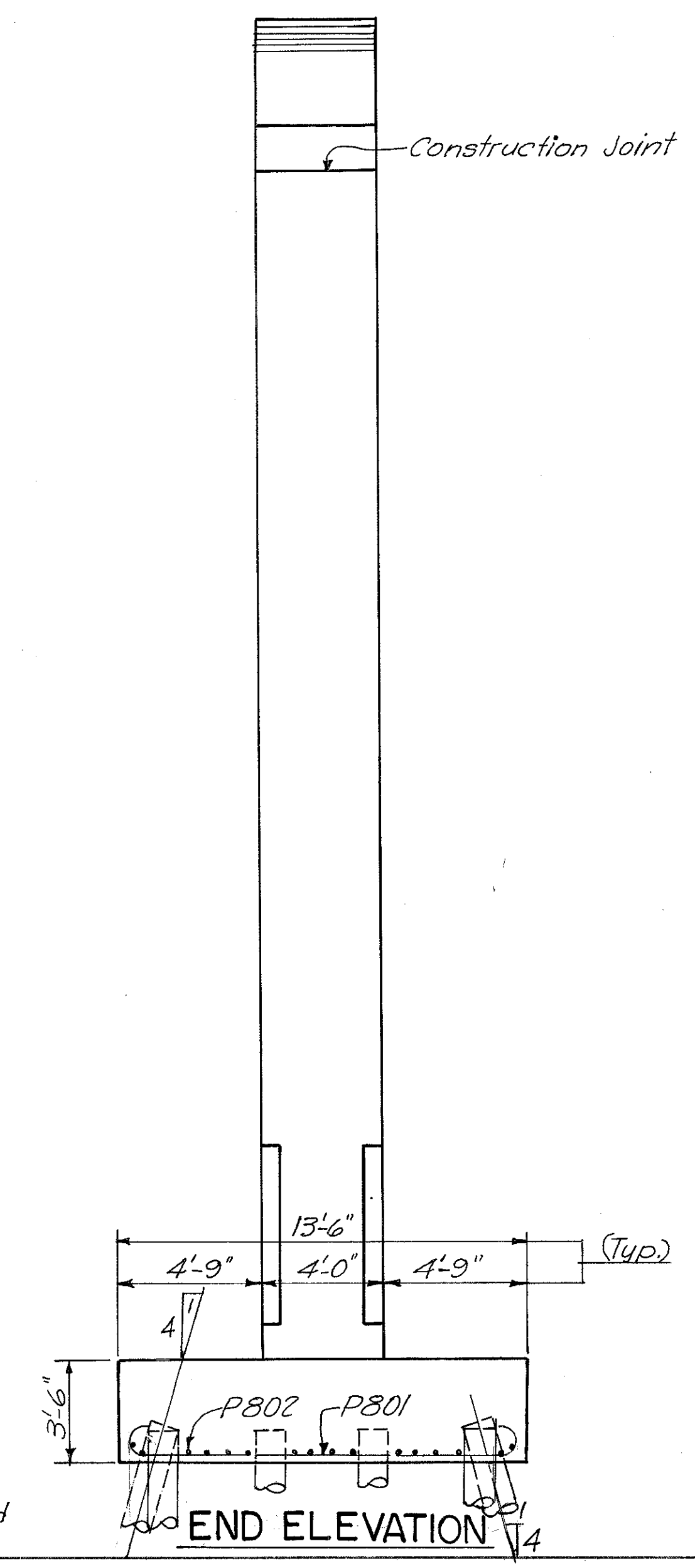
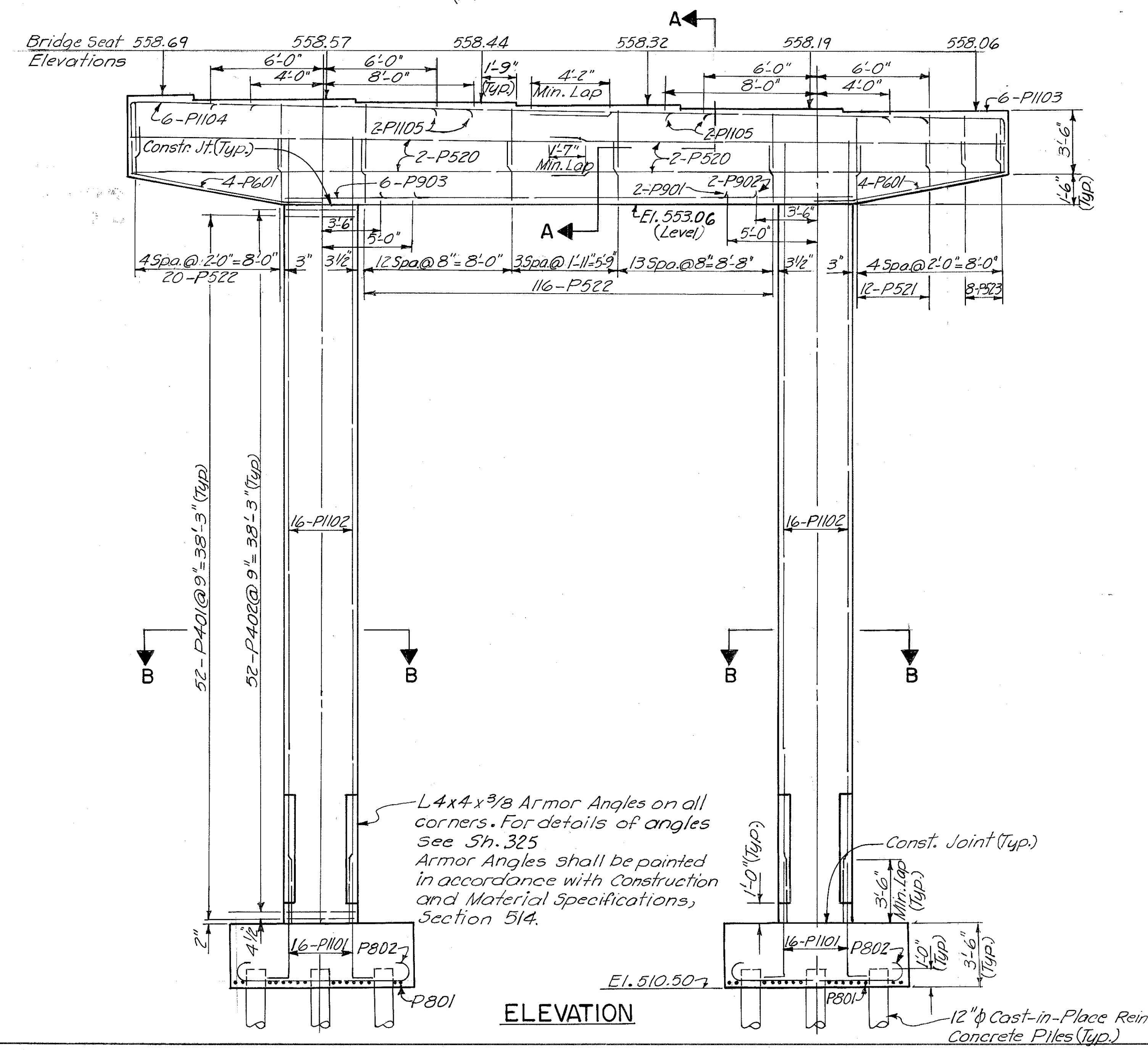
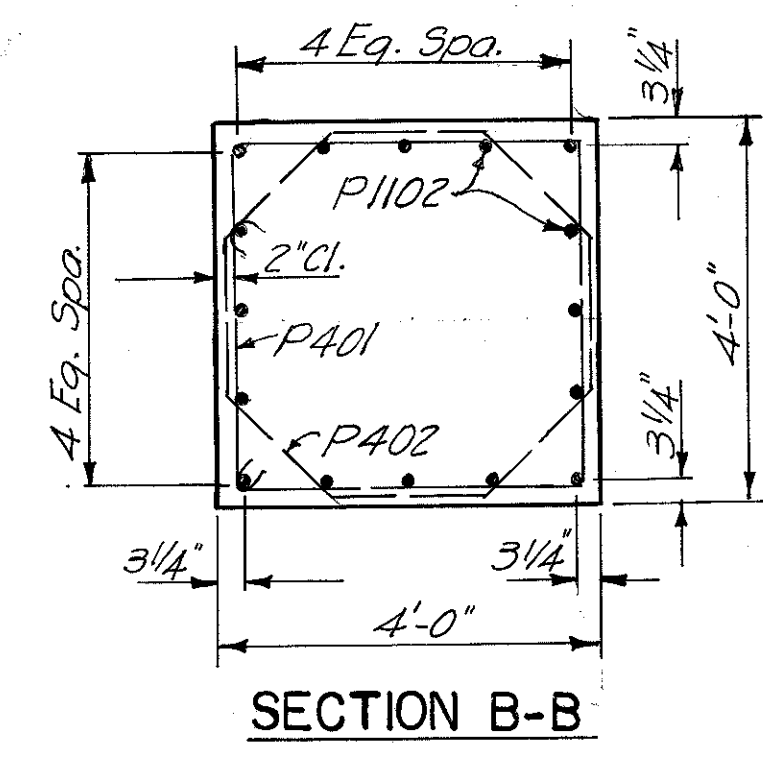
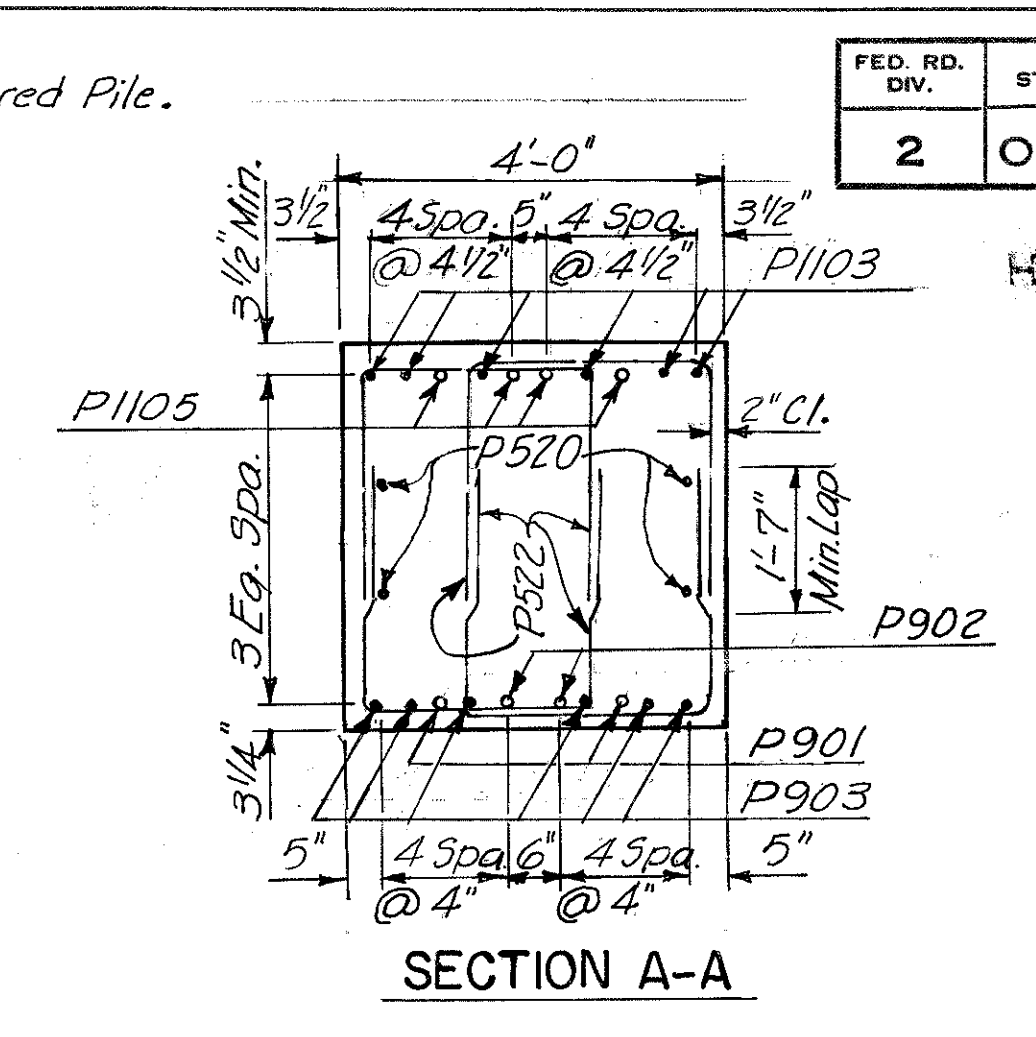
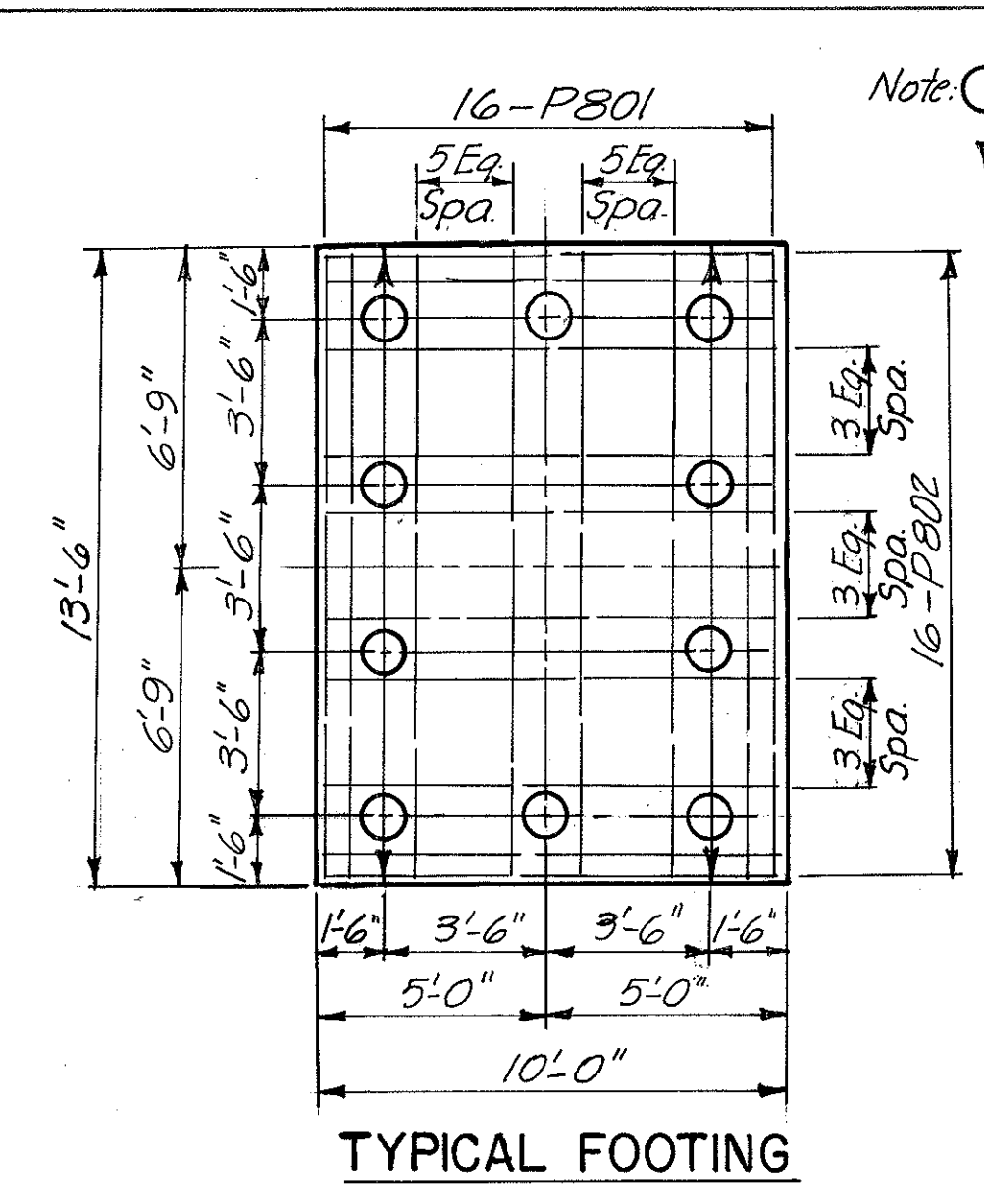
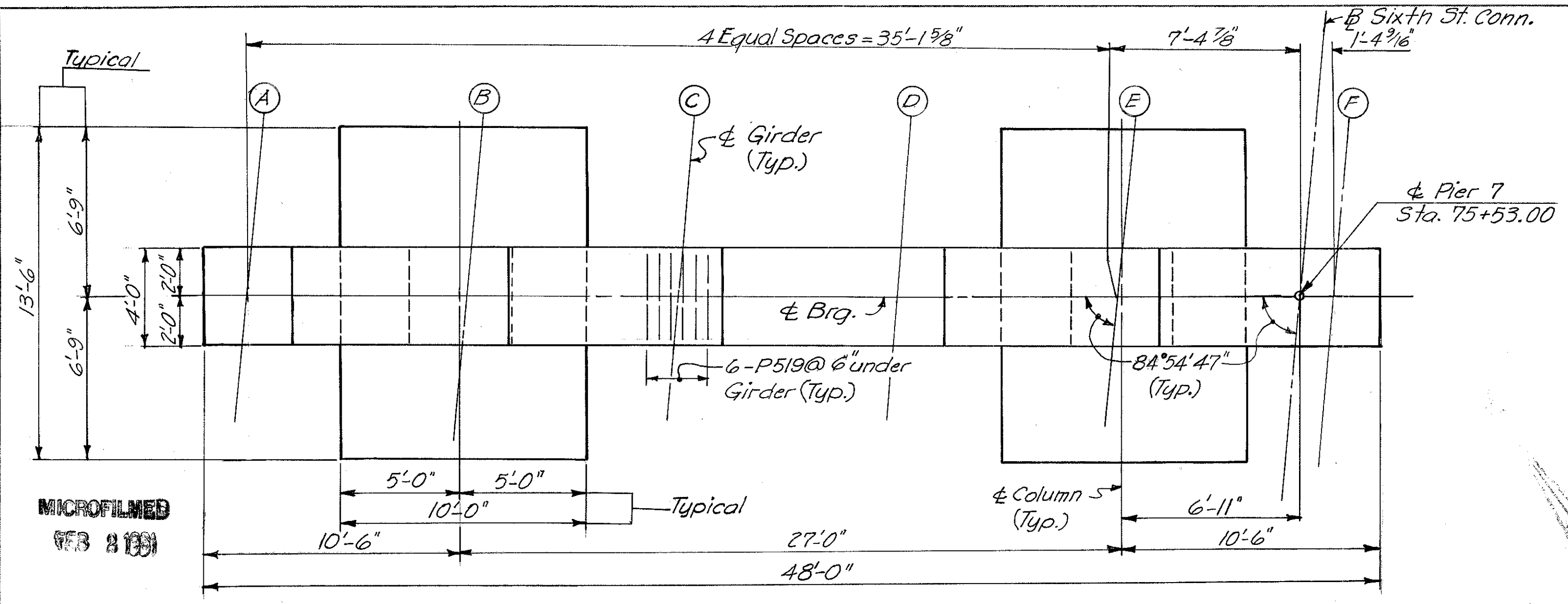
Notes:  
E.F. Denotes Each Face  
Special care shall be taken in drilling holes for dowel bars to miss pier reinforcing.  
Dimensions marked (t) to be determined by Contractor by field measurements.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					18 / 64
<b>PIER NO. 5 &amp; 6</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
<b>SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&amp;E BRIDGE NO.9</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JEM		WL	JH	
			12-17-71	11-13-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

313  
494

HAMILTON COUNTY  
HAM-471-0.30



Note:  
Provide 3" clearance to reinforcing steel in footings, minimum.

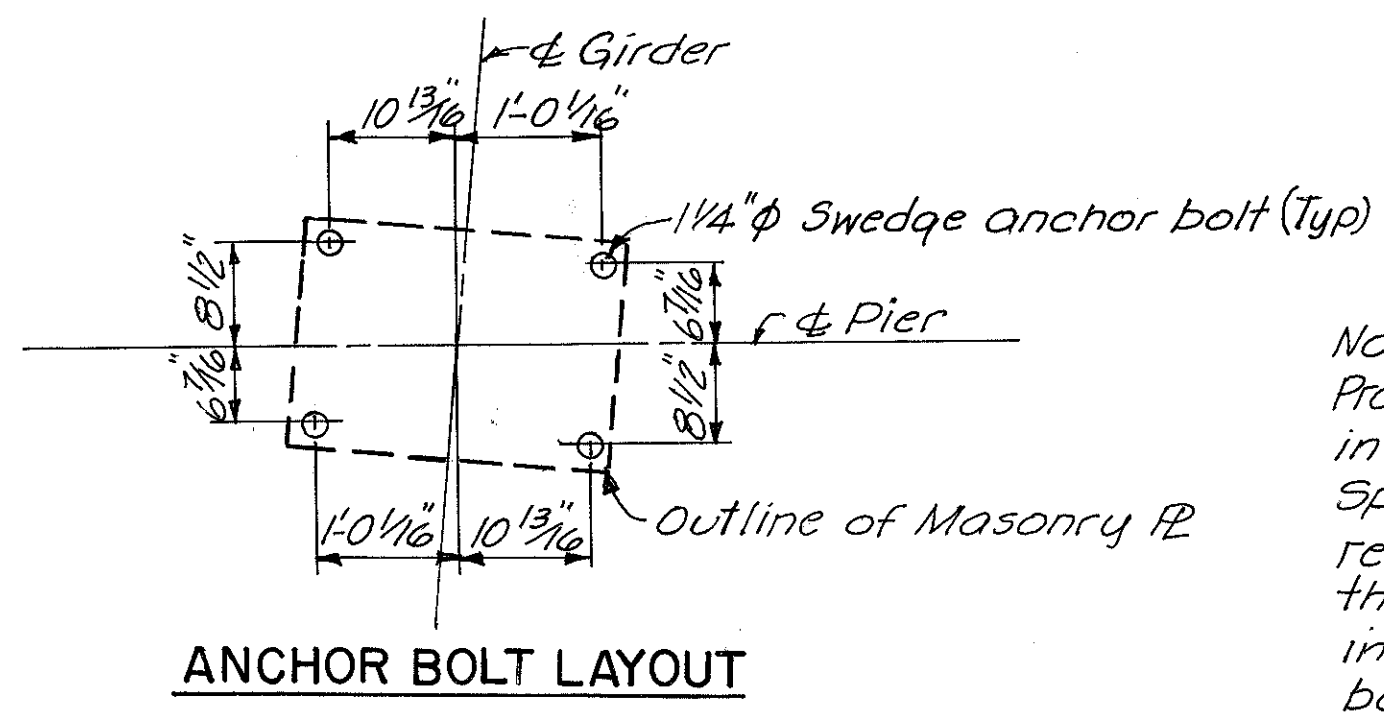
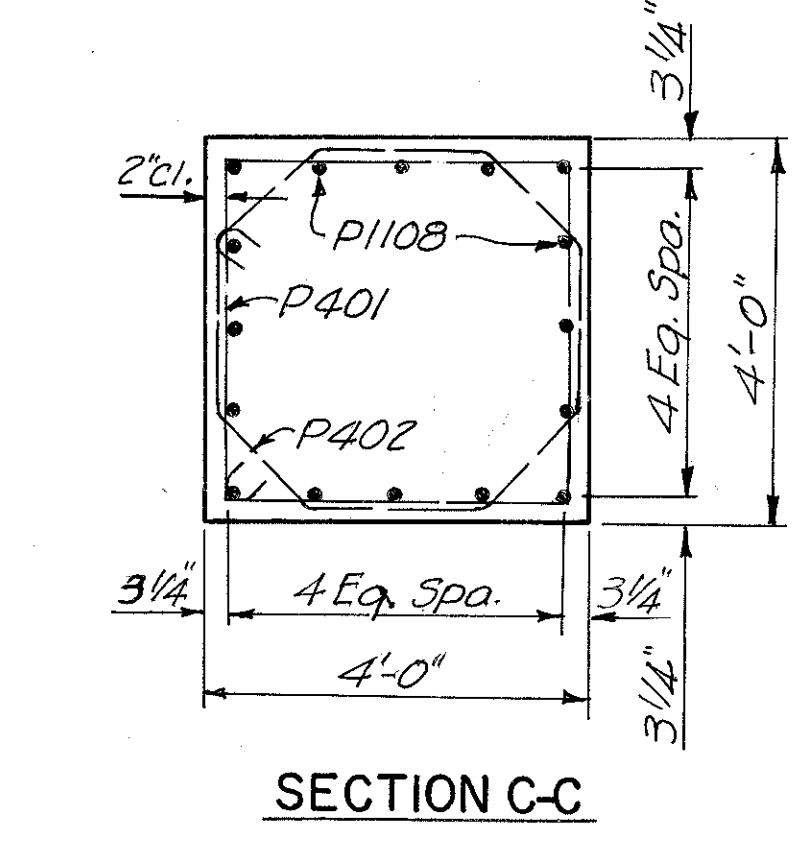
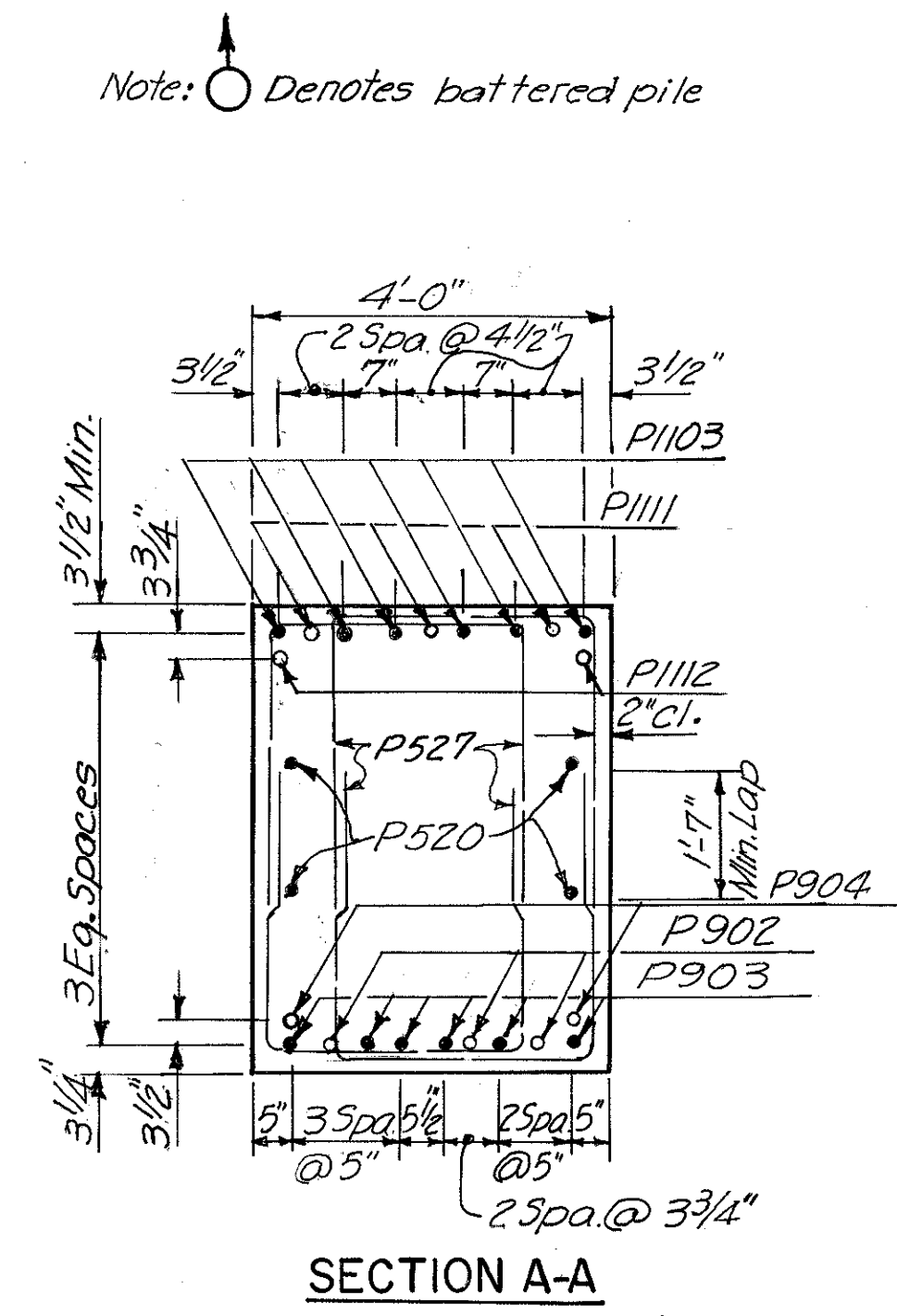
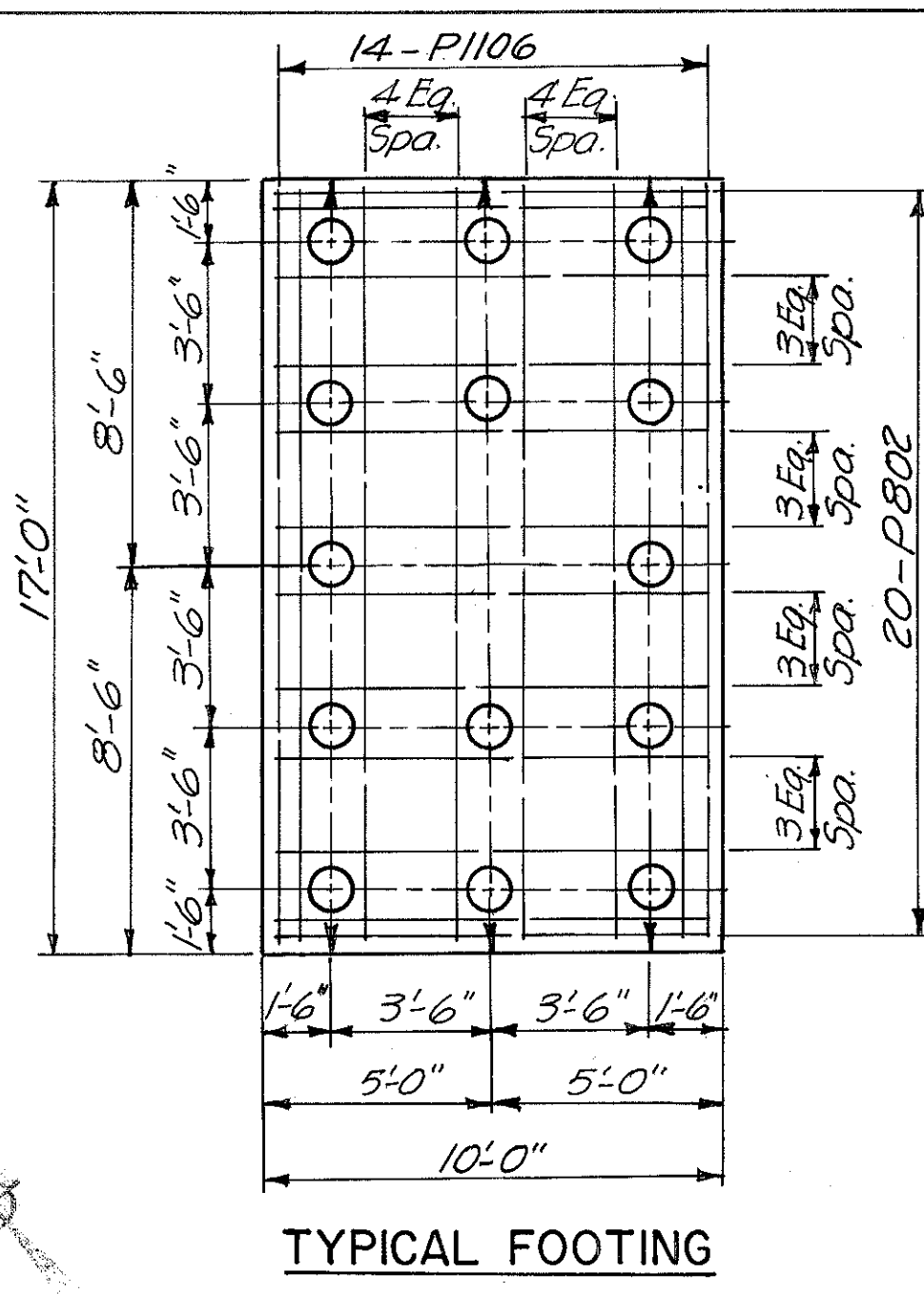
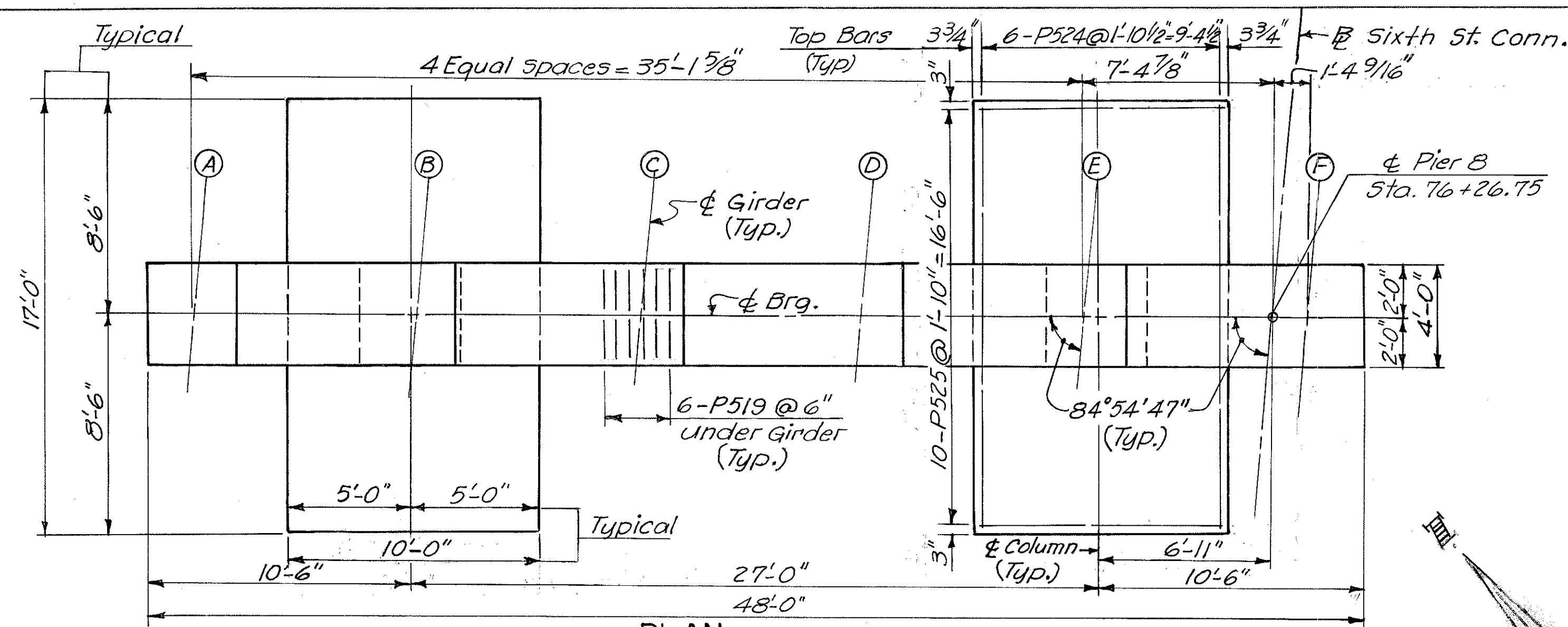
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						19/64
<b>PIER NO. 7</b>						
<b>BRIDGE NO. HAM-471-0044</b>						
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
W.L.	J.E.M.	V.W.S.	12-17-71	J.H.O. 11-13-72		

MICROFILMED  
753 81891

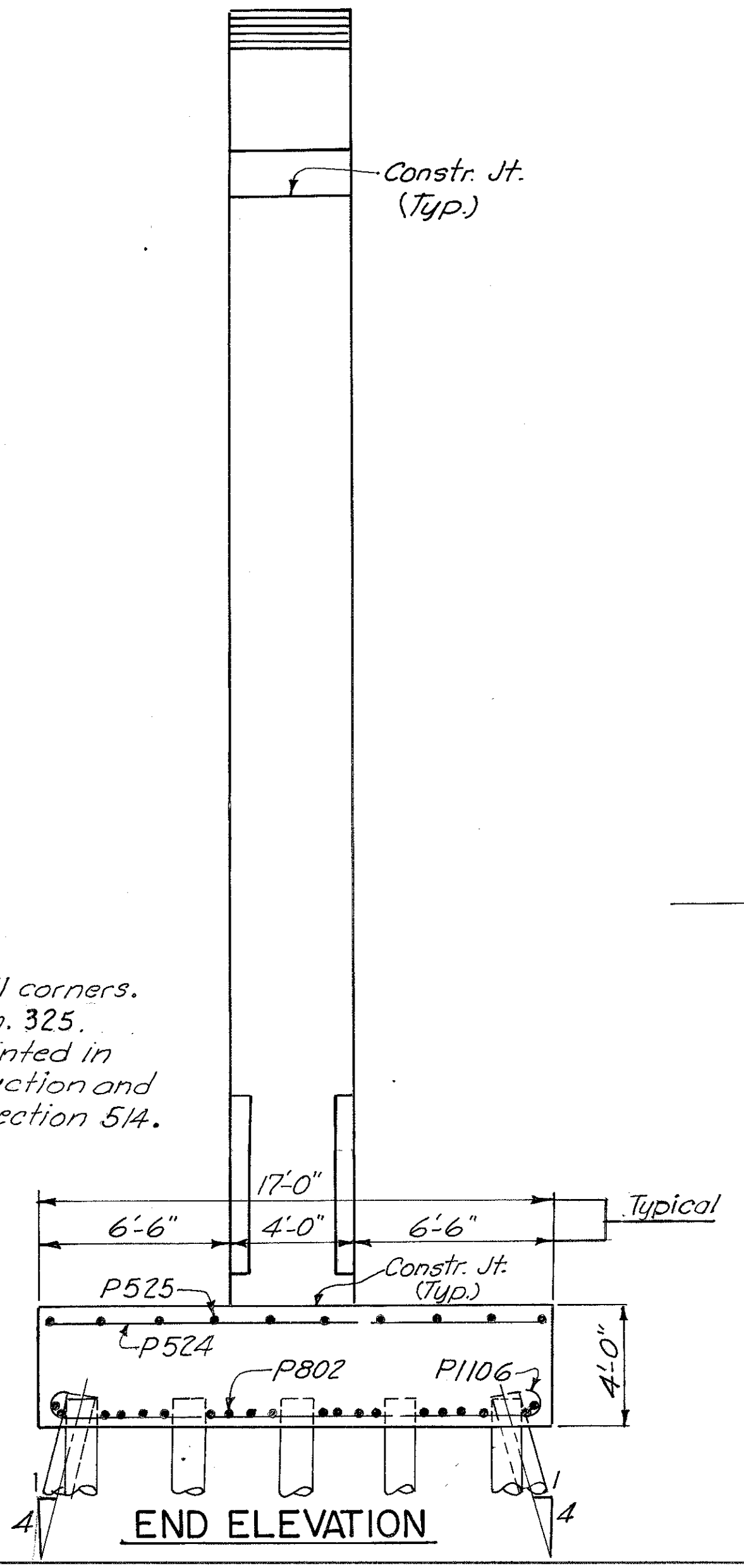
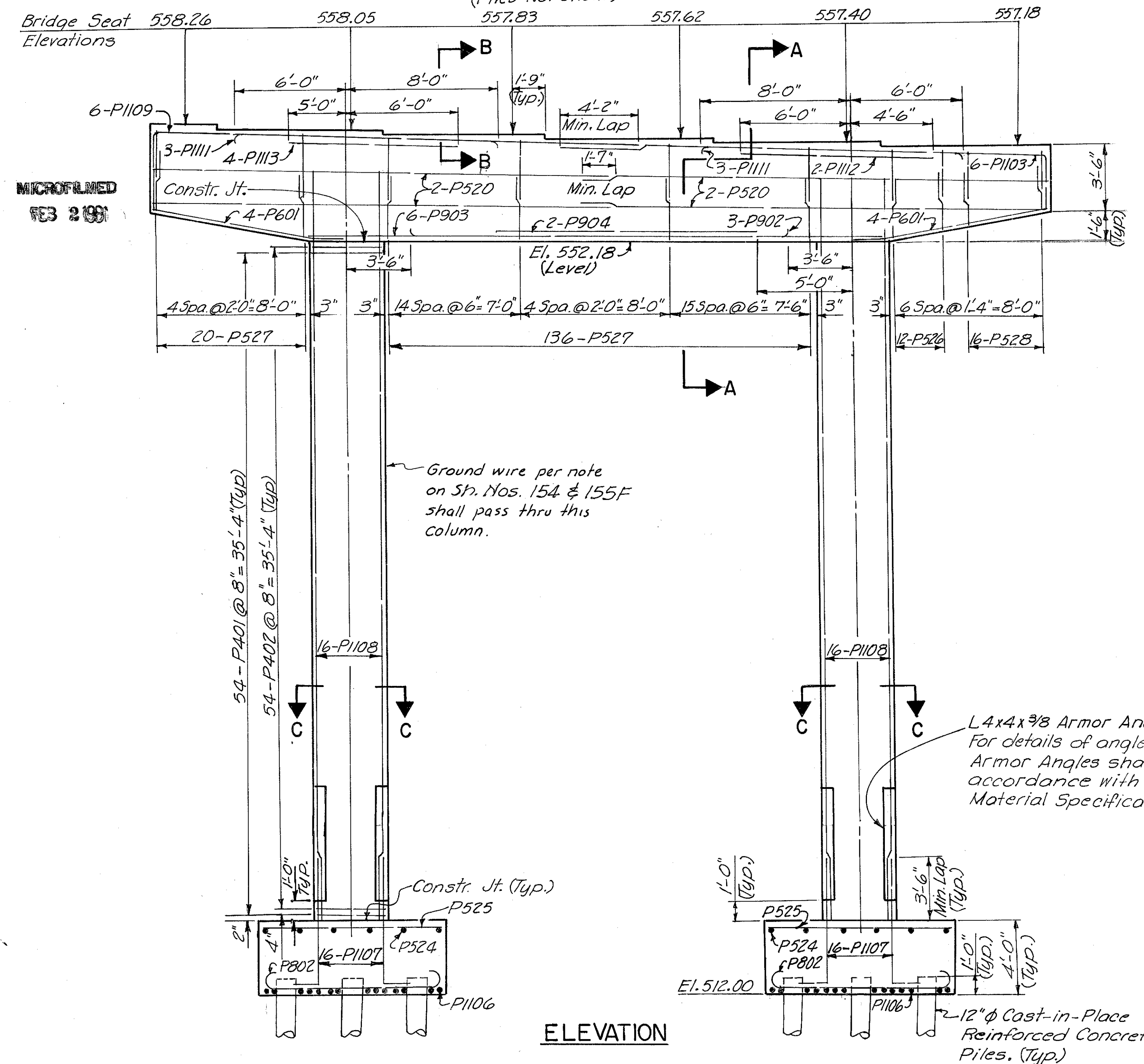
FED. RD. DIV. #	STATE	PROJECT	FISCAL YEAR
2	OHIO		

3/4  
494

HAMILTON COUNTY  
HAM-471-030



Note:  
Provide 3" clearance to reinforcing steel in footings, minimum.  
Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bolt holes.

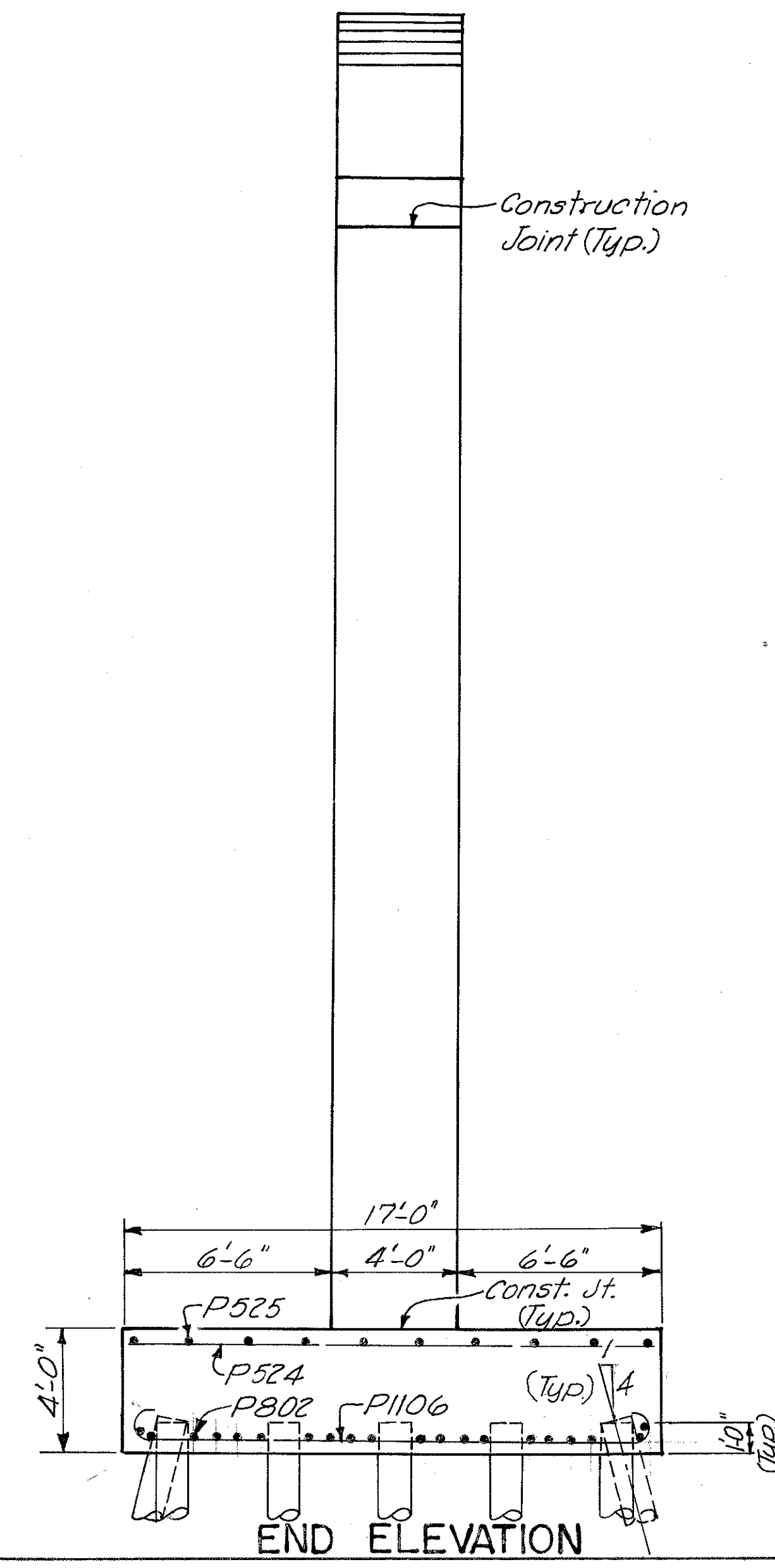
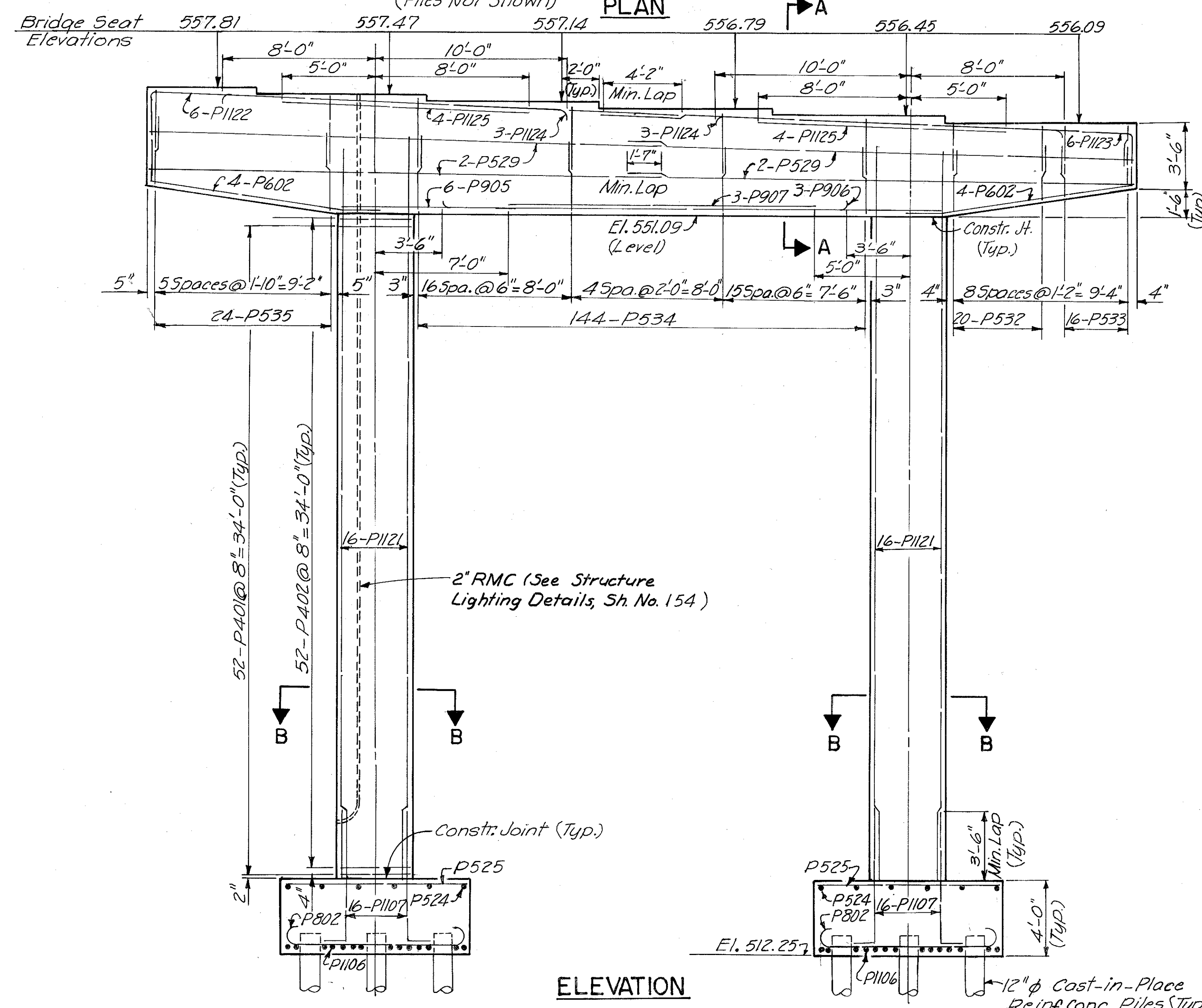
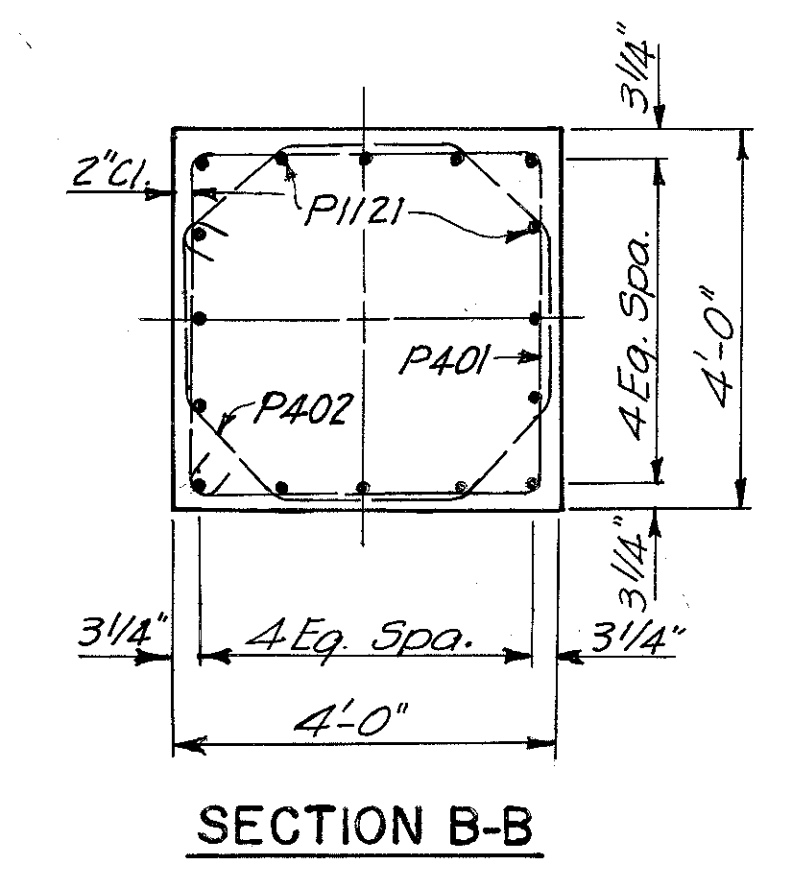
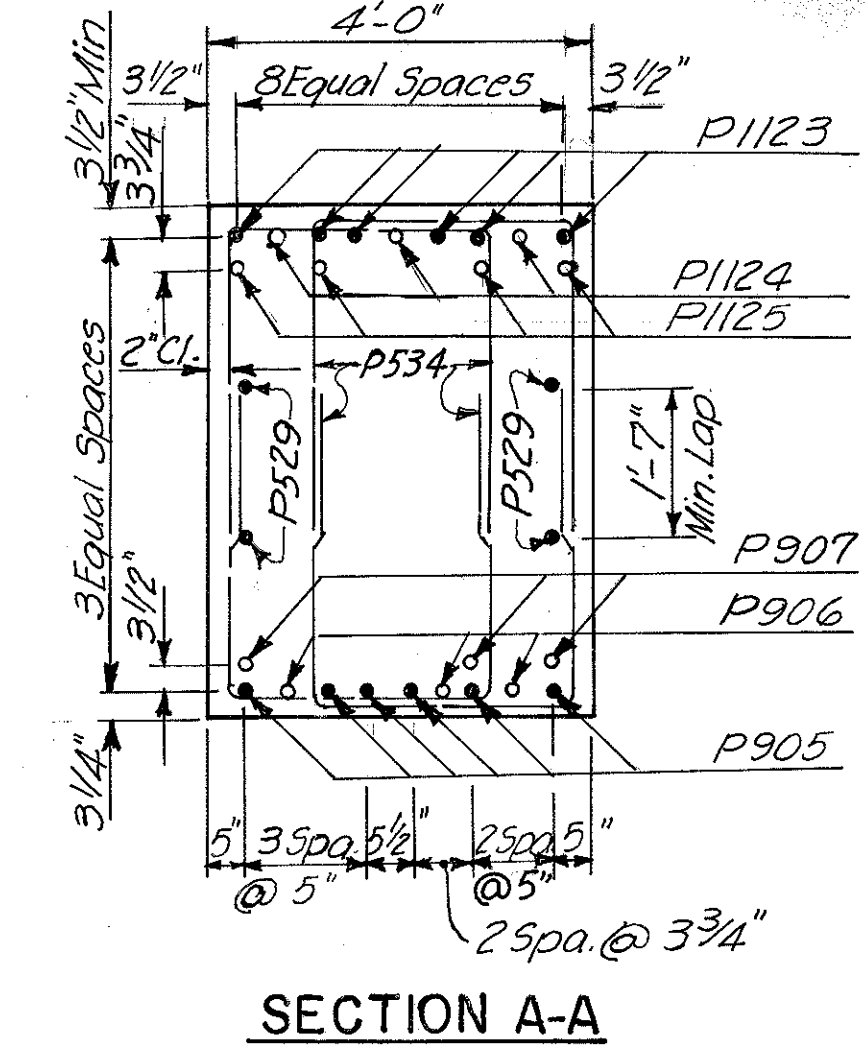
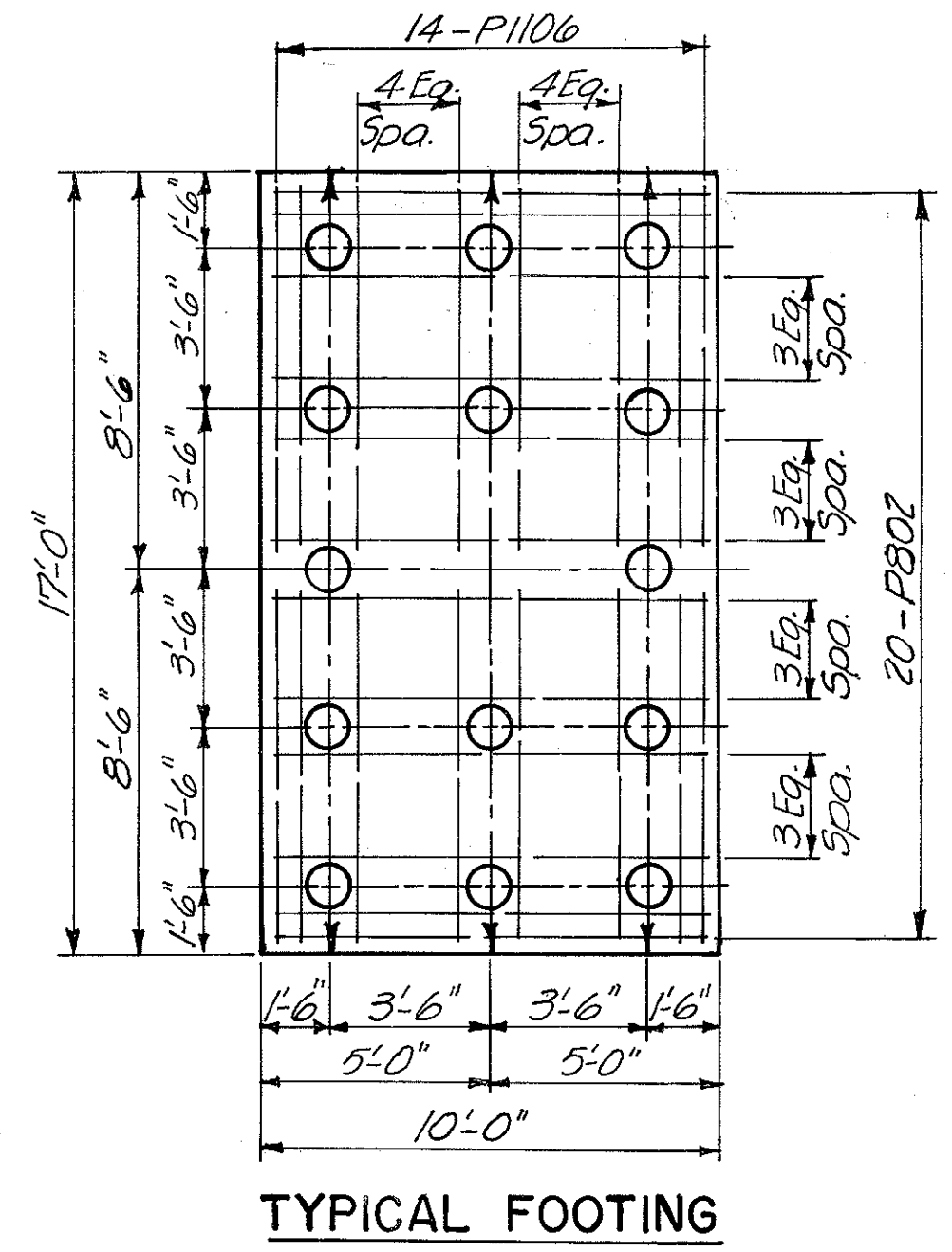
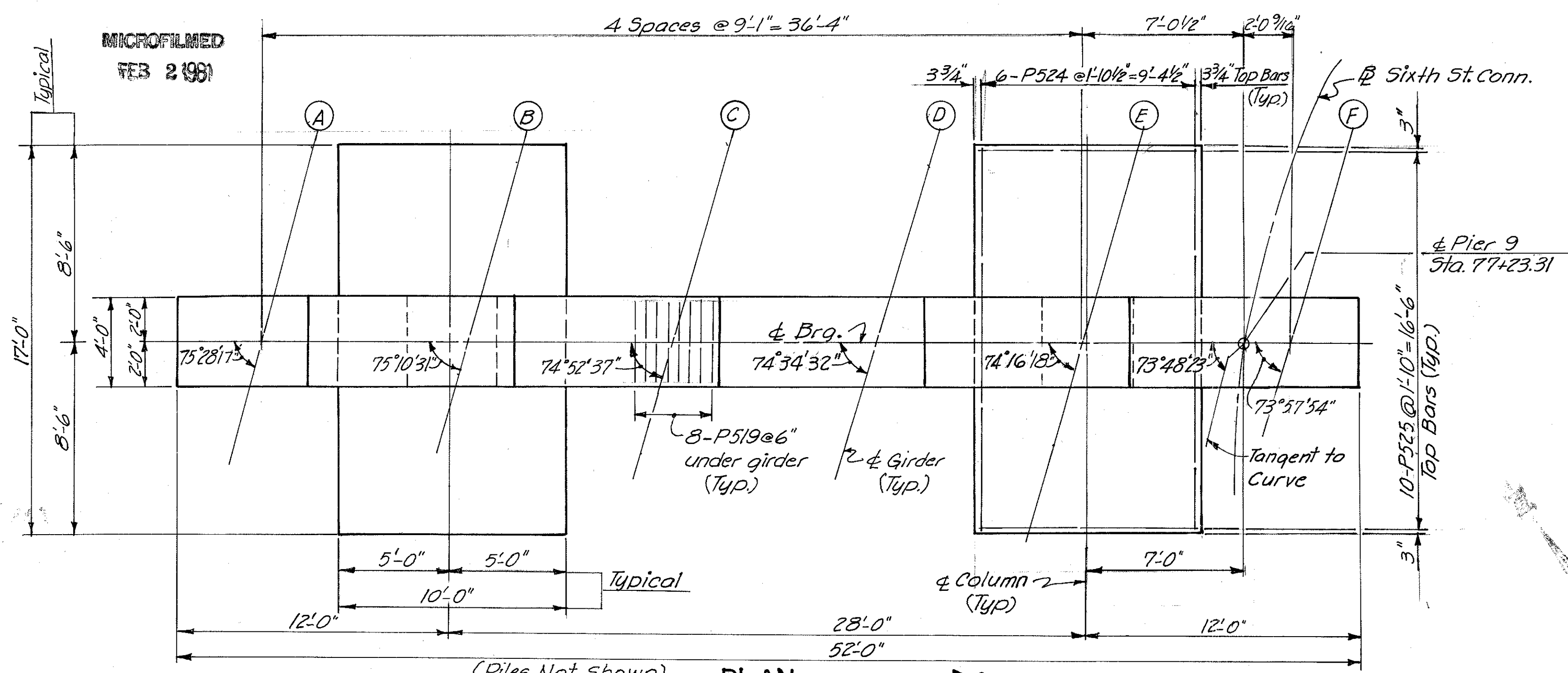


HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				20/64
<b>PIER NO. 8</b>				
<b>BRIDGE NO. HAM-471-0044</b>				
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
W.L.	J.E.M.	V.W.S.	V.V.L.	J.A.B. 11-13-72

MICROFILMED  
FEB 2 1981

HAMILTON COUNTY  
HAM-471-0.30

Note: ○ Denotes battered pile



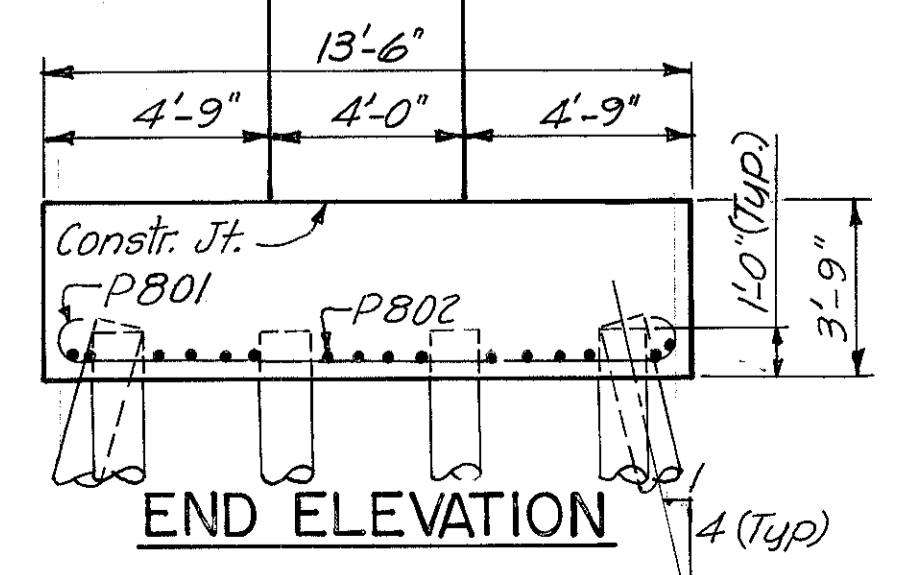
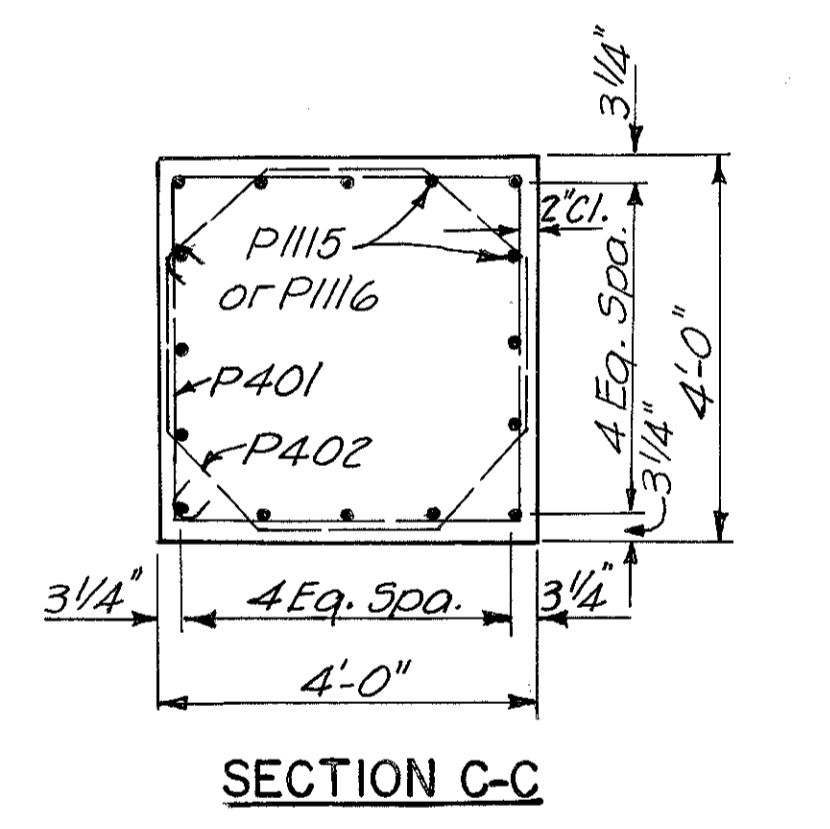
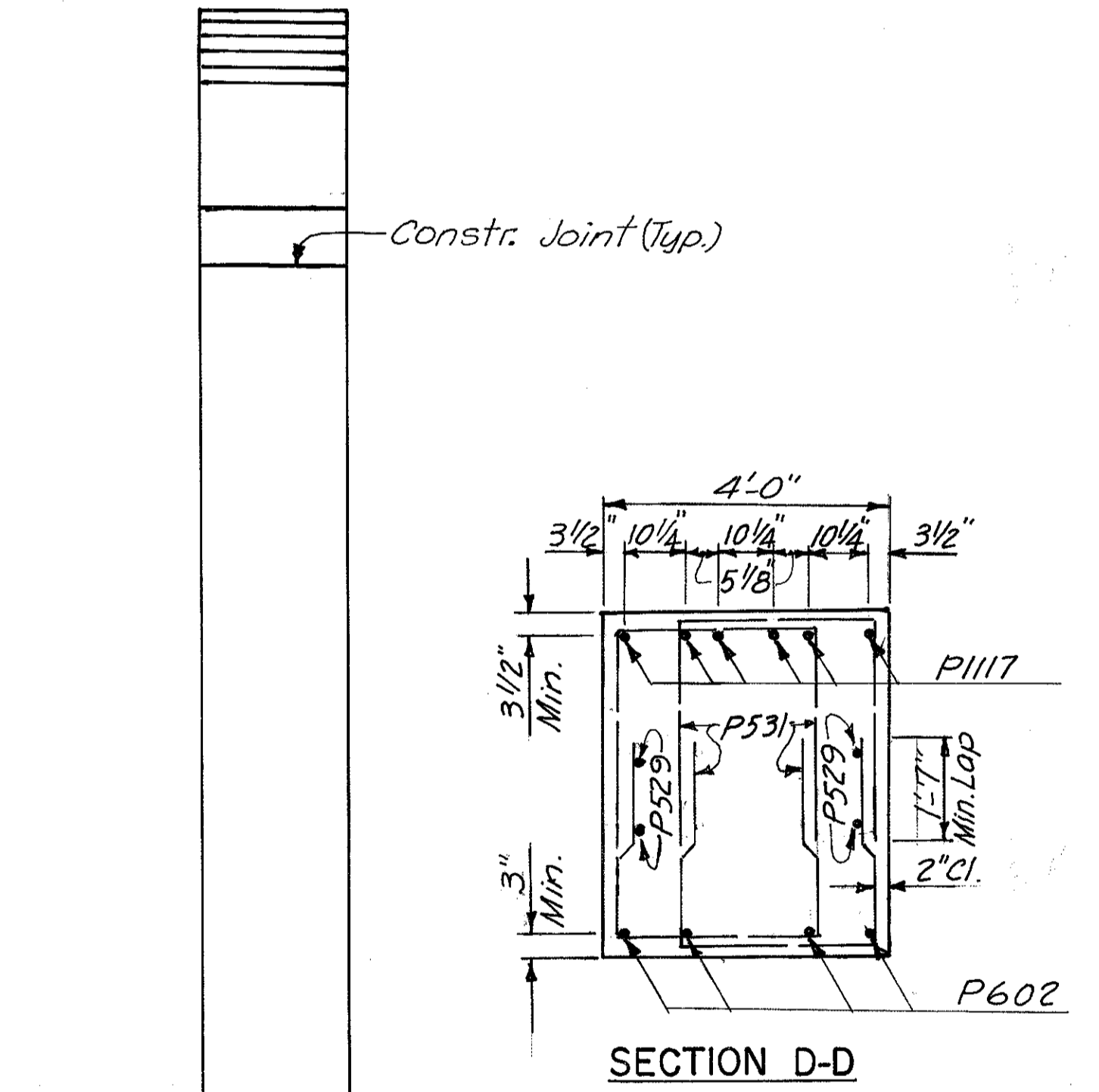
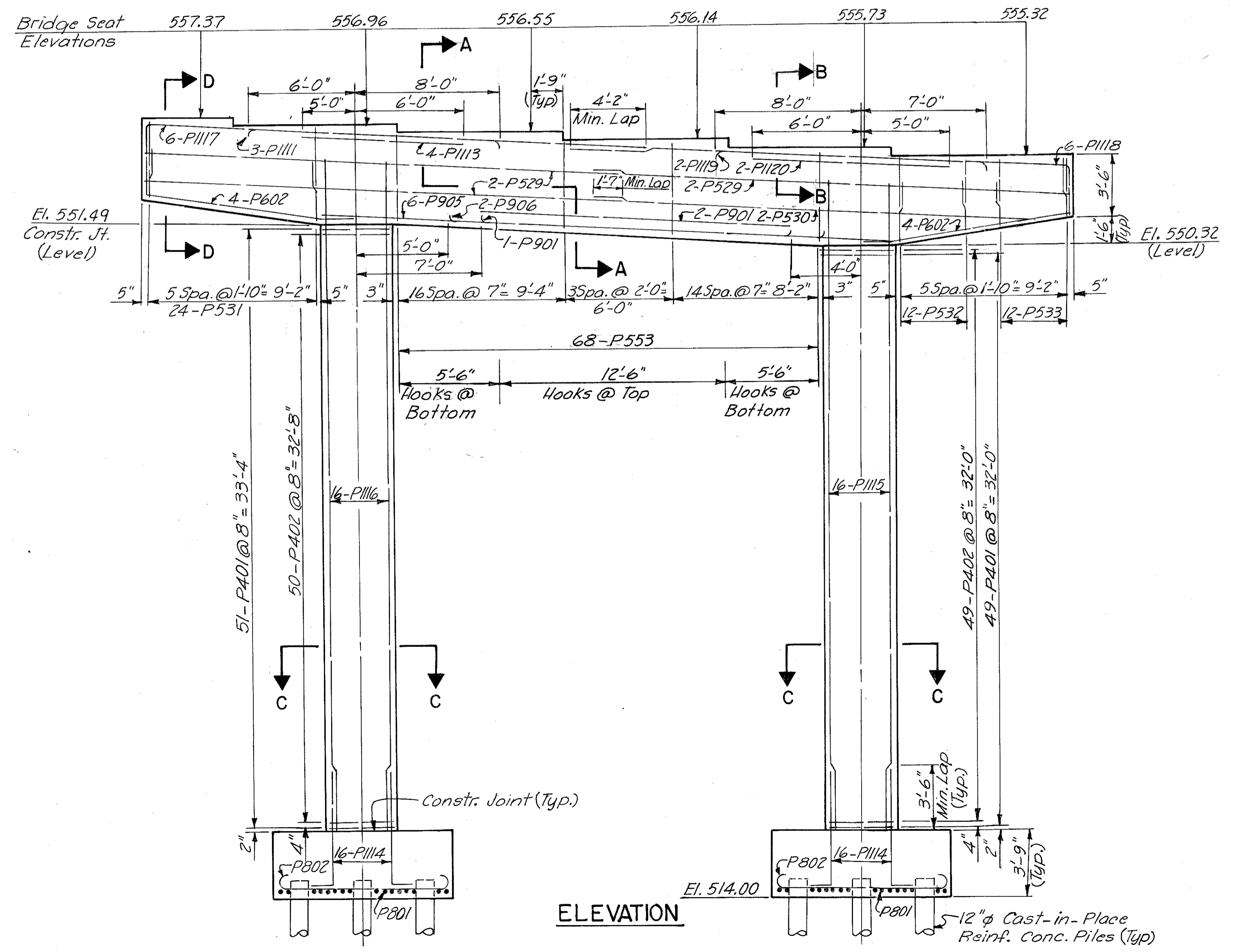
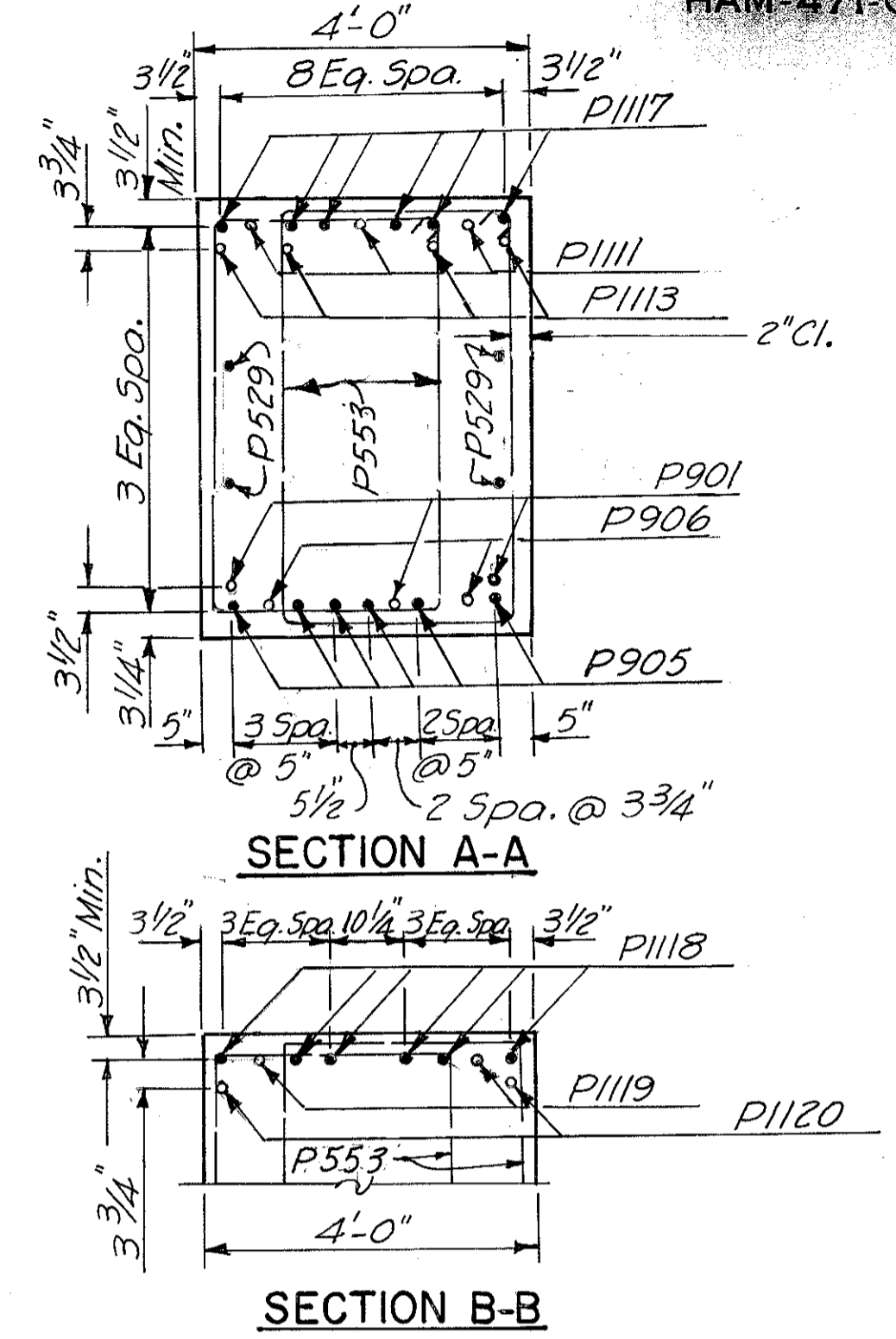
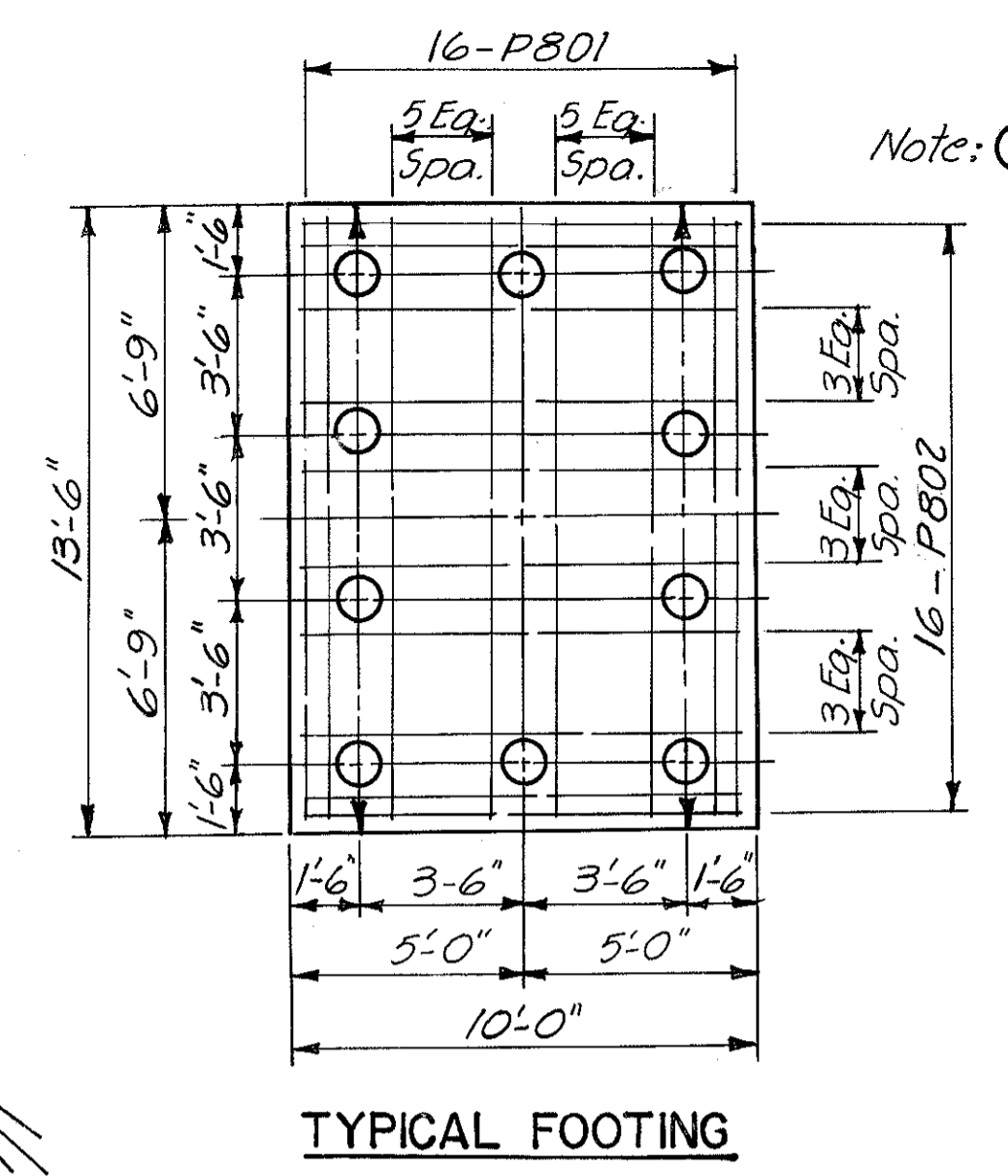
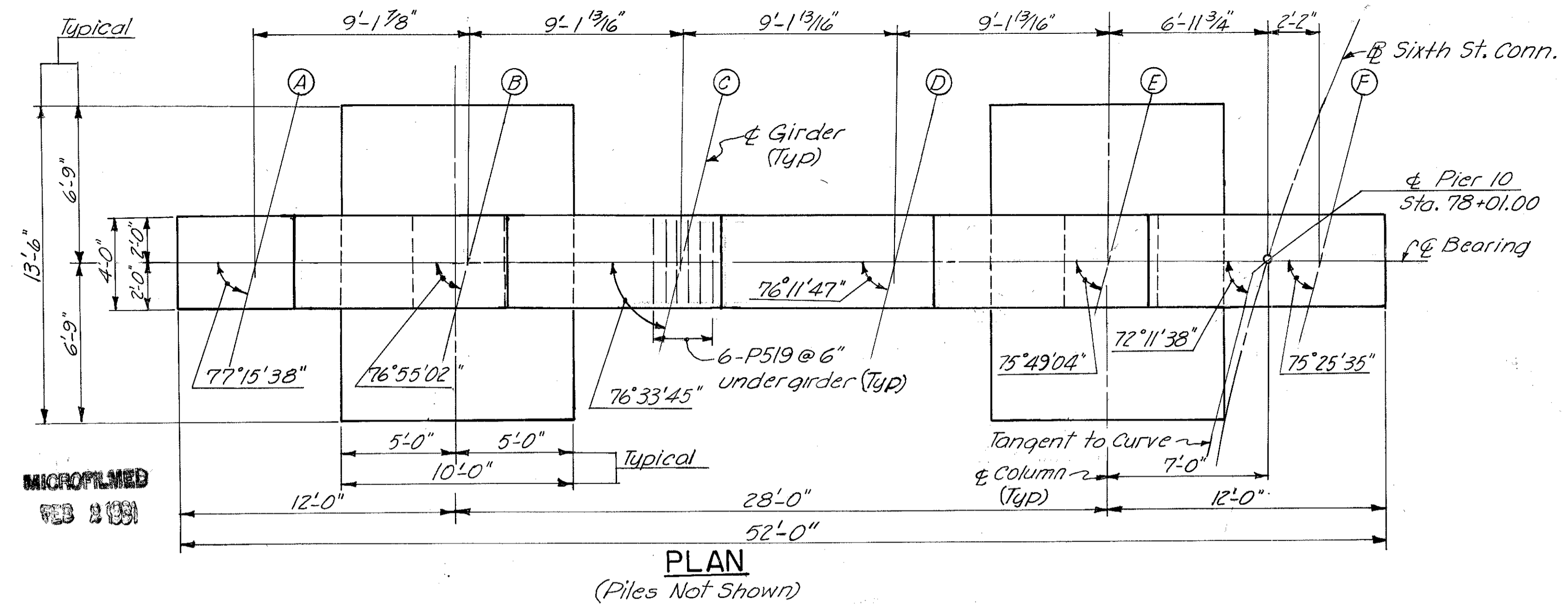
Note: Provide 3" clearance to reinforcing steel in footings, minimum.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					21/64
<b>PIER NO. 9</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	
W.L.	J.E.M.	V.W.S.	W.L.	JHO	11-13-72

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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HAMILTON COUNTY  
HAM-471-C-50



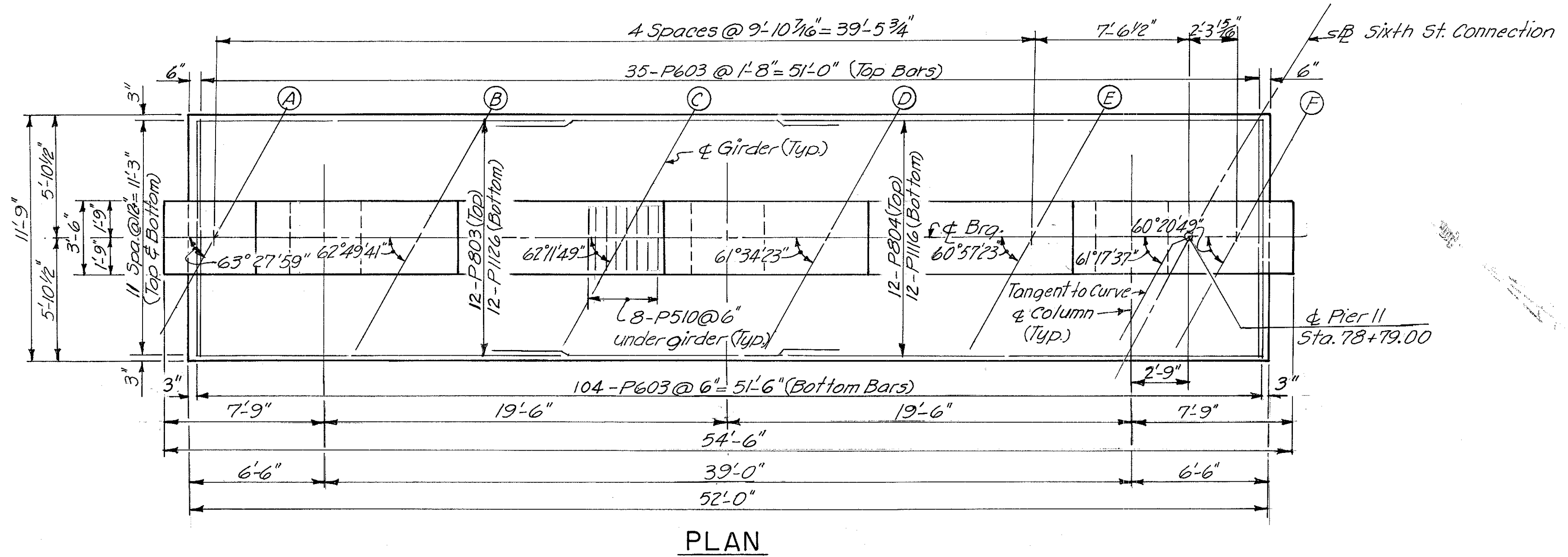
Note: Provide 3" clearance to reinforcing steel in footings, minimum.

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO 22/64

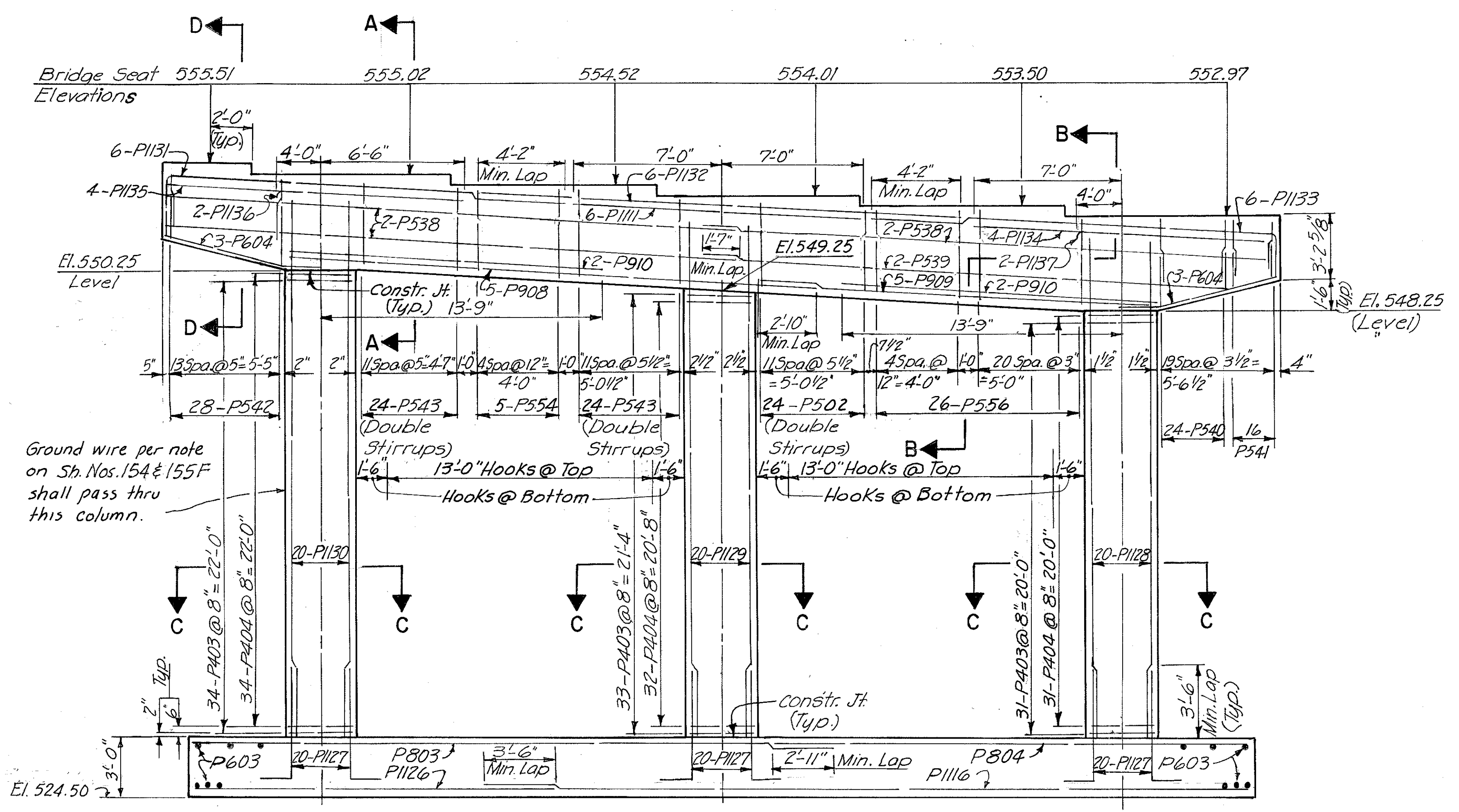
**PIER NO. 10**  
**BRIDGE NO. HAM-471-0044**  
SIXTH STREET CONNECTION OVER  
SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.E.M.	V.W.S.	W.L.	J.Ho 11-13-72	

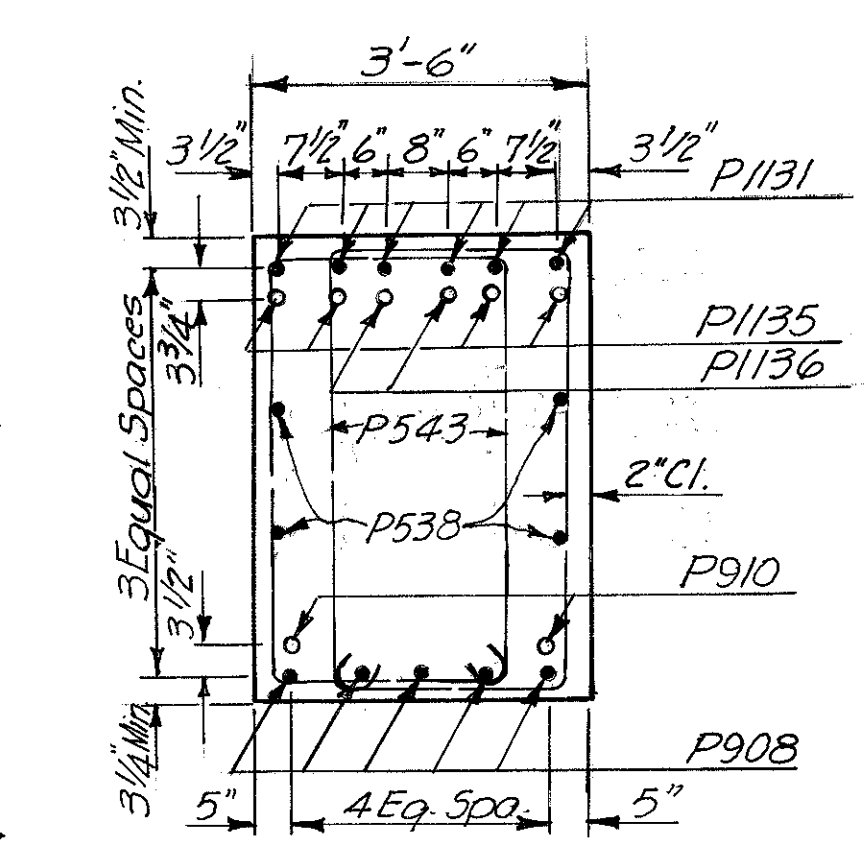
MICROFILMED  
753 2 199



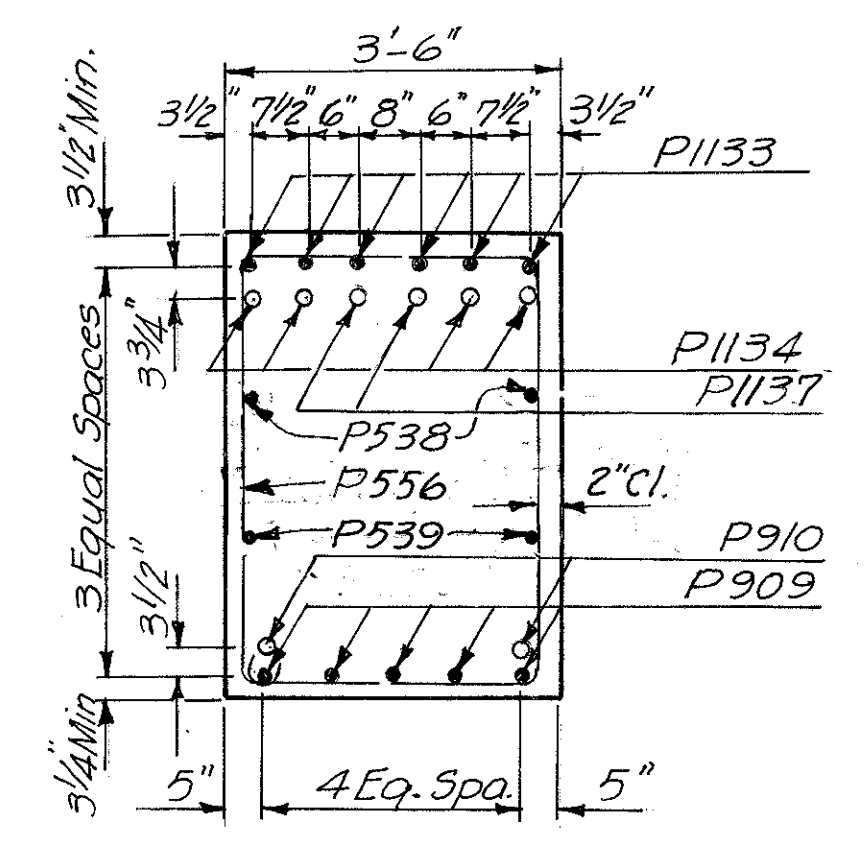
PLAN



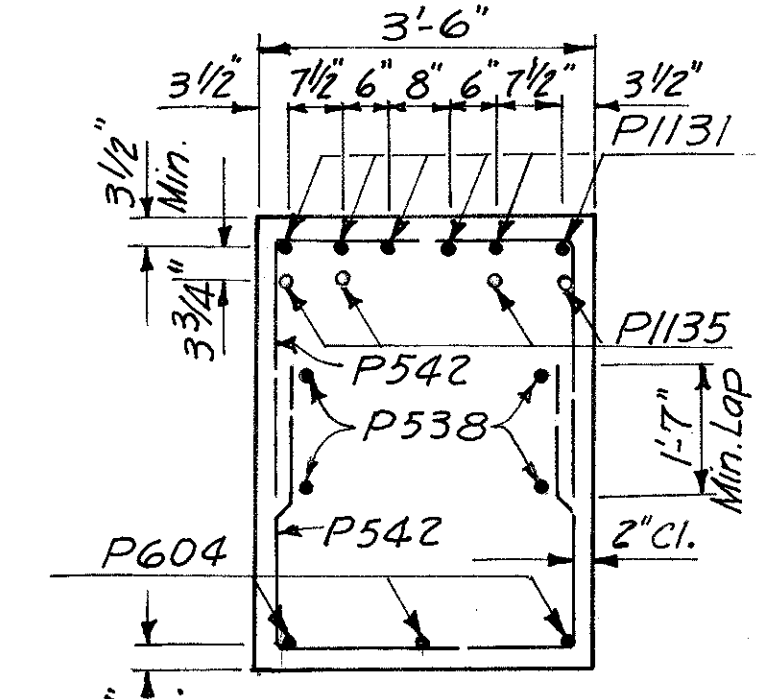
ELEVATION



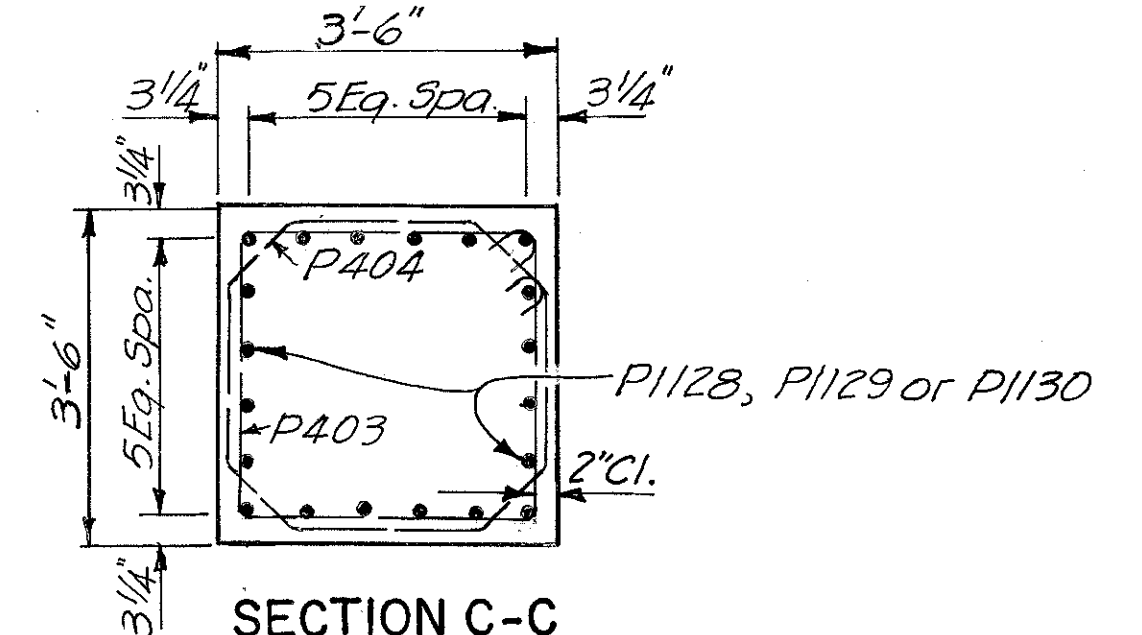
SECTION A-A



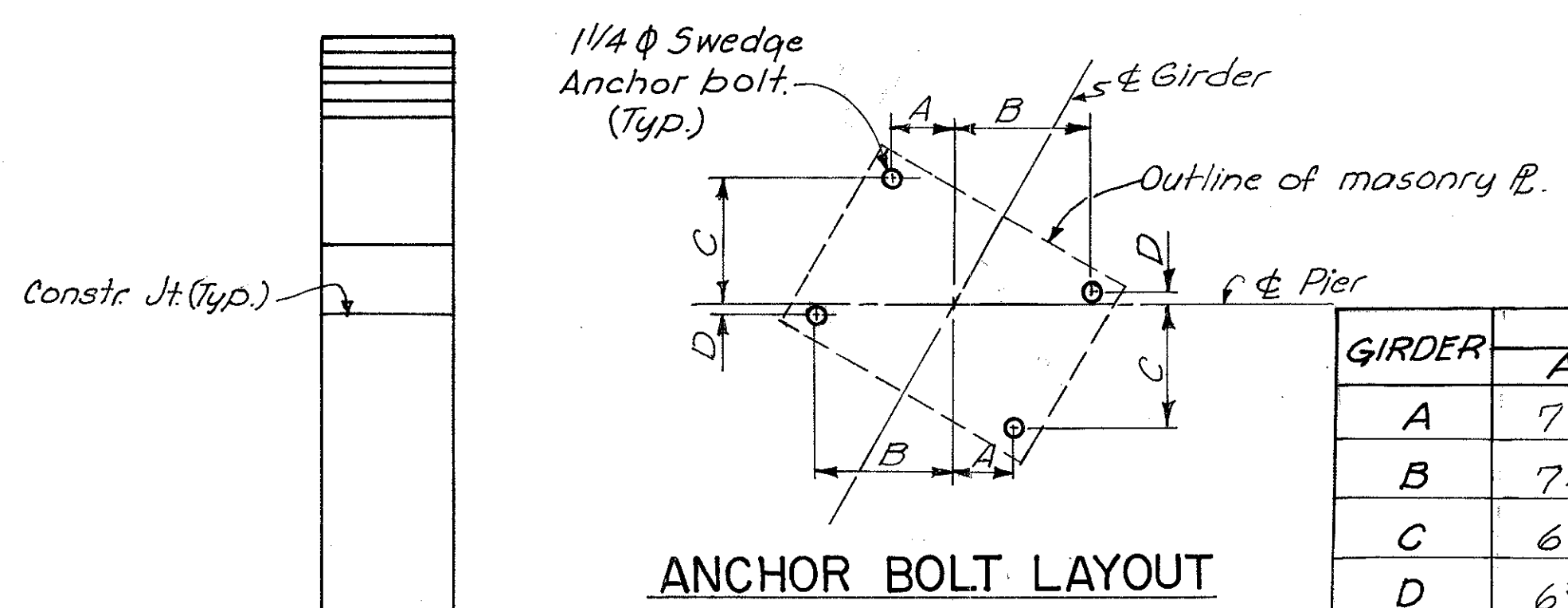
SECTION B-B



SECTION D-D

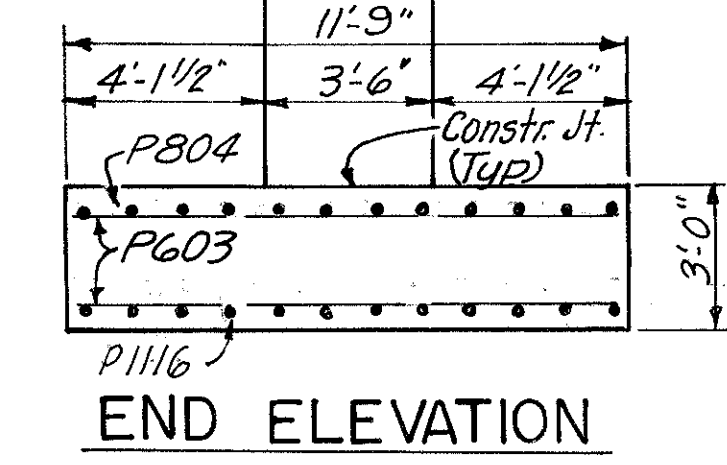


SECTION C-C



GIRDER	DIMENSION			
	A	B	C	D
A	7 3/16"	1-2 5/16"	1-0 1/2"	1 13/16"
B	7 1/16"	1-2 5/16"	1-0 5/8"	1 5/8"
C	6 7/8"	1-2 3/8"	1-0 1/4"	1 1/2"
D	6 3/4"	1-2 3/8"	1-0 3/4"	1 5/16"
E	6 5/8"	1-2 3/8"	1-0 3/16"	1 3/16"
F	6 1/2"	1-2 3/8"	1-0 7/8"	1"

Note: Provide 3" clearance to reinforcing steel in footing, minimum.  
Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bolt holes.



END ELEVATION

HAZLET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO 23/64

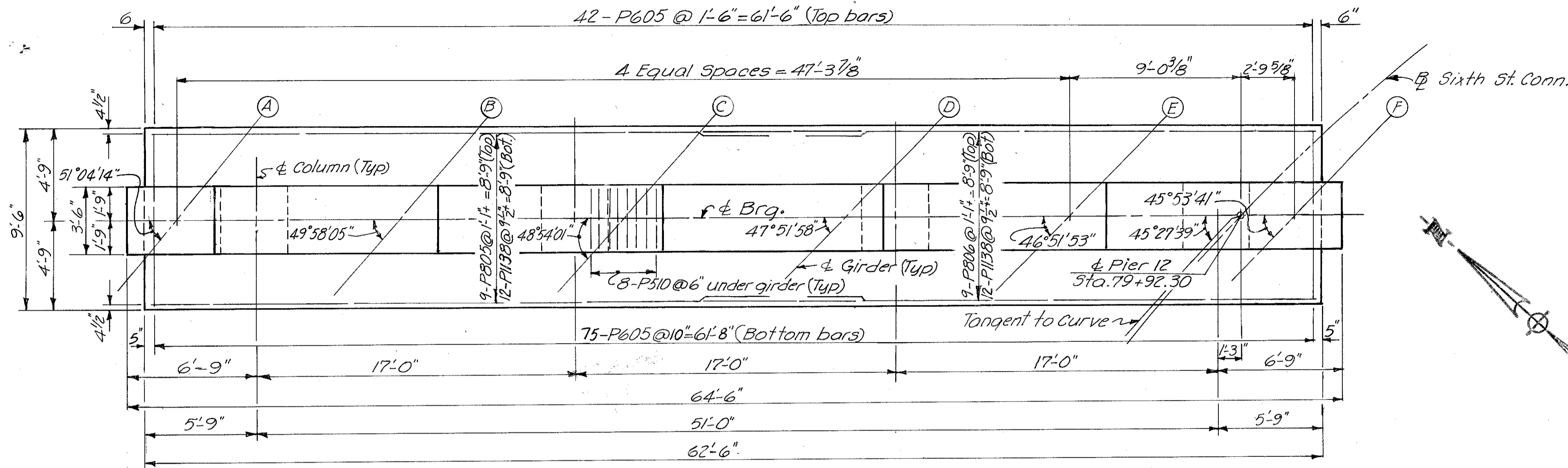
PIER NO. 11  
BRIDGE NO. HAM-471-0044  
SIXTH STREET CONNECTION OVER  
SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
W.L. JEM	V.W.S.	V.V.L.	J.H.O.	11-13-72	

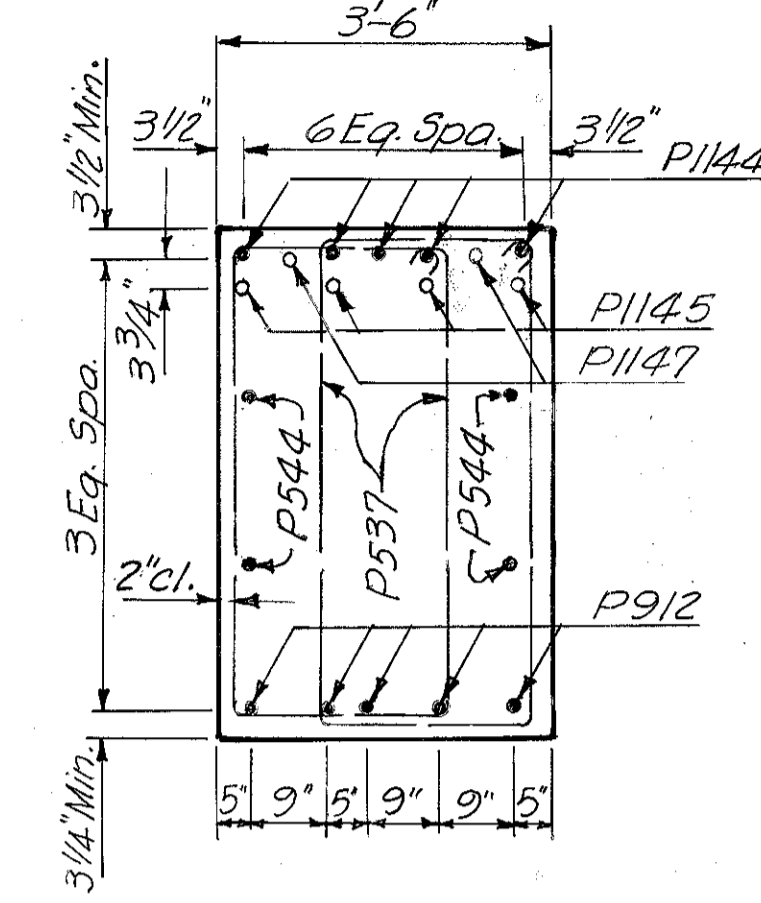
MICROFILMED  
FEB 2 1981

FED. RD. DIV. 2	STATE OHIO	PROJECT	FISCAL YEAR 318 494
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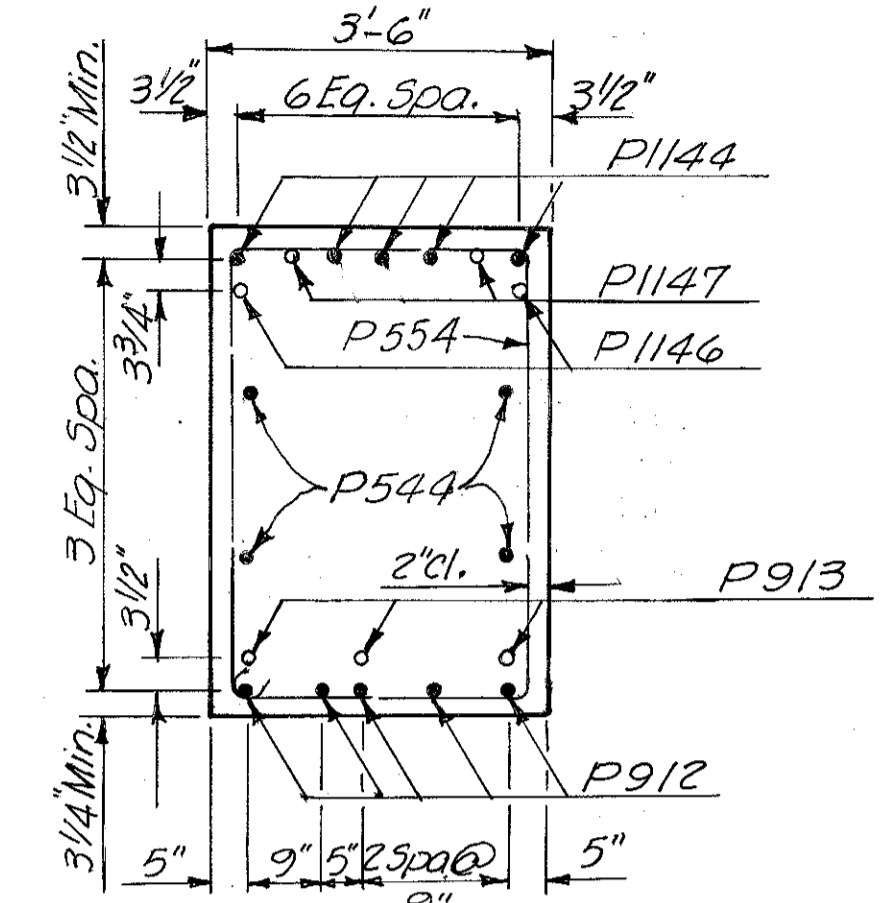
HAMILTON COUNTY  
HAM-471-0.30



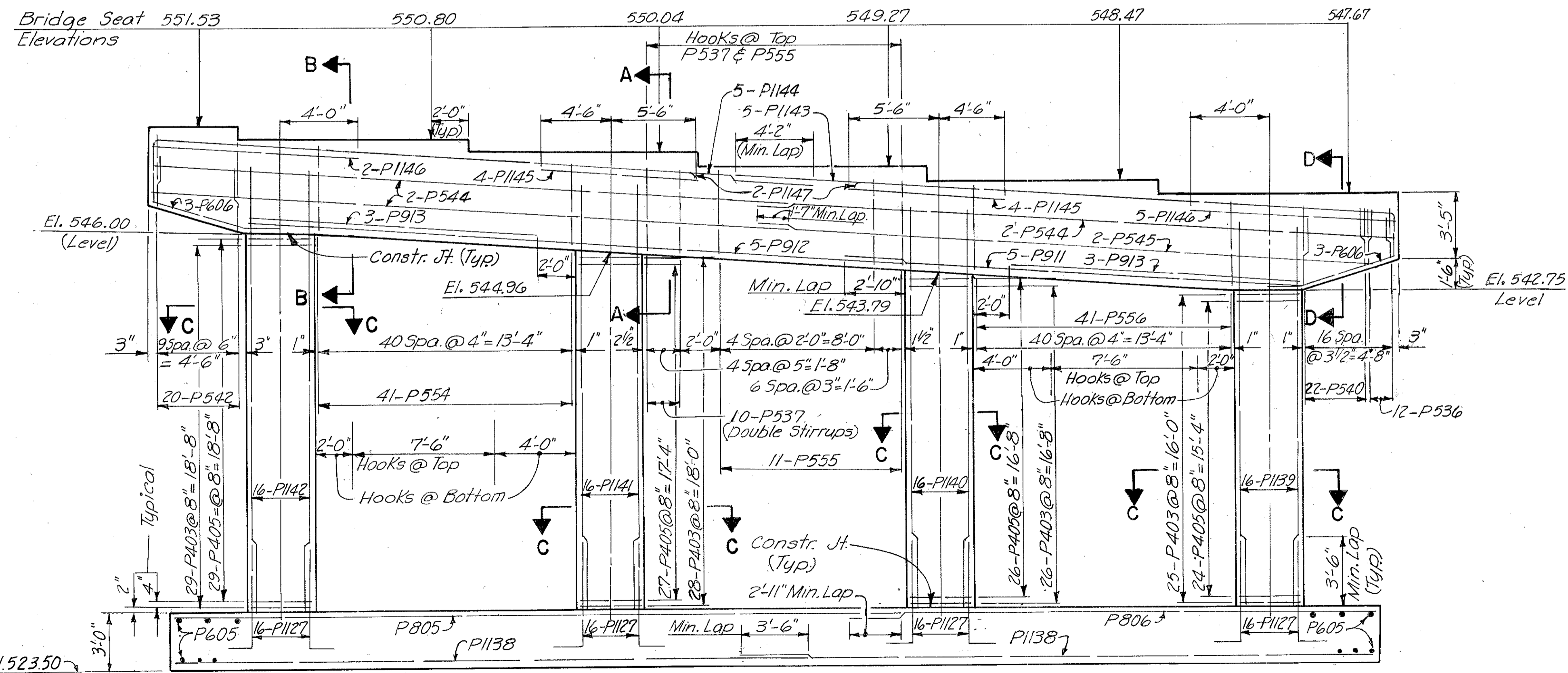
PLAN



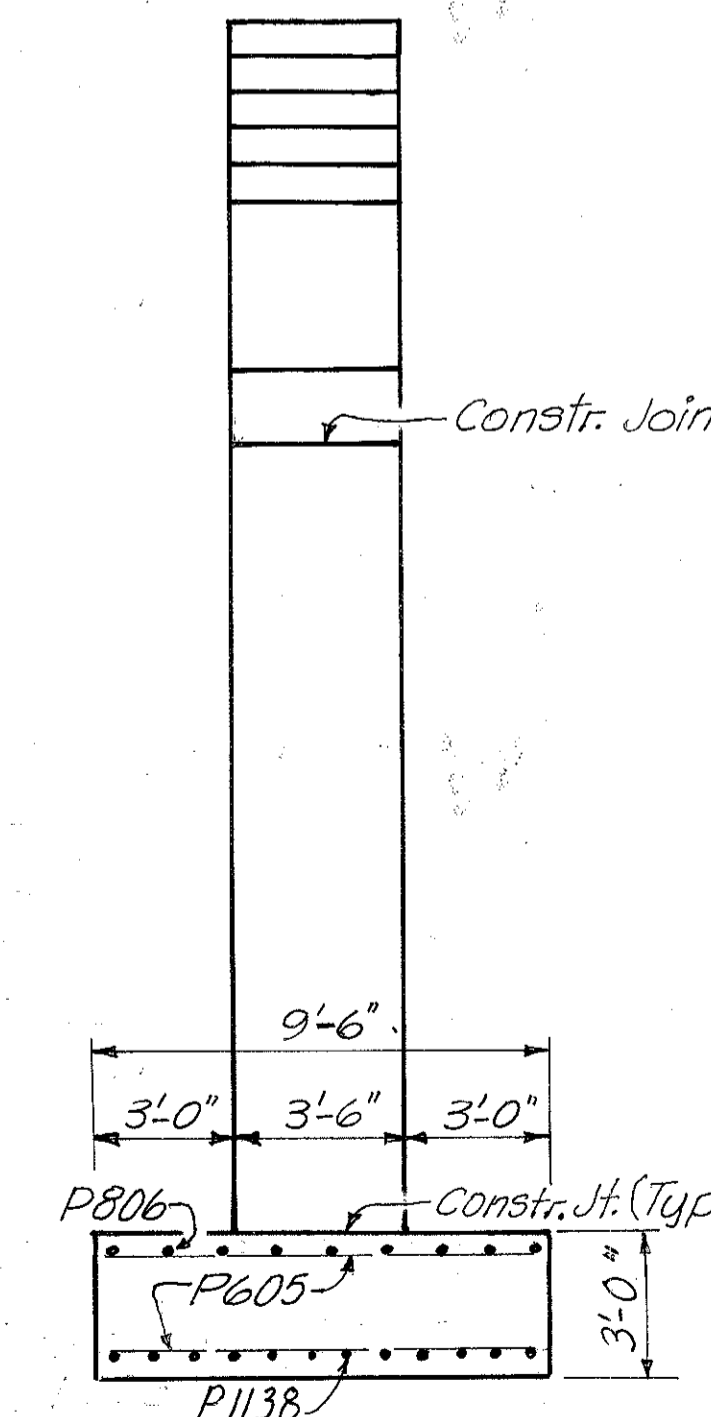
SECTION A-A



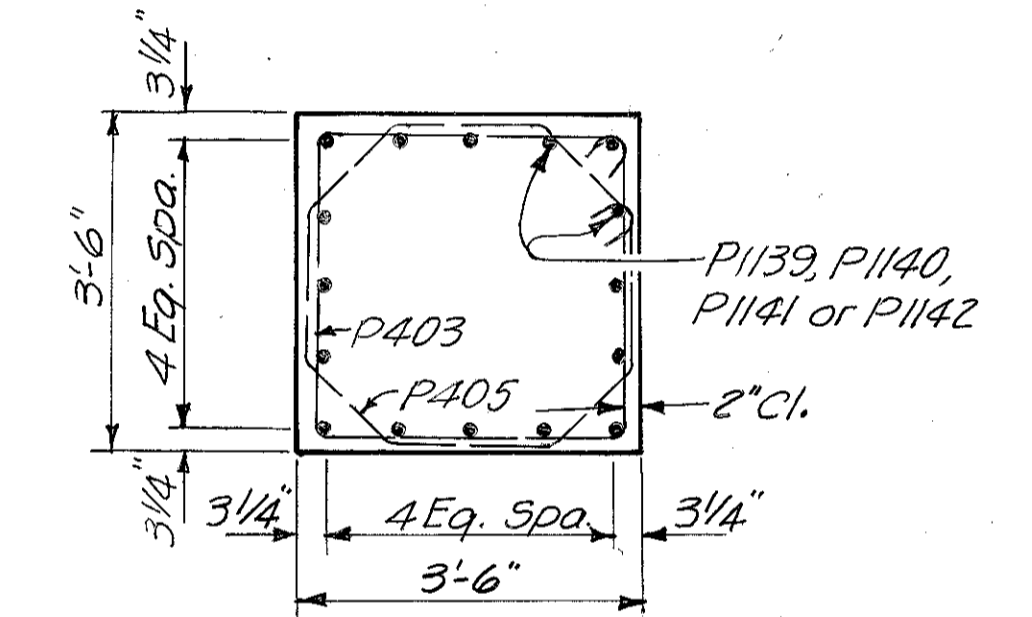
SECTION B-B



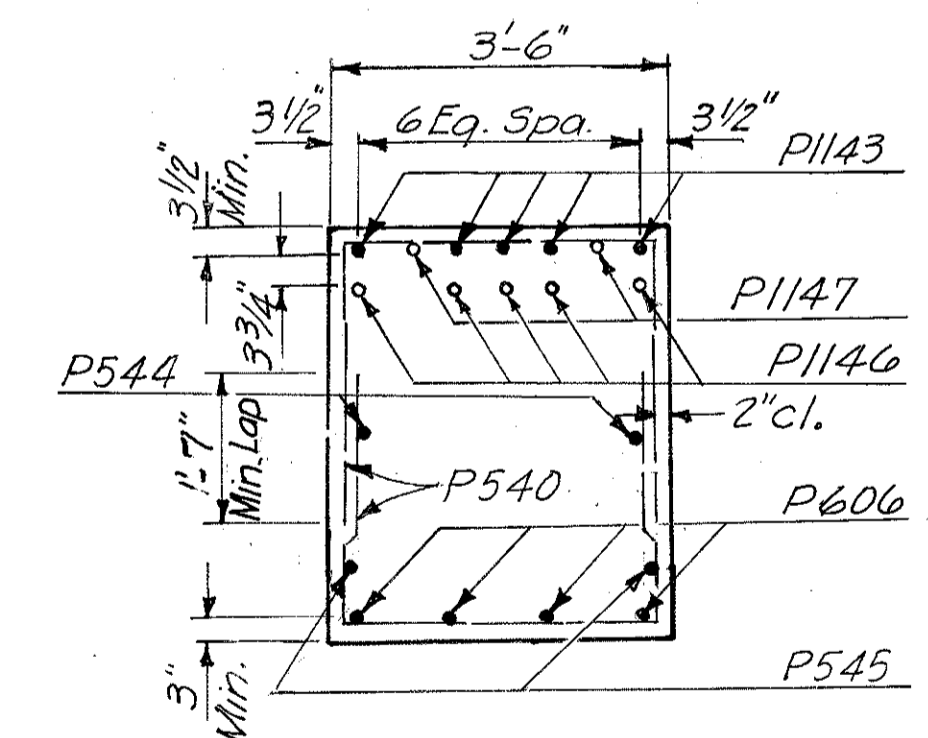
ELEVATION



END ELEVATION



SECTION C-C



SECTION D-D

Note: Provide 3" clearance to reinforcing steel in footing, minimum.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					24/64
<b>PIER NO. 12</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.E.M.	V.W.S.	W.L.	J.H.O. 11-13-72	

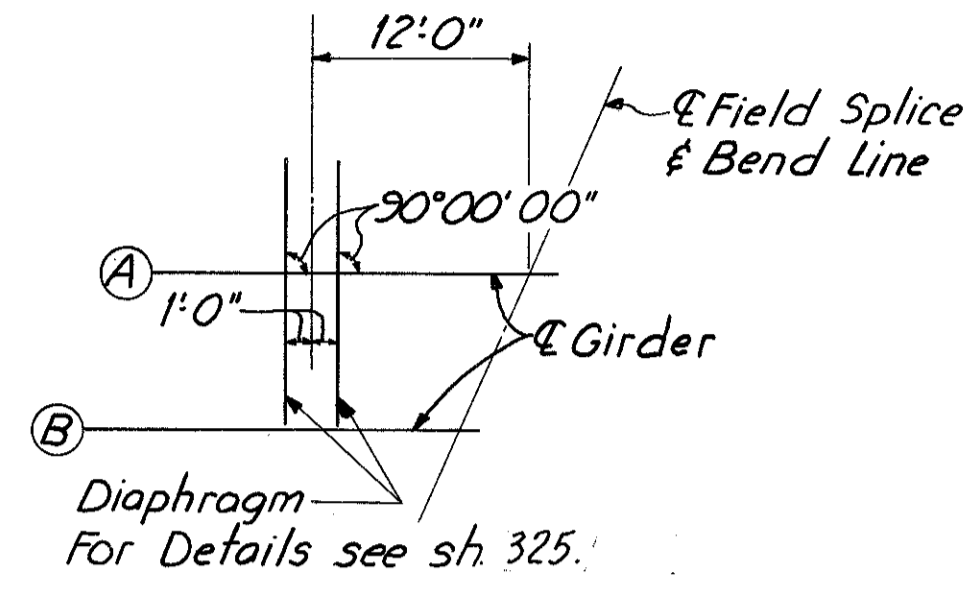
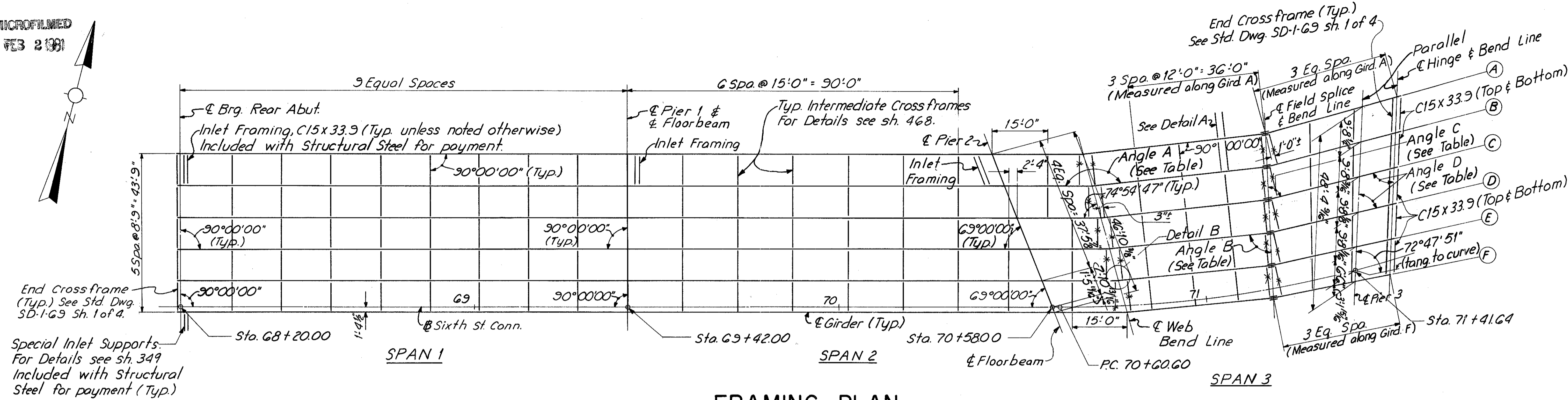
Note: \* Denotes Type A Crossframe. For Details see sh. 321.

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

319  
494

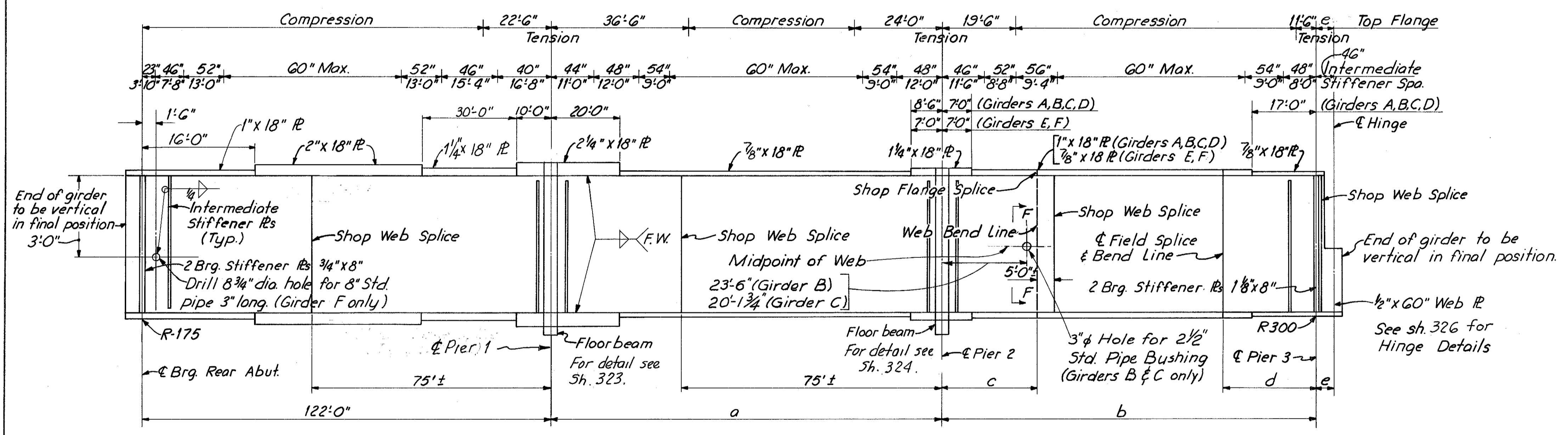
HAMILTON COUNTY  
HAM-471-0.30

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FEB 2 1981



DETAIL A

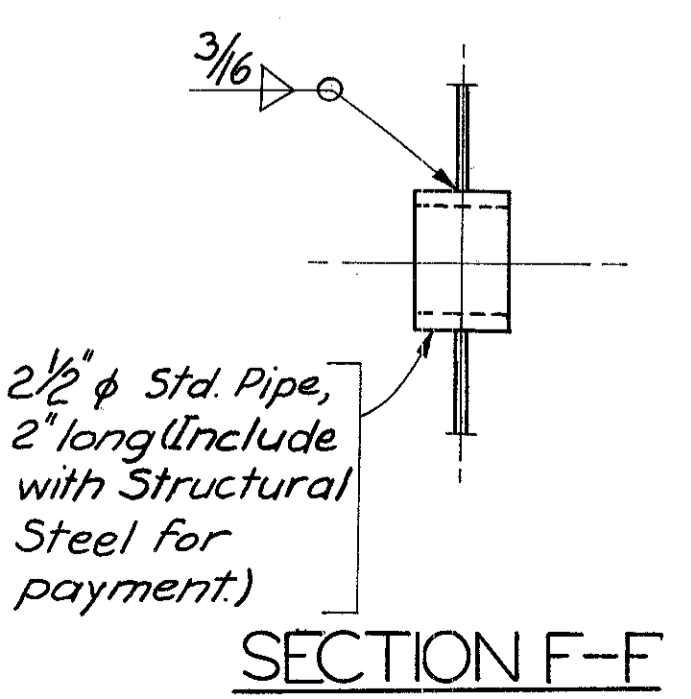
FRAMING PLAN  
UNIT A



Notes:  
For treatment of ends of girders see Std. Dwg. SD-1-G9 Sh. No. 1, Longitudinal Section Bridge on Grade.  
Bearing Stiffeners to be vertical in final position.  
For Bearing Details see Std. Dwg. RB-1-55, FSB-1-G2 and sh. No. 324 & 326.  
For Inlet Framing Details see Drainage Details sh. No. 469 & 351.  
For steel details not shown see Typ. Structural Steel Details sh. no. 468.  
Field flange splices shall miss crossframes and intermediate stiffeners by 1'0" minimum, and shop flange splices shall miss shop web splices by 5'0" minimum.  
Intermediate stiffeners are 3/8" x 6" R's (One each side of web).  
Girder web R is 3/8" x 60" unless otherwise noted. Top and bottom plates are identical.  
Items are identical for each girder except as noted.  
F.W. For sizes see Table of Fillet Weld Sizes sh. 468.  
For Curb Plate Details and Sidewalk End Dam Details, see Std. Dwg. SD-1-G9 Sh. No. 2.  
\* For End Dam Details at Abutments see Std. Dwg. SD-1-G9 Sh. No. 1.  
Before any fabrication of structural steel is started, the contractor shall first determine the exact location of the existing Piers No. 4, 5, and 6.  
For Stair Anchor Assembly Detail see Sh. No. 310.  
For Joint Details for Stairs see Sh. No. 342.  
\* Provide 3" beveled bar at both ends of bridge regardless of grade.

GIRDER ELEVATION

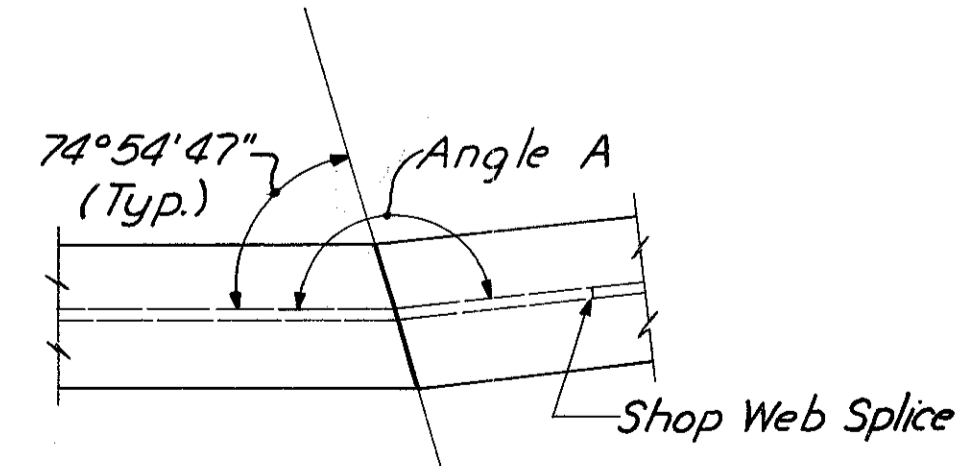
Girder	Angle			
	A	B	C	D
A	173° 27' 02"	85° 52' 24"	76° 51' 50"	71° 49' 38"
B	173° 35' 57"	86° 01' 19"	77° 35' 15"	72° 33' 03"
C	173° 45' 39"	86° 11' 00"	78° 21' 04"	73° 18' 53"
D	173° 56' 13"	86° 21' 35"	79° 09' 31"	74° 07' 19"
E	174° 07' 48"	86° 33' 10"	80° 00' 45"	74° 58' 34"
F	174° 20' 33"	86° 45' 54"	80° 55' 03"	75° 52' 51"



SECTION F-F

Girder Dim.	a	b	c	d	e
A	99' 8 3/16"	102' 5 3/16"	25' 0"	27' 5 3/16"	10' 0 1/16"
B	103' 1 1/8"	98' 5 3/16"	24' 0"	26' 5 3/16"	9' 11 3/16"
C	106' 5 5/16"	94' 6 7/16"	23' 0"	25' 6 7/16"	9' 11 1/16"
D	109' 9 3/4"	90' 7 7/16"	22' 0"	24' 7 1/4"	9' 10 3/16"
E	113' 2"	86' 8 1/16"	21' 0"	23' 8 1/16"	9' 10 1/16"
F	116' 6 5/16"	82' 9"	20' 0"	22' 9"	9' 9 5/8"

Dimensions are measured along Girders



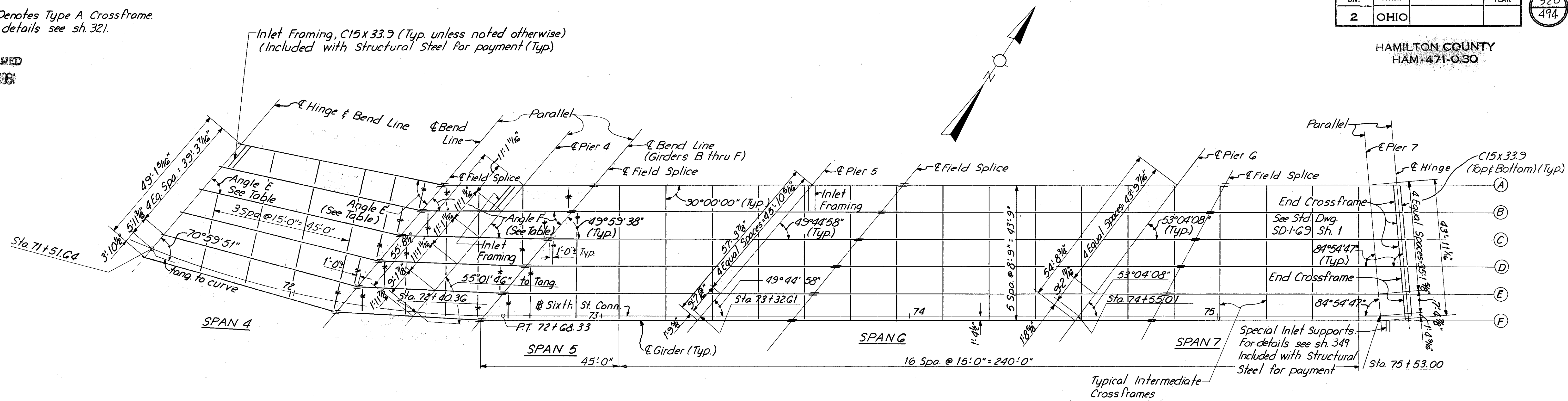
DETAIL B

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					25/64
<b>STRUCTURAL STEEL DETAILS</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
WL	JHD		JHL 12-13-71	JHL 11-13-72	

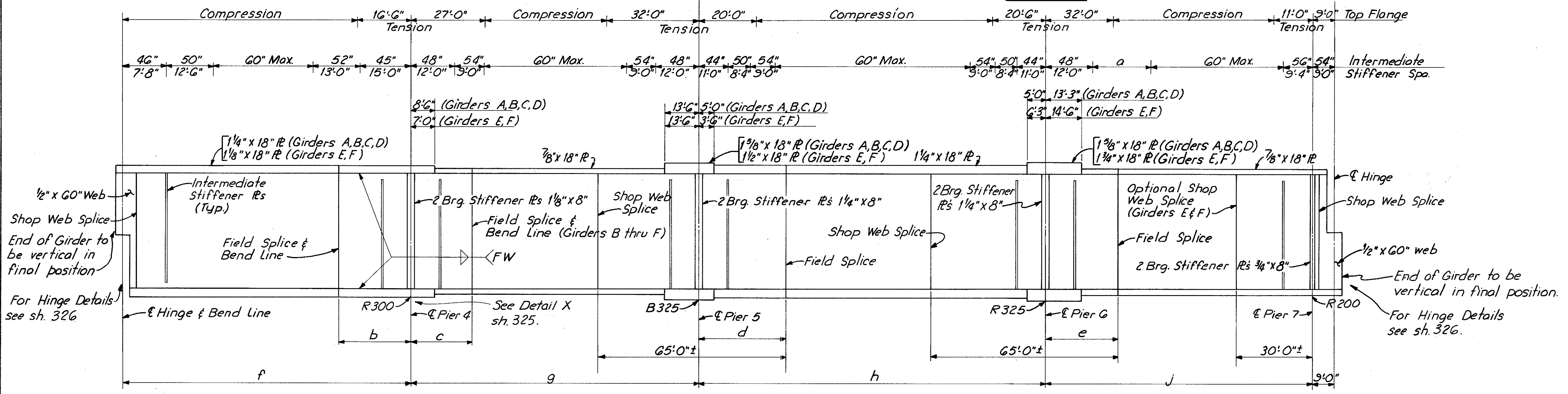


Note: \* Denotes Type A Crossframe.  
For details see sh. 321.

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**FRAMING PLAN  
UNIT B**



**GIRDER ELEVATION**

Dim. Girder	a	b	c	d	e	f	g	h	j
A	2 Spa. @ 54'-3" = 3'-0"	26'-0"	23'-0"	29'-7 1/8"	15'-7 1/8"	92'-11 3/16"	93'-6 1/16"	118'-4 3/16"	62'-4 7/16"
B	2 Spa. @ 54'-3" = 3'-0"	25'-9 3/16"	22'-9 3/16"	29'-9 3/16"	17'-5 3/16"	92'-3 1/2"	93'-3 3/16"	119'-2 1/2"	69'-8 1/16"
C	2 Spa. @ 54'-3" = 3'-0"	25'-7 1/8"	22'-7 1/16"	30'-0 1/8"	19'-3 1/4"	91'-7 7/16"	93'-0 1/16"	120'-0 1/2"	77'-1"
D	2 Spa. @ 54'-3" = 3'-0"	25'-4 3/4"	22'-5 9/16"	30'-2 5/8"	21'-1 3/16"	90'-11 13/16"	92'-9 13/16"	120'-10 1/16"	84'-5 1/4"
E	3 Spa. @ 52'-13" = 3'-0"	25'-2 3/8"	22'-3 1/2"	30'-5 1/8"	22'-11 3/8"	90'-4 1/4"	92'-7 7/8"	121'-8 7/16"	91'-9 1/2"
F	3 Spa. @ 52'-13" = 3'-0"	25'-0 1/16"	22'-1 7/16"	30'-7 3/8"	24'-9 7/16"	89'-8 13/16"	92'-4 1/4"	122'-6 3/8"	99'-1 13/16"

Dimensions are measured along Girders.

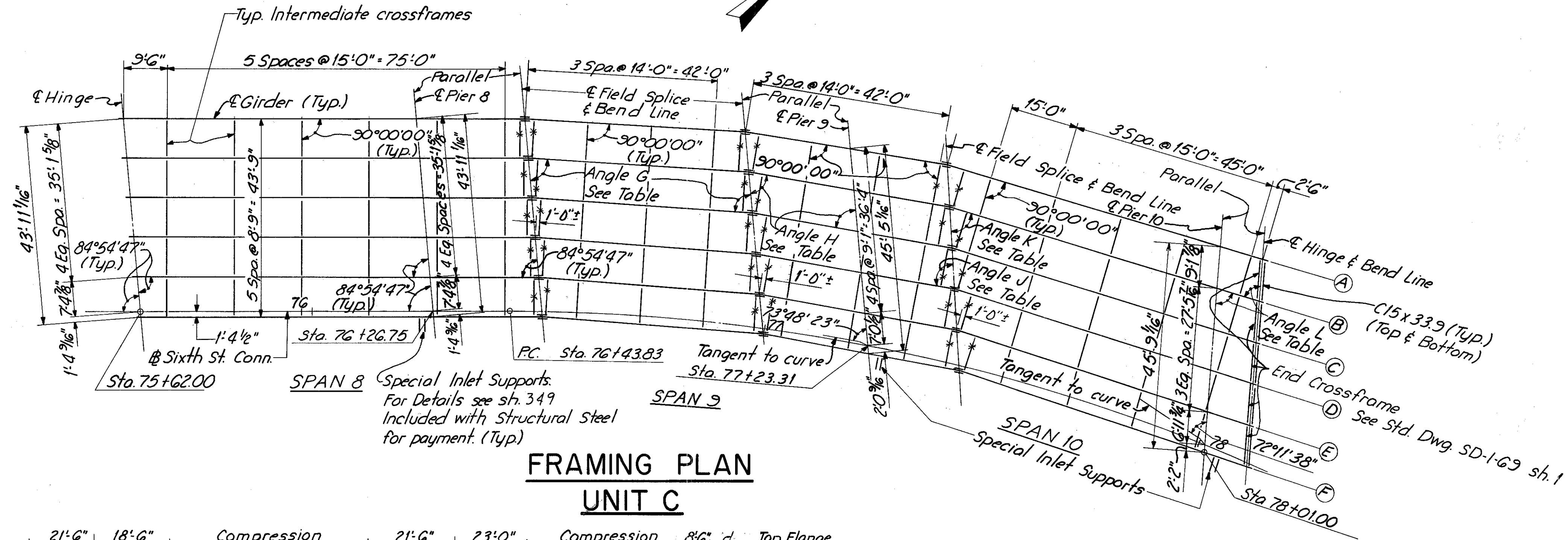
Girder	Angle	
	E	F
A	61° 33' 22"	49° 59' 38"
B	62° 18' 51"	50° 32' 11"
C	63° 04' 59"	51° 05' 15"
D	63° 51' 45"	51° 38' 50"
E	64° 39' 09"	52° 12' 57"
F	65° 27' 10"	52° 47' 36"

For Notes see sh. 319.

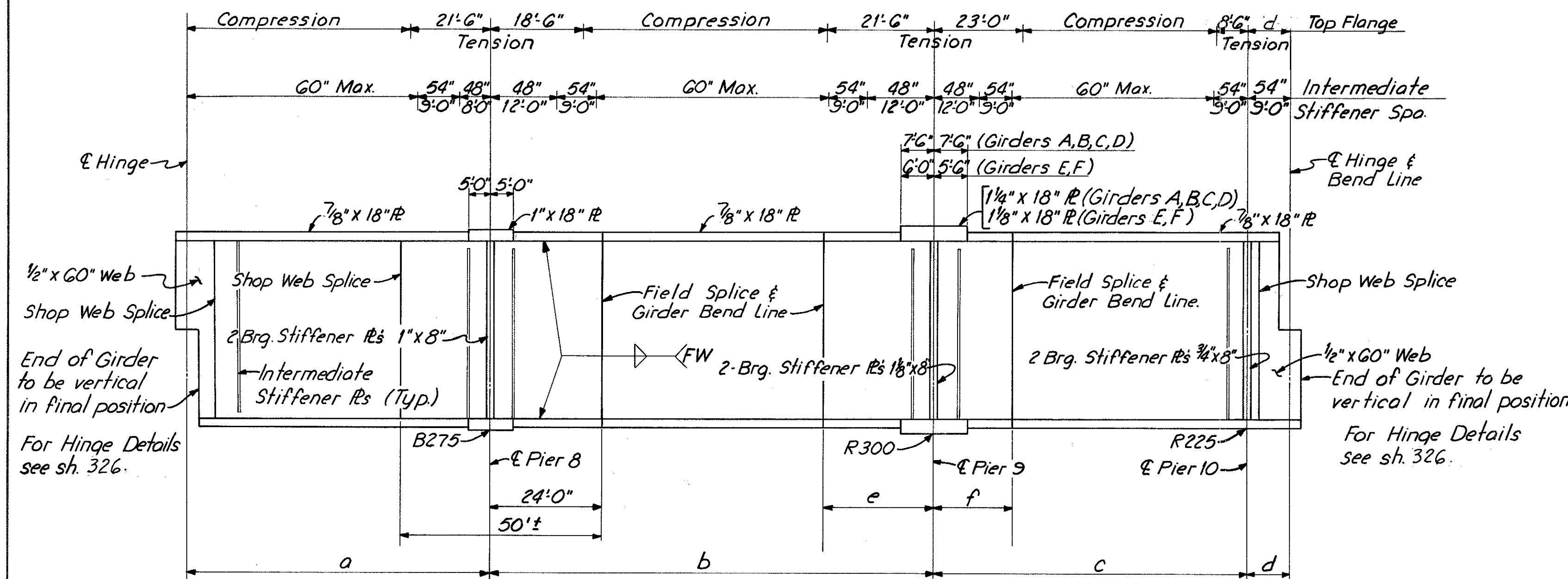
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO			26/64
<b>STRUCTURAL STEEL DETAILS</b>			
<b>BRIDGE NO. HAM-471-0044</b>			
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9			
DESIGNED WL	DRAWN JHD	TRACED	CHECKED W.L. 12-13-71
REVIEWED DATE 11-13-72		REVISED	

Note: \* Denotes Type A Crossframe.

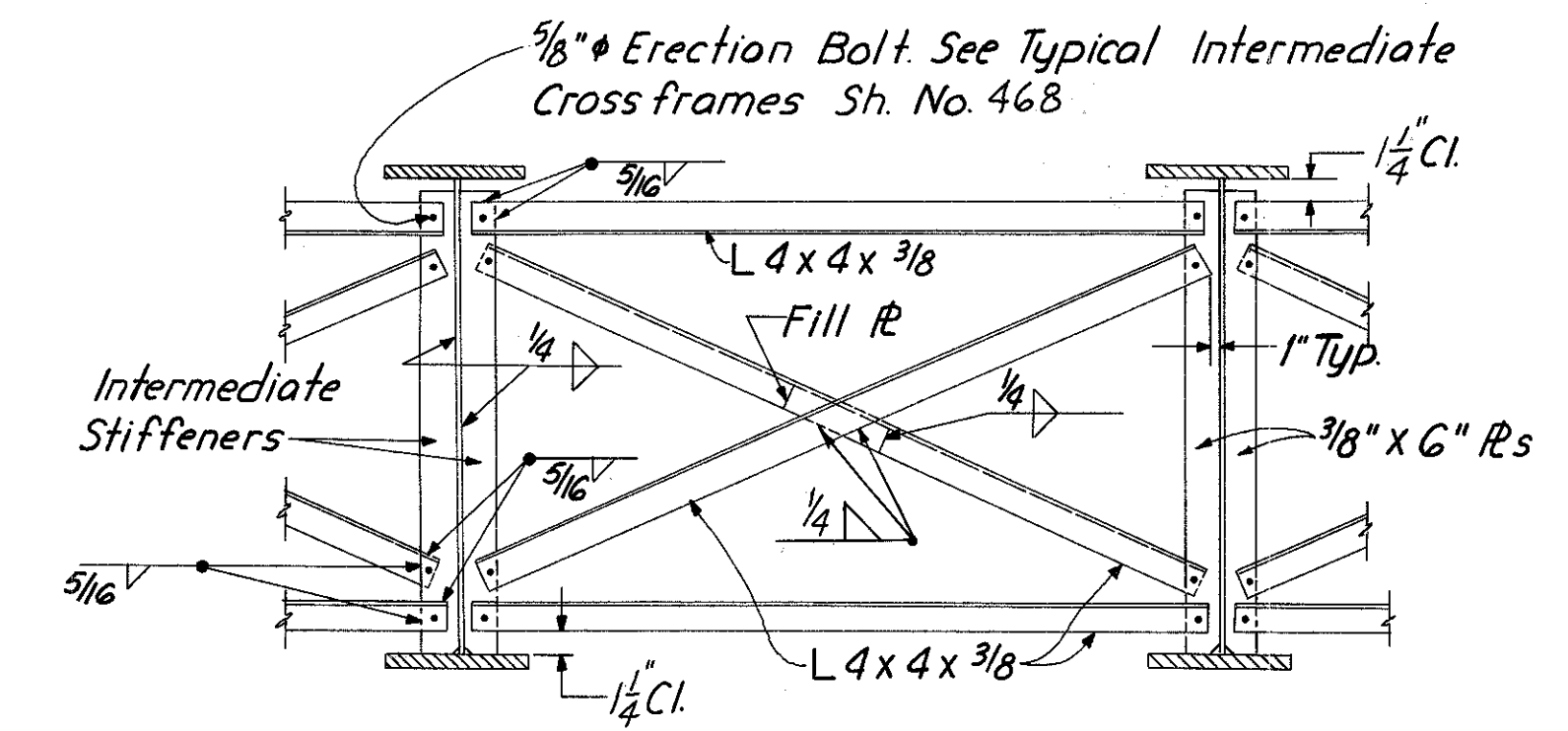
MICROFILMED  
FEB 2 1981



**FRAMING PLAN  
UNIT C**



**GIRDER ELEVATION**



**INTERMEDIATE CROSSFRAMES TYPE A**

Dim.	a	b	c	d	e	f
Girder A	64'-9"	96'-4 3/4"	84'-4 3/8"	9'-8 1/16"	23'-6 3/8"	21'-5 5/8"
B	64'-9"	96'-5 1/16"	82'-11 7/8"	9'-8 13/16"	23'-6 3/4"	21'-2 13/16"
C	64'-9"	96'-6 1/8"	81'-7 1/8"	9'-9"	23'-7 1/8"	21'-0"
D	64'-9"	96'-6 7/8"	80'-2 7/16"	9'-9 3/16"	23'-7 7/16"	20'-9 3/16"
E	64'-9"	96'-7 3/8"	78'-9 3/4"	9'-9 3/8"	23'-8"	20'-6 3/8"
F	64'-9"	96'-8 3/8"	77'-5 1/8"	9'-9 3/16"	23'-8 3/8"	20'-3 3/8"

Dimensions are measured along & Girders.

Girder	Angle				
	G	H	J	K	L
A	81°24'18"	75°28'17"	77°04'07"	69°36'47"	77°15'38"
B	81°12'25"	75°10'31"	76°46'22"	69°16'11"	76°55'02"
C	81°00'33"	74°52'37"	76°28'28"	68°54'54"	76°33'45"
D	80°48'42"	74°34'32"	76°10'23"	68°32'56"	76°11'47"
E	80°36'52"	74°16'18"	75°52'09"	68°10'13"	75°49'04"
F	80°25'02"	73°57'54"	75°33'45"	67°46'44"	75°25'35"

For Notes see sh.319.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					27/64
<b>STRUCTURAL STEEL DETAILS</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		W/L	JHS 12-7-71	11-13-72

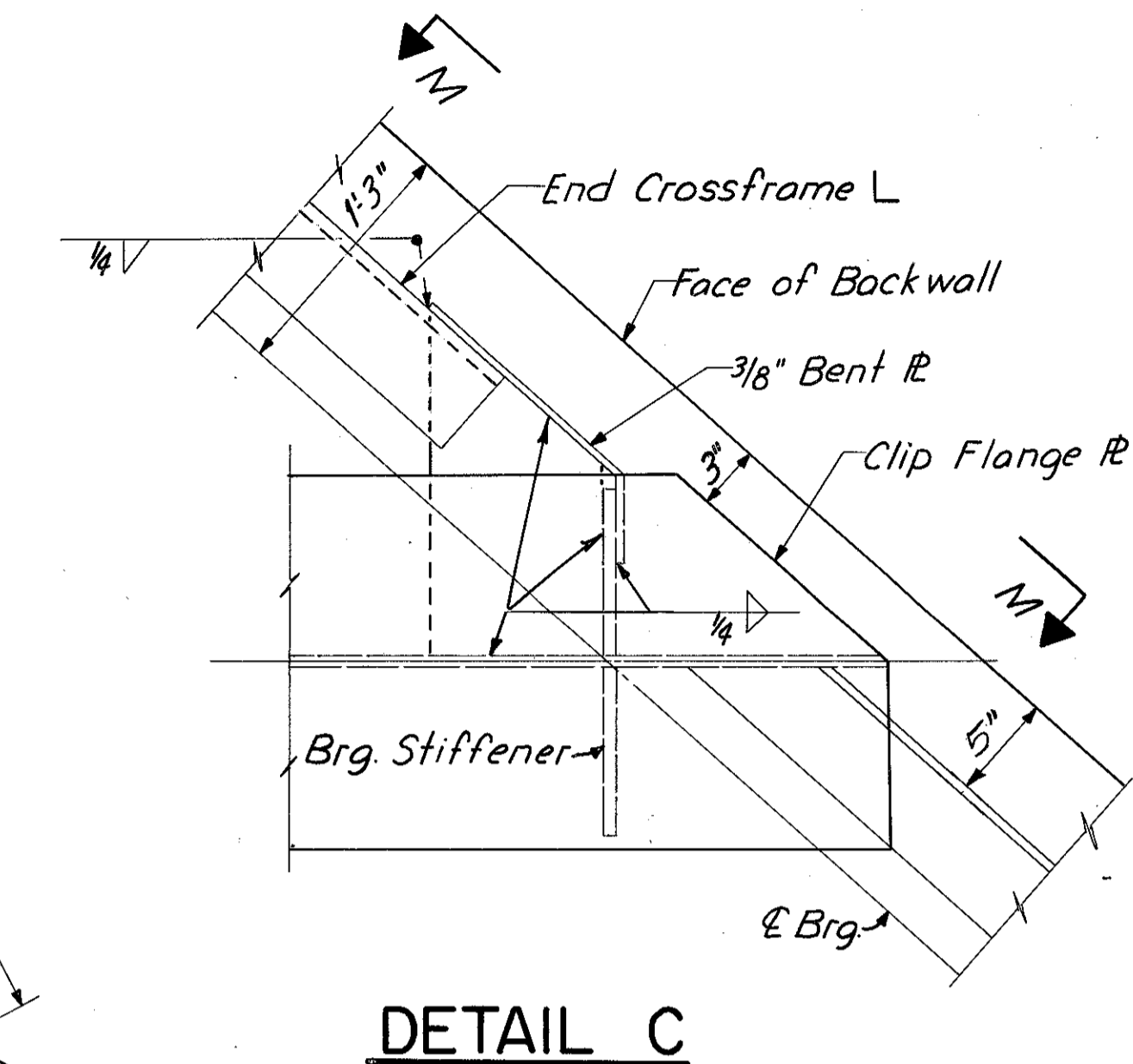
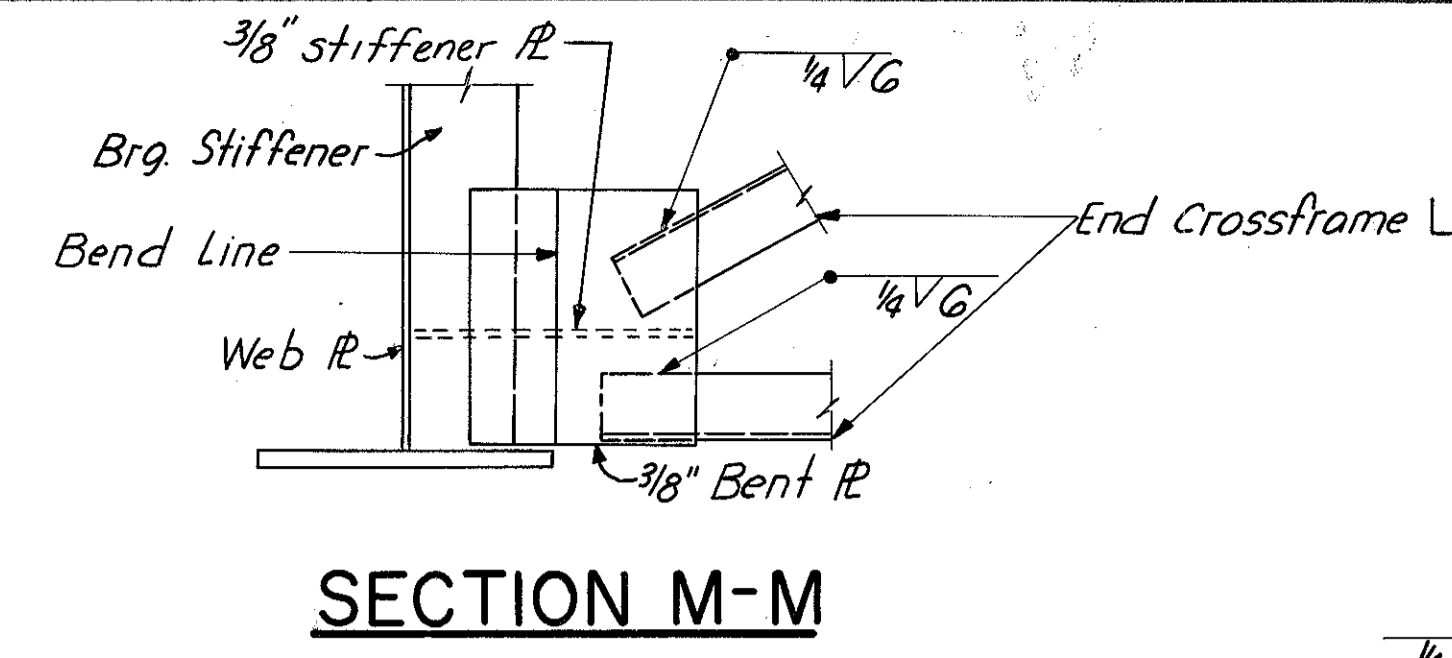
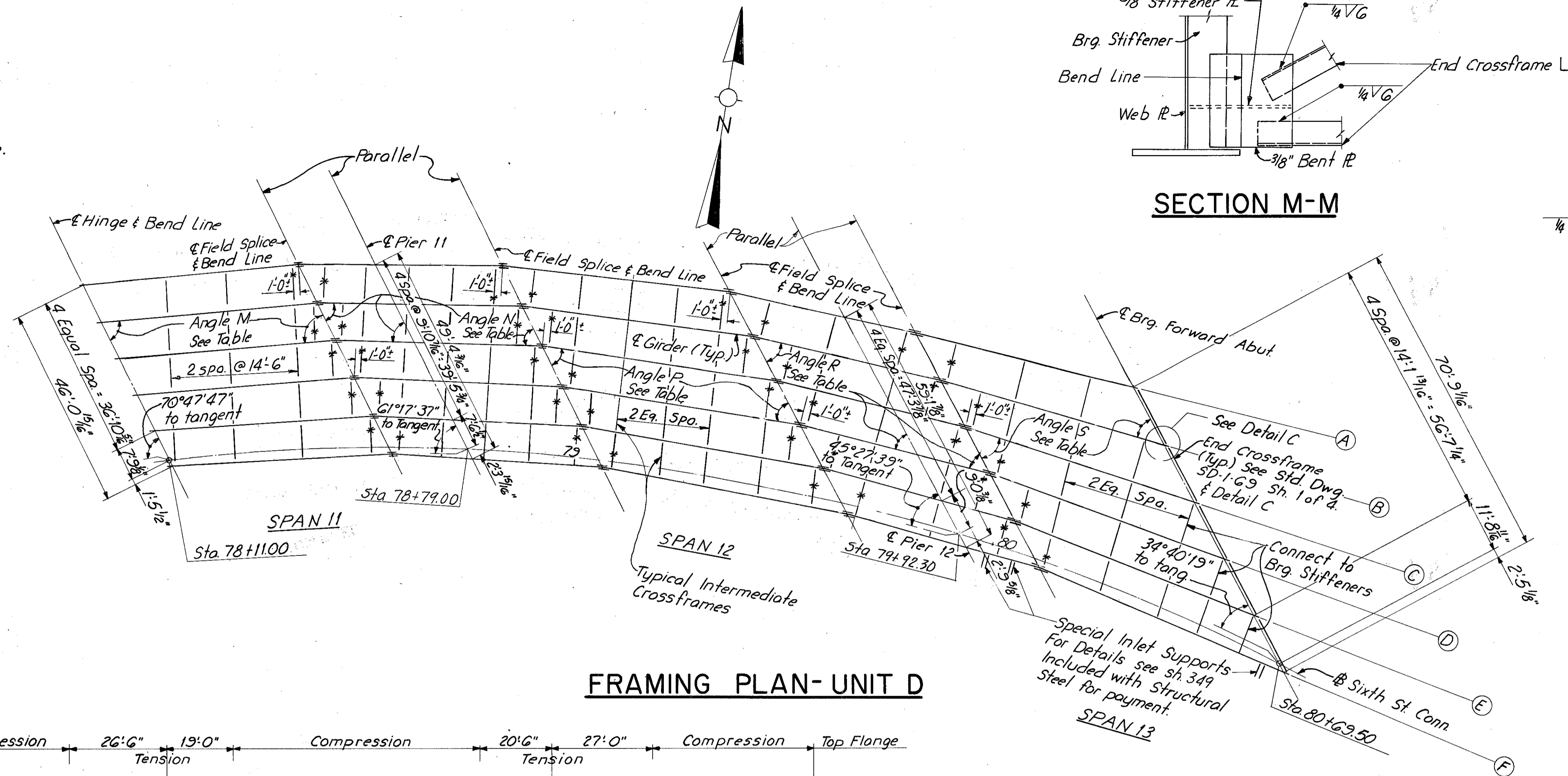
MICROFILMED  
FEB 2 1981

Note: \* Denotes Type A Crossframe.  
For Details see sh. 321.

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

322  
494

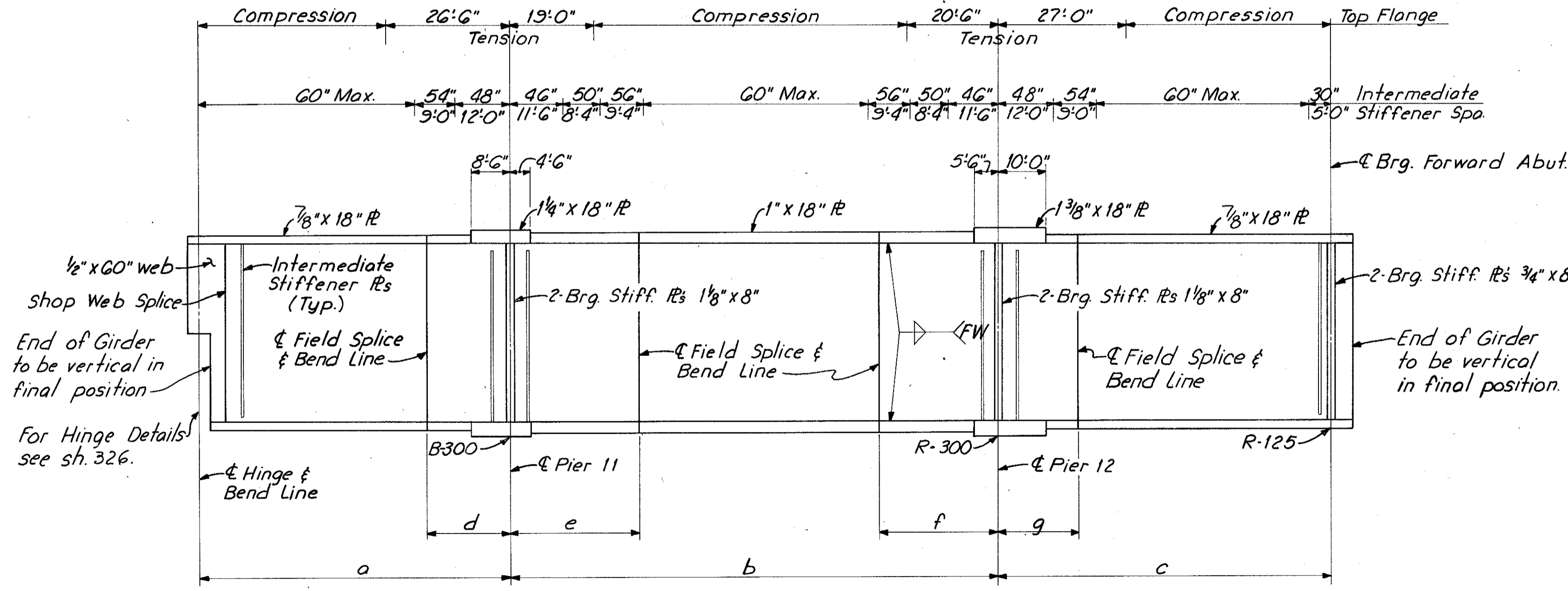
HAMILTON COUNTY  
HAM-471-0.30



FRAMING PLAN-UNIT D

TABLE OF GIRDER ANGLES-UNIT D

Girder	Angle				
	M	N	P	R	S
A	69°32'17"	63°27'59"	57°08'11"	51°04'14"	45°05'39"
B	69°04'08"	62°49'41"	56°17'12"	49°58'05"	43°38'34"
C	68°36'09"	62°11'49"	55°27'12"	48°54'01"	42°15'52"
D	68°08'21"	61°34'23"	54°38'10"	47°51'58"	40°57'20"
E	67°40'44"	60°57'23"	53°50'08"	46°51'53"	39°42'43"
F	67°13'18"	60°20'49"	53°03'02"	45°53'41"	38°31'49"



GIRDER ELEVATION

TABLE OF GIRDER LENGTHS-UNIT D

Dim. Girder	a	b	c	d	e	f	g
A	67'-0 1/16"	107'-11 3/8"	68'-5 1/8"	17'-10 3/16"	28'-9 1/4"	25'-10 3/4"	16'-6 3/4"
B	67'-3 3/4"	109'-0 9/16"	70'-0 1/16"	17'-11 7/16"	28'-11 1/4"	26'-3 1/16"	16'-9 15/16"
C	67'-6 13/16"	110'-2 1/16"	71'-8 3/8"	18'-0 1/16"	29'-1 1/4"	26'-8 7/16"	17'-1 3/16"
D	67'-10"	111'-3 13/16"	73'-5"	18'-1 15/16"	29'-3 1/4"	27'-2"	17'-4 1/2"
E	68'-1 1/4"	112'-5 13/16"	75'-1 3/16"	18'-3 1/4"	29'-5 3/8"	27'-7 1/4"	17'-7 7/8"
F	68'-4 9/16"	113'-8 1/8"	76'-11"	18'-4 9/16"	29'-7 7/16"	28'-0 3/8"	17'-11 3/8"

Dimensions are measured along Girders.

For Notes see sh. 319.

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

28/64

**STRUCTURAL STEEL DETAILS**  
**BRIDGE NO. HAM-471-0044**

SIXTH STREET CONNECTION OVER  
SOUTHBOUND I-471 H&E BRIDGE NO. 9

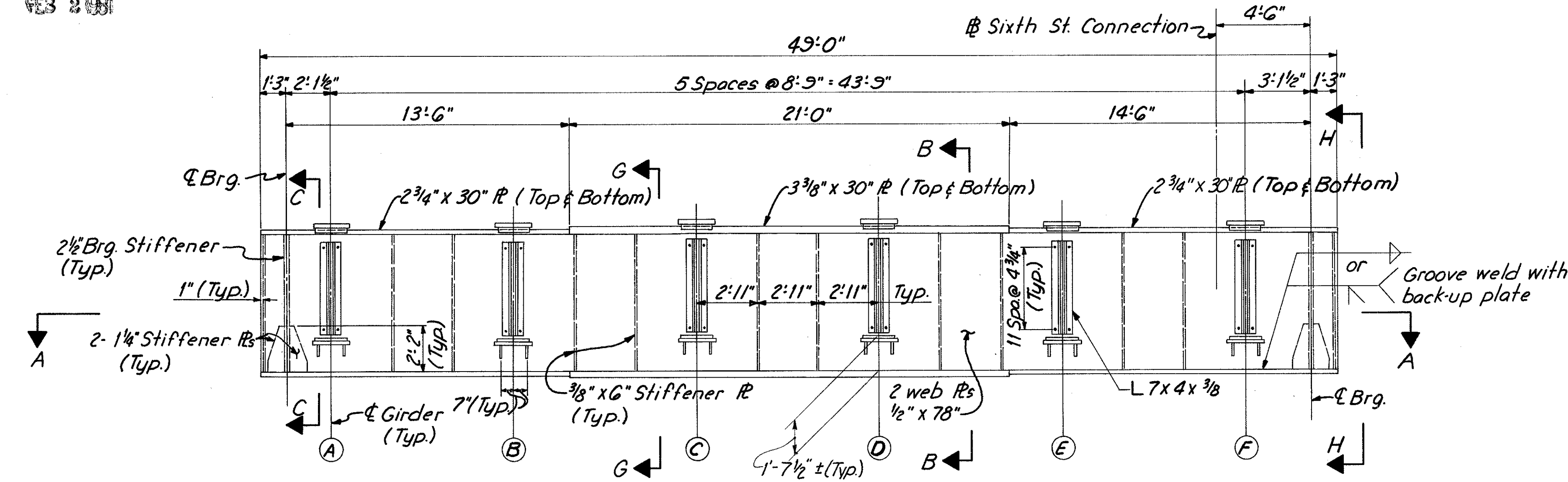
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		W.L.	JHD	
			12-7-71	11-13-72	

MICROFILMED  
 FEB 2 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

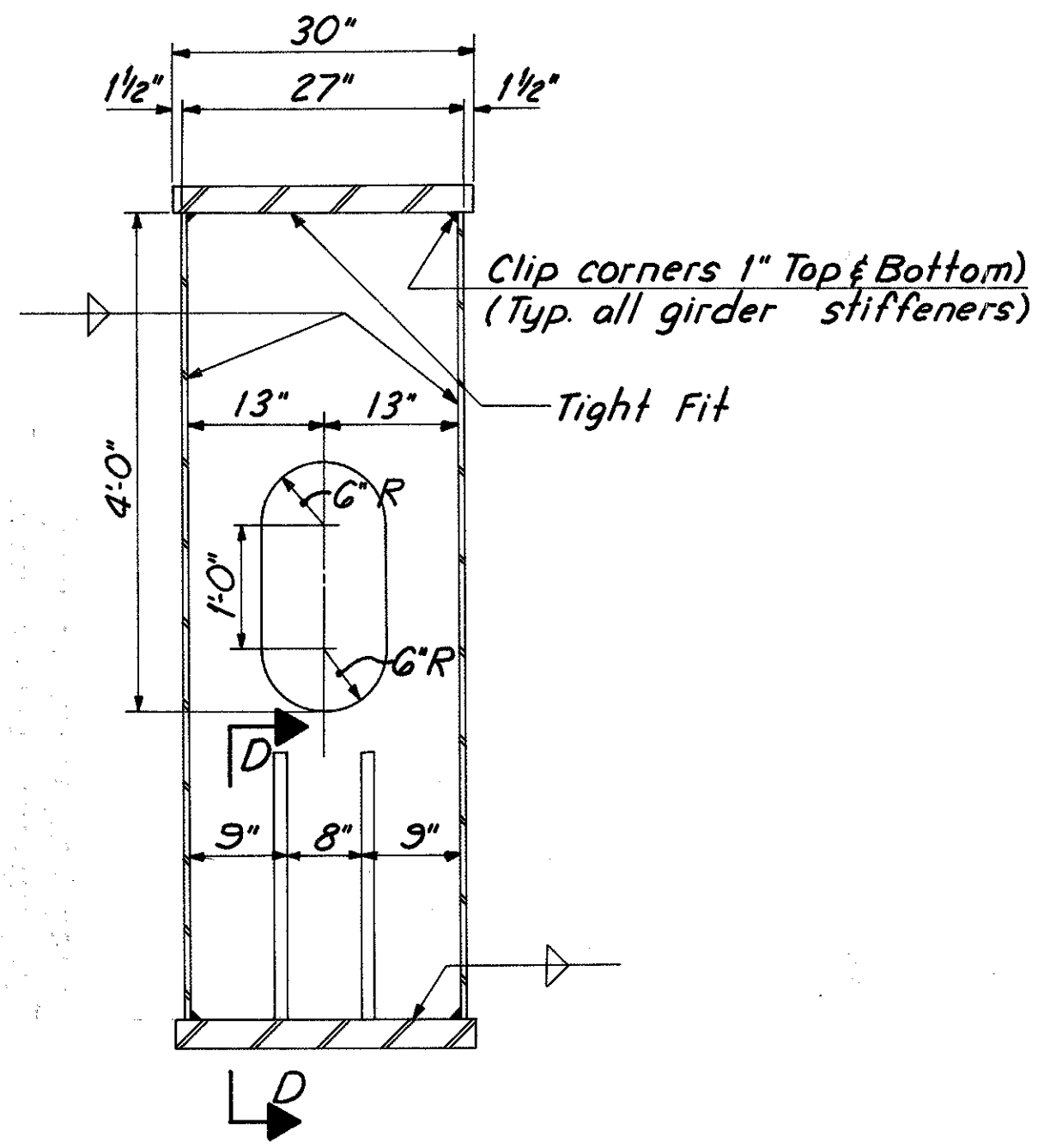
323  
494

HAMILTON COUNTY  
 HAM-471-0.30

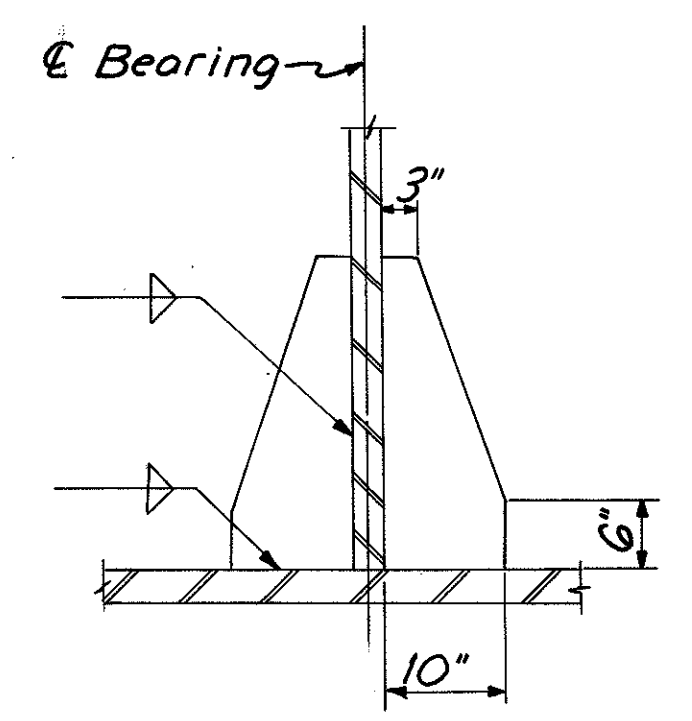


**ELEVATION**  
 (Floorbeam 1)

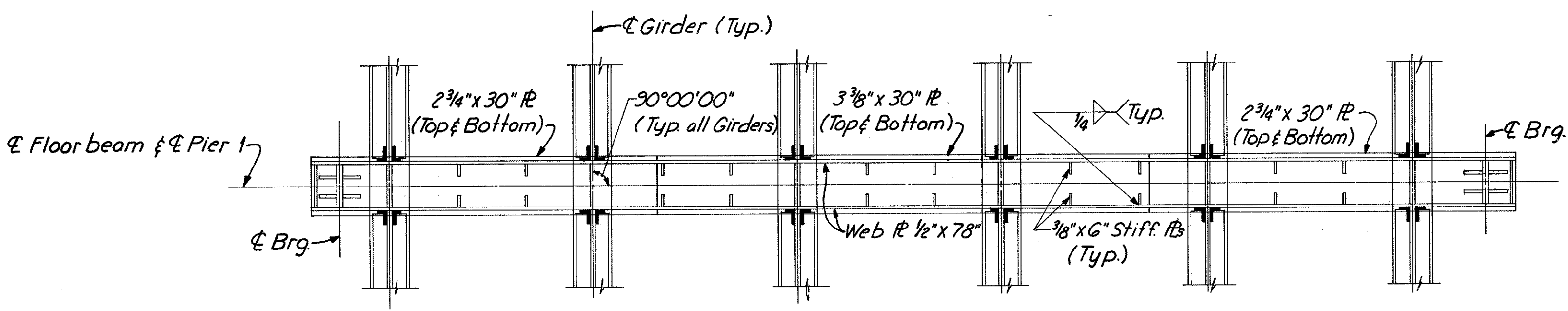
Note: Welded Joints Made With Backing Strips To Be Left In Place: Backing strip shall be made continuous for the full length of weld joints in backing strip shall be full penetration butt welds.



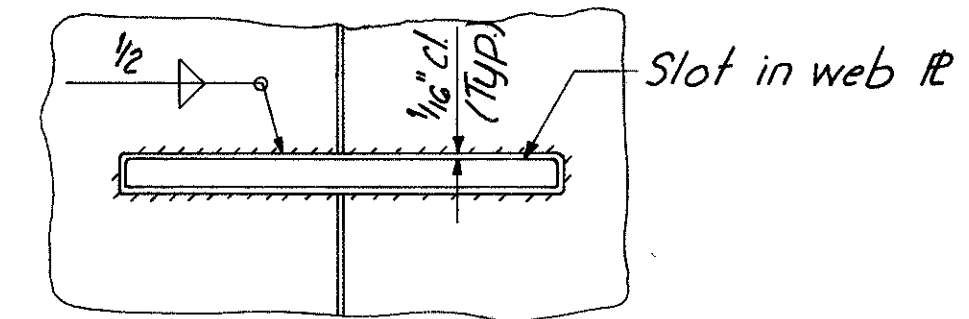
**SECTION C-C**



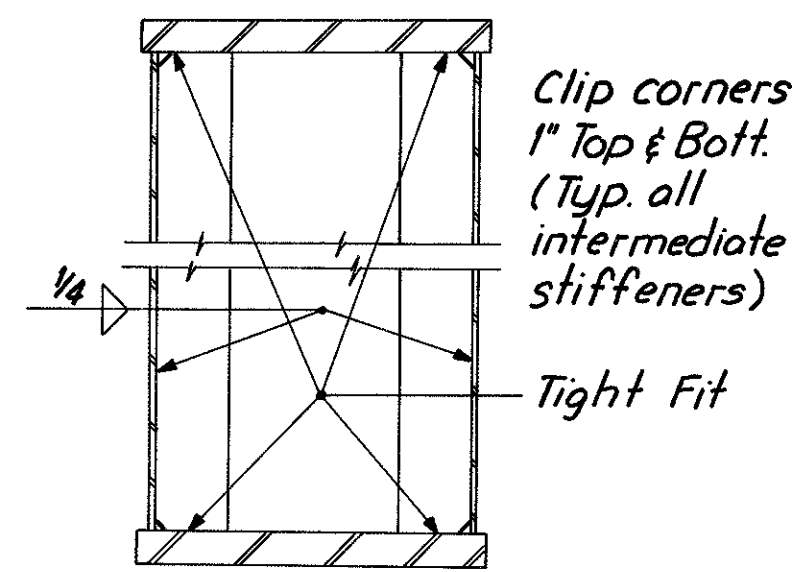
**SECTION D-D**



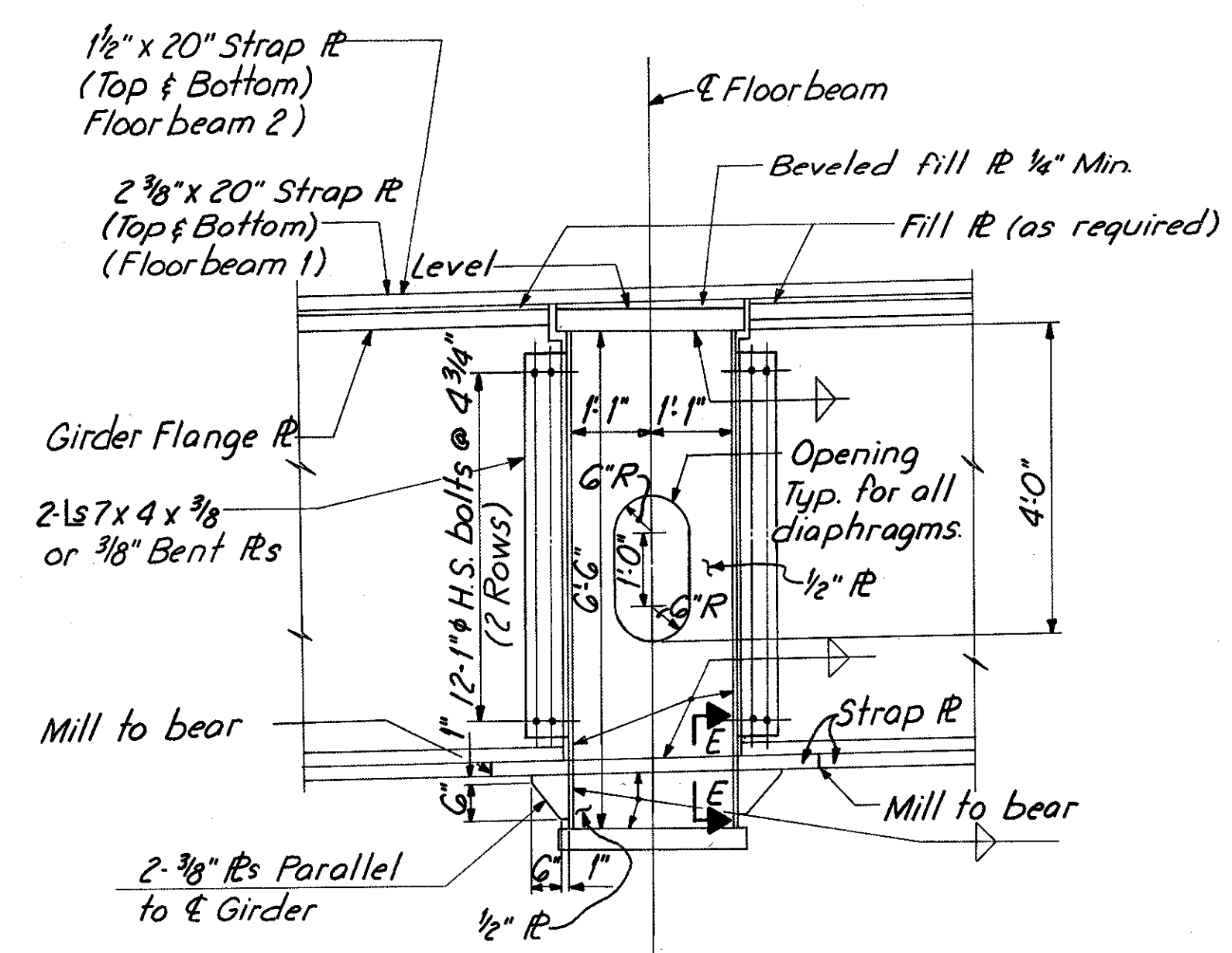
**SECTION A-A**



**SECTION E-E**



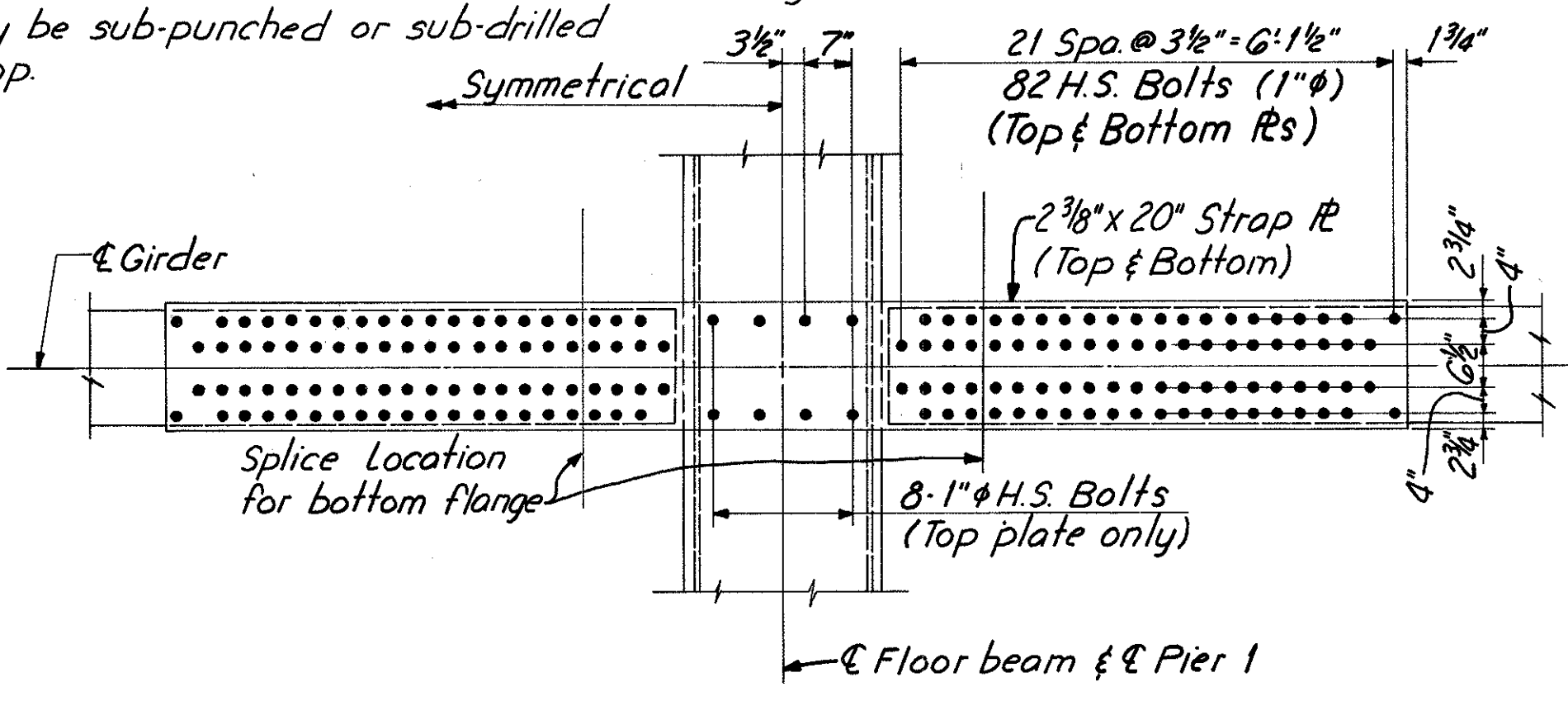
**SECTION G-G**



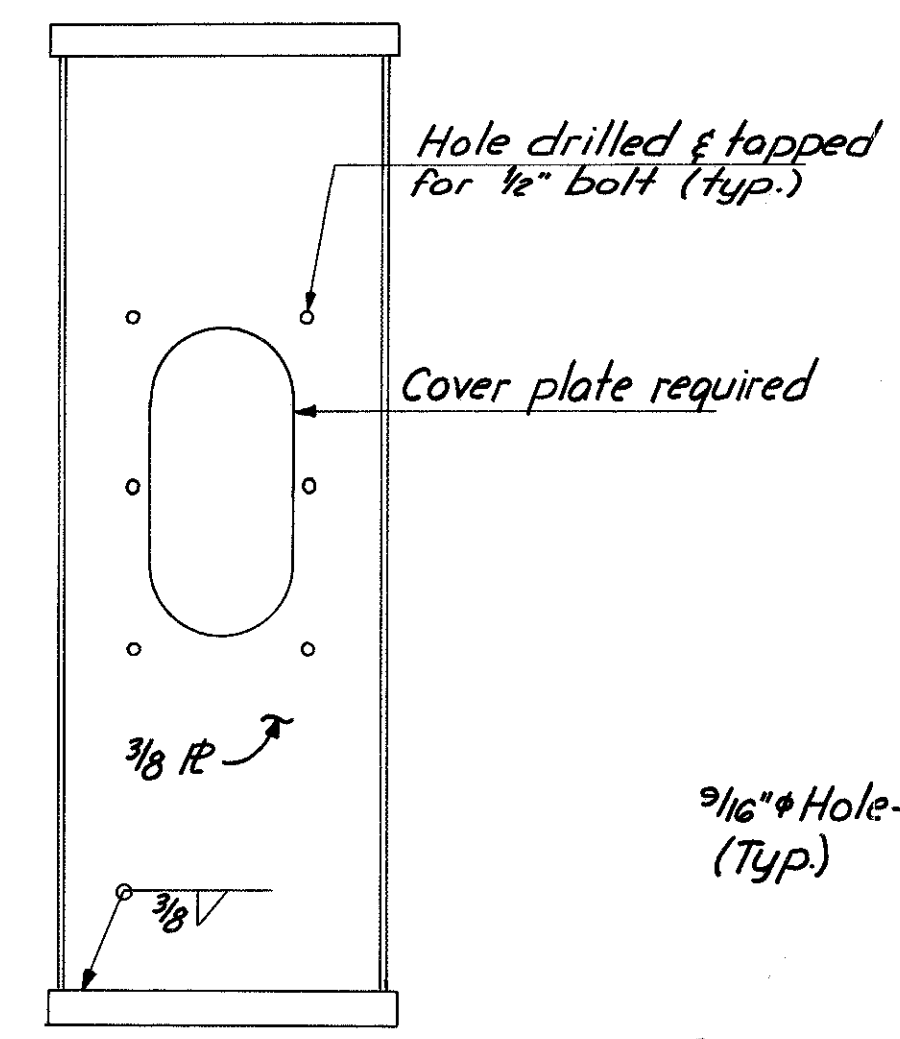
**SECTION B-B**

For fillet weld sizes not shown see "Table of Fillet Weld Sizes" Sh. No. 46B.

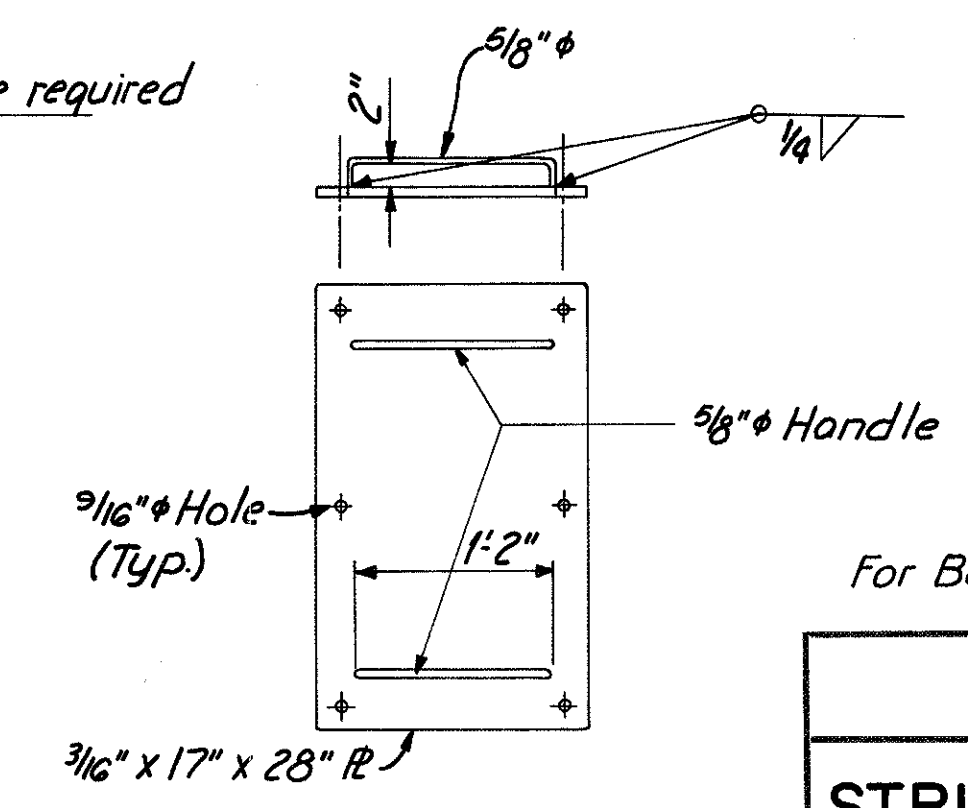
Note: Milled ends of Compression Splice on bottom flanges of girders shall be brought to full bearing against milled ends of floorbeam brackets before the holes in the compression strap plate are field drilled full size and bolts tightened. Holes may be sub-punched or sub-drilled in the shop.



**PLAN OF STRAP PLATE**  
 (Floorbeam 1)



**SECTION H-H**  
 (Typ. each end)



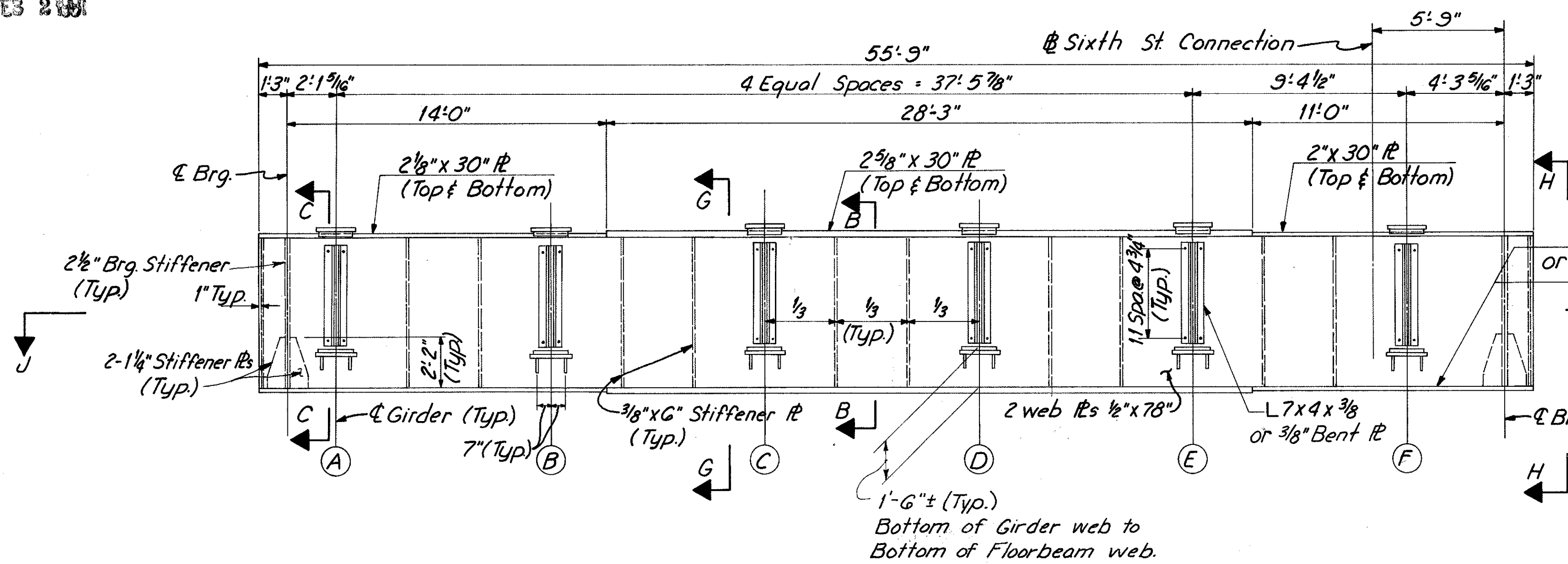
**COVER PLATE**  
 (For access hole)

For Bearing Details see sh. 324.

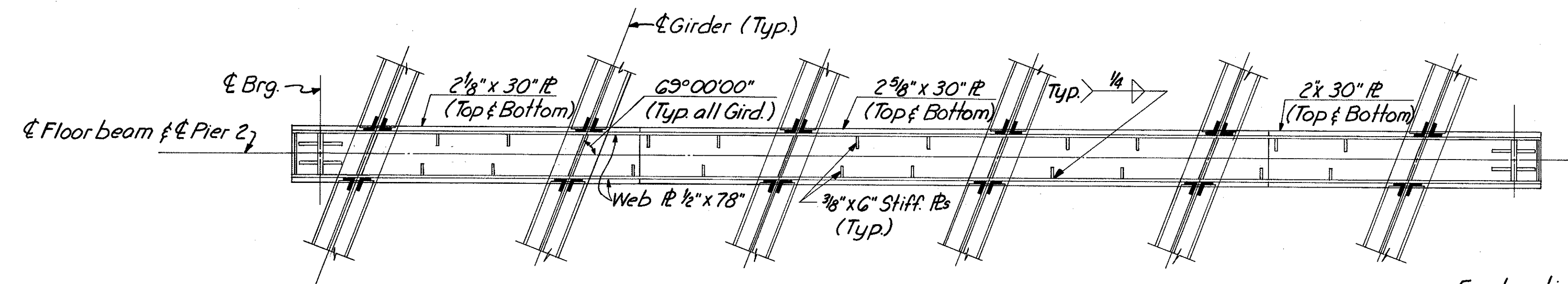
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						29/64
<b>STRUCTURAL STEEL DETAILS</b>						
<b>BRIDGE NO. HAM-471-0044</b>						
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
WL	JHD		W.C.	JHD		
			12-13-71	11-13-72		

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MILTON COUNTY  
HAM-471-0.30

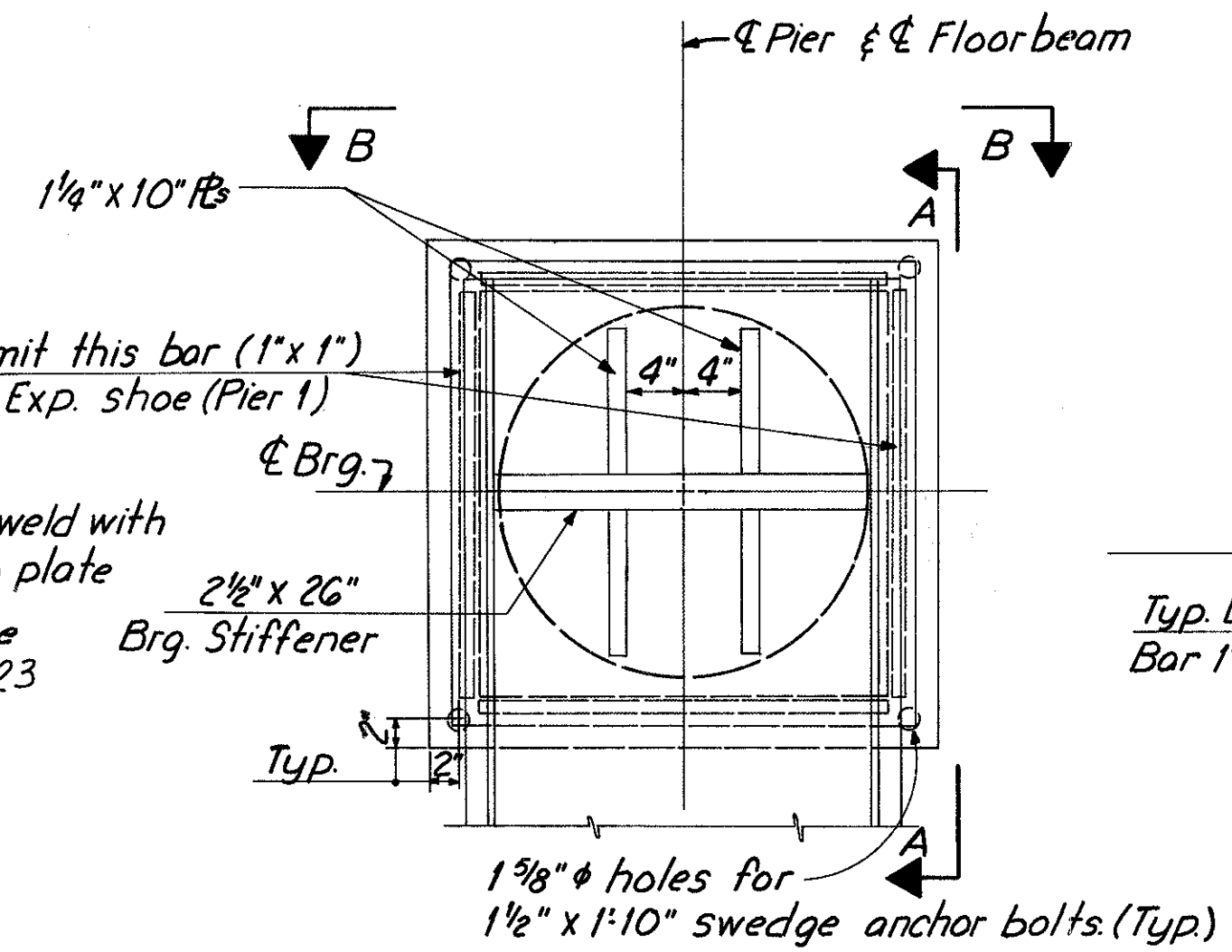


**ELEVATION**  
(Floorbeam 2)

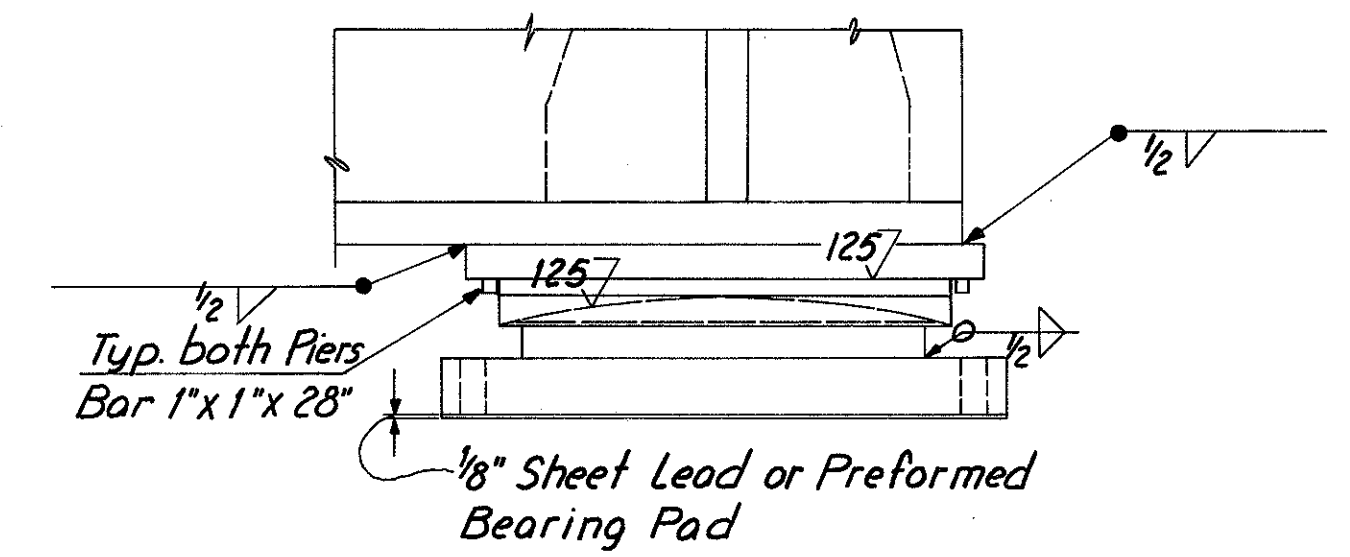


**SECTION J-J**

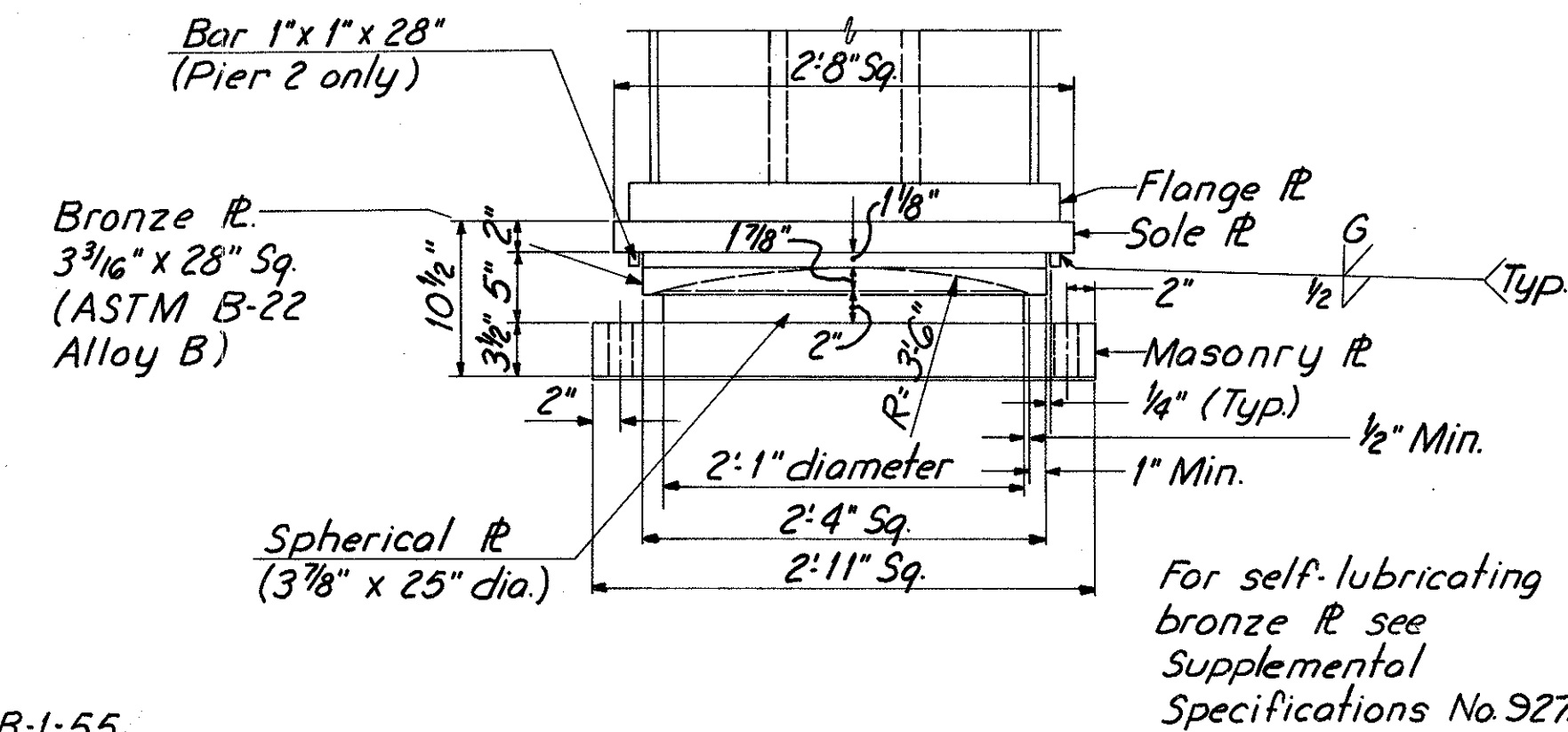
For location of dimensions & dimensions not shown see Std Dwg RB-1-55  
Use 1 1/4" x 1'-9" swedge anchor bolts set 1'-3" into concrete at Piers 5 & 6



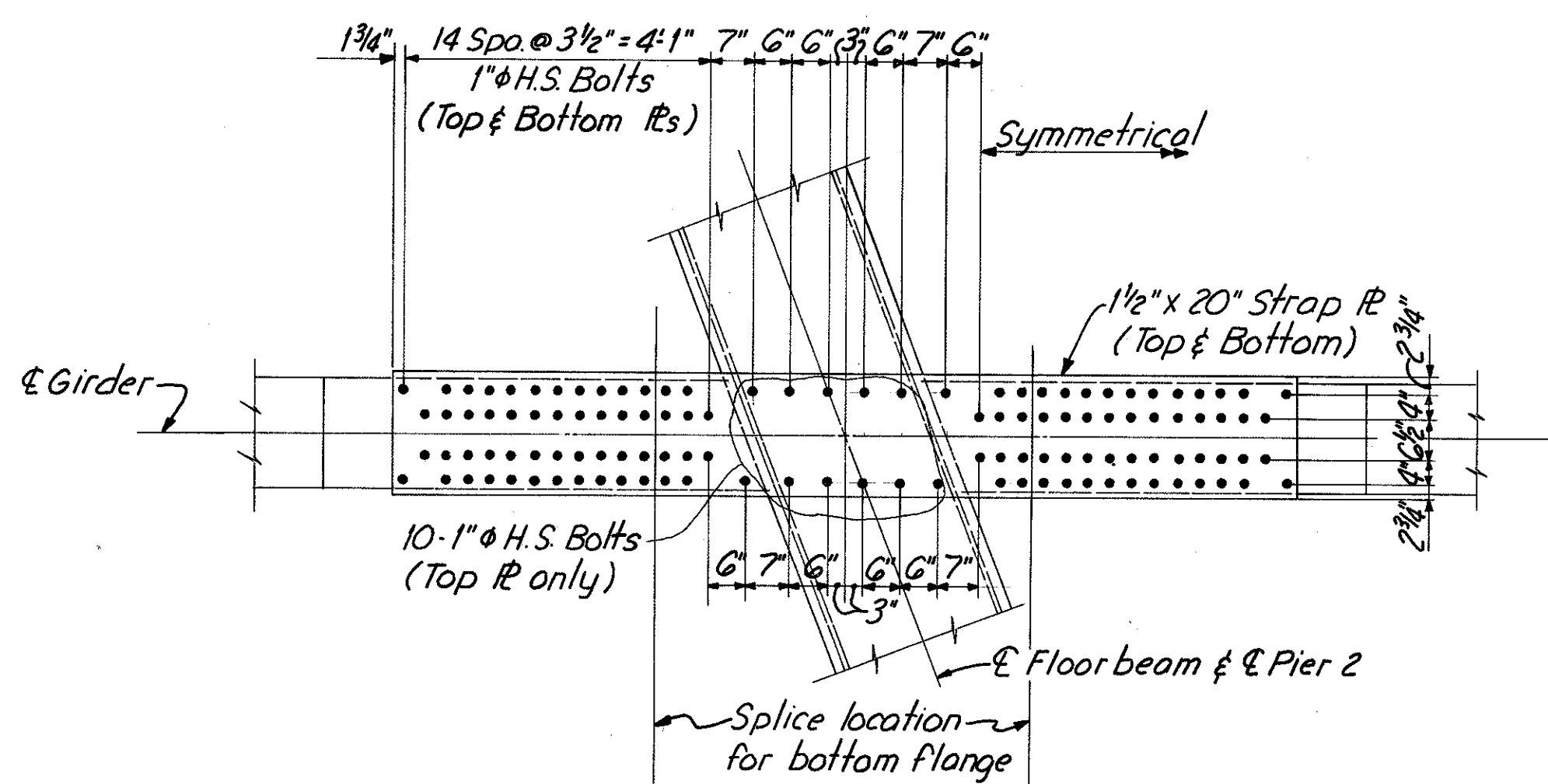
**PLAN**  
(BEARING DETAILS FOR PIERS 1 & 2)



**ELEVATION A-A**



**ELEVATION B-B**



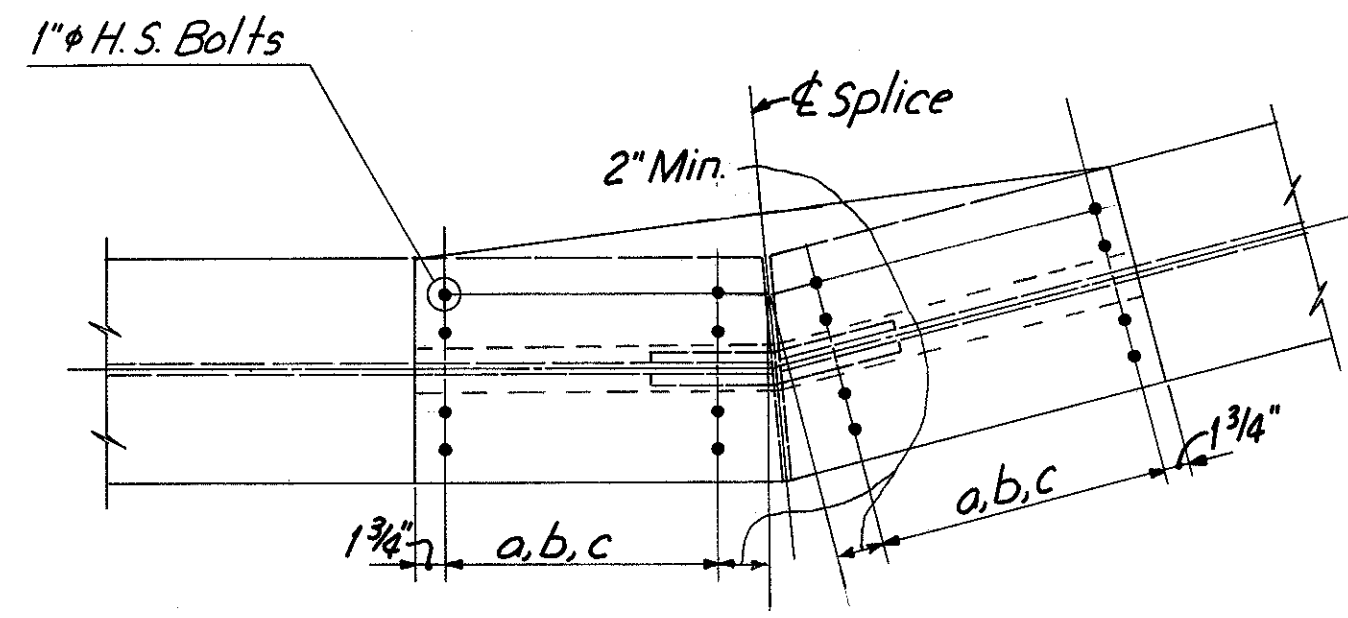
**PLAN OF STRAP PLATE**  
(Floorbeam 2)

**REVISIONS TO ROCKERS, BOLSTERS**

Pier No / Shoe	Girder	Dimensions												
		A	B	C	D	F	G	H	K	L	M	R	T	Y
5 B325	A, C, E	4	21	4		3/4		20 3/8	15	29		13	3 1/4	1 19/16
	B	4	21	4		3/4		20 1/4	15	29		13	3 1/8	1 15/16
	D	4	21	4		3/4		20 3/8	15	29		13	3 1/2	1 19/16
	F	4	21	4		3/4		20 3/8	15	29		13	3 3/4	1 19/16
6 R325	A, C, F	4	21	4	3 1/2	3/4	13	20 3/8	15	29	26	13	3 1/4	1 19/16
	B, D	4	21	4	3 1/2	3/4	13	20 3/8	15	29	26	13	3 3/4	1 19/16
	E	4	21	4	3 1/2	3/4	13	20 1/2	15	29	26	13	3 3/8	1 19/16
7 R200	A thru F										14			
10 R225	A thru F										14			
Rear Abut. R175	A thru F										14			
Forward Abut. R125	A thru F										14			

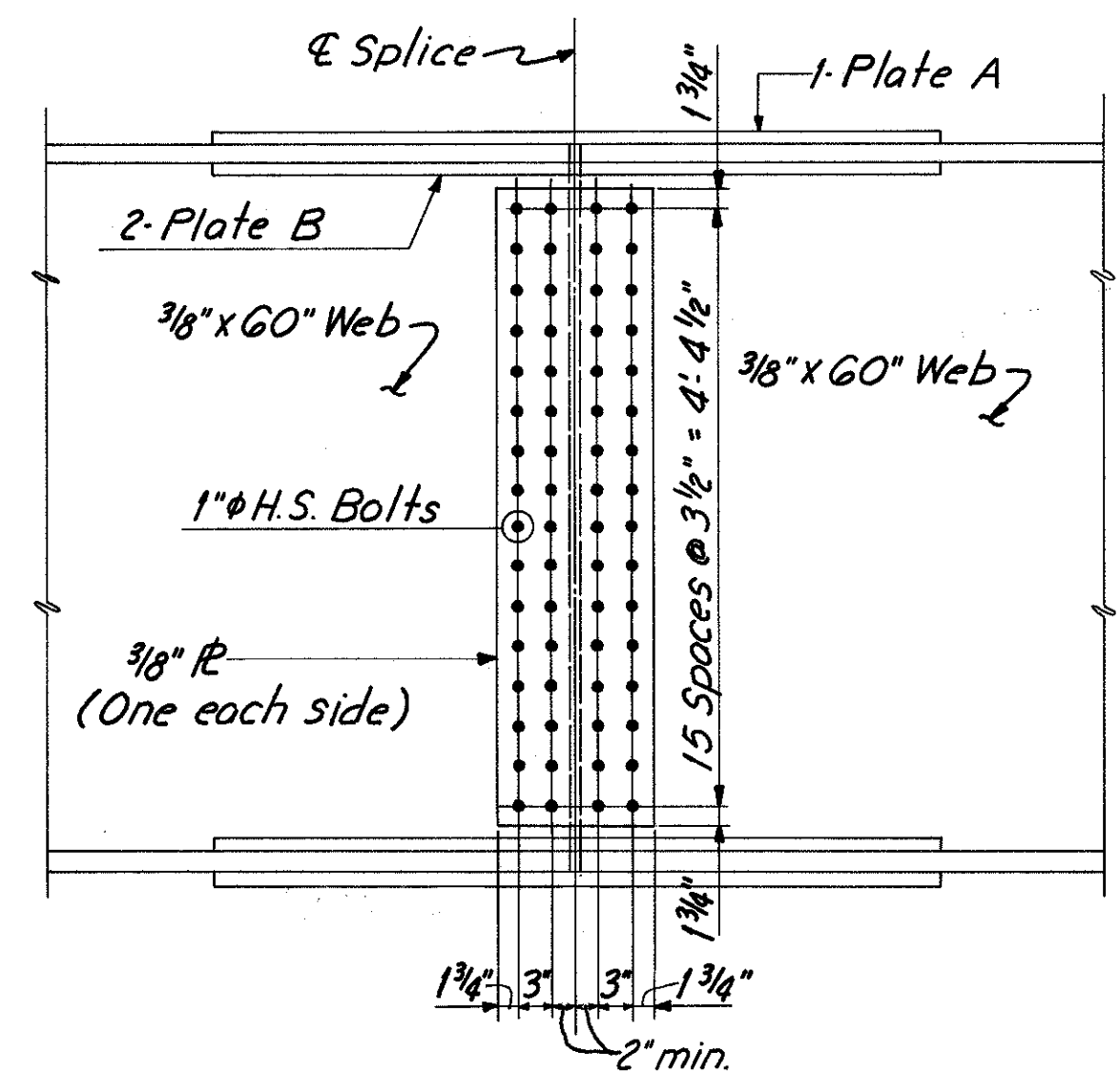
Note: For Notes and Sections B-B, C-C, G-G, & H-H, and cover plate details see sh. 323.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				30/64
<b>STRUCTURAL STEEL DETAILS</b>				
<b>BRIDGE NO. HAM-471-0044</b>				
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9				
DESIGNED WL	DRAWN JHD	TRACED	CHECKED Y.L. 12-8-71	REVIEWED DATE JHO 11-15-72



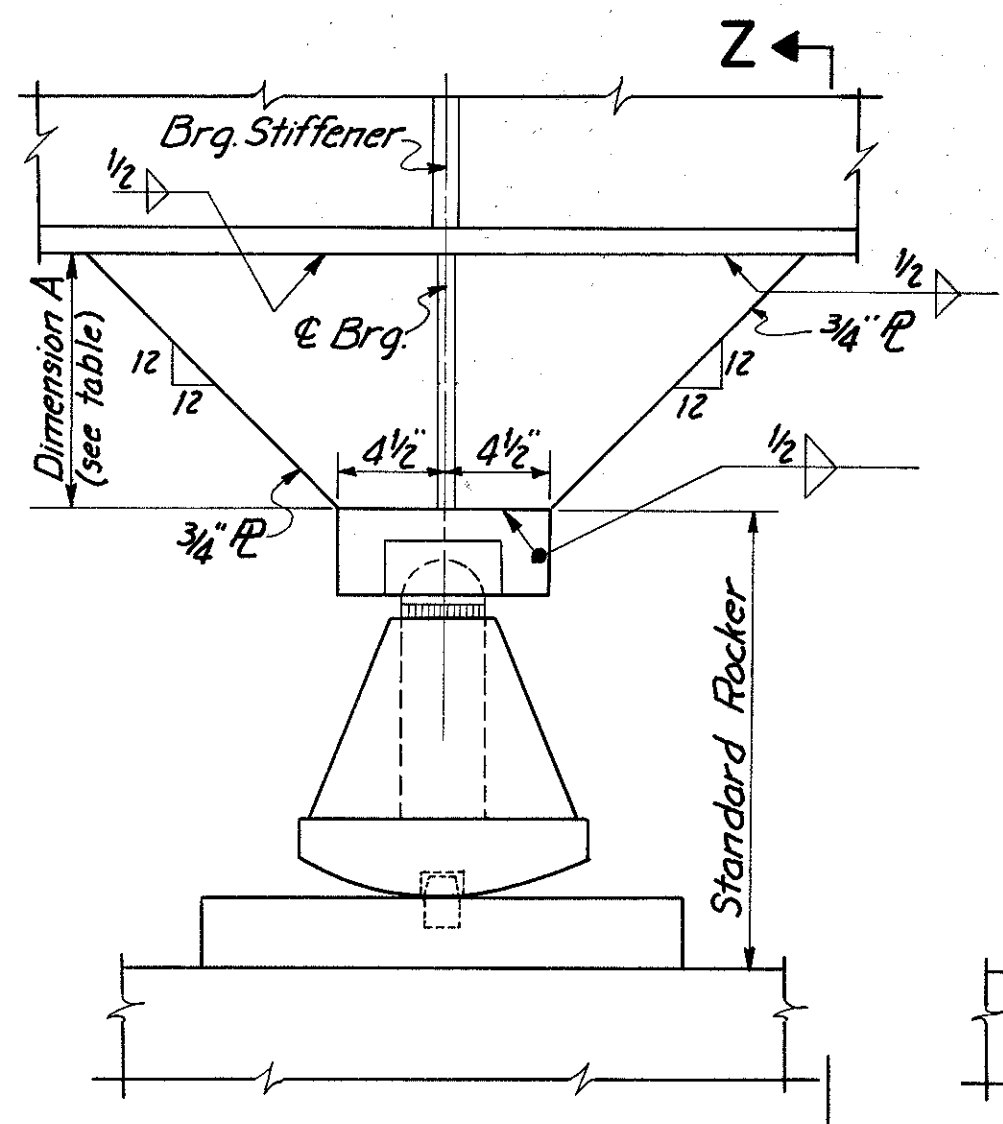
FIELD SPLICE				
Spans	Girder		Dimension	Spacing
	A,B,C,D	E,F		
5,7,9,10,11,13	3,5,7,9,10,11,13	a	2 Spa. @ 3"	
3,12	4,12	b	3 Spa. @ 3"	
4,6	6	c	4 Spa. @ 3"	

**TOP FLANGE**

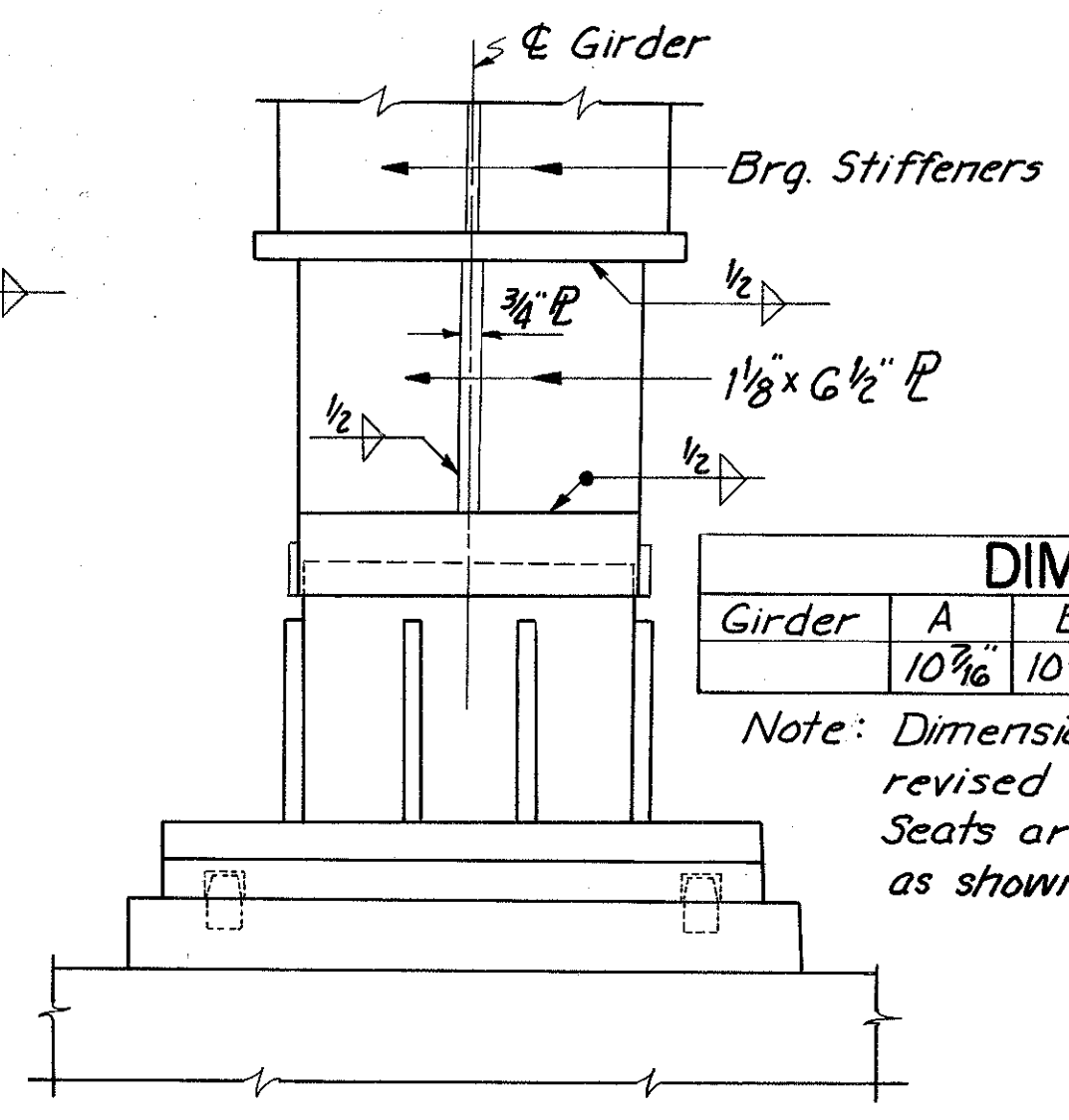


Note: Top & Bottom Splice Material is identical. Contact surface of splice shall be free from all oil or paint.

FIELD SPLICE			
Girder	Plate A	Plate B	Span
A,B,C,D	1/2" x 18"	5/8" x 7 1/2"	5,7,9,10,11,13
	3/8" x 18"	3/4" x 7 1/2"	3,12
	3/4" x 18"	7/8" x 7 1/2"	4,6
E,F	1/2" x 18"	5/8" x 7 1/2"	3,5,7,9,10,11,13
	5/8" x 18"	3/4" x 7 1/2"	4,12
	3/4" x 18"	7/8" x 7 1/2"	6



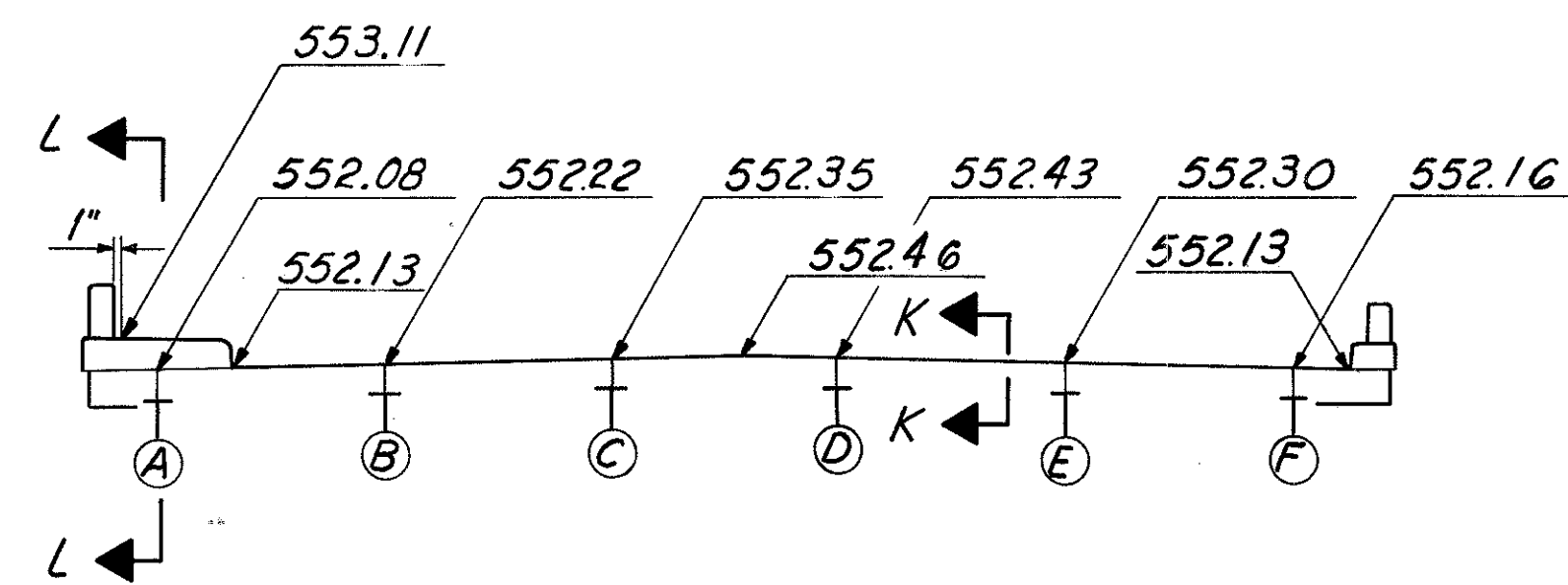
**DETAIL X**  
(For location see sh. 320.)



**SECTION Z-Z**

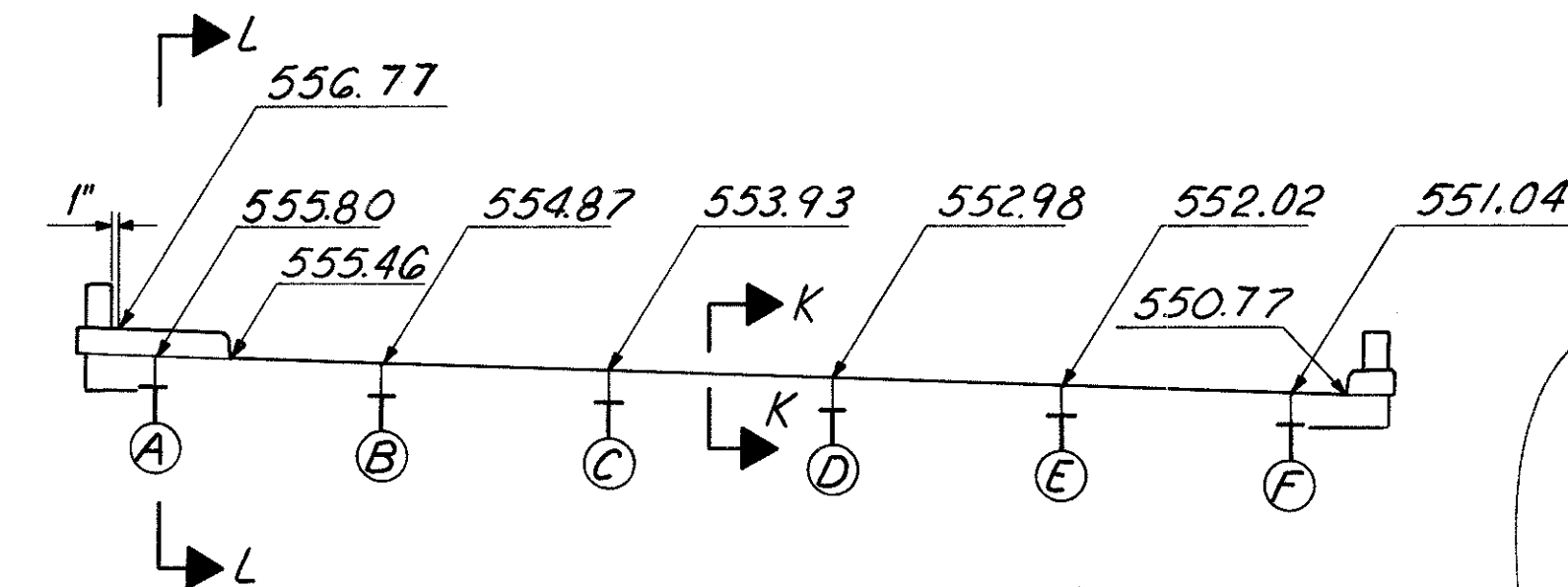
DIMENSION A						
Girder	A	B	C	D	E	F
	10 1/16"	10 13/16"	11 1/4"	10 3/16"	10 3/16"	9 7/8"

Note: Dimension A may have to be revised if existing Bridge Seats are not at the elevations as shown on sh. 311

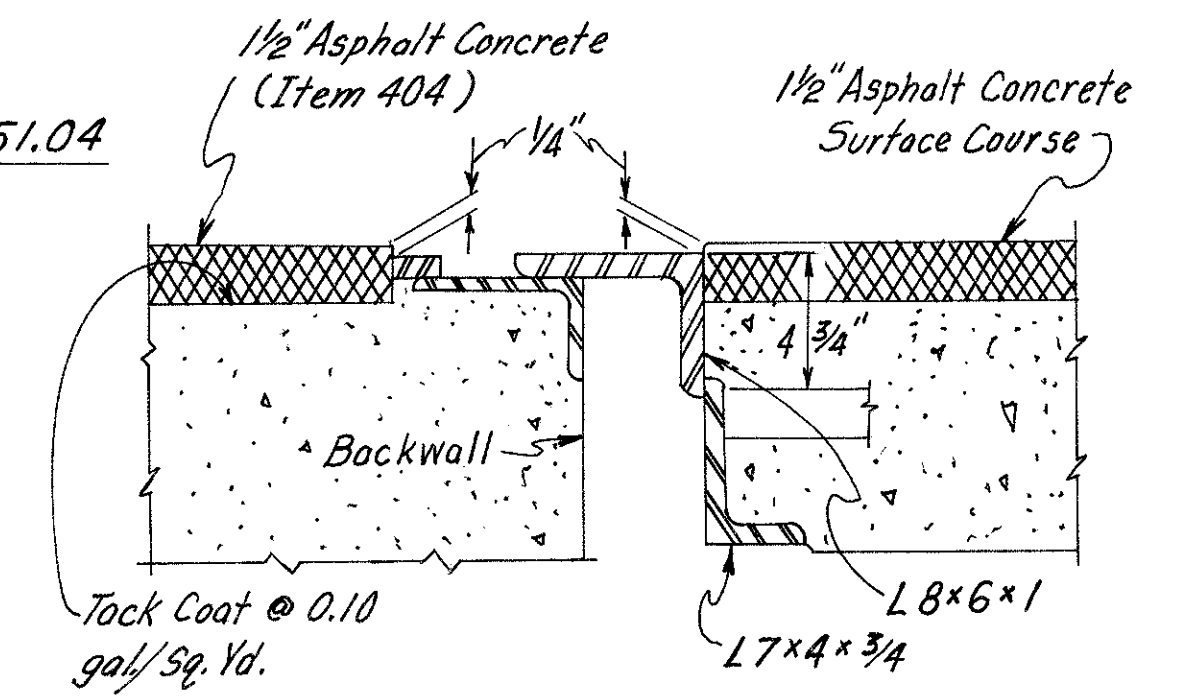


**REAR ABUTMENT END DAM**

Note:  
For Section L-L see Section D-D, Std. Dwg. SD-1-69 sh. 2 of 4.  
End Dams to be bent in shop to conform to contour of top of slab.  
Elevs. given at back edge of 8" angle.

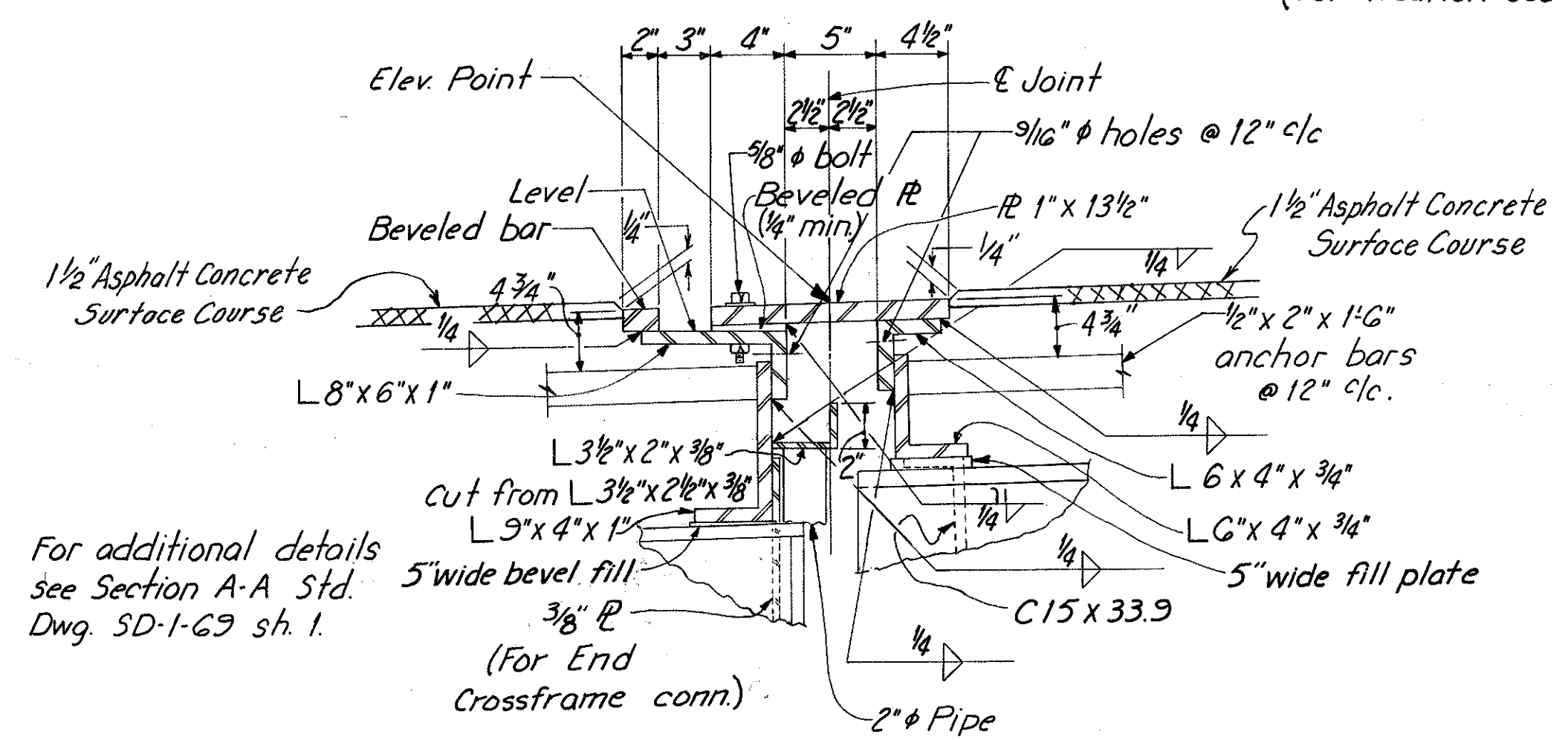


**FORWARD ABUTMENT END DAM**



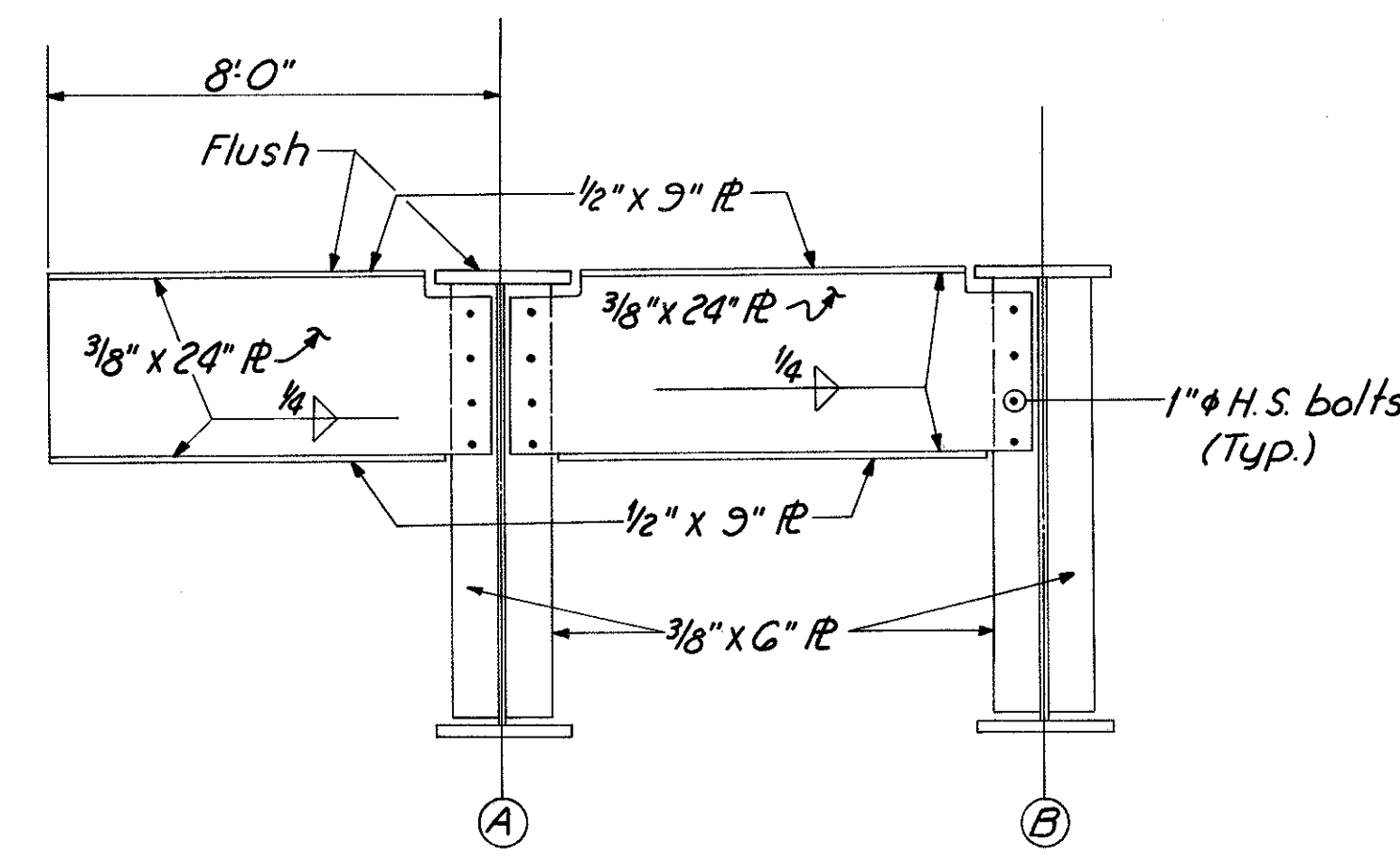
For additional details See S.D.-1-69 Sht 1  
**SECTION K-K**

**FIELD SPLICE**

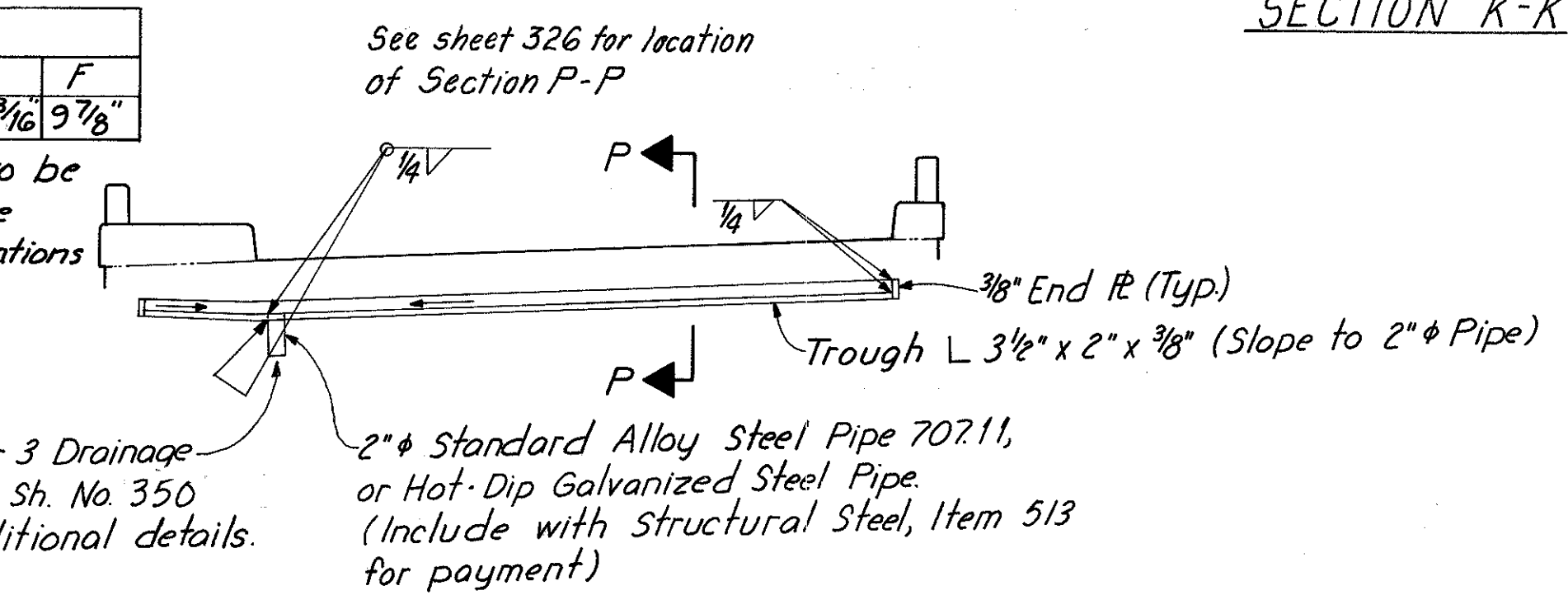


For additional details see Section A-A Std. Dwg. SD-1-69 sh. 1.

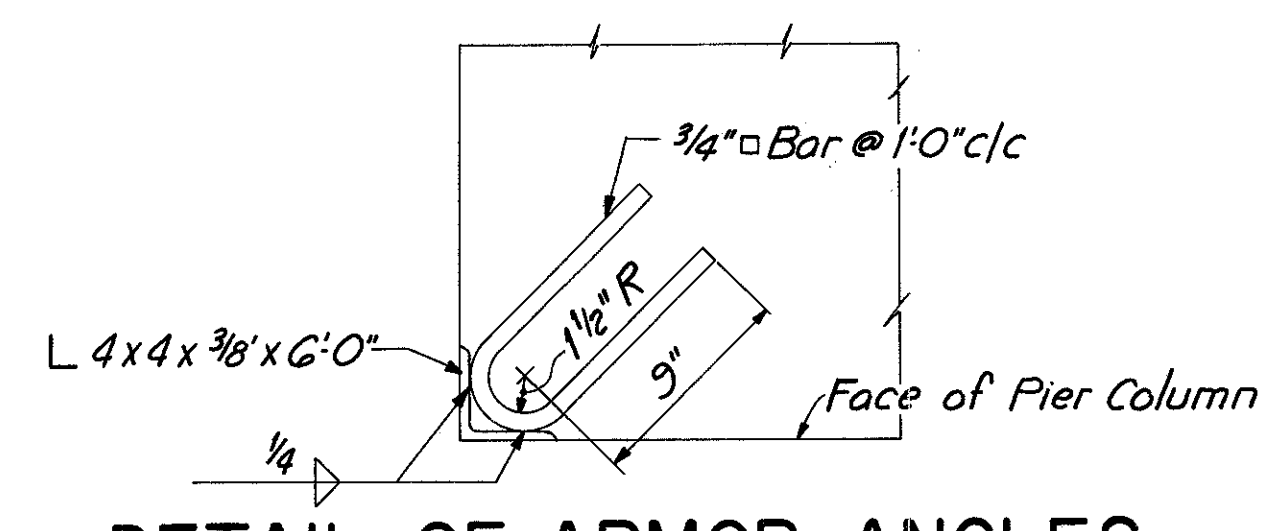
**SECTION P-P**  
(At Pier 3)



**DIAPHRAGM DETAILS**  
For location see Detail A Sh. 319.



**ELEVATION-ROADWAY JOINT DRAINAGE**  
(At Pier 3)

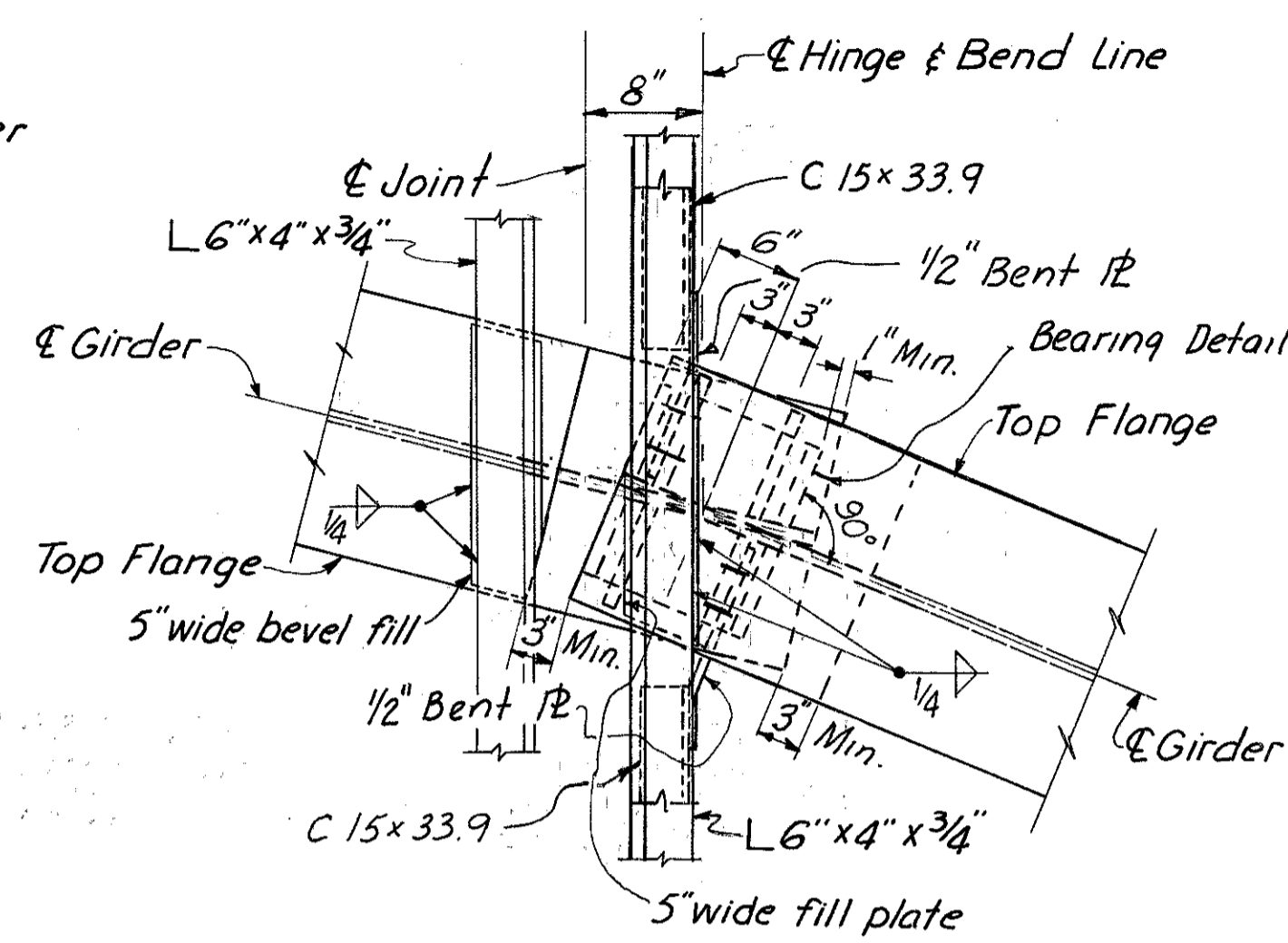
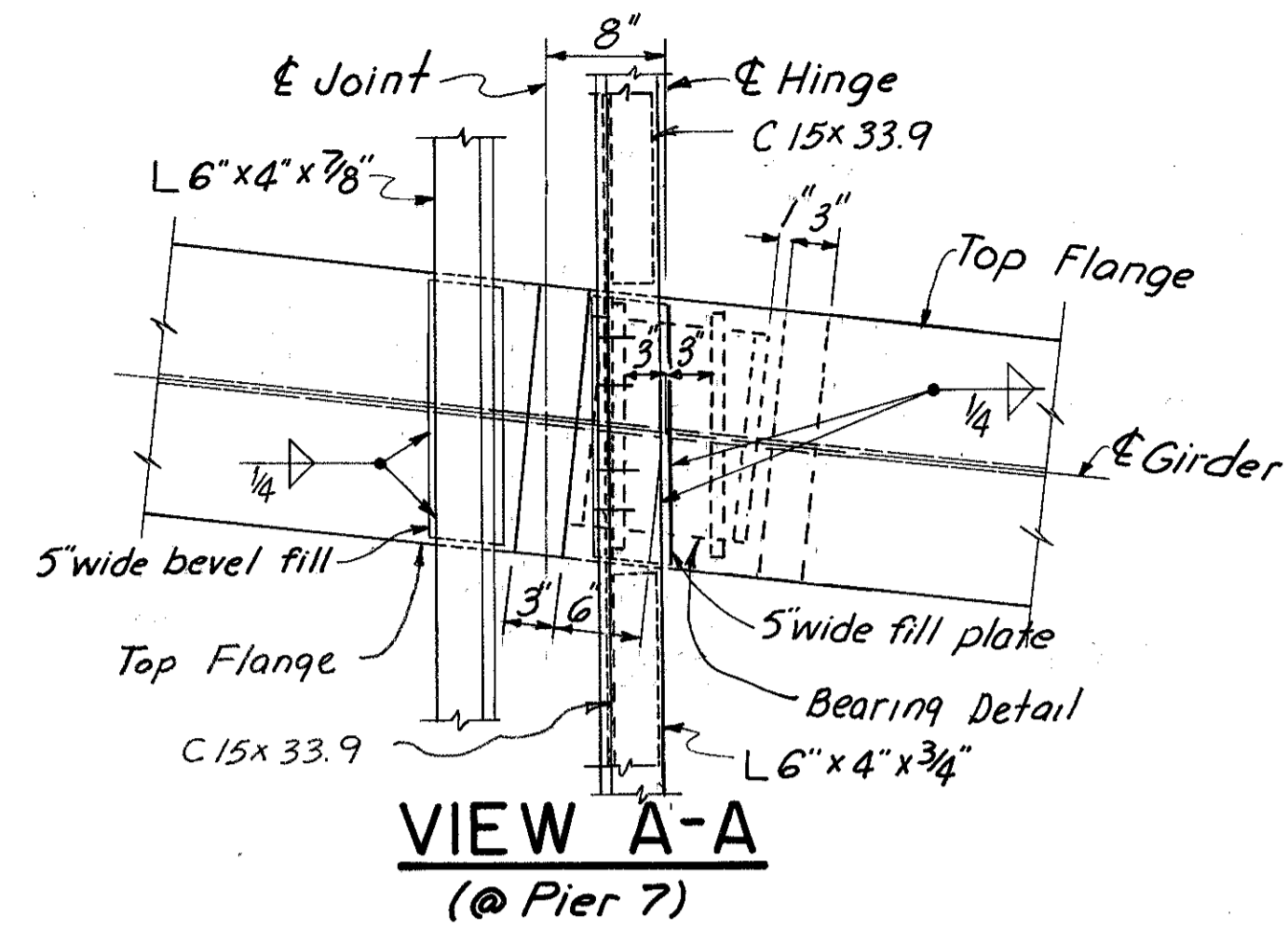
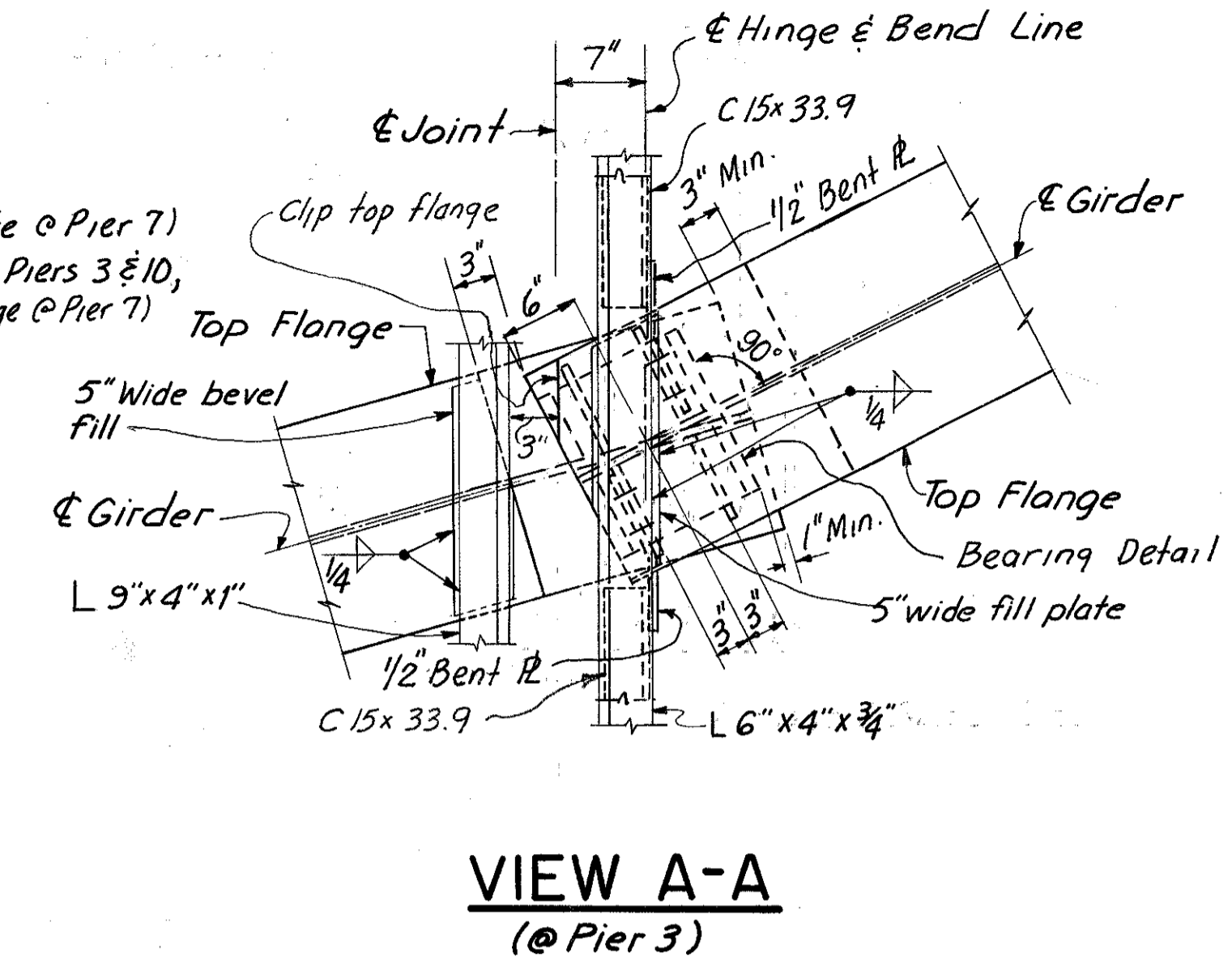
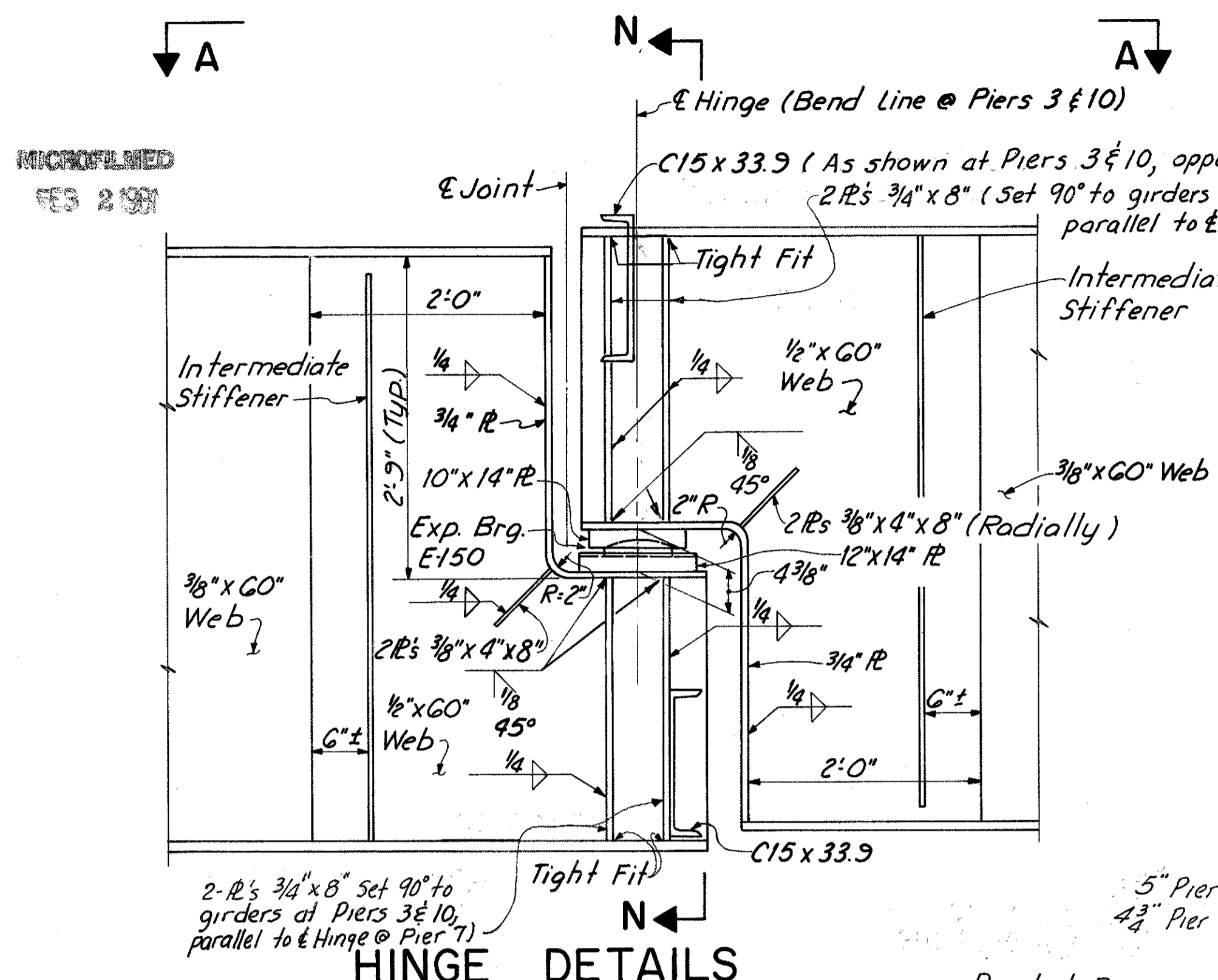


**DETAIL OF ARMOR ANGLES FOR PIER COLUMNS**  
(No. Required - 32)  
(Included with Item 513 for payment)

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					31/64
<b>STRUCTURAL STEEL DETAILS</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		Y.L.	JHO	
			12-8-71	11-13-72	

HAMILTON COUNTY  
HAM-471-030

(326-426) 39/Red

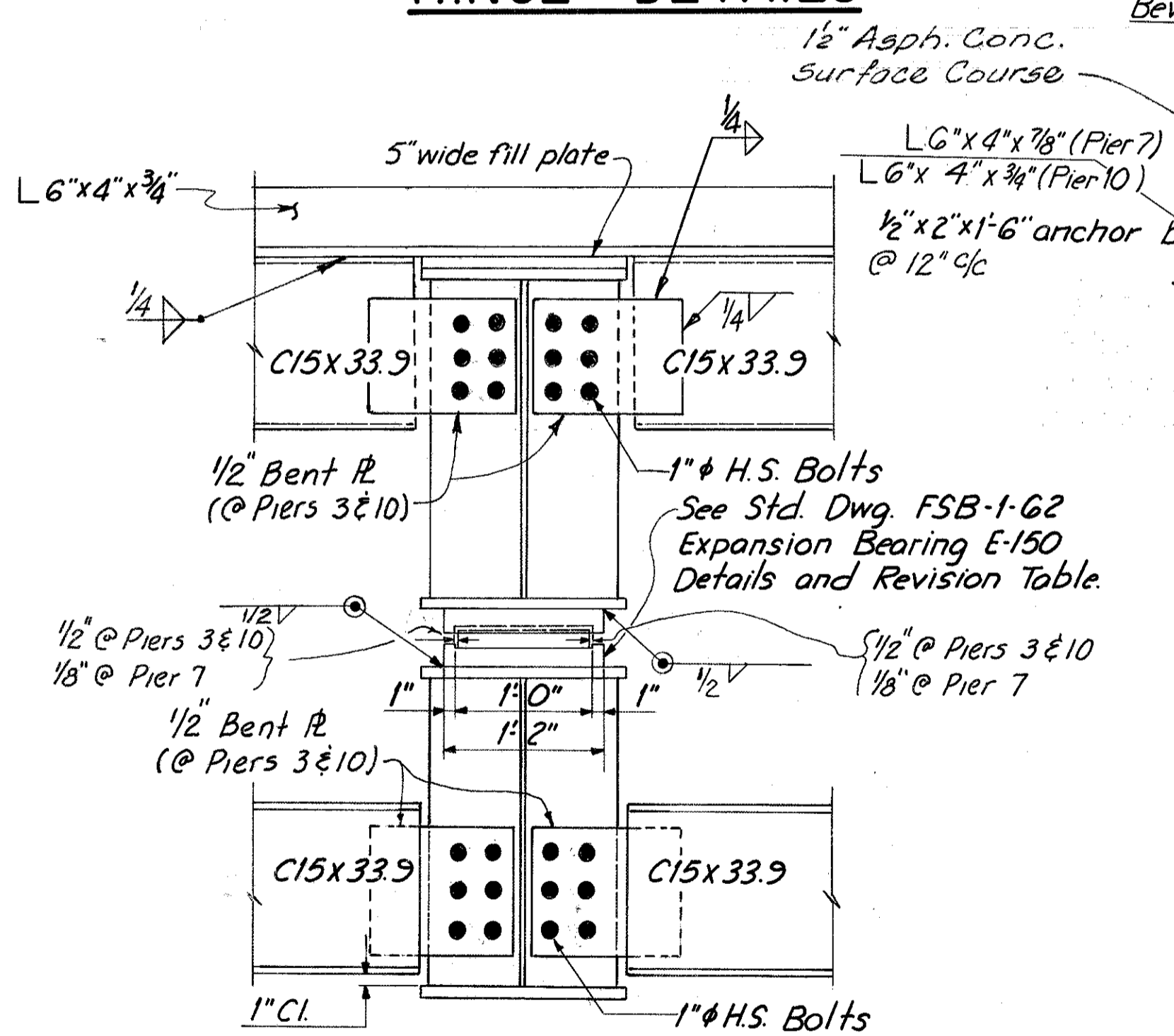


**HINGE DETAILS**

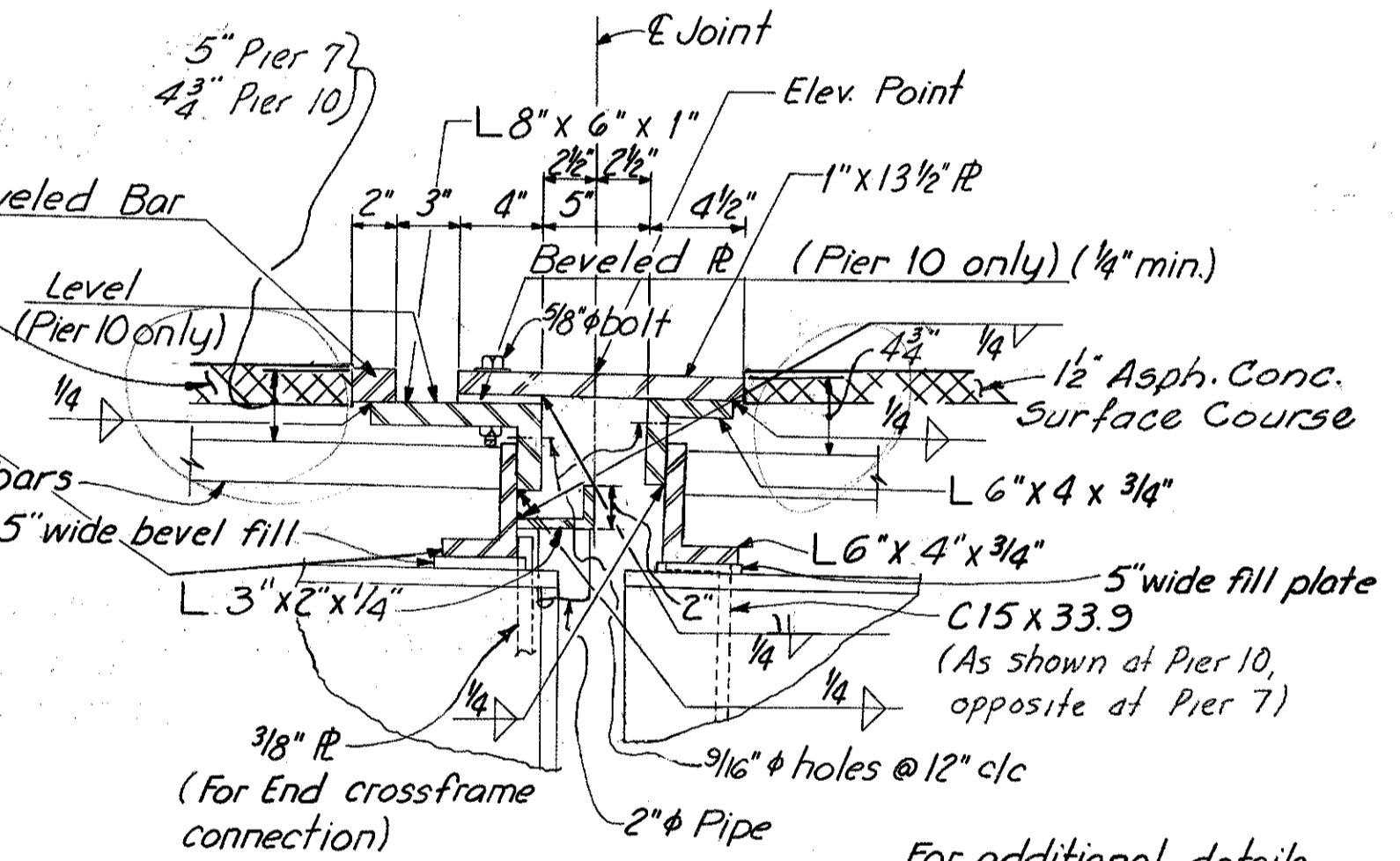
**VIEW A-A**  
(@ Pier 3)

**VIEW A-A**  
(@ Pier 7)

**VIEW A-A**  
(@ Pier 10)

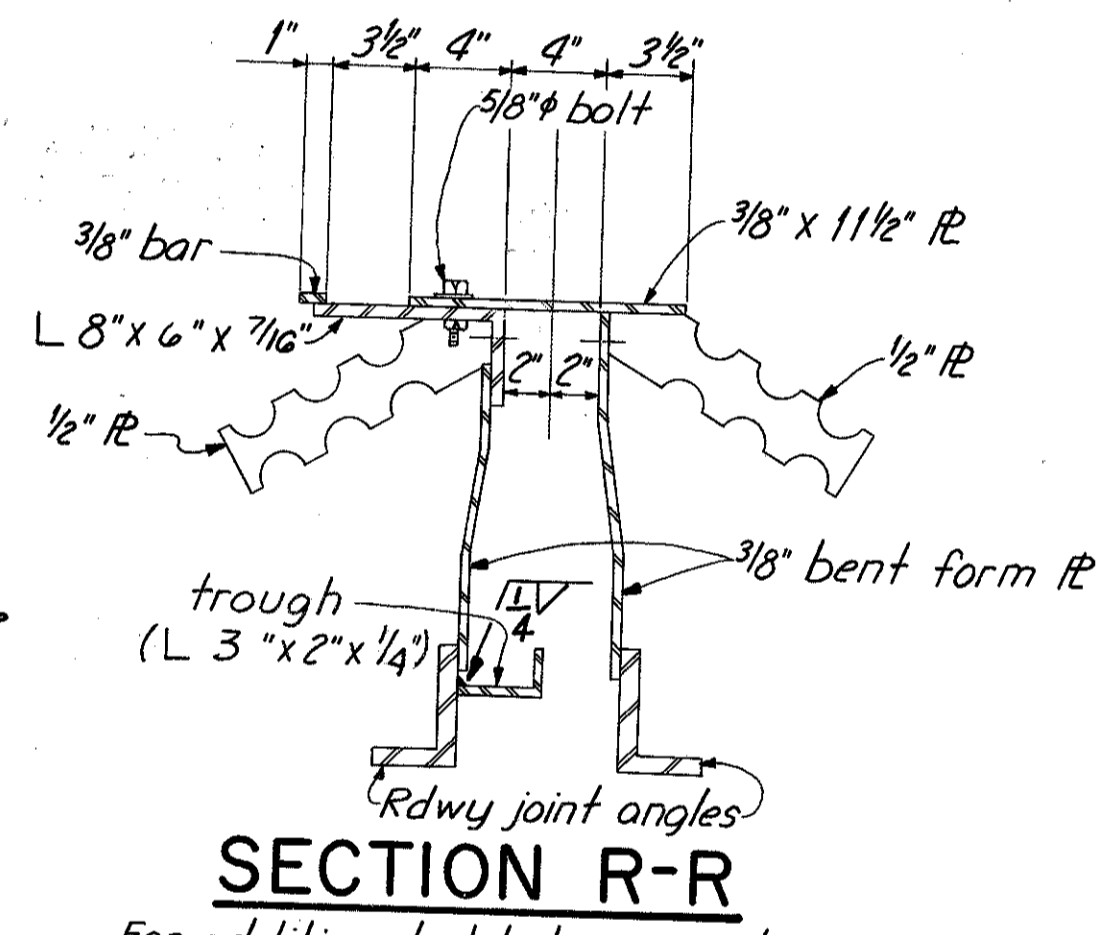


**SECTION N-N**



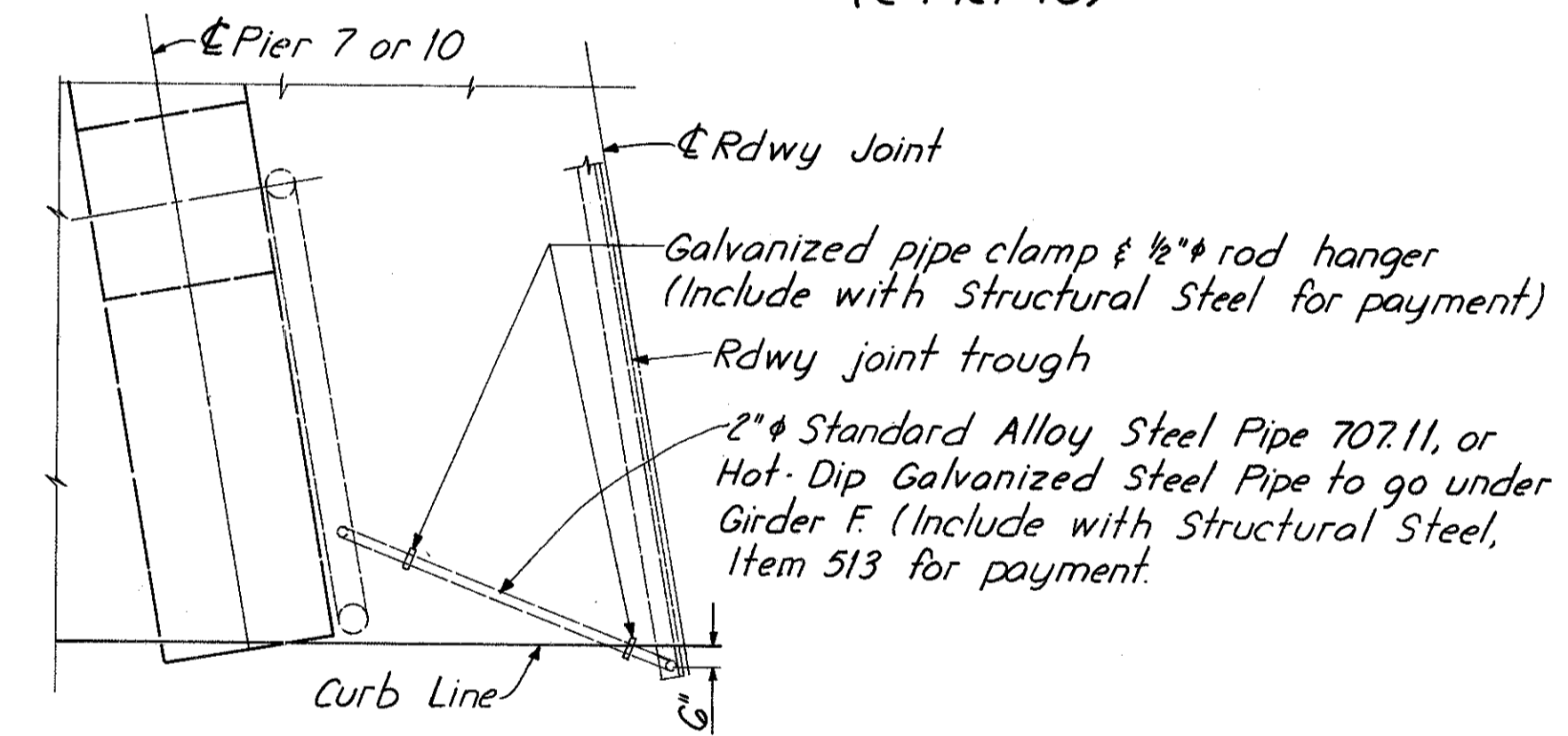
**SECTION P-P**

(At Pier 7 or 10 Roadway Joint)



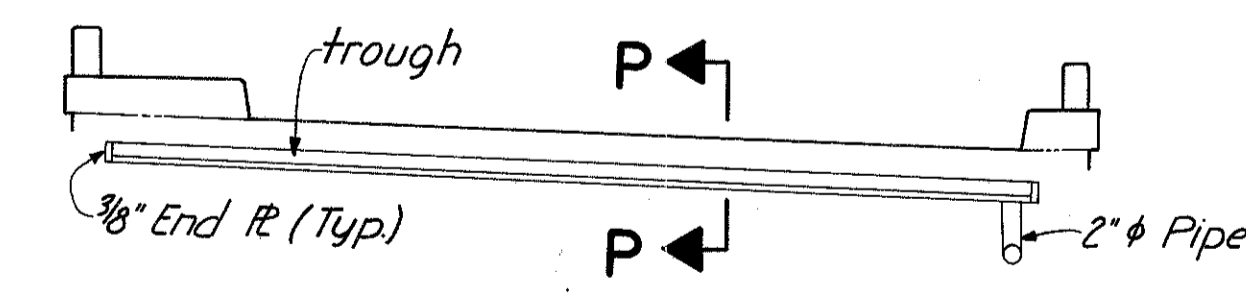
**SECTION R-R**

For additional details see Section D-D, Std. Dwg. SD-1-G9 sh. 2.



**PLAN-ROADWAY JOINT DRAINAGE**

(At Piers 7 & 10)

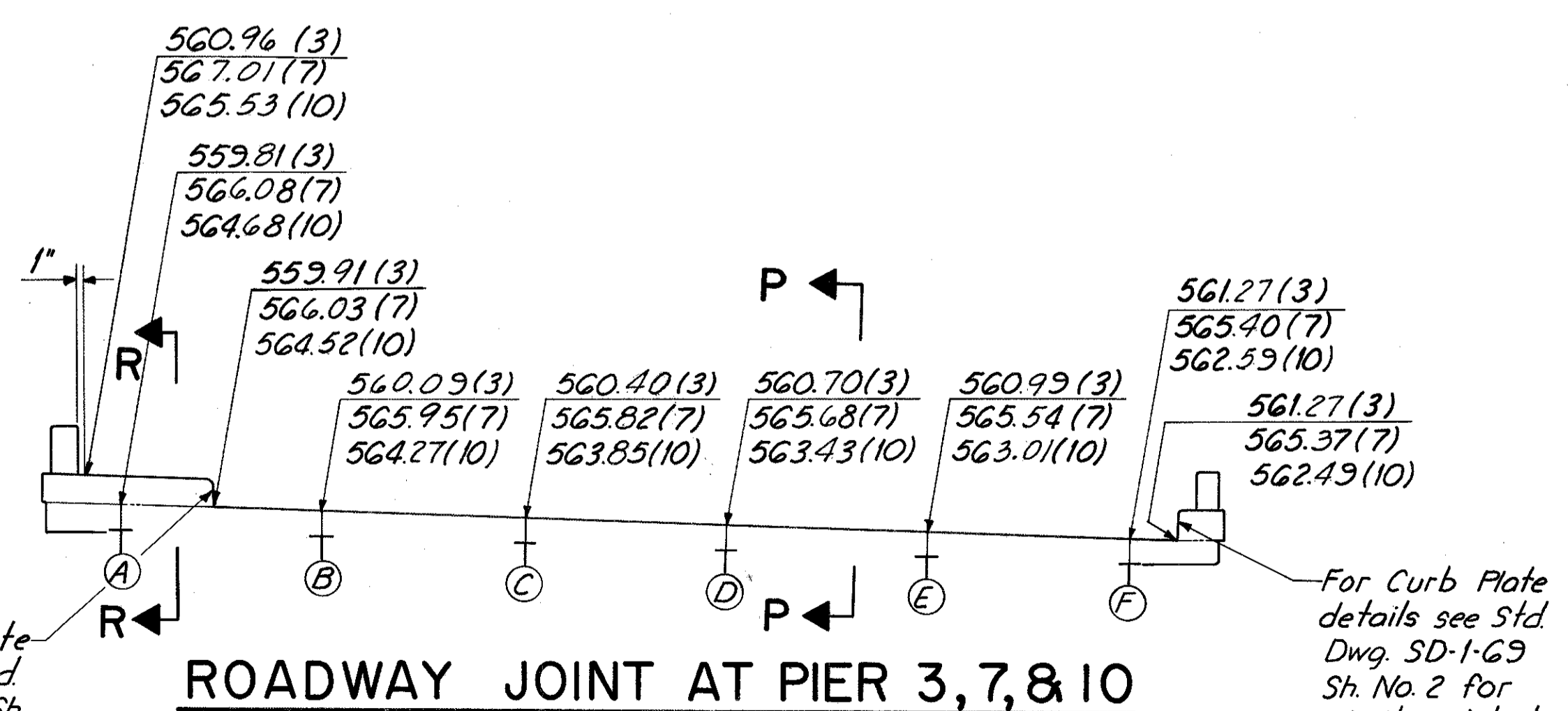


**ELEVATION-ROADWAY JOINT DRAINAGE**

(At Piers 7 & 10)  
For other details see Elev-Rdwy Jt. Drainage at Pier 3 sh. 325.

FIXED AND SLIDING BEARING REVISIONS		
LOCATION	SIZE	REMARKS
Hinge	E150	Omit Anchor Rods and sheet lead. Revise R's as shown.

For Curb Plate details see Std. Dwg. SD-1-G9 Sh. No. 2 for similar details. (Typ)



**ROADWAY JOINT AT PIER 3, 7, & 10**

(3)-Elevation @ Joint near Pier 3  
(7)-Elevation @ Joint near Pier 7  
(10)-Elevation @ Joint near Pier 10

Roadway joints to be bent in shop to conform to the contour of the top of slab.

For Curb Plate details see Std. Dwg. SD-1-G9 Sh. No. 2 for similar details. (Typ)

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					32/64
<b>STRUCTURAL STEEL DETAILS</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
WL	JHD		JL	11-20-72	JH0 11-13-72

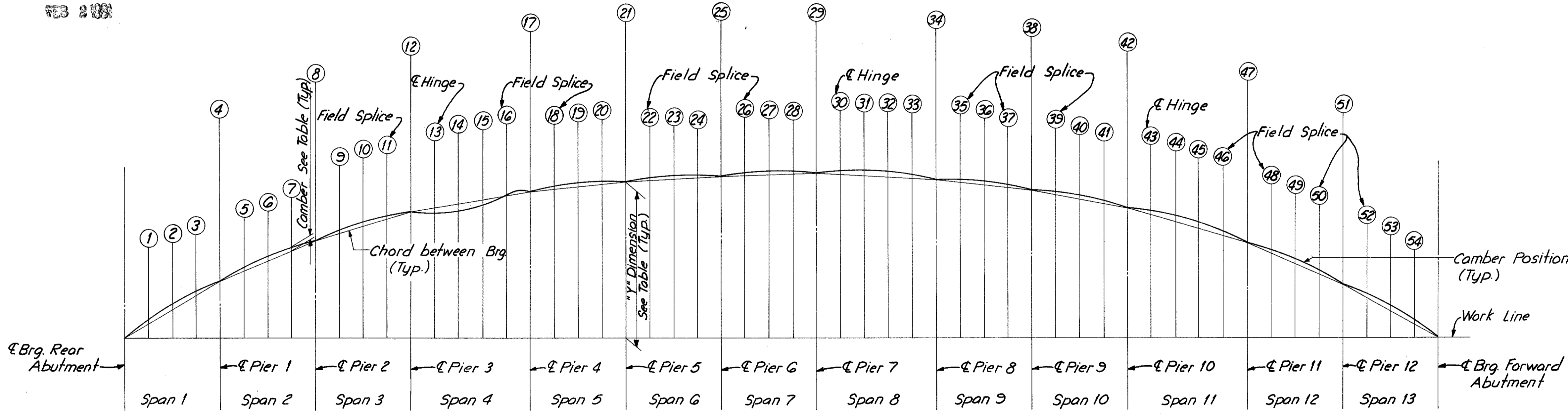
HAMILTON COUNTY  
HAM-471-0.30

**DEFLECTION AND CAMBER (inches)**

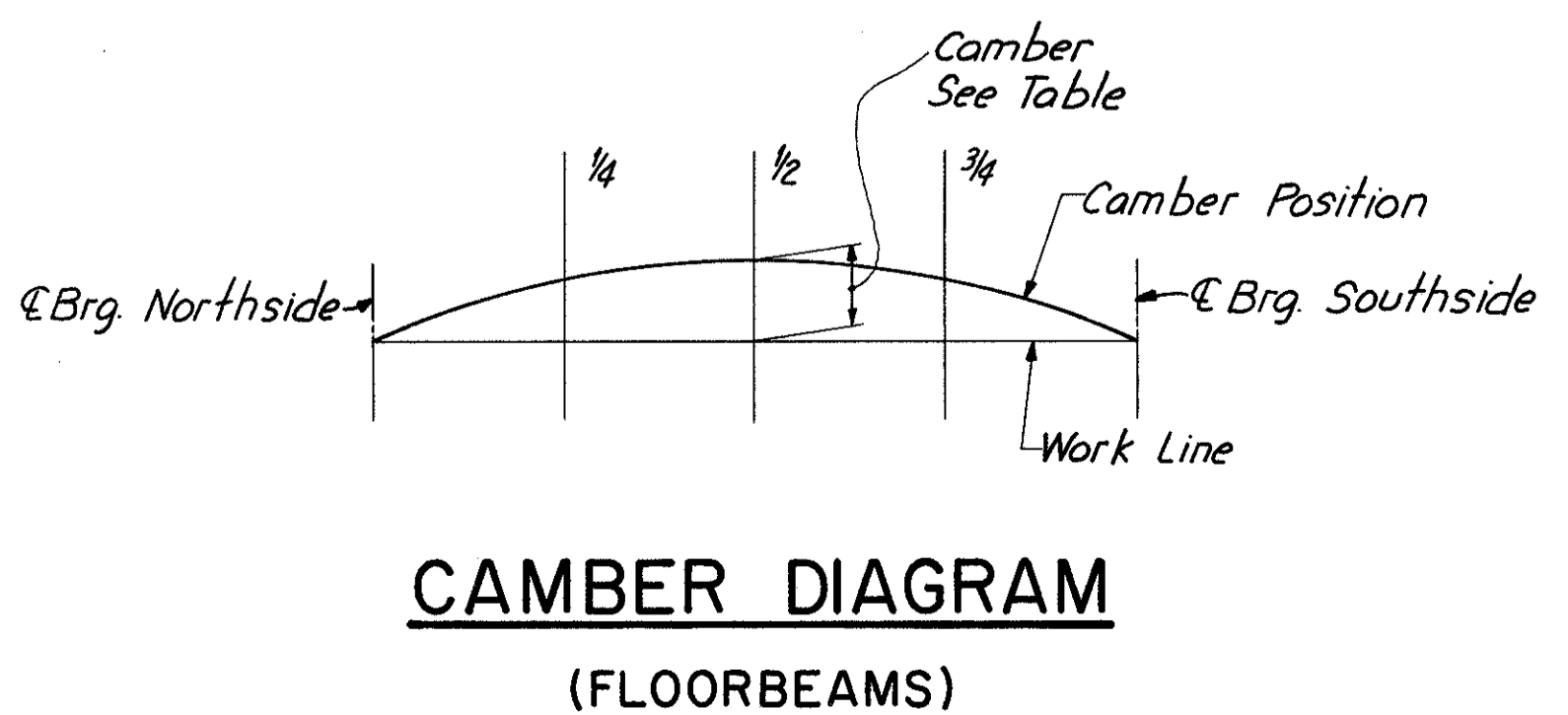
	Span 1			Span 2			Span 3			Span 4			Span 5			Span 6			Span 7			Span 8			Span 9			Span 10			Span 11			Span 12			Span 13			
	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	
Girder A	Def. due to weight of steel	9/16	13/16	9/16	5/16	1/2	5/16	3/8	1/2	3/8	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4	1/4	1/2	3/4
Girder B	Def. due to weight of steel	1 1/4	1 1/2	1 3/16	-1/16	1/8	1/16	3/8	5/8	3/8	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2			
Girder C	Def. due to weight of steel	1 1/4	1 1/2	1 3/16	-1/16	1/8	1/16	3/8	5/8	3/8	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2			
Girder D	Def. due to weight of steel	1 1/4	1 1/2	1 3/16	-1/16	1/8	1/16	3/8	5/8	3/8	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2			
Girder E	Def. due to weight of steel	1 1/4	1 1/2	1 3/16	-1/16	1/8	1/16	3/8	5/8	3/8	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2			
Girder F	Def. due to weight of steel	1 1/4	1 1/2	1 3/16	-1/16	1/8	1/16	3/8	5/8	3/8	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2	1/8	3/8	1/2			

Note: Negative values (-) are measured downward.  
\* Vertical and horizontal curves, and superelevation transition

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	Girder A	Girder B	Girder C	Girder D	Girder E	Girder F
Pier	Y Dim.	Y Dim.	Y Dim.	Y Dim.	Y Dim.	Y Dim.
1	3:1 3/4"	3:3"	3:4 1/4"	3:5 3/8"	3:7 1/4"	3:8 3/8"
2	5:1 1/8"	5:4 5/8"	5:7 3/4"	5:11 5/8"	6:5 3/4"	7:0"
3	6:5 7/8"	6:11 3/8"	7:4 3/4"	7:10 1/2"	8:6 1/8"	9:1 1/2"
4	9:6 1/4"	9:9 3/4"	10:1"	10:5 1/8"	10:11 1/4"	11:5 3/4"
5	11:3 1/8"	11:7"	11:11 1/8"	12:3 5/8"	12:9 3/4"	13:4"
6	12:0 5/8"	12:5 1/4"	12:9 3/8"	13:3"	13:9 1/2"	14:4 1/8"
7	11:10"	12:2 1/4"	12:6 3/8"	12:11 3/8"	13:5 1/4"	13:11 1/4"
8	11:3 3/4"	11:7 3/4"	11:11 3/4"	12:4 1/8"	12:9 1/2"	13:3"
9	10:7 3/4"	10:11 1/4"	11:2 7/8"	11:6 3/8"	11:11 1/4"	12:3 7/8"
10	9:8 3/4"	10:0 1/4"	10:4"	10:7 7/8"	11:0 1/4"	11:4 7/8"
11	7:10 3/8"	8:1 5/8"	8:5"	8:8 1/2"	9:0 3/8"	9:4 1/4"
12	3:6 3/4"	3:8 1/4"	3:9 3/4"	3:11 1/8"	4:0 1/2"	4:1 7/8"



**CAMBER DIAGRAM (GIRDERS)**

**DEFLECTION & CAMBER (inches)**

	Floorbeam 1			Floorbeam 2		
	1/4	1/2	3/4	1/4	1/2	3/4
Def. due to weight of steel	1/16	1/16	1/16	1/16	1/16	1/16
Def. due to remaining D.L.	3/16	1/4	3/16	3/16	5/16	3/16
Adjustment reqd for convexity	1 5/8	3 3/8	1 7/8	0	-1/8	0
Required shop camber	1 7/8	3 5/8	2 1/8	1/4	1/4	1/4

Note: Negative values (-) are measured downward.

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CINCINNATI, OHIO

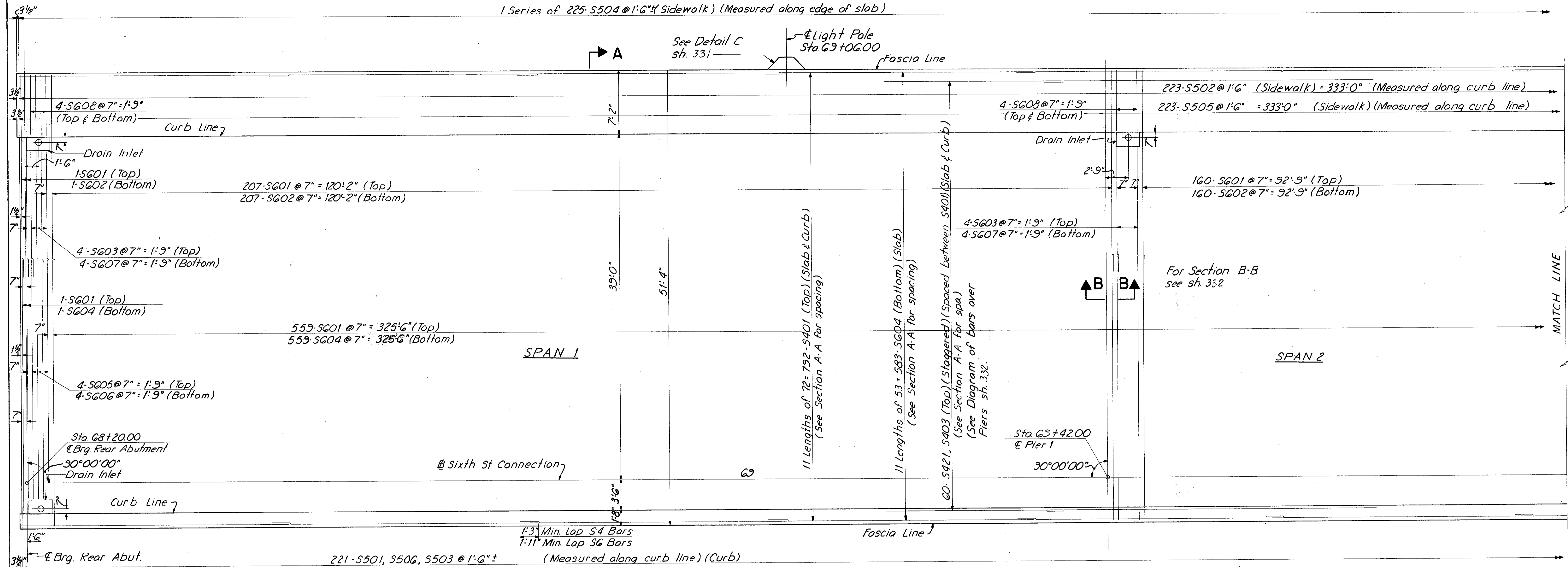
33/64

**STRUCTURAL STEEL DETAILS**  
**BRIDGE NO. HAM-471-0044**

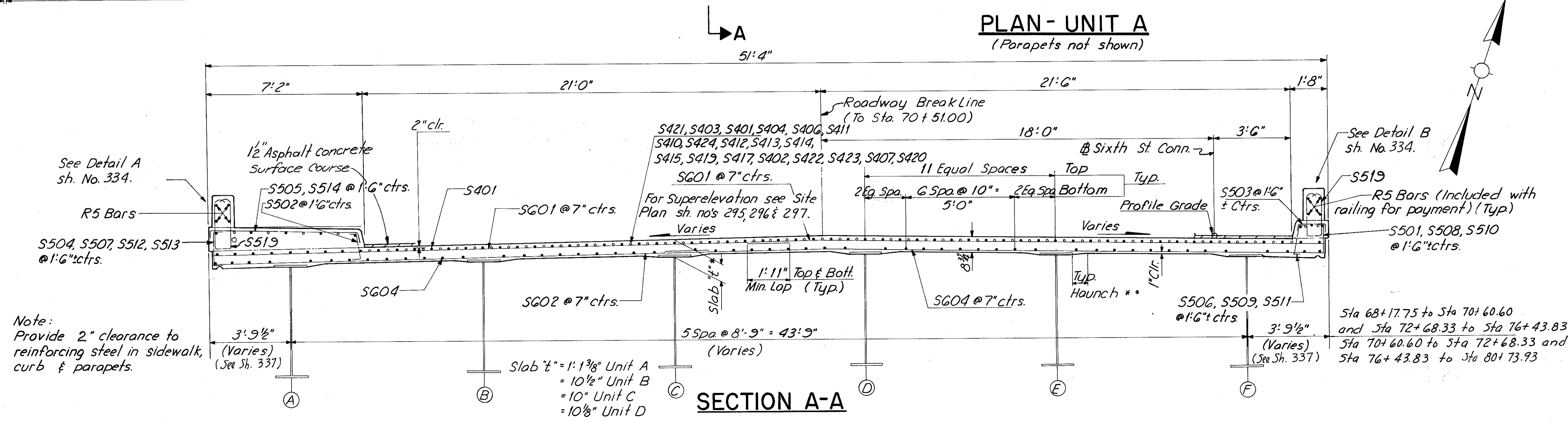
SIXTH STREET CONNECTION OVER  
SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		W.L. 12-7-71	JHS 11-13-72	





**PLAN - UNIT A**  
(Parapets not shown)

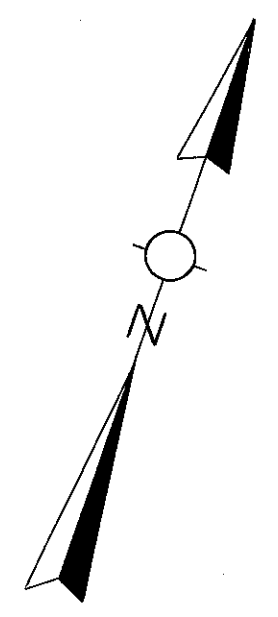


Notes:  
 For Haunch (\*\*\*) Note see sh. 329.  
 For slab "t" (\*) Note see sh. 329.  
 For Drainage Details see sh. 349, 350 & 351.  
 For Railing and Lighting Details see sh. 343 thru 348 and sheet 331.  
 For Roadway Elevations see sh. 338.  
 For Screed Elevations see sh. 339.  
 For Layout of Edge of Slab see sh. 337.  
 For end finish details see sh. 325, Section K-K.  
 Field bend or cut longitudinal bars to miss drain inlets.  
 For subdrainage and wearing course details, see sheet 336.

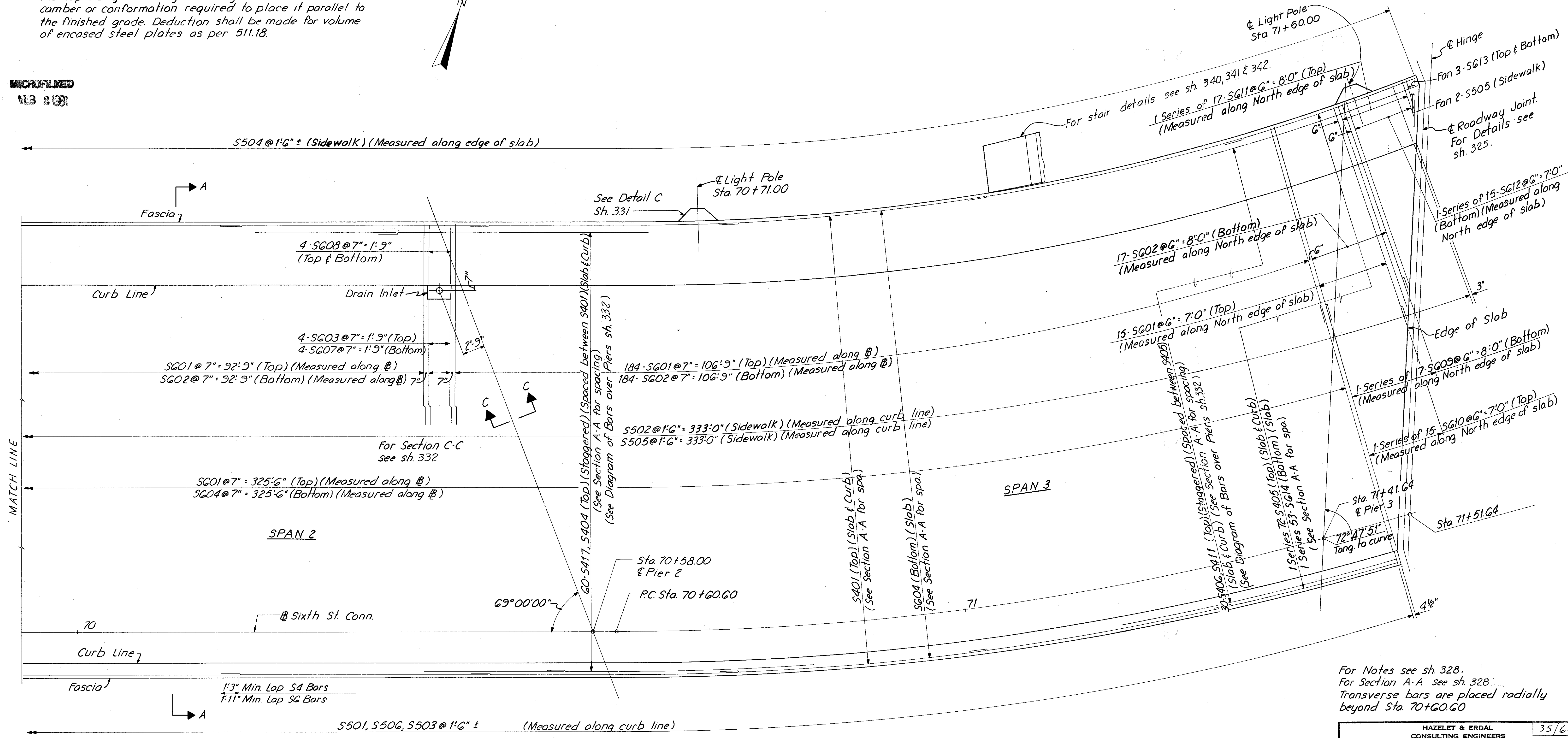
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				34 / 64
<b>SUPERSTRUCTURE DETAILS</b>				
<b>BRIDGE NO. HAM-471-0044</b>				
<b>SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&amp;E BRIDGE NO.9</b>				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
JHO	JHD		W.L. 12-7-71	JHD 11-13-72

\*\*A haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

\*This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.18.



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For Notes see sh. 328.  
For Section A-A see sh. 328.  
Transverse bars are placed radially beyond Sta. 70+60.00

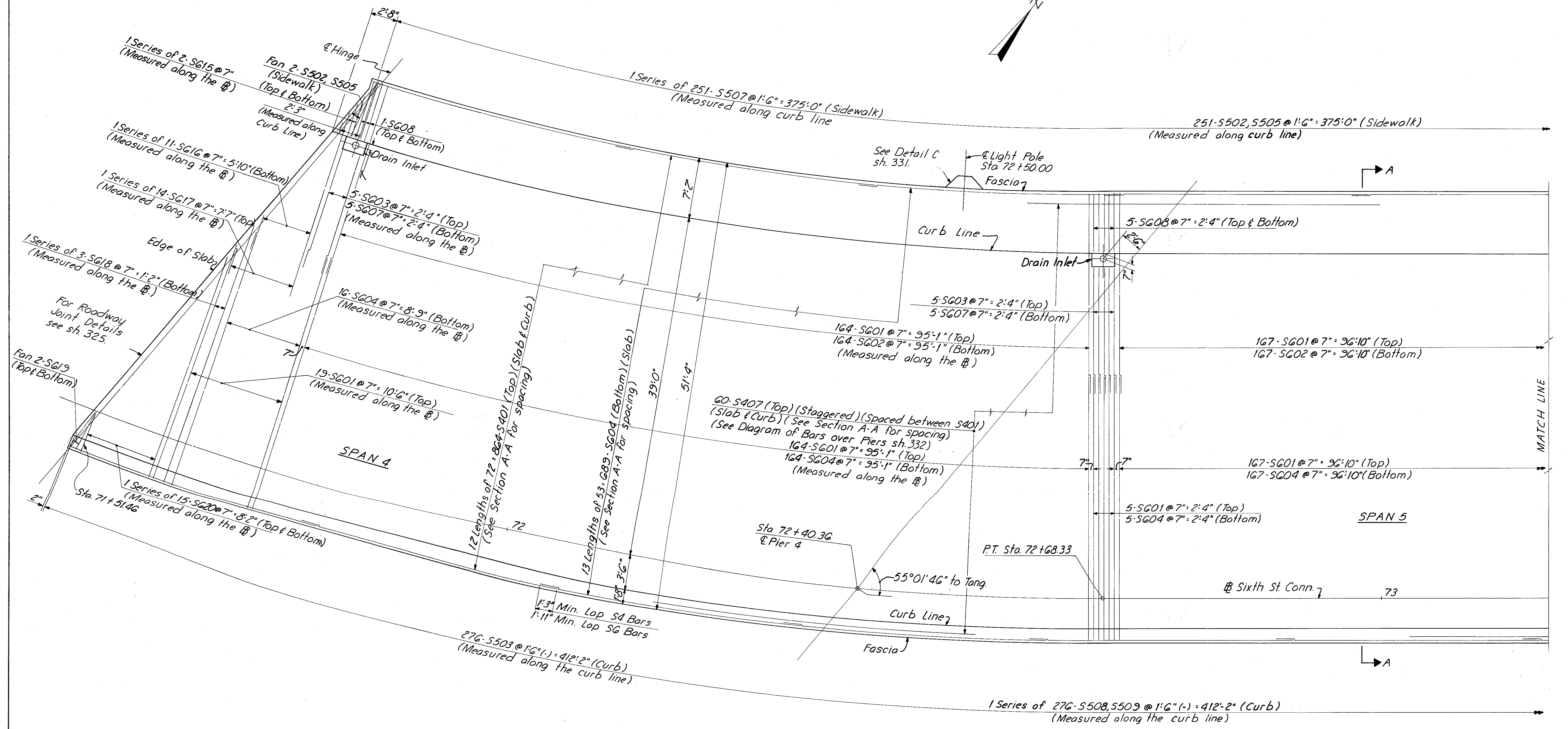
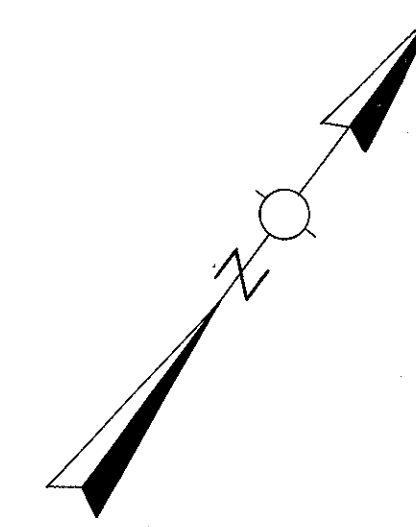
**PLAN-UNIT A**  
(Parapets not shown)

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						35/64
<b>SUPERSTRUCTURE DETAILS</b>						
<b>BRIDGE NO. HAM- 471-0044</b>						
<b>SIXTH STREET CONNECTION OVER</b>						
<b>SOUTHBOUND I-471 H&amp;E BRIDGE NO. 9</b>						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
JHO	JHD		W.L. 12-8-71	JH 11-13-72		

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7/8 2 (88)

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR	330 494
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HAMILTON COUNTY  
HAM-471-0.30



For Notes see sh. 328.  
For Section A-A see sh. 328.  
Transverse bars are placed  
radially up to Sta 72+68.33

**PLAN - UNIT B**  
(Parapets not shown)

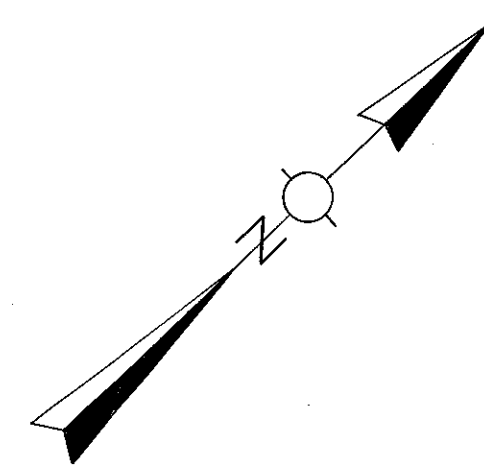
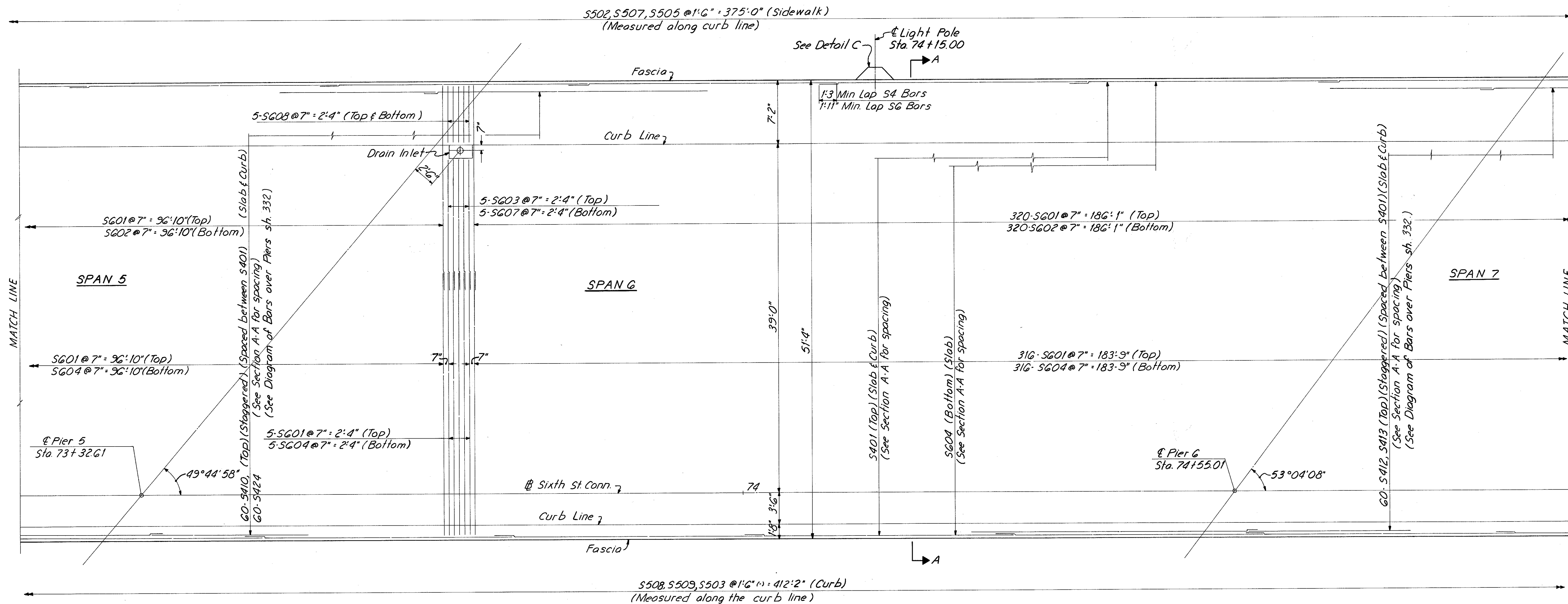
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					36/64
<b>SUPERSTRUCTURE DETAILS</b>					
BRIDGE NO. HAM-471-0044					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	JHD		VNL	3/4/72 12-13-71	11-13-72

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FEB 2 1991

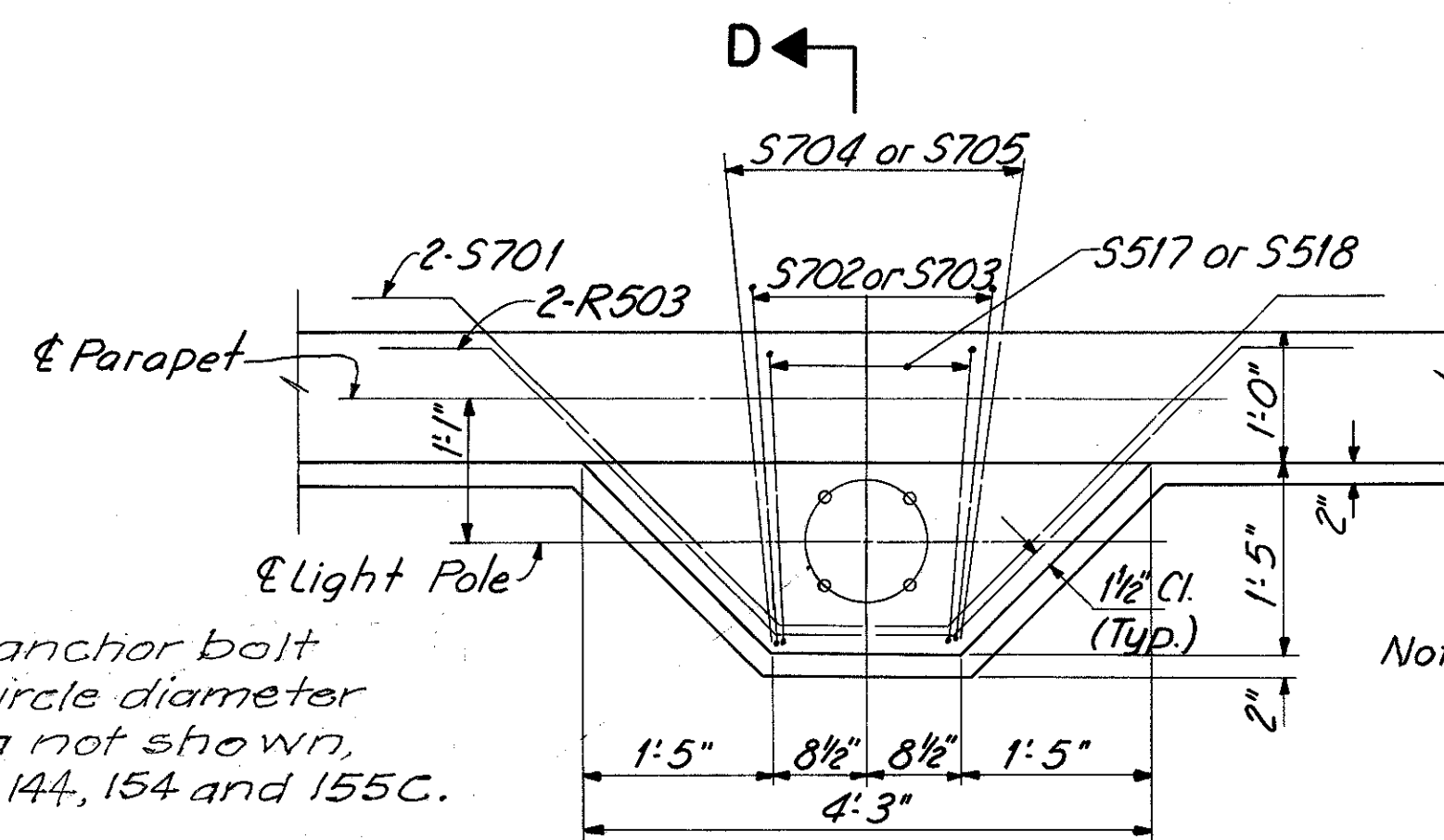
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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HAM-471-0.30



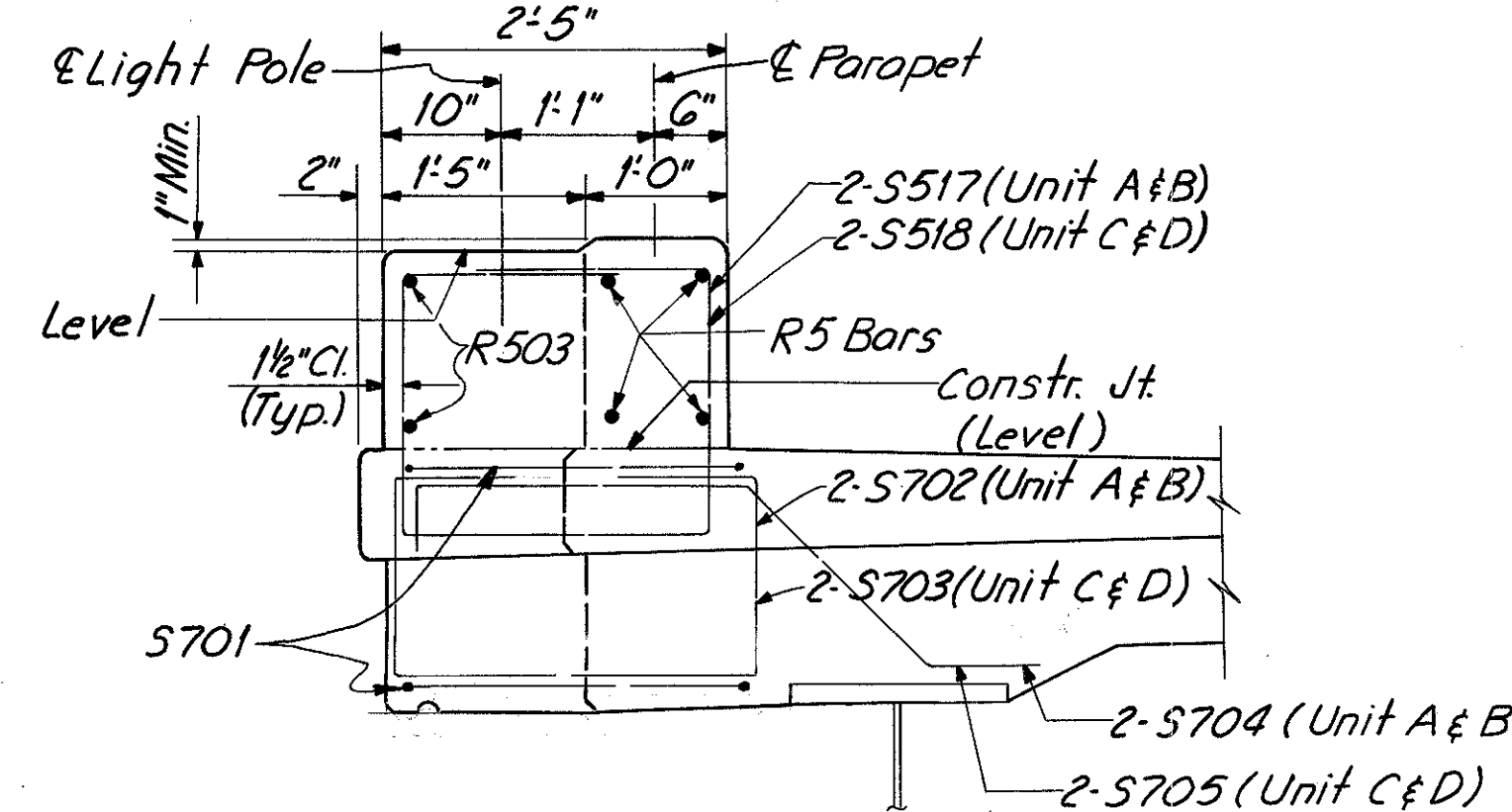
Note:  
For Light Pole anchor bolt details, bolt circle diameter and other data not shown, see Sh. Nos. 143, 144, 154 and 155C.



DETAIL C

Note: Field cut R503 bars to miss parapet deflection joints for Light Pole at Sta. 71+60.

PLAN-UNIT B  
(Parapets not shown)



SECTION D-D

For Notes see sh. 328.  
For Section A-A see sh. 328.

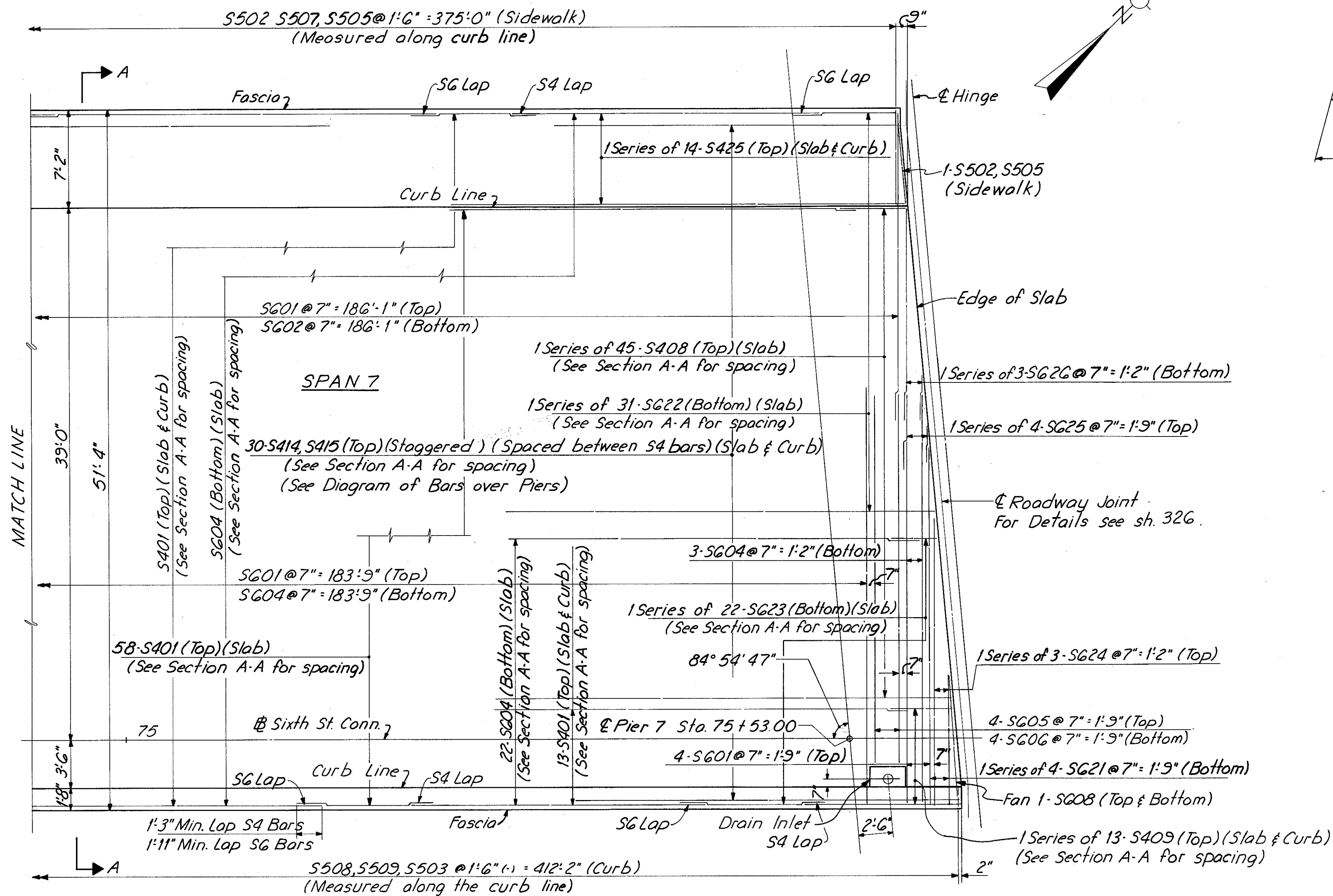
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					37/64
<b>SUPERSTRUCTURE DETAILS</b>					
BRIDGE NO. HAM-471-0044					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9					
DESIGNED JHO	DRAWN JHD	TRACED	CHECKED W.L. 12-13-71	REVIEWED DATE JHO 11-13-72	REVIEWED

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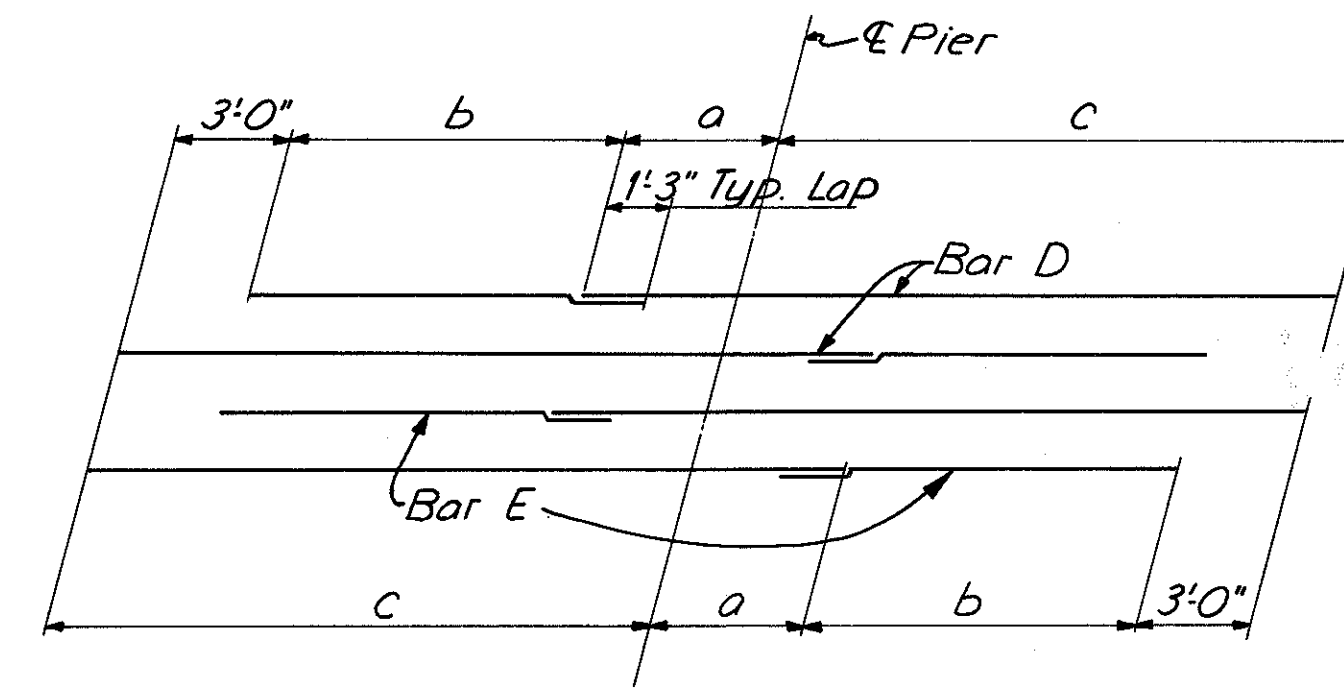
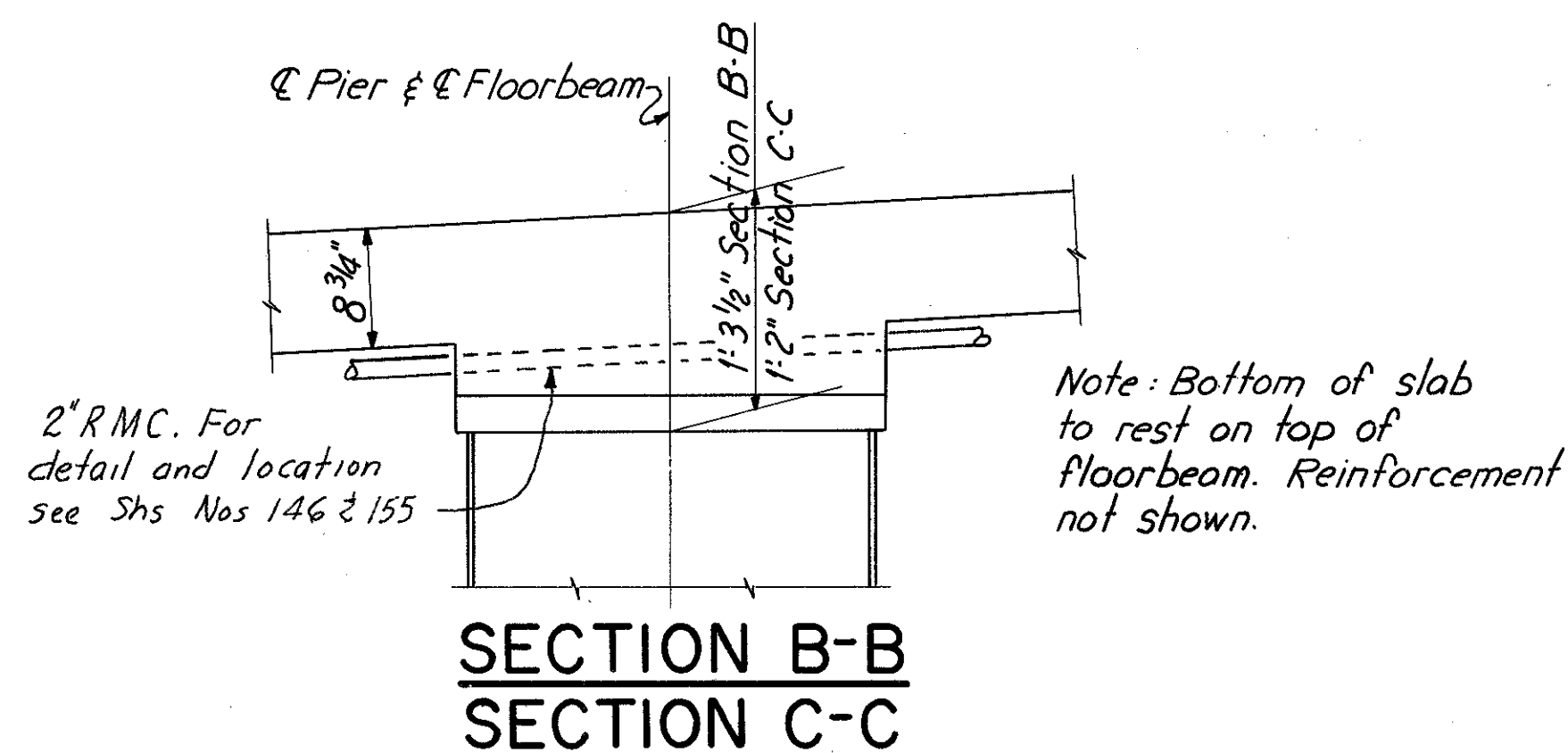
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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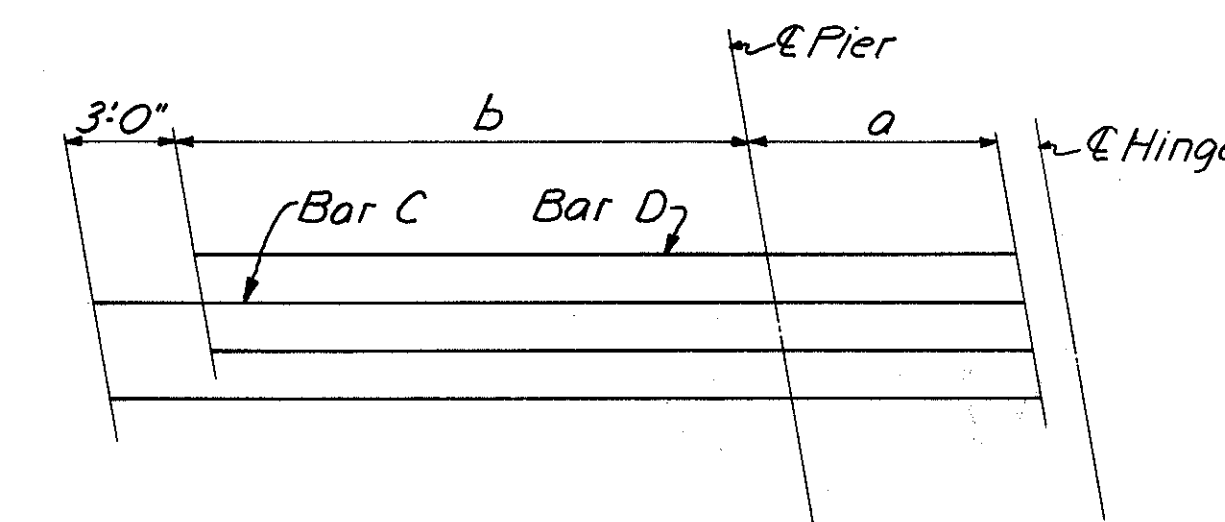


**PLAN - UNIT B**  
(Parapets not shown)



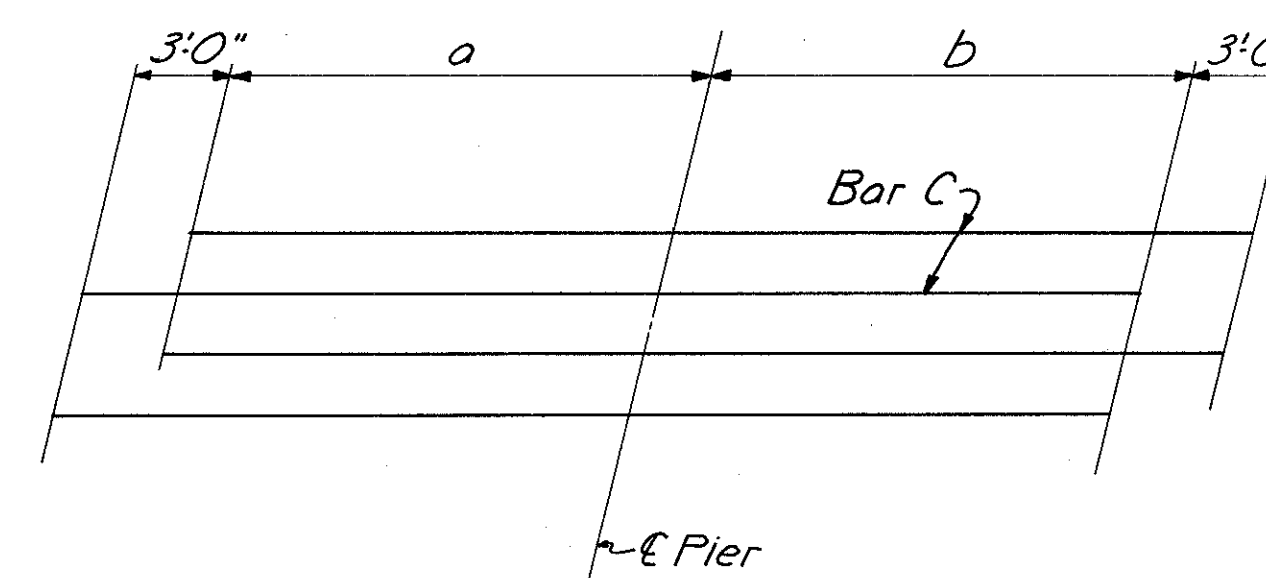
**DIAGRAM SHOWING STAGGER OF S4 BARS OVER PIERS 1, 2, 5, 6, 11 & 12**

Pier No.	Dimension			Bar No.	
	a	b	c	D	E
1	9'-0"	16'-0"	28'-0"	S403	S421
2	9'-0"	12'-3"	24'-3"	S417	S404
5	9'-0"	13'-6"	25'-6"	S424	S410
6	9'-0"	14'-0"	26'-0"	S413	S412
11	9'-0"	9'-0"	21'-0"	S401	S402
12	9'-0"	9'-0"	21'-0"	S401	S402



**DIAGRAM SHOWING STAGGER OF S4 BARS OVER PIERS 3, 7 & 10**

Pier No.	Dimension			Bar No.	
	a	b	C	D	
3	8'-7"	19'-8"	S406	S411	
7	7'-8"	21'-10"	S414	S415	
10	8'-8"	17'-4"	S422	S423	



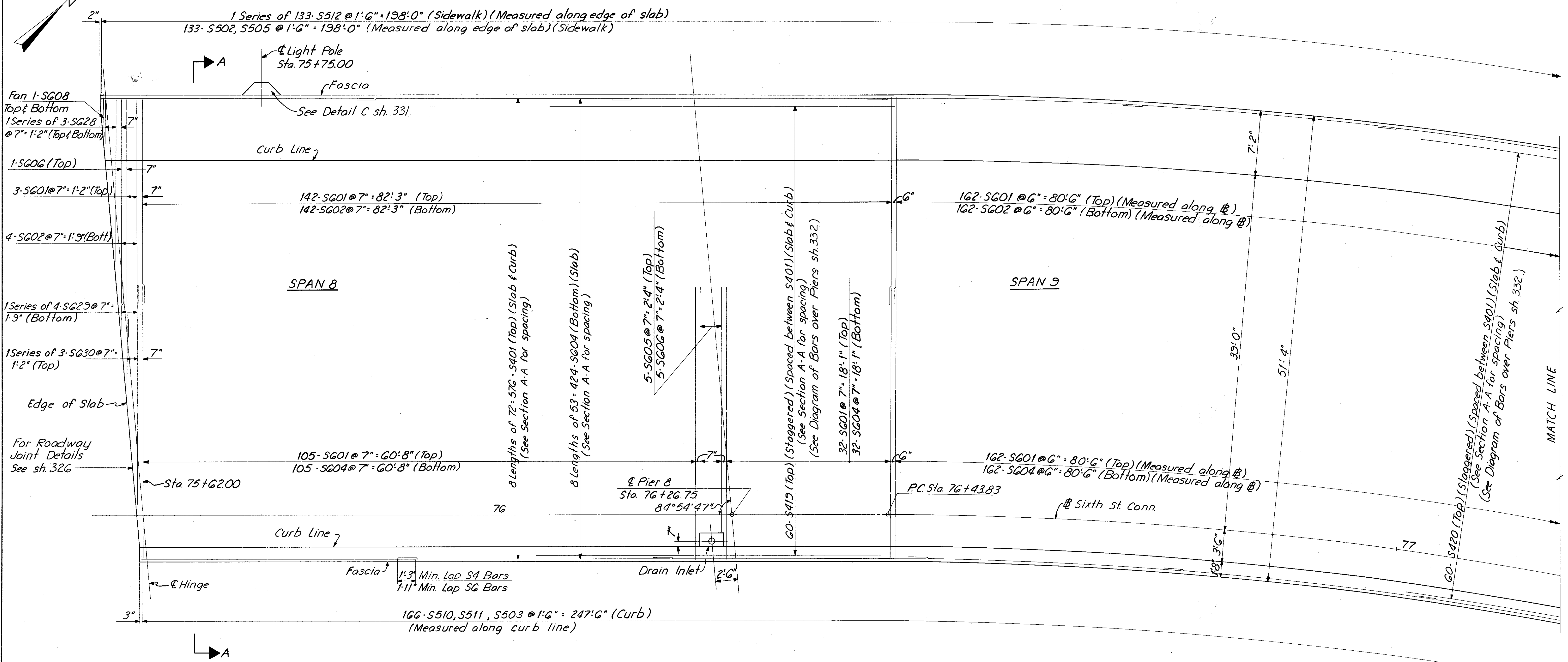
**DIAGRAM SHOWING STAGGER OF S4 BARS OVER PIERS 4, 8 & 9**

Pier No.	Dimension			Bar No.
	a	b	C	
4	18'-3"	18'-3"	S407	
8	16'-6"	16'-6"	S419	
9	18'-0"	18'-0"	S420	

For Notes see sh. 328.  
For Section A-A see sh. 328.  
For location of Section B-B see sh. 328.  
For location of Section C-C see sh. 329.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					38/64
<b>SUPERSTRUCTURE DETAILS</b>					
BRIDGE NO. HAM-471-0044					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9					
DESIGNED JHO	DRAWN JHD	TRACED	CHECKED NYZ 12-8-71	REVIEWED DATE JHO 11-13-72	REVISED

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**PLAN - UNIT C**  
(Parapets not shown)

For Notes see sh. 328  
For Section A-A see sh. 328  
Transverse bars are placed  
radially beyond Sta. 76+43.83.

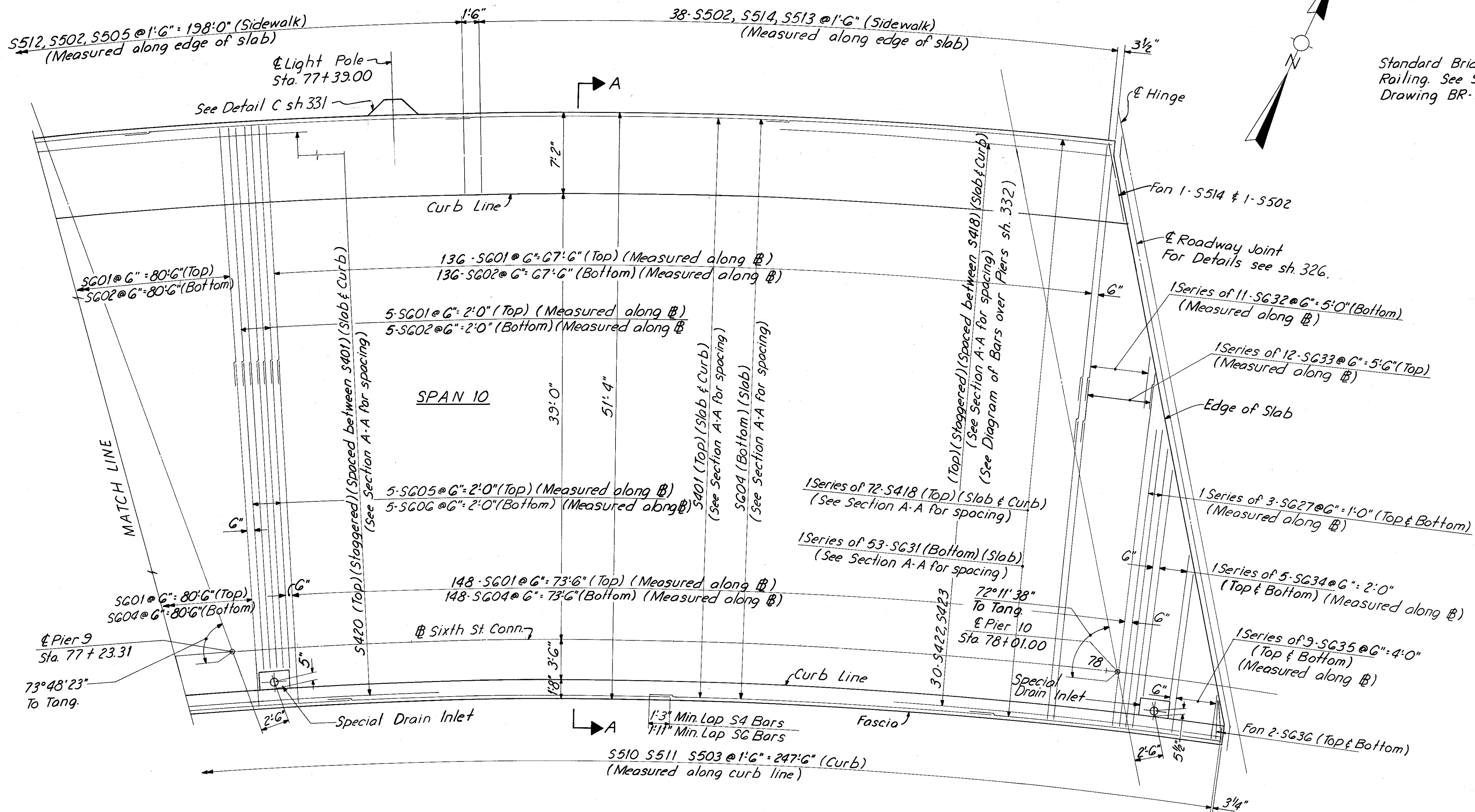
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					39/64
<b>SUPERSTRUCTURE DETAILS</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
<b>SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&amp;E BRIDGE NO.9</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
JHO	JHD		VV-L 12-13-71	JHO 11-13-72	

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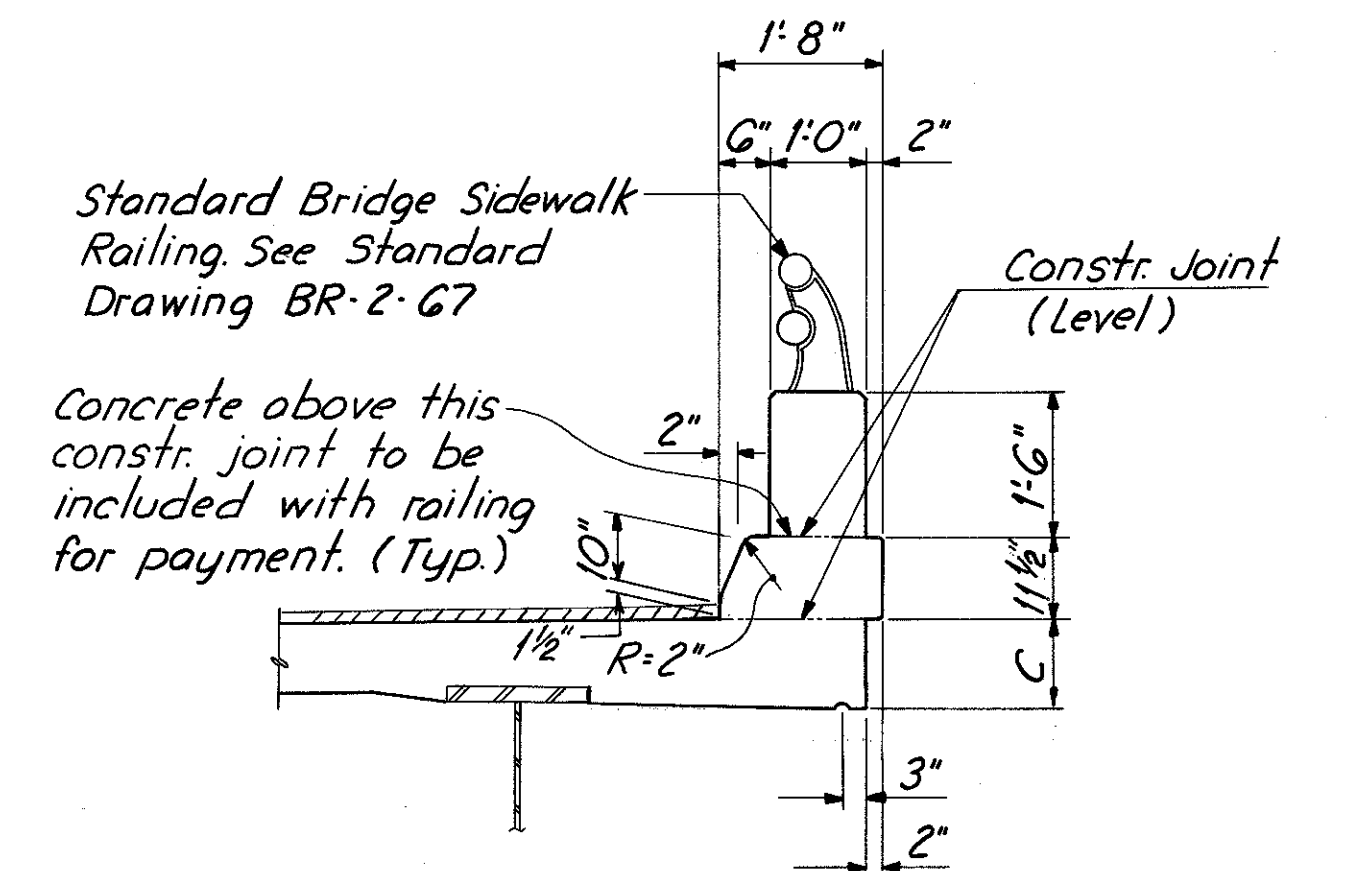
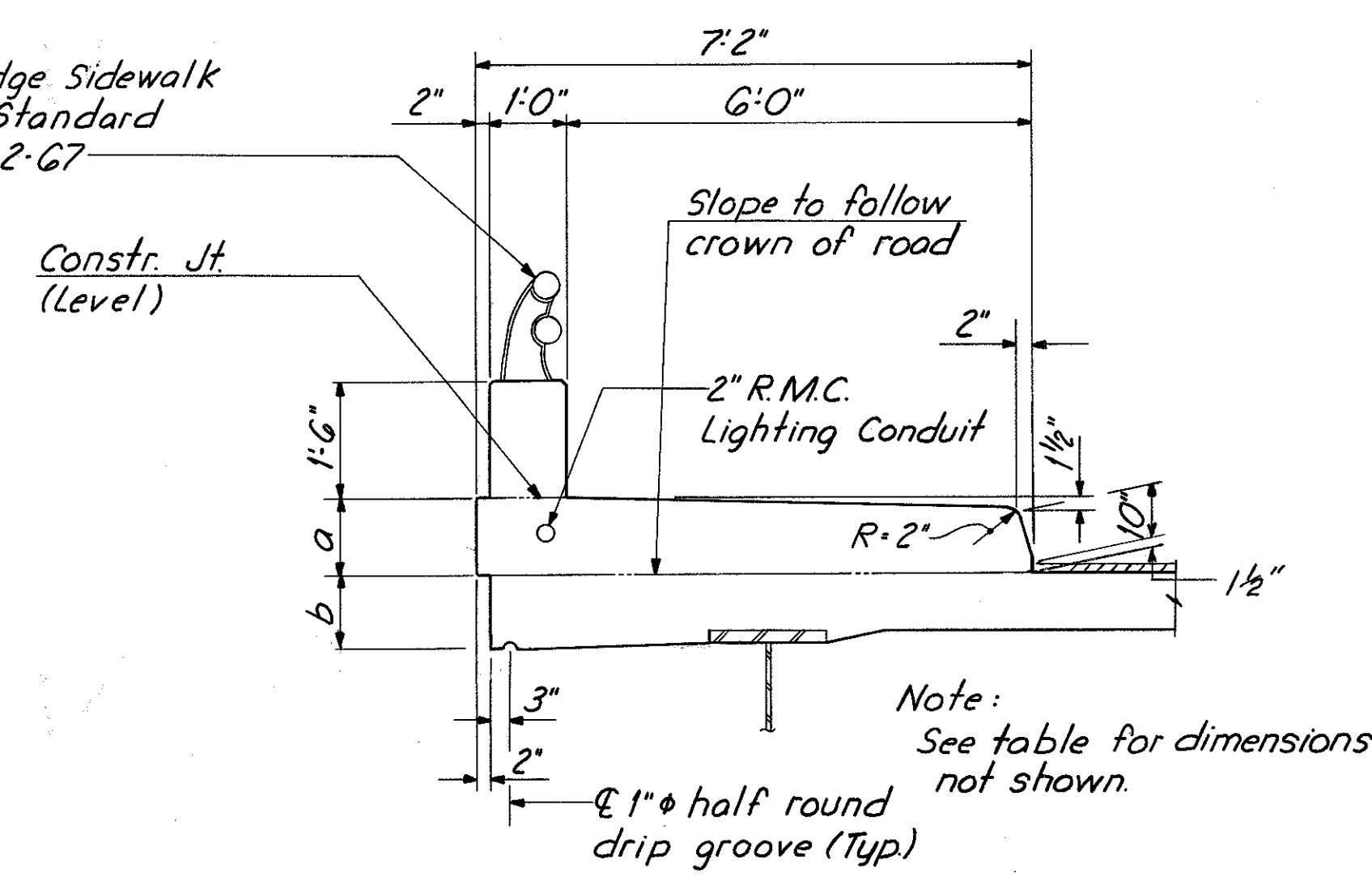
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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 HAM-471-0.30



Standard Bridge Sidewalk Railing. See Standard Drawing BR-2-G7



PLAN-UNIT C  
 (Parapets not shown)

For Notes see sh. 328.  
 For Section A-A see sh. 328.  
 For Location of Detail A and Detail B see sh. 328.  
 Transverse bars are placed radially.

Dimension a	Location
1'-2 3/8"	Rear Abutment to Sta. 70+51.00
1'-4 3/8"	@ Sta. 71+65.00
1'-1"	@ Sta. 74+56.17
9 3/8"	Sta. 77+47.34 to Forward Abutment

Dimension		Location
b	c	
1'-3 1/2"	1'-3 1/2"	Rear Abut. to Hinge @ Pier 3
1'-3 1/2" to 1'-1"	1'-3 1/2" to 1'-0"	Hinge @ Pier 3 to Hinge @ Pier 7
1'-1"	1'-0"	Hinge @ Pier 7 to Forward Abut.

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**SUPERSTRUCTURE DETAILS**  
**BRIDGE NO. HAM-471-0044**  
 SIXTH STREET CONNECTION OVER  
 SOUTHBOUND I-471 H&E BRIDGE NO. 9

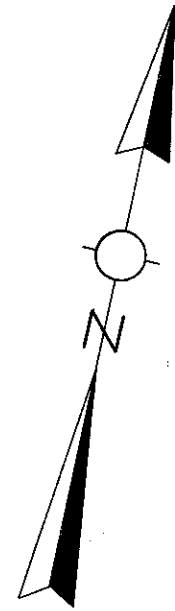
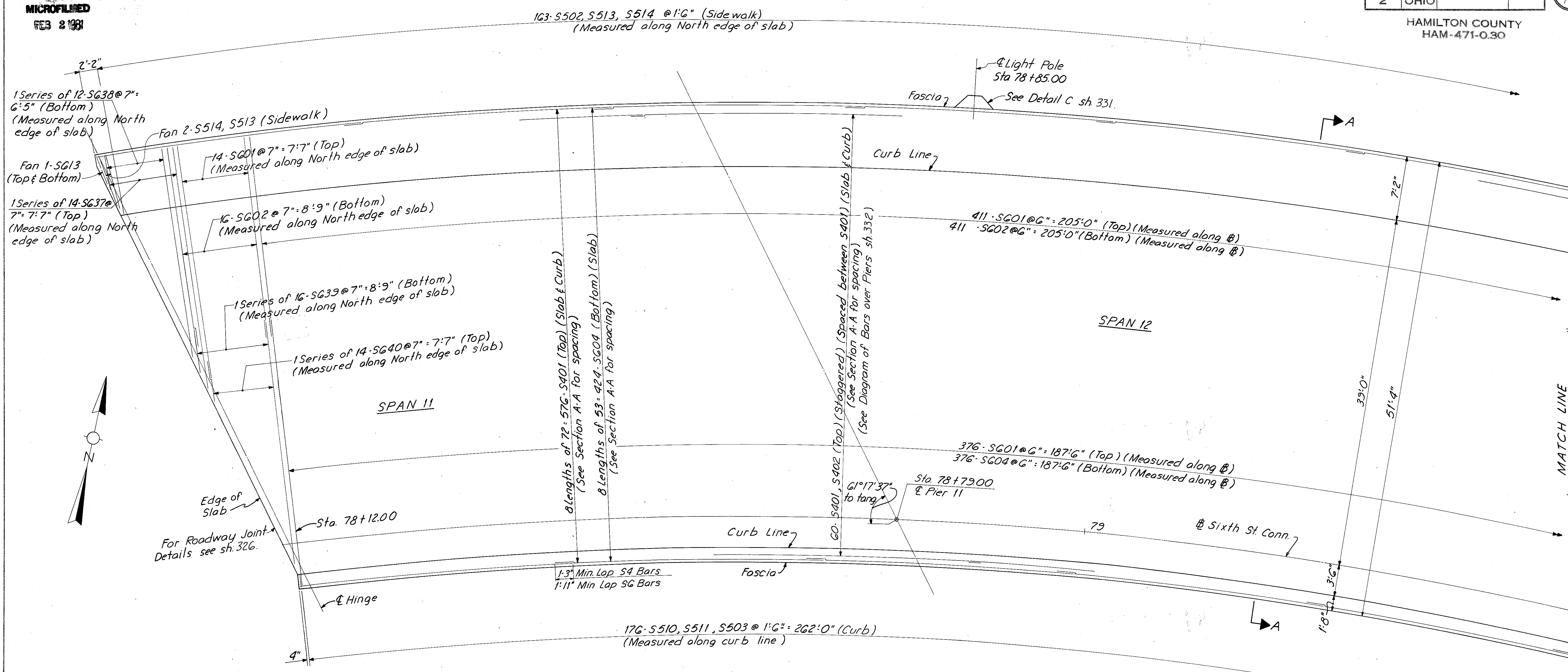
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	JHD		W.L. 12-8-71	JH 11-13-72	

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FEB 2 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
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**PLAN-UNIT D**  
(Parapets not shown)

For Notes see sh. 328.  
For Section A-A see sh. 328.  
Transverse bars are placed radially.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						41/64
<b>SUPERSTRUCTURE DETAILS</b>						
<b>BRIDGE NO. HAM-471-0044</b>						
<b>SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&amp;E BRIDGE NO.9</b>						
DESIGNED JHO	DRAWN JHD	TRACED	CHECKED W.L. 12-8-71	REVIEWED DATE JHO 11-13-72	REVISED	



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**NOTES:**

Transverse reinforcing bar in Spans 1 thru 5 are to be placed radially.

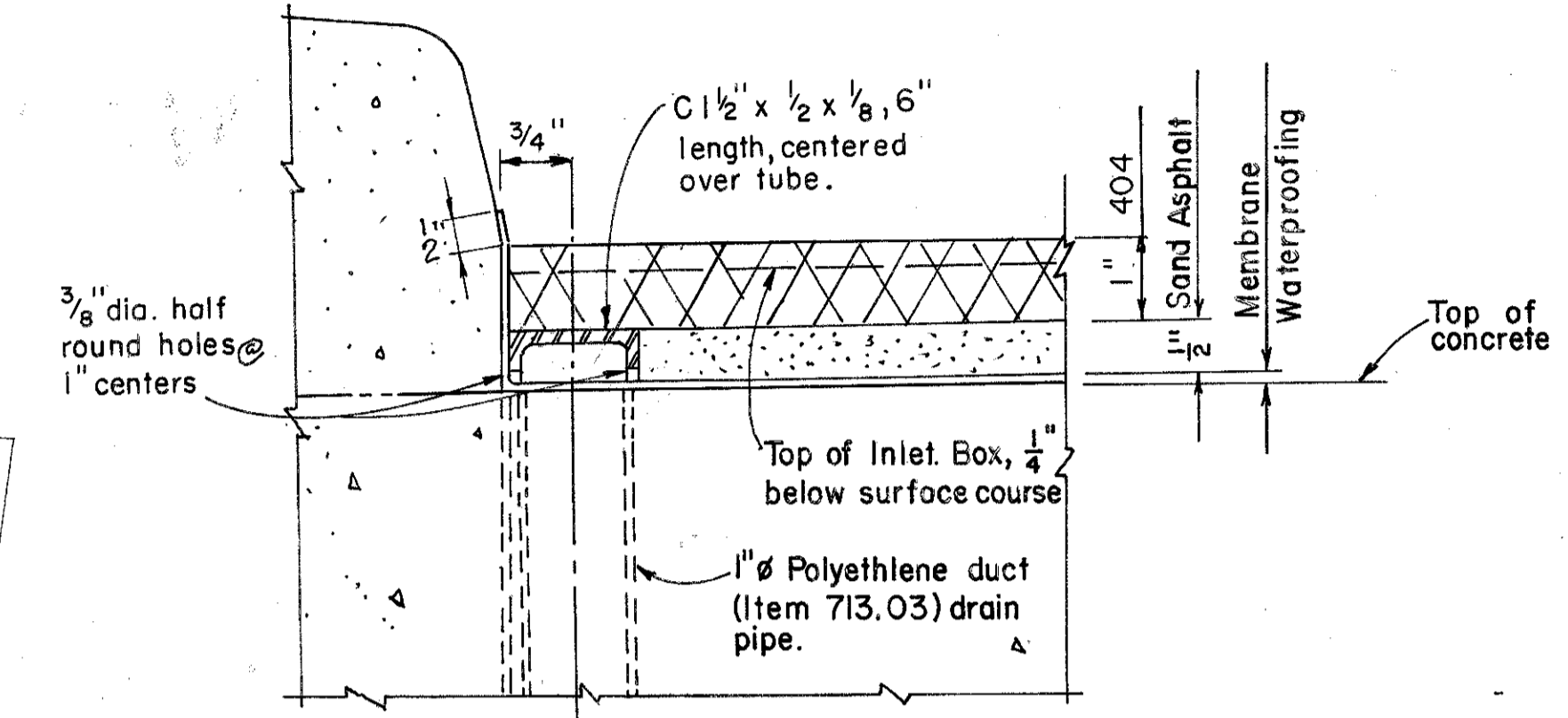
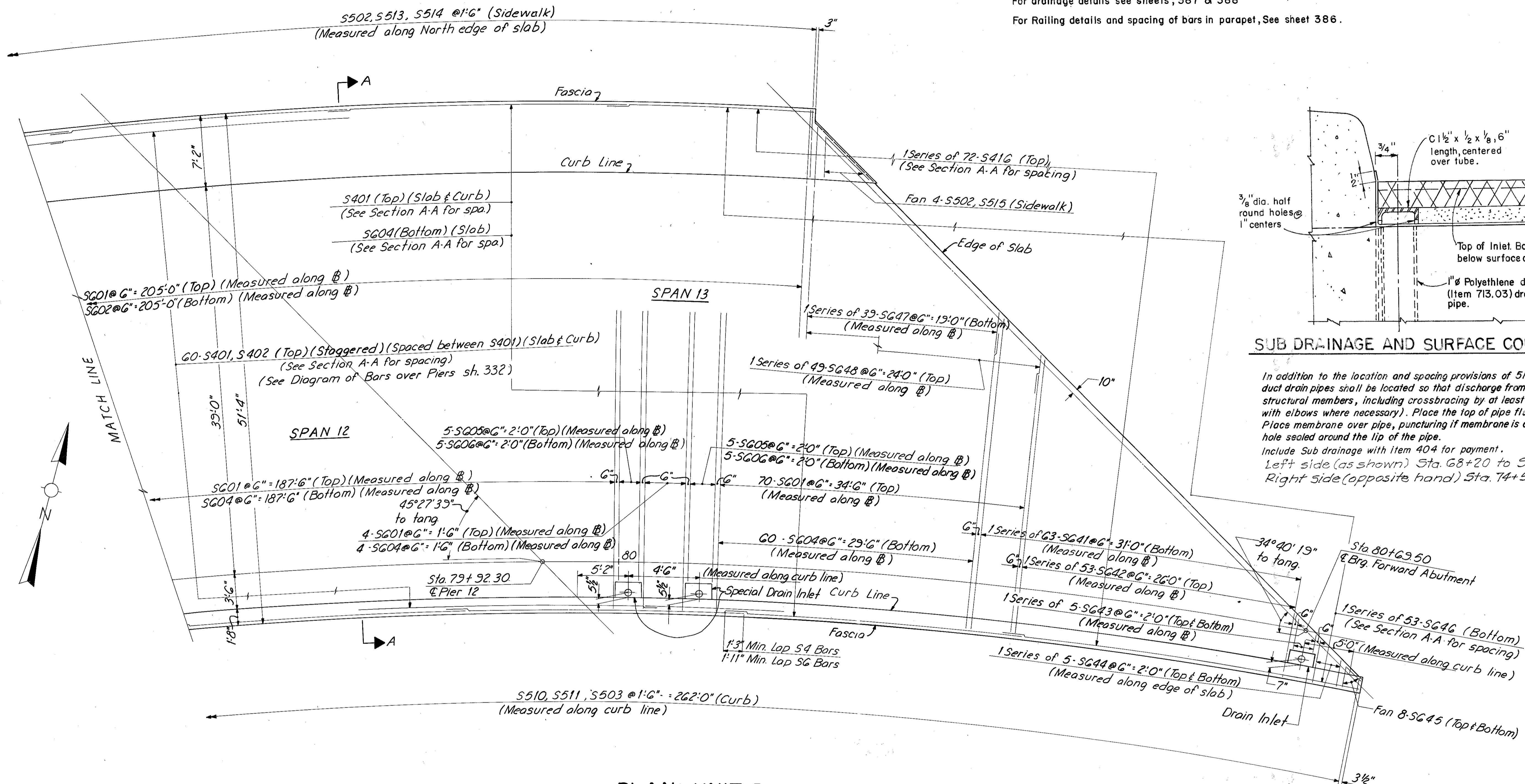
Longitudinal bars are placed parallel to the curvature of the roadway in spans 1 thru 4. Field bend longitudinal bars where necessary to miss inlets.

For drainage details see sheets, 387 & 388

For Railing details and spacing of bars in parapet, See sheet 386.

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**SUB DRAINAGE AND SURFACE COURSE DETAILS**

In addition to the location and spacing provisions of 518.07, the Polyethylene duct drain pipes shall be located so that discharge from them will clear all structural members, including crossbracing by at least 6" (use drain pipes with elbows where necessary). Place the top of pipe flush with concrete surface. Place membrane over pipe, puncturing if membrane is a sheet type with the hole sealed around the lip of the pipe. Include Sub drainage with Item 404 for payment. Left side (as shown) Sta. 68+20 to Sta. 74+55. Right side (opposite hand) Sta. 74+55 to Sta. 80+70.

**PLAN - UNIT D**  
(Parapets not shown)

For Notes see sh. 328.  
For Section A-A see sh. 328.  
Transverse bars are placed radially.

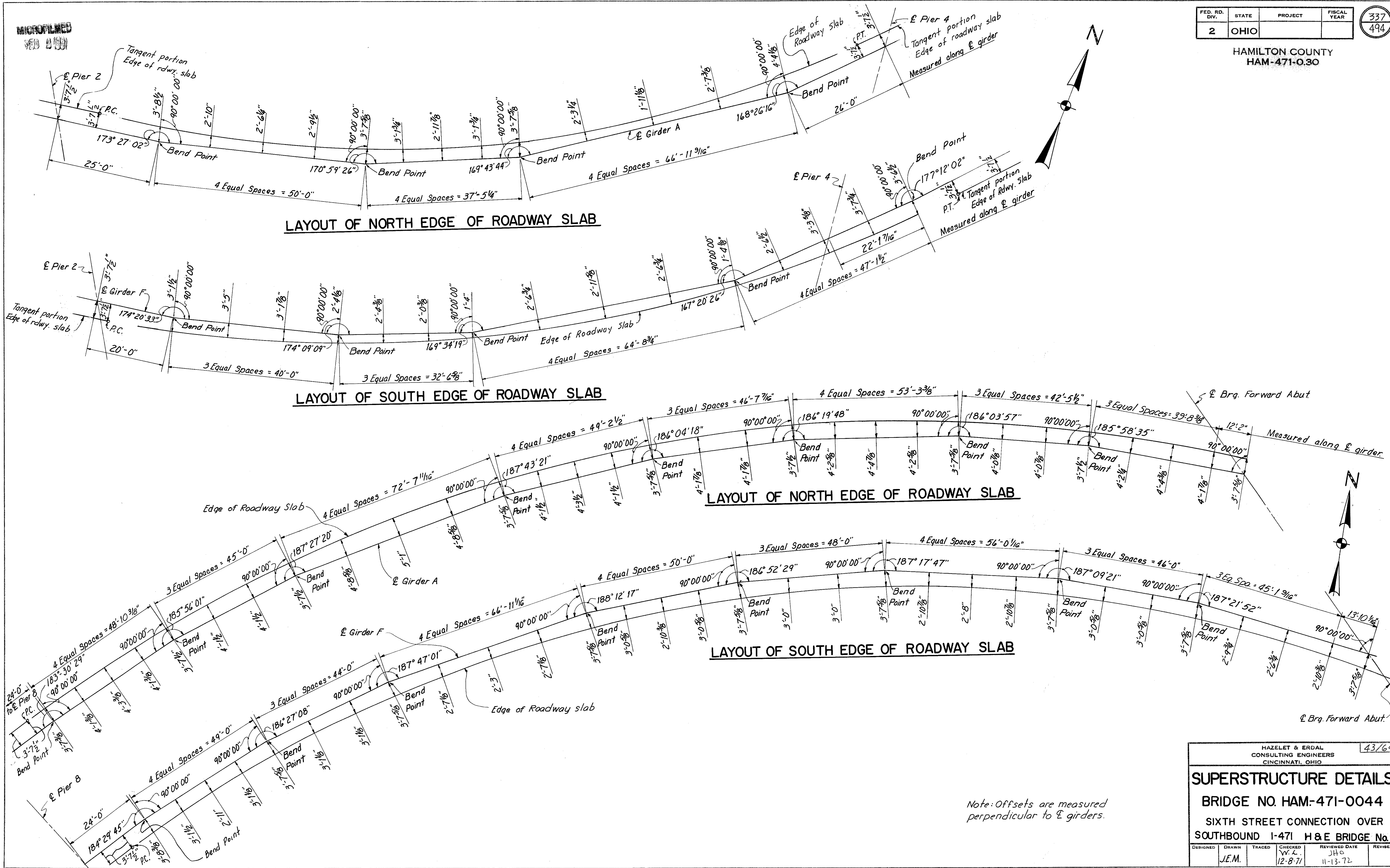
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				42/64
<b>SUPERSTRUCTURE DETAILS</b>				
<b>BRIDGE NO. HAM-471-0044</b>				
<b>SIXTH STREET CONNECTION OVER</b>				
<b>SOUTHBOUND I-471 H&amp;E BRIDGE NO. 9</b>				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
JHO	JHD		V.L. 12-8-71	JHO 11-15-72

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Note: Offsets are measured perpendicular to E girders.

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CONSULTING ENGINEERS  
CINCINNATI, OHIO

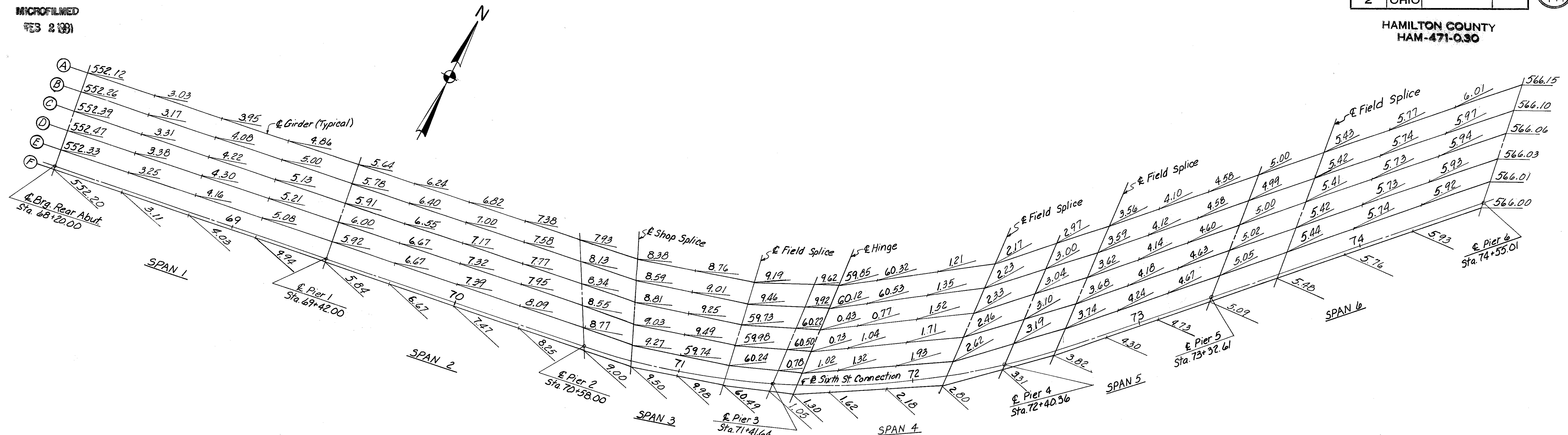
**SUPERSTRUCTURE DETAILS**  
BRIDGE NO. HAM-471-0044  
SIXTH STREET CONNECTION OVER  
SOUTHBOUND I-471 H & E BRIDGE No. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
J.E.M.			W.L.	J.H.O.	
			12-8-71	11-13-72	

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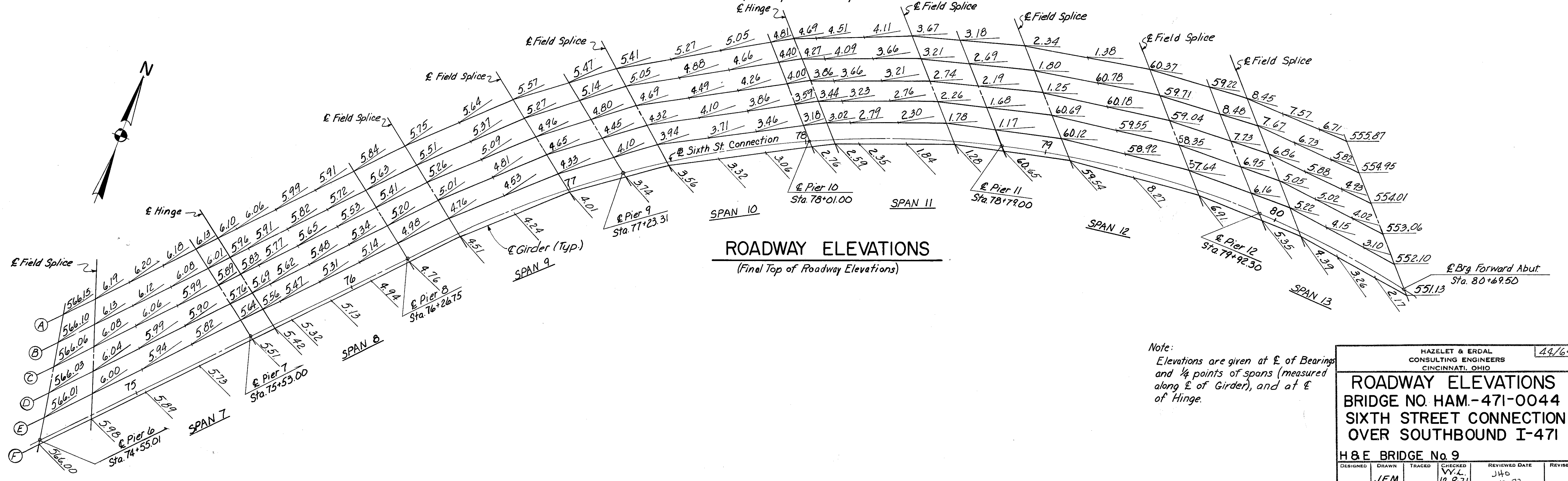
HAMILTON COUNTY  
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**ROADWAY ELEVATIONS**

(Final Top of Roadway Elevations)



**ROADWAY ELEVATIONS**

(Final Top of Roadway Elevations)

Note:  
Elevations are given at E of Bearings and 1/4 points of spans (measured along E of Girder), and at E of Hinge.

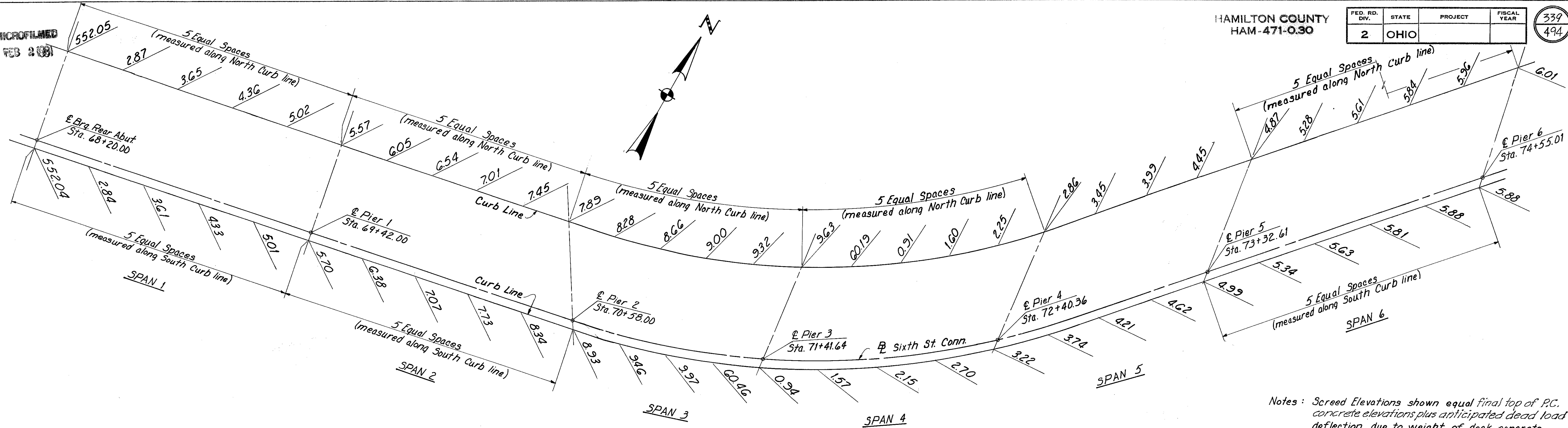
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					44/64
<b>ROADWAY ELEVATIONS</b>					
BRIDGE NO. HAM-471-0044					
SIXTH STREET CONNECTION					
OVER SOUTHBOUND I-471					
H & E BRIDGE No. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.E.M.		V.L. 12-8-71	J40 11-13-72	

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FEB 2 1981

HAMILTON COUNTY  
HAM-471-0.30

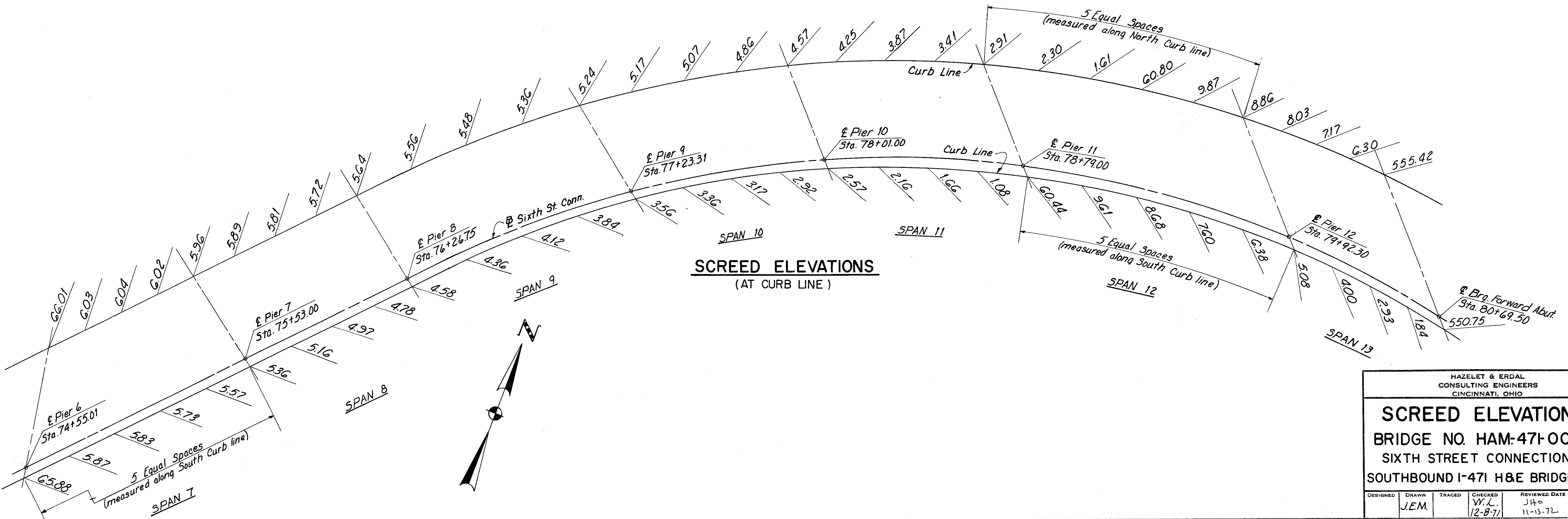
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

339  
494



**SCREED ELEVATIONS**  
(AT CURB LINE)

Notes: Screed Elevations shown equal final top of P.C. concrete elevations plus anticipated dead load deflection due to weight of deck concrete. All elevations shown are at 1/4 points of span (measured along their own curb line) and at  $\bar{C}$  of Brg., unless otherwise noted.



**SCREED ELEVATIONS**  
(AT CURB LINE)

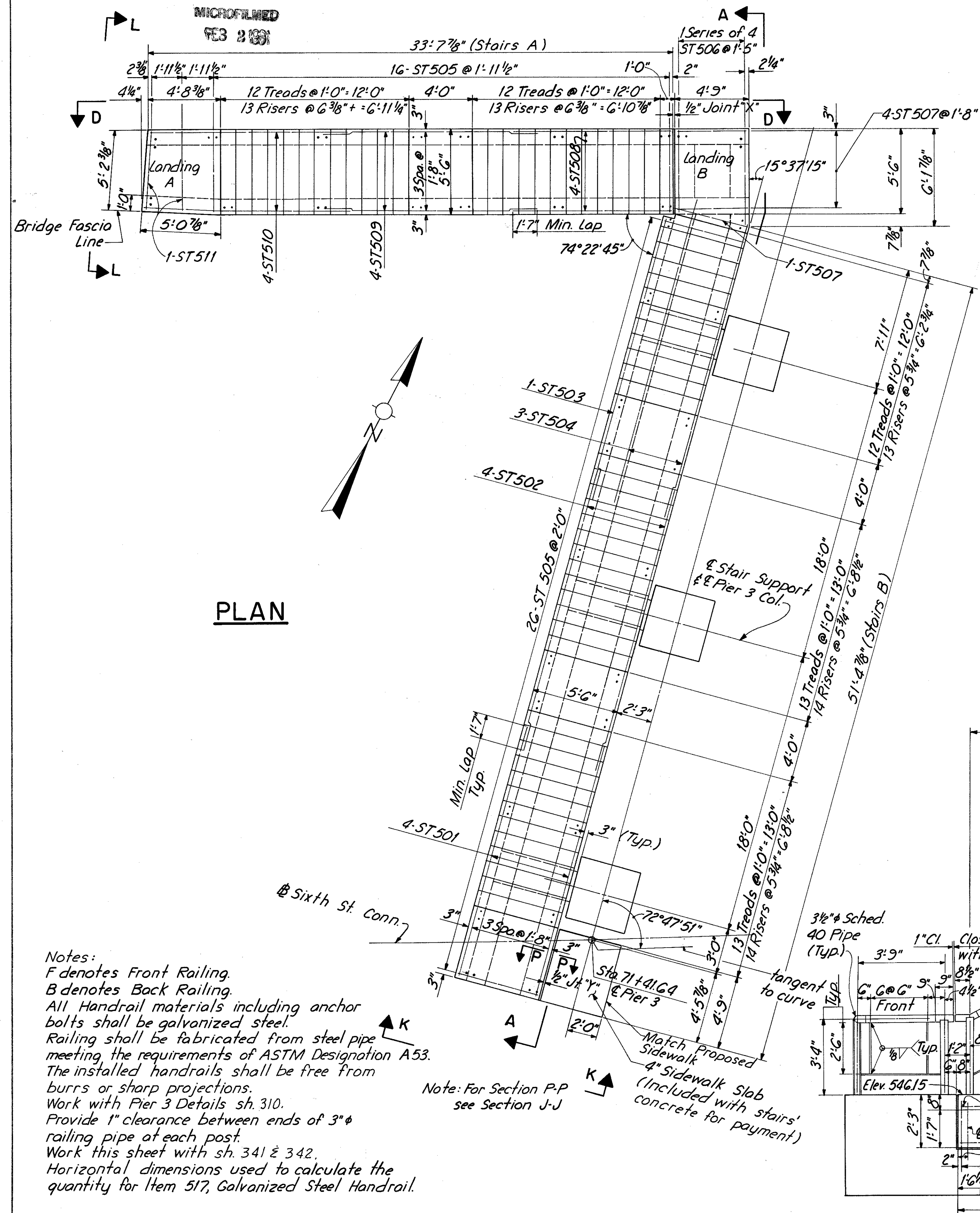
HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

45/64

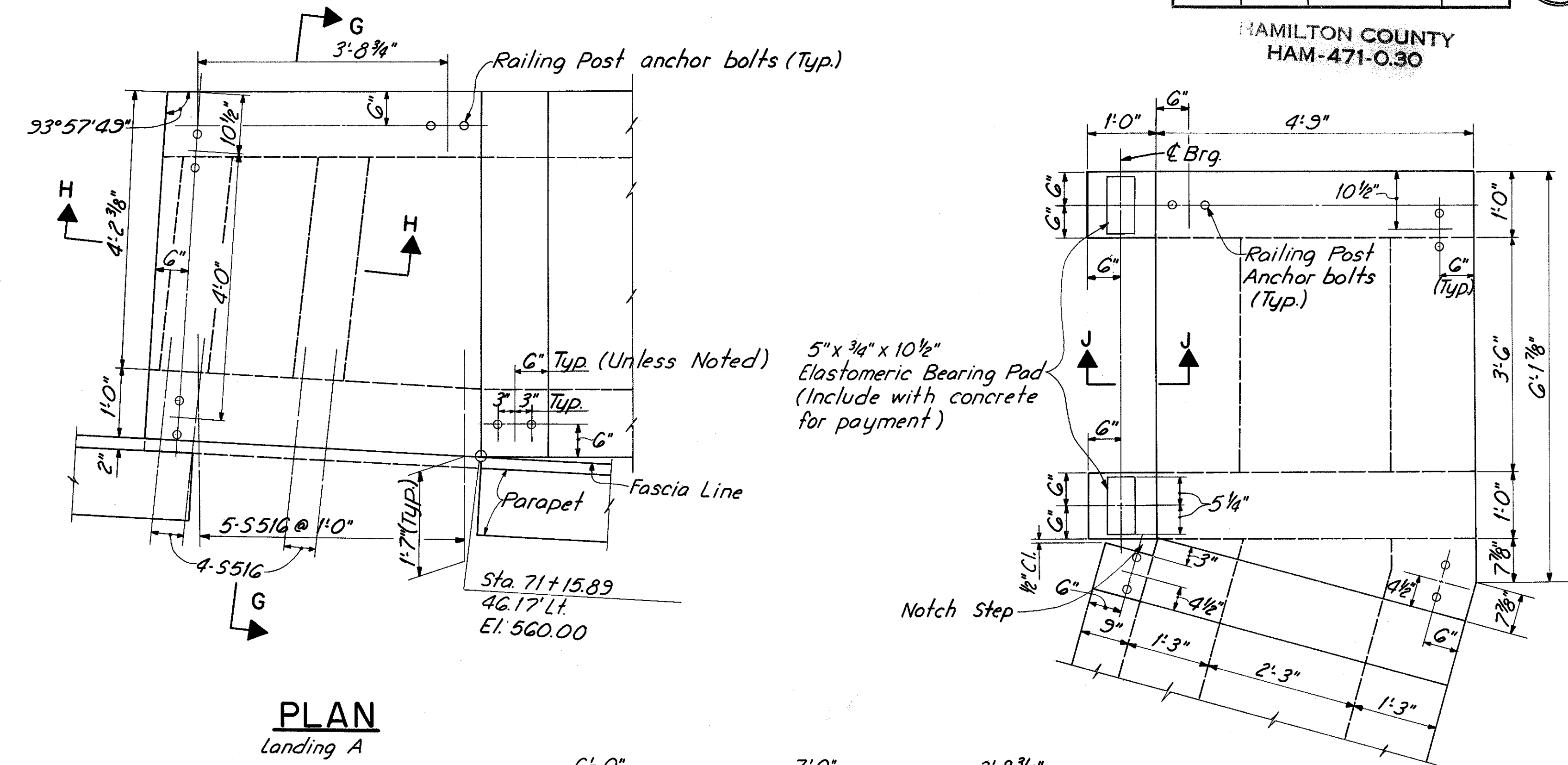
**SCREED ELEVATIONS**  
BRIDGE NO. HAM-471-0044  
SIXTH STREET CONNECTION OVER  
SOUTHBOUND I-471 H&E BRIDGE NO. 9

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	J.E.M.		W.L. 12-8-71	11-13-72	

HAMILTON COUNTY  
HAM-471-0.30

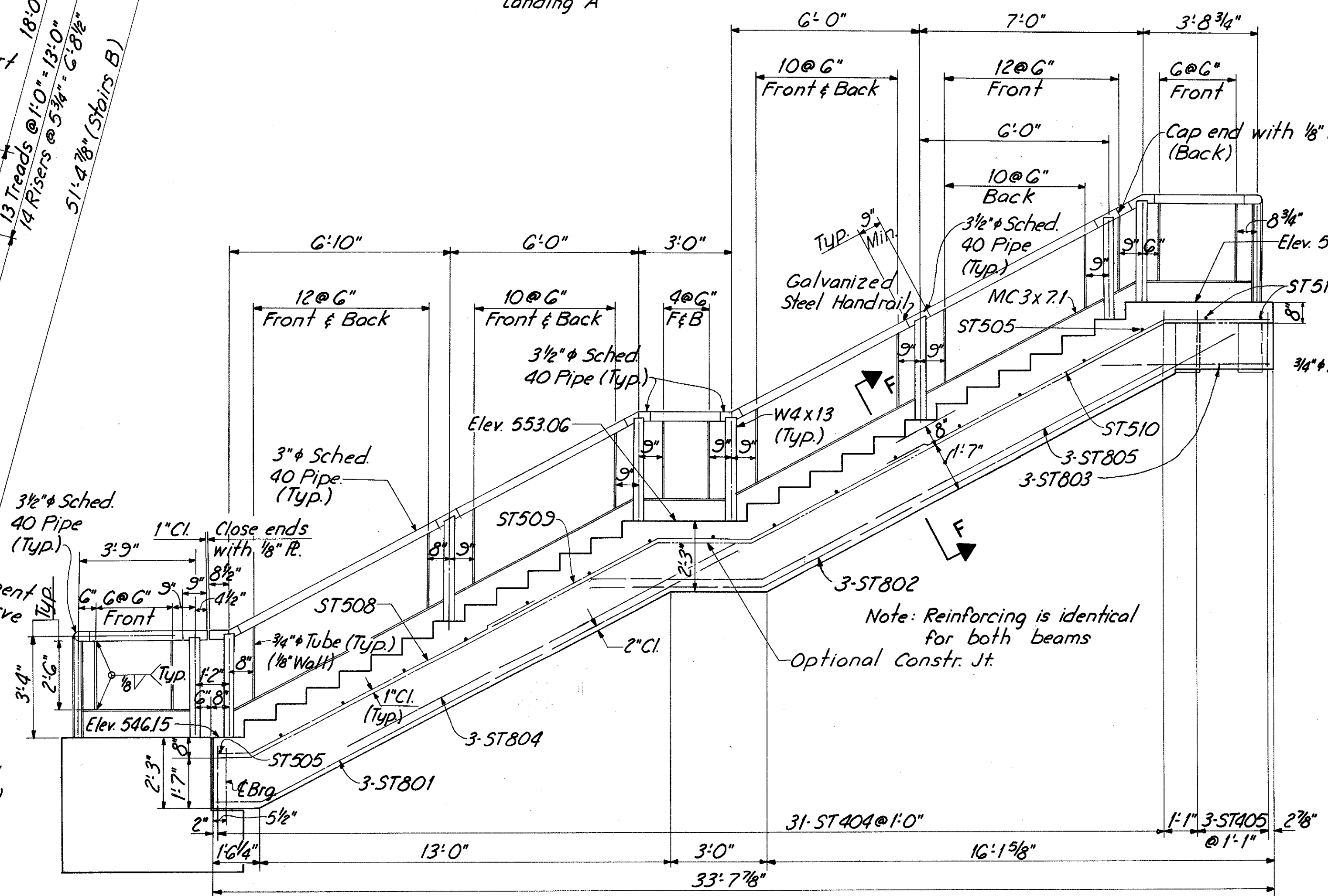


**PLAN**

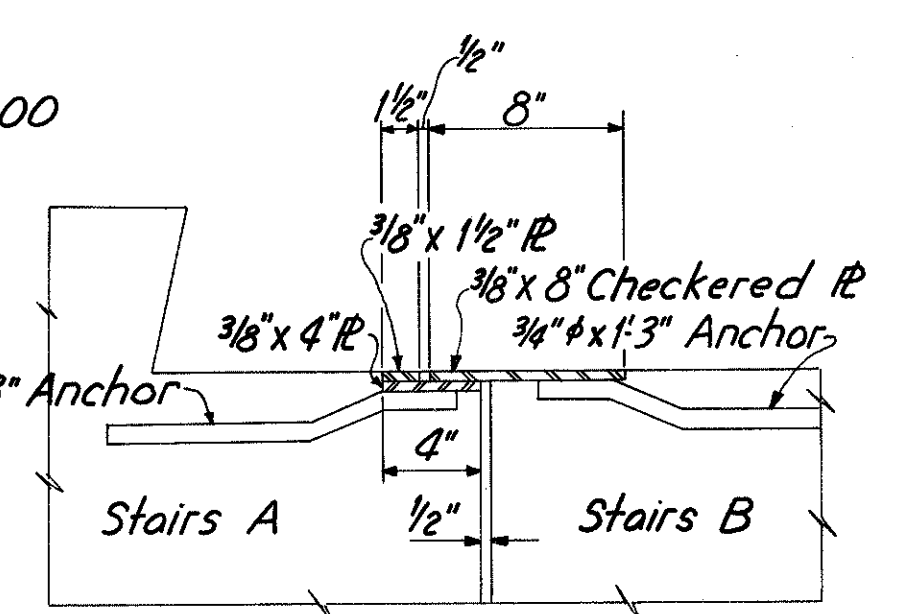


**PLAN**  
Landing A

**PLAN**  
Landing B



**ELEVATION D-D**  
(STAIRS A)



**SECTION J-J**  
(For details not shown see Joint Detail sh. 342.)

Notes:  
F denotes Front Railing.  
B denotes Back Railing.  
All Handrail materials including anchor bolts shall be galvanized steel.  
Railing shall be fabricated from steel pipe meeting the requirements of ASTM Designation A53.  
The installed handrails shall be free from burrs or sharp projections.  
Work with Pier 3 Details sh. 310.  
Provide 1" clearance between ends of 3" φ railing pipe at each post.  
Work this sheet with sh. 341 & 342.  
Horizontal dimensions used to calculate the quantity for Item 517, Galvanized Steel Handrail.

Note: For Section P-P see Section J-J

Note: Reinforcing is identical for both beams  
Optional Constr. Jt.

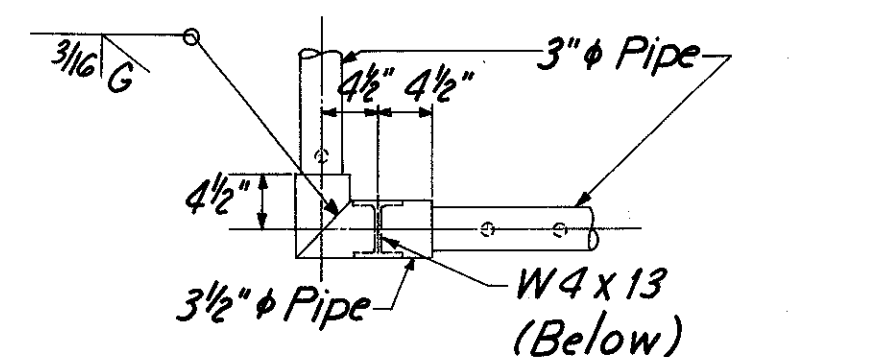
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
46/64					
<b>STAIR DETAILS</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
<b>SIXTH STREET CONNECTION OVER</b>					
<b>SOUTHBOUND I-471 H&amp;E BRIDGE NO.9</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	WL	JHD	VCL 12-8-71	JH 11-13-72	



FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

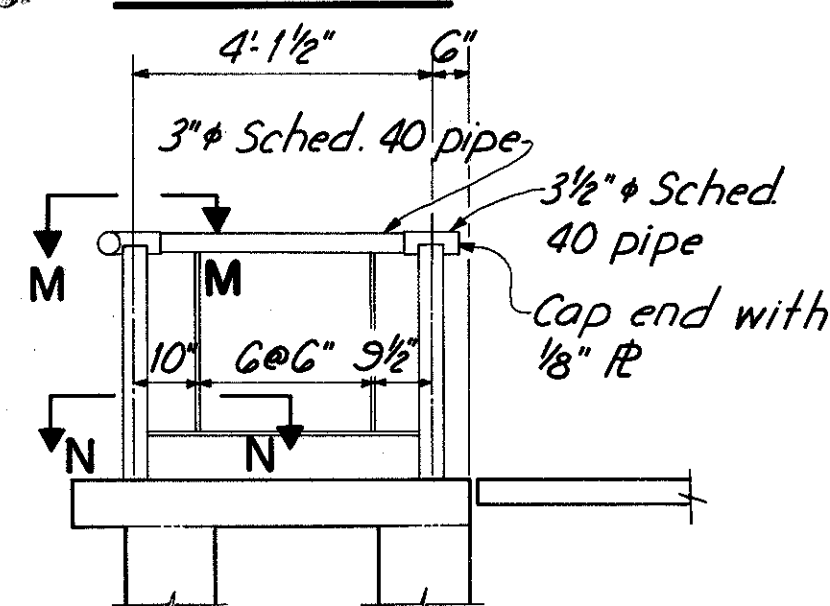
342  
494

HAMILTON COUNTY  
HAM-471-0.30

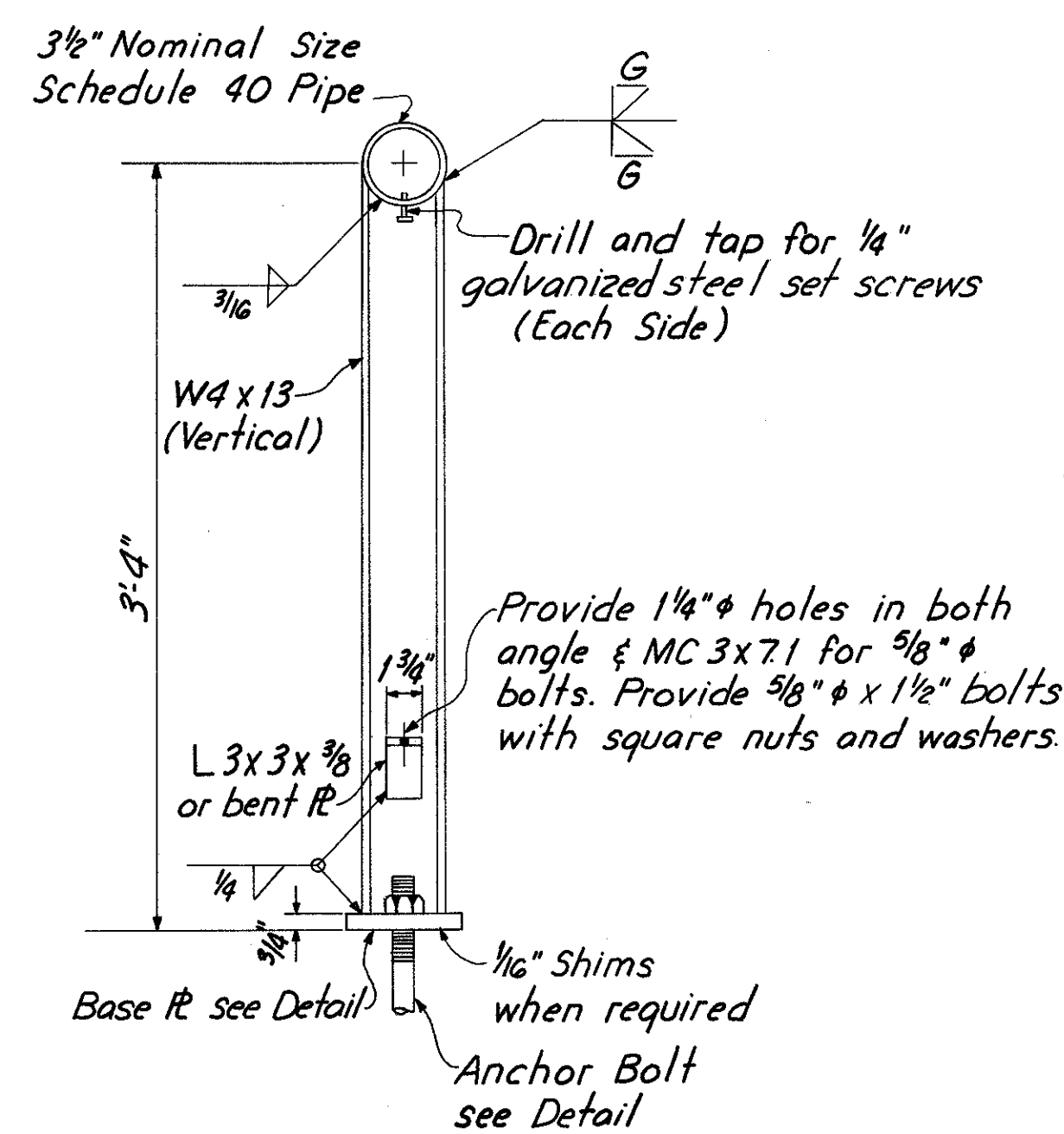


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753 2 1981

**PLAN M-M**

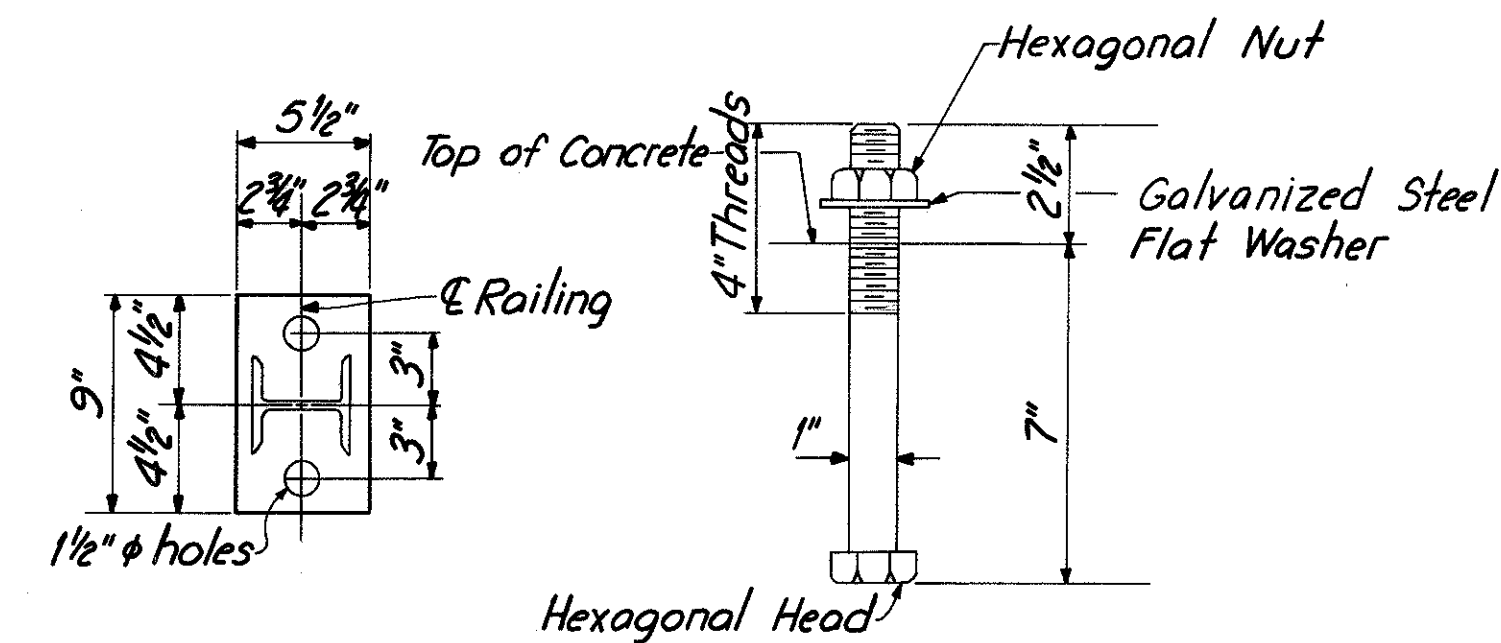


**ELEVATION K-K**

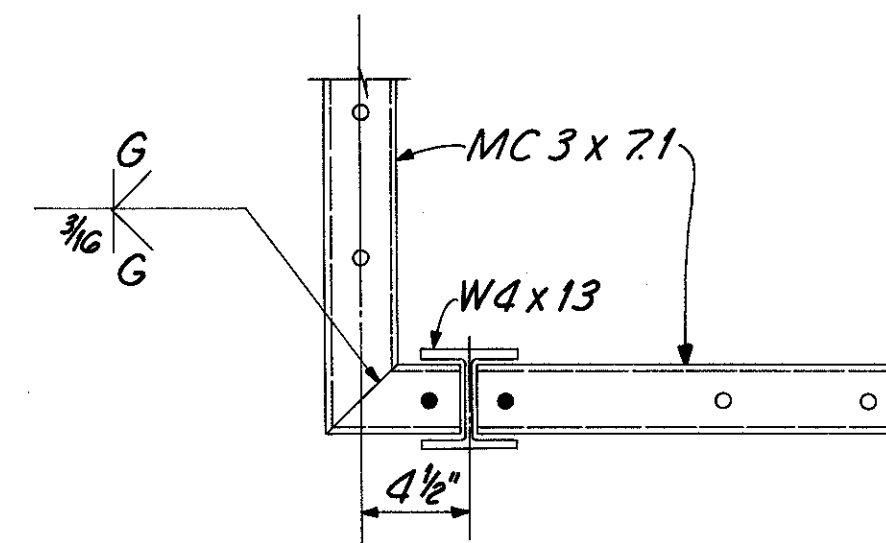


**POST**

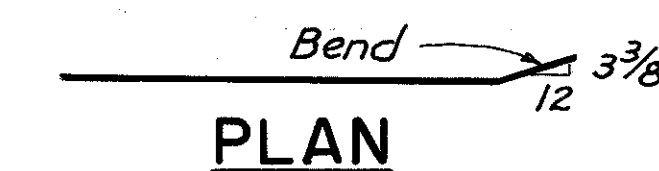
(Post shall be vertical)



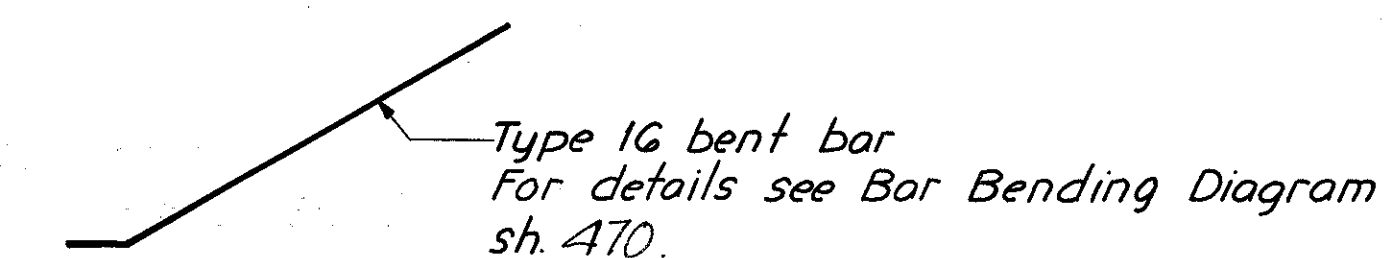
**BASE PL & ANCHOR BOLT DETAIL**



**SECTION N-N**



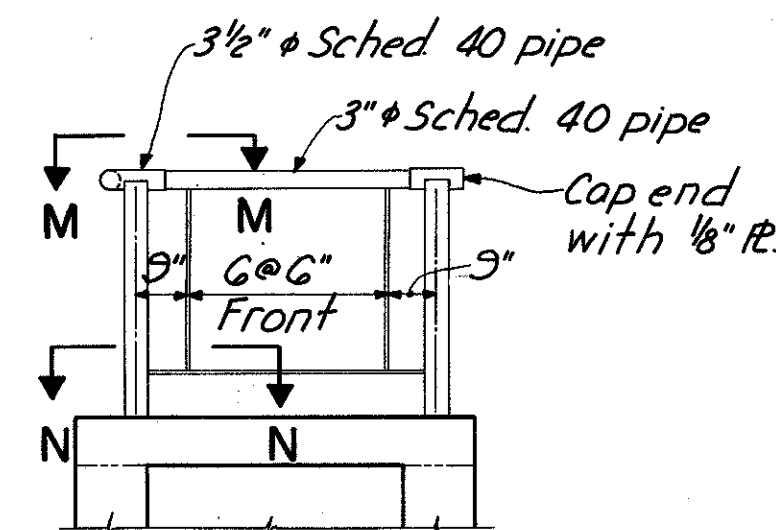
**PLAN**



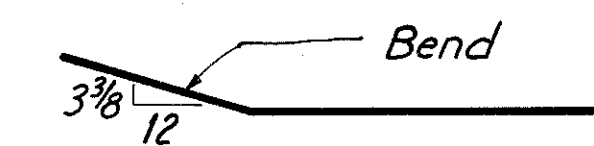
**ELEVATION**

**ST605**

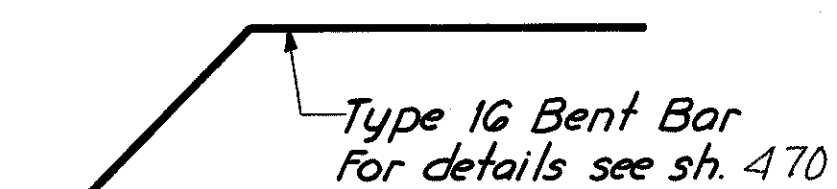
(Bending Details)



**ELEVATION L-L**



**PLAN**



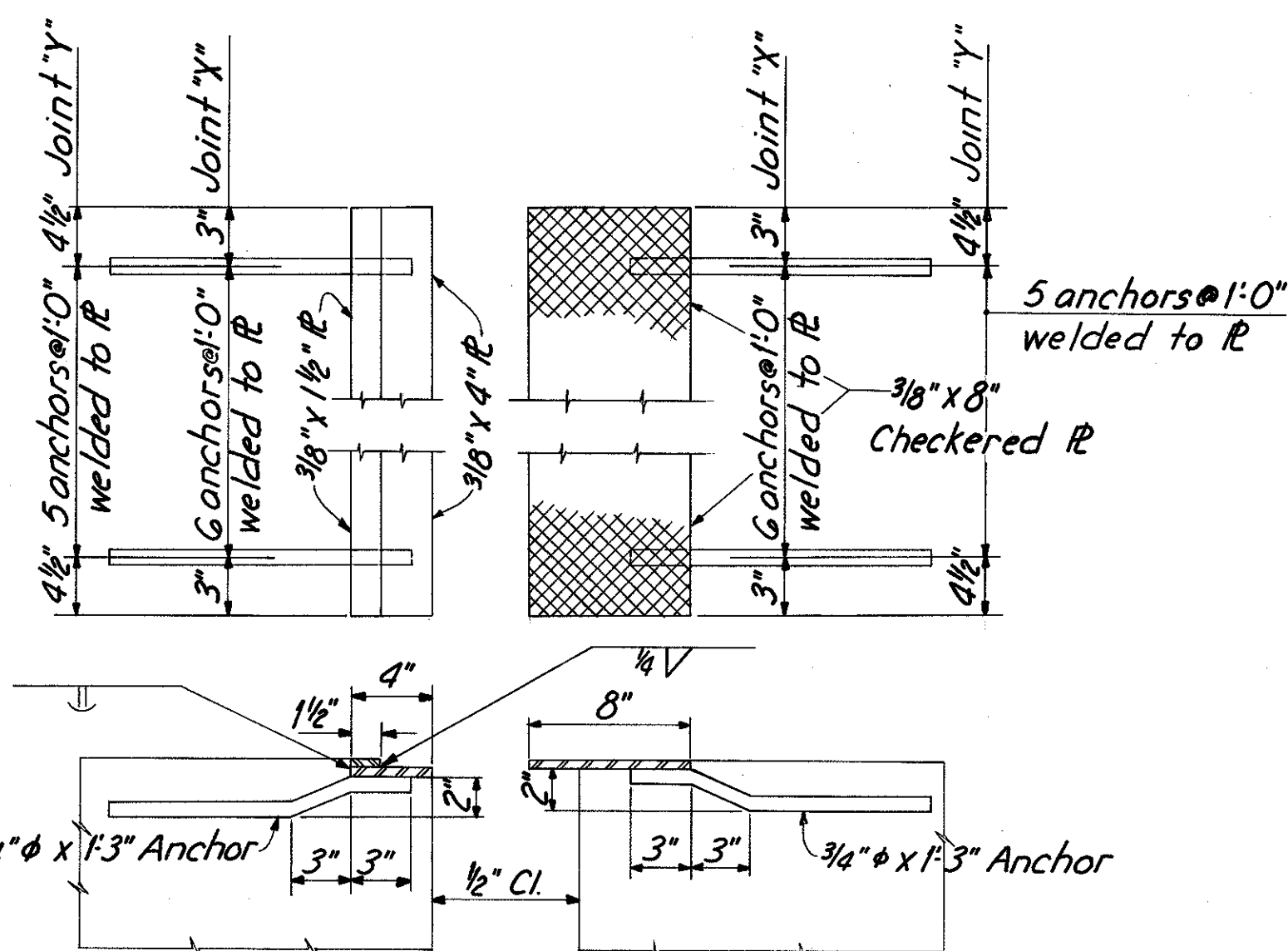
**ELEVATION**

**ST1103 or ST1104**

(Bending Details)

For location of Elev. K-K, & L-L see sh. 340.  
For other notes see sh. 340.

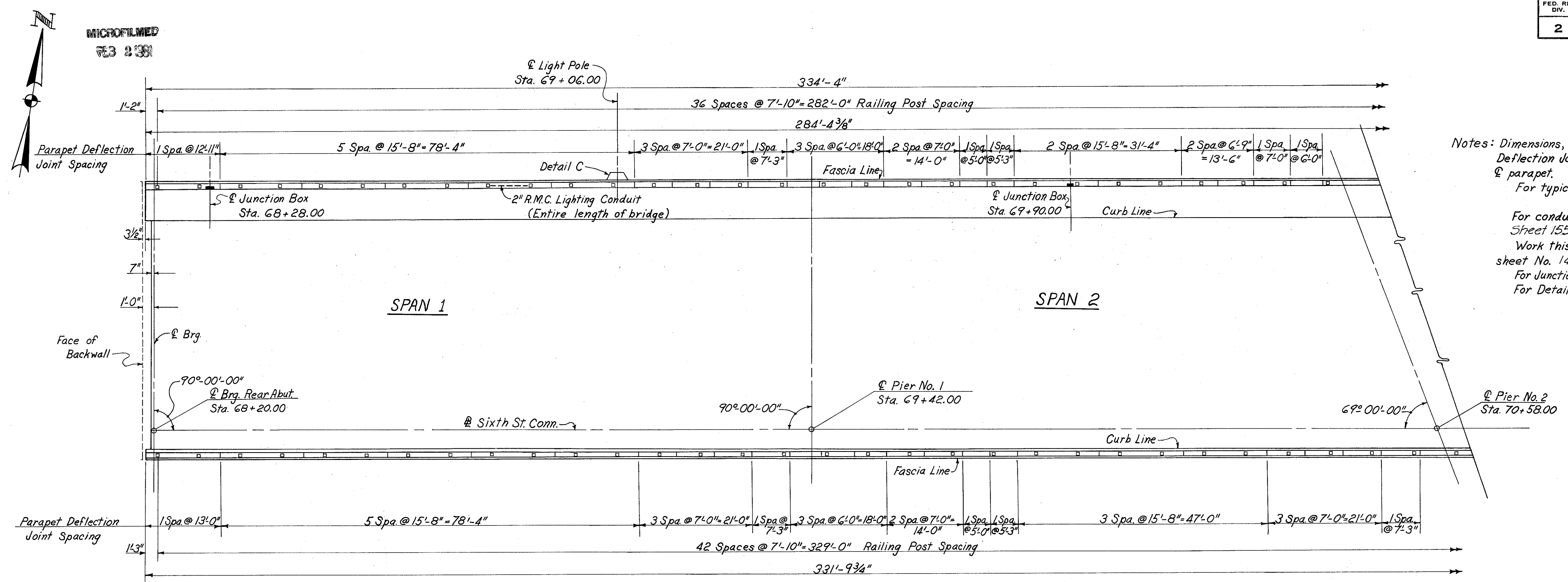
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				48/64
<b>STAIR DETAILS</b>				
<b>BRIDGE NO. HAM-471-0044</b>				
<b>SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&amp;E BRIDGE NO.9</b>				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
WL	JHD		W.L.	JHD
			12-8-71	11-13-72



**JOINT DETAIL**

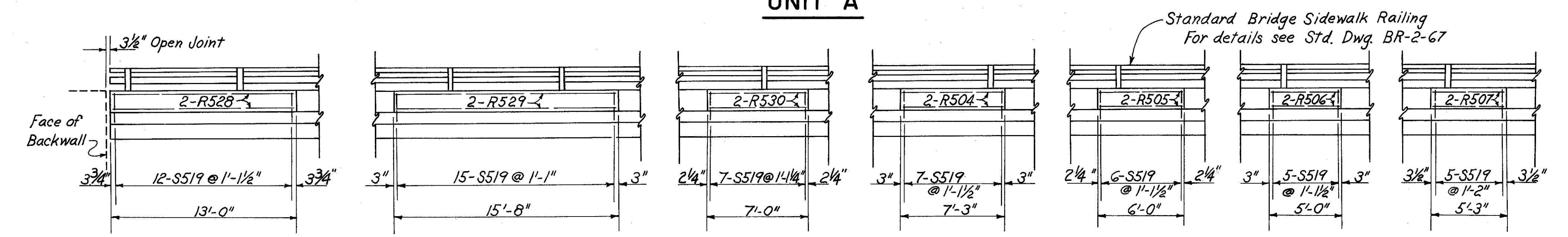
(Include all material with Item 513 Structural Steel for payment).

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73 2 381

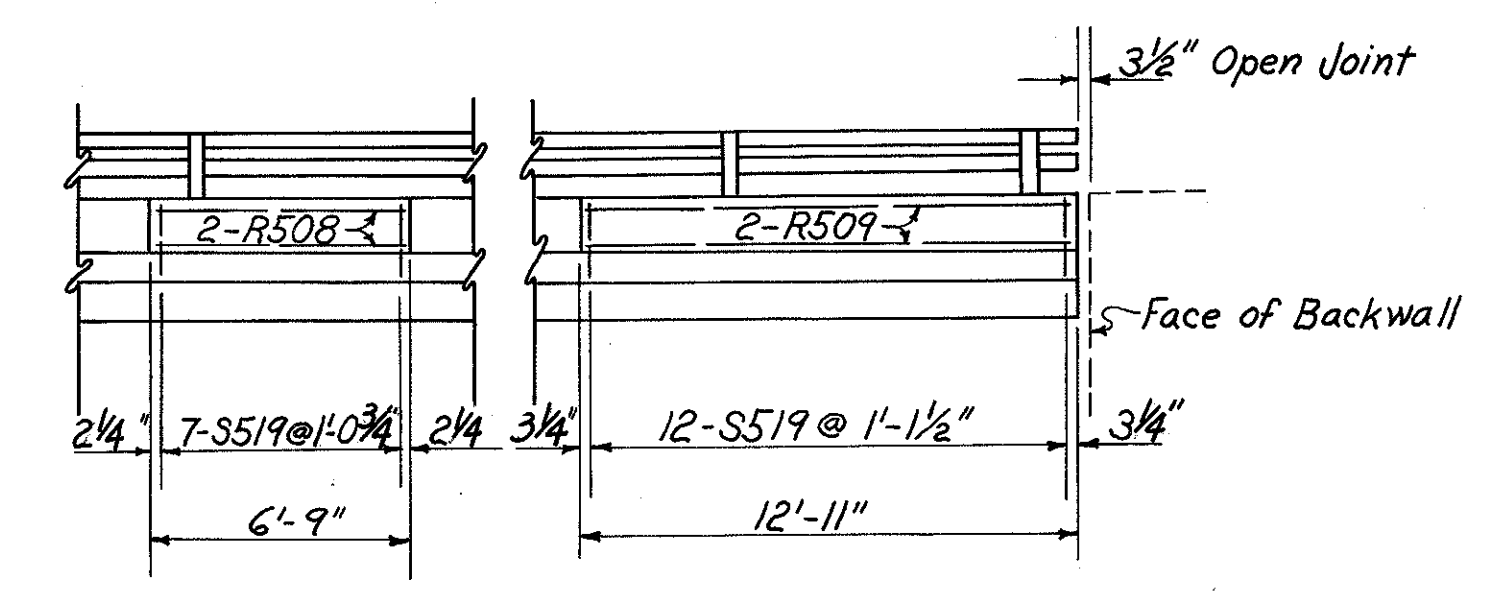


Notes: Dimensions, Railing Post Spacings and Parapet Deflection Joint Spacings are measured along  $\phi$  parapet.  
 For typical lighting details see sheet No 154  
 For conduit expansion at abutments see Sheet 155E. (Use at all Roadway Joints also.)  
 Work this drawing with Lighting Plan sheet No. 146  
 For Junction Box Details see sheet No. 154  
 For Detail C see sheet No. 331.

**PLAN UNIT A**



**TYPICAL ELEVATION**



**TYPICAL ELEVATION**

(Light Poles Not Shown)

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					49/64
<b>RAILING &amp; LIGHTING</b>					
<b>BRIDGE No. HAM-471-0044</b>					
<b>SIXTH STREET CONNECTION OVER</b>					
<b>SOUTHBOUND I-471 H&amp;E BRIDGE No. 9</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JEM	MDP	W.L.	1-3-72	
				JH	
				11-13-72	

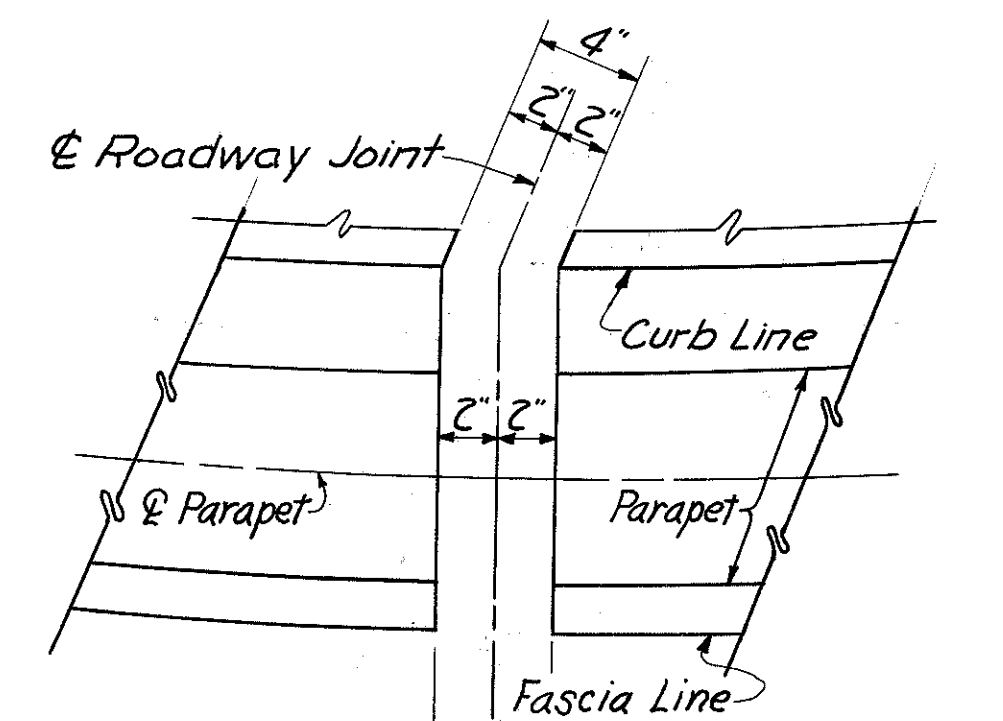
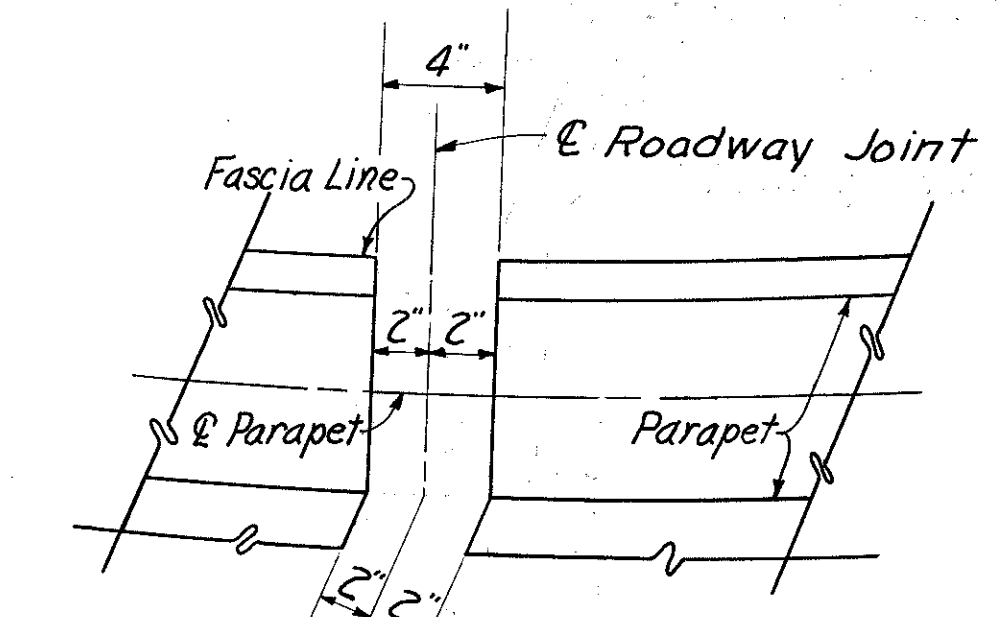
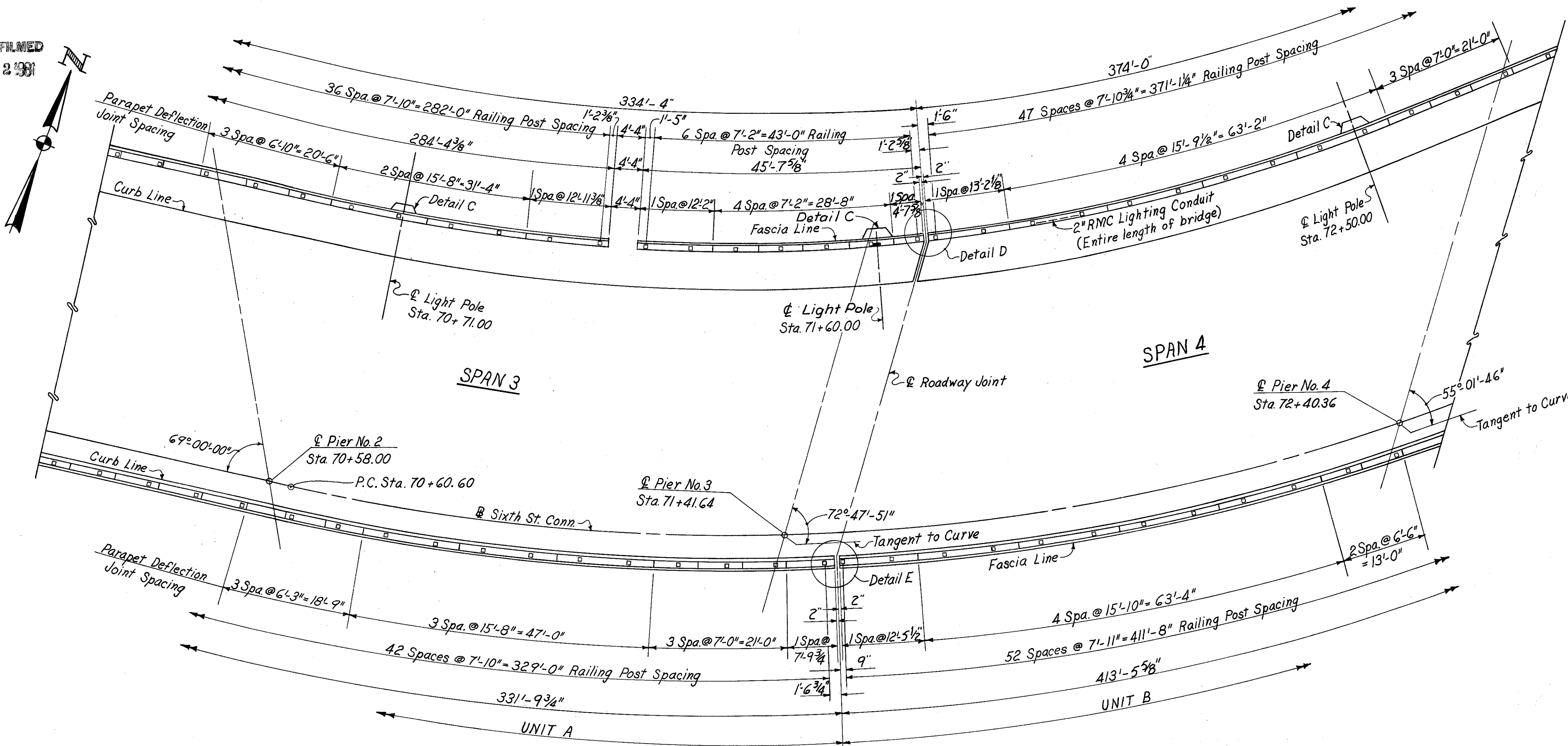


MICROFILMED  
7/3 2/93

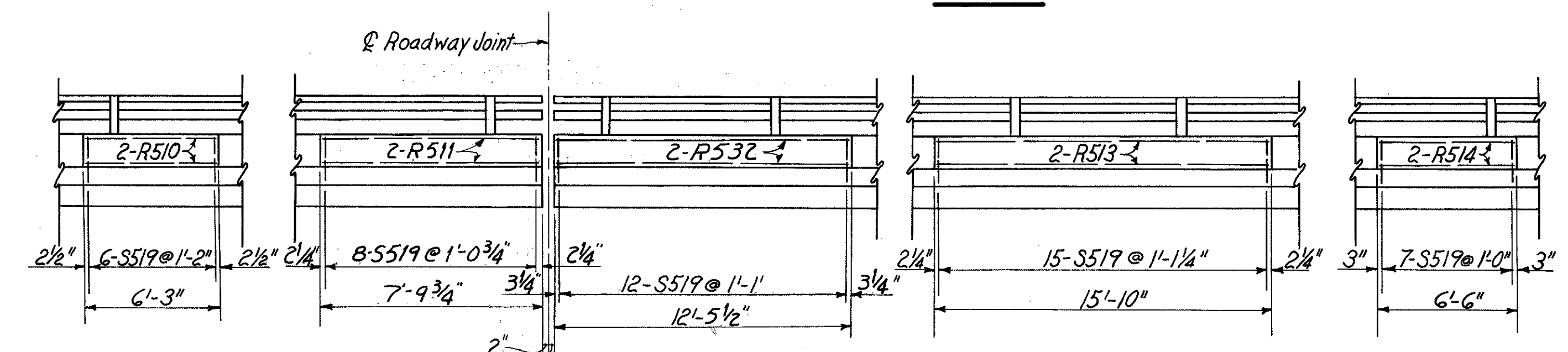
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

344  
494

HAMILTON COUNTY  
HAM-471-0.30



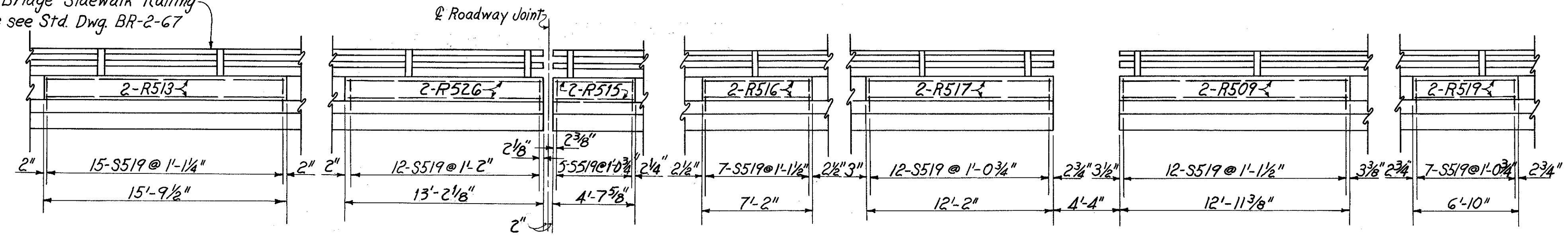
**PLAN**



**TYPICAL ELEVATION**

For Notes see sh. 343.  
For details of deflection joint panels not shown see sh. 343.  
N.F. denotes Near Face.  
F.F. denotes Far Face.

Standard Bridge Sidewalk Railing  
For details see Std. Dwg. BR-2-67



**TYPICAL ELEVATION**  
(Light Poles Not Shown)

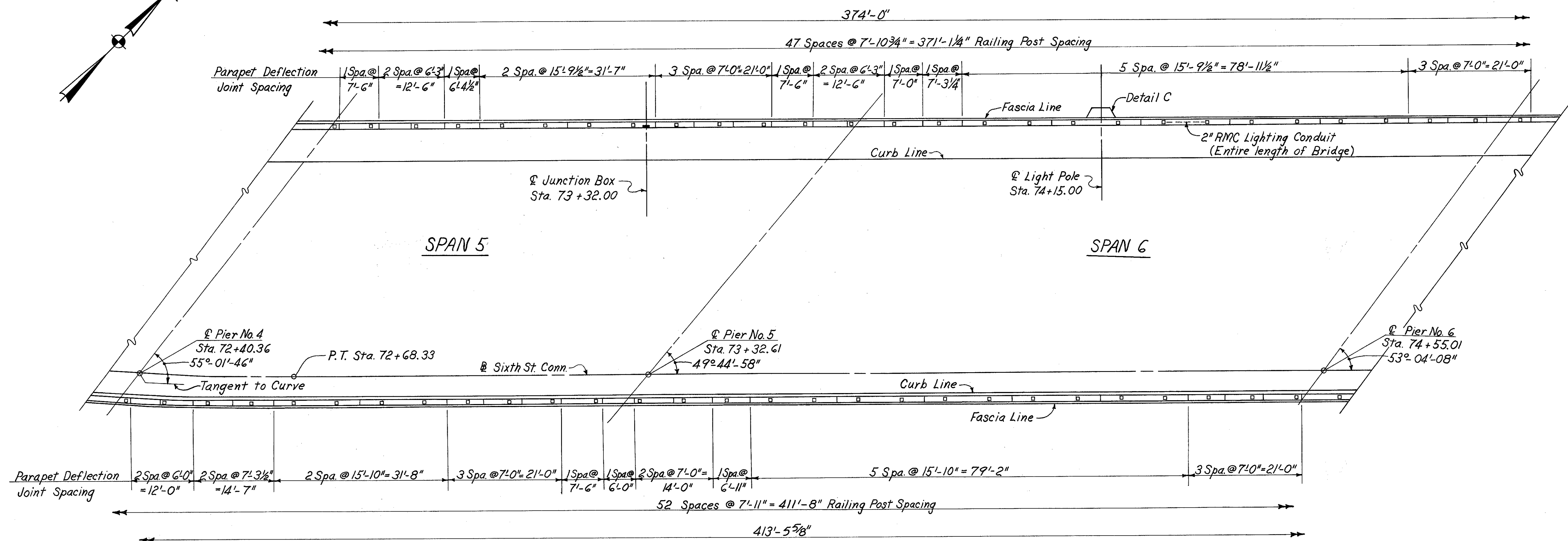
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					50/64
<b>RAILING &amp; LIGHTING</b>					
<b>BRIDGE No. HAM-471-0044</b>					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE No. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JEM	MDP	W.L.	JH	1-3-72	11-13-72

MICROFILMED  
753 21981

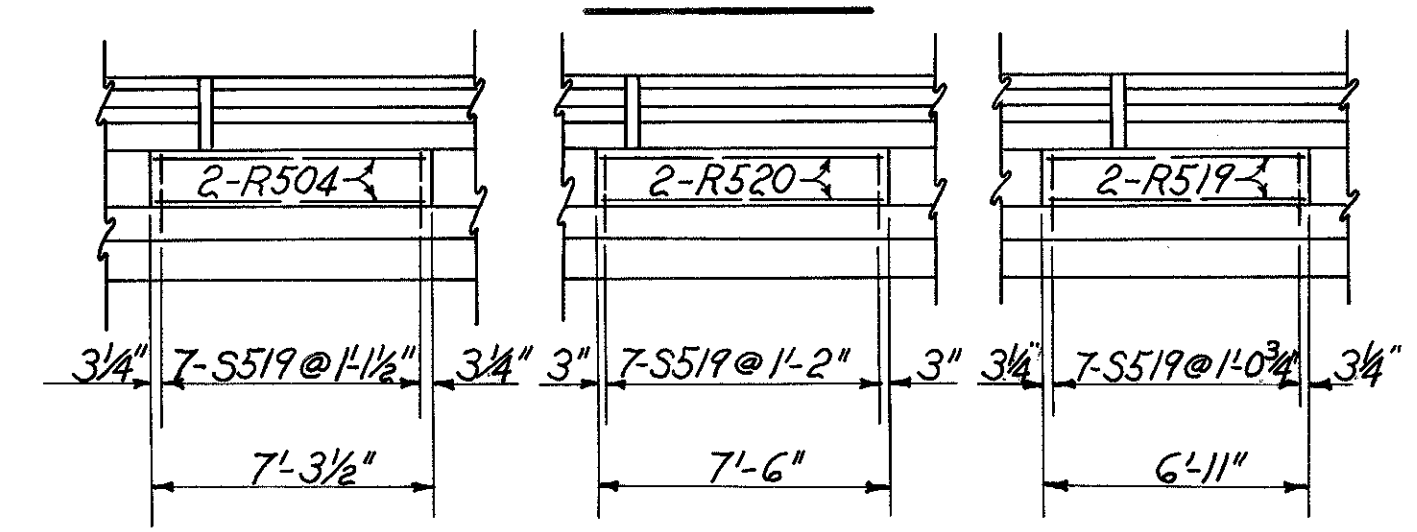
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

345  
494

HAMILTON COUNTY  
HAM-471-0.30

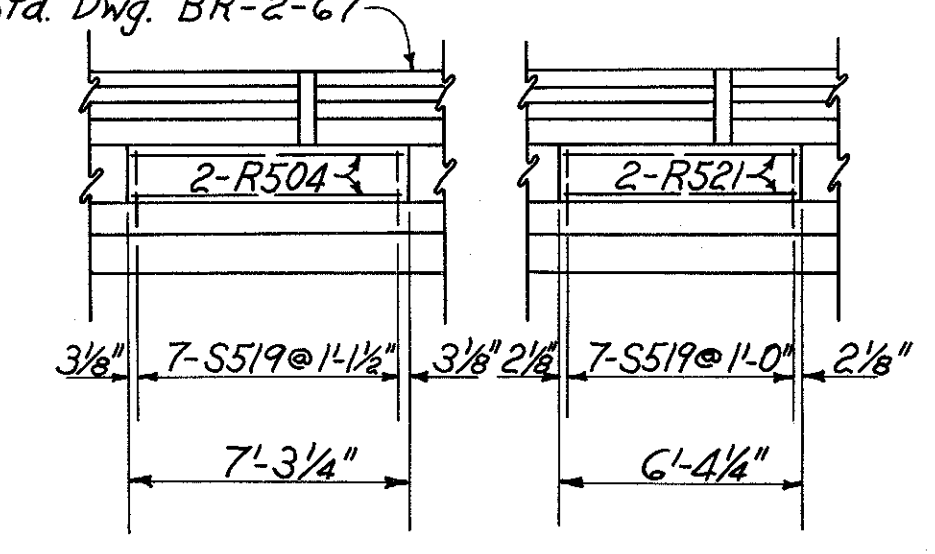


**PLAN  
UNIT B**



**TYPICAL ELEVATION**

Standard Bridge Sidewalk Railing  
For details see Std. Dwg. BR-2-67



**TYPICAL ELEVATION**  
(Light Poles Not Shown)

For Notes see sh. 343  
For details of deflection joint panels  
not shown see sh. 343 & 344.

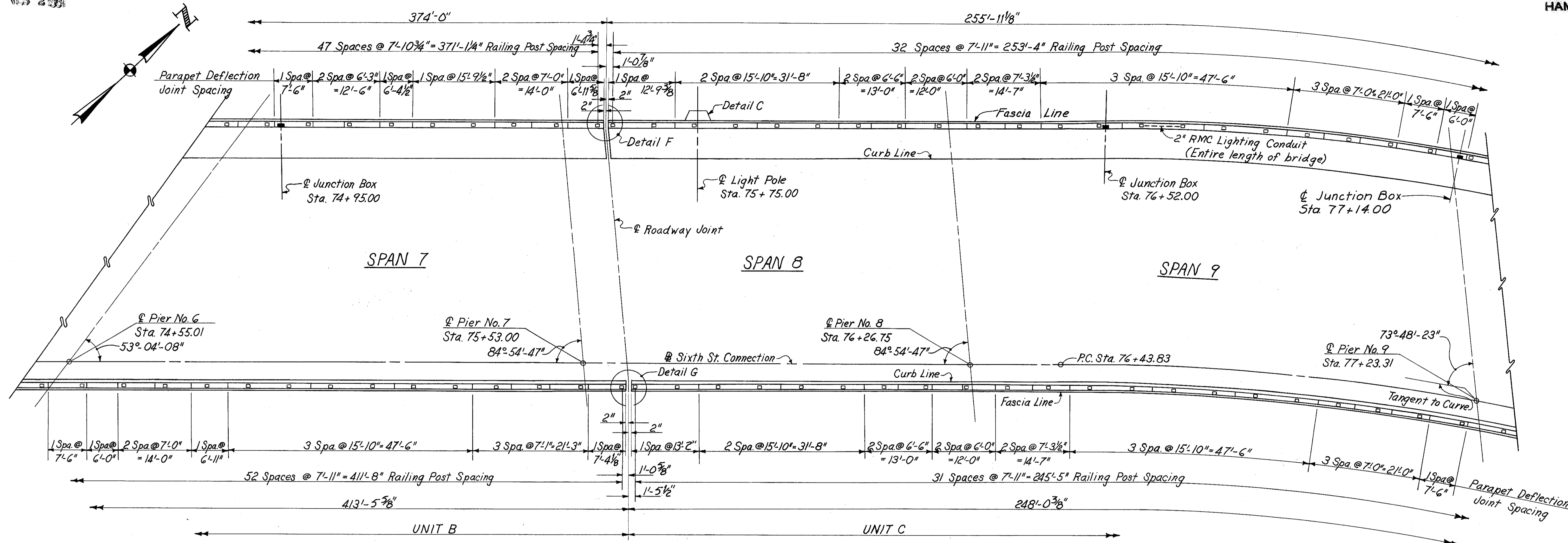
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					5/1/64
<b>RAILING &amp; LIGHTING</b>					
<b>BRIDGE No. HAM-471-0044</b>					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE No.9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JEM	MDP	W.L.	1-3-72	JH0 11-13-72	

MICROFILMED  
75 2 331

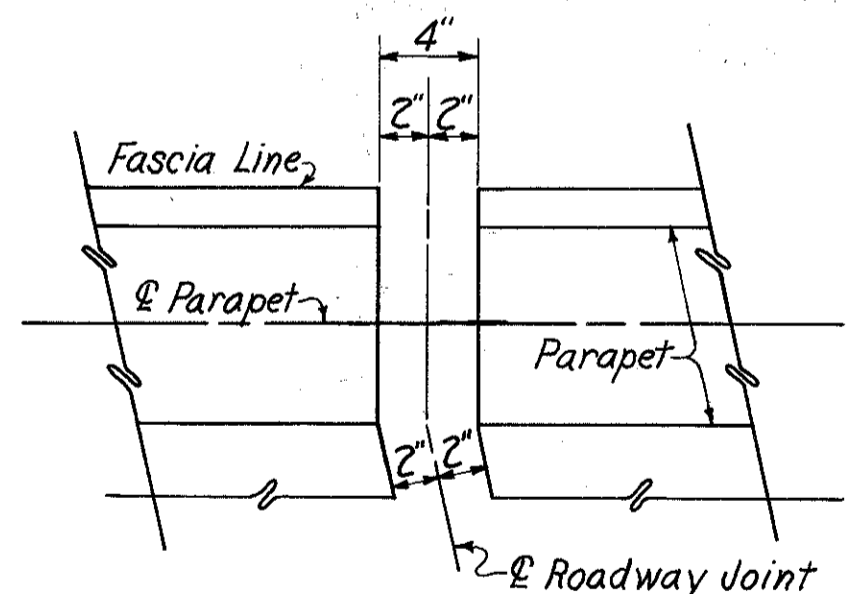
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

346  
494

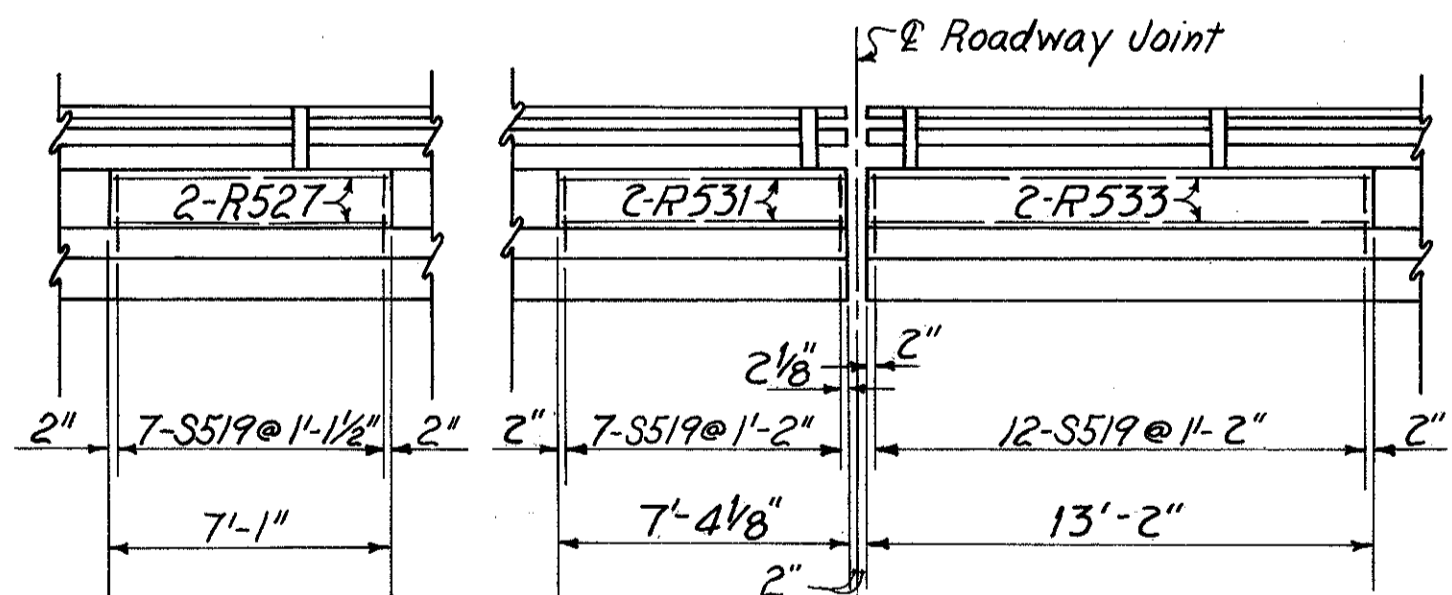
HAMILTON COUNTY  
HAM-471-0.30



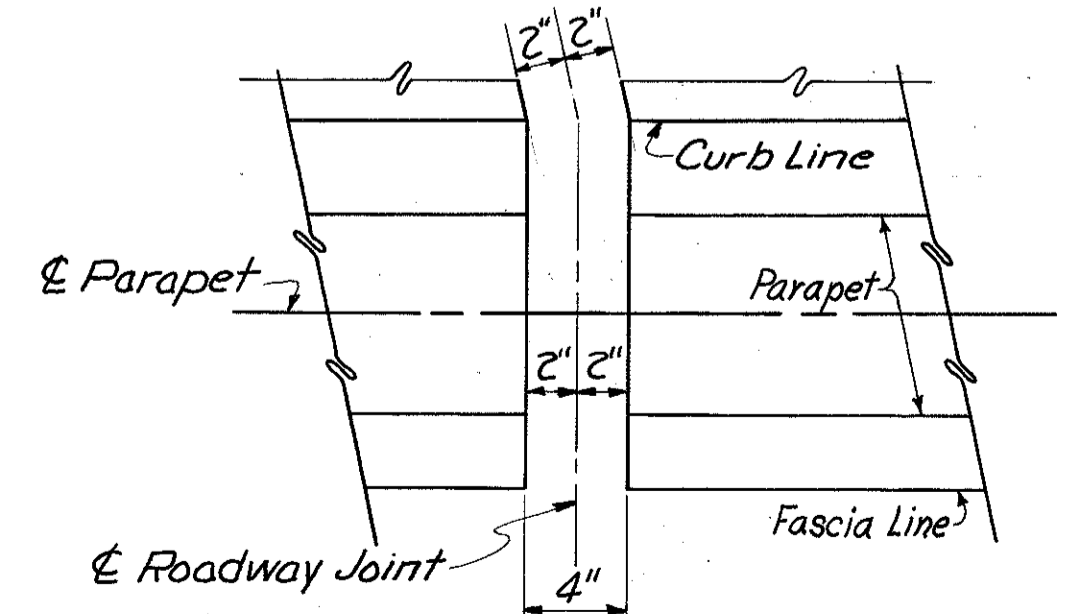
**PLAN**



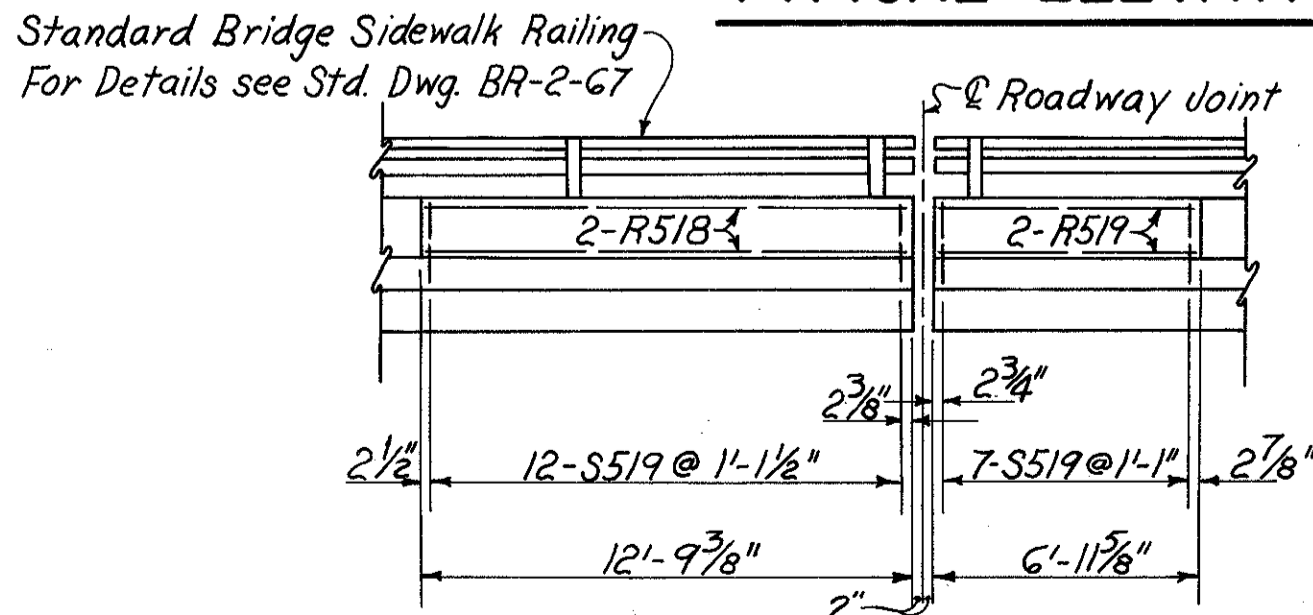
**DETAIL F**



**TYPICAL ELEVATION**



**DETAIL G**



**TYPICAL ELEVATION**

(Light Poles Not Shown)

For Notes see sh. 343.  
For details of deflection joint panels not shown see sh. 343, 344 & 345.

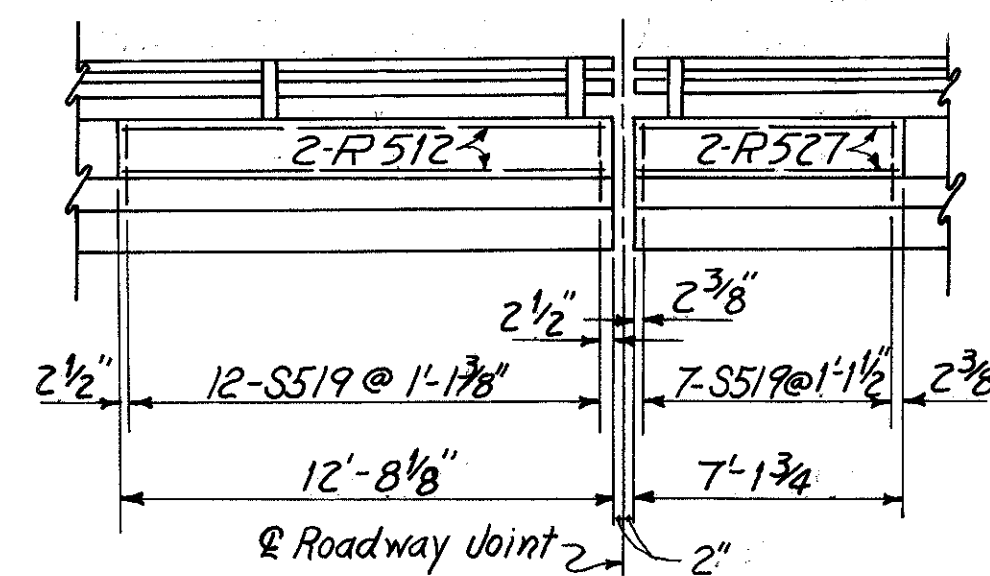
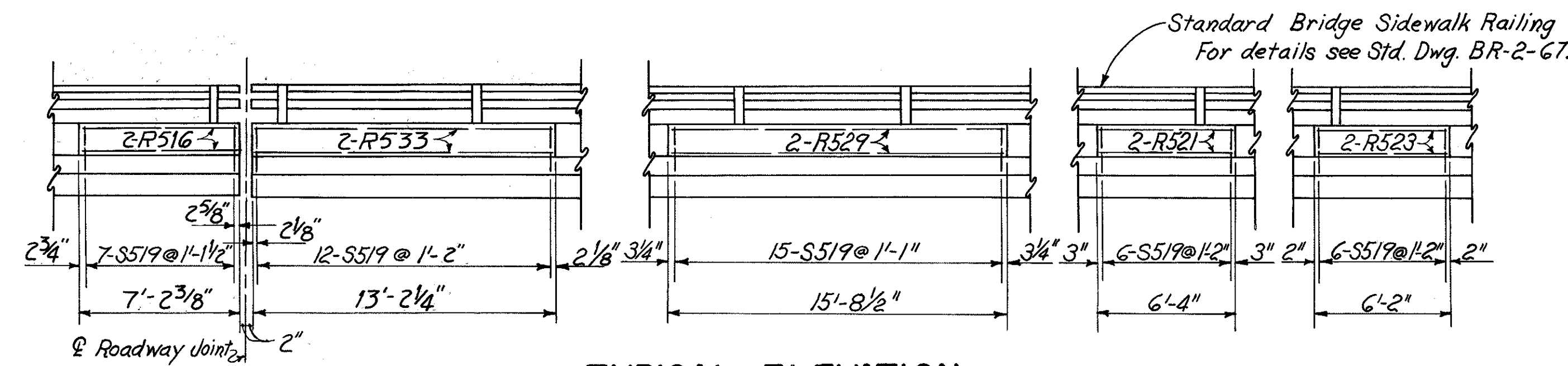
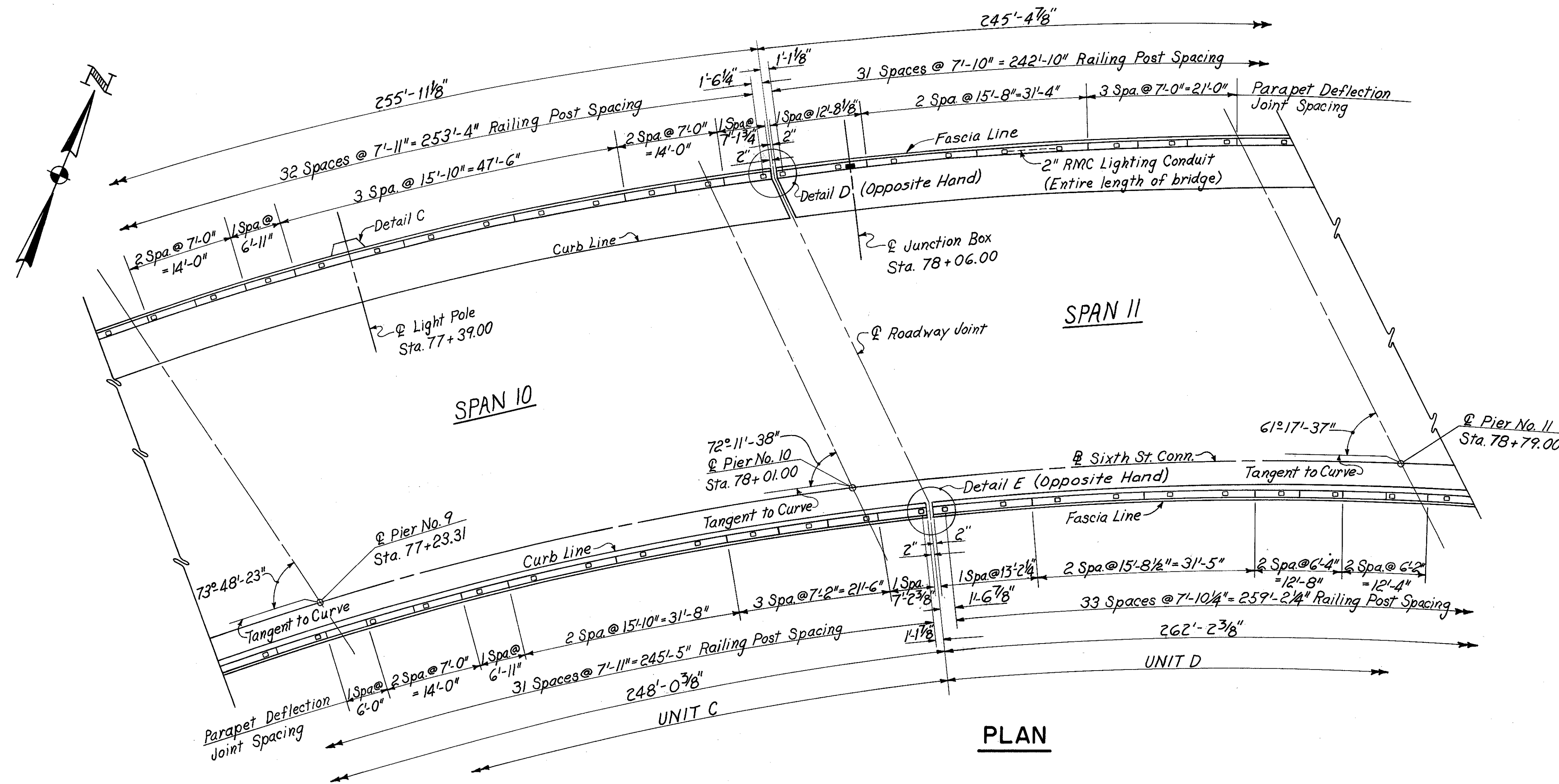
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					52/64
<b>RAILING &amp; LIGHTING</b>					
<b>BRIDGE No. HAM-471-0044</b>					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE No.9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JEM	MDP		W.L. 1-3-72	JHS 11-13-72	

MICROFILMED  
FEB 2 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

347  
494

HAMILTON COUNTY  
HAM-471-0.30



For Notes see sh. 343  
 For Details D & E see sh. 344.  
 N.F. Denotes Near Face.  
 F.F. Denotes Far Face.  
 For details of deflection joint panels not shown see sh. 343 thru 346.

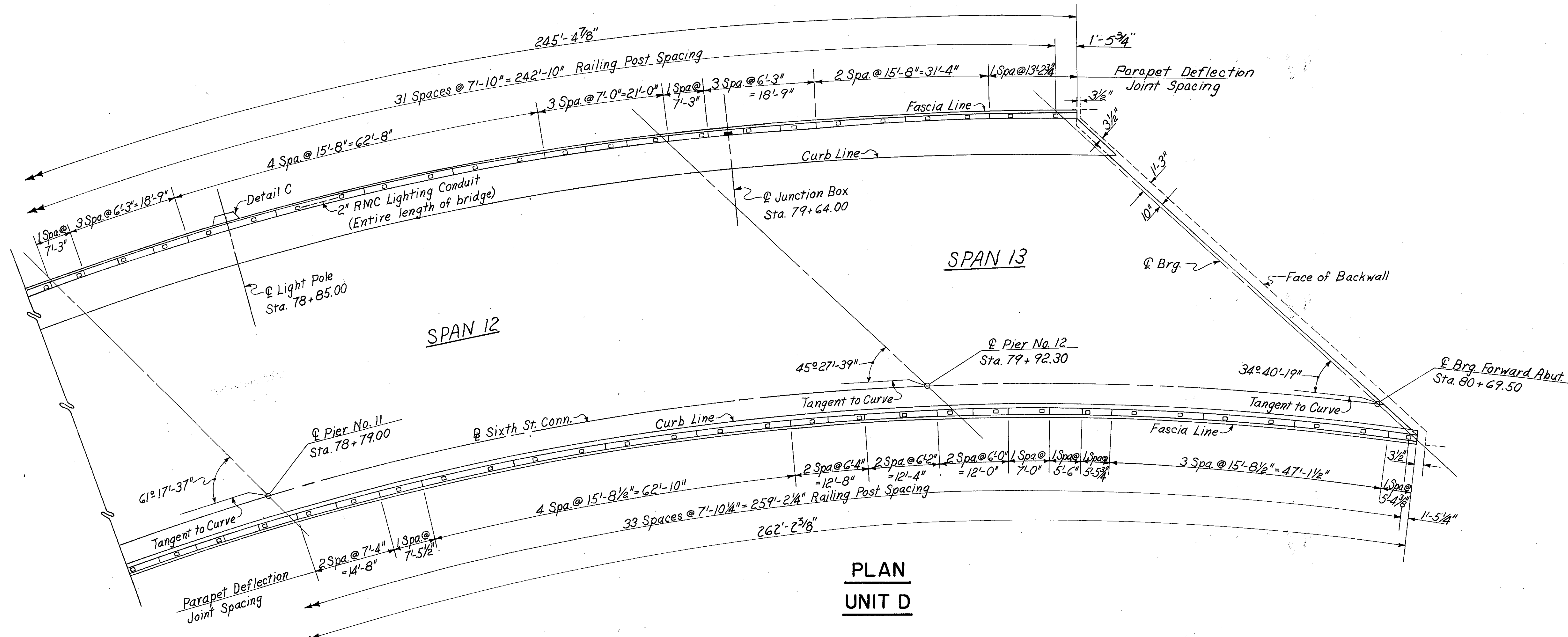
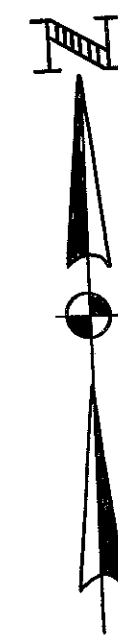
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					53/67
<b>RAILING &amp; LIGHTING</b>					
<b>BRIDGE No. HAM.-471-0044</b>					
<b>SIXTH STREET CONNECTION OVER</b>					
<b>SOUTHBOUND I-471 H&amp;E BRIDGE No. 9</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JEM	MDP	YK	JH	11-13-72	

MICROFILMED  
FEB 2 1981

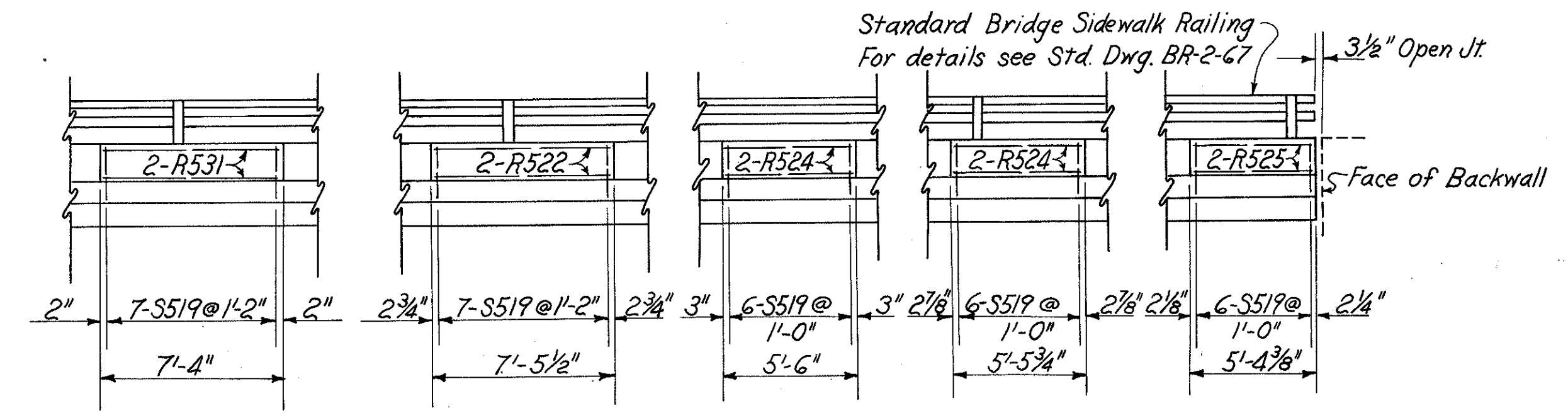
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

348  
494

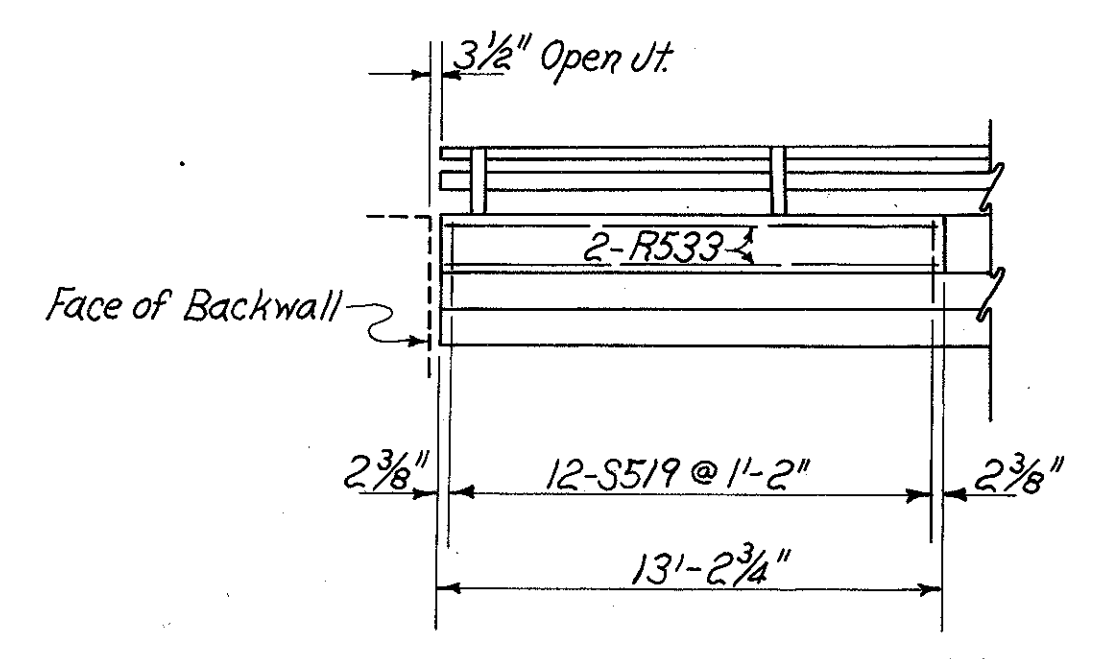
HAMILTON COUNTY  
HAM-471-0.30



**PLAN  
UNIT D**



**TYPICAL ELEVATION**

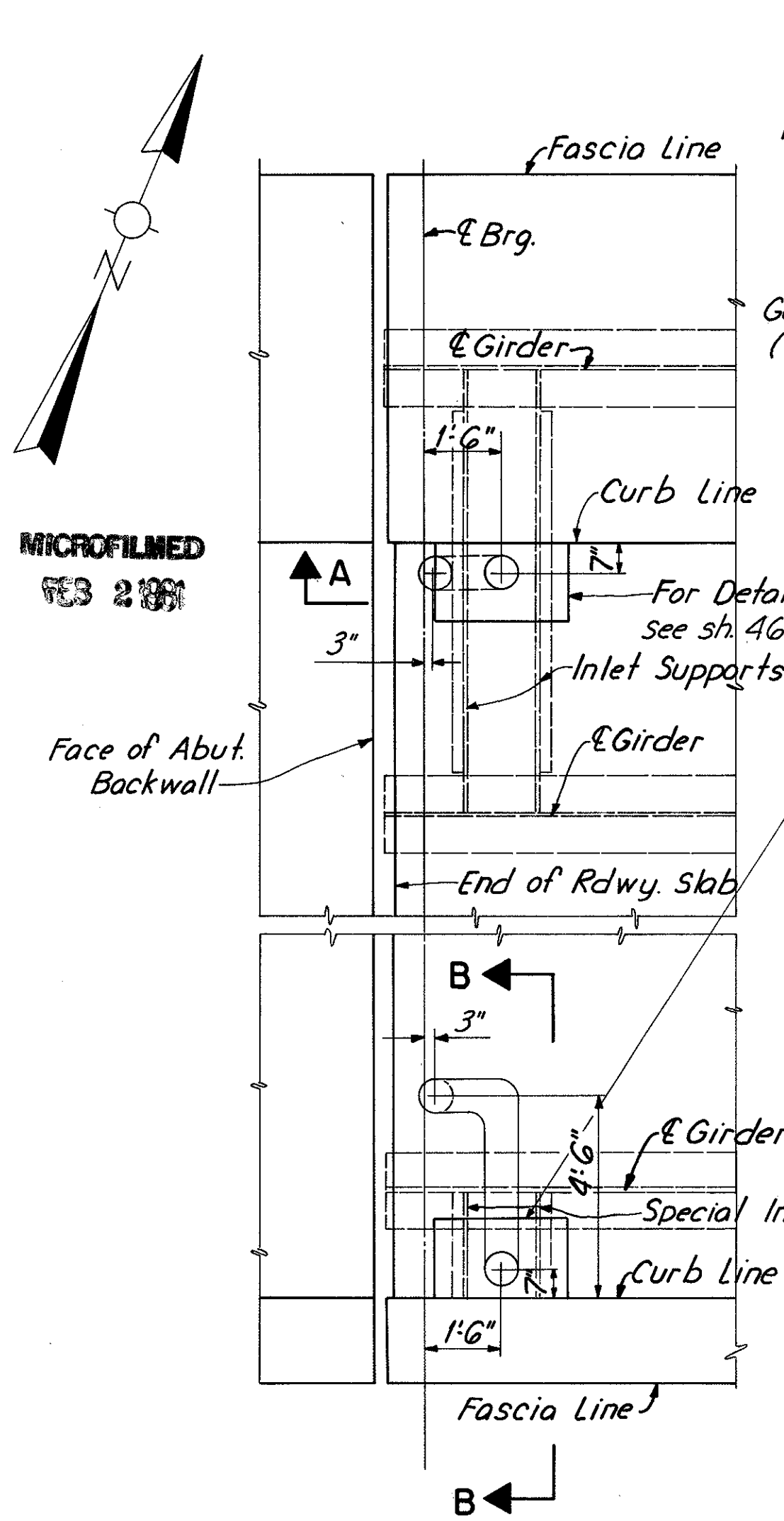


**TYPICAL ELEVATION**

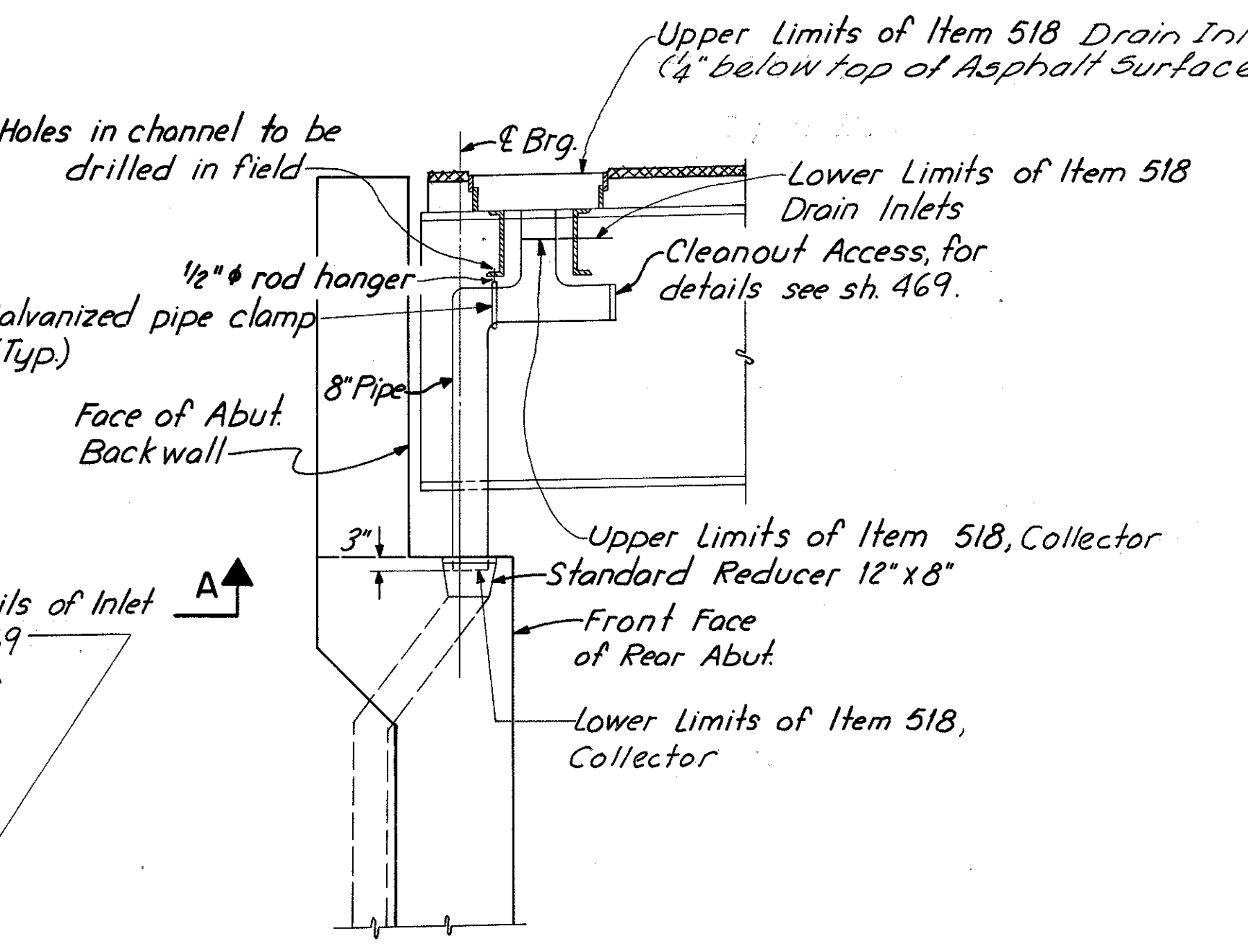
(Light Poles Not Shown)

For Notes see sh. 343.  
For details of deflection joint panels not shown see sh. 343 thru 347.

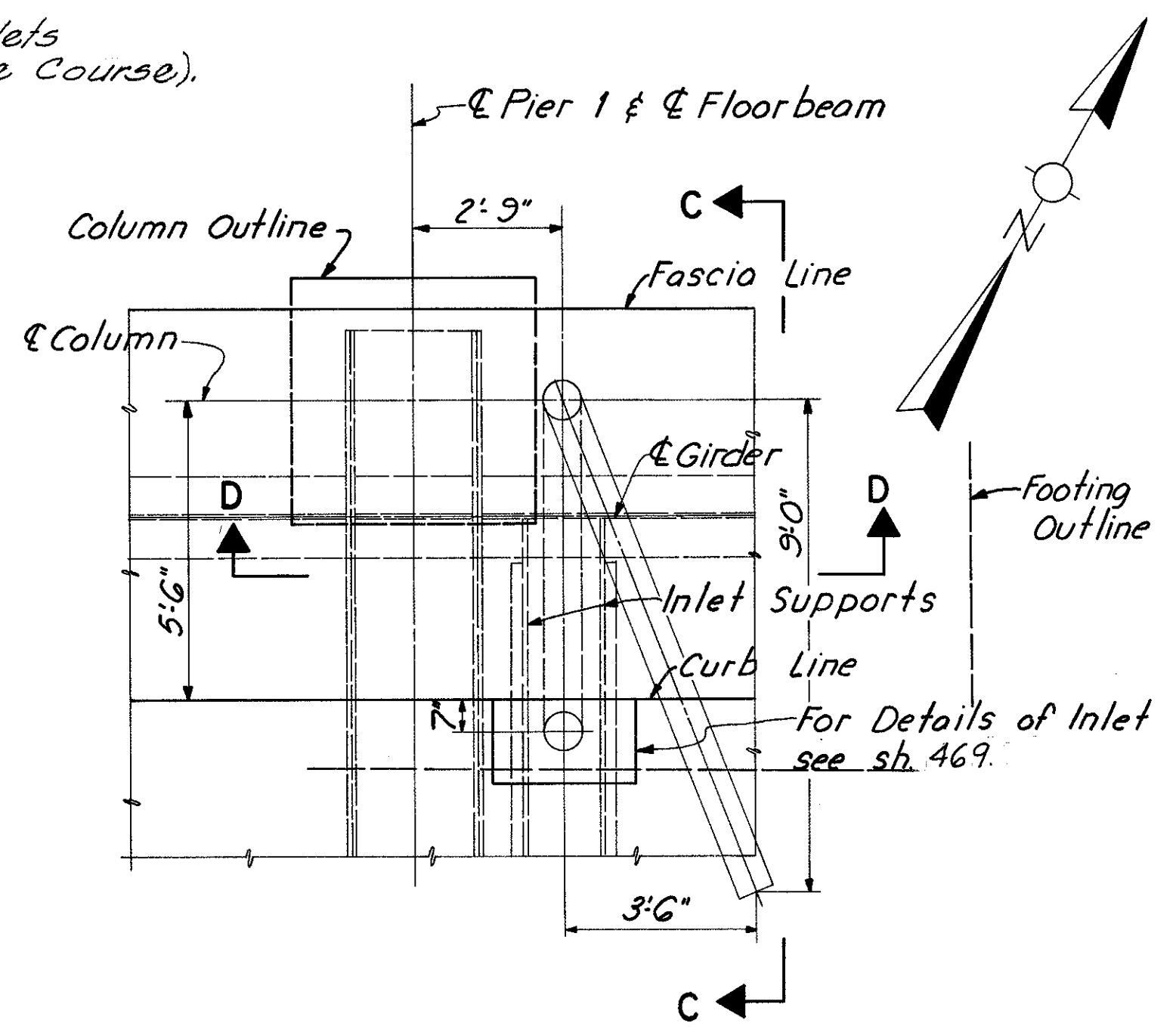
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					54/64
<b>RAILING &amp; LIGHTING</b>					
<b>BRIDGE No. HAM-471-0044</b>					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE No.9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JEM	MDP		Y.L.	11-13-72	



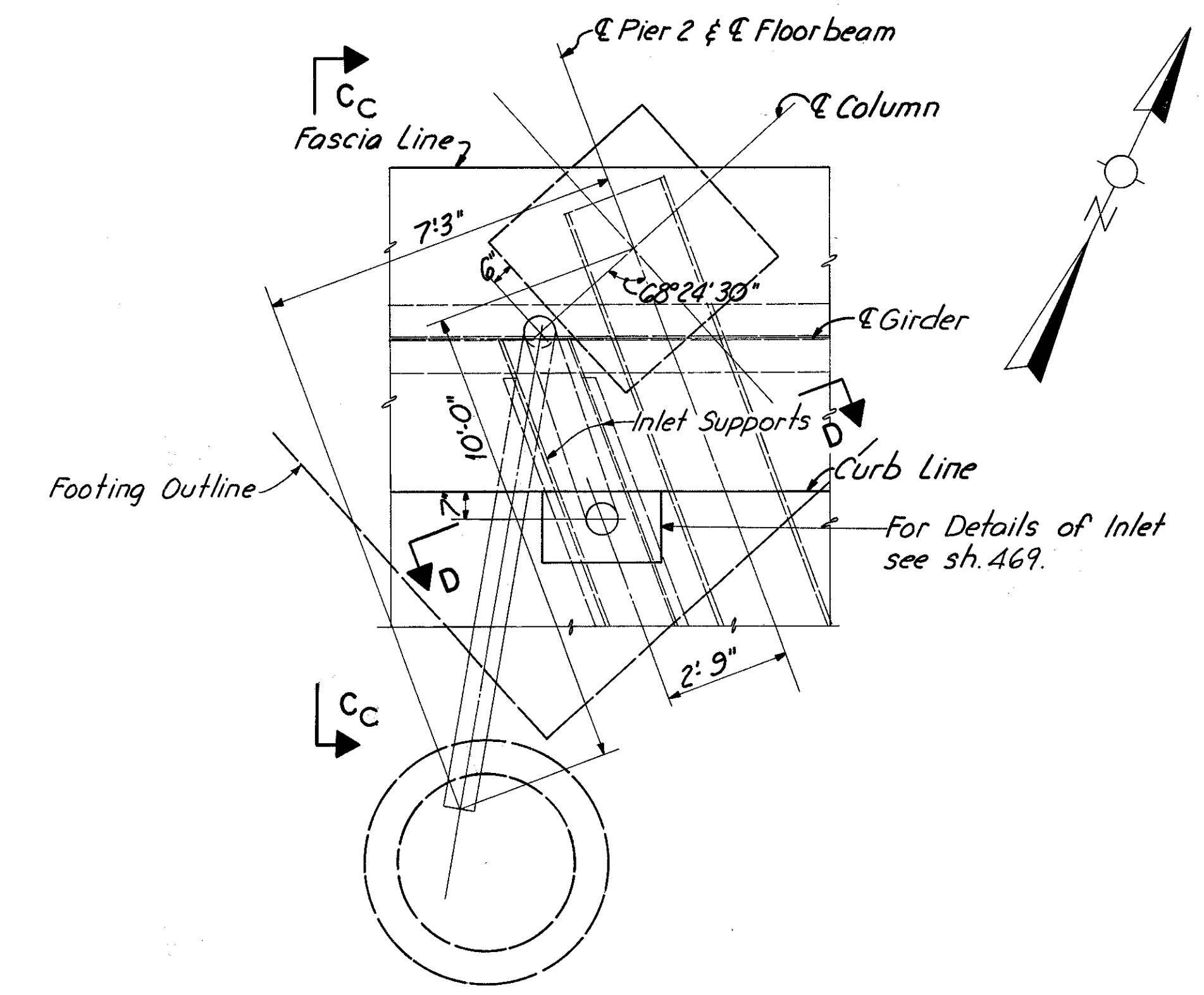
**REAR ABUTMENT PLAN**



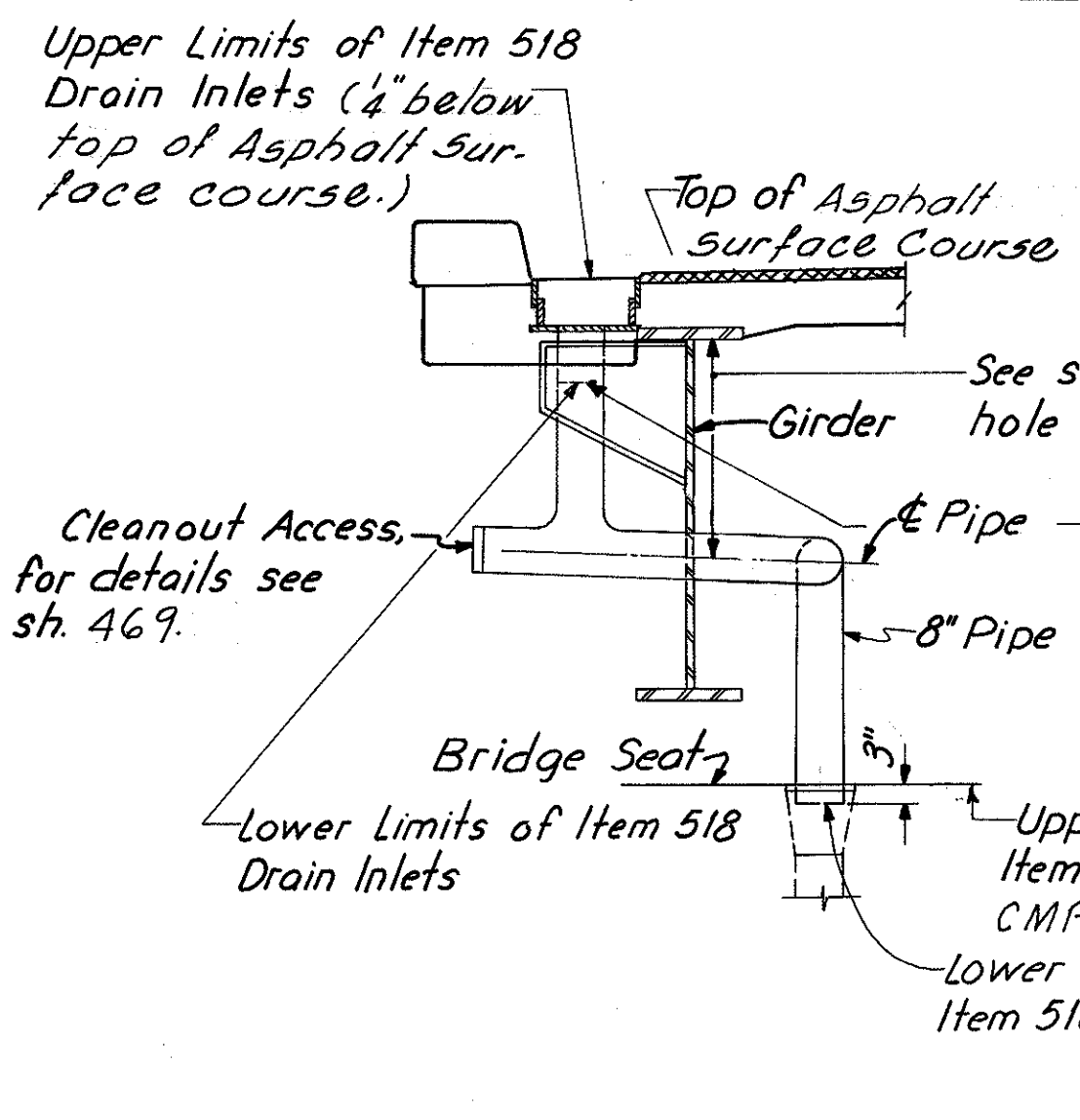
**SECTION A-A**



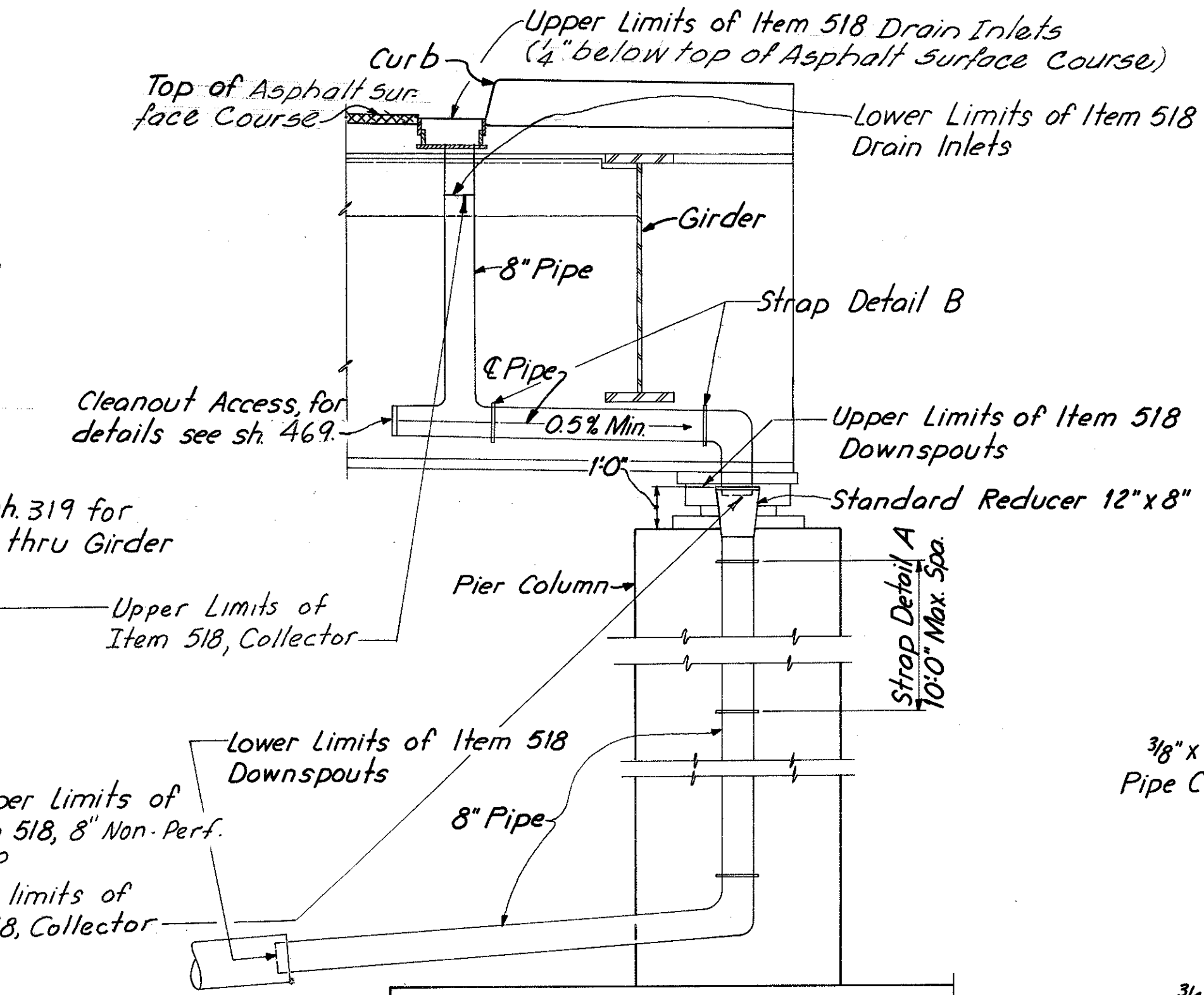
**PIER 1 - PLAN**



**PIER 2 - PLAN**

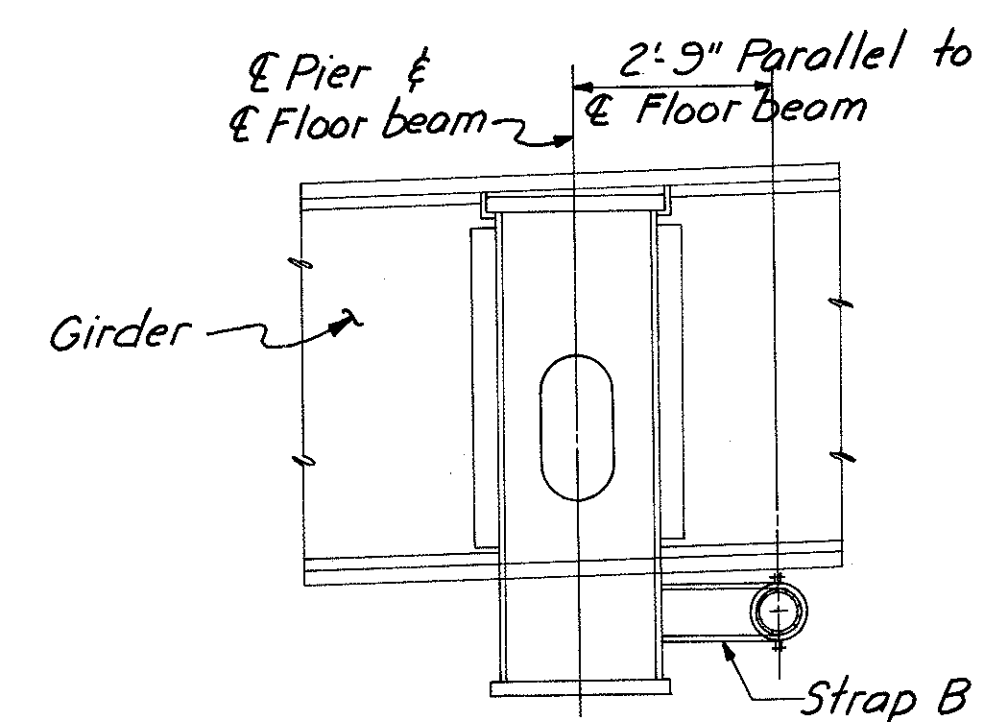


**SECTION B-B**

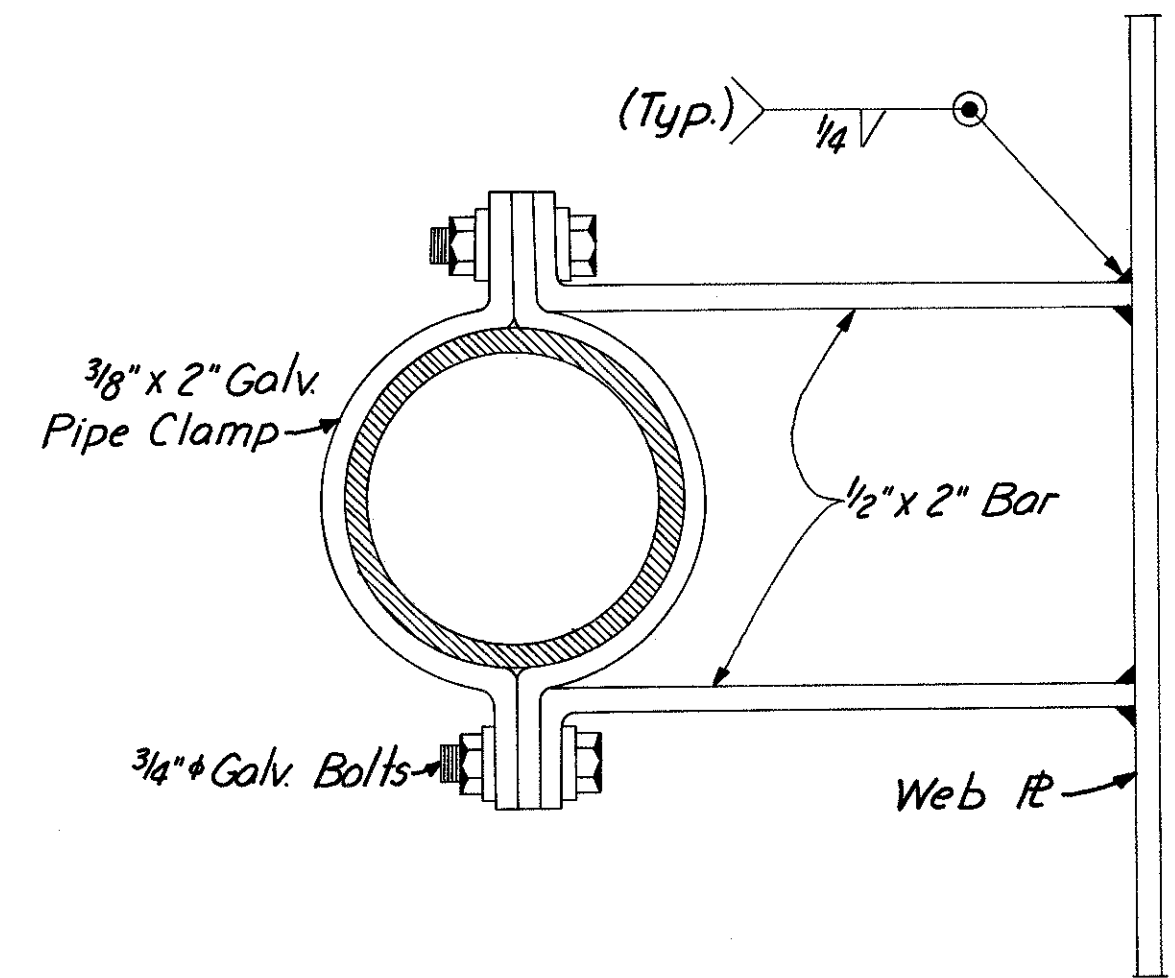


**SECTION C-C (opposite hand)**

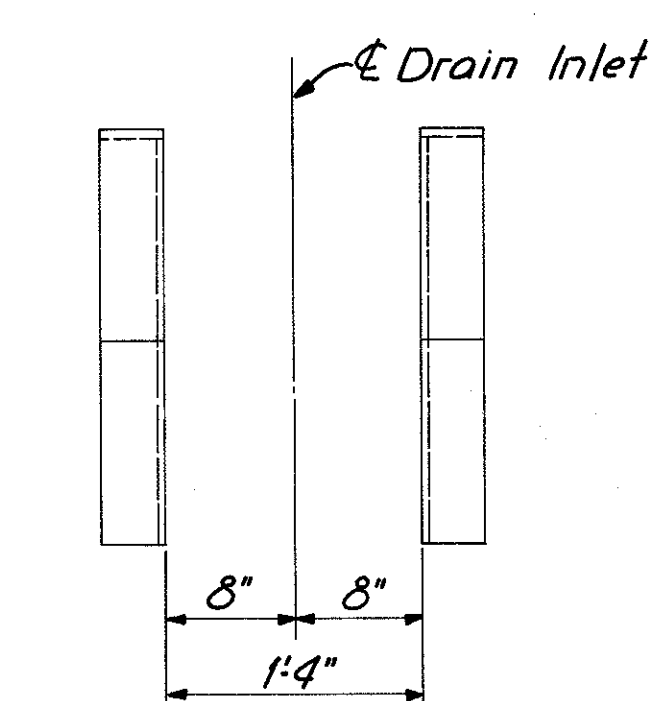
**SECTION C<sub>c</sub>C<sub>c</sub> (opposite hand)**  
(For details not shown see Typ. Sect. (for Piers) sh. 469.)



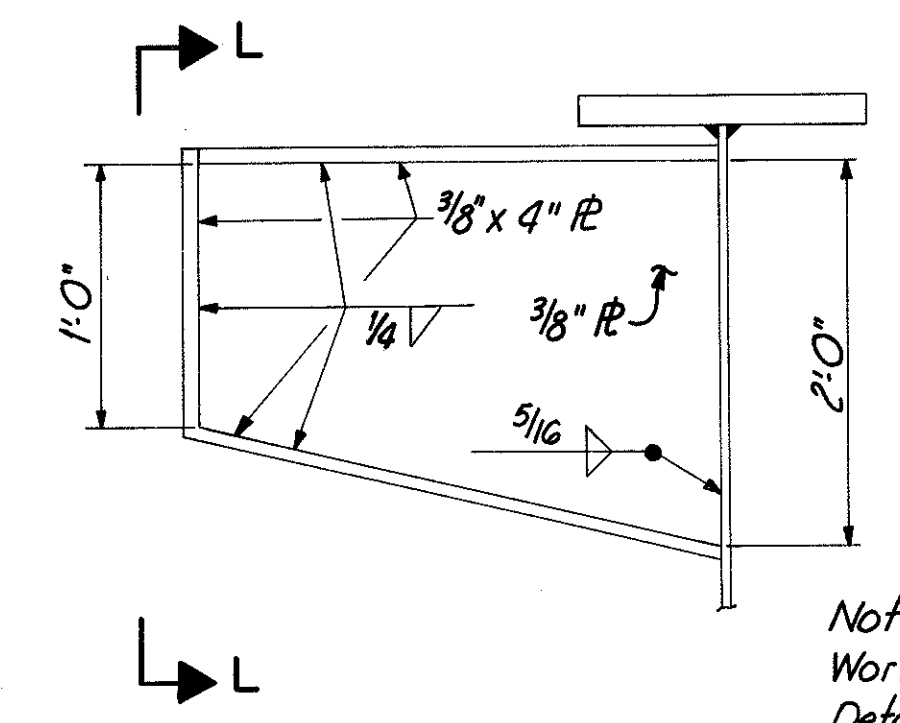
**SECTION D-D**



**STRAP DETAIL B**



**SECTION L-L**



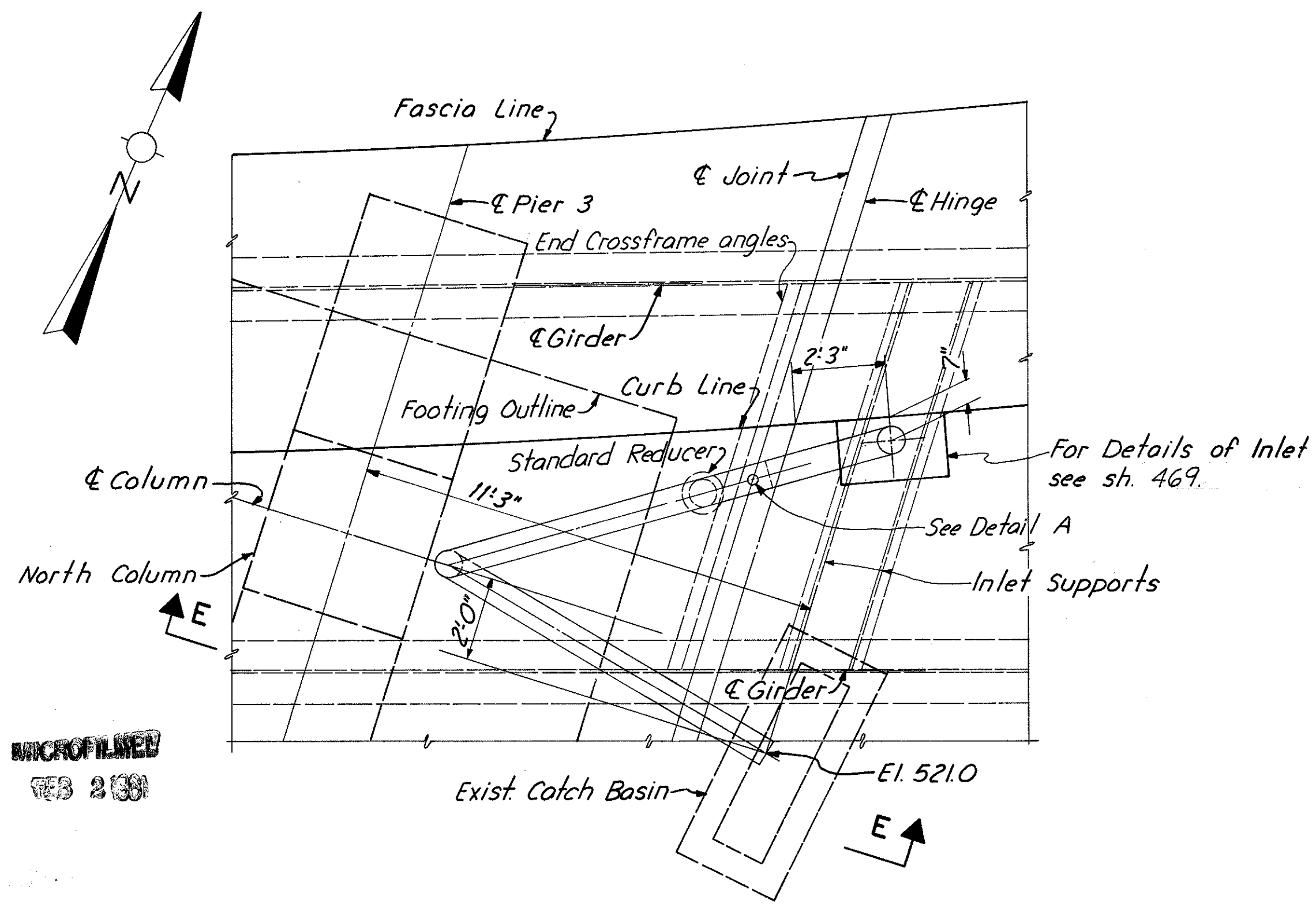
**ELEVATION**

**SPECIAL INLET SUPPORT DETAILS**  
(Included with Item 513 for payment)

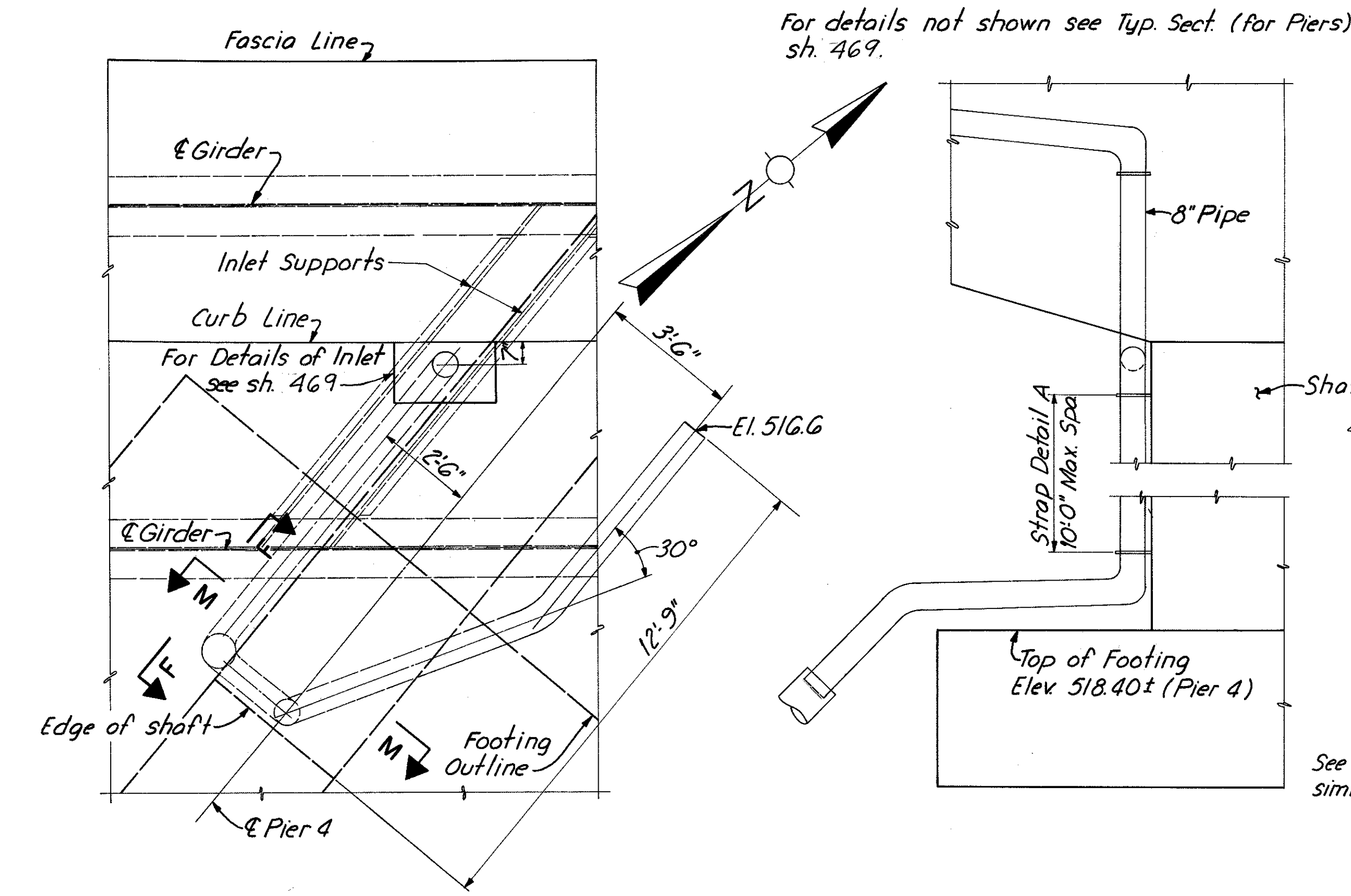
Notes:  
Work this sheet with Drainage Details sh. 469.  
Drain Inlets shall be galvanized in accordance with 71102. Total depth of inlet frame box equals 8 3/4.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					55/64
<b>DRAINAGE DETAILS</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JHD		YK	JH	
			1-19-72	11-13-72	

HAMILTON COUNTY  
HAM-471-0.30

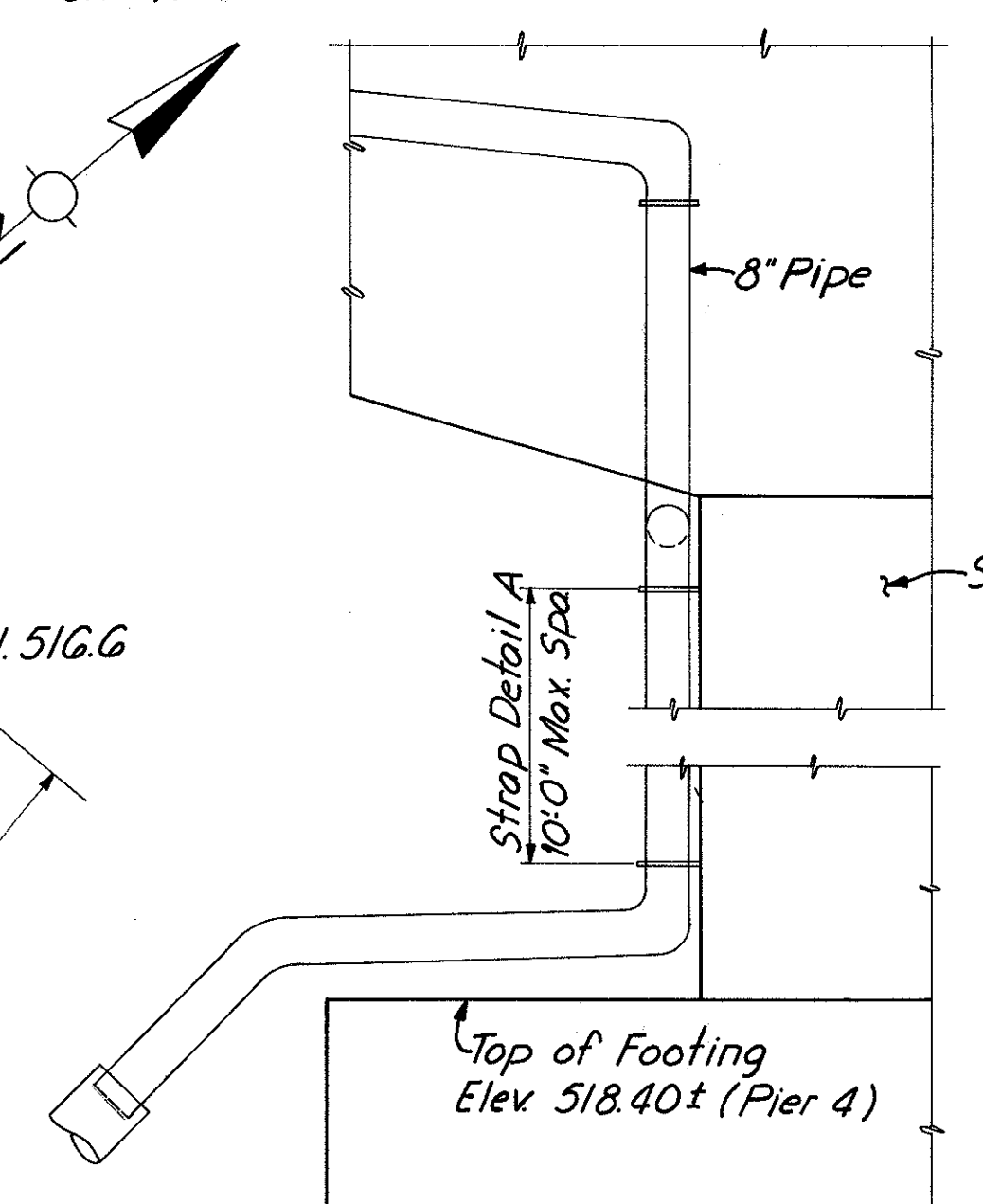


**PIER 3 - PLAN**

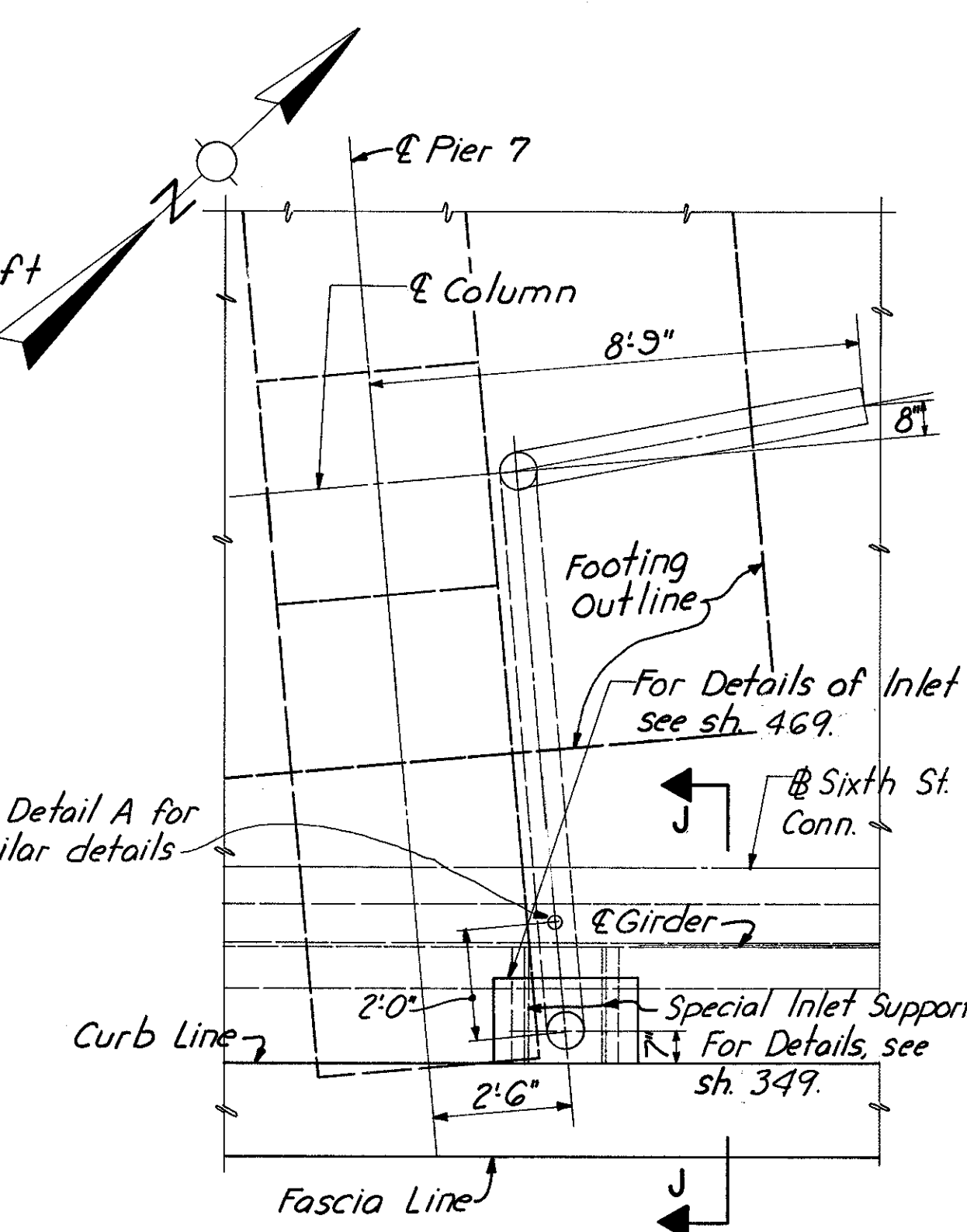


**PIER 4 - PLAN**

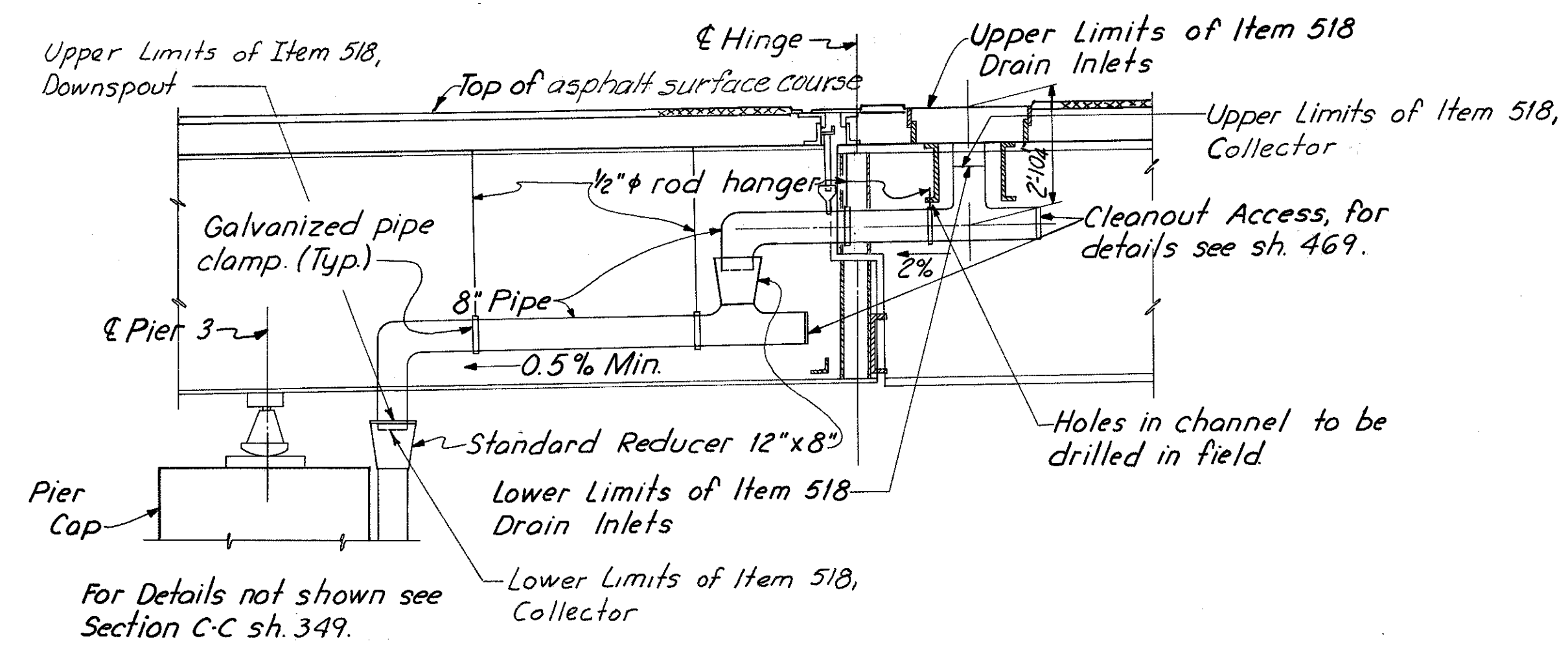
For details not shown see Typ. Sect. (For Piers) sh. 469.



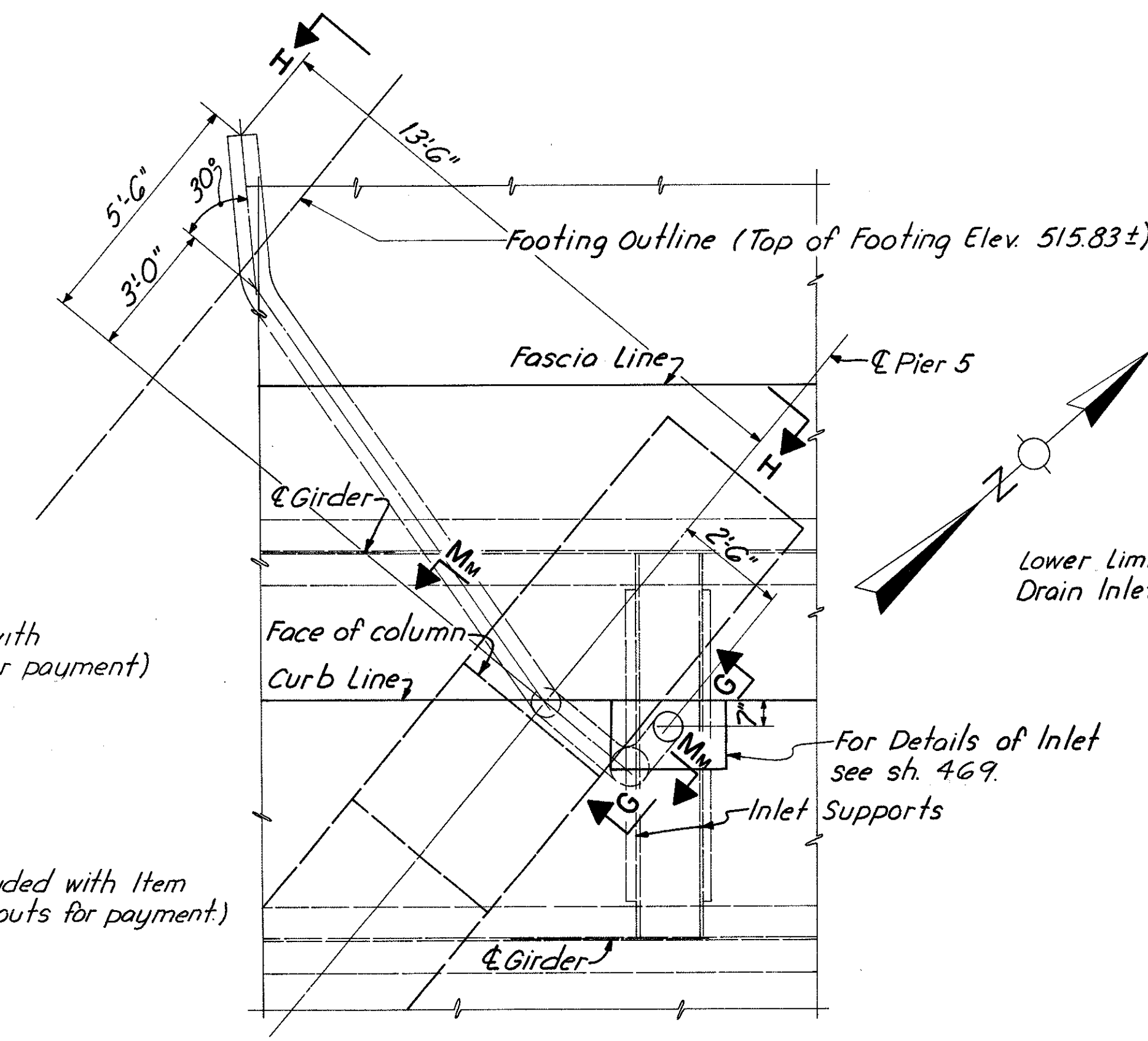
**SECTION F-F**



**PIER 7 - PLAN**

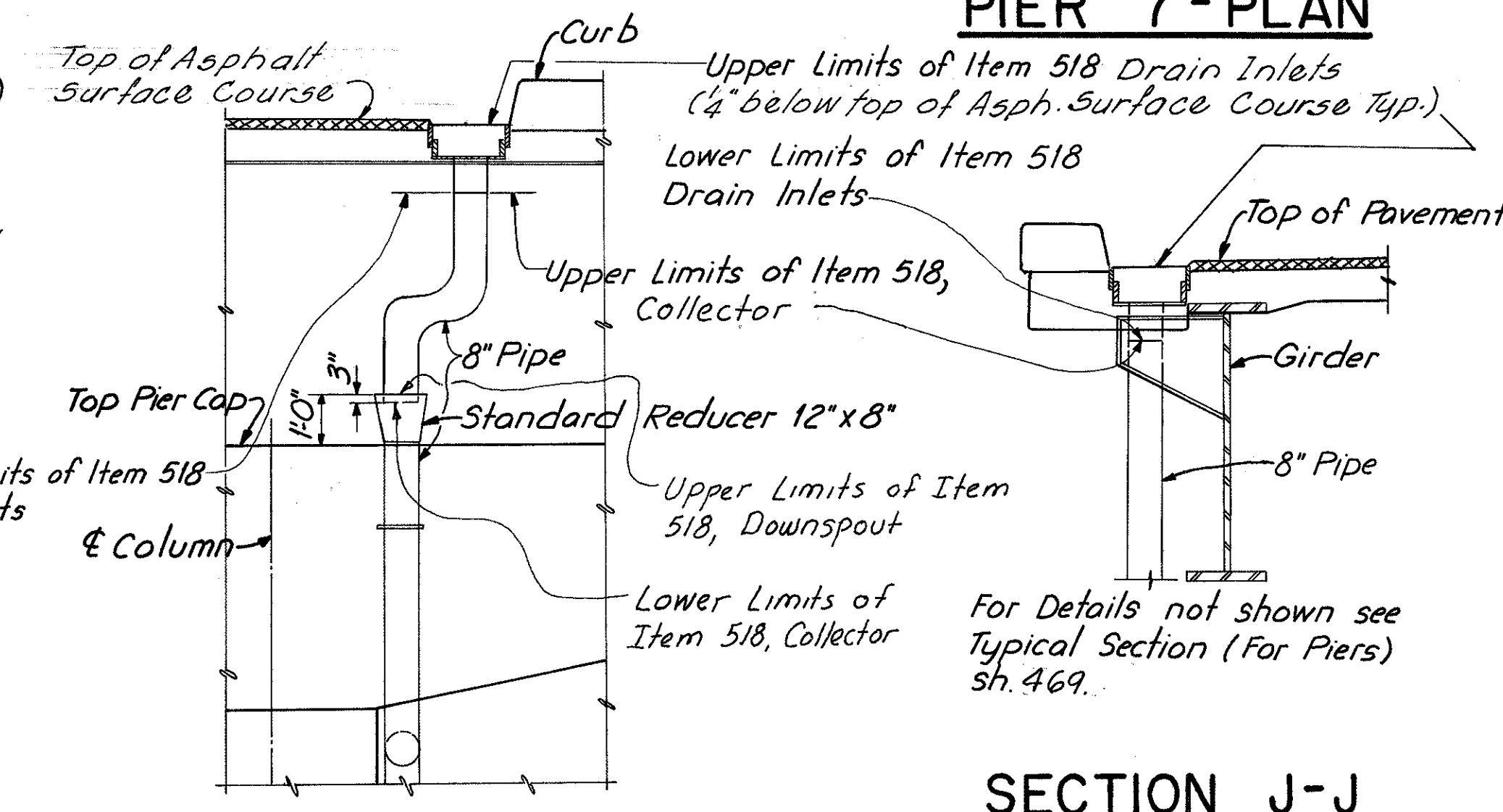


**SECTION E-E**



**PIER 5 - PLAN**

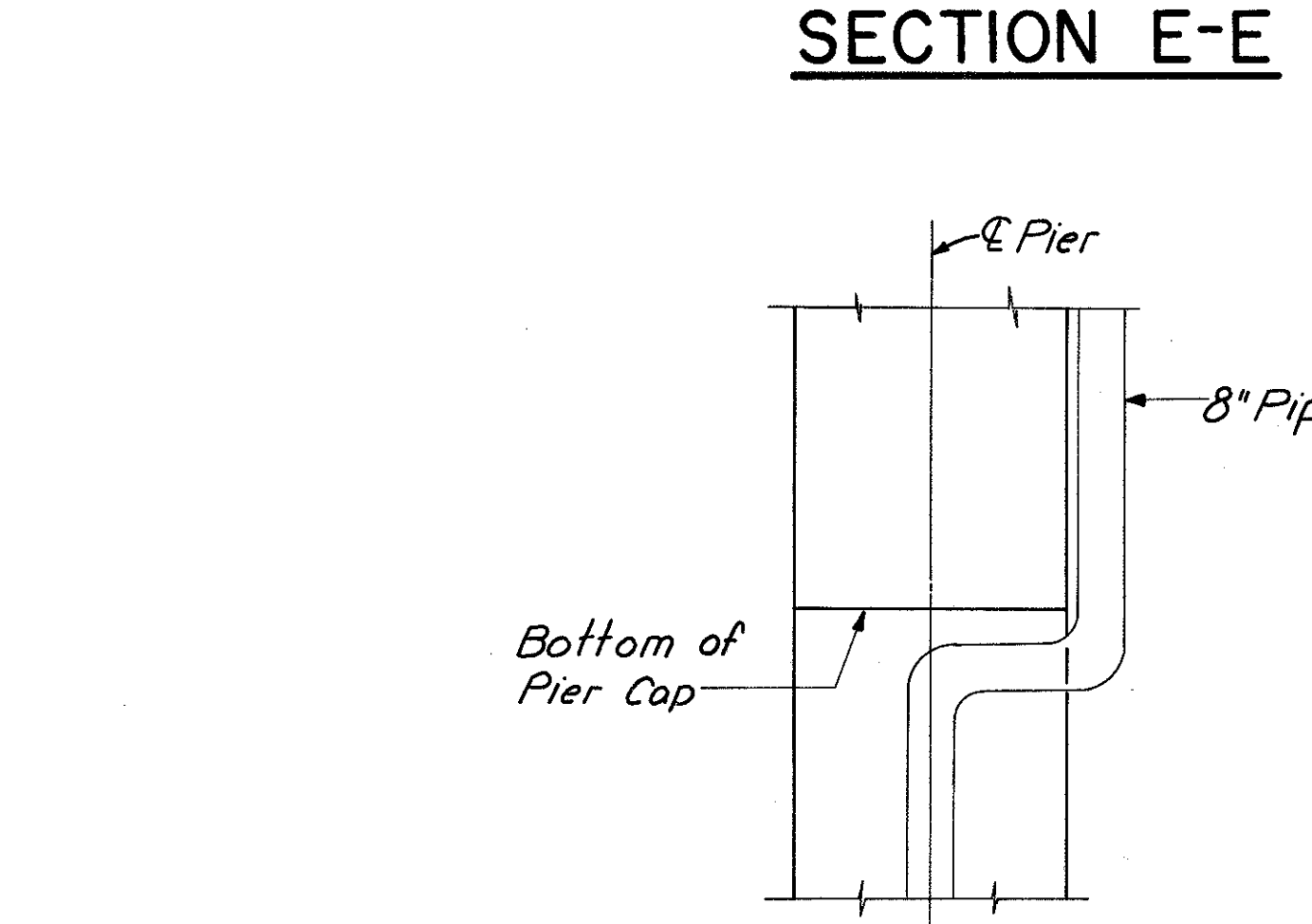
See Typical Section (For Piers) sh. 469 for Section H-H details.



**SECTION G-G**

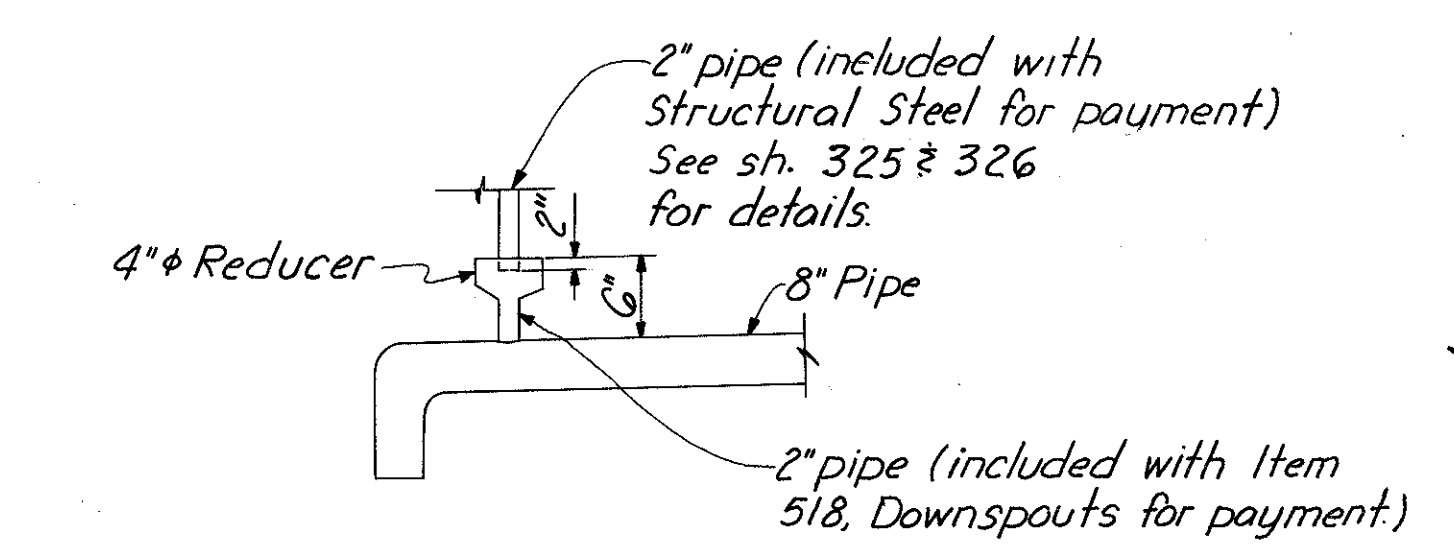
**SECTION J-J**

For Notes see sh. 349.



**SECTION M-M**

**SECTION M<sub>M</sub>- M<sub>M</sub> (opposite hand)**



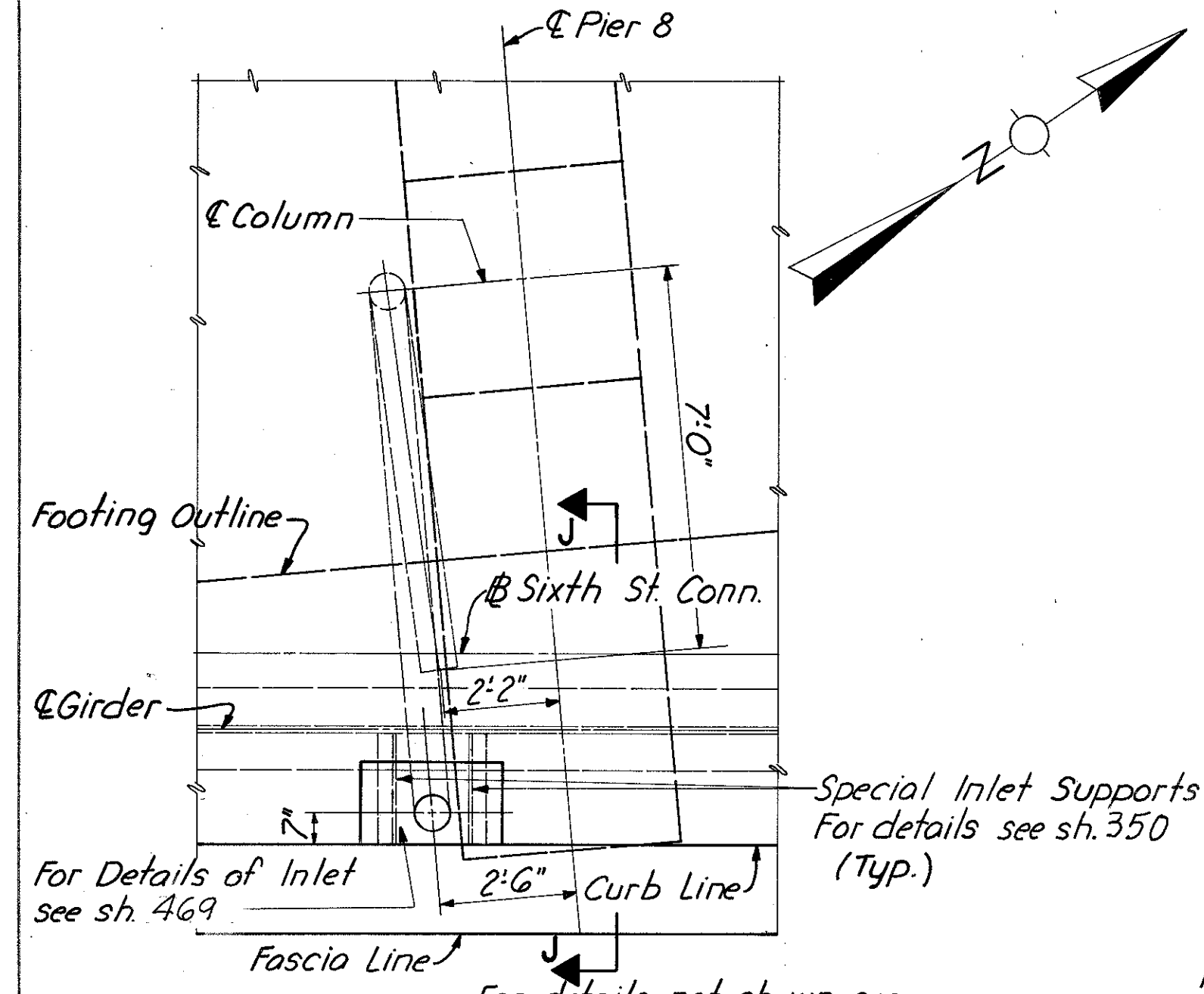
**DETAIL A**

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					56/64
<b>DRAINAGE DETAILS</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	JHD		JHD	11-13-72	

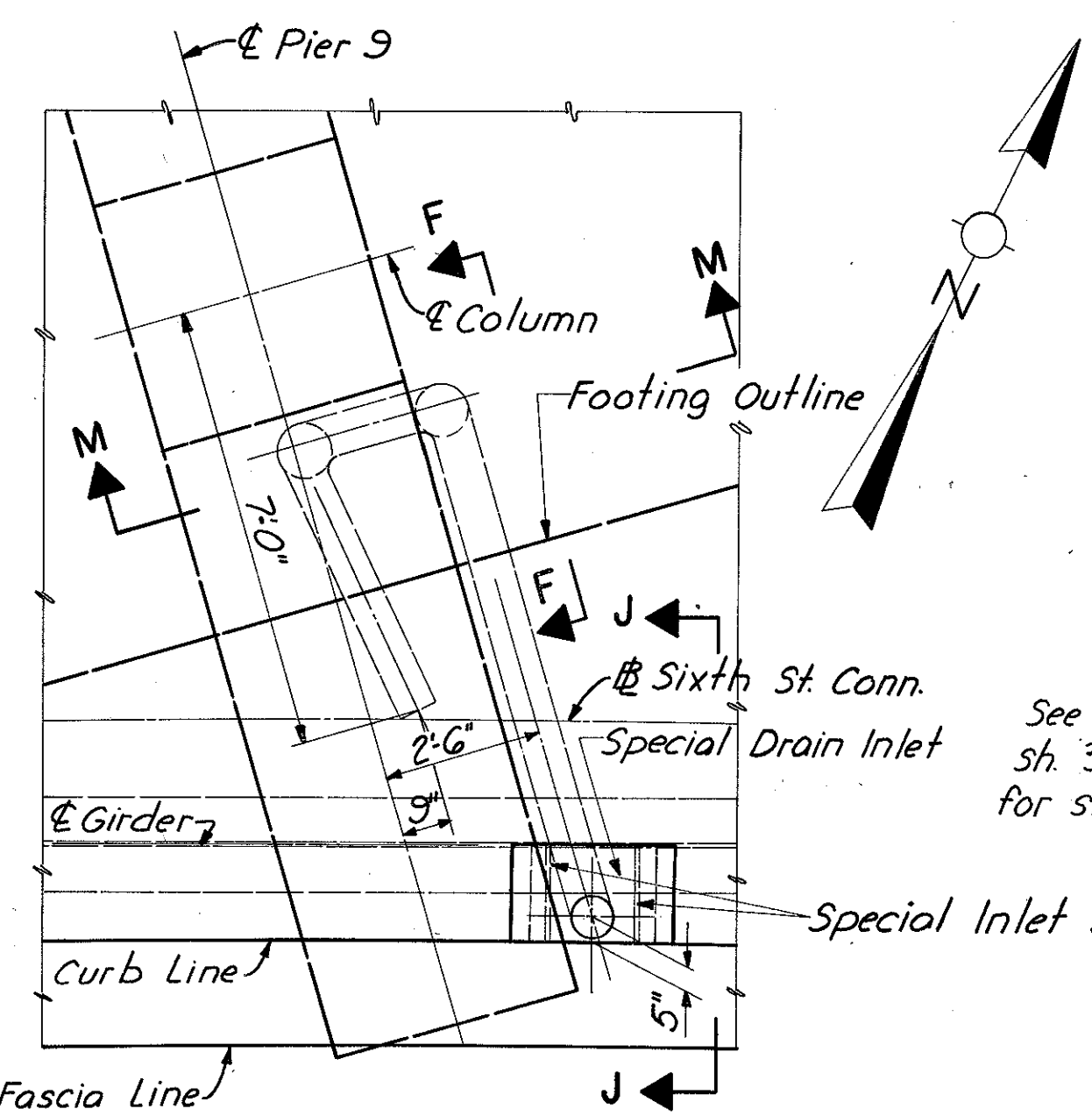
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

351  
494

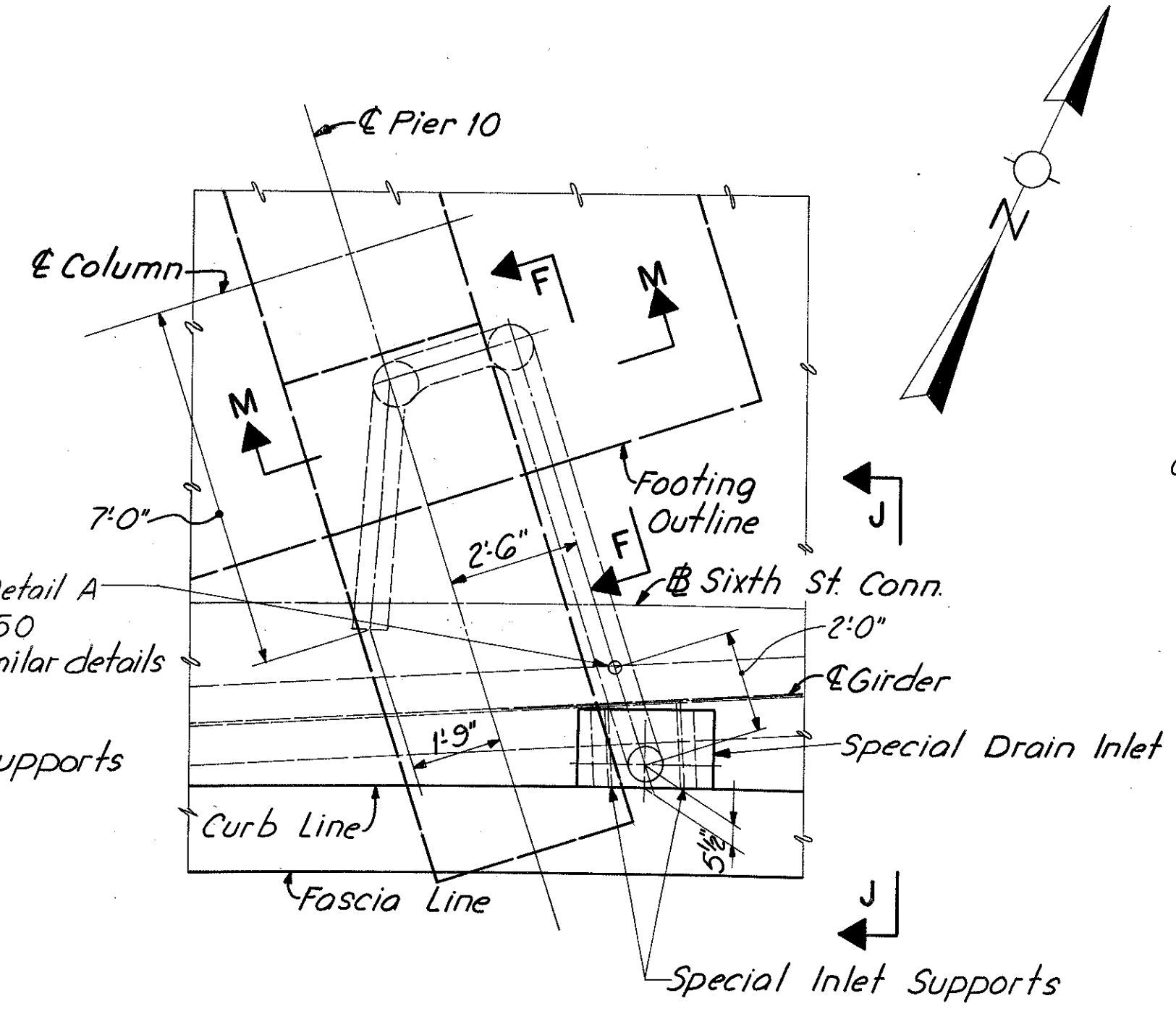
HAMILTON COUNTY  
HAM-471-0.30



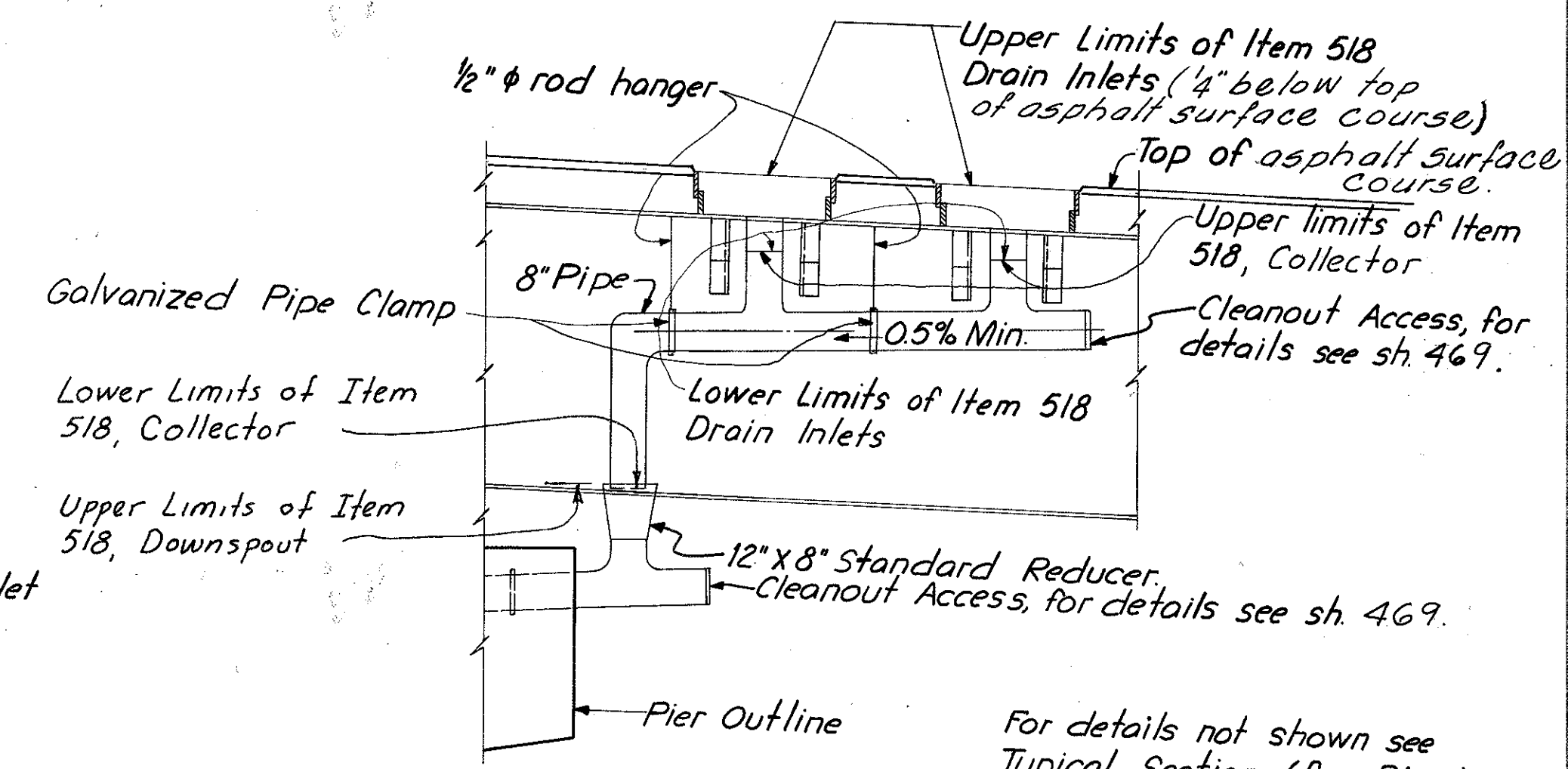
**PIER 8 - PLAN**



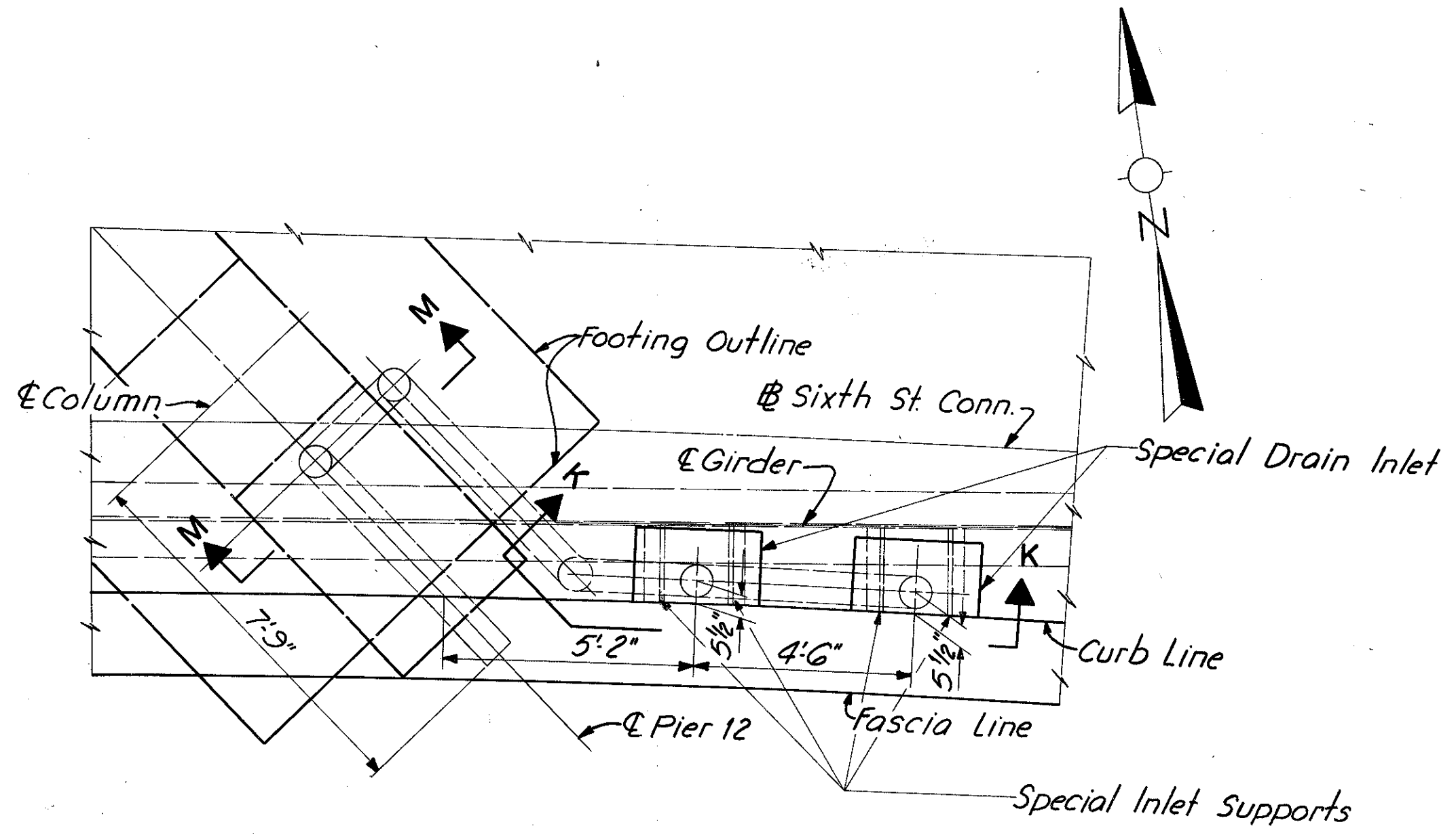
**PIER 9 - PLAN**



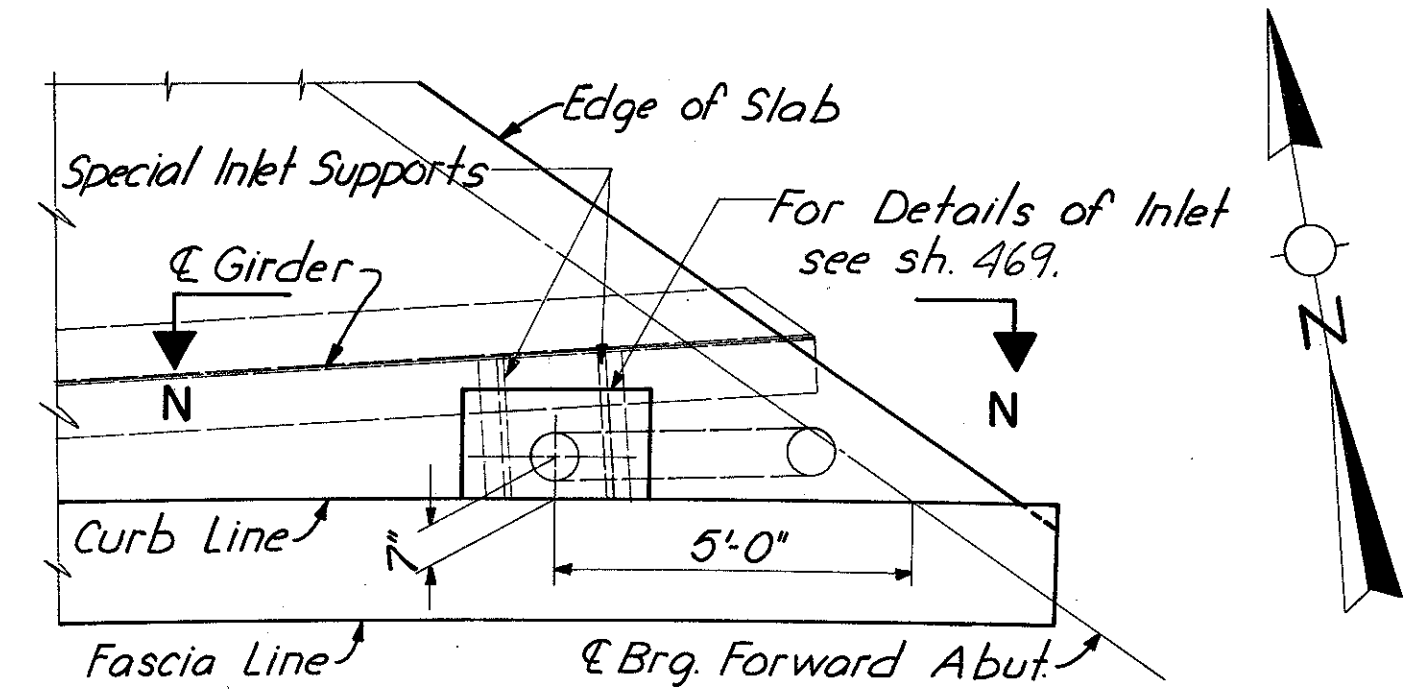
**PIER 10 - PLAN**



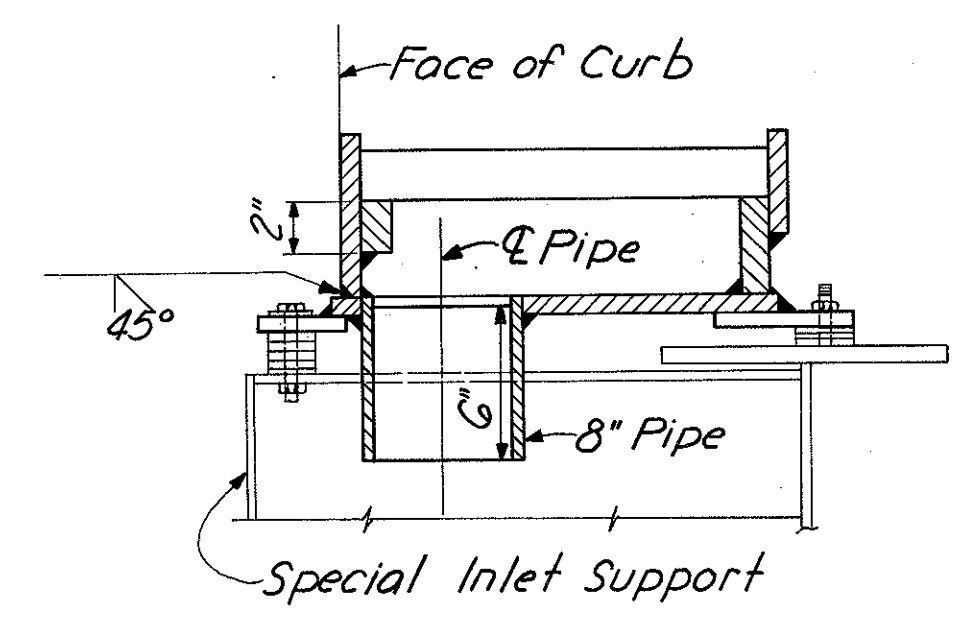
**SECTION K-K**



**PIER 12 - PLAN**



**FORWARD ABUTMENT - PLAN**



**SPECIAL DRAIN INLET**

For Notes see sh. 349  
For Section J-J see sh. 350.  
For Section M-M see sh. 349.  
For Section F-F see sh. 349.

MICROFILMED  
FEB 2 1981

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					57/64
<b>DRAINAGE DETAILS</b>					
<b>BRIDGE NO. HAM-471-0044</b>					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JHD		W.L. 1-1972	JHD 11-13-72	



Table with columns: MARK, TYPE, LENGTH, NO. OF BARS, WEIGHT, REAR ABUTMENT DIMENSIONS (A, B, C, D, E, F, Radius). Rows include A501 to A5104.

Table with columns: MARK, TYPE, LENGTH, NO. OF BARS, WEIGHT, REAR ABUTMENT (CONTINUED) DIMENSIONS (A, B, C, D, E, F, Radius). Rows include A1105 to R502.

Total Weight Rear Abutment = 17,270 Lbs.

MICROFILMED  
FEB 2 1981

Table with columns: MARK, TYPE, LENGTH, NO. OF BARS, WEIGHT, STAIRS DIMENSIONS (A, B, C, D, E, F, G). Rows include ST401 to ST1105.

Total Weight, Stairs = 7333 Lbs. \* See Sheet 342.

For Notes See Sheet 358

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO 58/64  
REINFORCING STEEL LIST  
BRIDGE NO. HAM-471-0044  
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO. 9  
DESIGNED: D.H. DRAWN: W.L. TRACED: J.H. CHECKED: J.H. REVIEWED DATE: 11-13-72 REVISION: 2-2-72

HAMILTON COUNTY  
HAM-471-030

RECEIVED  
FEB 21 1972

MARK	TYPE	LENGTH	TOTAL NO. OF BARS	WEIGHT	DIMENSIONS							
					A	B	C	D	E	F	R	
B501	Str.	35'-11"	18	674								
B502	Str.	7'-6"	6	47								
B503	Str.	8'-0" to 13'-0"	1 Series of 11	120								
B504	Str.	8'-0" to 15'-6"	1 Series of 7	86								
B505	Str.	3'-6" to 20'-1"	1 Series of 9	111								
B506	Str.	26'-3" to 39'-3"	1 Series of 7	239								
B507	Str.	29'-10" to 30'-5"	1 Series of 5	157								
B508	Str.	26'-3"	11	301								
B509	1	4'-11"	36	185	7 1/2"	3'-11"						
B510	3	10'-11"	1	11	7 1/2"	3'-11"	2'-3 1/2"	3'-0 3/4"	3'-0 3/4"	4'-4"		
B511	3	10'-1" to 10'-11"	1 Series of 9	99	7 1/2"	3'-11"	1'-5 1/2" to 2'-3 1/2"	3'-0 3/4"	3'-0 3/4"	4'-4"		
B512	3	10'-1" to 10'-3"	1 Series of 3	32	7 1/2"	3'-11"	1'-5 1/2" to 1'-8"	3'-0 3/4"	3'-0 3/4"	4'-4"		
B513	3	10'-4" to 10'-11"	1 Series of 7	78	7 1/2"	3'-11"	1'-6 1/2" to 2'-4"	3'-0 3/4"	3'-0 3/4"	4'-4"		
B514	3	10'-1" to 11'-0"	1 Series of 10	110	7 1/2"	3'-11"	1'-5 1/2" to 2'-5"	3'-0 3/4"	3'-0 3/4"	4'-4"		
B515	3	10'-2"	2	21	7 1/2"	3'-11"	1'-6 1/2"	3'-0 3/4"	3'-0 3/4"	4'-4"		
B516	3	10'-3" to 11'-0"	1 Series of 8	89	7 1/2"	3'-11"	1'-8" to 2'-5"	3'-0 3/4"	3'-0 3/4"	4'-4"		
B517	3	10'-2" to 11'-2"	1 Series of 11	122	7 1/2"	3'-11"	1'-6 1/2" to 2'-7"	3'-0 3/4"	3'-0 3/4"	4'-4"		
B518	Str.	23'-2"	5	121								
B519	Str.	22'-2"	4	92								
B520	Str.	21'-3"	6	133								
B521	Str.	20'-4"	5	106								
B522	Str.	19'-4"	13	262								
B523	Str.	18'-5"	7	134								
B524	Str.	33'-11"	12	299								
B525	Str.	22'-5"	11	257								
B526	Str.	20'-5"	7	149								
B527	Str.	4'-8"	3	15								
B528	Str.	15'-7"	10	163								
B529	Str.	2'-4" to 6'-7"	1 Series of 5	23								
B530	Str.	27'-8"	44	1270								
B531	Str.	4'-5"	3	14								
B532	Str.	10'-6"	7	77								
B533	Str.	21'-1"	4	88								
B534	Str.	30'-10"	9	289								
B535	Str.	33'-6"	2	70								
B536	Str.	20'-0" to 22'-4"	1 Series of 3	66								
B537	Str.	10'-10"	5	56								
B538	Str.	31'-7"	9	296								
B539	Str.	31'-8"	2	66								
B540	Str.	13'-11"	1	15								
B541	Str.	8'-6"	1	9								
B542	Str.	8'-3"	1	9								
B543	Str.	23'-8"	8	197								
B544	Str.	24'-10"	10	259								
B545	Str.	20'-1"	4	84								
B546	Str.	6'-8" to 7'-8"	1 Series of 8	60								
B547	Str.	28'-11"	1	30								
B548	Str.	11'-3"	20	235								
B549	Str.	9'-5"	11	108								
B550	Str.	3'-9" to 5'-9"	1 Series of 3	15								
B551	Str.	7'-9"	1	8								
B552	Str.	9'-11" to 13'-8"	2 Series of 6	148								
B553	Str.	4'-2"	8	35								
B554	Str.	7'-5"	6	46								
B555	Str.	7'-6" to 7'-9"	1 Series of 3	24								
B556	Str.	6'-7"	4	27								
B557	Str.	13'-0"	6	81								
B558	35	11'-0"	2	23	2'-2"	2'-9"	1'-11"	2'-9"	1'-11"			
B559	Str.	3'-2"	1	3								
B560	Str.	3'-3"	1	3								
B561	Str.	3'-10"	1	4								
B562	16	8'-4"	2	17	2'-2 1/2"	3'-5"	4'-11"	4'-4 3/4"				
B563	1	2'-11" to 5'-9"	1 Series of 12	54	1'-3" to 2'-8"	8"						
B564	Str.	8'-8"	14	127								
B565	Str.	6'-9" to 7'-3"	1 Series of 4	29								
B566	45	5'-3"	7	38	7 1/2"	1'-3"	2"	8"	2'-11"	8 1/4"		
B567	10	9'-1" to 10'-3"	1 Series of 10	101	1'-5 3/4"	7"	5'-11" to 7'-1"	1'-7"				
B568	14	7'-4"	9	69	3'-0"	9"						
B569	Str.	27'-11"	5	146								
B570	Str.	26'-6"	5	138								
B571	14	7'-2"	32	239	2'-11"	9"						

MARK	TYPE	LENGTH	TOTAL NO. OF BARS	WEIGHT	DIMENSIONS							
					A	B	C	D	E	F	R	
B601	1	9'-1"	74	1010	4'-0"	1'-5"						
B602	1	12'-11"	80	1552	5'-11"	1'-5"						
B603	1	6'-9"	80	811	3'-1"	11"						
B604	1	13'-1"	6	118	6'-0"	1'-5"						
B605	19	4'-4"	6	39	10"	3'-8"	3'-8"	2 3/4"				
B606	Str.	7'-8" to 8'-0"	1 Series of 3	35								
B607	Str.	3'-2"	1	5								
B608	Str.	3'-3"	1	5								
B609	Str.	3'-10"	1	6								
B610	Str.	3'-7"	2	16								
B611	Str.	7'-8"	3	35								
B612	Str.	8'-0"	1	12								
B701	44	10'-4"	2	42	1'-3 1/2"	2'-6"	3'-6 1/2"	2'-6"	1'-0"			
B702	34	8'-9"	2	36	2'-9"	2'-0"	2'-3"	1'-5"	1'-0"			
B901	Str.	19'-0"	62	4005								
B902	Str.	9'-6"	105	3392								
B903	Str.	13'-3"	140	6307								
B904	Str.	12'-0" to 17'-0"	1 Series of 4	197								
B905	Str.	11'-6" to 20'-0"	1 Series of 10	536								
B906	Str.	13'-3" to 16'-9"	1 Series of 7	357								
B907	Str.	5'-0" to 16'-6"	1 Series of 30	1097								
B908	Str.	9'-3"	57	1793								
B909	Str.	7'-6" to 12'-6"	1 Series of 8	272								
B910	Str.	8'-0"	6	163								
B1101	17	7'-2"	102	3884	1'-5 1/2"	6'-0"						
B1102	17	11'-8"	98	6075	1'-5 1/2"	10'-6"						
B1103	Str.	12'-0"	59	3762								
B1104	Str.	23'-3"	3	371								
B1105	Str.	22'-4"	9	1068								
B1106	Str.	21'-5"	9	1024								
B1107	Str.	20'-6"	8	871								
B1108	Str.	19'-6"	9	932								
B1109	Str.	18'-7"	10	987								
B1110	Str.	6'-8" to 7'-5"	1 Series of 10	374								
B1111	Str.	23'-5" to 23'-9"	1 Series of 5	826								
B1112	Str.	27'-0"	10	1435								
B1113	19	11'-8"	18	1116	1'-5 1/2"	10'-5 3/4"	10'-6"	7 3/4"				
B1114	19	7'-2"	23	876	1'-5 1/2"	5'-11 3/4"	6'-0"	4 1/2"				
B1115	Str.	18'-10"	2	200								
B1116	Str.	25'-2"	1	134								
R550	Str.	8'-9"	4	*								
R551	Str.	27'-11"	4	*								
R552	Str.	4'-8"	2	*								
R553	14	7'-7"	4	*	3'-2"	8"						
R554	2	8'-3"	2	*	3'-2"	4'-8"	8"					
R555	27	6'-7"	2	*	7 1/2"	1'-0"	5"	1"	5"	4'-0"	4 1/2"	
R556	33	3'-3"	4	*	9 1/4"	1'-3"					2 1/2"	
R557	Str.	13'-0"	4	*								
R558	44	8'-11"	2	*	1'-3 1/2"	2'-0"	2'-10"	2'-0"	1'-0"			

Total Weight, Forward Abutment = 54,485 Lbs.

For Notes See Sheet 358

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

59/64

**REINFORCING STEEL LIST**  
**BRIDGE NO. HAM-471-0044**  
**SIXTH STREET CONNECTION OVER**  
**SOUTHBOUND I-471 H&E BRIDGE NO.9**

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISD
	D.H.		W.L.	2-2-72	



FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

355  
494

MICROFILMED  
FEB 2 1991

HAMILTON COUNTY  
HAM-471-O.30

MARK	TYPE	LENGTH	PIERS (CONTINUED)												TOTAL NO. OF BARS	WEIGHT	DIMENSIONS							
			Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	Pier 7	Pier 8	Pier 9	Pier 10	Pier 11	Pier 12			A	B	C	D	E	F	G	
P601	16	10'-5"						8	8							16	250	1'-5 1/2"	2'-0"	8'-5"	8'-3 1/2"			
P602	16	11'-11"										8	8			16	286	1'-5 3/4"	2'-0"	9'-11"	9'-9 3/4"			
P603	Str.	11'-3"												139	139	2349	1'-5 1/2"	2'-0"	6'-0"	5'-10"				
P604	16	8'-0"			8									6	14	198	1'-5 1/2"	2'-0"	6'-0"	5'-10"				
P605	Str.	9'-0"													117	117	1582	1'-5 1/4"	2'-0"	5'-0"	4'-9 1/2"			
P606	16	7'-0"												6	6	63	1'-5 1/4"	2'-0"	5'-0"	4'-9 1/2"				
P607	26	7'-4"			16										16	176	6'-0"							
P608	Str.	16'-11"			6										6	152								
P609	Str.	10'-5"			6										6	94								
P610	Str.	2'-8"			6										6	24								
P801	26	15'-2"	58	56	44										32	222	8990	13'-0"						
P802	26	11'-8"			32					32	40	40	32		32	176	5482	9'-6"						
P803	Str.	31'-2"												12	12	999								
P804	Str.	23'-3"												12	12	745								
P805	Str.	37'-8"													9	9	905							
P806	Str.	27'-3"													9	9	655							
P807	Str.	13'-0"	22	18											40	1388								
P808	Str.	20'-0"	16												16	854								
P809	Str.	16'-6"		14											14	617								
P901	Str.	17'-0"										2		3	5	289								
P902	Str.	20'-0"										2	3		5	340								
P903	Str.	31'-0"										6	6		12	1265								
P904	Str.	14'-0"											2		2	95								
P905	Str.	32'-0"												6	6	12	1306							
P906	Str.	21'-0"												3	2	5	357							
P907	Str.	16'-0"												3		3	163							
P908	Str.	26'-0"													5	5	442							
P909	Str.	19'-5"													5	5	330							
P910	Str.	15'-6"													4	4	211							
P911	Str.	23'-6"														5	5	400						
P912	Str.	33'-10"														5	5	575						
P913	Str.	15'-0"														6	6	306						
P914	Str.	40'-0"			6											6	816							
P1101	17	7'-10"			40											32	2997	1'-5 1/2"	6'-8"					
P1102	Str.	42'-7"														32	7240							
P1103	16	28'-7"											6	6	12	1822	2'-11"	25'-11"	2'-11"	1/2"				
P1104	19	29'-2"														6	930	25'-11"	3'-6"	3'-6"	3/4"			
P1105	Str.	12'-0"														8	510							
P1106	26	19'-8"			44											100	10,449	16'-6"						
P1107	17	8'-4"			40											32	32	4605	1'-5 1/2"	7'-2"				
P1108	Str.	39'-9"														32	6758							
P1109	19	29'-8"														6	946	25'-11"	4'-0"	4'-0"	1 1/4"			
P1110	Str.	12'-0"			1											1	64							
P1111	Str.	14'-0"			4											19	1413							
P1112	Str.	10'-6"										2				2	112							
P1113	Str.	11'-0"			2											10	584							
P1114	17	8'-1"														32	1374	1'-5 1/2"	6'-11"					
P1115	Str.	36'-1"														16	3067							
P1116	Str.	37'-3"														16	5541							
P1117	19	31'-4"														6	999	27'-11"	3'-8"	3'-8"	2"			
P1118	16	30'-3"														6	964	2'-7"	27'-11"	2'-7"	1 1/4"			
P1119	Str.	15'-0"														2	159							
P1120	Str.	11'-0"														2	117							
P1121	Str.	38'-4"														32	6577							
P1122	19	32'-2"														6	1025	27'-11"	4'-6"	4'-6"	2 1/2"			
P1123	16	30'-2"														6	962	2'-6"	27'-11"	2'-6"	1 1/4"			
P1124	Str.	18'-0"														6	574							
P1125	Str.	13'-0"														8	553							
P1126	Str.	17'-9"														12	1132							
P1127	17	7'-2"														60	4722	1'-9 1/2"	5'-8"					
P1128	Str.	24'-3"														20	2577							
P1129	Str.	25'-5"														20	2701							
P1130	Str.	26'-3"														20	2789							
P1131	19	22'-2"														6	707	19'-5"	3'-0"	3'-0"	2"			
P1132	Str.	23'-8"														6	754							
P1133	16	21'-4"														6	680	2'-2"	19'-5"	2'-2"	1 3/4"			

For Notes See Sheet 358.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						6/1/64
<b>REINFORCING STEEL LIST</b>						
BRIDGE NO. HAM-471-0044						
SIXTH STREET CONNECTION OVER						
SOUTHBOUND I-471 H & E BRIDGE NO. 9						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION	
	D.H.		W.K.	11-13-72		
			2-2-72			

HAMILTON COUNTY  
HAM-471-0.30

MARK	TYPE	LENGTH	PIERS (CONTINUED)												TOTAL NO. OF BARS	WEIGHT	DIMENSIONS						
			NUMBER OF BARS														A	B	C	D	E	F	G
			Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	Pier 7	Pier 8	Pier 9	Pier 10	Pier 11	Pier 12									
P1134	Str.	14'-5"												4	4	306							
P1135	Str.	13'-11"												4	4	296							
P1136	Str.	10'-6"												2	2	112							
P1137	Str.	11'-5"												2	2	121							
P1138	Str.	32'-9"													24	4176							
P1139	Str.	19'-9"												16	1679								
P1140	Str.	20'-11"												16	1778								
P1141	Str.	22'-1"												16	1877								
P1142	Str.	23'-0"												16	1955								
P1143	16	36'-1"												5	959	2'-2"	34'-2"	2'-2"	1 3/4"				
P1144	19	37'-1"												5	985	34'-2"	3'-2"	3'-2"	2 3/4"				
P1145	Str.	10'-0"			2									8	531								
P1146	Str.	10'-5"												7	387								
P1147	Str.	28'-0"												4	595								
P1148	17	9'-1"	40											40	1930	1'-5 1/2"	7'-11"						
P1149	Str.	19'-11"	20											20	2116								
P1150	Str.	20'-1"	20											20	2134								
P1151	26	23'-2"	44											44	5416	20'-0"							
P1152	Str.	29'-1"		20										20	3090								
P1153	Str.	28'-6"		20										20	3028								
P1154	Str.	30'-9"			60									60	9802								
P1155	16	38'-11"			6									6	1241	2'-3"	36'-11"	2'-3"	1"				
P1156	19	22'-2"			6									6	707	18'-11"	3'-6"	3'-6"	1 1/4"				
P1157	Str.	15'-6"			2									2	165								
P1158	Str.	12'-6"			2									2	133								
P1159	17	7'-8"			20									20	815	1'-3 1/2"	6'-8"						

Total Weight, Piers = 193,598 Lbs.

MICROFILMED  
FEB 2 1981

For Notes See Sheet 358

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					62/64
<b>REINFORCING STEEL LIST</b>					
BRIDGE NO. HAM-471-0044					
SIXTH STREET CONNECTION OVER SOUTHBOUND I-471 H&E BRIDGE NO.9					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	D. H.		YR.L. 2-2-72	JLH 11-11-72	

HAMILTON COUNTY  
HAM-471-0.30

MICROFILMED  
FEB 2 1991

MARK	TYPE	LENGTH	NUMBER OF BARS				TOTAL NO. OF BARS	WEIGHT	DIMENSIONS							
			UNIT A	UNIT B	UNIT C	UNIT D			A	B	C	D	E	F	G	
S401	Str.	30'-0"	792	935	576	696	2999	60,100								
S402	Str.	10'-3"				120	120	822								
S403	Str.	37'-0"	60				60	1,483								
S404	Str.	13'-6"	60				60	541								
S405	Str.	15'-0" to 18'-1"	1 Series of 72				1 Series of 72	796								
S406	Str.	31'-3"	30				30	626								
S407	Str.	39'-6"		60			60	1,583								
S408	Str.	4'-9" to 33'-6"		1 Series of 45			1 Series of 45	575								
S409	Str.	4'-9" to 11'-3"		1 Series of 13			1 Series of 13	69								
S410	Str.	14'-9"		60			60	591								
S411	Str.	28'-3"	30				30	566								
S412	Str.	15'-3"		60			60	611								
S413	Str.	35'-0"		60			60	1403								
S414	Str.	32'-6"		30			30	651								
S415	Str.	29'-6"		30			30	591								
S416	Str.	15'-9" to 32'-8"				1 Series of 72	1 Series of 72	1,164								
S417	Str.	33'-3"	60				60	1,333								
S418	Str.	17'-9" to 25'-5"			1 Series of 72		1 Series of 72	1,038								
S419	Str.	36'-0"			60		60	1,443								
S420	Str.	39'-0"			60		60	1,563								
S421	Str.	17'-3"	60				60	691								
S422	Str.	29'-0"			30		30	581								
S423	Str.	26'-0"			30		30	521								
S424	Str.	34'-6"		60			60	1,383								
S425	Str.	27'-9" to 33'-6"		1 Series of 14			1 Series of 14	286								
S501	1	2'-10"	221				221	653	7 1/2"	1'-10"						
S502	7	2'-4"	223	254	172	167	816	1,986	7 1/2"	1'-4"	1'-4"	2"	7 1/2"			
S503	1	2'-2"	221	276	166	176	839	1,896	7 1/2"	1'-2"						
S504	1	3'-0" to 3'-2"	1 Series of 225				1 Series of 225	724	7 1/2"	2'-0" to 2'-2"						
S505	1	7'-9"	225	254	133		612	4,947	7 1/2"	6'-9"						
S506	7	2'-10"	221				221	653	7 1/2"	1'-10"	1'-10"	2"	7 1/2"			
S507	1	3'-3" to 2'-7"		1 Series of 251			1 Series of 251	764	7 1/2"	2'-3" to 1'-7"						
S508	1	2'-10" to 2'-6"		1 Series of 276			1 Series of 276	768	7 1/2"	1'-4" to 1'-6"						
S509	7	2'-10" to 2'-6"		1 Series of 276			1 Series of 276	768	7 1/2"	1'-4" to 1'-6"	1'-4" to 1'-6"	2"	7 1/2"			
S510	1	2'-6"			166	176	342	892	7 1/2"	1'-6"	1'-6"	2"	7 1/2"			
S511	7	2'-6"			166	176	342	892	7 1/2"	1'-6"	1'-6"	2"	7 1/2"			
S512	1	2'-7" to 2'-5"			1 Series of 133		1 Series of 133	347	7 1/2"	1'-7" to 1'-5"						
S513	1	2'-5"			38	165	203	512	7 1/2"	1'-5"						
S514	2	7'-7"			39	165	204	1,614	7 1/2"	6'-9"	5 1/2"					
S515	17	4'-9"				4	4	20	7 1/2"	4'-3"						
S516	Str.	3'-2"	13				13	43								
S517	35	9'-10"	6	4			10	103	2'-2"	2'-2"	1'-11"	2'-2"	1'-11"			
S518	35	9'-2"			4	2	6	57	2'-2"	1'-10"	1'-11"	1'-10"	1'-11"			
S519	14	5'-3"	644	761	488	489	2382	13,043	2'-0"	8"						
S601	Str.	26'-4"	1129	1331	895	875	4230	167,308								
S602	Str.	22'-7"	570	651	449	427	2097	71,130								
S603	Str.	17'-10"	12	15			27	723								
S604	Str.	30'-0"	1144	1387	871	864	4266	192,226								
S605	Str.	23'-3"	4	4	10	10	28	878								
S606	Str.	27'-0"	4	4	11	10	29	1,176								
S607	Str.	14'-1"	12	15			27	571								
S608	Str.	6'-8"	24	28	2		54	541								
S609	Str.	4'-3" to 29'-10"	1 Series of 17				1 Series of 17	435								
S610	Str.	3'-5" to 26'-2"	1 Series of 15				1 Series of 15	333								
S611	Str.	3'-10" to 25'-11"	1 Series of 17				1 Series of 17	380								
S612	Str.	3'-10" to 23'-0"	1 Series of 15				1 Series of 15	302								
S613	Str.	3'-0"	6			2	8	36								
S614	Str.	22'-4" to 25'-5"	1 Series of 53				1 Series of 53	1,901								
S615	Str.	3'-0" to 4'-2"		2 Series of 2			2 Series of 2	22								
S616	Str.	4'-7" to 18'-0"		1 Series of 11			1 Series of 11	187								
S617	Str.	4'-1" to 21'-9"		1 Series of 14			1 Series of 14	272								
S618	Str.	28'-1" to 30'-11"		1 Series of 3			1 Series of 3	133								
S619	Str.	4'-3"		4			4	26								
S620	Str.	4'-8" to 26'-7"		2 Series of 15			2 Series of 15	704								
S621	Str.	8'-6" to 28'-3"		1 Series of 4			1 Series of 4	110								
S622	Str.	7'-8" to 31'-8"		1 Series of 31			1 Series of 31	916								

For Notes See Sheet 358

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						63/64
<b>REINFORCING STEEL LIST</b>						
BRIDGE NO. HAM-471-0044						
SIXTH STREET CONNECTION OVER						
SOUTHBOUND I-471 H&E BRIDGE NO.9						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
	D.H.		Y.K.	JHO 11-13-72		

MICROFILMED  
FEB 2 1981

HAMILTON COUNTY  
HAM-471-030

MARK	TYPE	LENGTH	NUMBER OF BARS				TOTAL NO. OF BARS	WEIGHT	DIMENSIONS								
			UNIT A	UNIT B	UNIT C	UNIT D			A	B	C	D	E	F	G		
S623	Str.	3'-7" to 20'-7"		1 Series of 22			1 Series of 22	399									
S624	Str.	8'-6" to 21'-8"		1 Series of 3			1 Series of 3	68									
S625	Str.	5'-0" to 24'-11"		1 Series of 4			1 Series of 4	90									
S626	Str.	8'-2" to 21'-2"		1 Series of 3			1 Series of 3	66									
S627	Str.	25'-2" to 28'-5"			2 Series of 3		2 Series of 3	241									
S628	Str.	7'-5" to 20'-5"			2 Series of 3		2 Series of 3	125									
S629	Str.	7'-6" to 27'-0"			1 Series of 4		1 Series of 4	104									
S630	Str.	10'-4" to 23'-4"			1 Series of 3		1 Series of 3	76									
S631	Str.	23'-1" to 30'-9"			1 Series of 53		1 Series of 53	2,143									
S632	Str.	4'-0" to 21'-1"			1 Series of 11		1 Series of 11	207									
S633	Str.	6'-1" to 24'-9"			1 Series of 12		1 Series of 12	278									
S634	Str.	14'-3" to 20'-6"			2 Series of 5		2 Series of 5	261									
S635	Str.	3'-11" to 15'-10"			2 Series of 9		2 Series of 9	267									
S636	Str.	3'-2"			4		4	19									
S637	Str.	3'-0" to 25'-11"					1 Series of 14	1 Series of 14	304								
S638	Str.	3'-0" to 22'-6"					1 Series of 12	1 Series of 12	230								
S639	Str.	3'-11" to 27'-10"					1 Series of 16	1 Series of 16	382								
S640	Str.	3'-8" to 24'-2"					1 Series of 14	1 Series of 14	293								
S641	Str.	6'-8" to 30'-10"					1 Series of 63	1 Series of 63	1,774								
S642	Str.	6'-8" to 26'-6"					1 Series of 53	1 Series of 53	1,320								
S643	Str.	1'-11" to 3'-3"					2 Series of 5	2 Series of 5	39								
S644	Str.	3'-3" to 4'-7"					2 Series of 5	2 Series of 5	59								
S645	Str.	2'-10"					16	16	68								
S646	Str.	21'-1" to 38'-0"					1 Series of 53	1 Series of 53	2,352								
S647	Str.	3'-6" to 21'-3"					1 Series of 39	1 Series of 39	725								
S648	Str.	3'-0" to 24'-11"					1 Series of 49	1 Series of 49	1,027								
S701	44	10'-4"	6	4	4	2	16	338	1'-3 1/2"	2'-6"	3'-6 1/2"	2'-6"	1'-0"				
S702	11	8'-9"	6	4			10	179	1'-10"	3'-9"	1'-0"						
S703	11	7'-11"		4	4	2	6	97	1'-5"	3'-9"	1'-0"						
S704	21	6'-2"	6	4			10	126	2'-3"	2'-1"	1'-5 3/4"	1'-5 3/4"	1'-3"	9"			
S705	21	5'-10"			4	2	6	72	2'-3"	1'-9"	1'-3"	1'-3"	1'-3"	9"			
R503	44	9'-1"	6	4	4	2	16	*	1'-5"	2'-0"	2'-10"	2'-0"	1'-0"				
R504	Str.	7'-0"	12	12	16	8	48	*									
R505	Str.	5'-9"	28	16	24	8	76	*									
R506	Str.	4'-9"	8				8	*									
R507	Str.	5'-0"	8				8	*									
R508	Str.	6'-6"	8				8	*									
R509	Str.	12'-8"	8				8	*									
R510	Str.	6'-0"	12		24	24	60	*									
R511	Str.	7'-6"	4				4	*									
R512	Str.	12'-4"				4	4	*									
R513	Str.	15'-6"		104	60		164	*									
R514	Str.	6'-3"		8	16		24	*									
R515	Str.	4'-4"	4				4	*									
R516	Str.	6'-11"	16		16		32	*									
R517	Str.	11'-11"	4				4	*									
R518	Str.	12'-6"			4		4	*									
R519	Str.	6'-7"	12		12		32	*									
R520	Str.	7'-3"			20	8	28	*									
R521	Str.	6'-1"			8	16	24	*									
R522	Str.	7'-2"				4	4	*									
R523	Str.	5'-11"				16	16	*									
R524	Str.	5'-2"				8	8	*									
R525	Str.	5'-1"				4	4	*									
R526	Str.	12'-10"			4		4	*									
R527	Str.	6'-10"			12	4	16	*									
R528	Str.	12'-9"	4				4	*									
R529	Str.	15'-5"	80			68	148	*									
R530	Str.	6'-9"	68		88	48	232	*									
R531	Str.	7'-1"			4	8	12	*									
R532	Str.	12'-2"			4		4	*									
R533	Str.	12'-11"			4	8	12	*									

REPLACEMENT BARS					
MARK	TYPE	NUMBER	LENGTH	A	B
RE401	Str.	5	6'-3"		
RE501	Str.	4	6'-7"		
RE601	Str.	24	6'-11"		
RE701	Str.	1	7'-2"		
RE801	Str.	2	7'-6"		
RE901	Str.	2	7'-10"		
RE1001	Str.	1	9'-5"	1'-4 1/2"	8'-4"
RE1101	Str.	8	8'-6"		

NOTES: BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicates the bar size number. For example, A 501 is a No. 5 size bar and P 1101 is a No. 11 size bar.

\*Reinforcing bars marked "R" are included in railing for payment.  
For Bar Bending Schedule see Sheet No. 470.  
Total weight reinforcing steel = 838,518 lbs.

TOTAL WEIGHT, SUPERSTRUCTURE = 565,832 LBS.

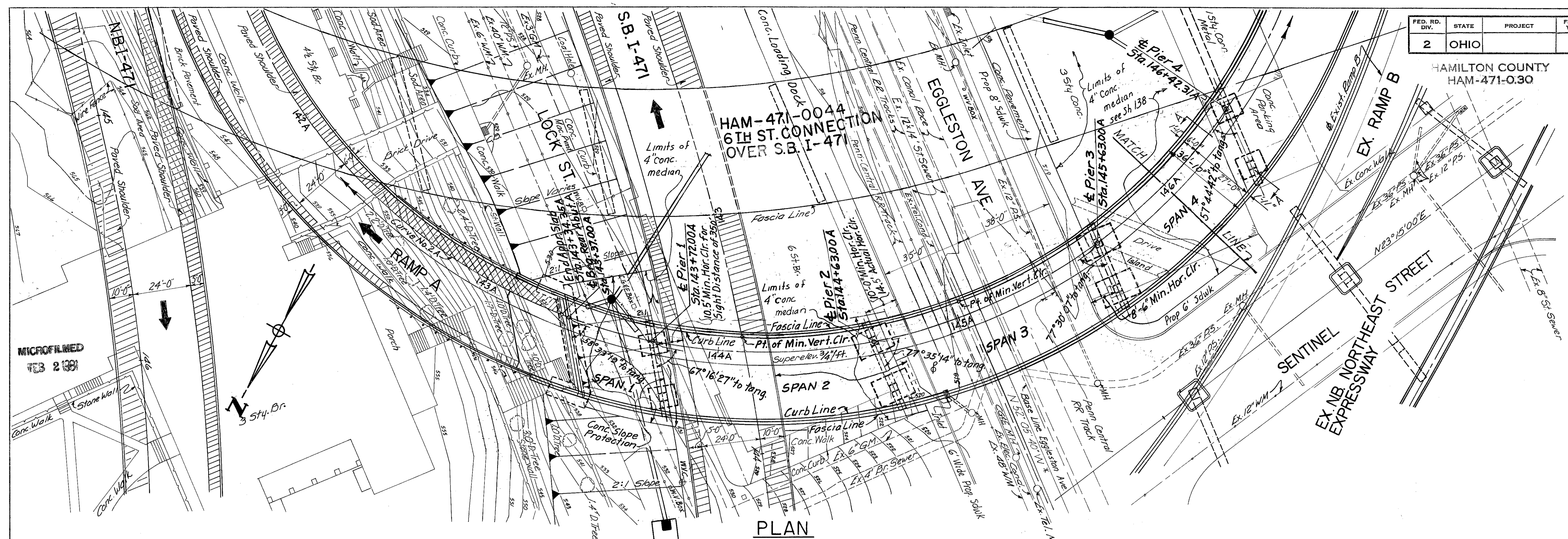
64/64

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**REINFORCING STEEL LIST**  
BRIDGE NO. HAM-471-0044  
SIXTH STREET CONNECTION OVER  
SOUTHBOUND I-471 H&E BRIDGE NO. 9

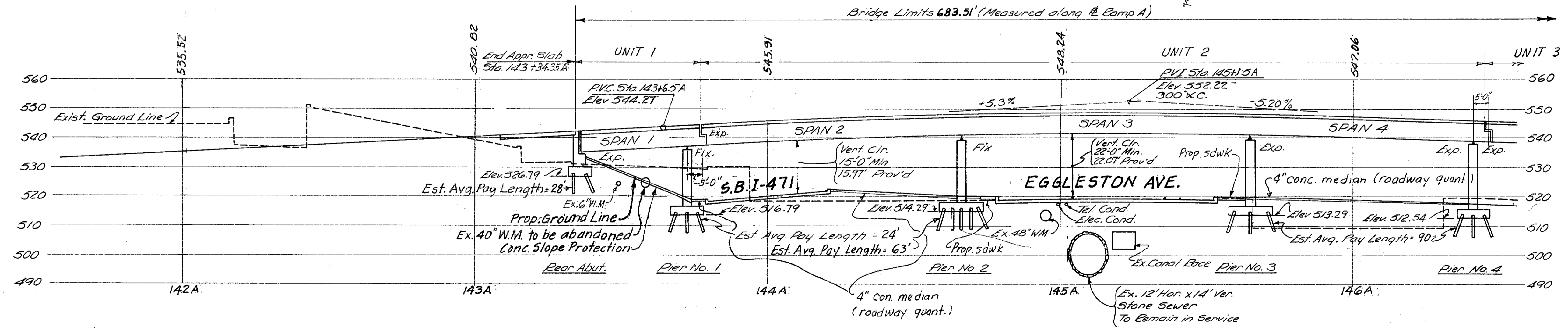
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	D.H.		W.L.	11-13-77	

HAMILTON COUNTY  
HAM-471-030



PLAN

CURVE DATA	
SB I-471	
$\Delta$	$17^{\circ}54'53''$
$D$	$6^{\circ}25'49''$
$R$	$891.042'$
$L$	$278.603'$
$T$	$140.448'$



PROFILE ON BASE LINE

CURVE DATA	
CURVE No. 2A	
$\Delta$	$156^{\circ}24'47''$
$D$	$24^{\circ}54'40''$
$R$	$230.00'$
$L$	$627.88'$
$T$	$1101.57'$
CURVE No. 3A	
$\Delta$	$92^{\circ}53'08''$
$D$	$24^{\circ}54'40''$
$R$	$230.00'$
$L$	$372.87'$
$T$	$241.89'$

TABLE OF SPAN LENGTHS	
SPAN	LENGTH
1	35.0'
2	91.0'
3	100.0'
4	79.31'
5	70.19'
6	90.0'
7	128.5'
8	82.5'

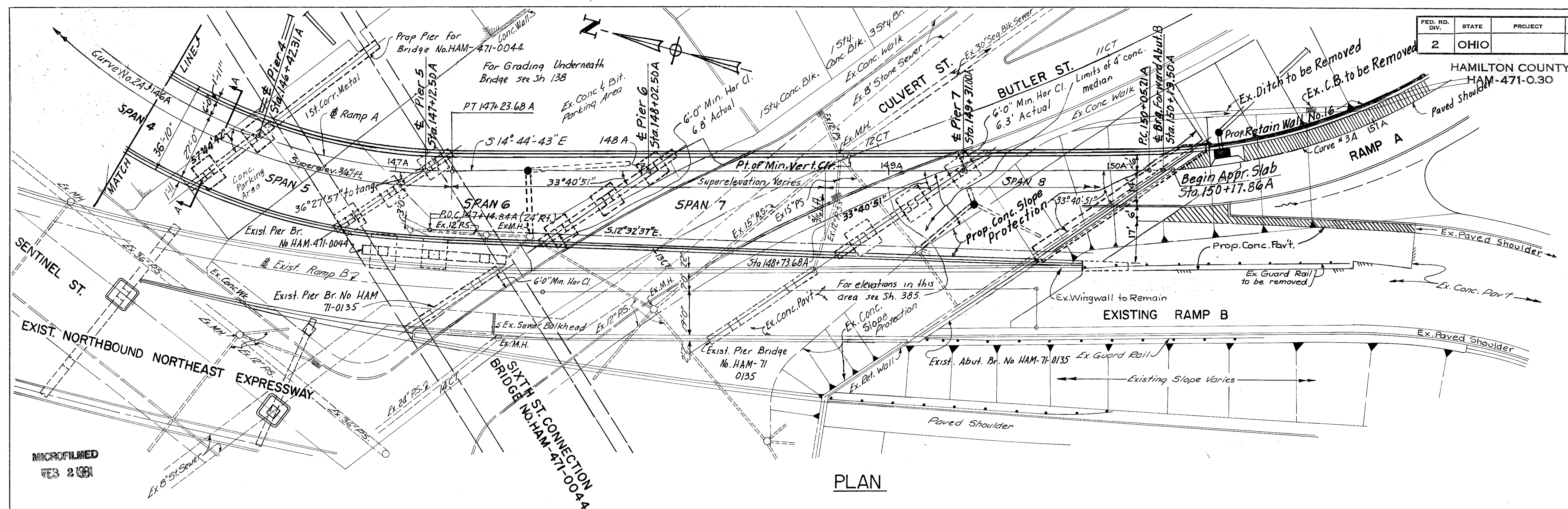
NOTE:  
 & Brq. Rear Abutment and & Pier 1 are parallel  
 & Pier 2, Pier 3, and Pier 4 are parallel  
 & Brq. Forward Abutment, & Pier 5, Pier 6 and Pier 7 are parallel  
 For Structure Section A-A, See Sh. 360.  
 For Bench Marks see Sh. No. 33  
 All piles are 12" Cast-in-Place Reinforced Concrete

Earthwork Limits Shown are schematic.  
 Actual slopes shall conform to plan Cross-Sections.

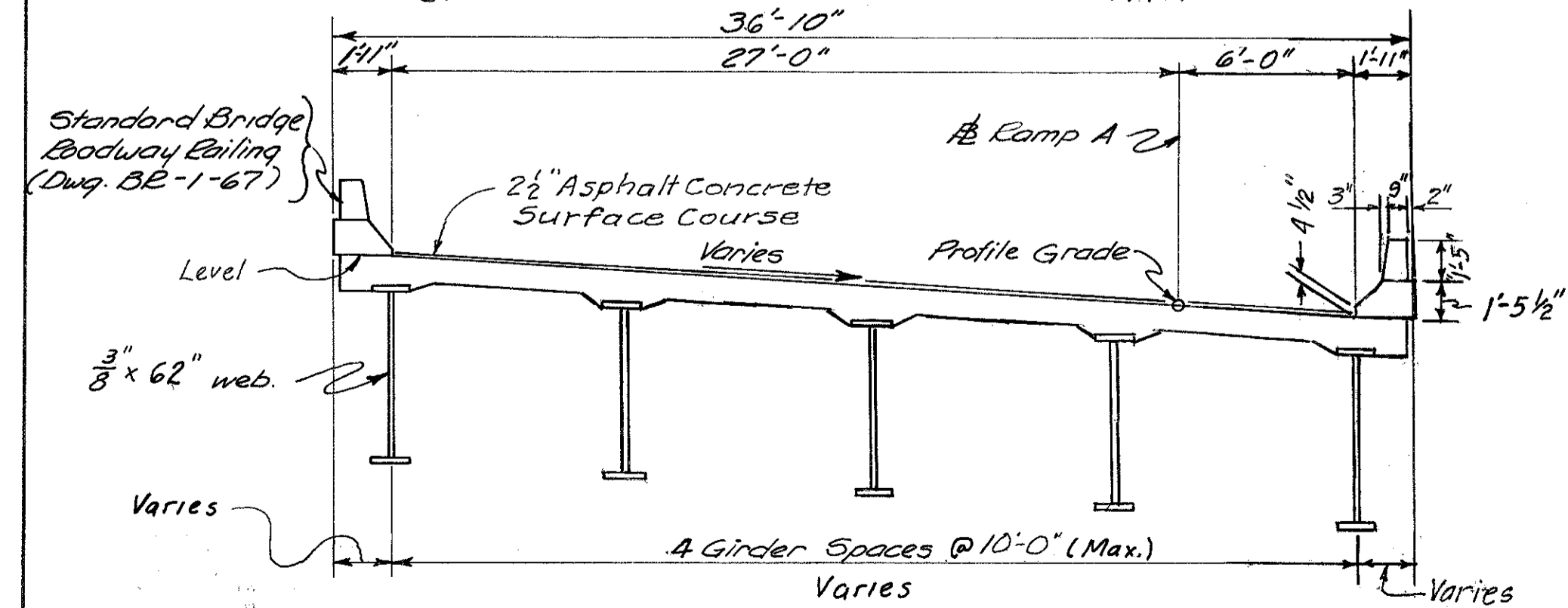
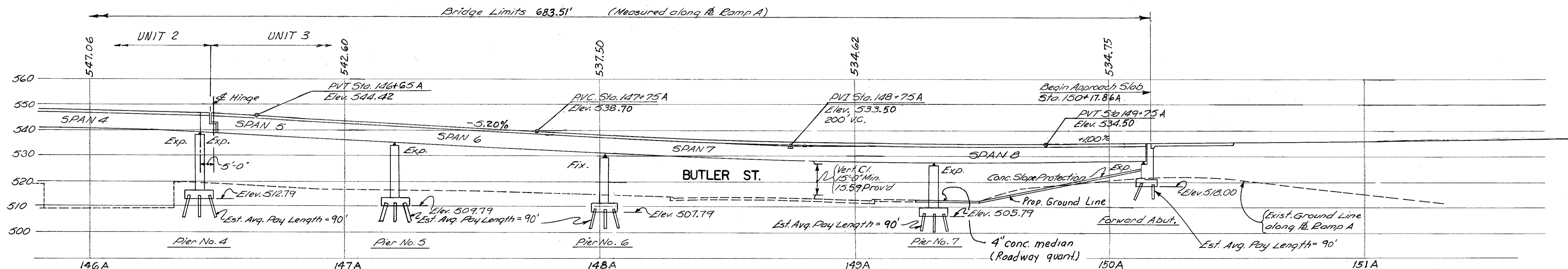
1984 Traffic Count	ATD = 6500
	DIV = 830
<b>PROPOSED STRUCTURE</b>	
Type: Continuous Steel Plate Girders with reinforced concrete deck & substructure.	
Spans: Lengths varies see tabulation	
Roadway: Varies, 33'-0" f/f curbs (min.)	
Approach Slabs: AS-1-67 (25'-0" Long)	
Live Load: HS 20-44 and the Interstate Alternate Loading.	
Stew: Varies, see plan	
Surface Course: 2" Asphalt Concrete	
Alignment: Varies, see plan	
Superelevation: Varies, see plan	
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO	
<b>SITE PLAN</b>	
BRIDGE NO. HAM.-471-0047	
RAMP A OVER	
EGGLESTON AVE.	
H & E BRIDGE NO. 10 SH. 1 OF 2	
DESIGNED	REVIEWED DATE
HLL	JHD
DRAWN	REVISED
BJR	11-21-72
TRACED	
CHECKED	
OAF	



HAMILTON COUNTY  
HAM-471-0.30



MICROFILMED  
FEB 2 1991



PROFILE ON BASE LINE

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				2 / 31
<b>SITE PLAN</b>				
<b>BRIDGE NO. HAM-471-0047</b>				
<b>RAMP A OVER</b>				
<b>EGGLESTON AVE.</b>				
H & E BRIDGE NO. 10		SH. 2 OF 2		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	HLL	EJR	OAF	JHO
				11-21-72

### ESTIMATED QUANTITIES

MICROFILMED  
FEB 2 1981

HAZLET COUNTY  
OHIO

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER STRUCTURE			ABUTMENT		PIERS							GENERAL	
				UNIT 1	UNIT 2	UNIT 3	REAR	FORWARD	1	2	3	4	5	6	7		
202	LUMP	SUM	PORTIONS OF STRUCTURE REMOVED														LUMP
503	1042	CU. YD.	UNCLASSIFIED EXCAVATION				128	364	32	57	90	48	79	112	132		LUMP
503	LUMP	SUM	COFFERDAMS, CRIBS AND SHEETING														LUMP
505	LUMP	SUM	TEST PILE														LUMP
506	LUMP	SUM	PILE TEST LOAD														LUMP
506	1	EACH	SUBSEQUENT PILE TEST LOAD														1
507	13,910	LIN. FT.	12" CAST-IN-PLACE REINFORCED CONCRETE PILES				500	1,620	430	1,640	1,620	1,620	1,620	2,430	2,430		
509	418,806	LB.	REINFORCING STEEL		246,384		12,107	12,118					148,199				
511	926	CU. YD.	CLASS "C" CONCRETE, SUPERSTRUCTURE	52	361	513											
511	350	CU. YD.	CLASS "C" CONCRETE, PIER CAPS AND COLUMNS						34	45	38	44	56	64	69		
511	205	CU. YD.	CLASS "C" CONCRETE, ABUTMENTS ABOVE FOOTINGS				83	122									
511	361	CU. YD.	CLASS "C" CONCRETE, FOOTINGS				60	66	22	42	42	23	33	33	40		
512	5	SQ. YD.	TYPE B WATERPROOFING														5
512	14	LIN. FT.	PREMOLDED SEALING STRIP														14
513	847,000	LB.	STRUCTURAL STEEL **	58,200	339,000	449,800											
514	847,000	LB.	FIELD PAINTING OF STRUCTURAL STEEL	58,200	339,000	449,800											
516	63	SQ. FT.	1" PREFORMED EXPANSION JOINT FILLER														63
516	36	LIN. FT.	METAL JOINT WITH PREFORMED ELASTIC JOINT SEALER		36												
518	142	CU. YD.	POROUS BACKFILL				54	88									
518	114	LIN. FT.	6" PERFORATED, HELICAL CORRUGATED METAL PIPE INCLUDING SPECIALS, 707.01				33	81									
518	39	LIN. FT.	6" NON-PERFORATED HELICAL CORRUGATED METAL PIPE, INCLUDING SPECIALS, 707.01				30	9									
518	122	LIN. FT.	8" STD. PIPE COLLECTOR, ALLOY STEEL (707.11) OR HOT-DIP GALVANIZED STEEL, INCLUDING SPECIALS				6		32			18		27	39		
518	10	EACH	DRAIN INLETS	1	4	5											
518	122	LIN. FT.	8" STD. PIPE DOWNSPOUT, ALLOY STEEL (707.11) OR HOT-DIP GALVANIZED STEEL, INCLUDING SPECIALS				7		37			30		24	24		
601	572	SQ. YD.	CONCRETE SLOPE PROTECTION				224	348									
625			SEE SHEET 143 FOR LIGHTING SUMMARY														
808	926	UNITS	CHEMICAL ADMIXTURE FOR CONCRETE TYPE A, B OR D	52	361	513											
838	6	HOUR	SPECIAL PILE TESTS													6	
404	142	CU. YD.	ASPHALT CONCRETE (70-80 or AC20)	8	55	79											
SPECIAL	36	CU. YD.	SAND ASPHALT (SEE PROPOSAL NOTE)	2	14	20											
SPECIAL	2554	SQ. YD.	MEMBRANE WATERPROOFING (SEE PROPOSAL NOTE)	148	289	1417											

REFERENCE:

SHALL BE MADE TO STANDARD DRAWINGS AS-1-67 REVISED 6-12-69, SD-1-69, SHEETS 1 AND 2 DATED 6-12-69, BR-1-67, SHEET 1 REVISED 10-15-71, RB-1-55 REVISED 2-2-59, AND TO SUPPLEMENTAL SPECIFICATIONS 808 DATED 1-1-71, 836 DATED 1-1-71, 838 DATED 3-18-70 AND 927 DATED 1-1-71.

DESIGN SPECIFICATIONS:

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS, 1969, INCLUDING THE OHIO "SUPPLEMENT" TO THESE SPECIFICATIONS.

DESIGN DATA:

DESIGN LOADING - HS20-44 AND THE INTERSTATE ALTERNATE LOADING.

CONCRETE CLASS C - UNIT STRESS 1200 P.S.I. FOR SUPERSTRUCTURE  
UNIT STRESS 1333 P.S.I. FOR SUBSTRUCTURE

STRUCTURAL STEEL - ASTM A36-UNIT STRESS 20,000 P.S.I.  
REINFORCING STEEL - ASTM A615, AND A616 OR A617 - UNIT STRESS 20,000 P.S.I.

IF BARS IN ACCORDANCE WITH ASTM A616 ARE PROVIDED, THEY SHALL BE SUBJECT TO BEND TESTS AS PER AASHTO DESIGNATION M42-70.

EMBANKMENT CONSTRUCTION:

THE EMBANKMENT SHALL BE CONSTRUCTED TO THE LEVEL OF THE SUBGRADE BETWEEN THE FORWARD ABUTMENT FOR BRIDGE NO. HAM-471-0047 AND THE REAR ABUTMENT FOR BRIDGE NO. HAM-471-RAMP A OFF COLUMBIA VIADUCT. EXCAVATION SHALL THEN BE MADE FOR THE FORWARD ABUTMENT AND RETAINING WALL NO. 16.

PILES:

SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 40 TONS PER PILE FOR THE REAR ABUTMENT AND PIER 1, AND 50 TONS PER PILE FOR THE REMAINING SUBSTRUCTURES.

METAL JOINT WITH PREFORMED ELASTIC JOINT SEALER:

DESCRIPTION - THIS WORK SHALL CONSIST OF THE MANUFACTURE OF SHOP PREFABRICATED JOINT SYSTEMS AS SHOWN ON THE PLANS. THE PREFABRICATED JOINT SHALL BE CONSTRUCTED OF STRUCTURAL STEEL SECTIONS, WITH PREFORMED ELASTIC JOINT SEALERS SECURELY BONDED IN PLACE.

THE METAL SURFACES IN DIRECT CONTACT WITH THE POLYCHLOROPRENE SEALERS SHALL BE SAND BLASTED AND PROPERLY TREATED (SO AS TO PROVIDE A HIGH STRENGTH BOND BETWEEN THE SEAL AND MATING METAL SURFACES). THEN THE SEALER SHALL BE SECURELY BONDED TO THE METAL WITH AN APPROVED ADHESIVE.

ALL STEEL COMPONENTS OF THE ASSEMBLY EXCEPT THOSE AREAS NOTED ABOVE WHICH ARE IN CONTACT WITH THE SEALERS SHALL BE PAINTED IN ACCORDANCE WITH SECTION 514.

MATERIALS - PHYSICAL PROPERTIES OF PREFORMED ELASTIC JOINT SEALER AND LUBRICANT ADHESIVE - SEE SECTION 705.11.

STEEL COMPONENTS - ASTM A36.

BASIS OF PAYMENT - THE CONTRACT UNIT PRICE PER LINEAL FOOT BID FOR ITEM 516 METAL JOINT WITH PREFORMED ELASTIC JOINT SEALER SHALL BE FULL PAYMENT FOR ALL STRUCTURAL STEEL, POLYCHLOROPRENE SEALERS, ADHESIVES, PAINT AND ALL LABOR AND MATERIALS NECESSARY TO FABRICATE AND INSTALL THE JOINTS IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS.

UTILITY LINES:

ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE OWNER(S). THE CONTRACTOR AND OWNER(S) ARE REQUESTED TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WOULD BE HELD TO A MINIMUM.

DECK REINFORCING BARS: AT THE CONTRACTOR'S OPTION, A PORTION (NOT TO EXCEED 25%) OF THE UPPER LONGITUDINAL BARS (S 4-- ) IN THE DECK SLAB MAY BE PLACED BENEATH THE UPPER TRANSVERSE BARS FOR SUPPORT OF THE TOP MAT.

MAINTENANCE OF TRAFFIC: REFER TO SHEETS 13 AND 13A.

\*\* INCLUDES 212 LBS. OF BRONZE.

11-15-72  
11-24-72

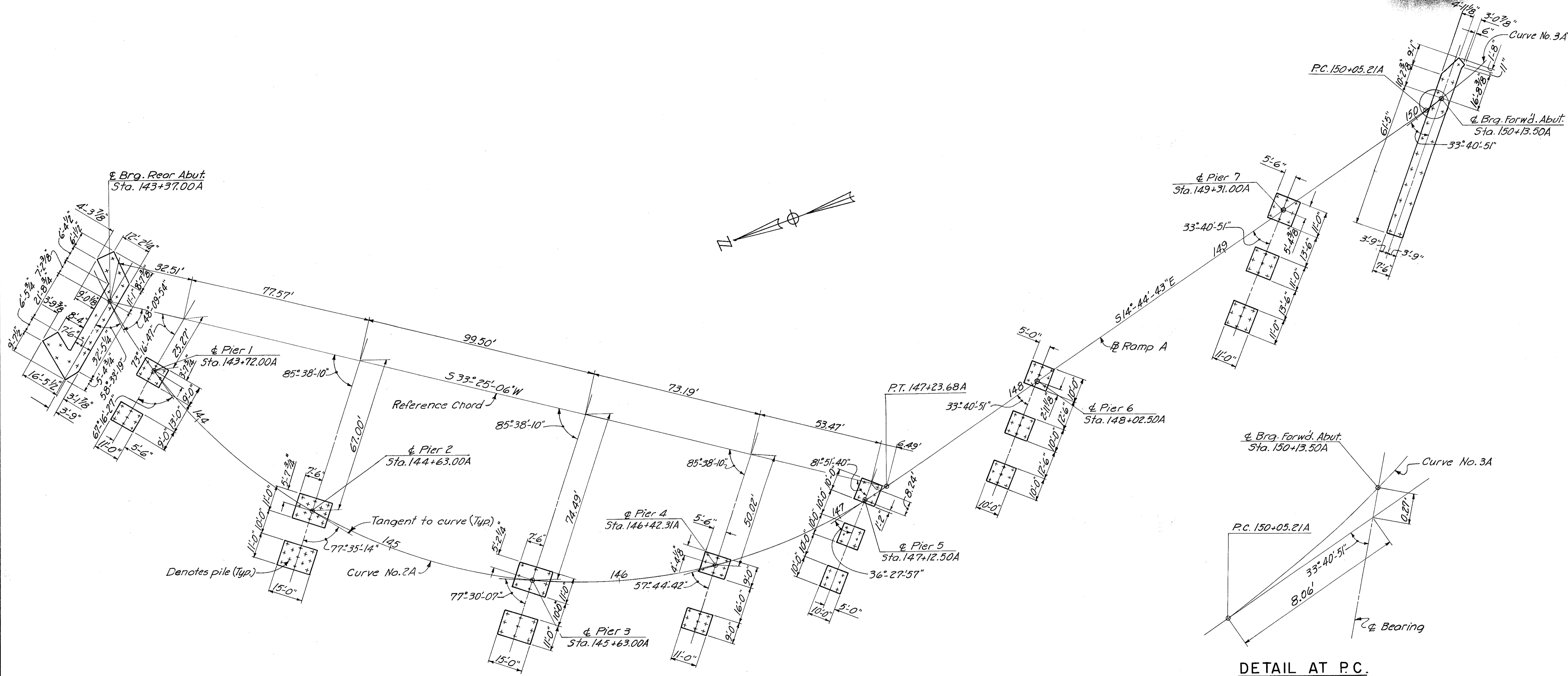
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					3/31
<b>ESTIMATED QUANTITIES AND GENERAL NOTES</b>					
BRIDGE NO. HAM.-471-0047					
H & E BRIDGE NO. 10					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CS		DAF	JH0 12-13-72	

MICROFILMED  
7/3 2/81

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

362  
494

HAMILTON COUNTY  
HAM-471-030



**STAKE OUT DIAGRAM**

Notes:  
For location of piling see Sheet No's. 363 through 373.  
For Alignment and Witness Plan See Sheet No's. 29 & 30.

DETAIL AT P.C.

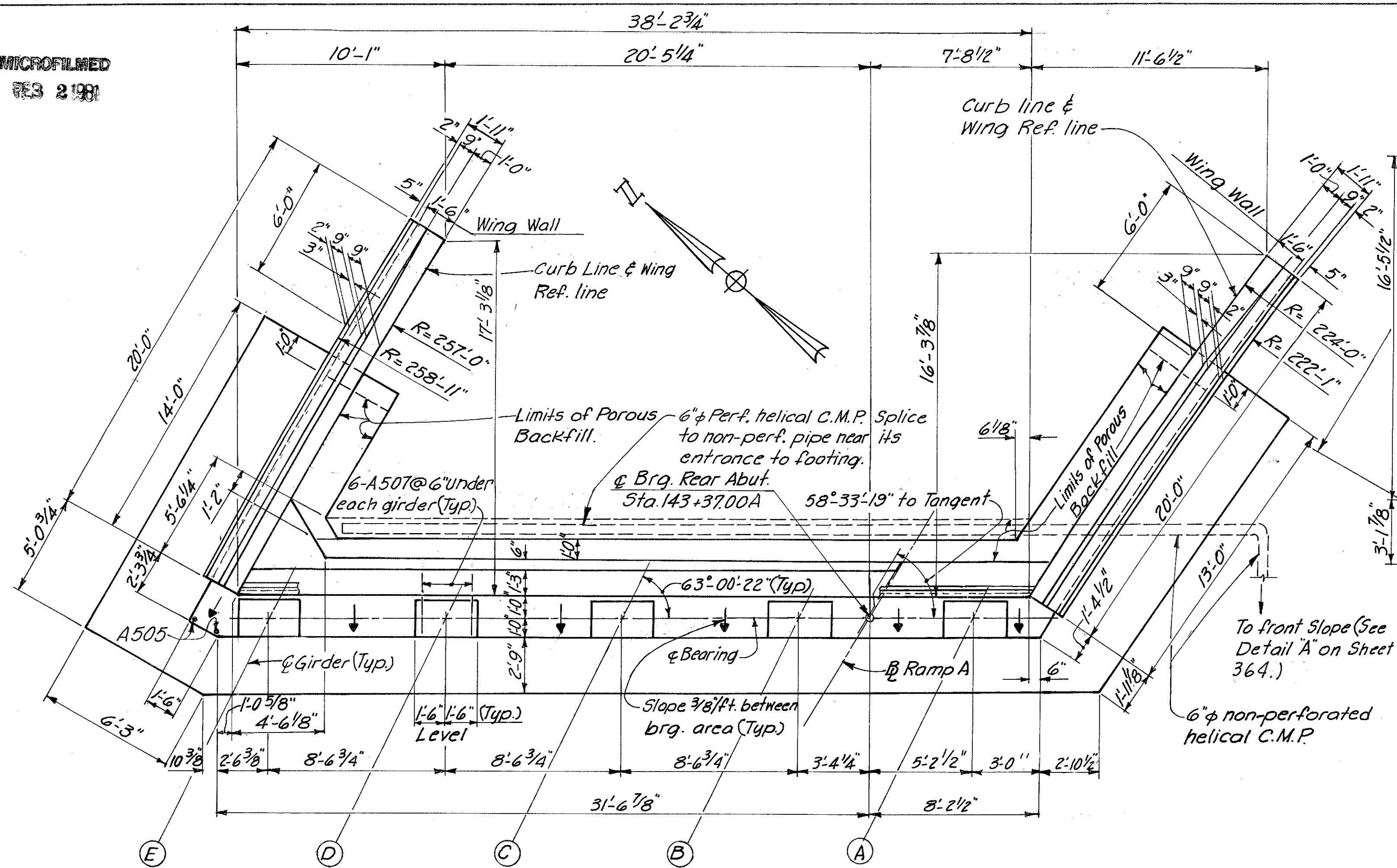
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					4/31
<b>STAKE OUT DIAGRAM</b> BRIDGE NO. HAM-471-0047					
H & E BRIDGE NO. 10					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
GNP	V.W.S.	O.A.F.	JHO	11-28-72	

MICROFILMED  
FEB 2 1981

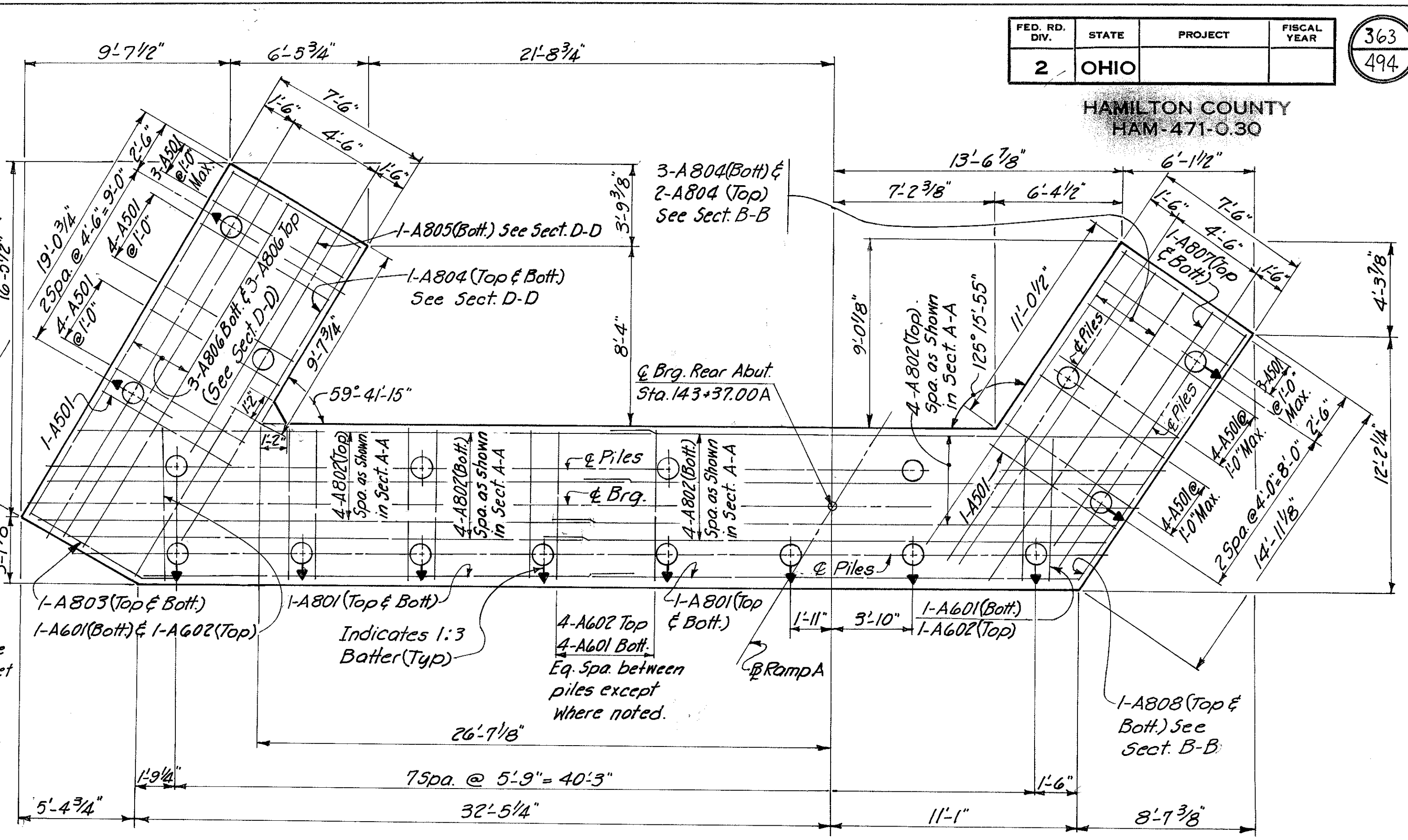
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

363  
494

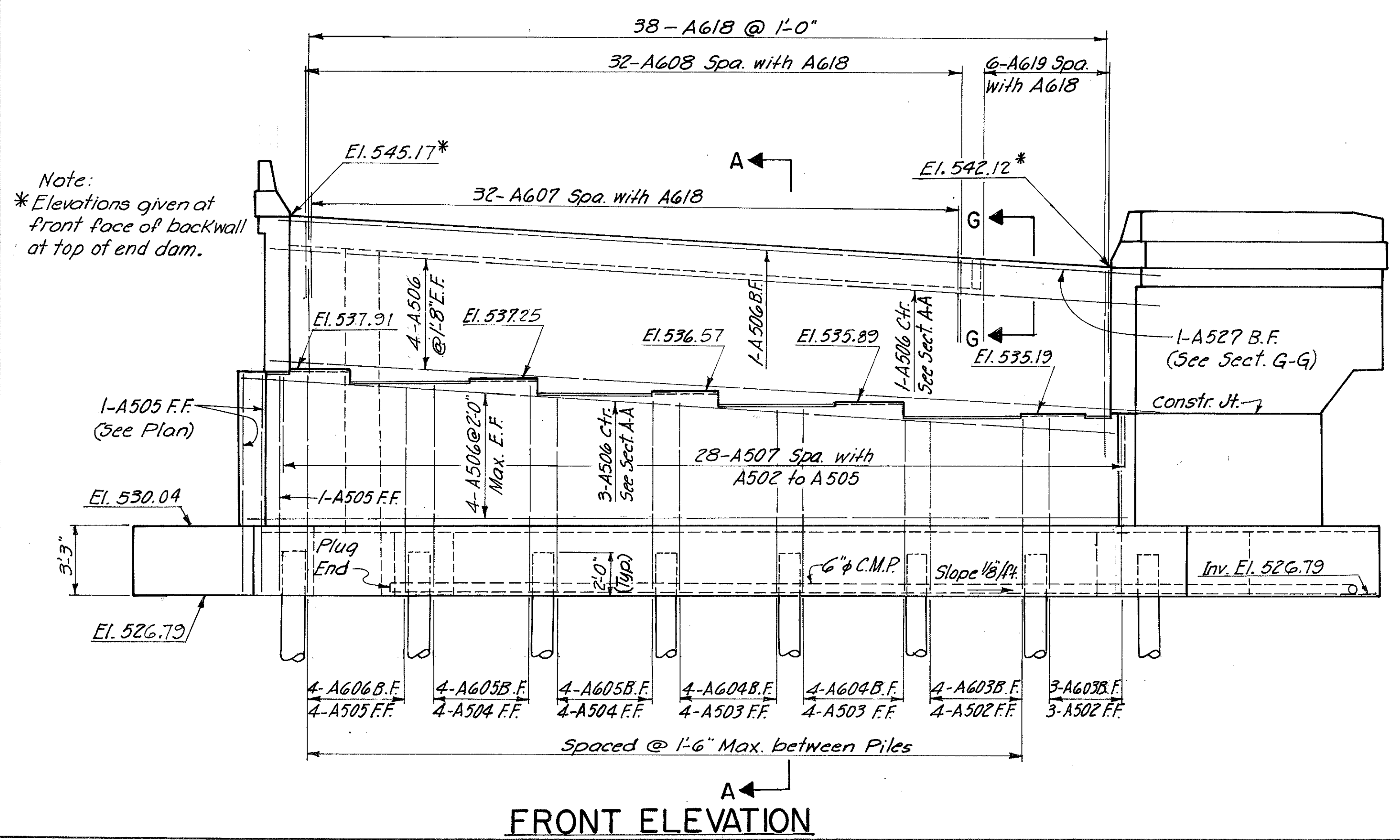
HAMILTON COUNTY  
HAM-471-0.30



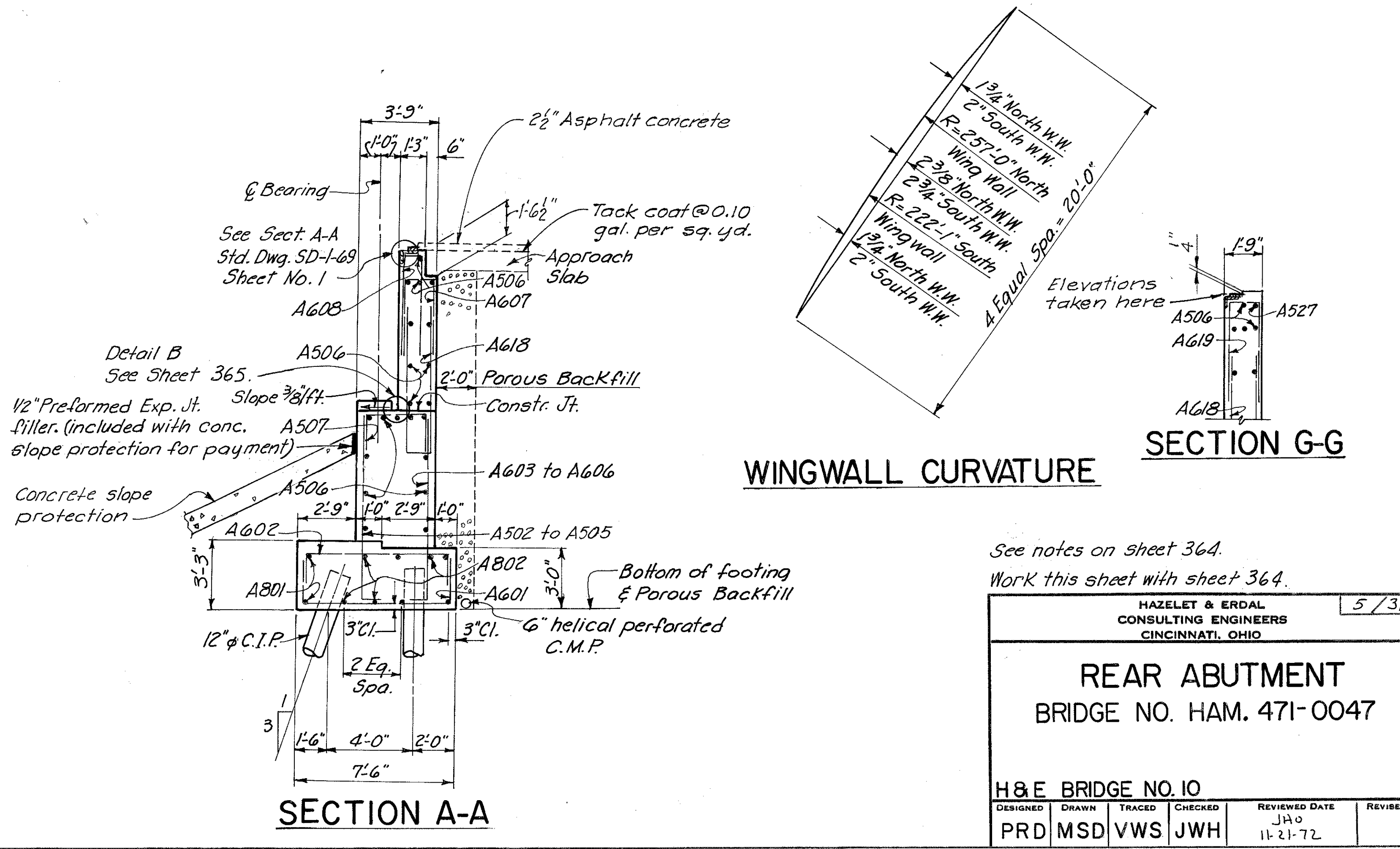
ABUTMENT PLAN



FOOTING PLAN



FRONT ELEVATION



SECTION A-A

SECTION G-G

WINGWALL CURVATURE

See notes on sheet 364.  
Work this sheet with sheet 364.

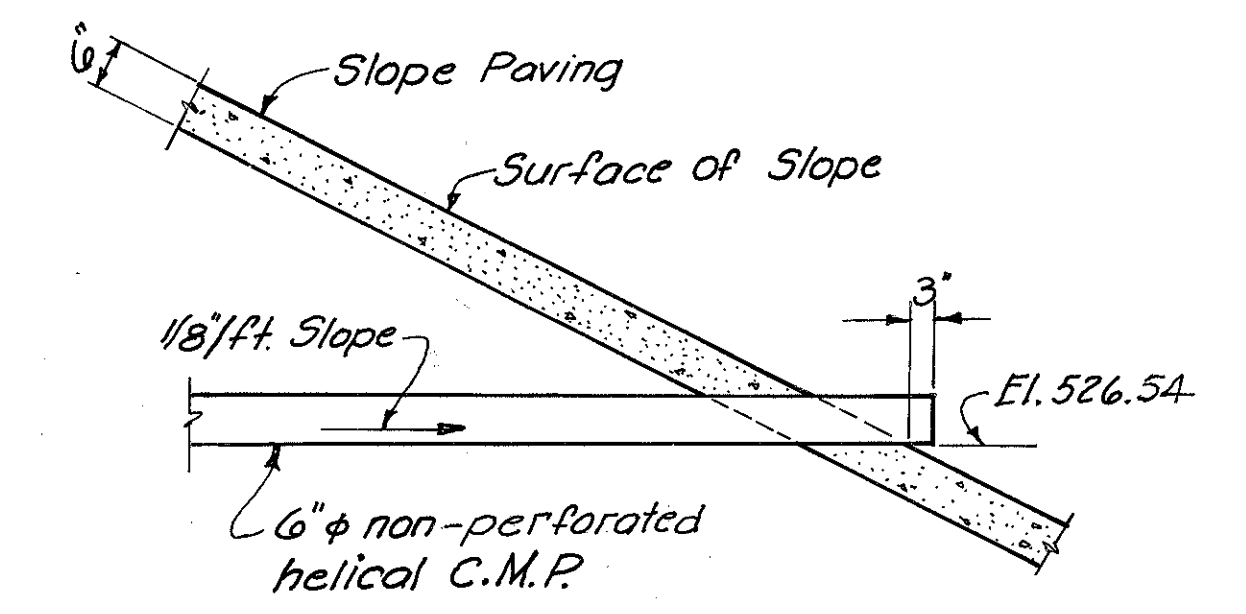
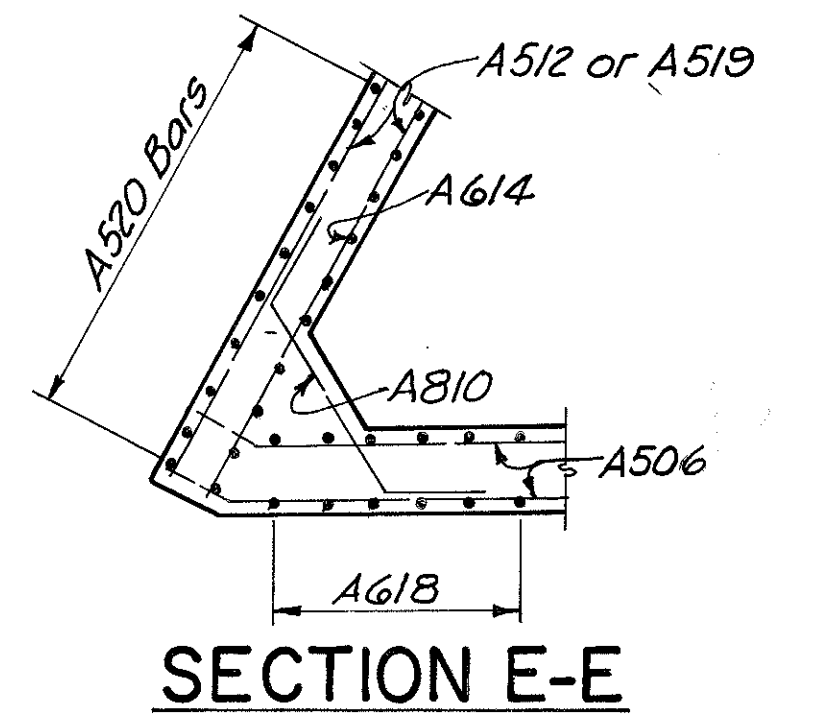
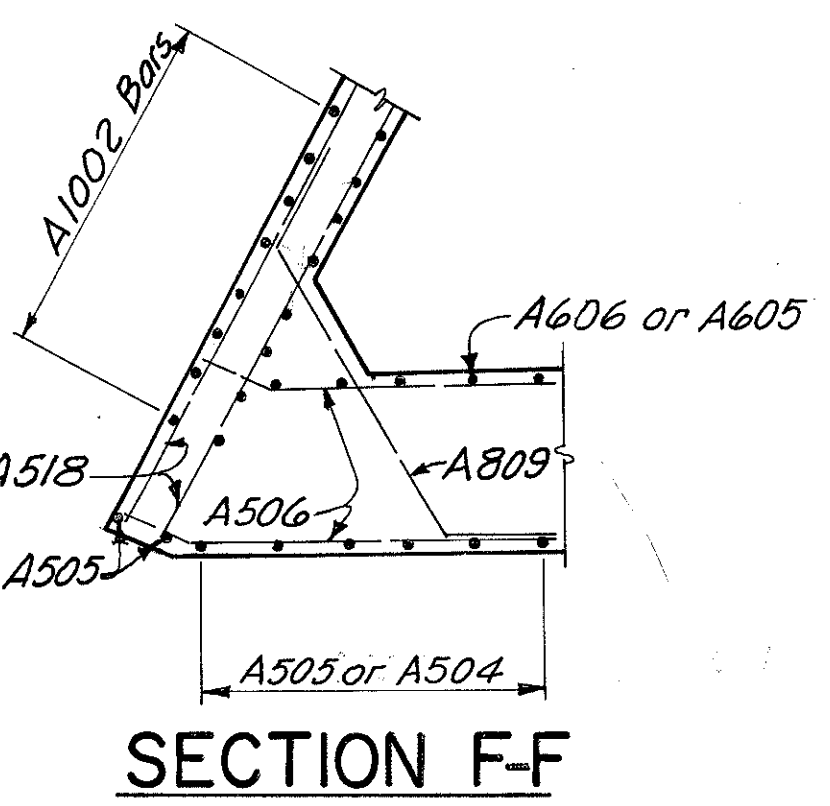
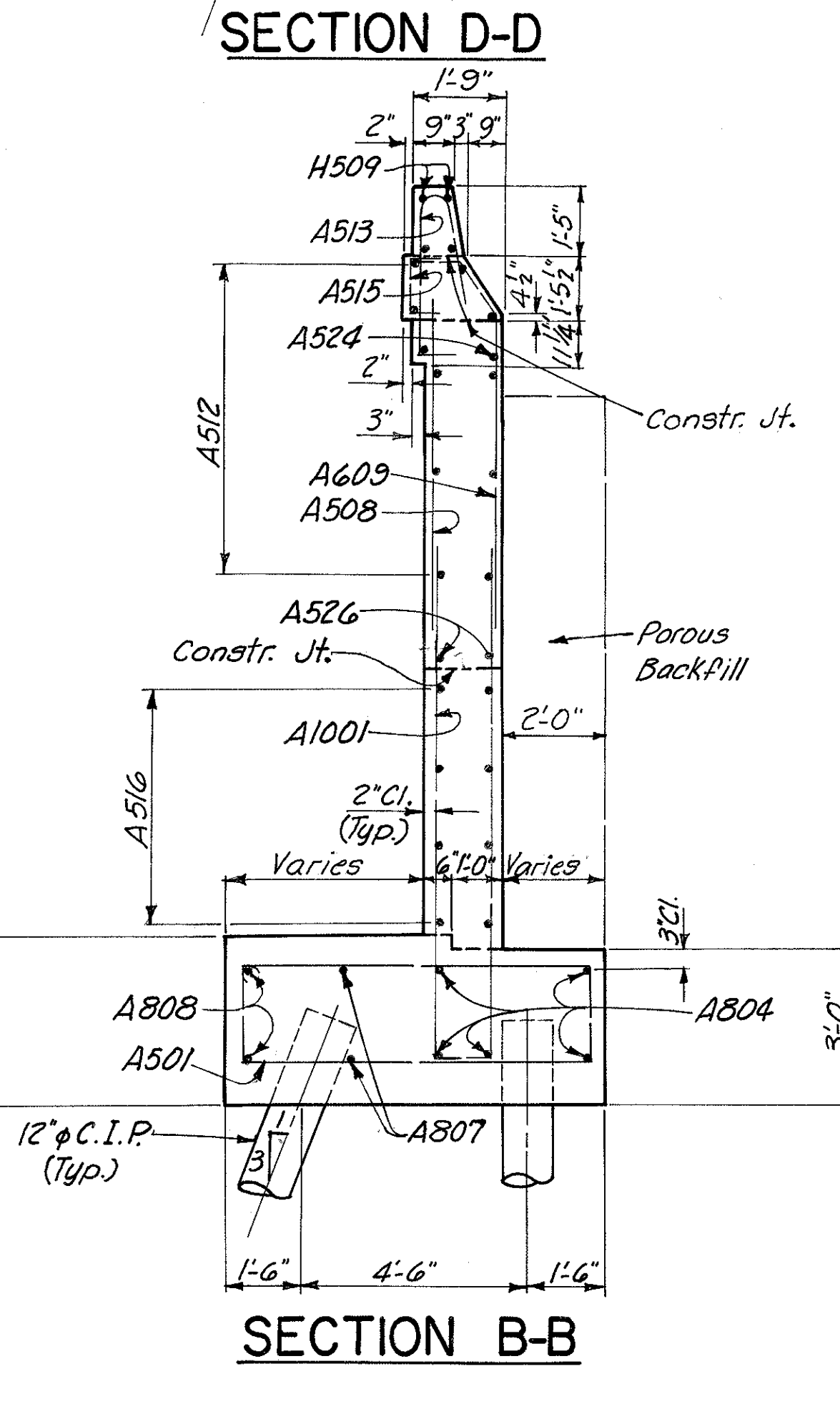
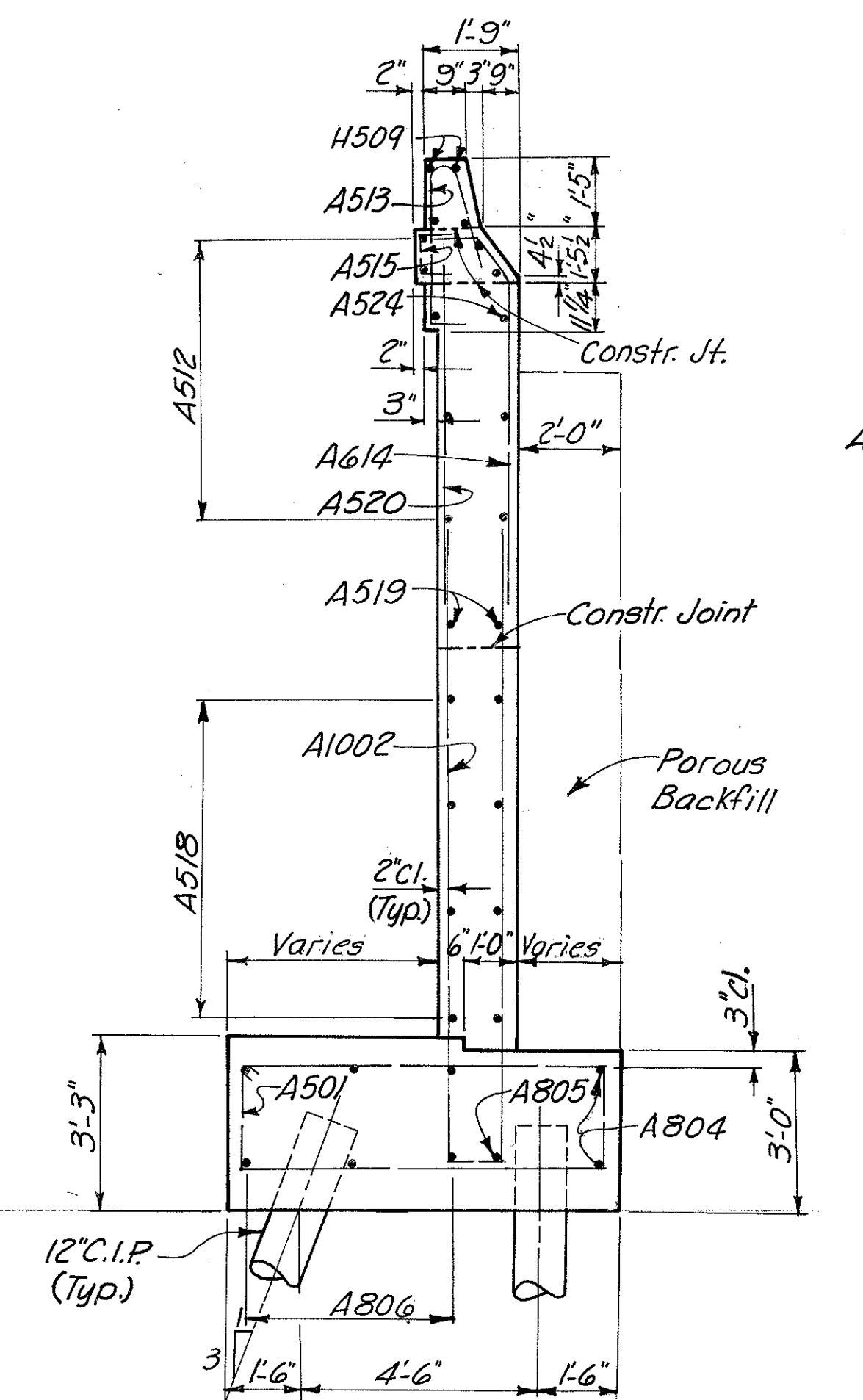
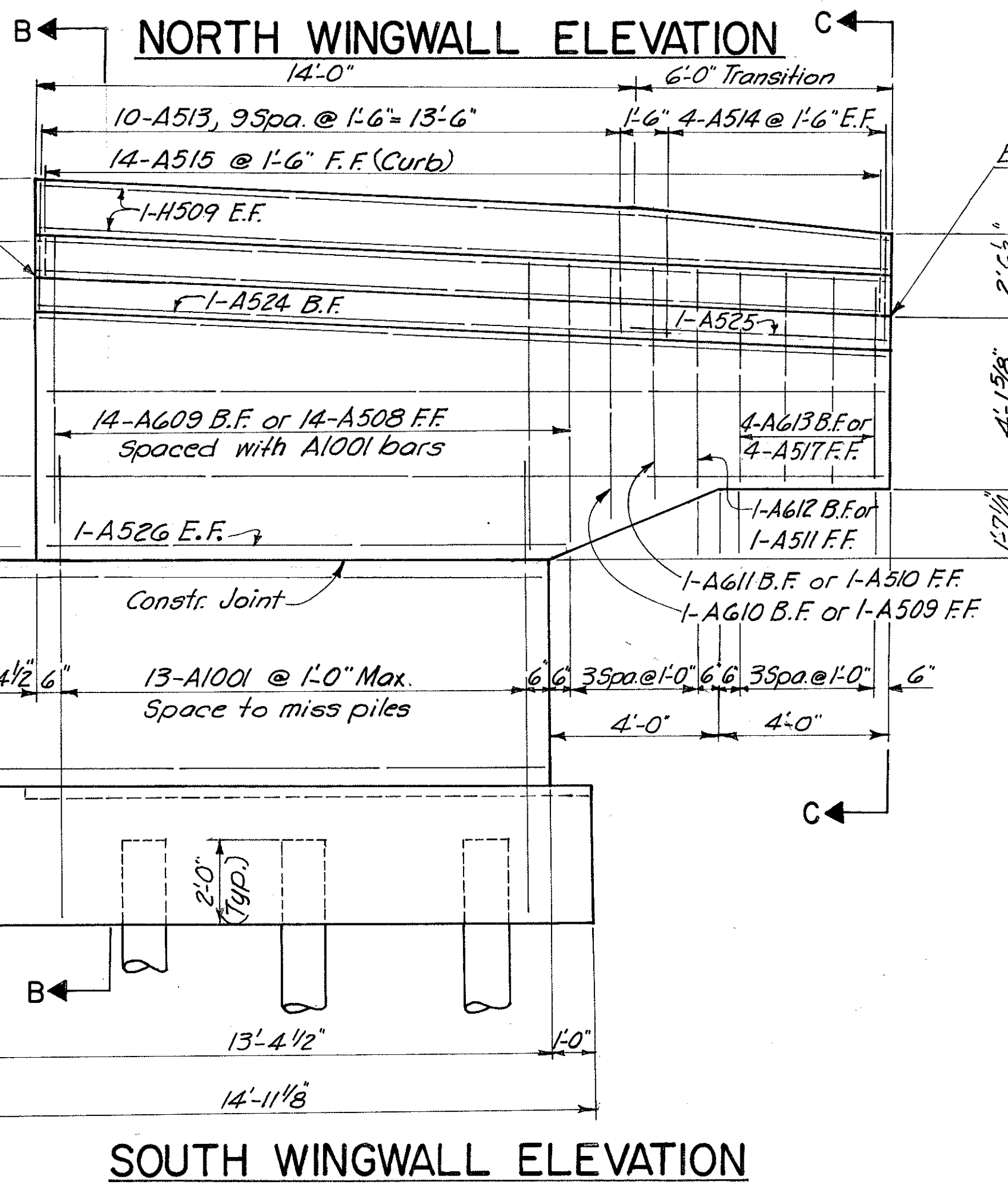
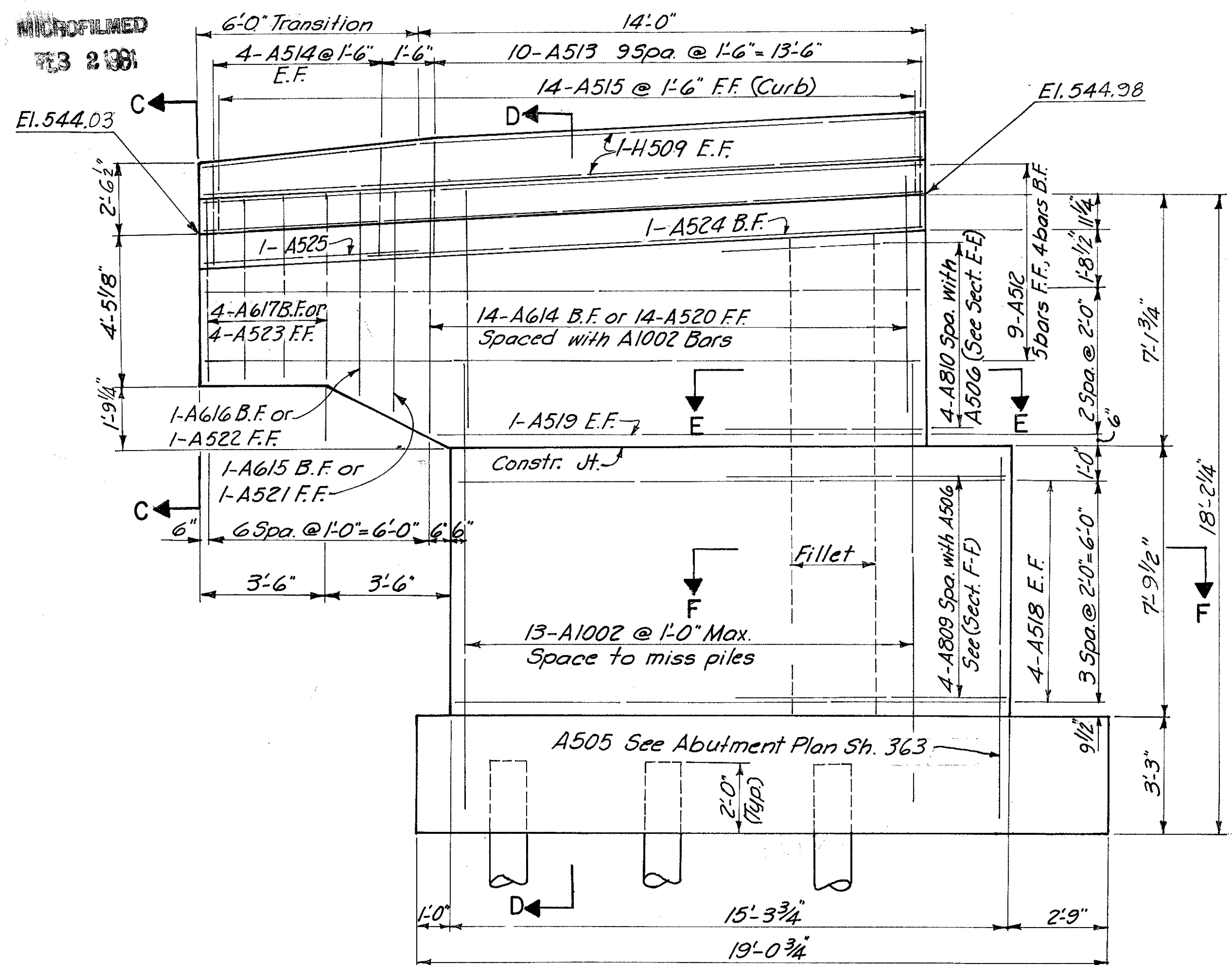
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
5/31					
REAR ABUTMENT BRIDGE NO. HAM. 471-0047					
H&E BRIDGE NO. 10					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
PRD	MSD	VWS	JWH	JAS 11-21-72	

MICROFILMED  
73 2381

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

364  
494

HAMILTON COUNTY  
HAM-471-0.30

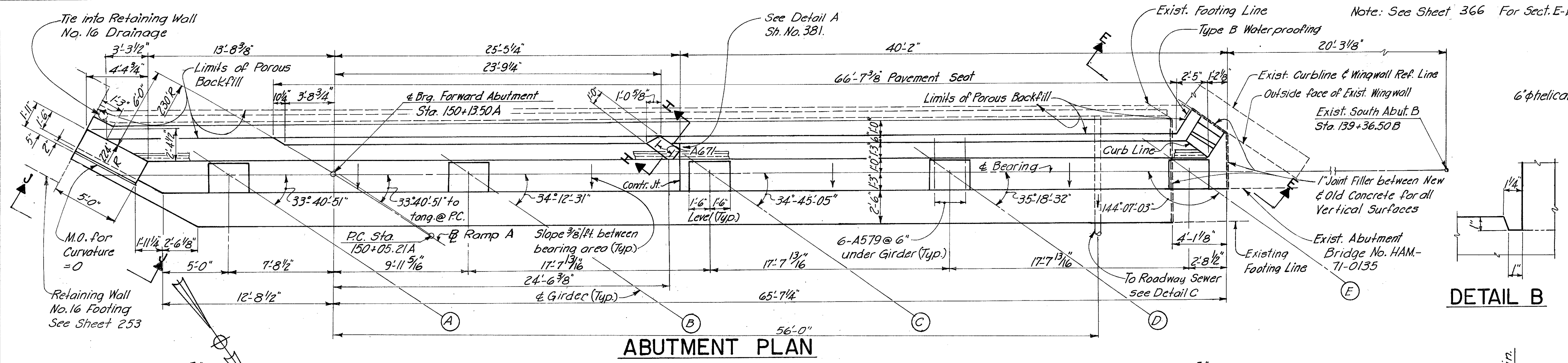


**NOTES**  
Provide 3" clearance to reinforcing steel in footing and 2" clearance to reinforcing steel in wall, minimum. F.F. denotes front face, B.F. denotes back face, E.F. denotes each face.  
See Ohio Standard BR-1-67 for additional railing details. POROUS BACKFILL 2ft. thick shall extend up to the plane of the subgrade and laterally to the ends of the wingwalls as shown on Abutment Plan.

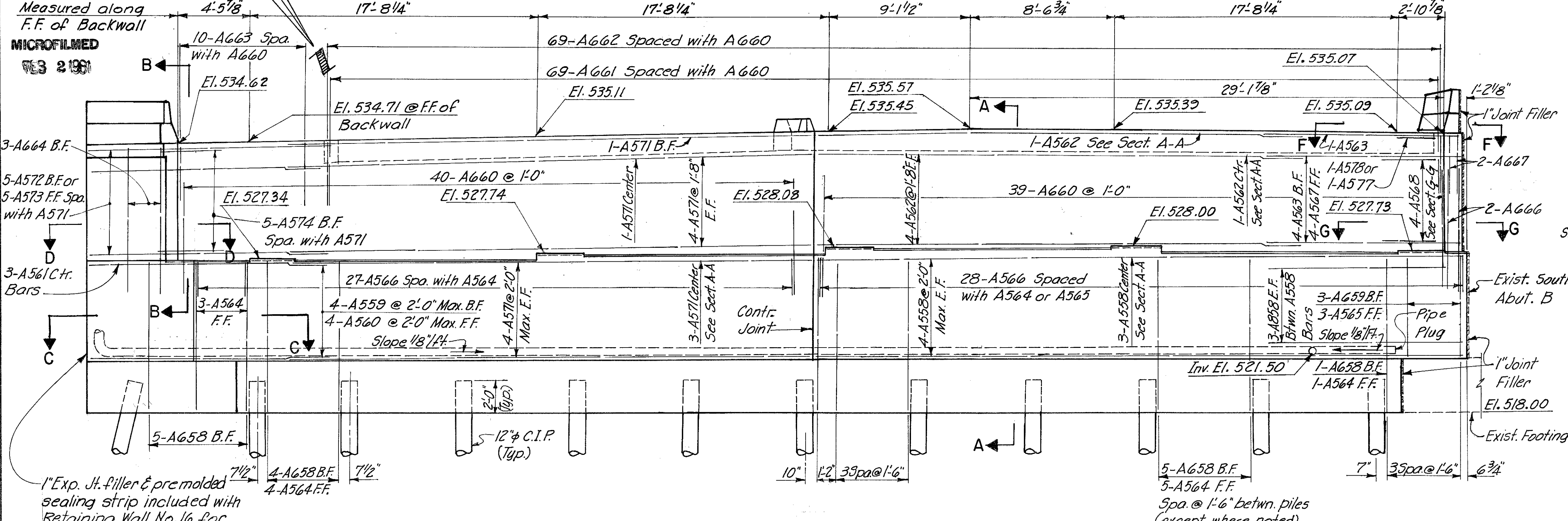
Note:  
Work this sheet with sheet 363.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					6/31
<b>REAR ABUTMENT</b> BRIDGE NO. HAM-471-0047					
H&E BRIDGE NO. 10					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
PRD	MSD	VWS	JWH	JH O 11-21-72	

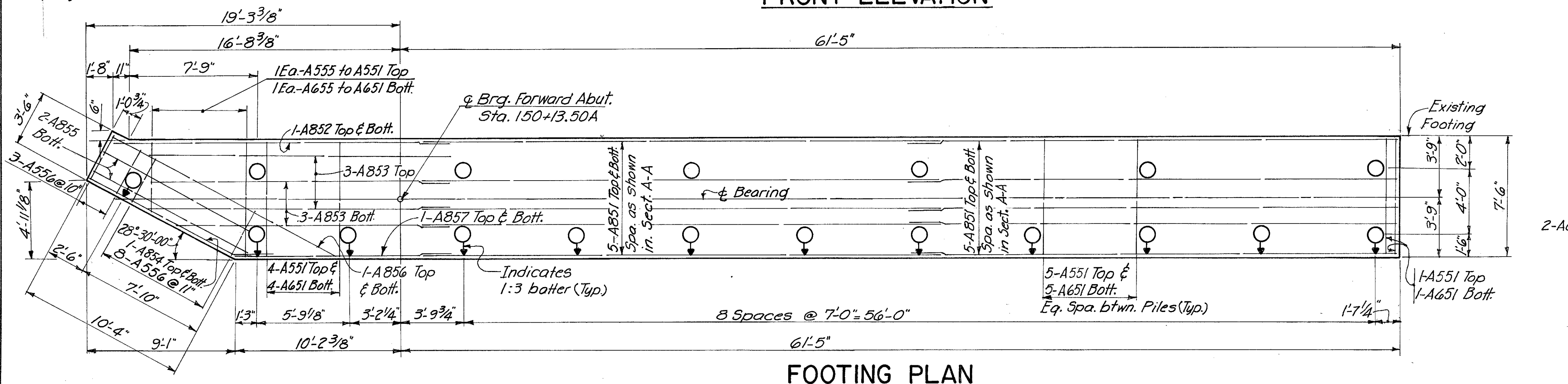
HAMILTON COUNTY  
HAM-471-0.30



**ABUTMENT PLAN**



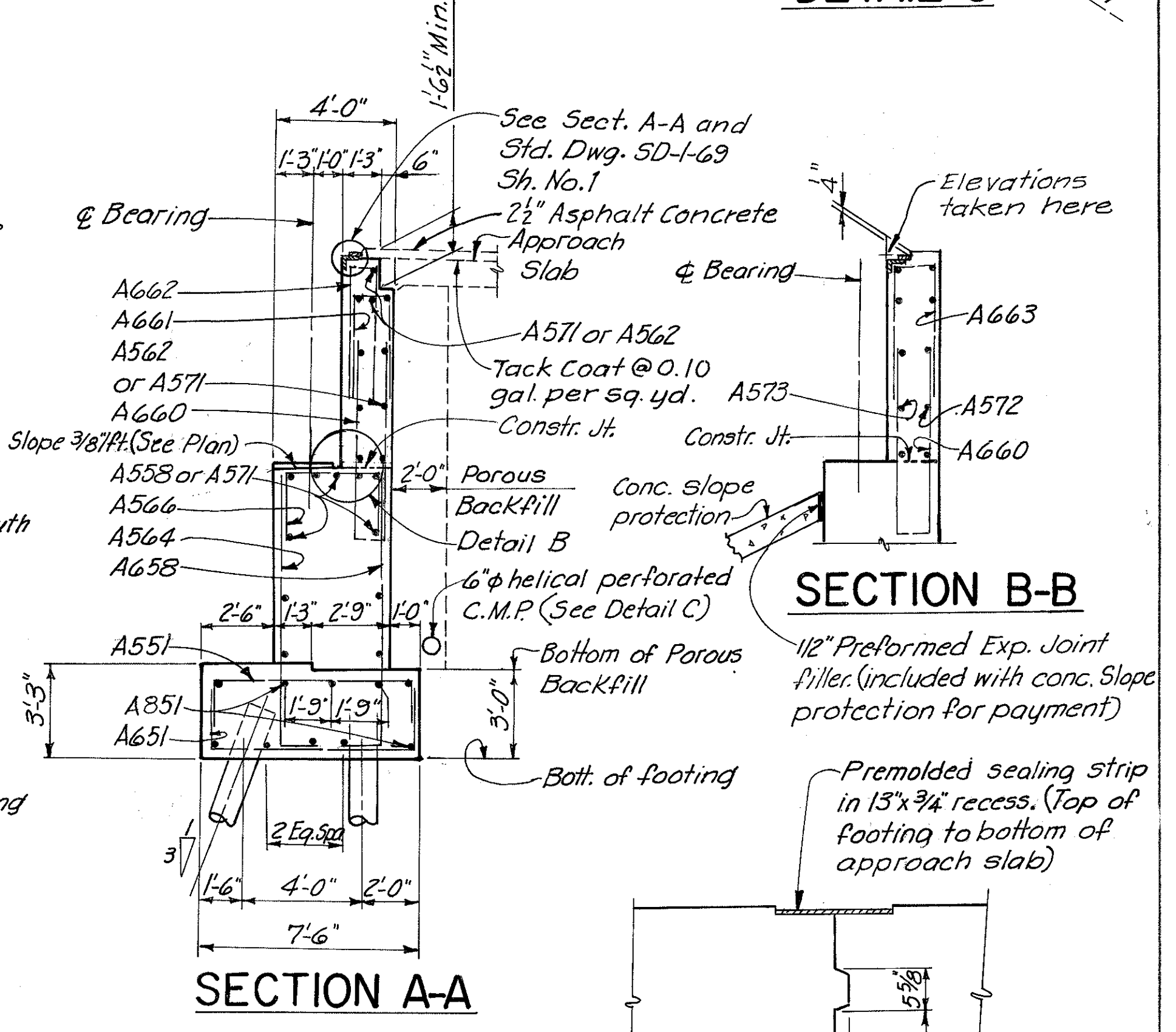
**FRONT ELEVATION**



**FOOTING PLAN**

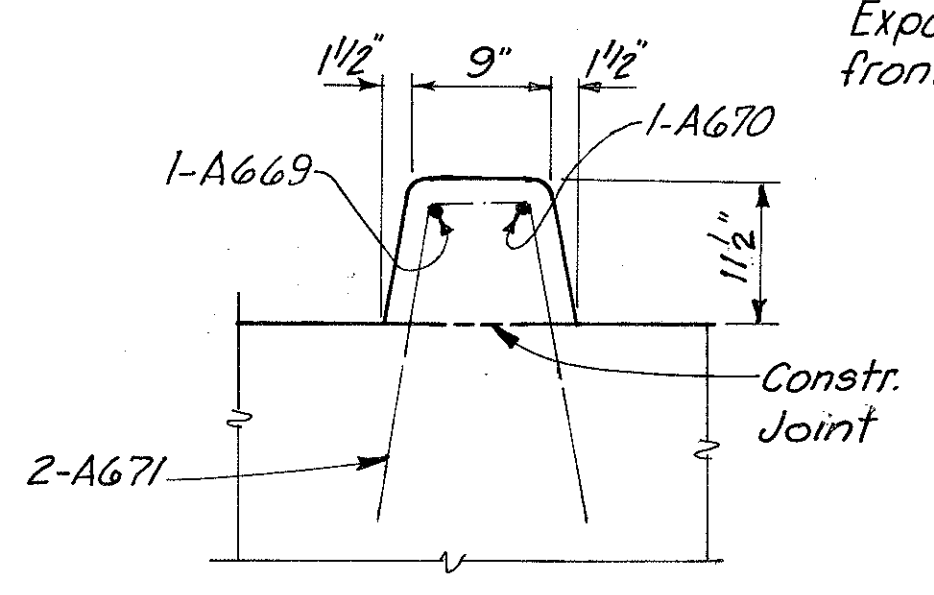
**DETAIL B**

**DETAIL C**



**SECTION B-B**

**SECTION A-A**



**SECTION H-H**

**CONTRACTION JOINT DETAIL**

Note:  
For Notes see Sheet 366  
Work this sheet with Sheet 366.

HAZLET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**FORWARD ABUTMENT  
BRIDGE NO. HAM-471-0047**

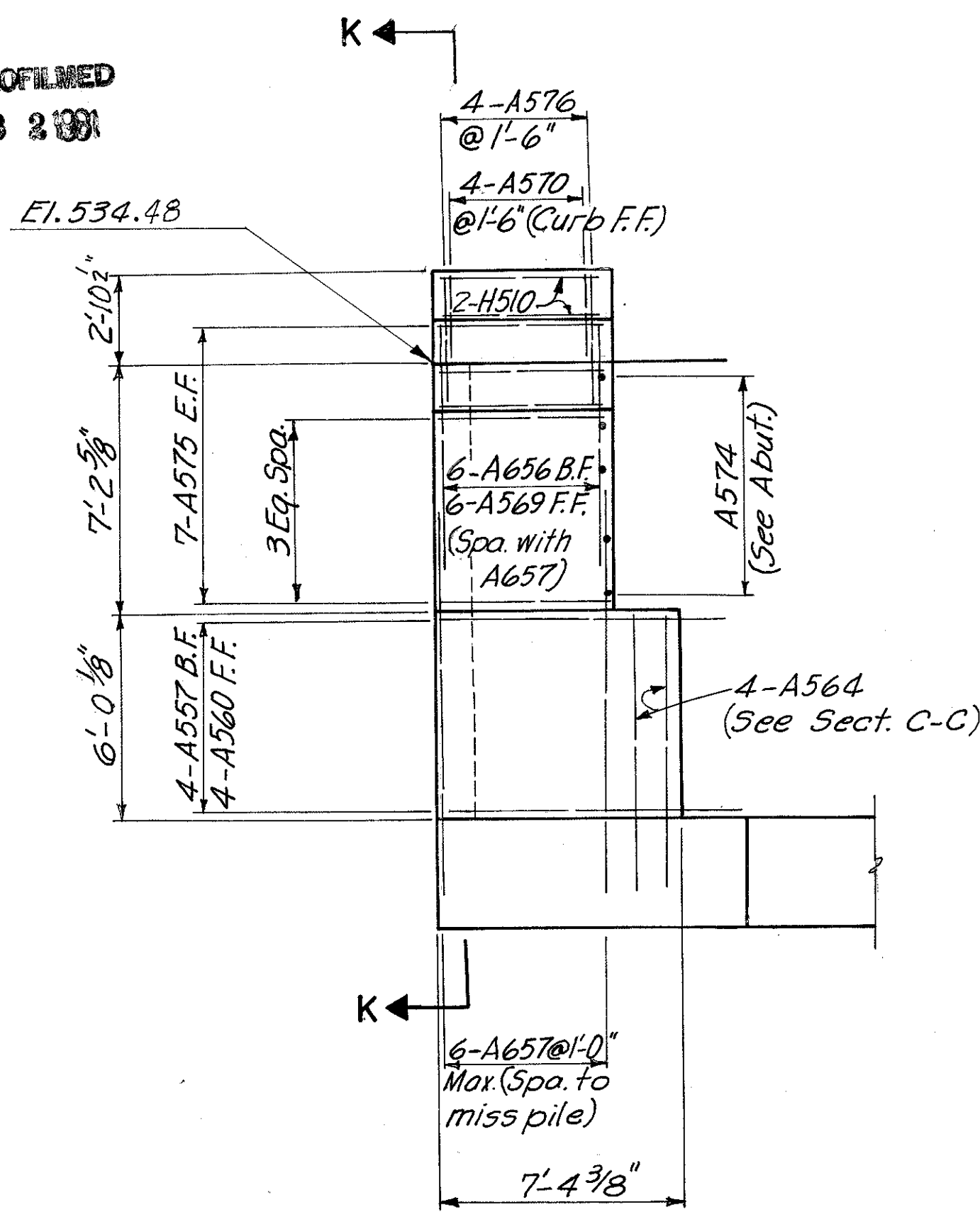
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
PRD	MSD	VVS	JWH	JHO 11-21-72	

MICROFILMED  
FEB 2 1981

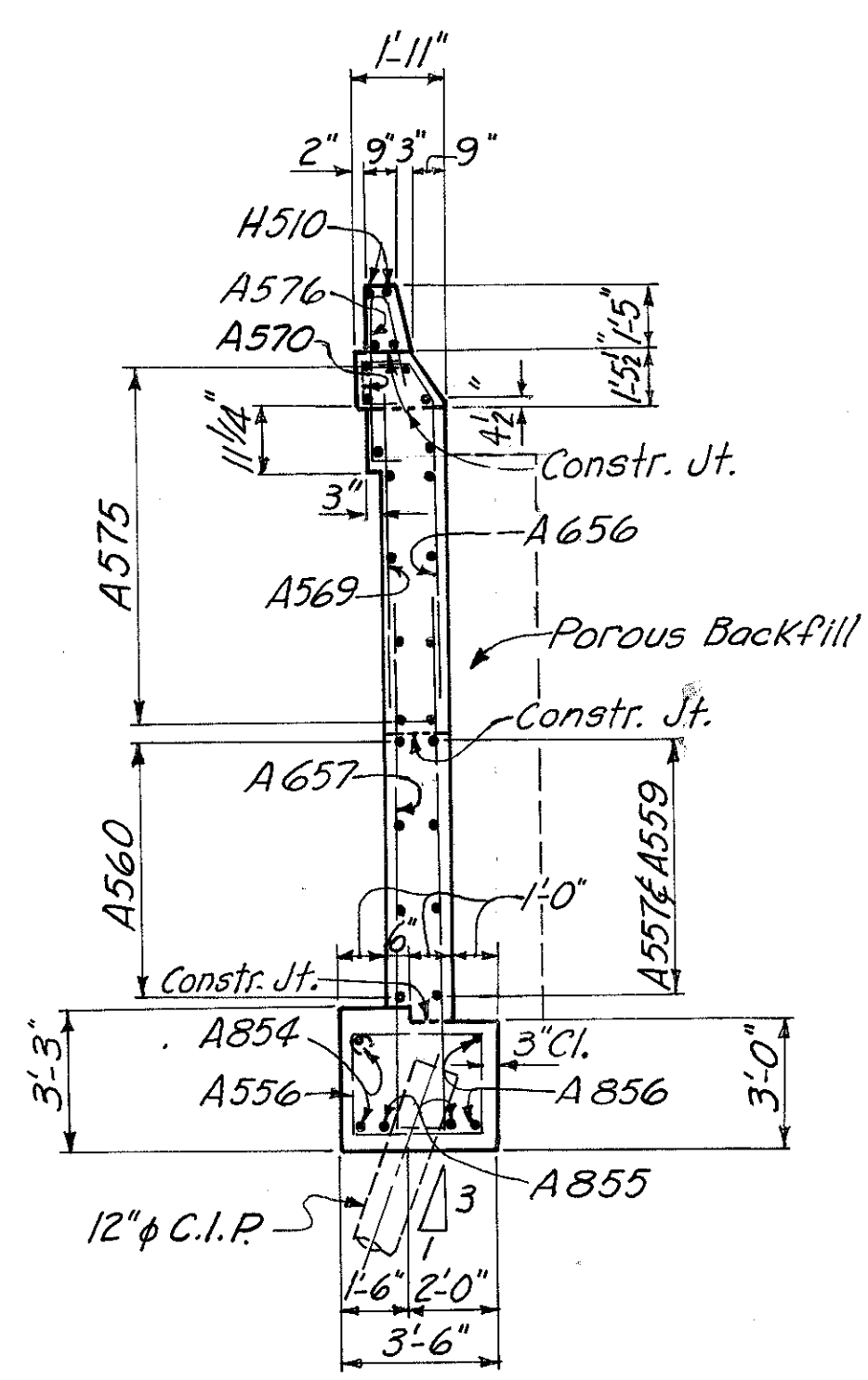
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

366  
494

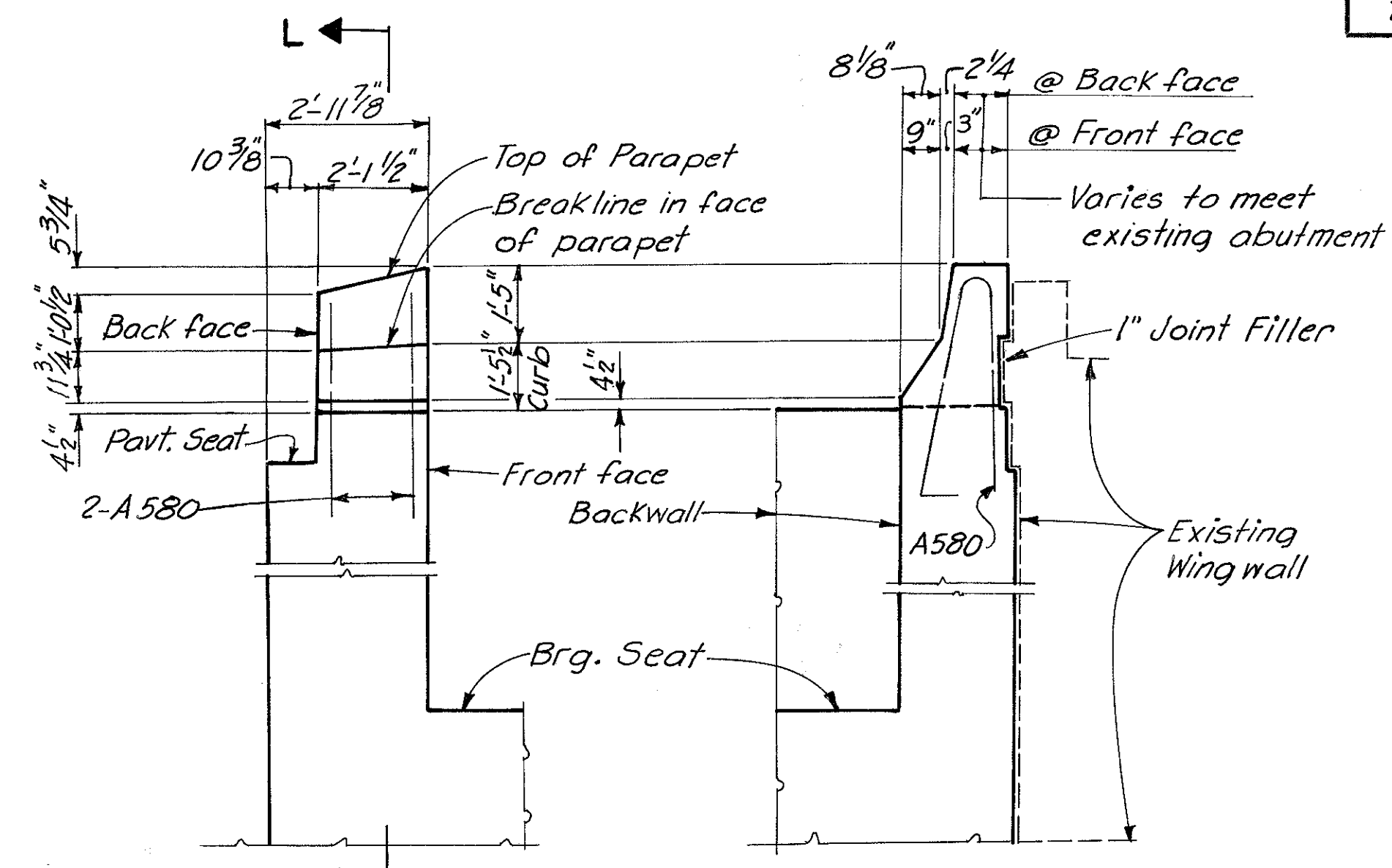
HAMILTON COUNTY  
HAM-471-0.30



VIEW J-J

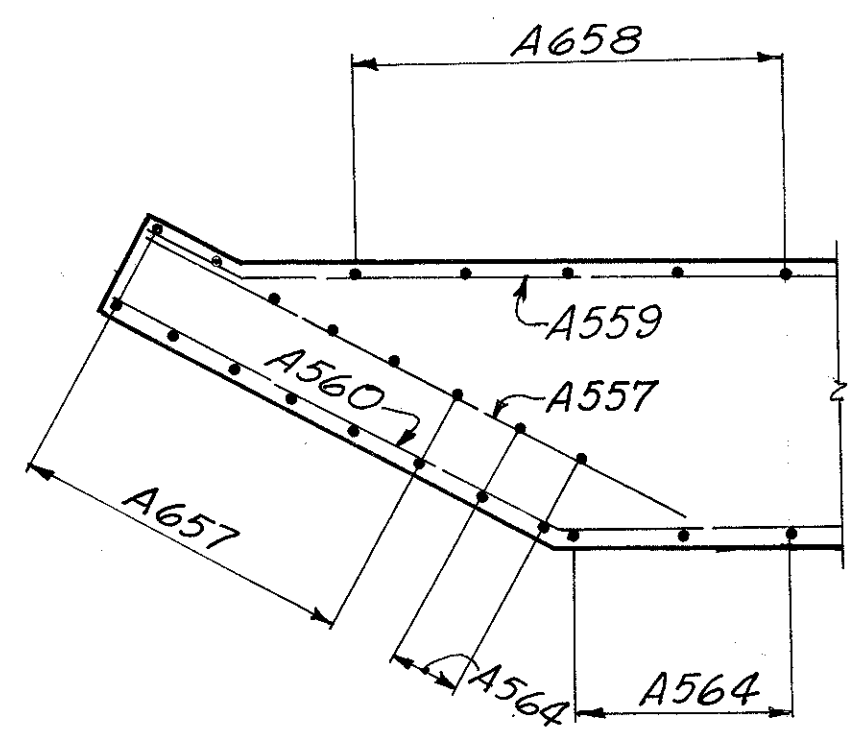


SECTION K-K

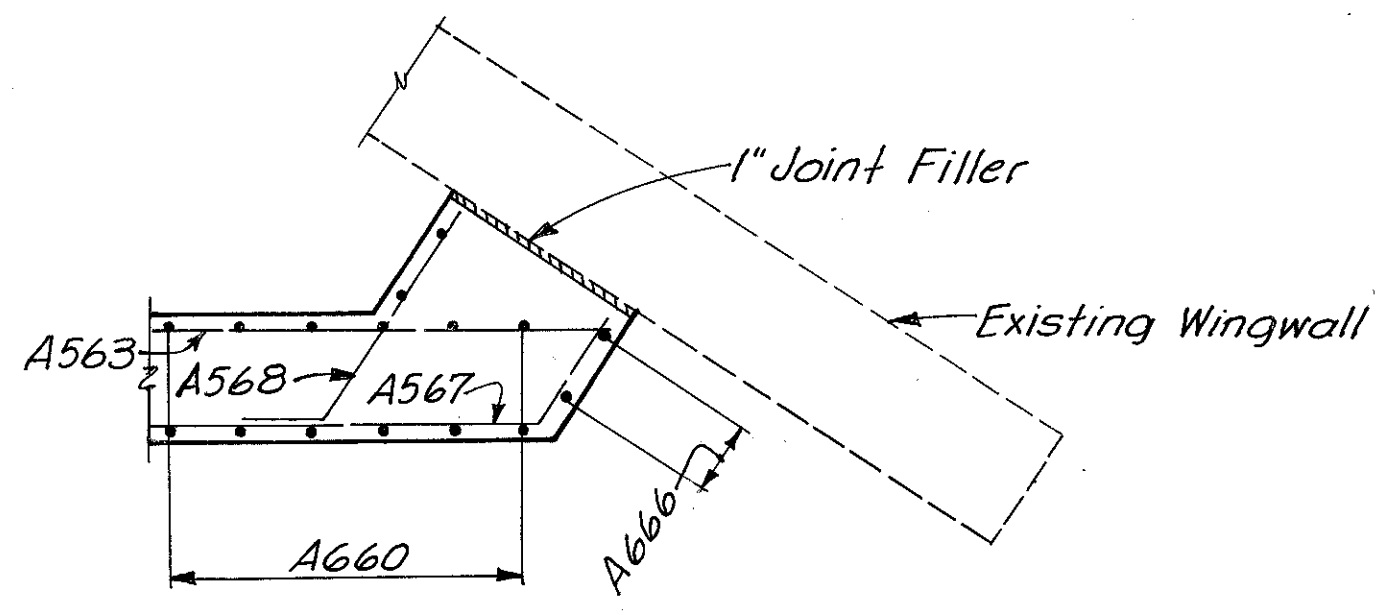


SECTION E-E

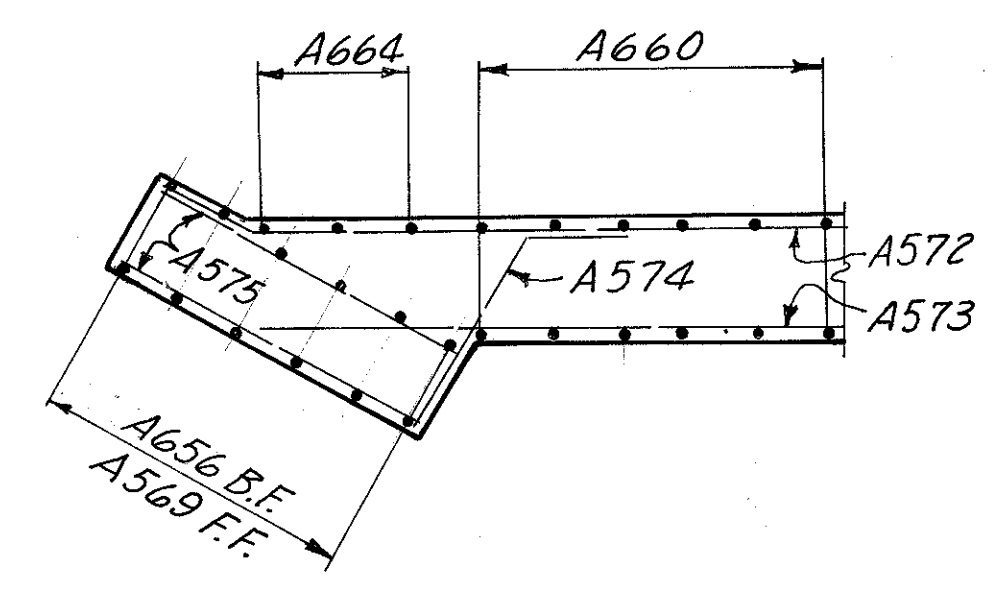
SECTION L-L



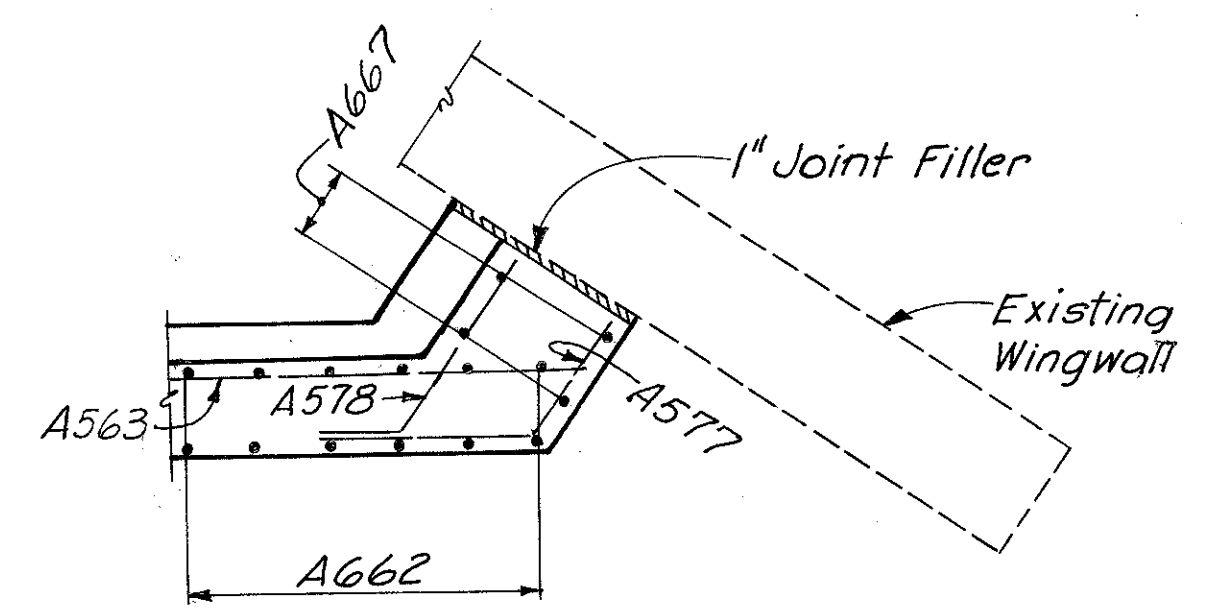
SECTION C-C



SECTION G-G



SECTION D-D

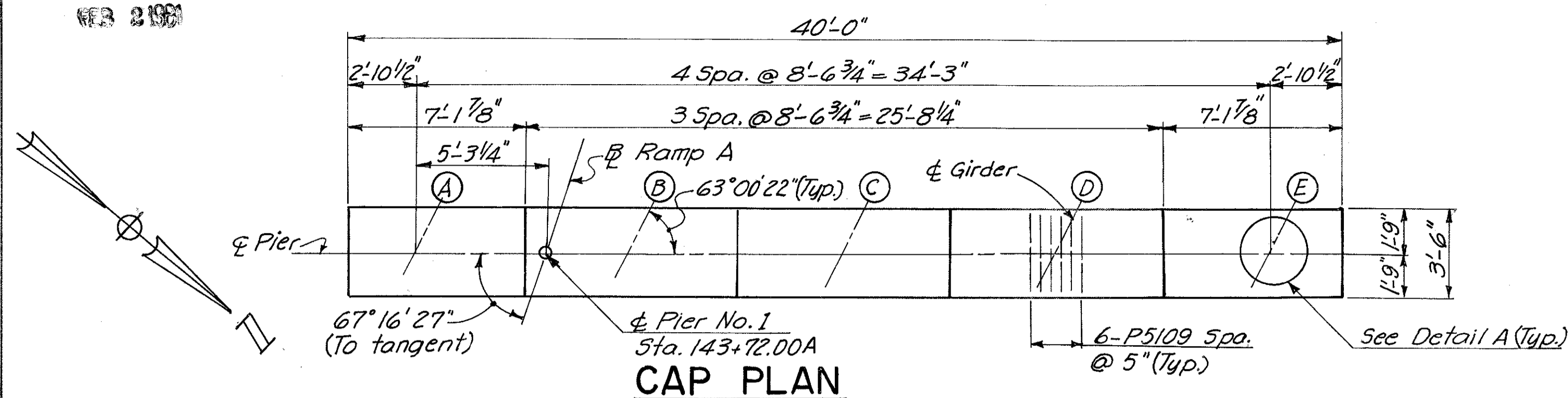


SECTION F-F

Notes:  
Provide 3" clearance to reinforcing steel in footing & 2" clearance to reinforcing steel in wall, minimum.  
F.F. denotes front face, B.F. denotes back face & E.F. denotes each face.  
POROUS BACKFILL 2ft. thick shall extend up to the plane of the subgrade and laterally to the ends of the wingwalls.

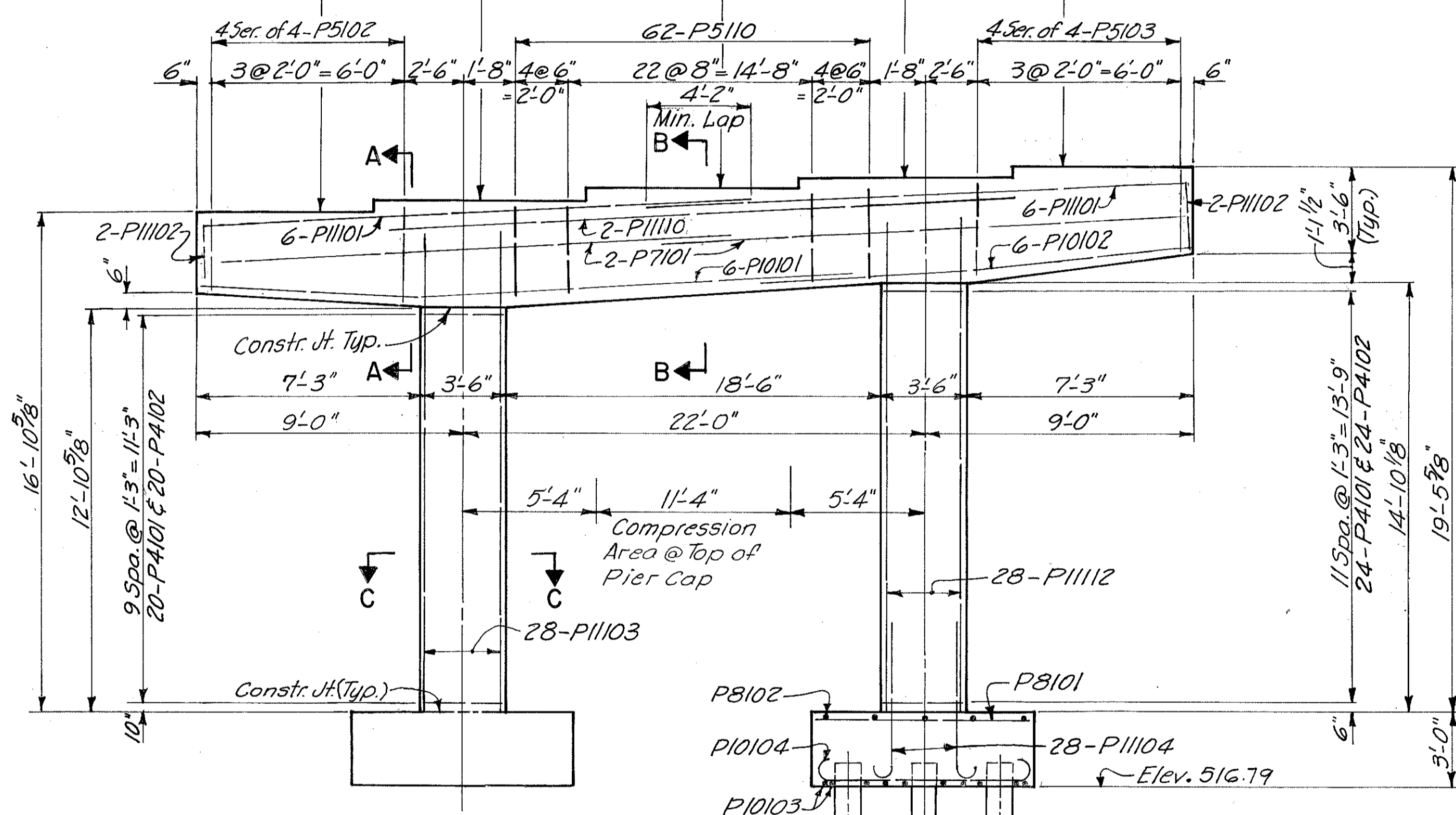
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					8/31
<b>FORWARD ABUTMENT</b>					
BRIDGE NO. HAM.-471-0047					
H&E BRIDGE NO. 10					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
PRD	MSD	VWS	JWH	JH0 11-21-72	

MICROFILMED  
SER 2100

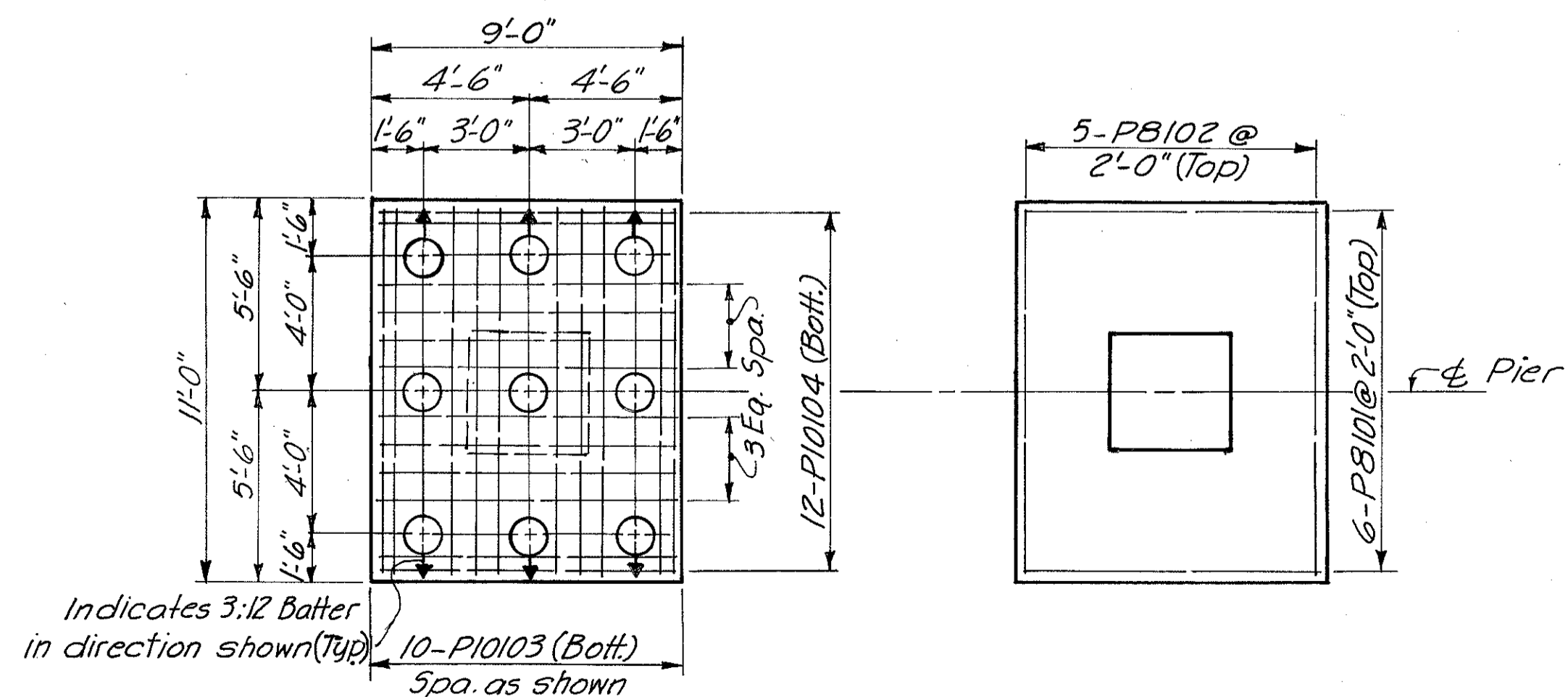


**CAP PLAN**

Br. Seat Elev. 536.68 537.34 538.00 538.63 539.26

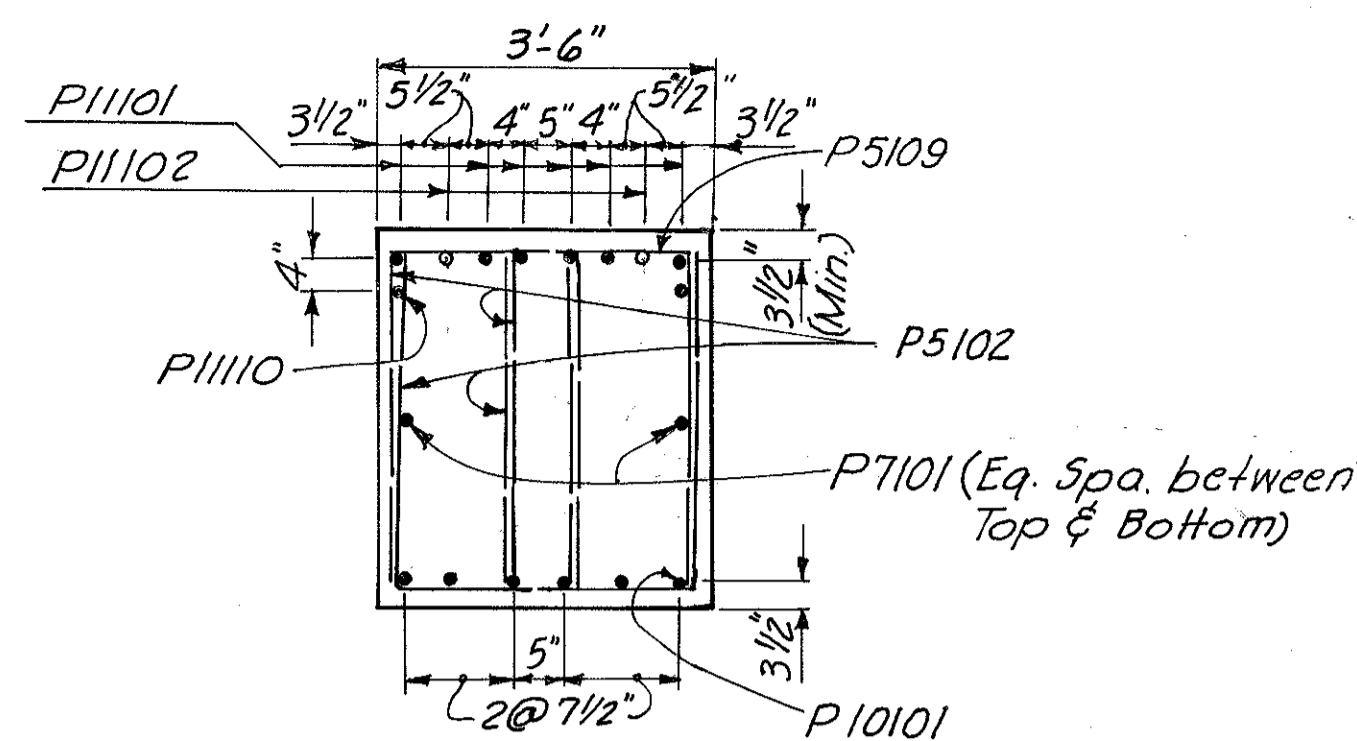


**ELEVATION**

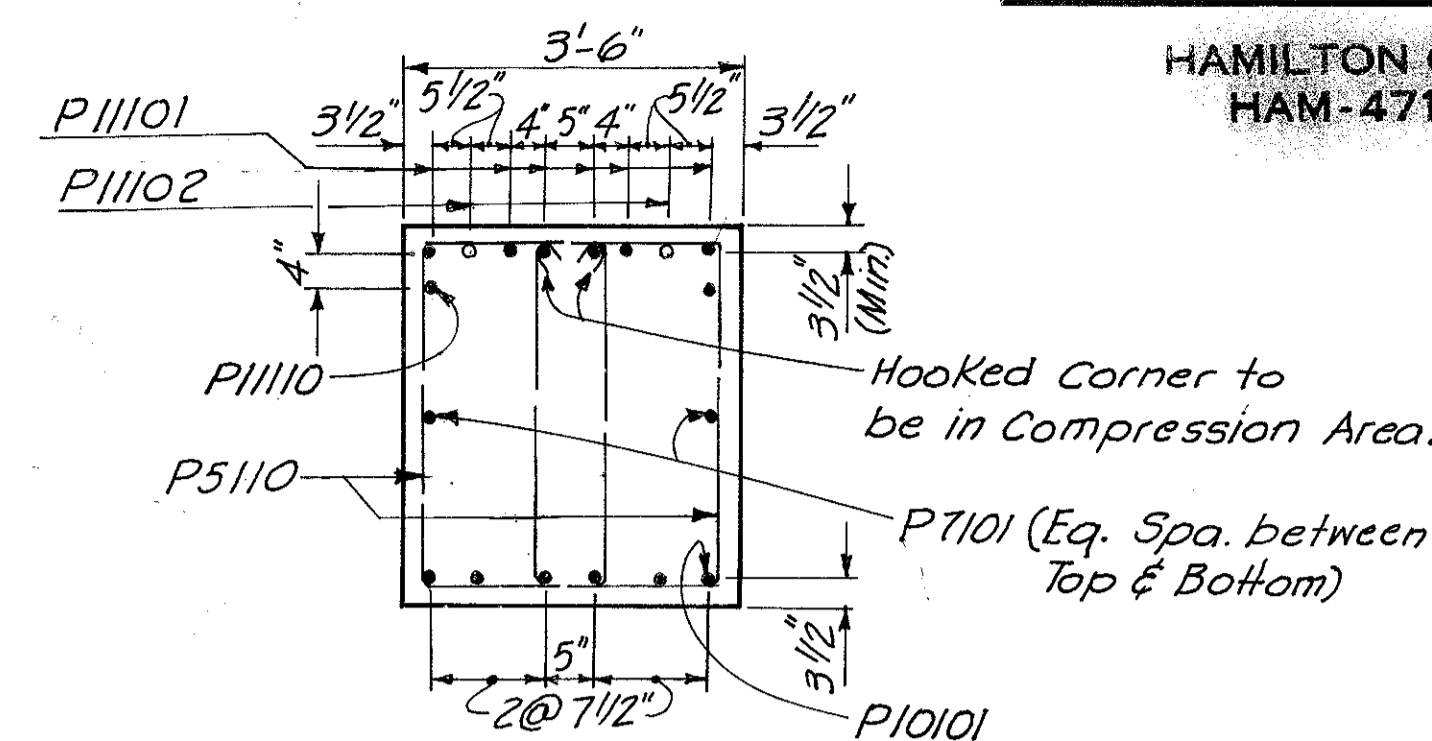


**FOOTING PLAN**

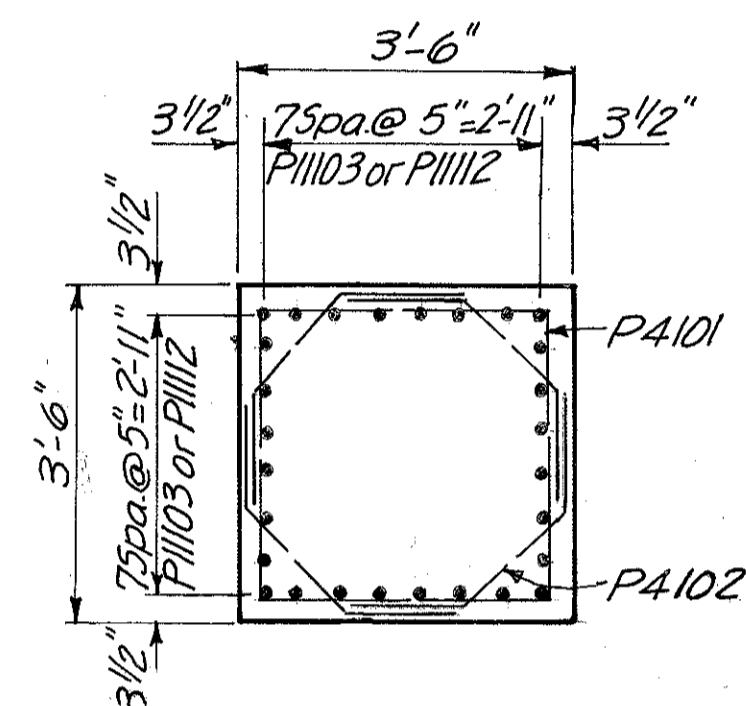
Dimensions & Reinforcing steel shown are Typical all footings this pier.



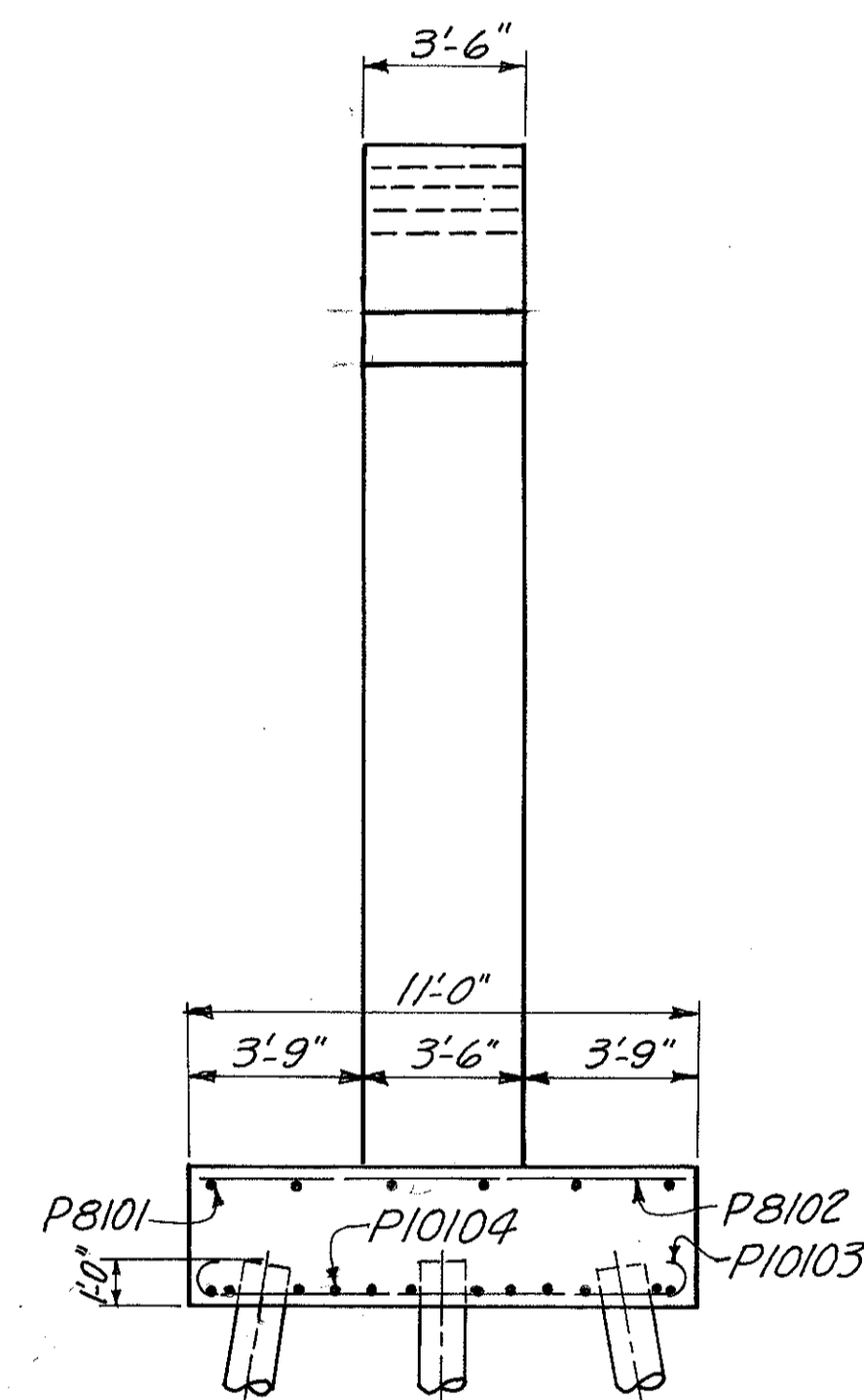
**SECTION A-A**



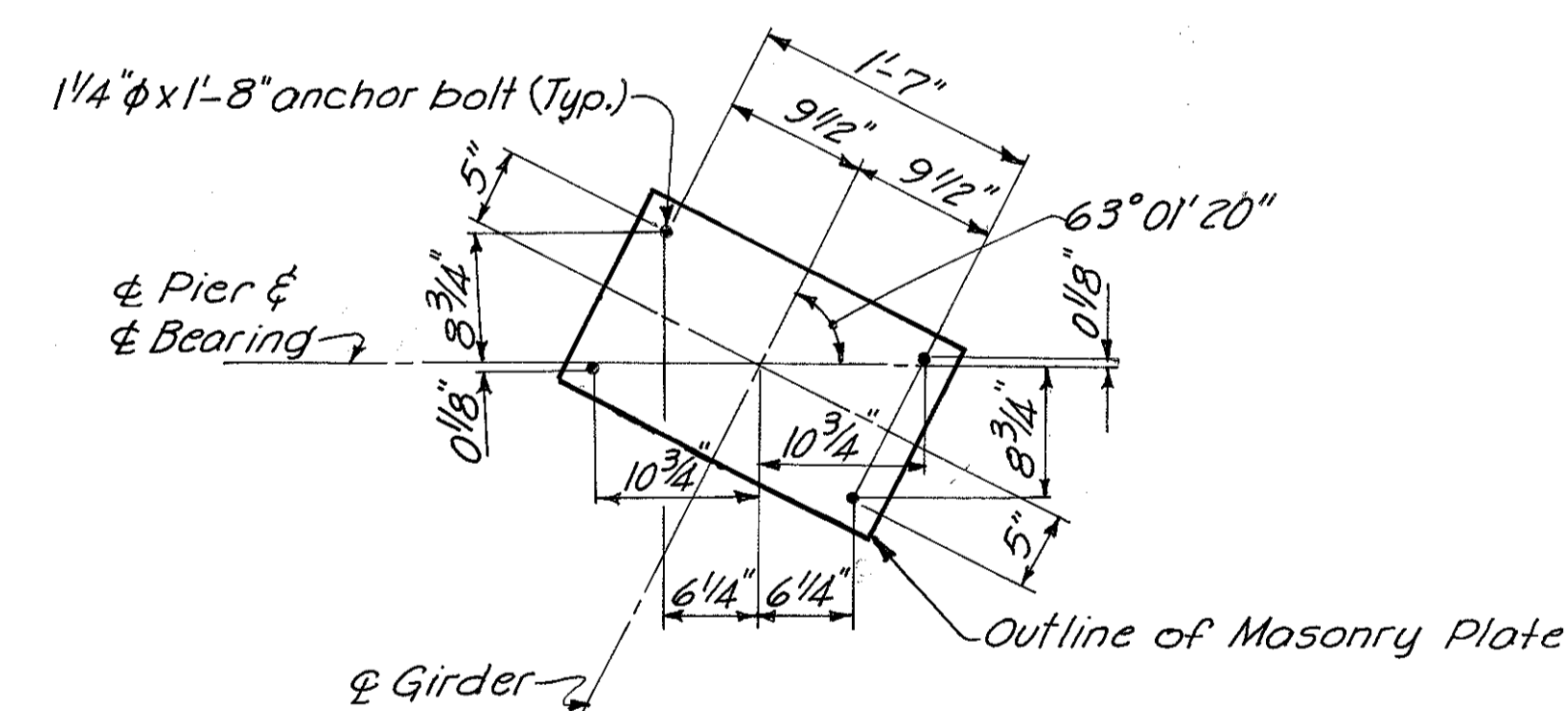
**SECTION B-B**



**SECTION C-C**



**END ELEVATION**



**DETAIL A**

**Notes:**  
All piles shall be 12" Cast-in-Place Reinforced Concrete.

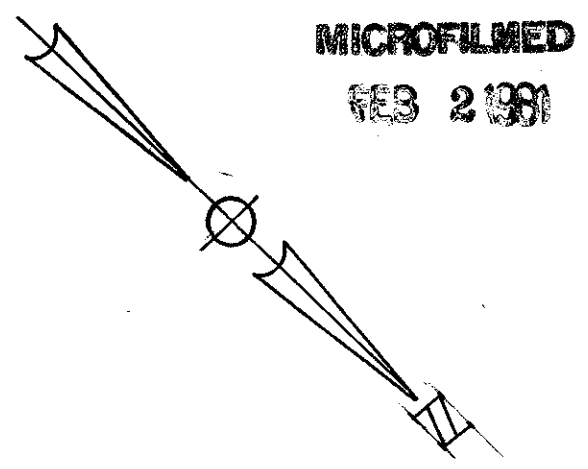
Special care shall be taken in placing reinforcing steel in the cap so that it will not interfere with the drilling of Anchor Bolt holes.

For connection of downspouts to piers, see sheet 388.

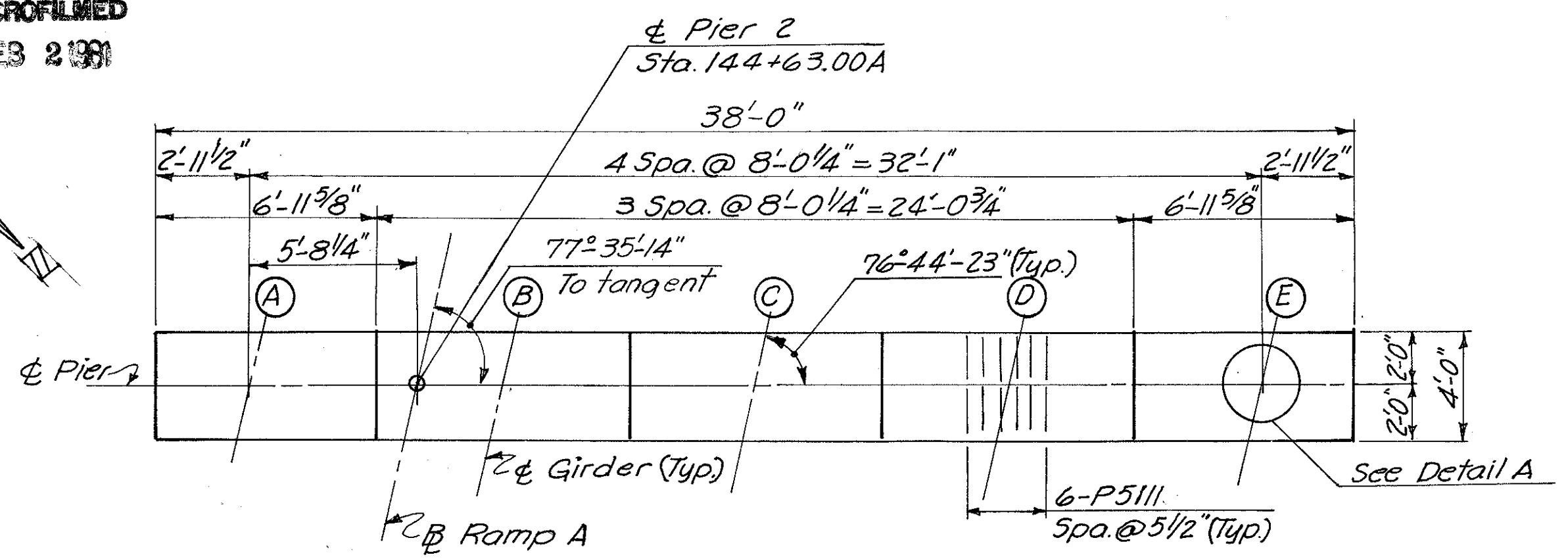
Clearance shall be 3 inches minimum to all surfaces of the footings & 2 inches minimum elsewhere, for reinforcing steel.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					9/31
<b>PIER NO. 1</b>					
BRIDGE NO. HAM.-471-0047					
H&E BRIDGE NO. 10					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
JWH	AK	VWS	JWH	JH0 11-21-72	

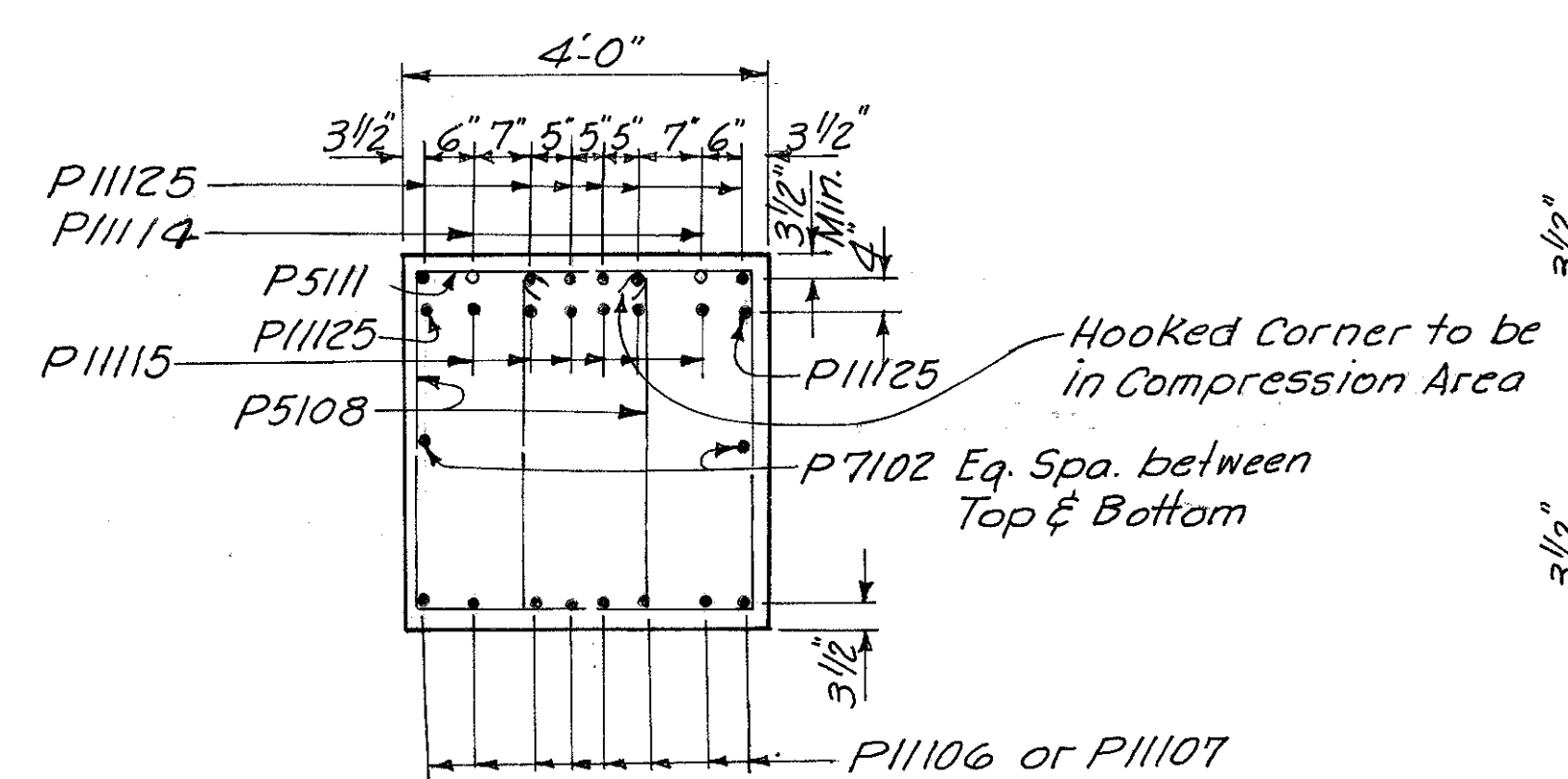




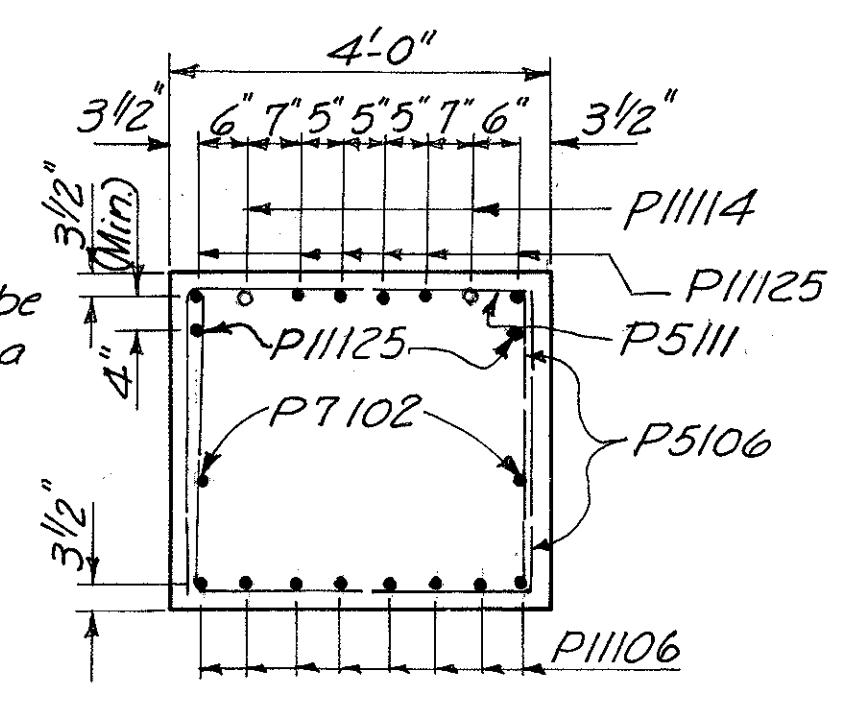
MICROFILMED  
FEB 2 1991



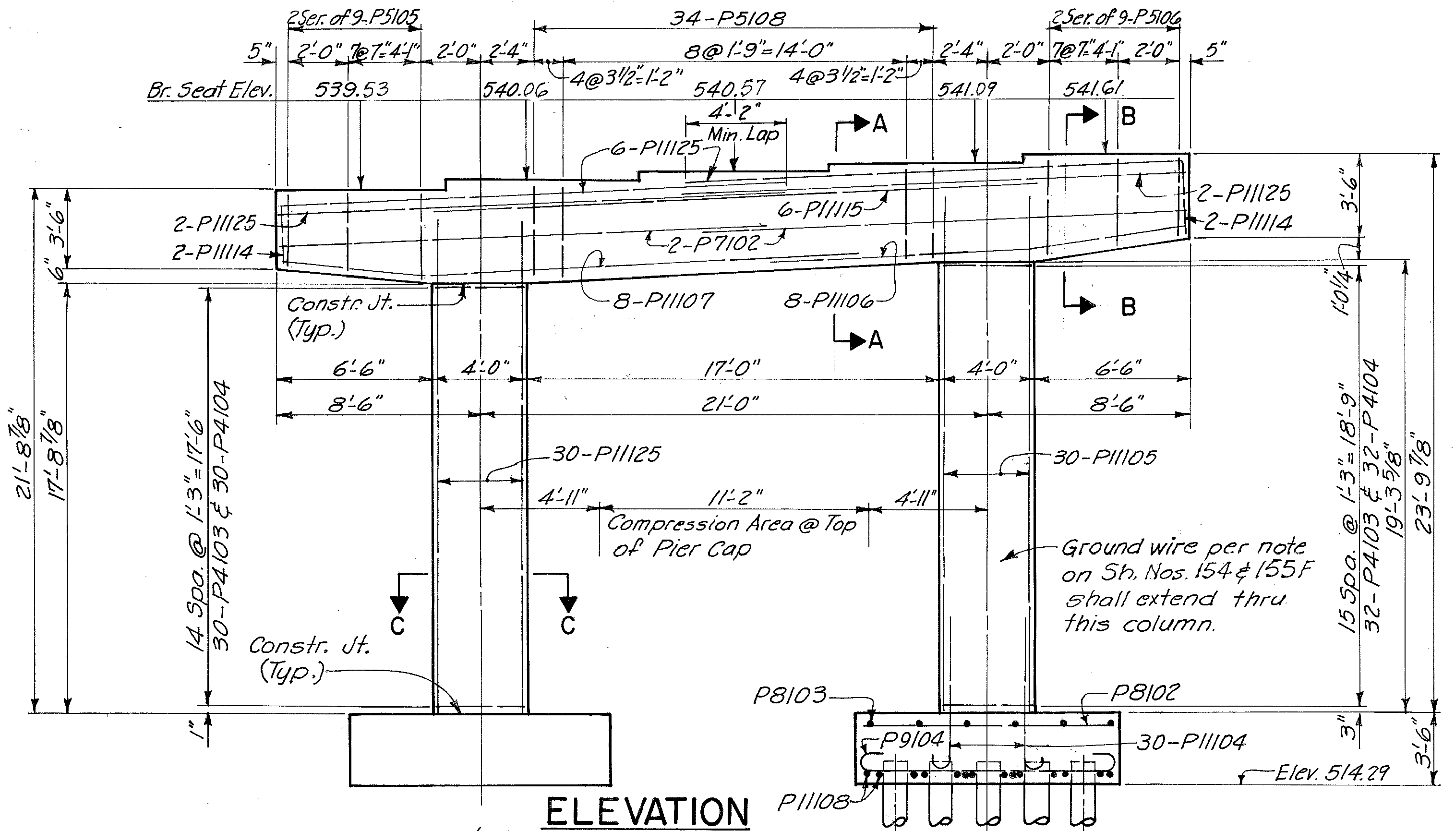
**CAP PLAN**



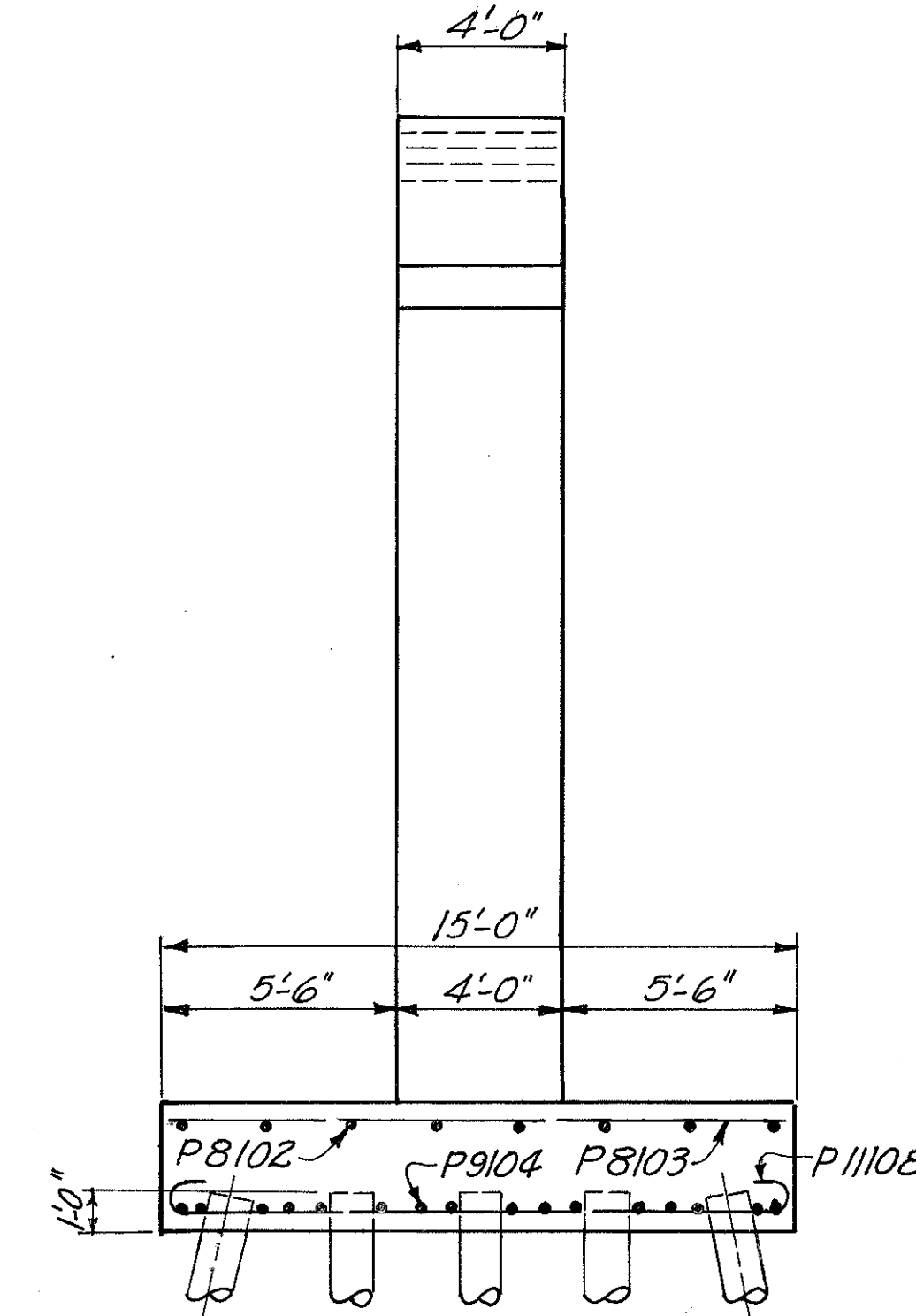
**SECTION A-A**



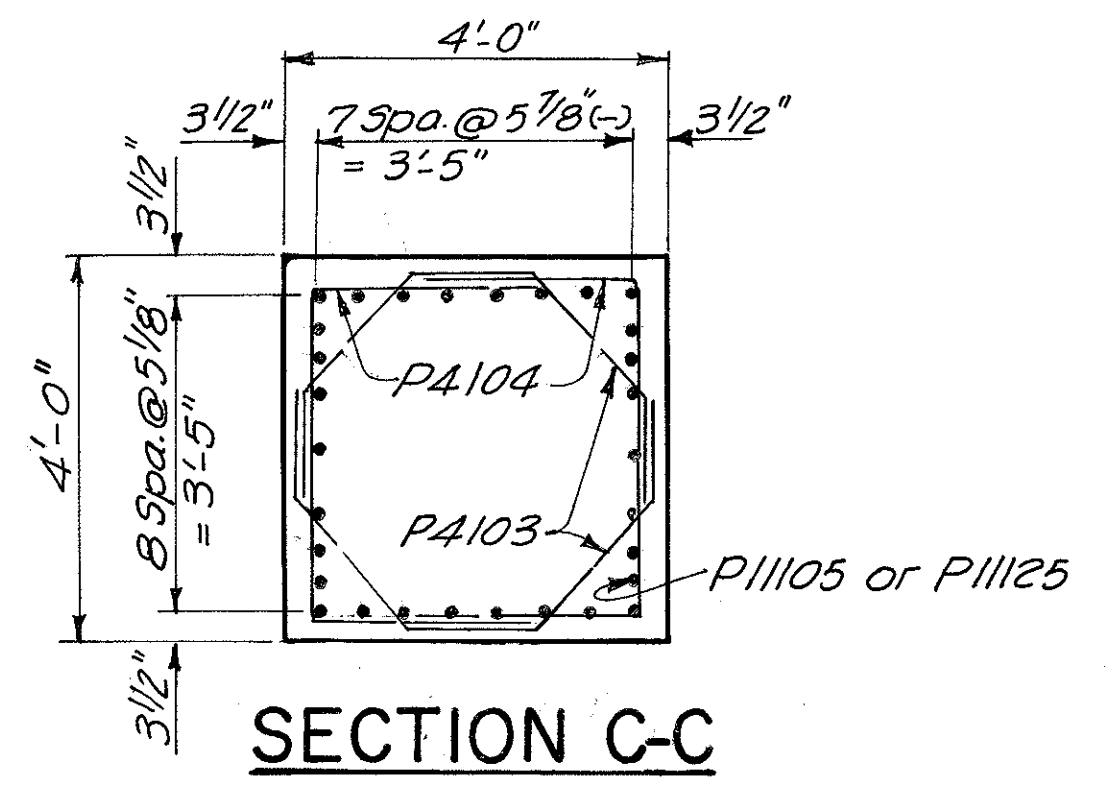
**SECTION B-B**



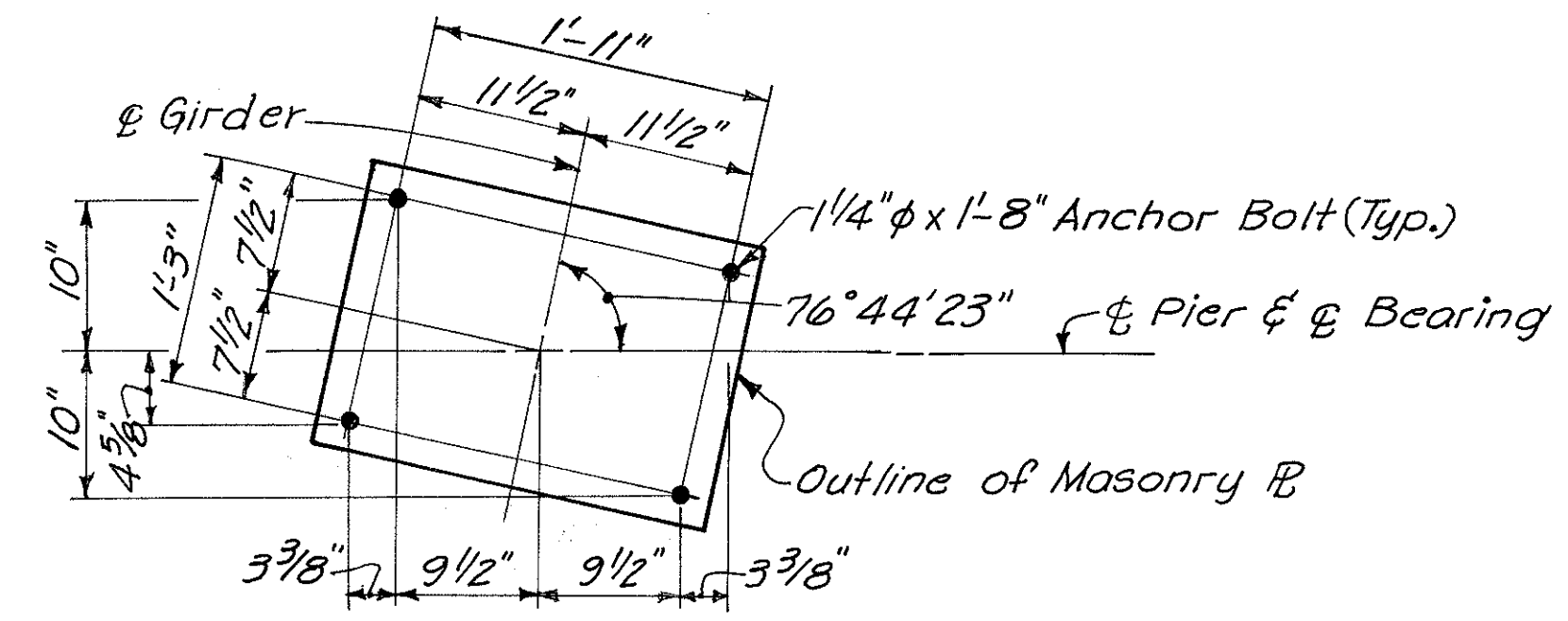
**ELEVATION**



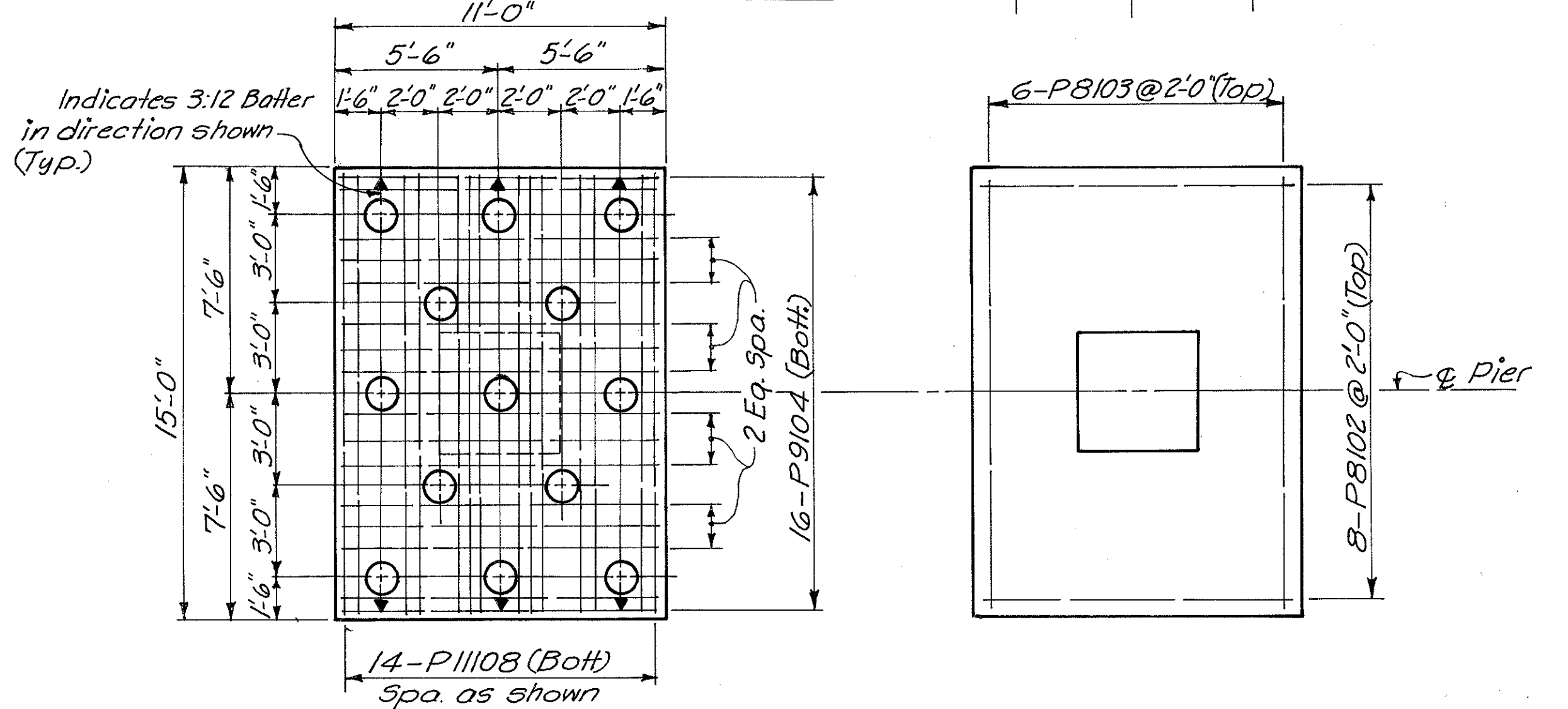
**END ELEVATION**



**SECTION C-C**



**DETAIL A**



**FOOTING PLAN**

Dimensions & reinforcing steel shown are typical all footings this pier

**Notes:**  
 All piles shall be 12" Cast-In-Place Reinforced Concrete  
 Special care shall be taken in placing reinforcing steel in the cap so that it will not interfere with the drilling of Anchor Bolt holes.  
 Clearance shall be 3 inches minimum to all surfaces of the footings & 2 inches minimum elsewhere, for reinforcing steel.

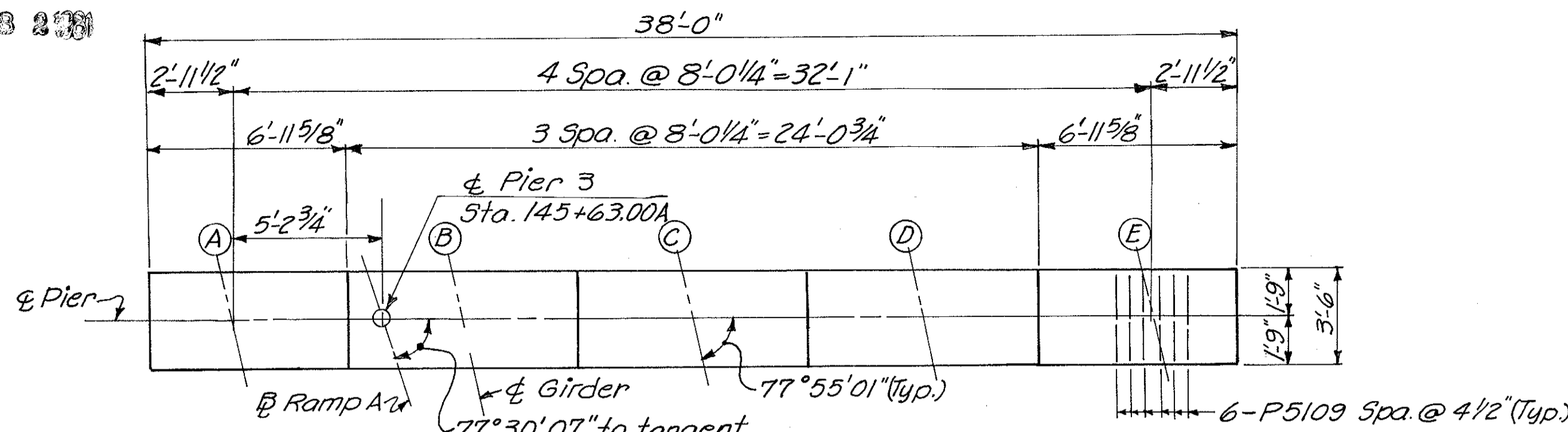
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					10/31
<b>PIER NO. 2</b>					
BRIDGE NO. HAM.-471-0047					
H&E BRIDGE NO. 10					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
PRD	AK	VWS	JWH OAF	JH 11-21-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

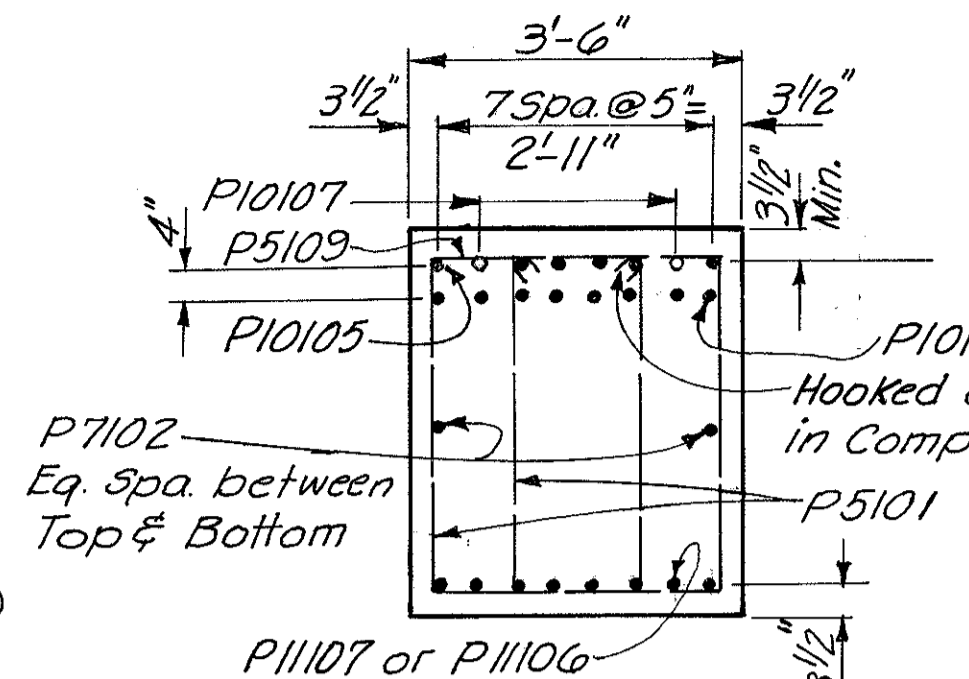
369  
494

HAMILTON COUNTY  
HAM-471-0.30

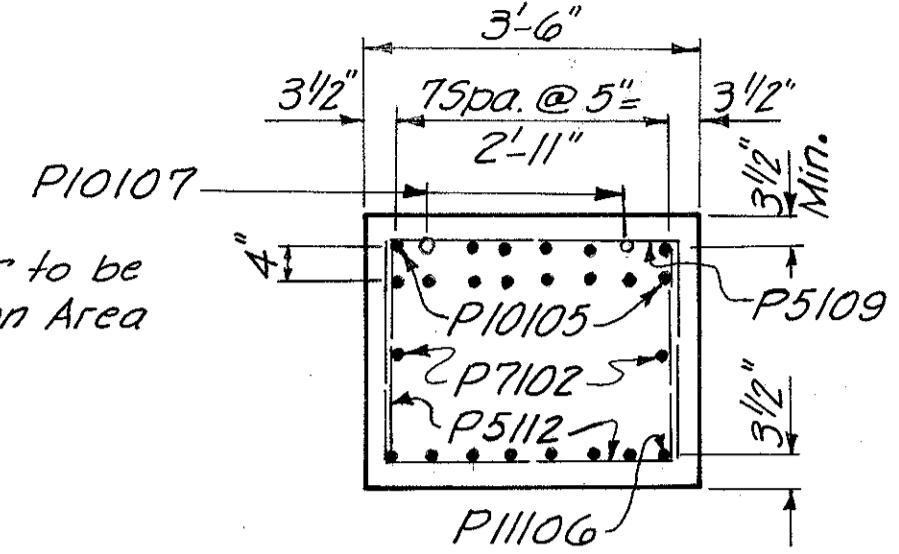
MICROFILMED  
FEB 2 1981



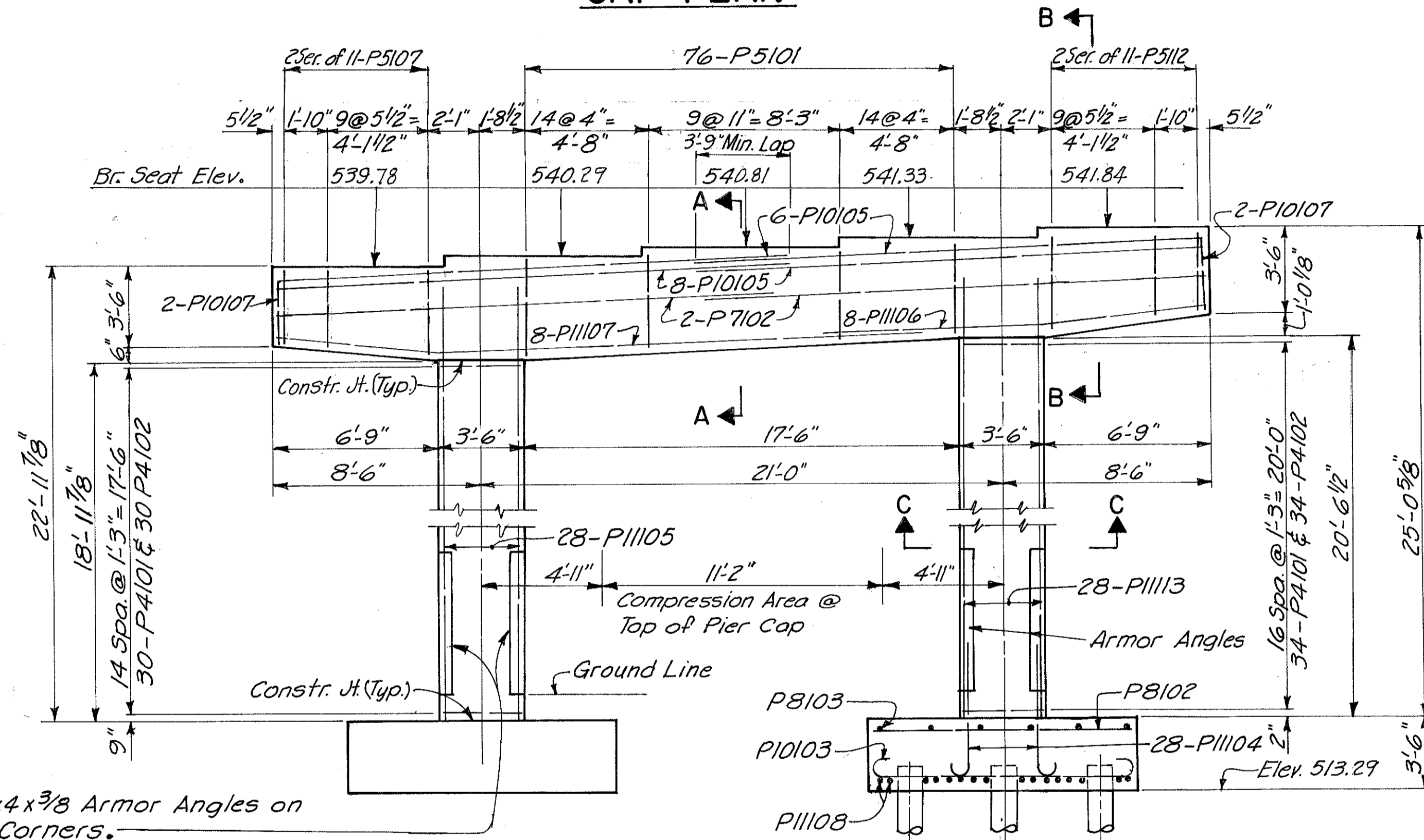
CAP PLAN



SECTION A-A

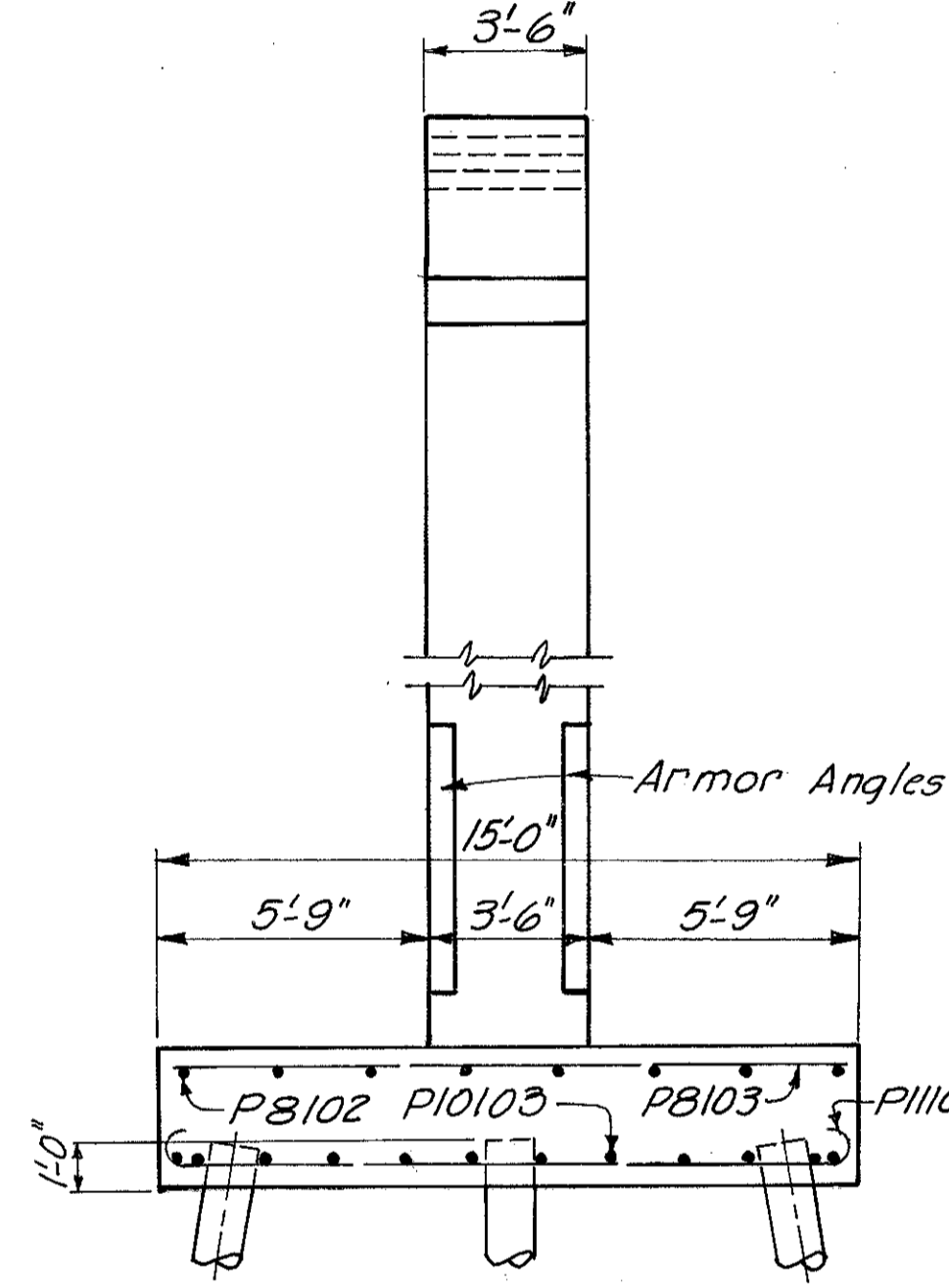


SECTION B-B

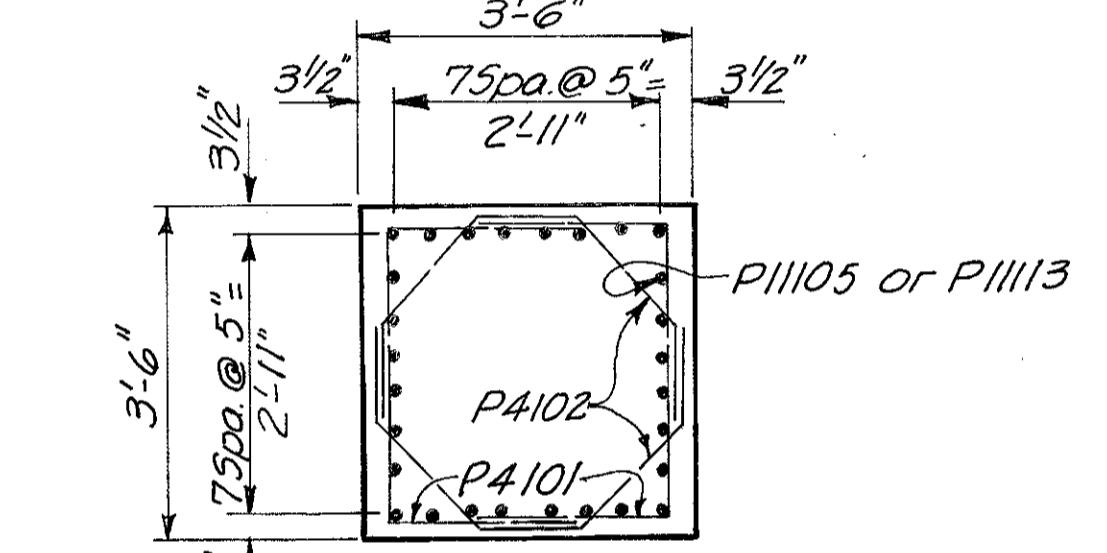


ELEVATION

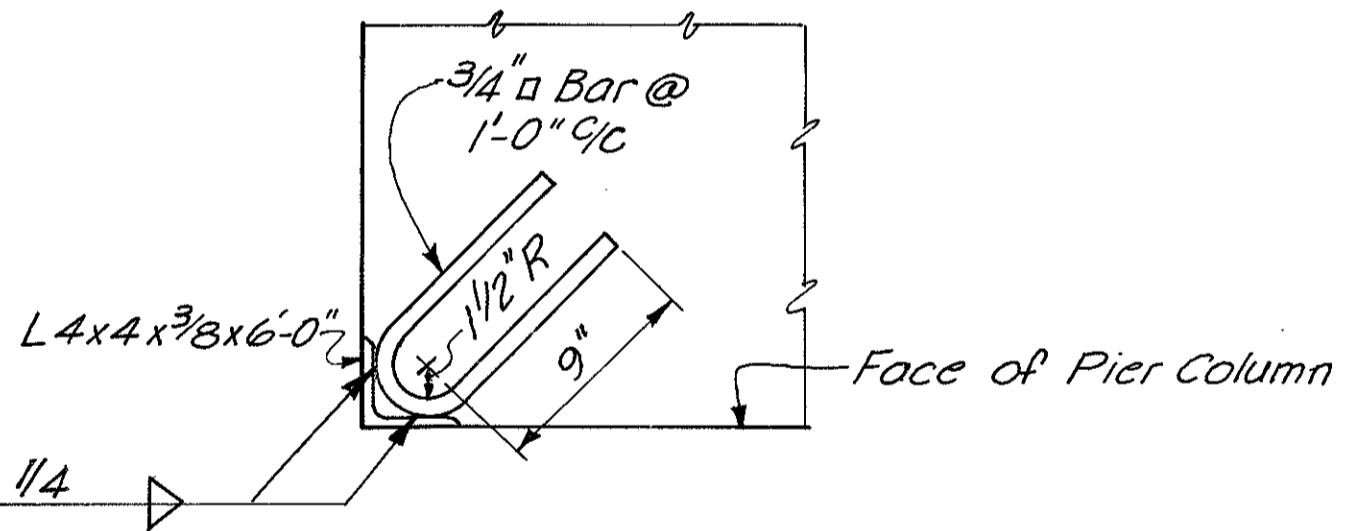
L 4x4 x 3/8 Armor Angles on all Corners.  
Armor Angles shall be painted in accordance with Construction & Material Specifications, Section 514.



END ELEVATION

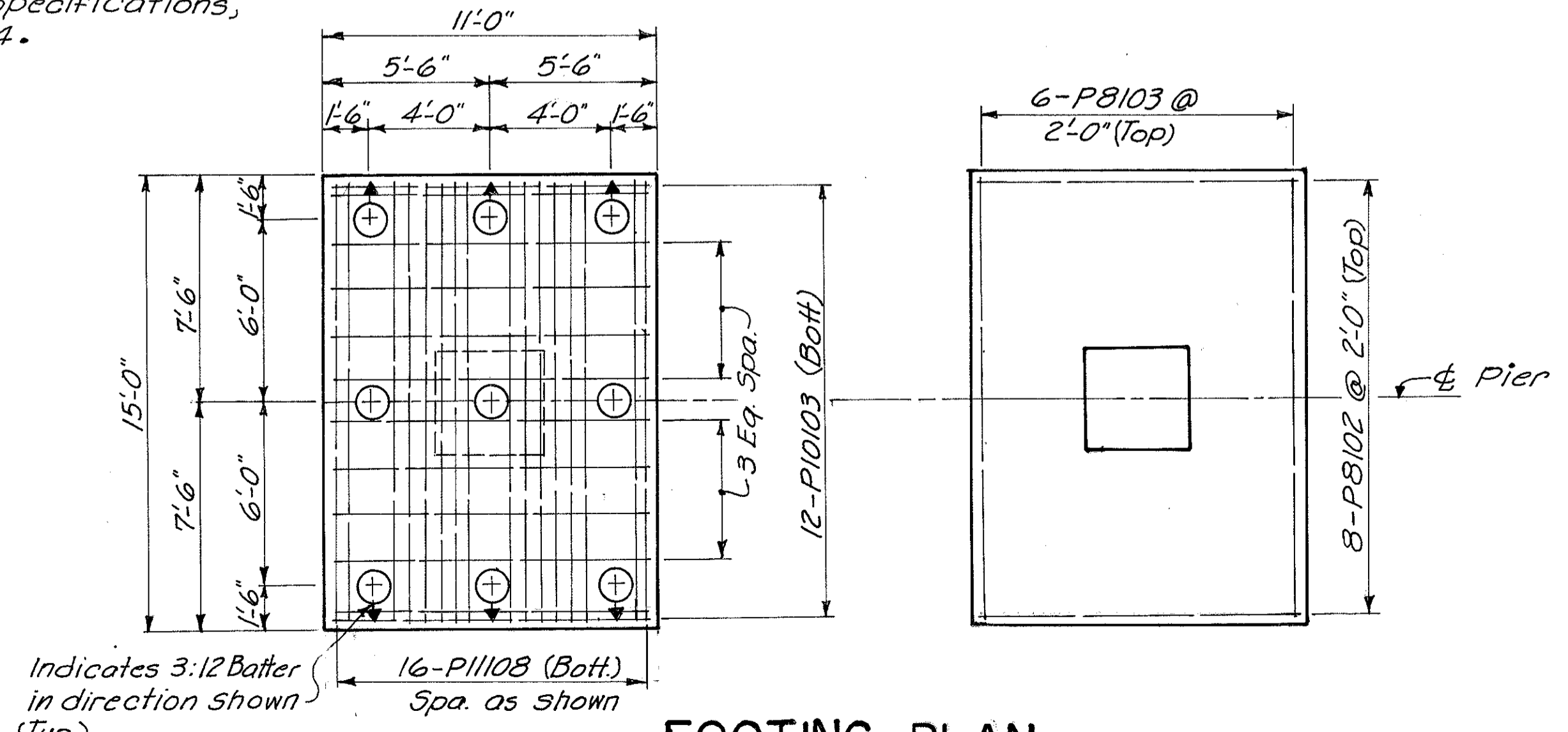


SECTION C-C



DETAIL OF ARMOR ANGLES FOR PIER COLUMNS  
(No. Required = 40)  
(Included with Item 513 for payment)

Notes:  
All piles shall be 12" Cast-in-Place Reinforced Concrete.  
Clearance shall be 3 inches minimum to all surfaces of the footing & 2 inches minimum elsewhere, for reinforcing steel.



FOOTING PLAN

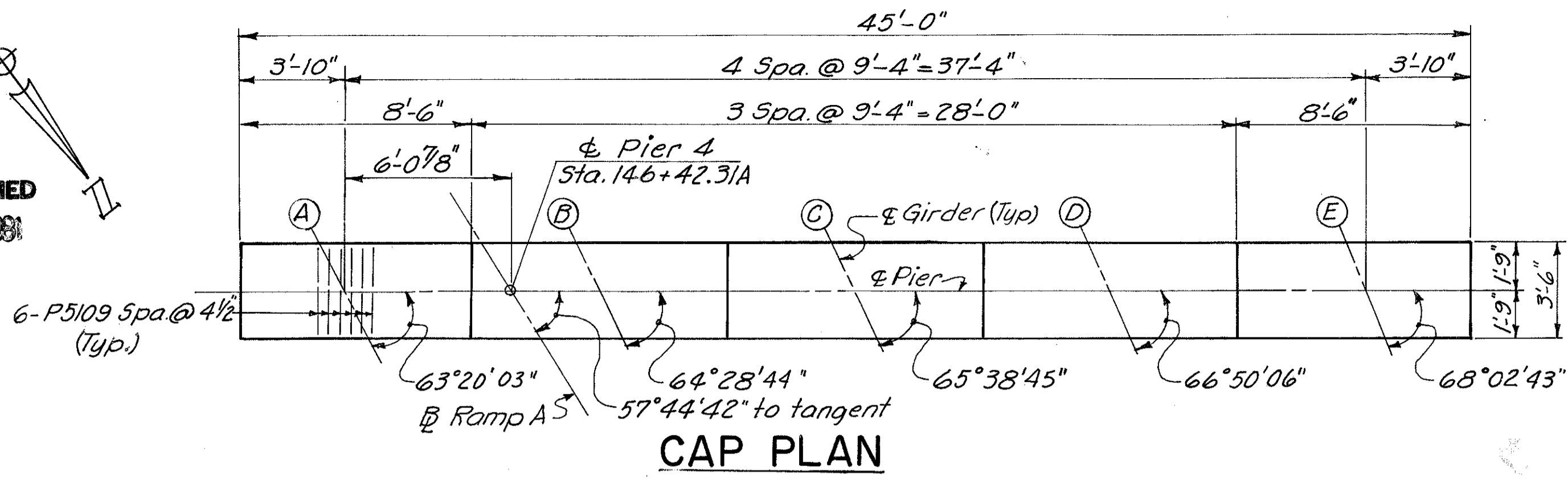
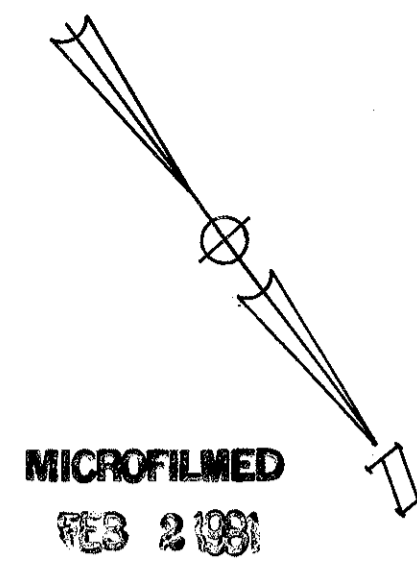
Dimensions & reinforcing steel shown are typical all footings this pier.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					11/31
<b>PIER NO. 3</b> BRIDGE NO. HAM.-471-0047					
H&E BRIDGE NO. 10					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JWH	AK	VWS	JWH OAF	JH0 11-21-72	

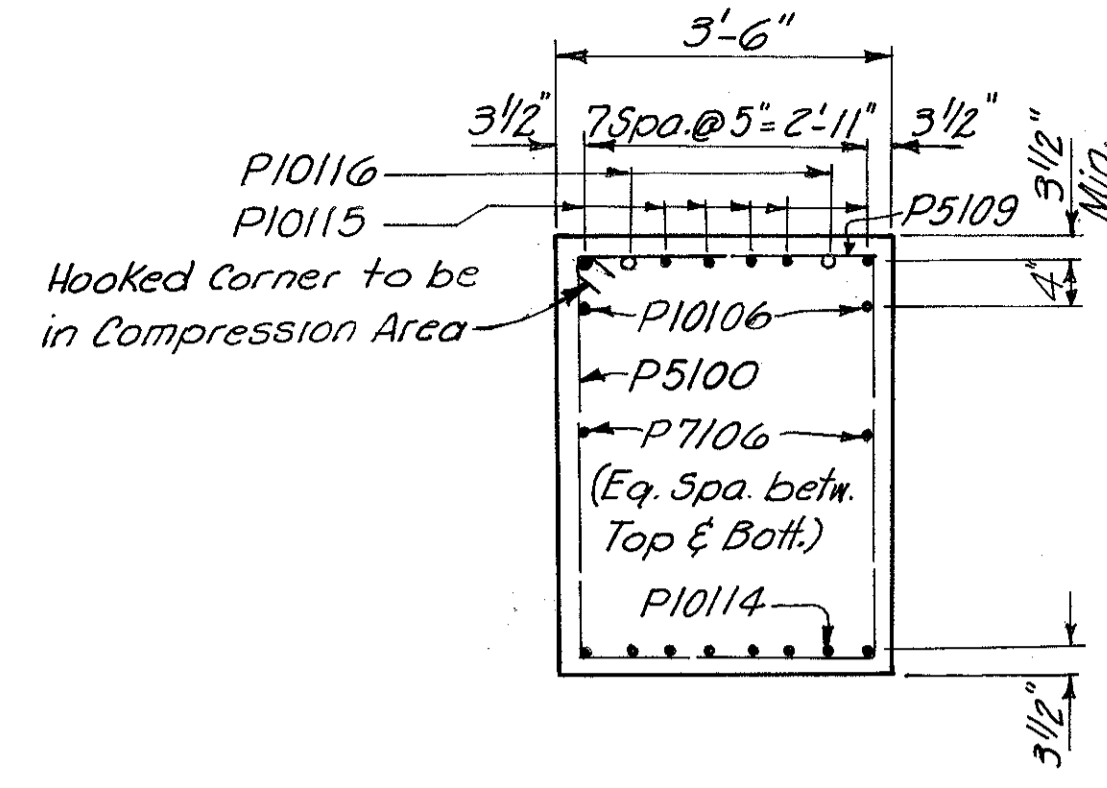
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

370  
494

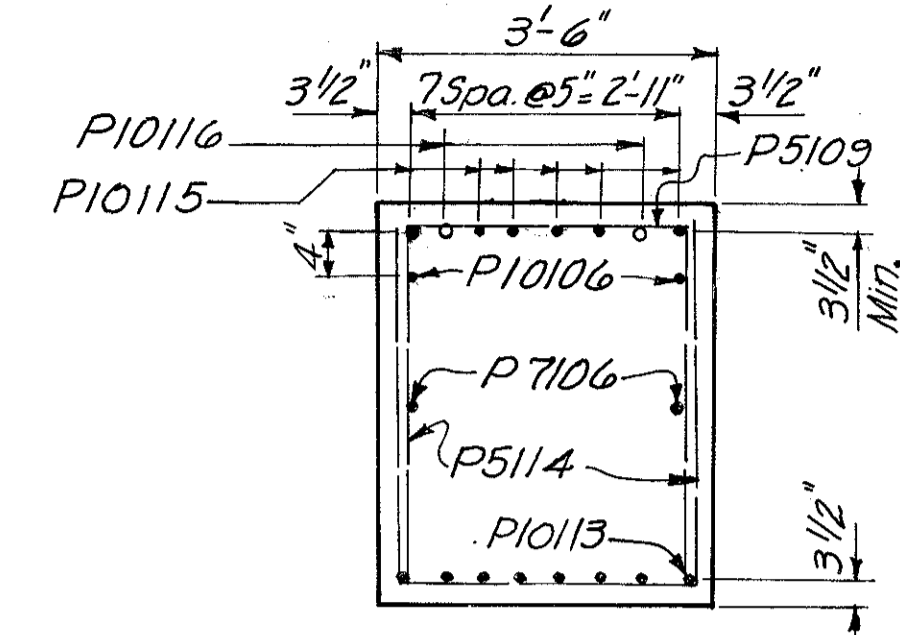
HAMILTON COUNTY  
HAM-471-030



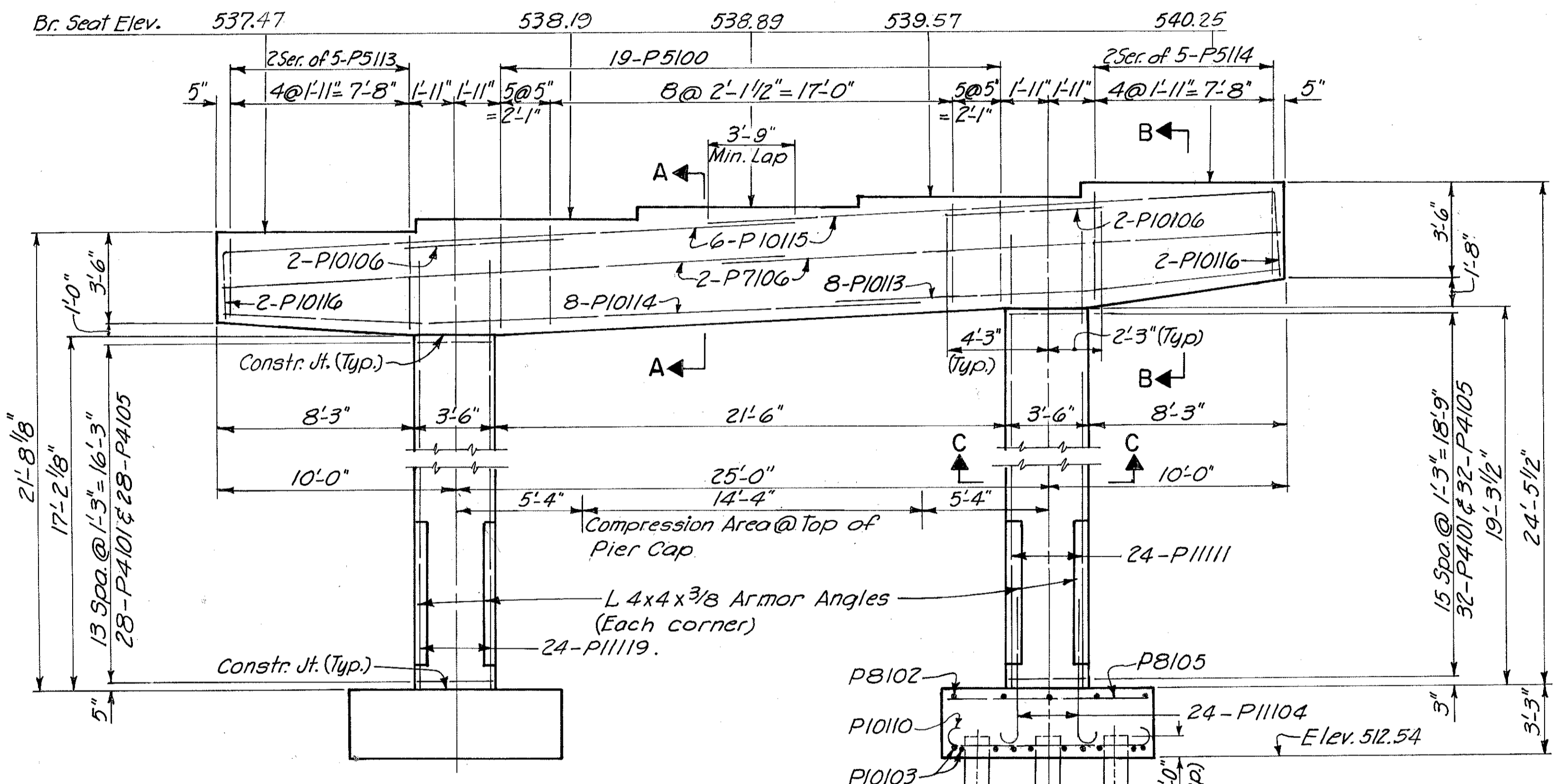
**CAP PLAN**



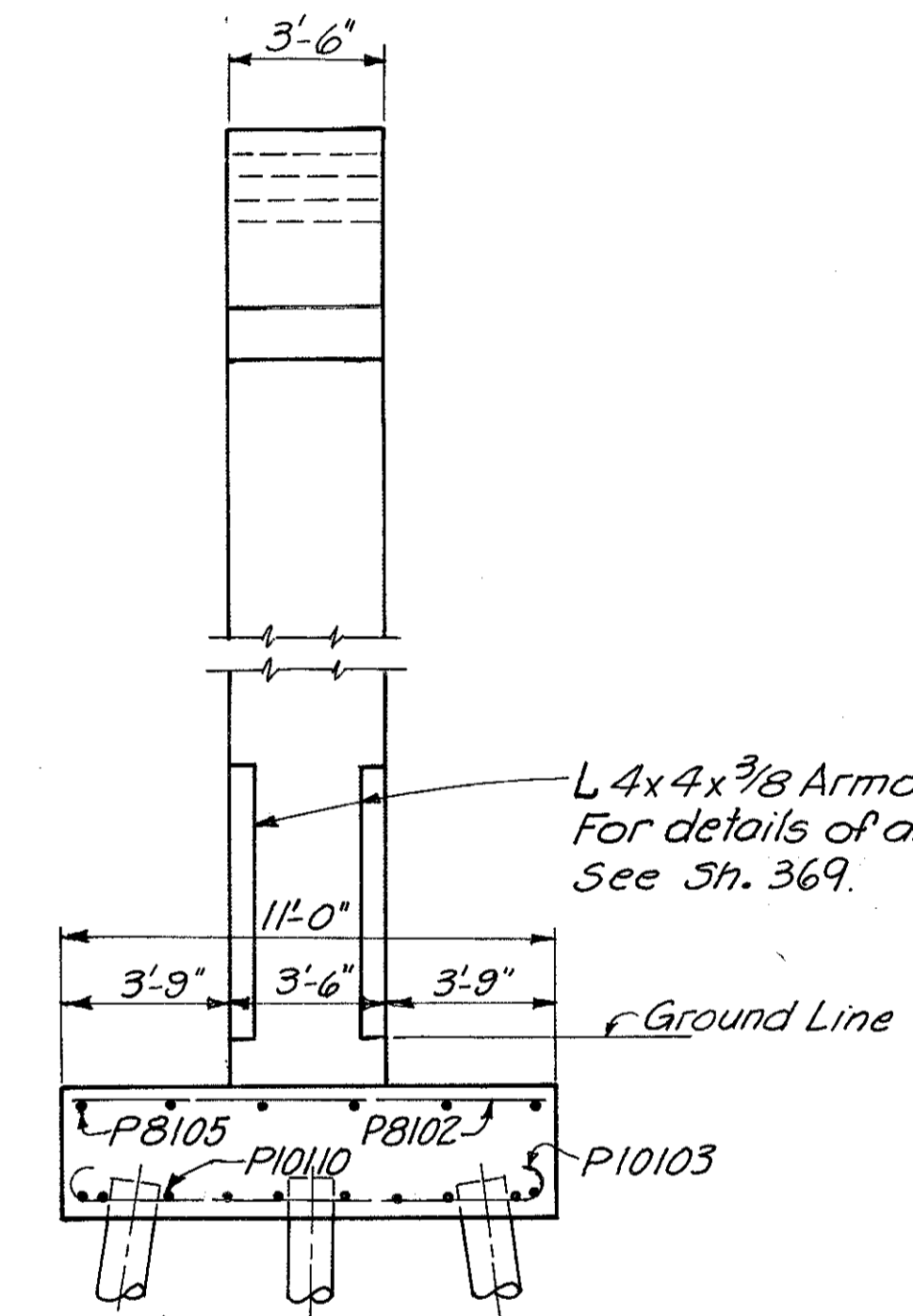
**SECTION A-A**



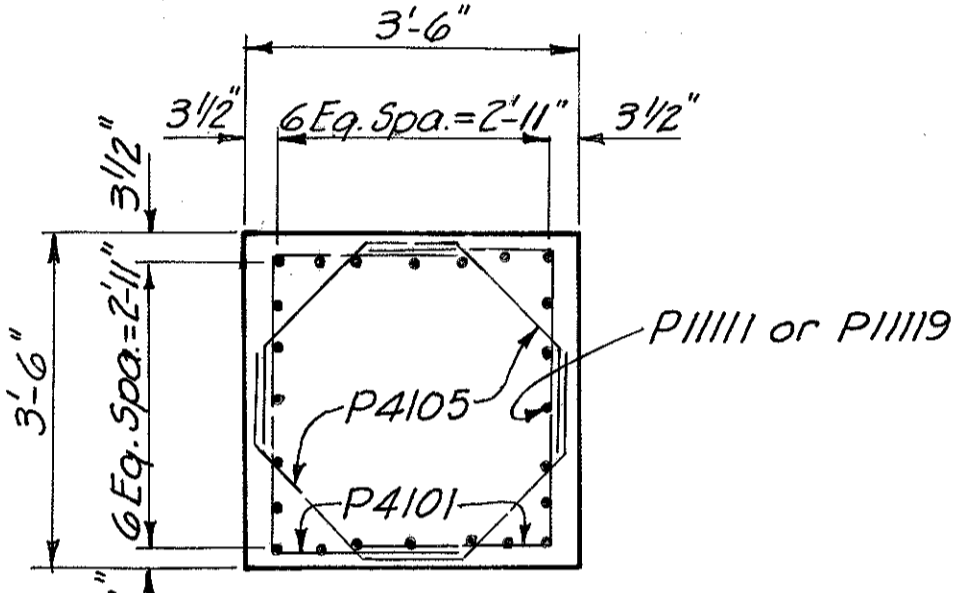
**SECTION B-B**



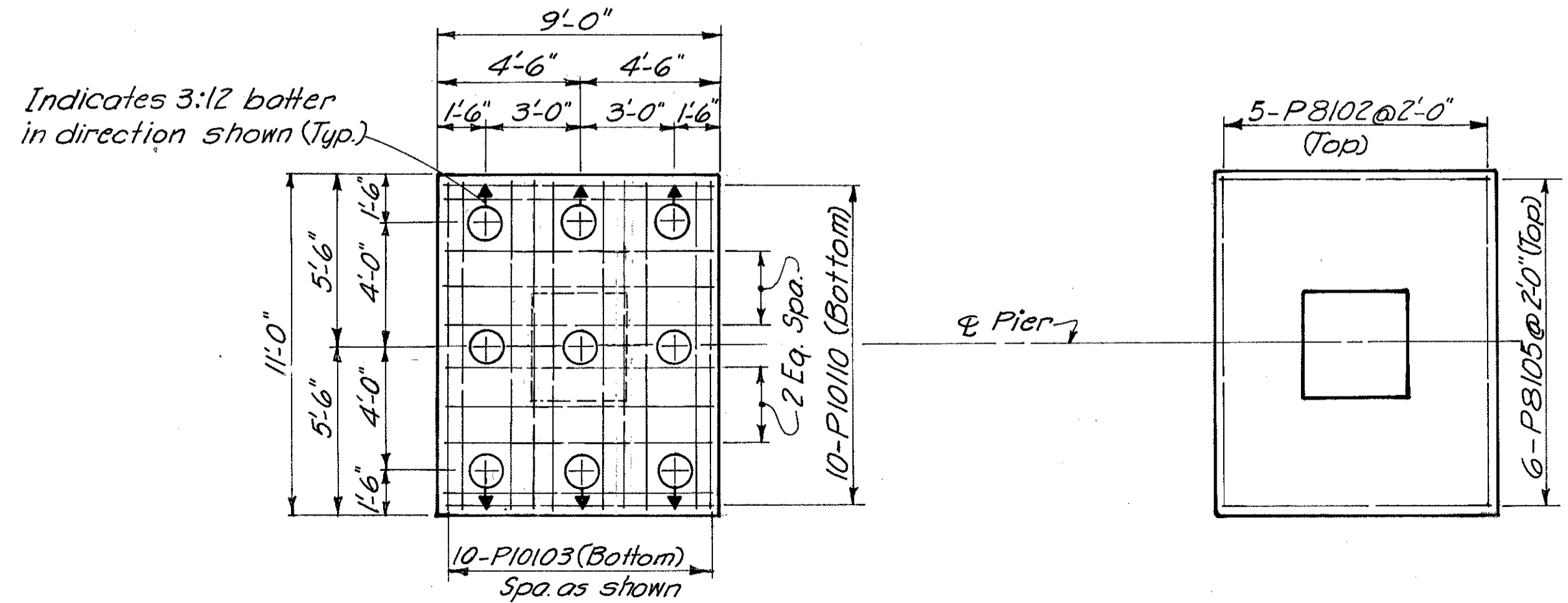
**ELEVATION**



**END ELEVATION**



**SECTION C-C**

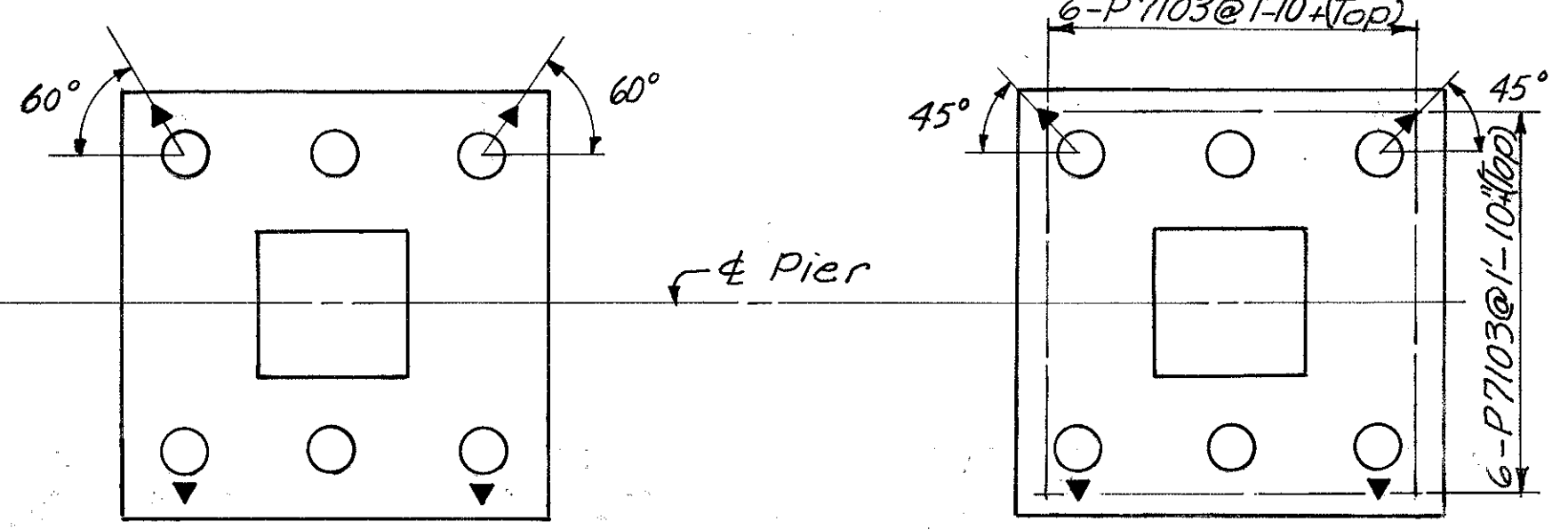
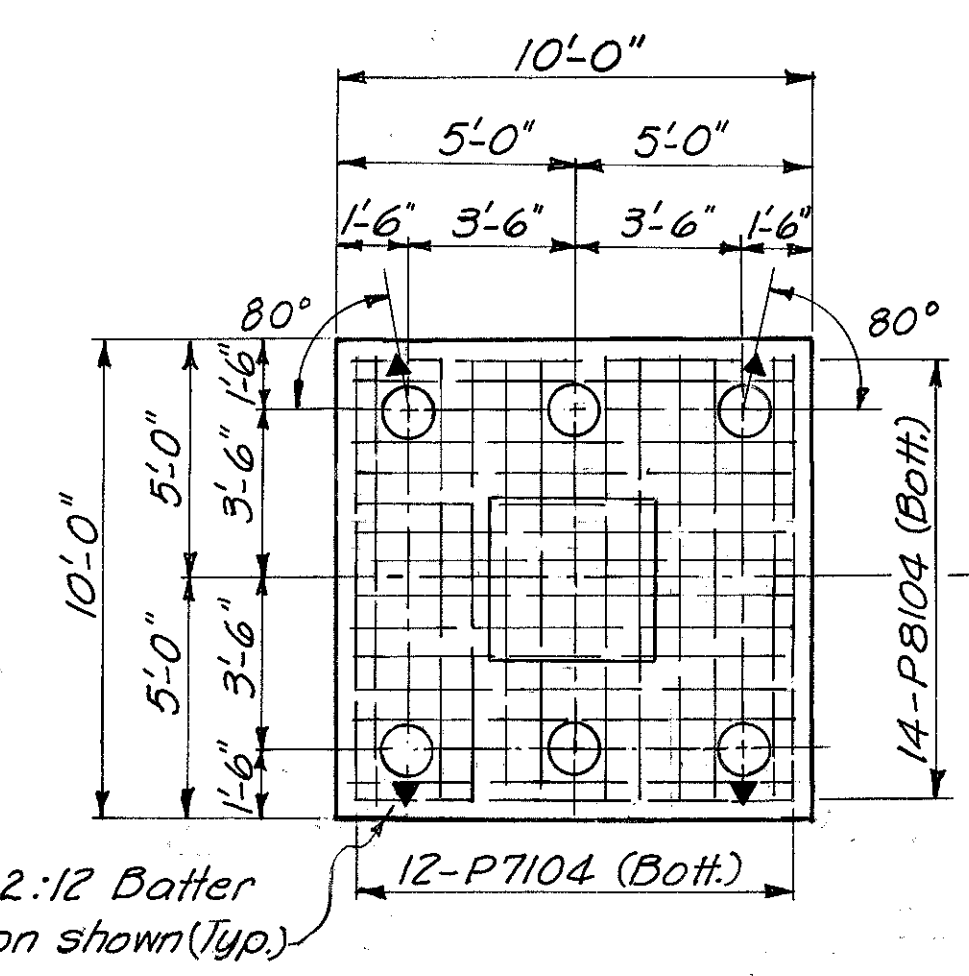
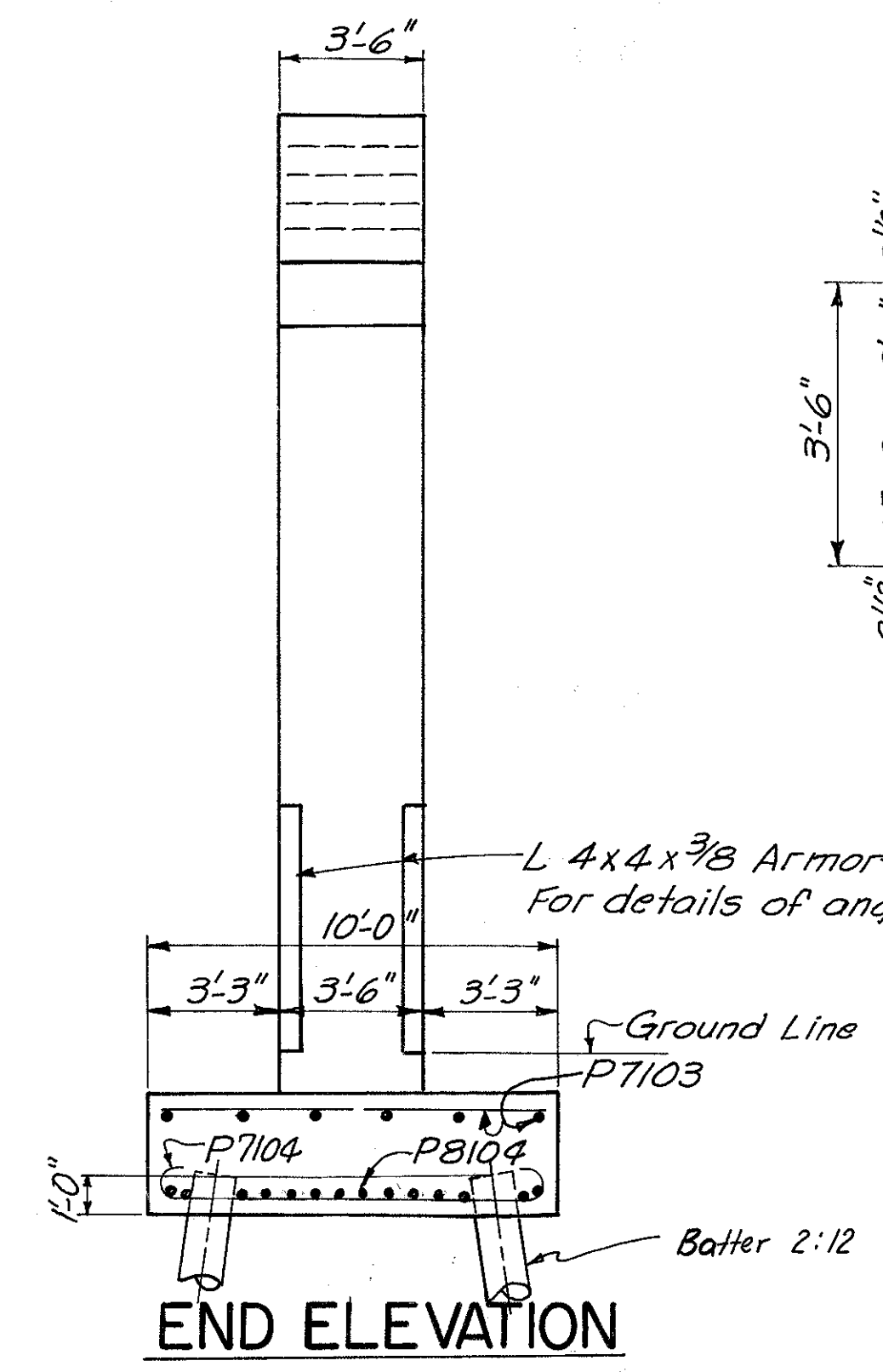
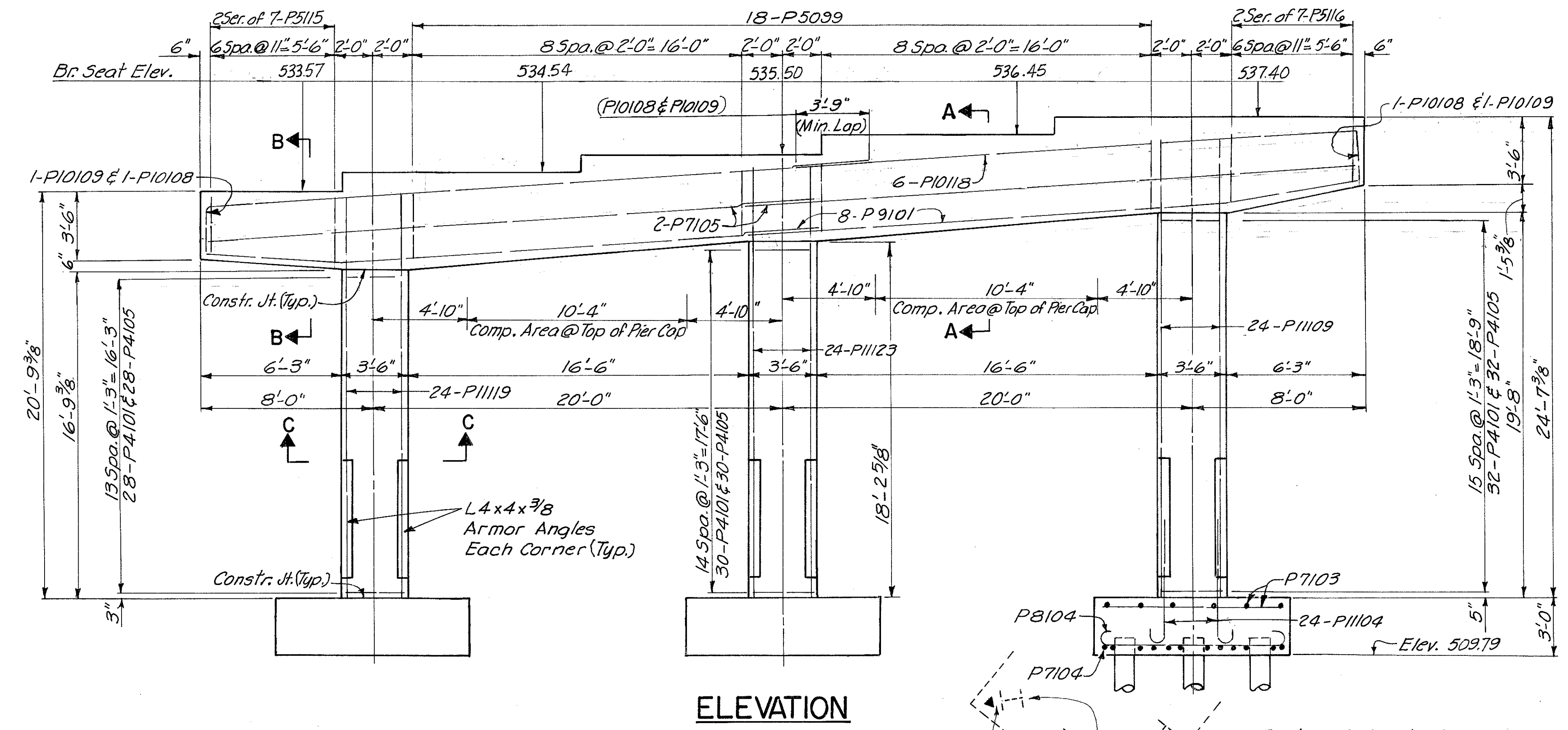
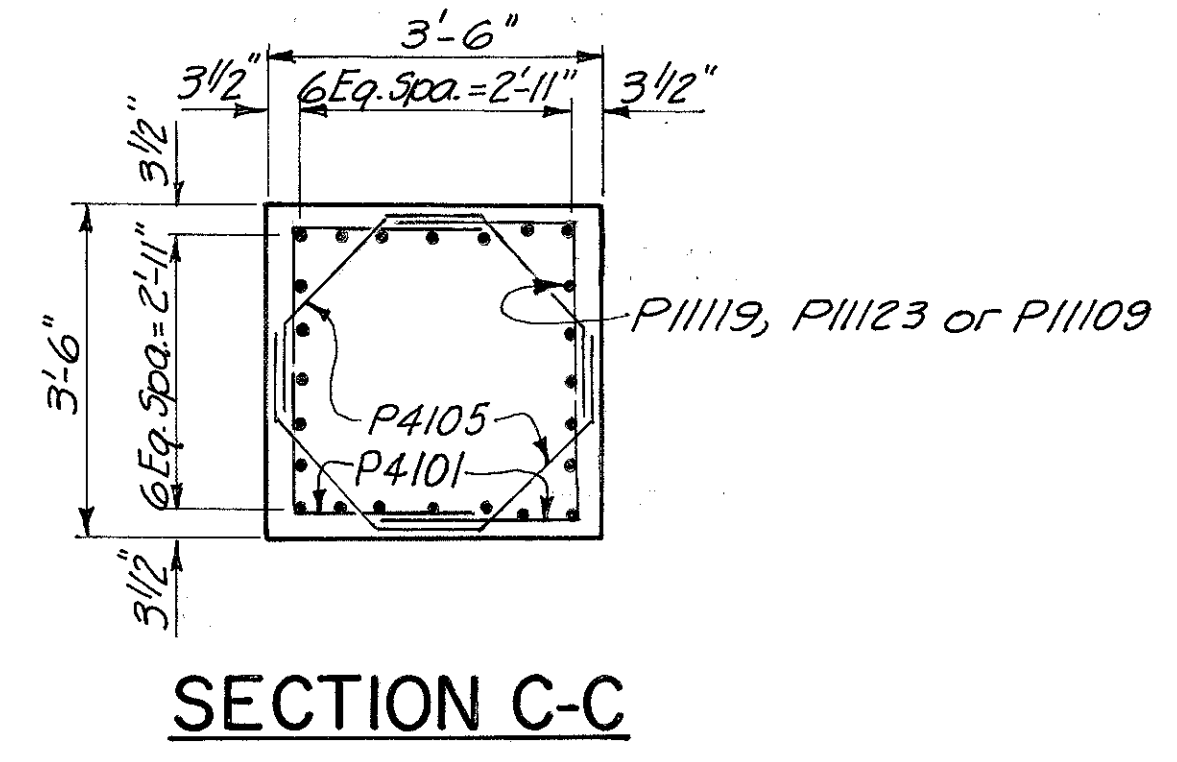
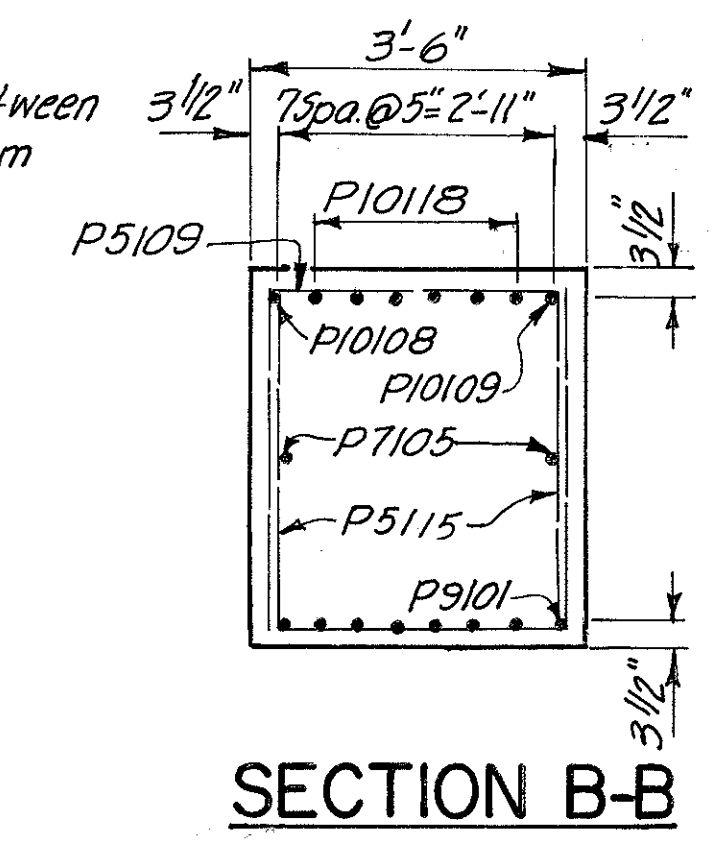
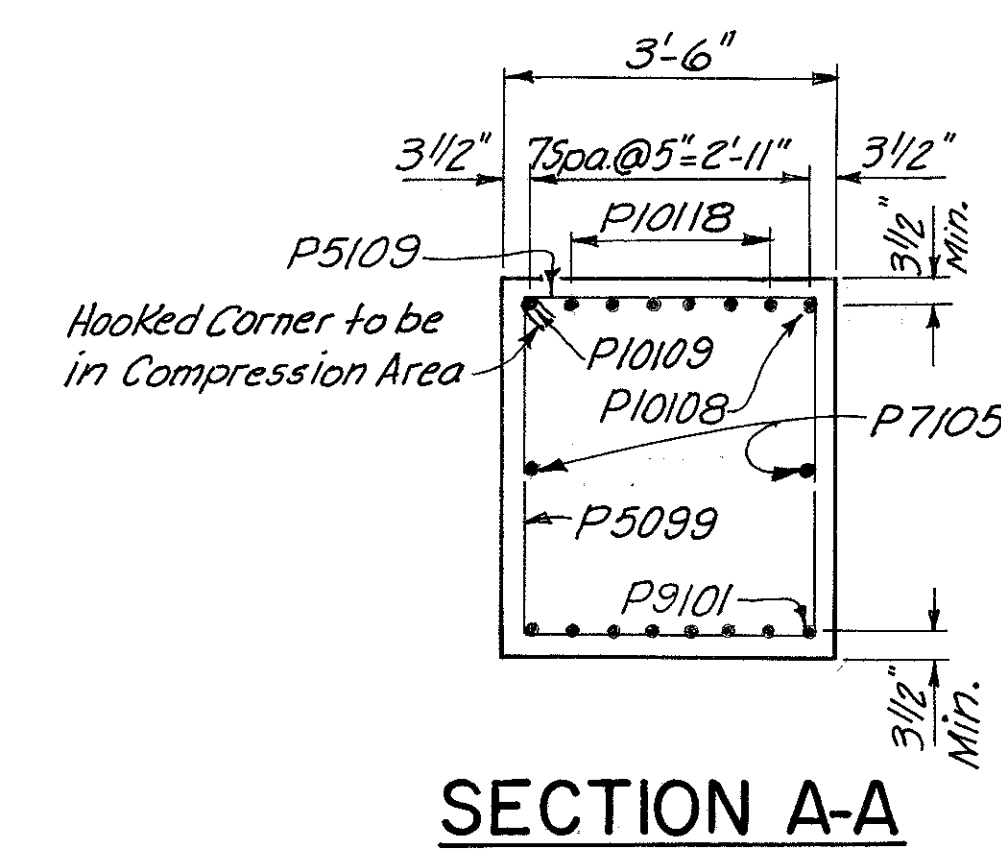
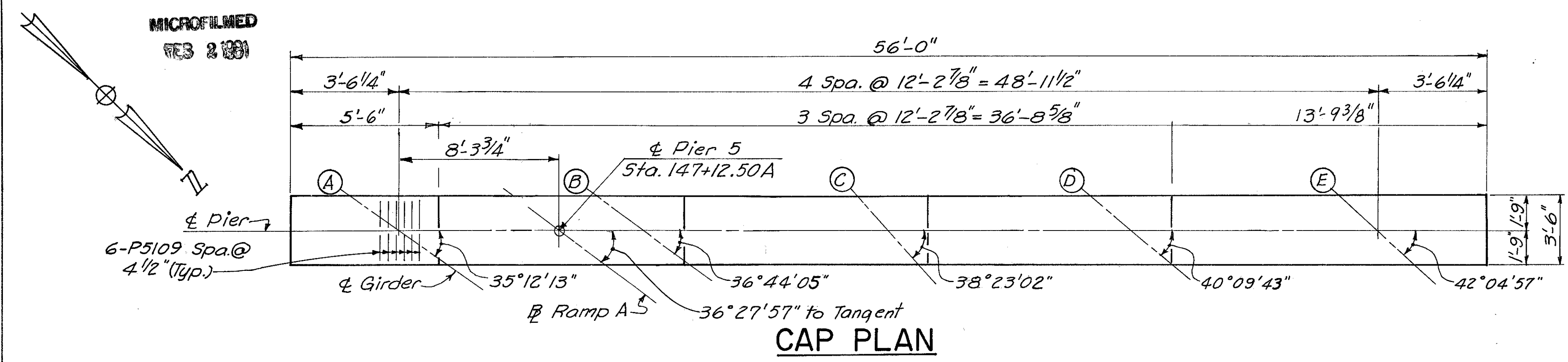


**FOOTING PLAN**

Dimensions & reinforcing steel shown are typical all footings this pier.

Notes:  
 All piles shall be 12" Cast-in-Place Reinforced Concrete.  
 For connection of downspouts to piers, see Sh. No. 387.  
 Clearance shall be 3 inches minimum to all surfaces of the footings & 2 inches minimum elsewhere, for reinforcing steel.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						12/31
<b>PIER NO. 4</b>						
BRIDGE NO. HAM.-471-0047						
H&E BRIDGE NO. 10						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
PRD	AK	VWS	JWH OAF	J40 11-21-72		



**FOOTING PLAN**  
Dimensions & Reinforcing steel shown are typical all footings this pier.

**Notes:**

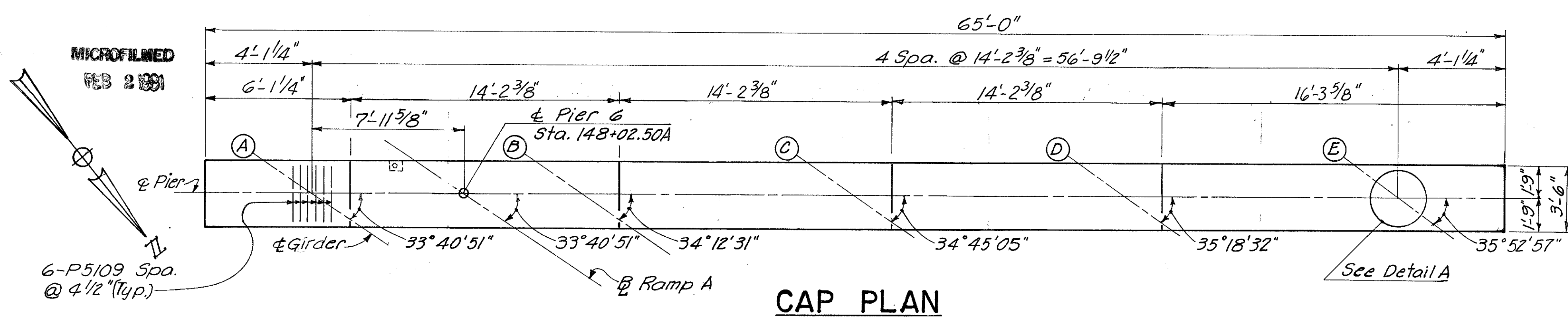
All Piles shall be 12" Cast-In-Place Reinforced Concrete.

Clearance shall be 3 inches minimum to all surfaces of the footings and 2 inches minimum elsewhere, for reinforcing steel.

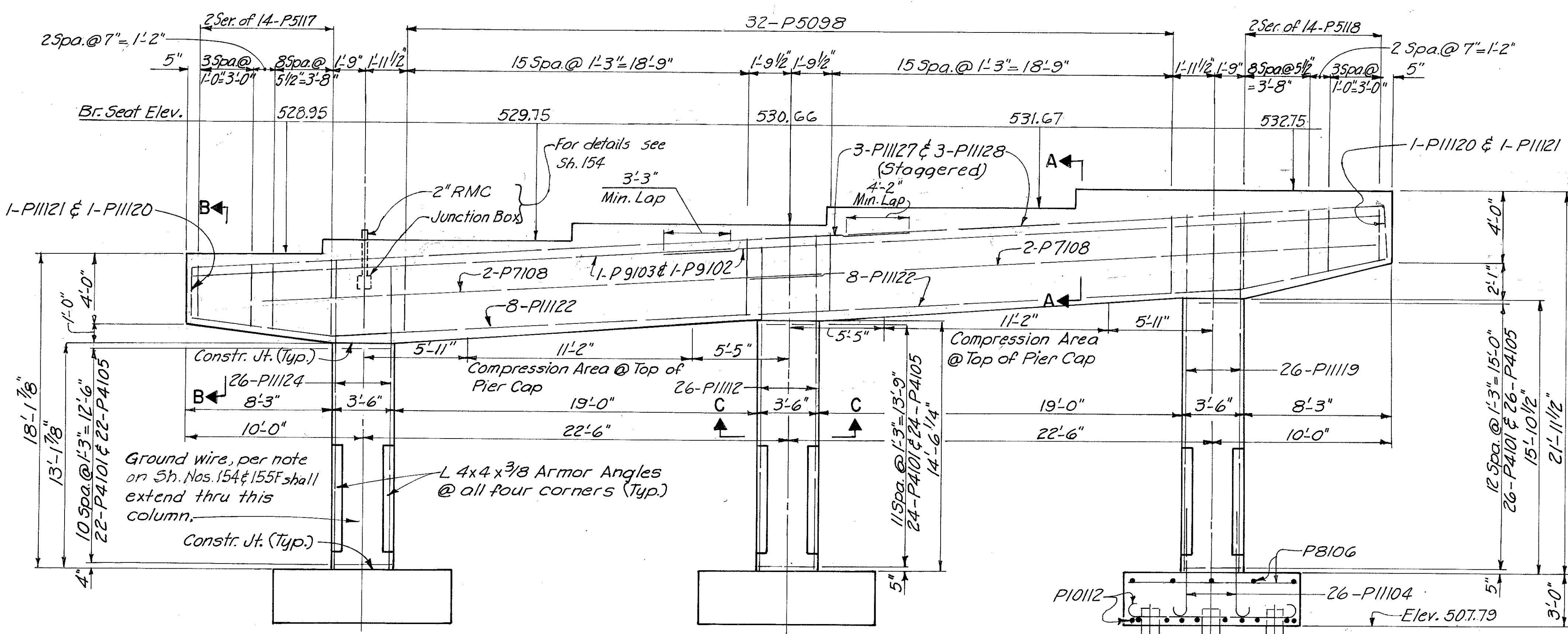
The Contractor shall locate the existing footing before driving piles for the proposed footing. Care shall be exercised in driving prop. piles and constructing prop. footing so as not to damage the existing footing or piles.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO		1/3/31
<b>PIER NO. 5</b> BRIDGE NO. HAM-471-0047		
H&E BRIDGE NO. 10		
DESIGNED JWH	DRAWN AK	TRACED VWS
CHECKED JWH	REVIEWED DATE 11-21-72	REVISED

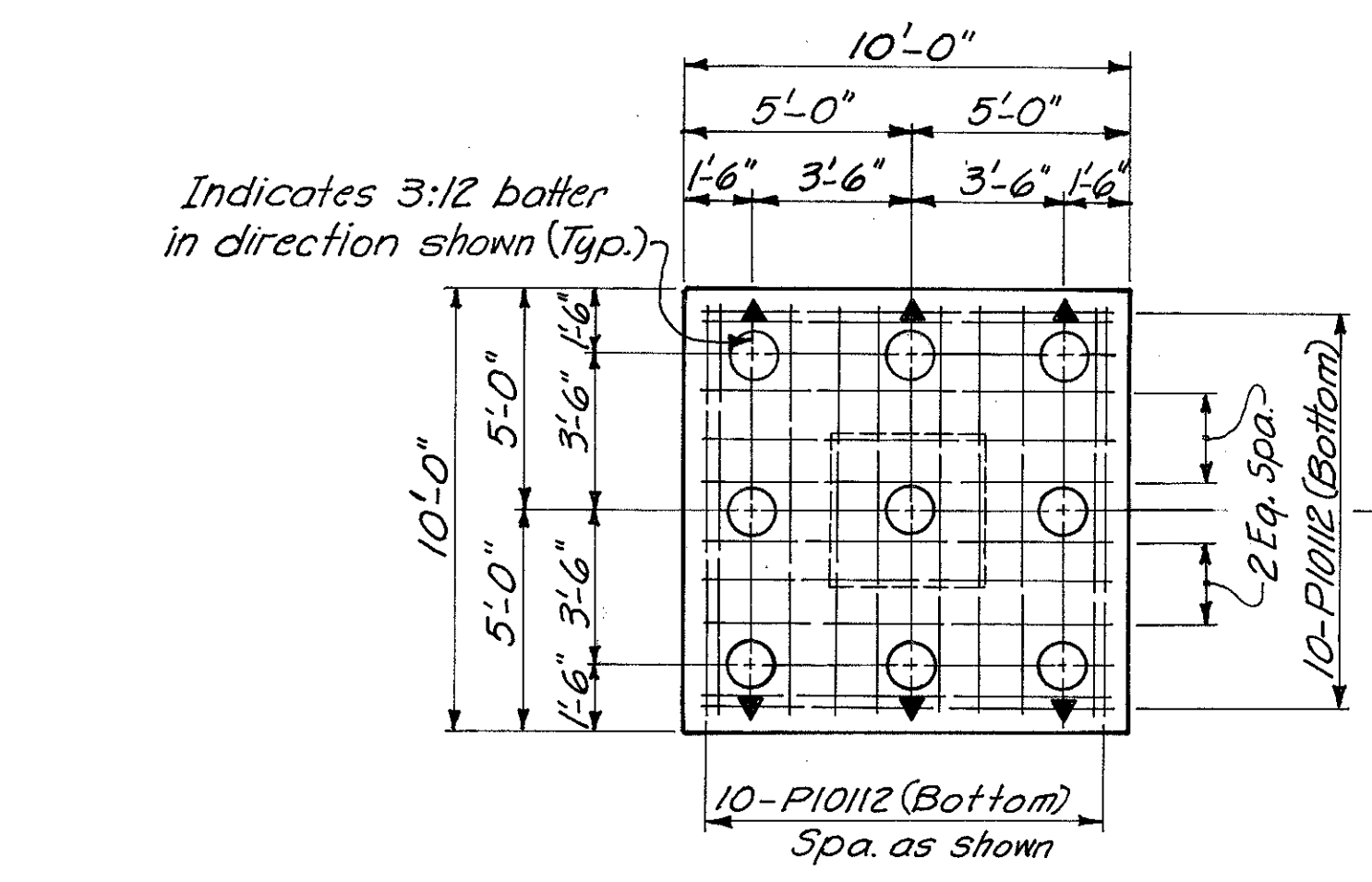
HAMILTON COUNTY  
HAM-471-0-30



**CAP PLAN**

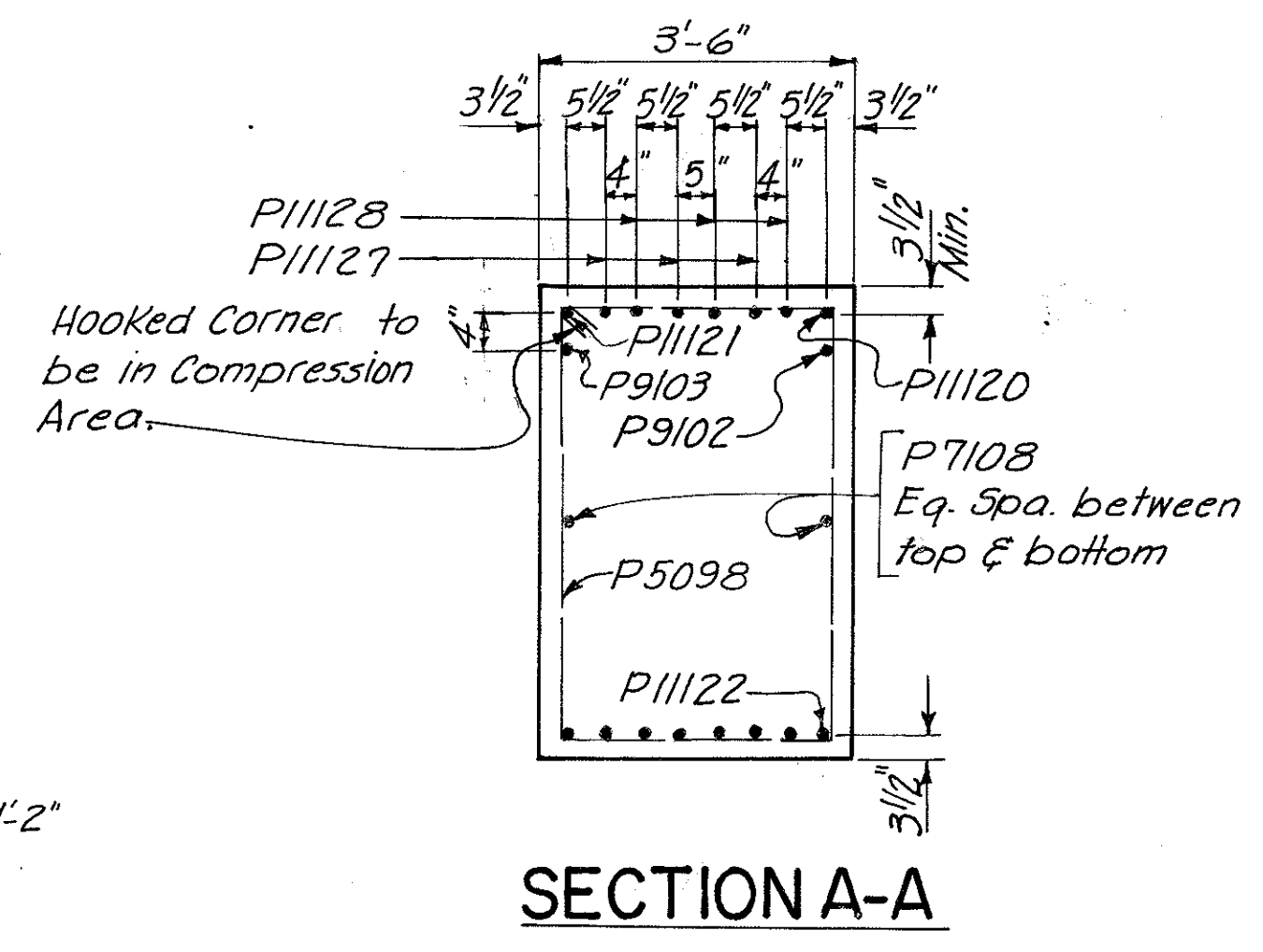


**ELEVATION**

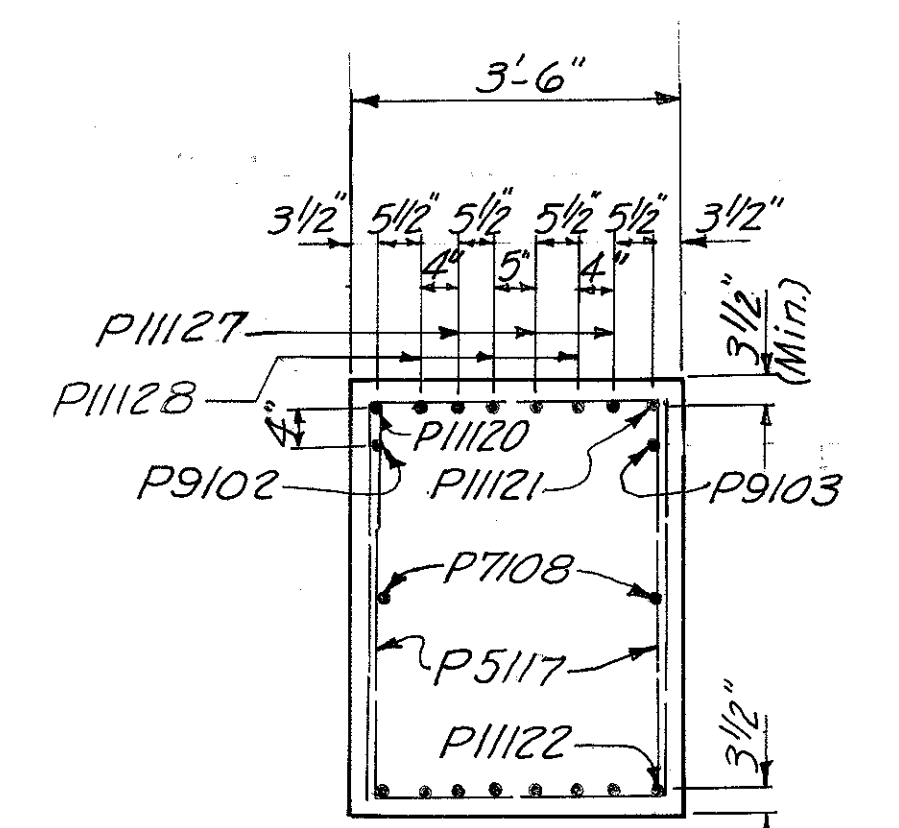


**FOOTING PLAN**

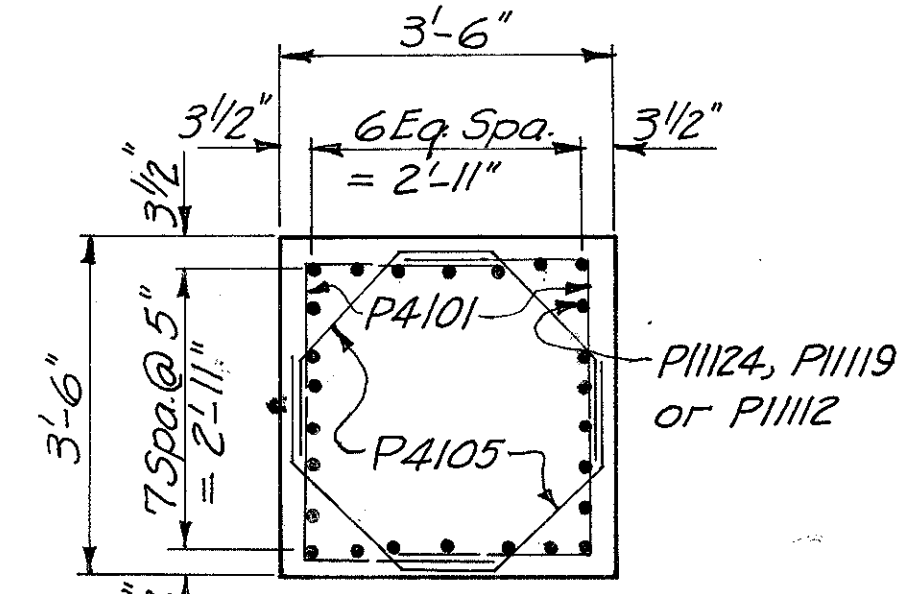
Dimensions & reinforcing steel shown are typical all footings this pier.



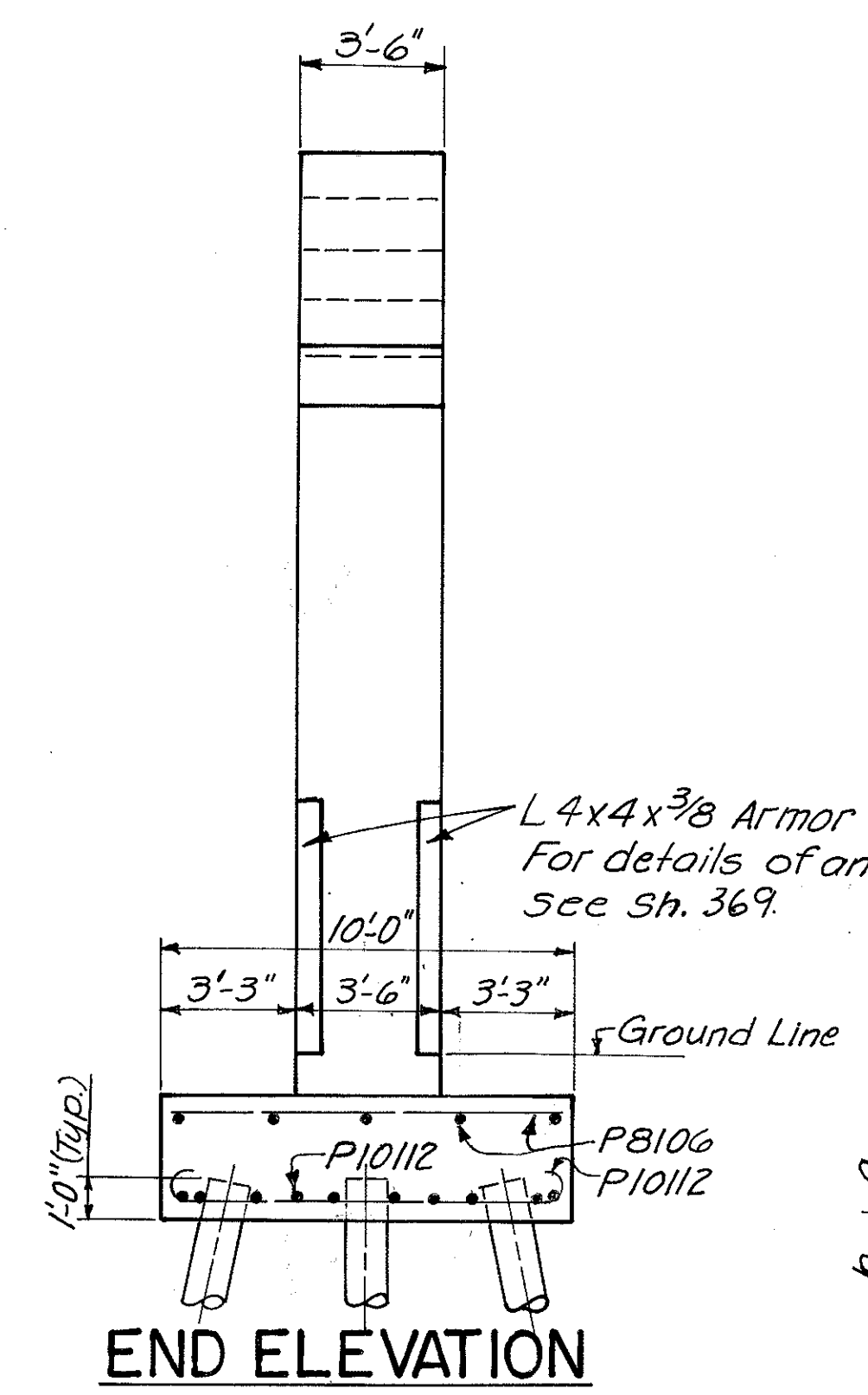
**SECTION A-A**



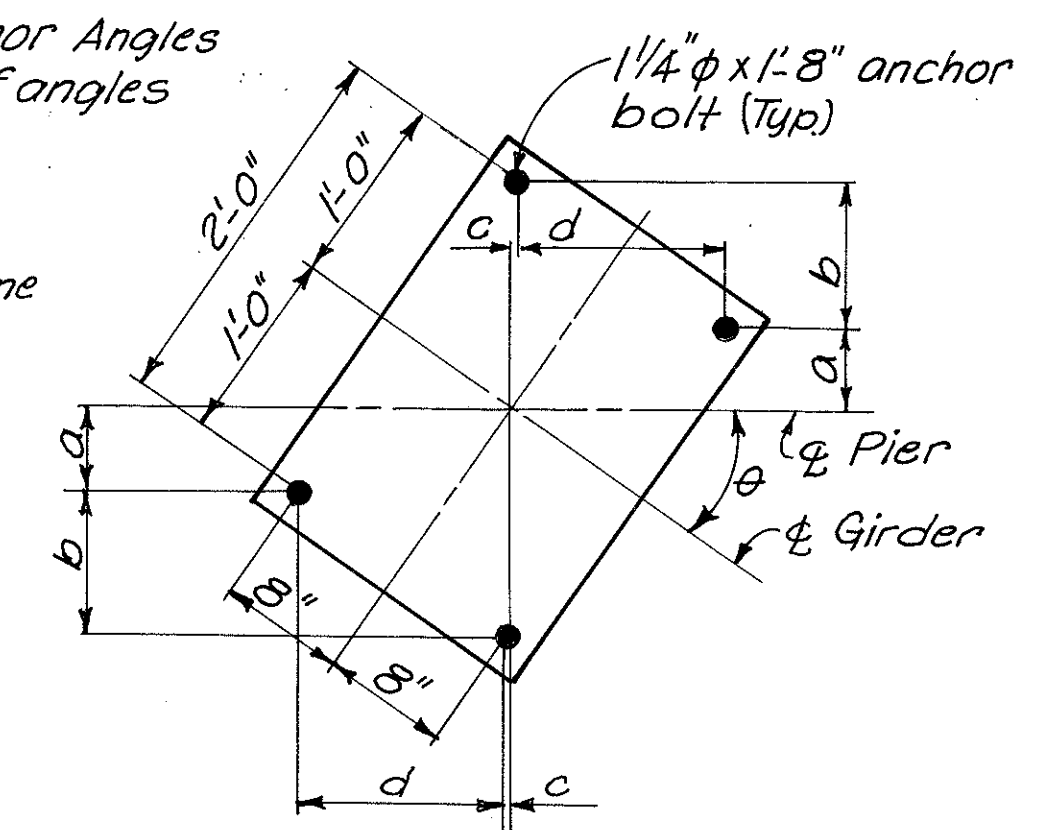
**SECTION B-B**



**SECTION C-C**



**END ELEVATION**



**DETAIL A**

Girder	Angle θ	a	b	c	d
A	33° 40' 51"	5 1/2"	8 7/8"	0	1-1/4"
B	34° 12' 31"	5 3/8"	9"	1/8"	1-1/4"
C	34° 45' 04"	5 1/4"	9 1/8"	1/4"	1-1/8"
D	35° 18' 32"	5 1/8"	9 1/4"	3/8"	1-1/8"
E	35° 52' 57"	5"	9 3/8"	1/2"	1-1"

Notes:  
All Piles shall be 12" Cast-in-Place Reinforced Concrete.

Special care shall be taken in placing reinforcing steel in the cap so that it will not interfere with the drilling of Anchor Bolt holes.

Clearance shall be 3 inches minimum to all surfaces of the footings and 2 inches minimum elsewhere, for reinforcing steel.

Junction box & 2" R.M.C. is included with Item 625 for payment.

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

14/31

**PIER NO. 6**  
BRIDGE NO. HAM-471-0047

H&E BRIDGE NO. 10

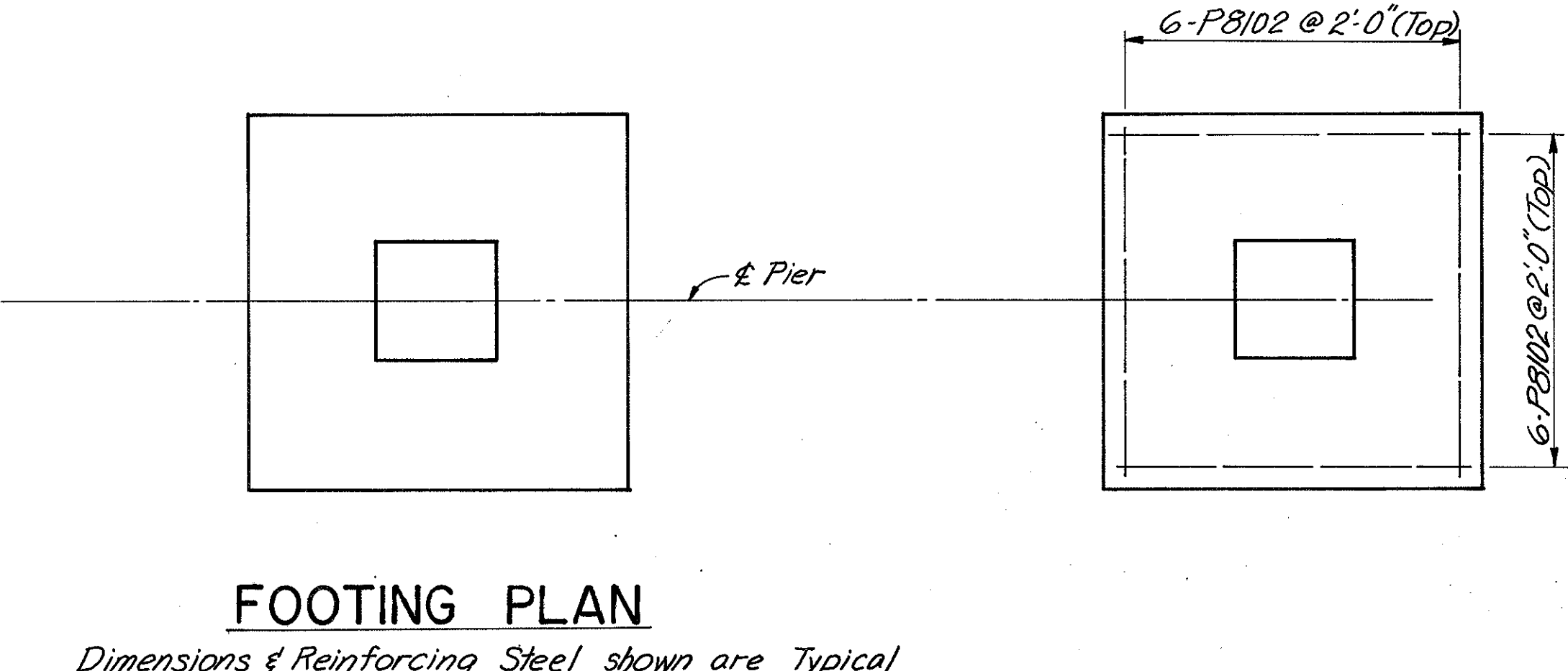
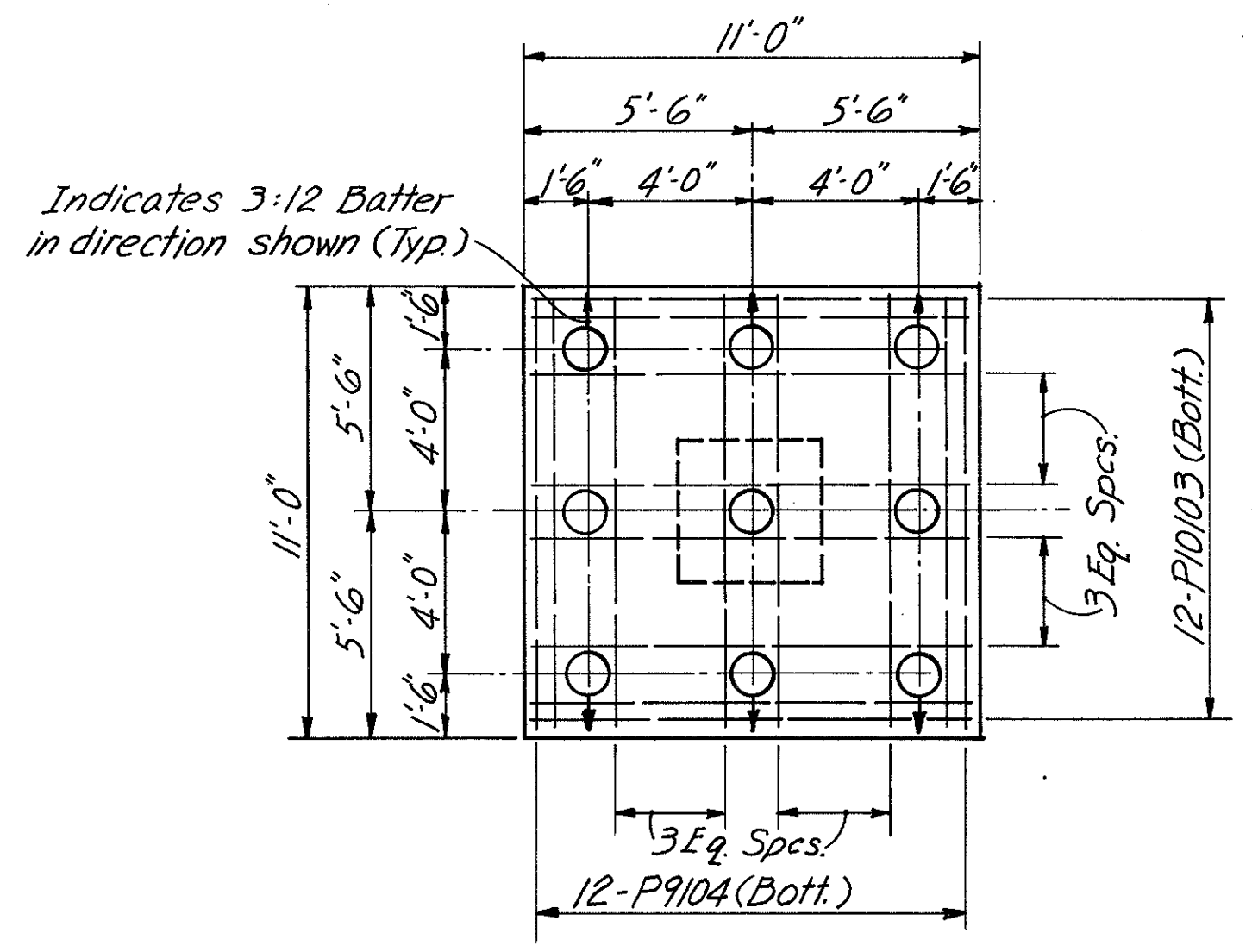
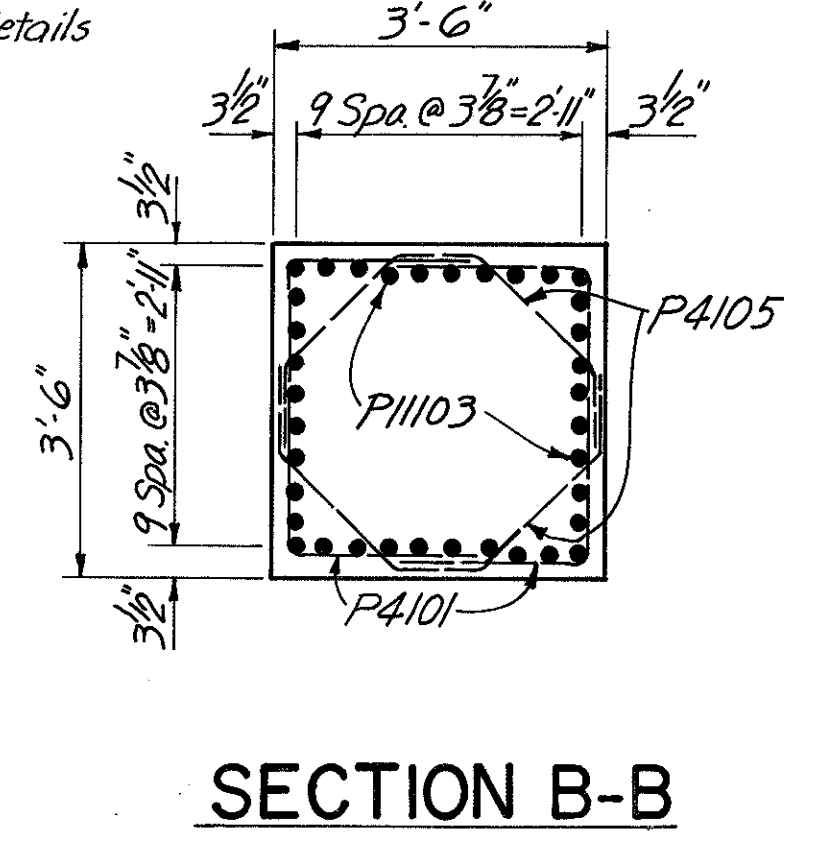
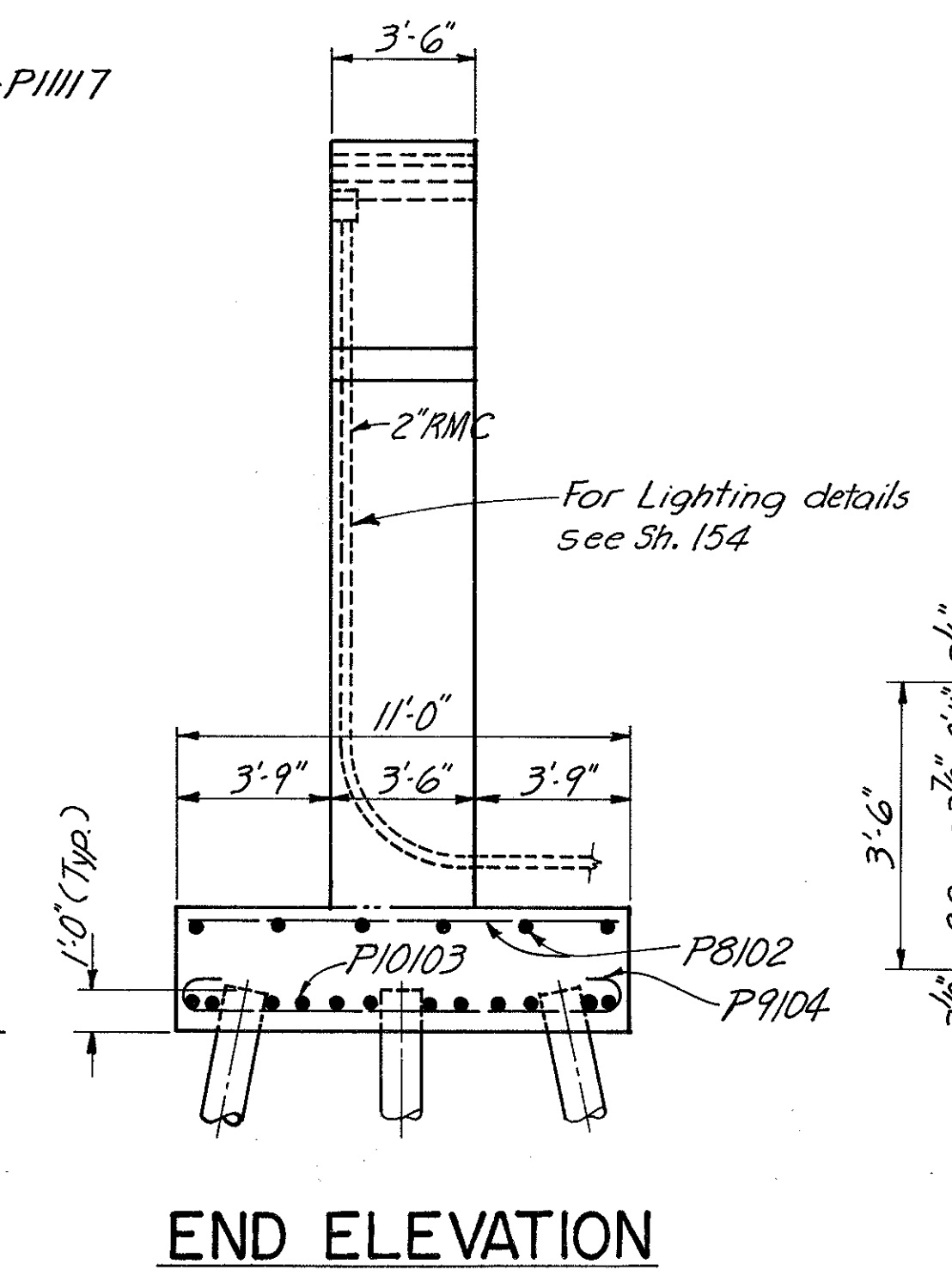
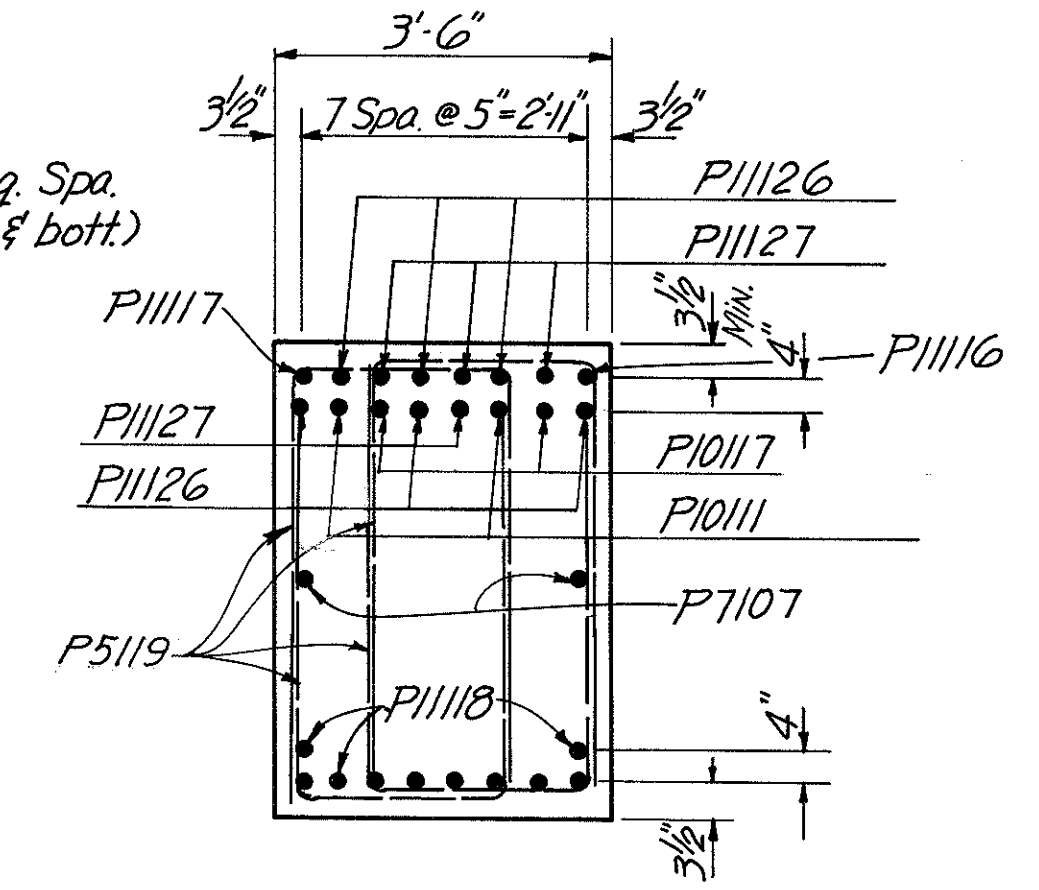
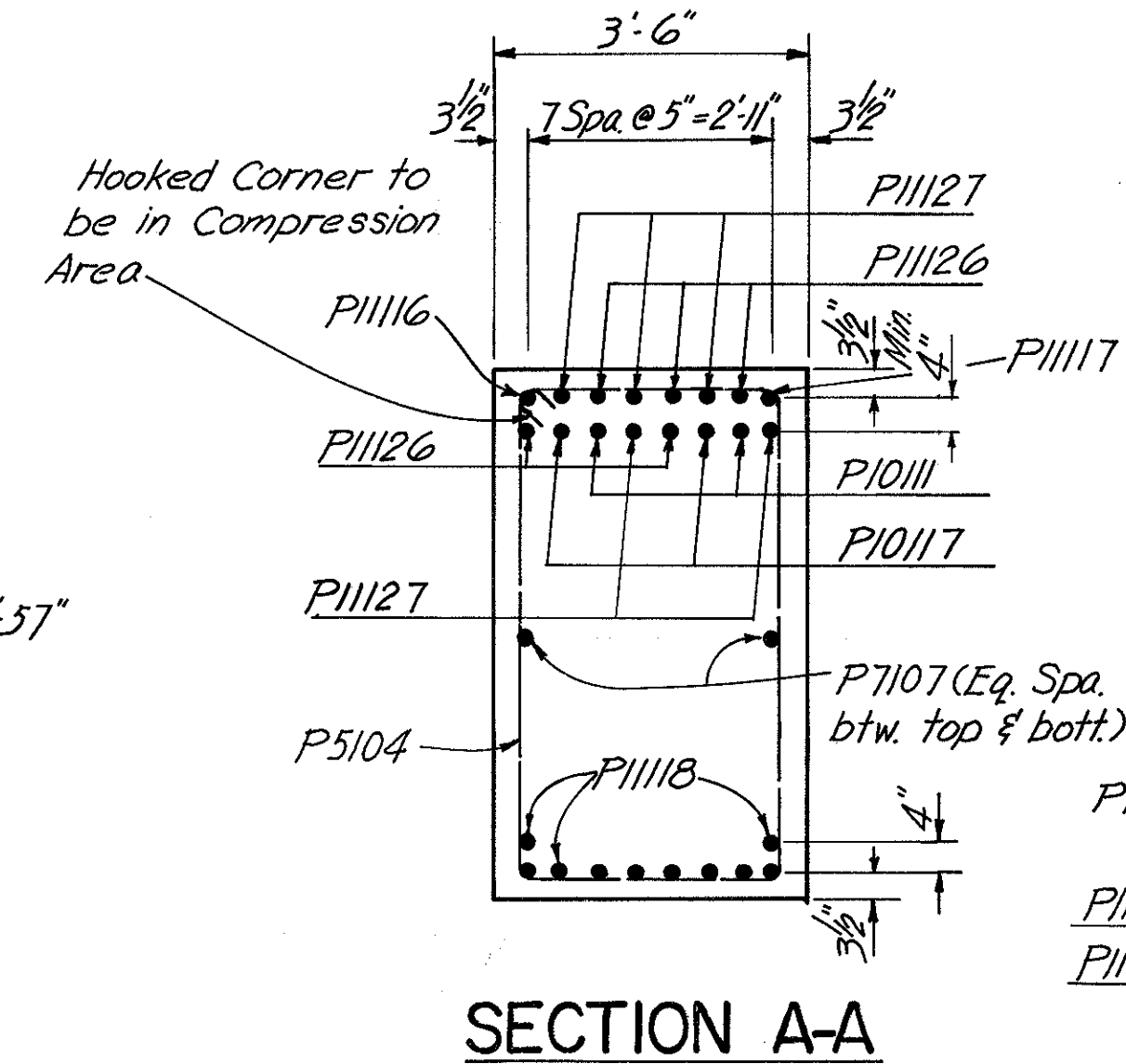
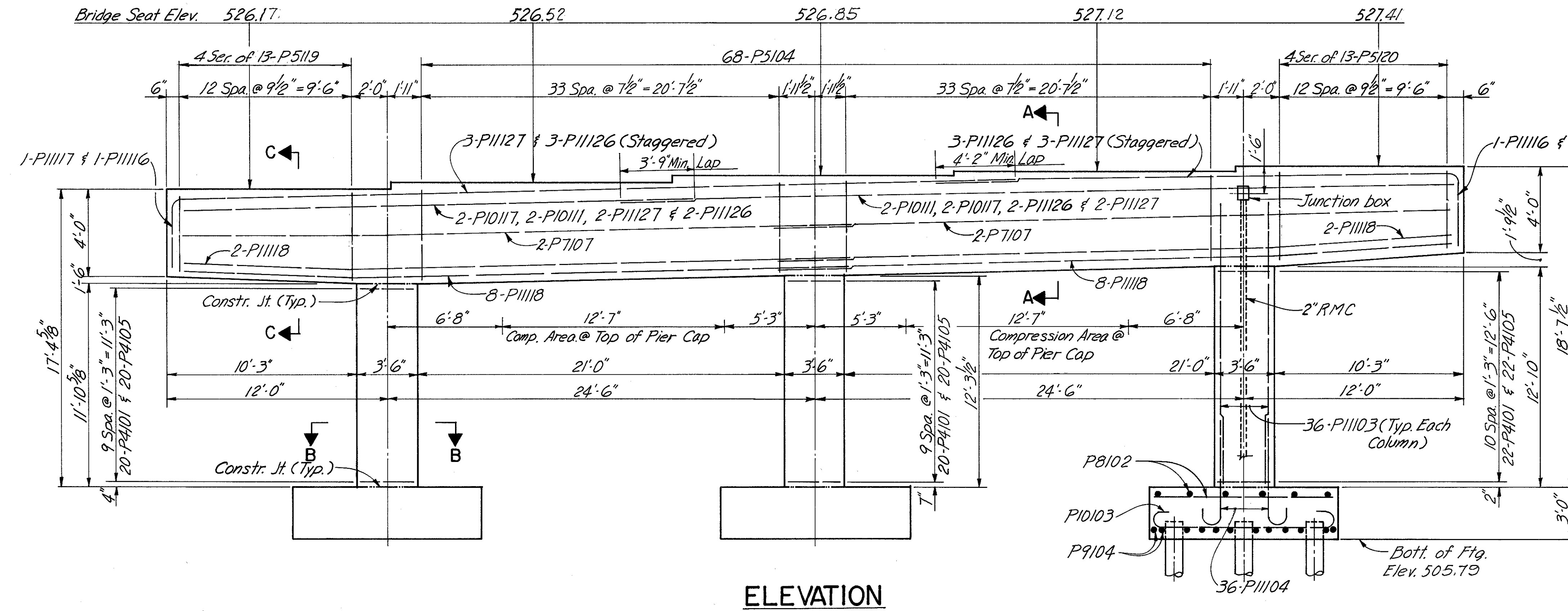
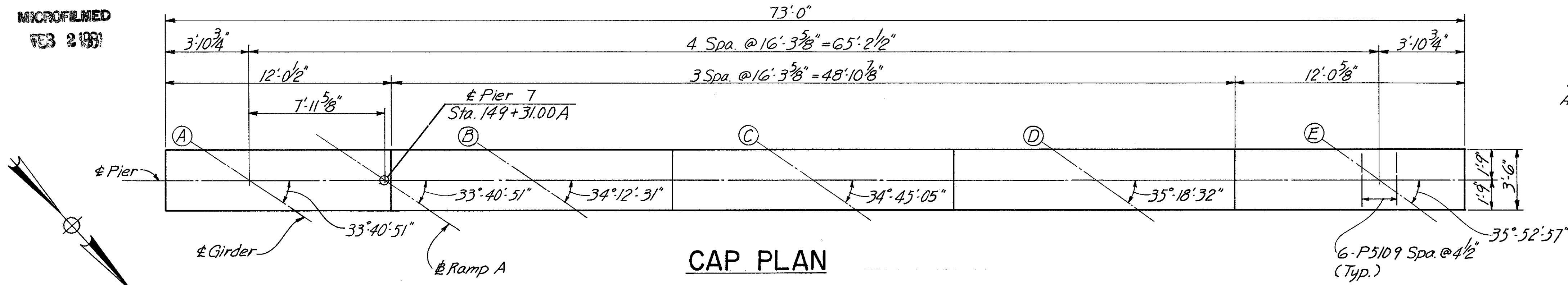
DESIGNED	DRAWN	TRACER	CHECKED	REVIEWED DATE	REVISION
JWH	AK	VWS	JWH OAF	JH0 11-21-72	

MICROFILMED  
FEB 2 1991

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

373  
494

HAMILTON COUNTY  
HAM-471-0.30



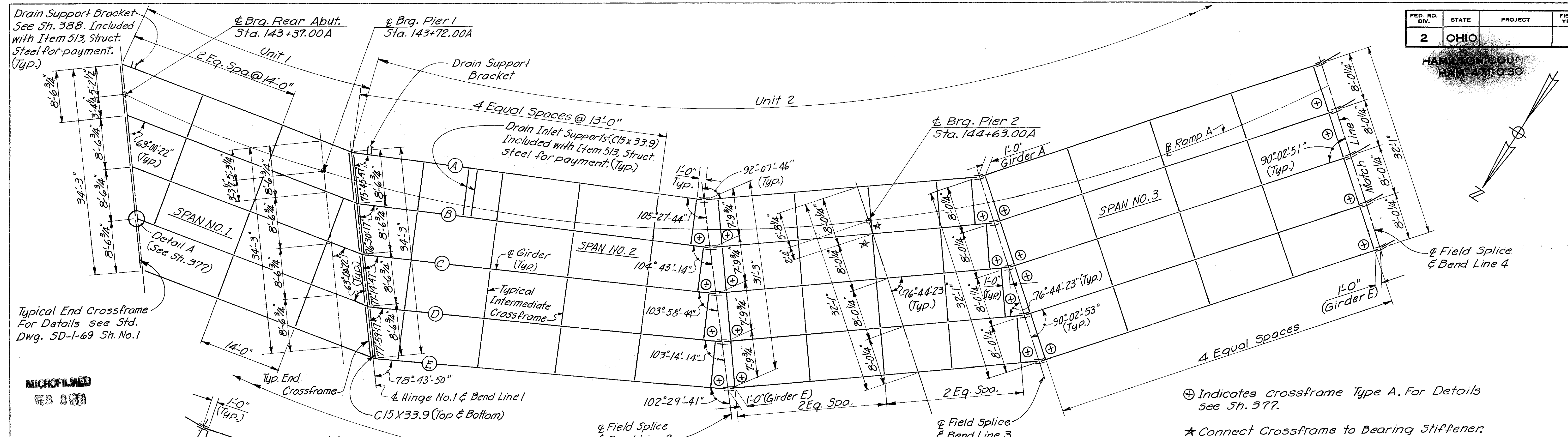
Dimensions & Reinforcing Steel shown are Typical all footings this pier.

Notes:

- All piles shall be 12" Cast-in-Place Reinforced Concrete.
- For connection of downspouts to piers, see sheet No. 388.
- Clearance shall be 3 inches minimum to all surfaces of the footings and 2 inches minimum elsewhere, for reinforcing steel.
- Junction Box & 2" R.M.C. shall be included in Item 625 for payment.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					15/31
<b>PIER NO. 7</b>					
BRIDGE NO. HAM.-471-0047					
H & E BRIDGE NO. 10					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JWH	AK	SL	JWH OAF	JH0 11-21-72	

HAMILTON COUN  
HAM-471-0-30



Drain Support Bracket  
See Sh. 388. Included  
with Item 513, Struct.  
Steel for payment.  
(Typ.)

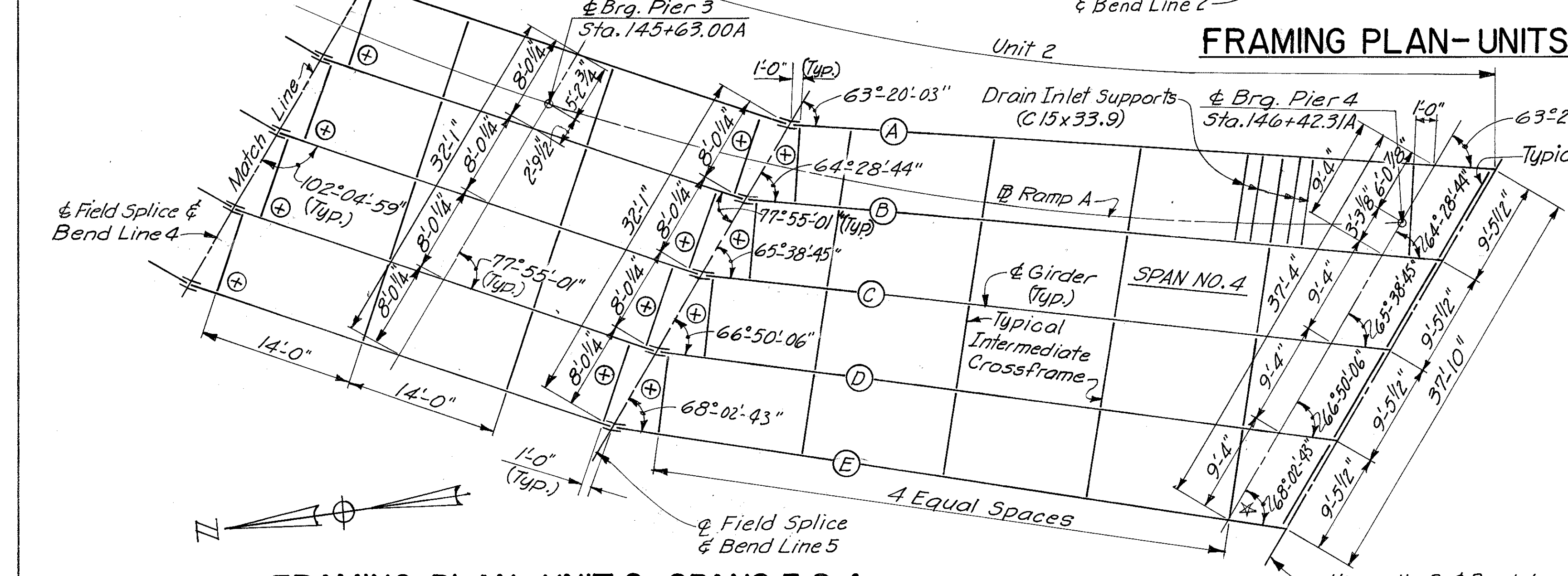
Typical End Crossframe  
For Details see Std.  
Dwg. SD-1-69 Sh. No.1

MICROFILMED  
78 2101

⊕ Indicates Crossframe Type A. For Details  
see Sh. 377.

★ Connect Crossframe to Bearing Stiffener.

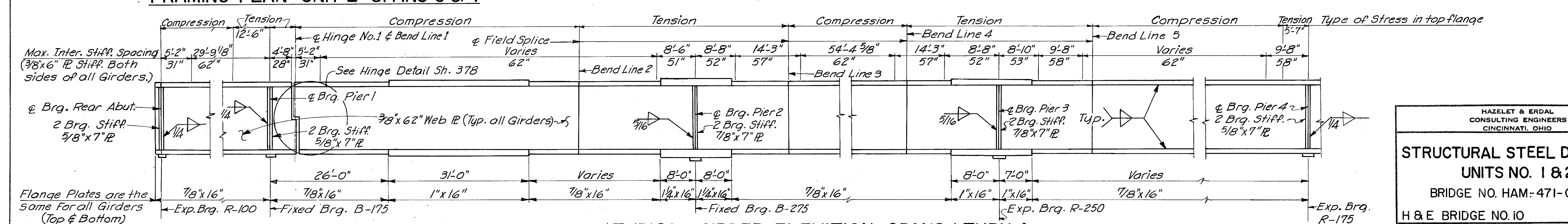
**FRAMING PLAN-UNITS 1 & 2-SPANS 1 THRU 3**



**FRAMING PLAN-UNIT 2-SPANS 3 & 4**

GIRDER	A	B	C	D	E
Brg. Rear Abut. to Brg. Pier 1	34'-11 1/4"	34'-11 1/4"	34'-11 1/4"	34'-11 1/4"	34'-11 1/4"
Brg. Pier 1 to Bend Line 1	5'-7 3/8"	5'-7 3/8"	5'-7 3/8"	5'-7 3/8"	5'-7 3/8"
Bend Line 1 to Bend Line 2	59'-6"	59'-5 3/4"	59'-5 3/4"	59'-5 3/4"	59'-5 1/8"
Bend Line 2 to Brg. Pier 2	24'-8 7/8"	26'-3 1/2"	27'-10"	29'-4 1/4"	30'-11 1/4"
Brg. Pier 2 to Bend Line 3	20'-6 5/8"	20'-6 5/8"	20'-6 5/8"	20'-6 5/8"	20'-6 5/8"
Bend Line 3 to Bend Line 4	59'-2 1/8"	59'-2 1/8"	59'-2 1/8"	59'-2 1/8"	59'-2 1/8"
Bend Line 4 to Brg. Pier 3	20'-5 3/8"	20'-5 3/8"	20'-5 3/8"	20'-5 3/8"	20'-5 3/8"
Brg. Pier 3 to Bend Line 5	20'-5 3/8"	20'-5 3/8"	20'-5 3/8"	20'-5 3/8"	20'-5 3/8"
Bend Line 5 to Brg. Pier 4	59'-3 1/4"	58'-8 1/2"	58'-1 1/8"	57'-7 1/2"	57'-1 1/2"
Brg. Pier 4 to Bend Line 6	5'-7 1/8"	5'-6 1/4"	5'-5 1/4"	5'-5 1/4"	5'-4 3/8"

Note:  
For bearing details see Standard Drawing RB-1-55.  
For typical splice details see Sheet 375.  
For drainage details see Sheets 387 & 388.  
For fillet weld sizes see table Sheet 468.  
For Typical Intermediate Crossframe details  
see Sheet 468.  
For Typical Structural Steel Details see Sheet 468.  
For ends of Girders at Abutments, see Longitudinal  
Section (Bridge on Grade) Standard Drawing SD-1-69  
Sheet No. 1.  
All bearing stiffeners shall be vertical in final position.  
⊕ of Hinges No. 1 & No. 2 shall be vertical in final position.  
Revise K dimension for bearings at the Abutments (R100 and  
R125) = 12"



**TYPICAL GIRDER ELEVATION SPANS 1 THRU 4**

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				16/31
<b>STRUCTURAL STEEL DETAILS</b>				
<b>UNITS NO. 1 &amp; 2</b>				
BRIDGE NO. HAM-471-0047				
H & E BRIDGE NO. 10				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
J.W.H.G.N.P.	V.W.S.	PRD.		J140 11-29-72

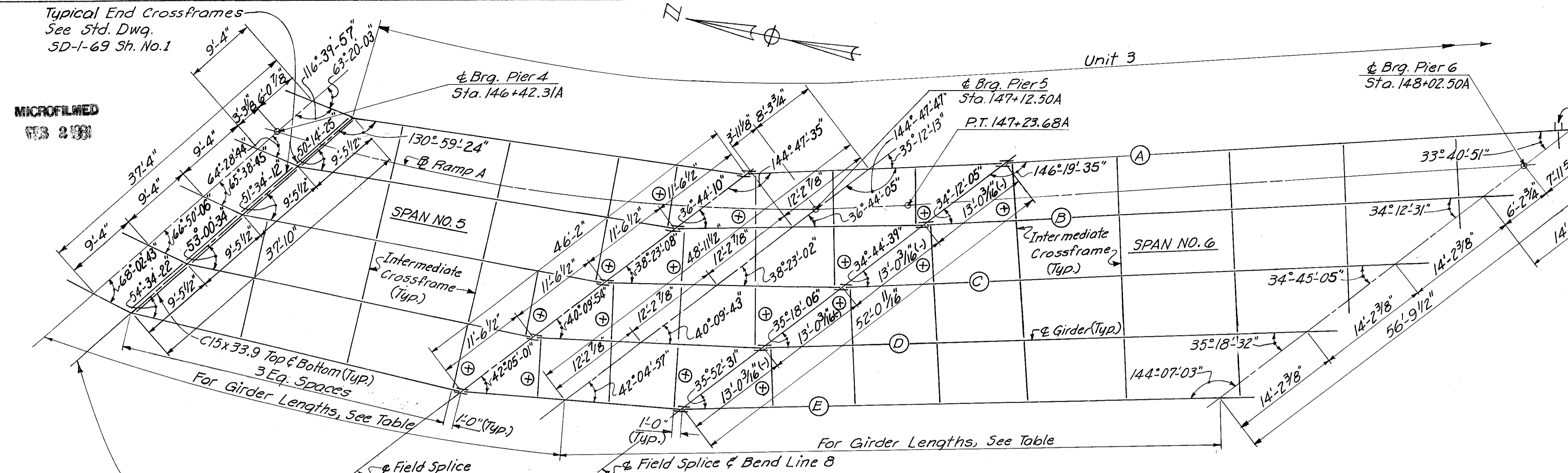
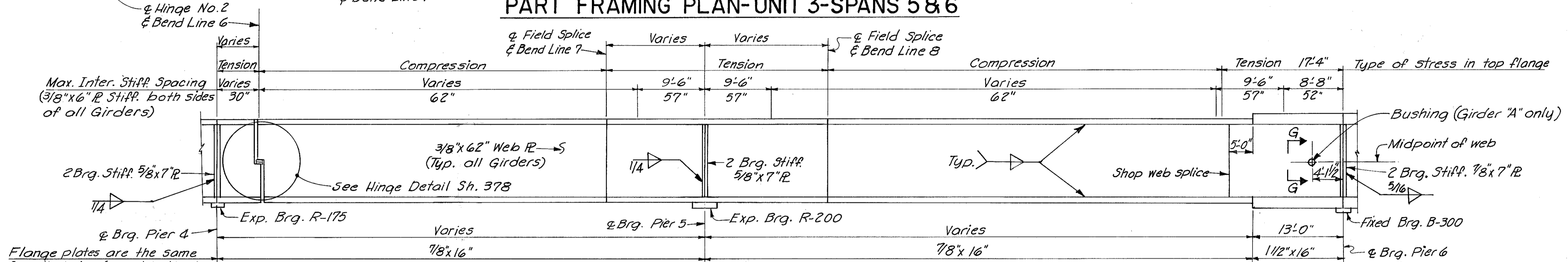


TABLE OF GIRDER LENGTHS

GIRDER	A	B	C	D	E
Brg. Pier 4 to Bend Line 6	5'-7 1/8"	5'-6 7/16"	5'-5 13/16"	5'-5 1/4"	5'-4 5/8"
Bend Line 6 to Bend Line 7	50'-11 15/16"	49'-1"	47'-2 3/16"	45'-4"	43'-6"
Bend Line 7 to Brg. Pier 5	15'-7 3/8"	15'-0 9/8"	14'-5 15/16"	13'-11 7/16"	13'-5 1/8"
Brg. Pier 5 to Bend Line 8	17'-4 1/8"	16'-8 5/8"	16'-1 1/4"	15'-6 1/16"	14'-11"
Bend Line 8 to Brg. Pier 6	72'-4 1/16"	71'-4 1/16"	70'-4 1/16"	69'-5 3/8"	68'-5 1/16"

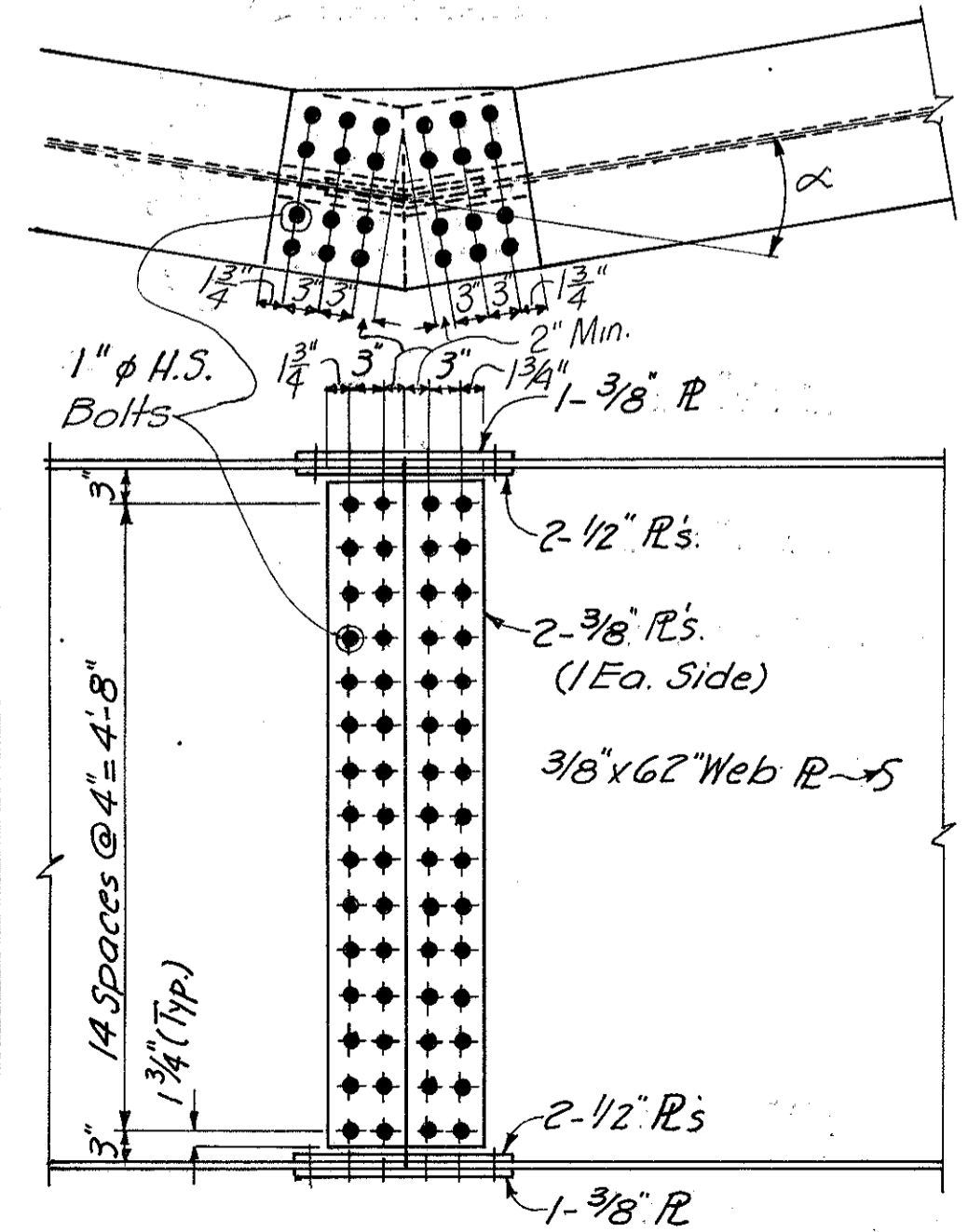
Drain Support Bracket  
See Sh. 388  
Included with Item 513,  
Structural Steel for  
payment.

**PART FRAMING PLAN-UNIT 3-SPANS 5 & 6**



**TYPICAL GIRDER ELEVATION**

Notes:  
For bearing details see Standard Dwg. RB-1-55.  
For Stiffener Details see Sh. 468.  
Crossframes shall be spaced not more than 15'-0"  
from adjacent Crossframes.  
For Intermediate Crossframe details see Sh. 468  
For Typical Structural Steel details see Sh. 468  
⊕ Indicates Crossframe Type A. For details See Sh. 377.  
For Deflection and Camber Table see sh. 376.  
For additional notes see Sh. 374.

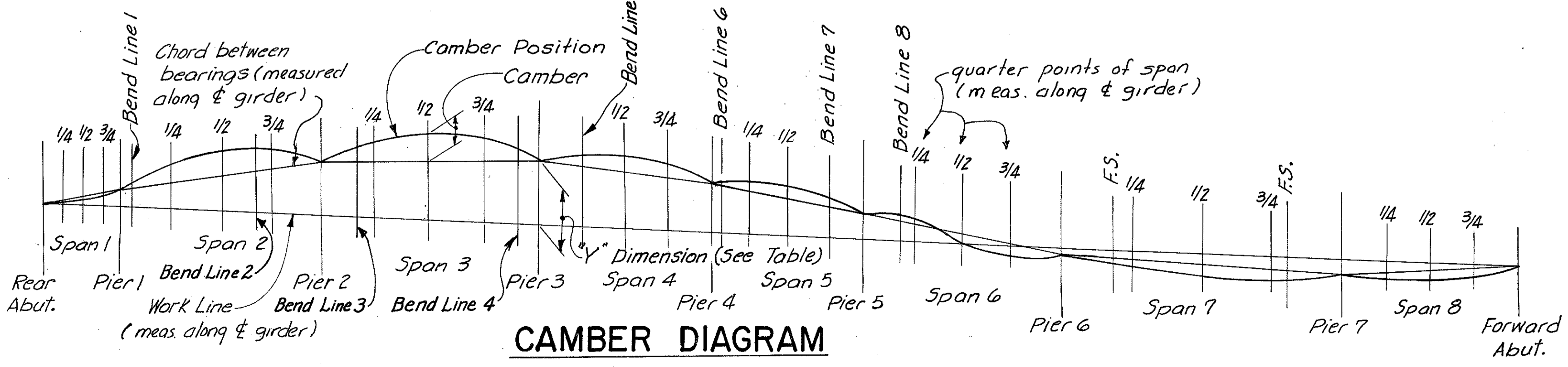


**TYPICAL FIELD SPLICE**

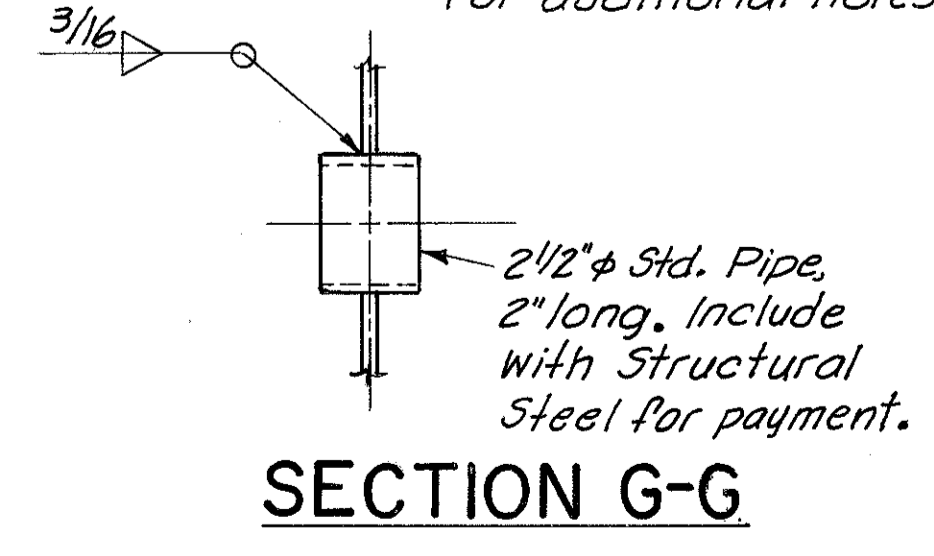
See Deflection Angle Table  
Sh. 377  
Contact surface of splice  
shall be free from all oil  
or paint.

Y. DIMENSIONS (SEE DIAGRAM BELOW)

POINT	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Pier 6	Pier 7
A	2'-3"	6'-5 1/2"	7'-9"	6'-1 1/2"	3'-2 1/4"	-1 5/8"	-1-5 3/8"
B	2'-2 3/4"	6'-4 1/2"	7'-8 3/8"	6'-3 7/8"	3'-7 3/8"	2 1/8"	-1-6 3/8"
C	2'-2 1/8"	6'-3 5/8"	7'-8 3/8"	6'-6 1/2"	4'-1 3/8"	7 7/8"	-1'-7"
D	2'-2 3/4"	6'-4"	7'-10 1/4"	6'-11 1/4"	4'-10 3/8"	1'-6 3/8"	-1'-3 3/4"
E	2'-3"	6'-4 7/8"	8'-1"	7'-5 3/8"	5'-8 3/8"	2'-7 3/8"	-10 3/8"



**CAMBER DIAGRAM**



**SECTION G-G**

HAZLET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**STRUCTURAL STEEL DETAILS**  
**UNIT NO. 3**  
BRIDGE NO. HAM-471-0047

H & E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
J.W.H.	G.N.P.	V.W.S.	P.R.D.	J.H.O. 11-29-72	

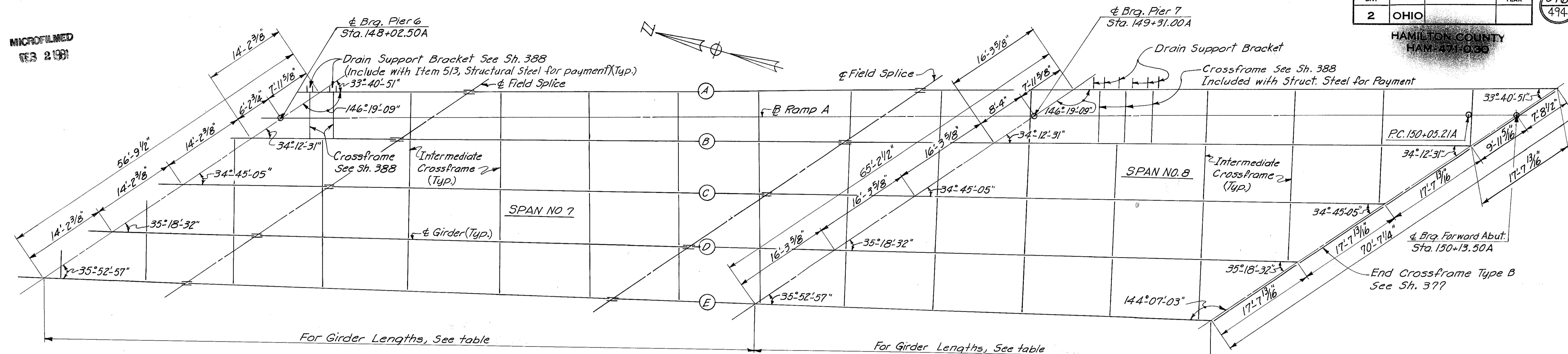


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SEP 2 1991

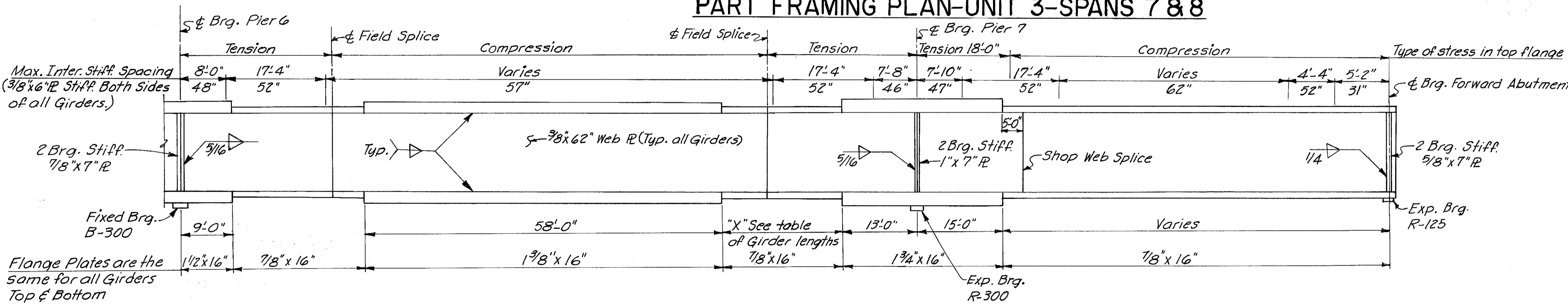
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

376  
494

HAMILTON COUNTY  
HAM-471-0-33



**PART FRAMING PLAN-UNIT 3-SPANS 7 & 8**



GIRDER	A	B	C	D	E
Brg. Pier 6 to Splice	25'-8 3/8"	25'-4 1/4"	25'-0"	24'-7 7/8"	24'-3 3/4"
Splice to Splice	77'-1 1/4"	76'-0 9/16"	75'-0 1/4"	73'-11 13/16"	72'-11 1/2"
Splice to Brg. Pier 7	25'-8 3/8"	25'-4 1/4"	25'-0"	24'-7 7/8"	24'-3 3/4"
Brg. Pier 7 to Brg. Ford. Abut.	82'-3 7/8"	81'-1 7/8"	80'-0 1/16"	78'-11 7/16"	77'-10 1/8"
"X"	22'-3"	21'-4 1/2"	20'-6 1/8"	19'-7 3/4"	18'-9 1/2"

Note:  
For bearing details see Standard Drawing RB-1-55.  
For typical splice detail see Sh. 375.  
For fillet weld sizes see table, Sh. 468.  
Crossframes shall be spaced not more than 15'-0" from adjacent crossframes.  
For intermediate crossframe details see Sh. 468.  
For Typical Structural Steel Details see Sh. 468.  
For Camber Diagram See Sh. 375.  
For additional notes see Sh. 374.

Girder	DEFLECTION AND CAMBER																								
	UNIT 1				UNIT 2								UNIT 3												
	Span 1		Span 2		Span 3		Span 4		Span 5		Span 6		Span 7		Span 8										
Deflection due to weight of steel	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
Deflection due to remaining dead load	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
Adjustment required for Vertical Curve, Horizontal Curve, and Superelevation Transition	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
Required Shop Camber	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E

Negative deflection indicates upward deflection.  
Negative adjustment for vertical curve, horizontal curve, and superelevation transition indicates a downward adjustment.  
Negative camber indicates downward camber.  
All dimensions in Camber and Deflection table are given in inches.

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

18/31

**STRUCTURAL STEEL DETAILS**  
UNIT NO. 3  
BRIDGE NO. HAM-471-0047

H&E BRIDGE NO. 10

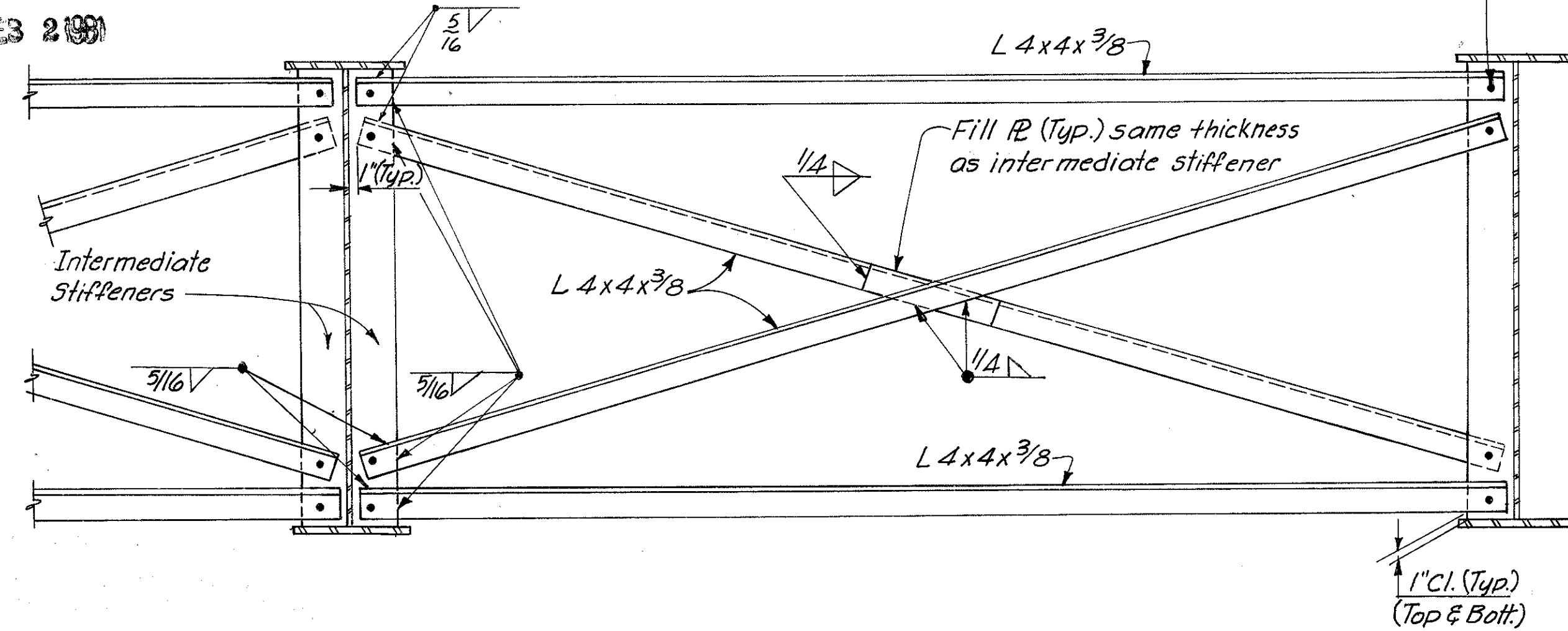
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
J.W.H.	G.N.P.	V.W.S.	P.R.D.	J.H.O. 11-2-72	

MICROFILMED  
63 2199

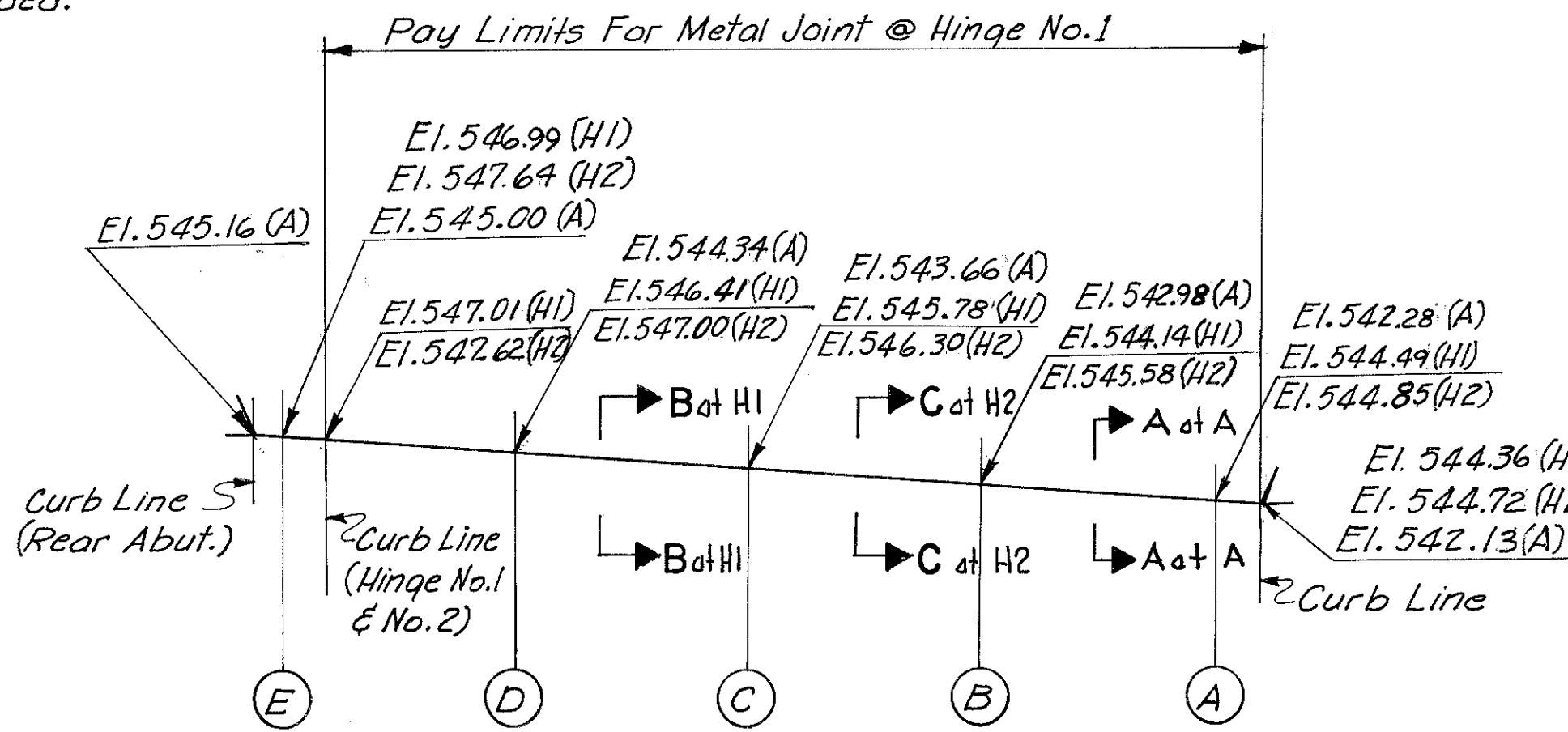
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		377 494

HAMILTON COUNTY  
HAM-471-0047

Elevations shown are at top of steel  
(4" below top of roadway.)



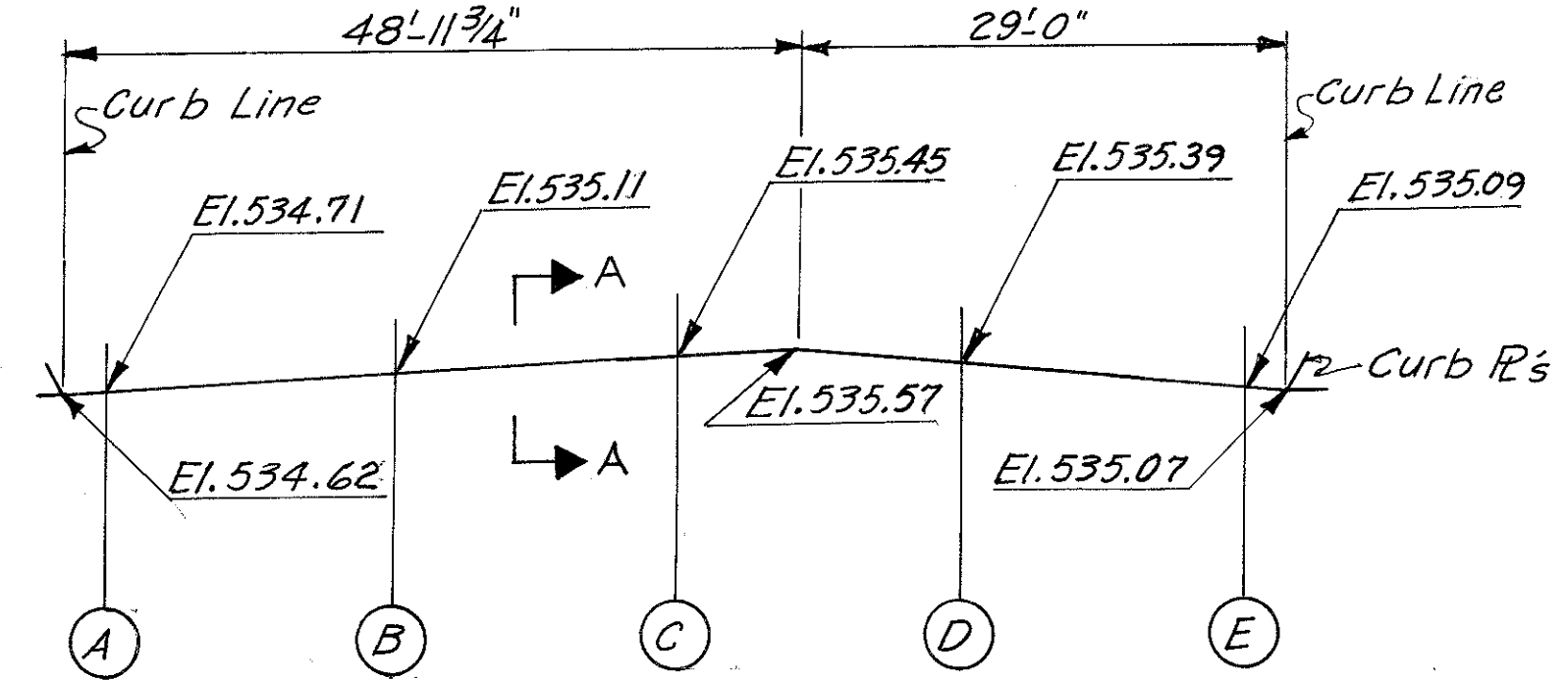
CROSSFRAME TYPE A



EXPANSION JOINT CROSS SECTION

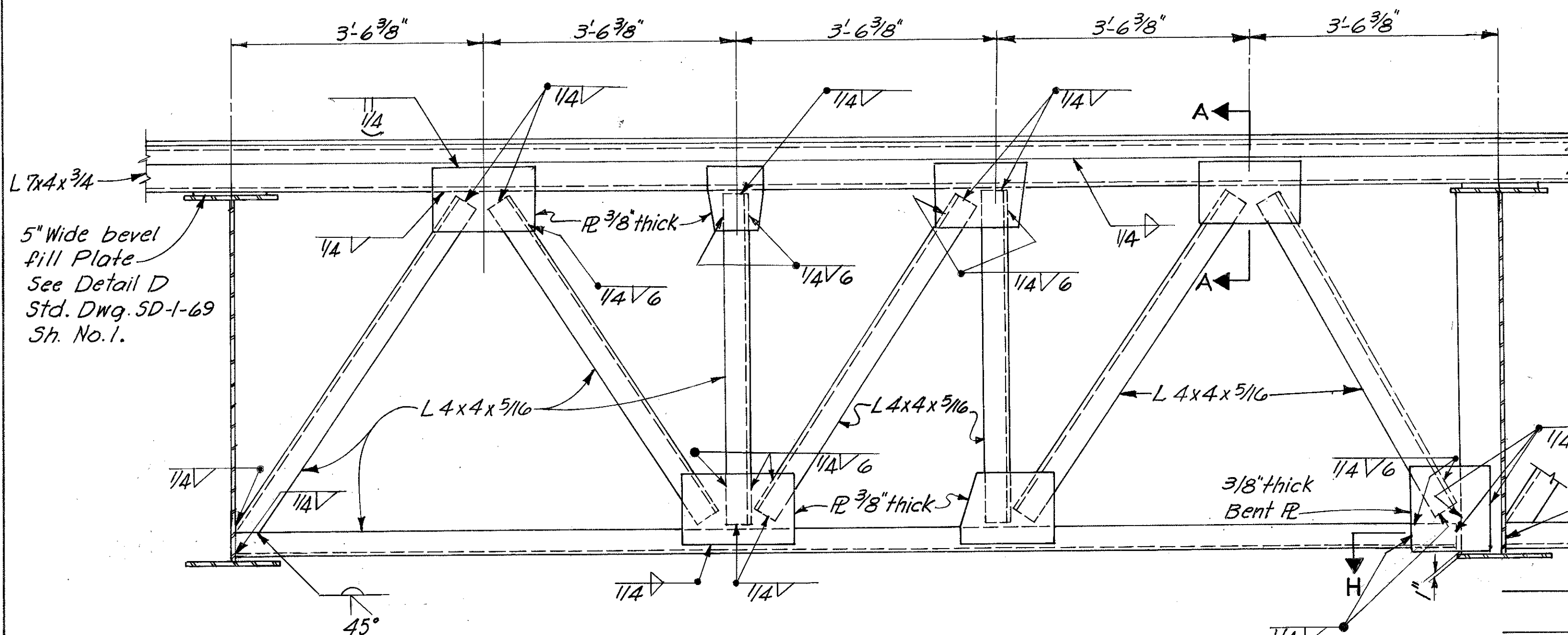
Note: A = Rear Abut., H1 = @ Hinge No. 1, H2 = @ Hinge No. 2.

For Curb Plate Details at Rear Abut.  
and Hinge No. 2 See Std. Dwg. SD-1-69 Sh. No. 2.  
For Section B-B see Sh. 382



EXPANSION JOINT CROSS SECTION  
AT FORWARD ABUTMENT

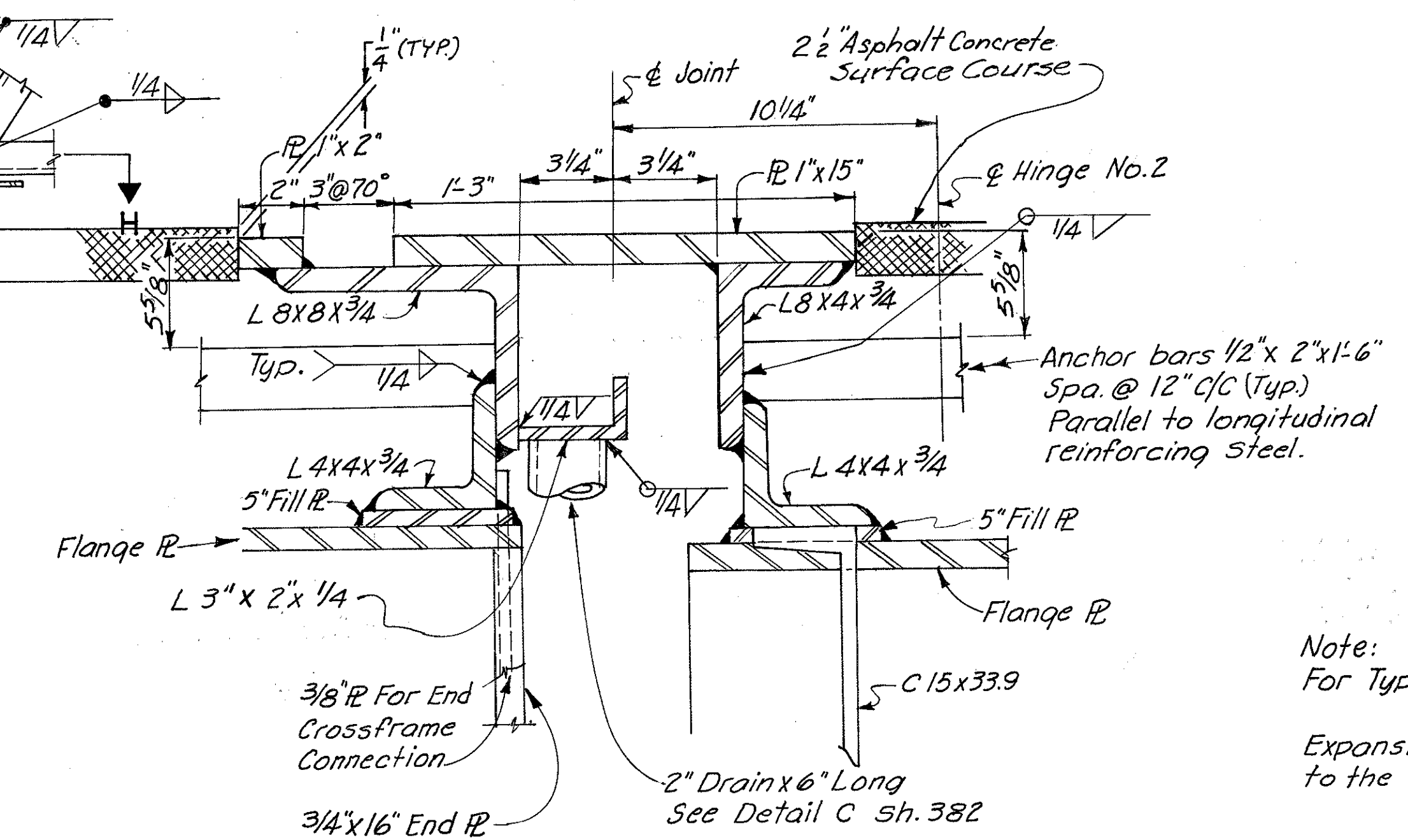
For Curb Plate Details see Std. Dwg. SD-1-69 Sh. 2.  
1/2" x 2" x 18" anchor bars for end dams as shown on Std. Dwg. SD-1-69  
Sh. 1 should be revised to be 5 3/8" clear from top of steel as shown  
below.



END CROSSFRAME TYPE B - FORWARD ABUTMENT

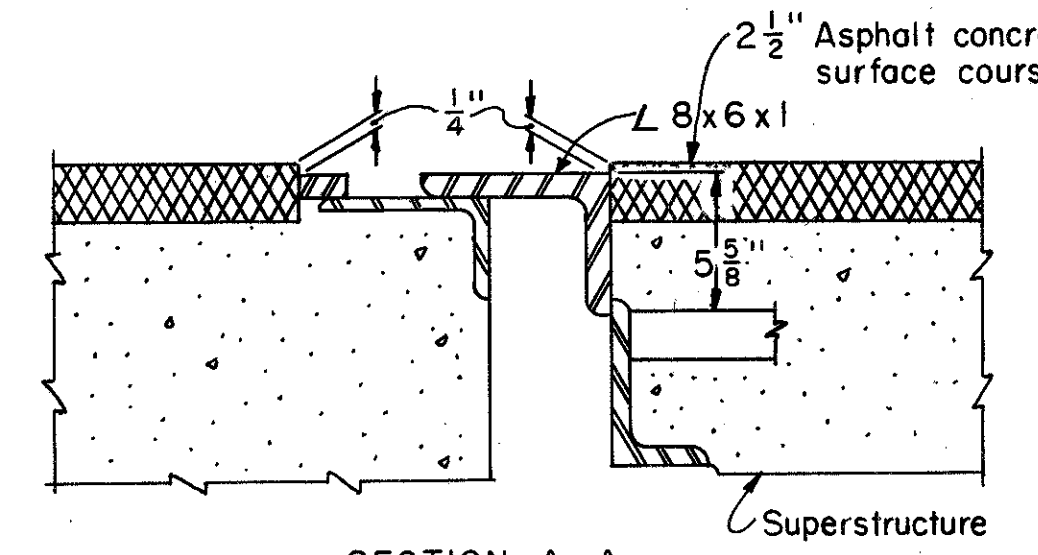
5" Wide bevel  
fill plate  
See Detail D  
Std. Dwg. SD-1-69  
Sh. No. 1.

GIRDER	HINGE		SPLICE							
	Bend Line 1	Bend Line 6	Bend Line 2	Bend Line 3	Bend Line 4	Bend Line 5	Bend Line 7	Bend Line 8		
A	12° 44' 02"	14° 18' 41"	13° 20' 23"	13° 18' 11"	12° 02' 25"	14° 55' 20"	13° 48' 47"	1° 31' 29"		
B	13° 28' 13"	14° 14' 08"	12° 36' 12"	13° 18' 11"	12° 02' 25"	13° 26' 24"	13° 30' 23"	2° 31' 42"		
C	14° 12' 25"	14° 05' 01"	11° 52' 00"	13° 18' 11"	12° 02' 25"	12° 16' 08"	13° 10' 49"	3° 38' 06"		
D	14° 56' 37"	13° 50' 40"	11° 07' 48"	13° 18' 11"	12° 02' 25"	11° 04' 32"	12° 50' 03"	4° 51' 21"		
E	15° 40' 48"	13° 30' 20"	10° 23' 37"	13° 18' 11"	12° 02' 25"	9° 51' 38"	12° 28' 06"	6° 12' 07"		

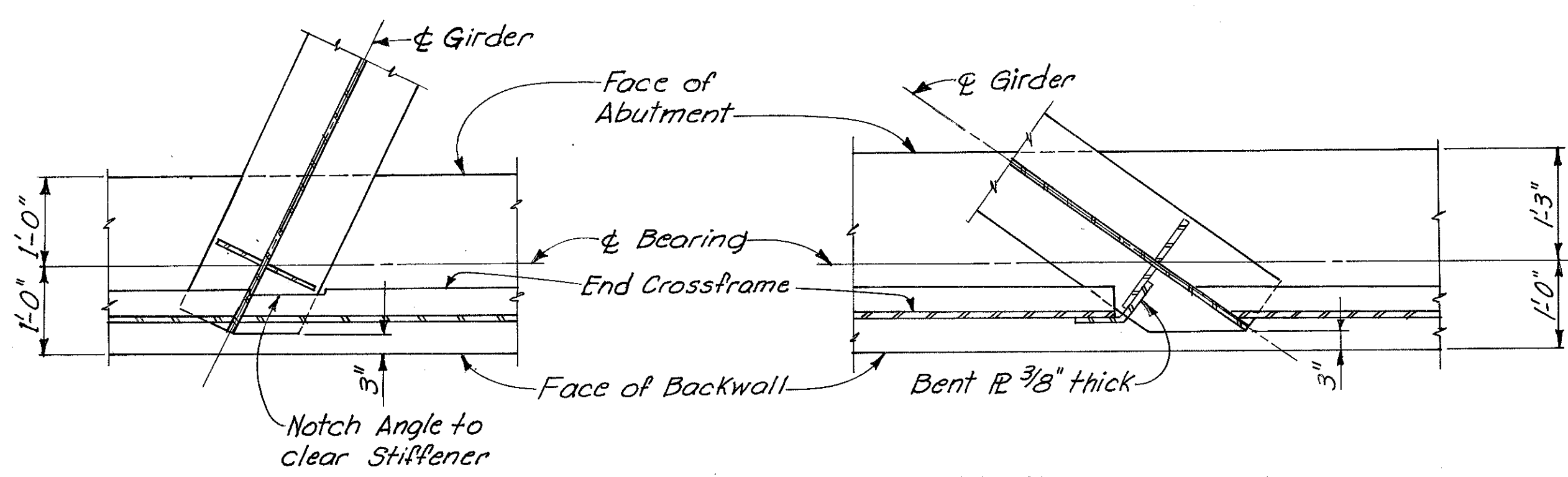


SECTION C-C

At Bend Line 6 - Hinge No. 2  
(For other Details see Std. Dwg. SD-1-69 Sh. No. 1, Section A-A)  
All Structural Steel shown in Section C-C to be included  
in Item 513, "Structural Steel" for payment.



SECTION A-A  
(For details not shown see SD-1-69 sheet 1)  
Provide 3" beveled bar at both ends  
of bridge regardless of grade.

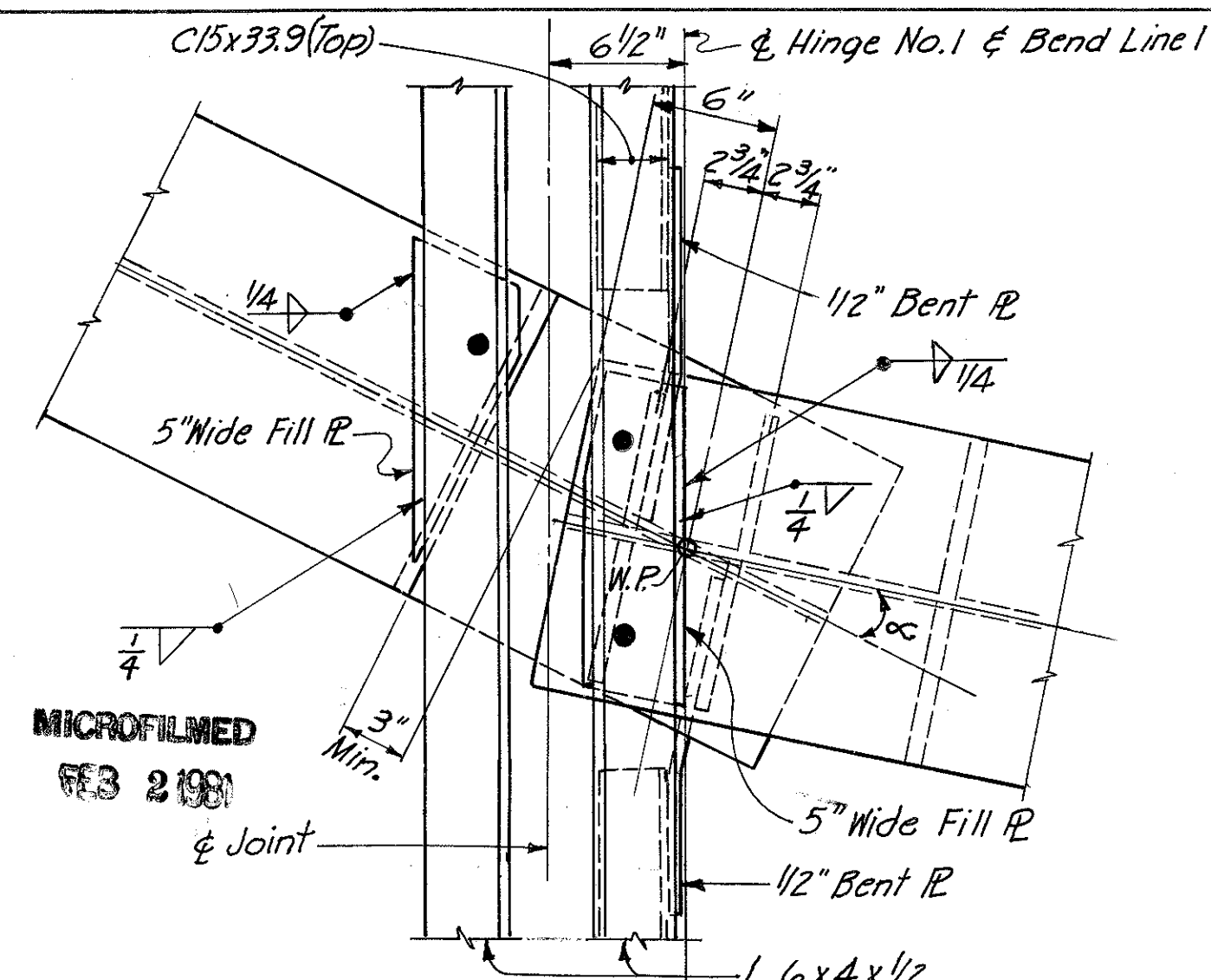


DETAIL A

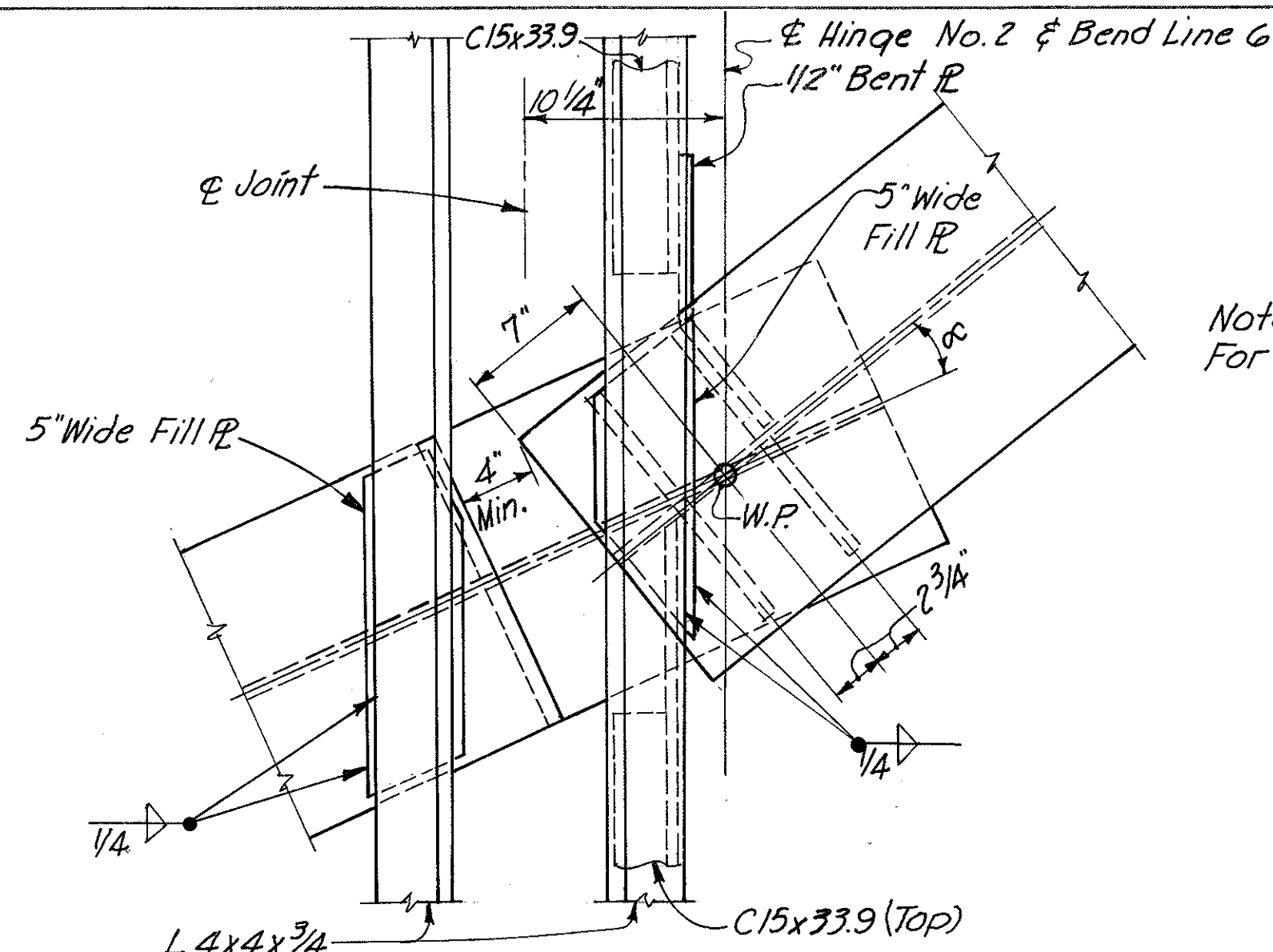
SECTION H-H

Note:  
For Typical Structural Steel Details see Sh. 46B  
Expansion Joints shall be bent in the shop to conform  
to the contour of the roadway slab.

HAZELT & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				19/31
<b>STRUCTURAL STEEL DETAILS</b>				
BRIDGE NO. HAM-471-0047				
H & E BRIDGE NO. 10				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
J.W.H.	MSD.	V.W.S.	T.M.	JW 11-29-72

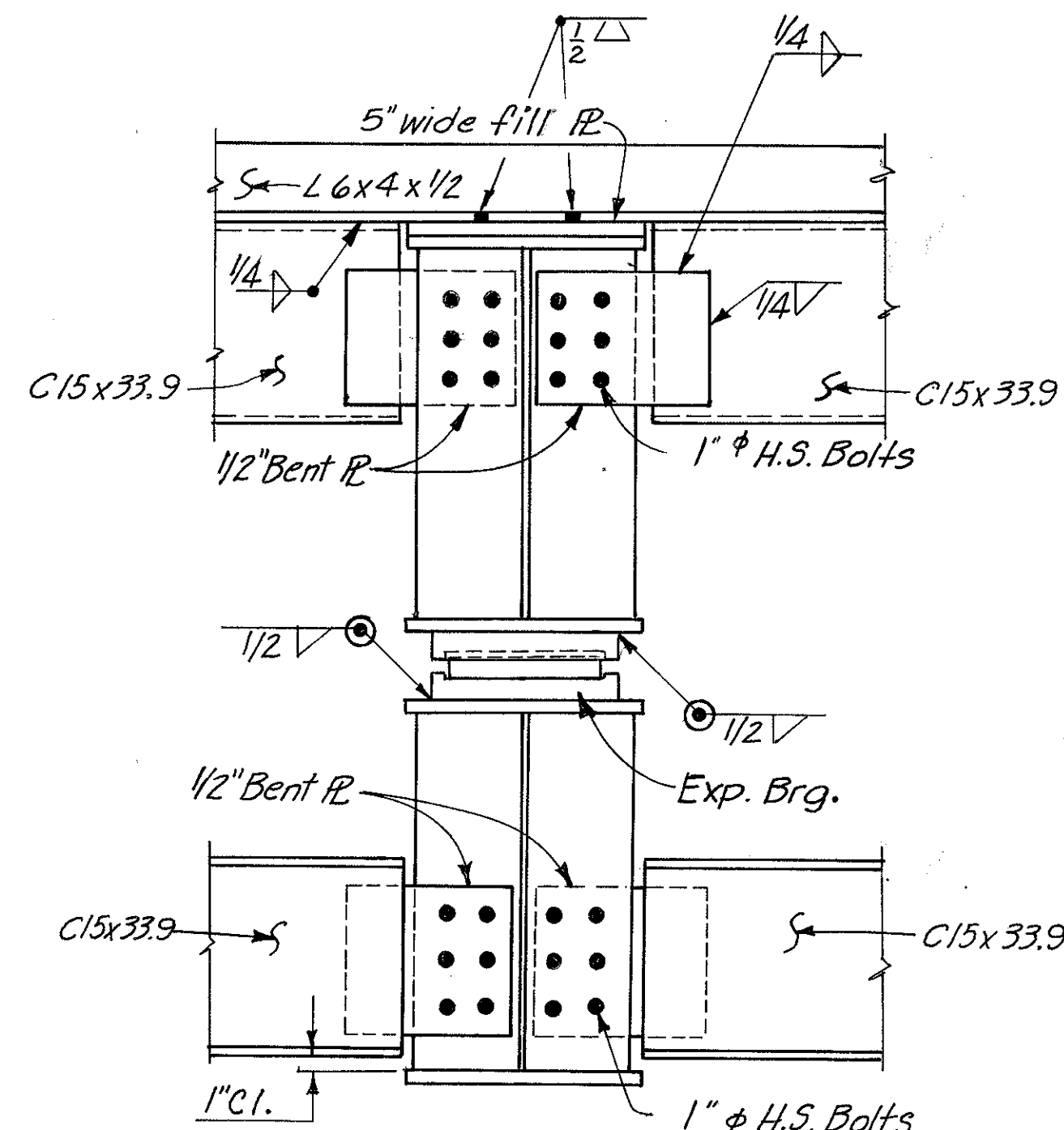


PLAN-HINGE 1 & BEND LINE 1

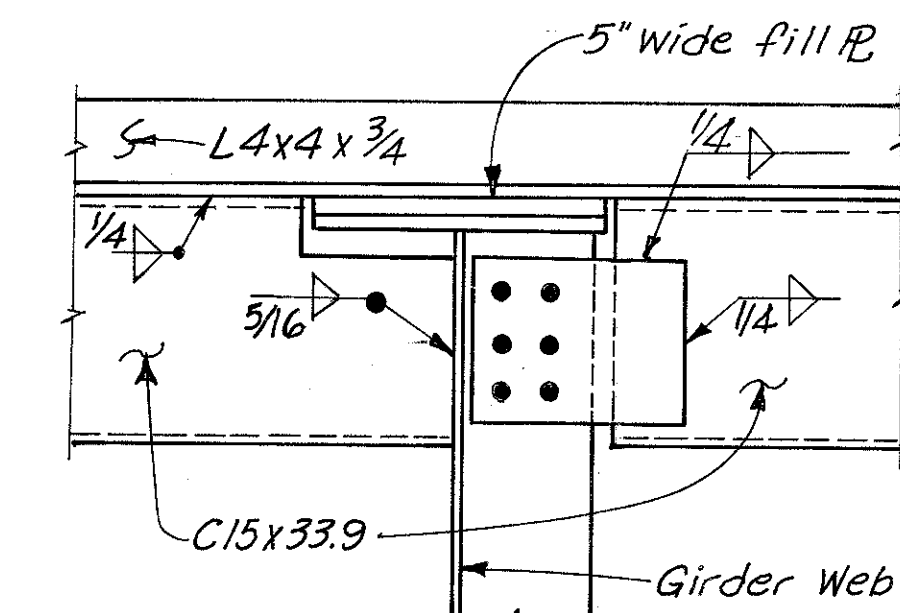


PLAN-HINGE 2 & BEND LINE 6

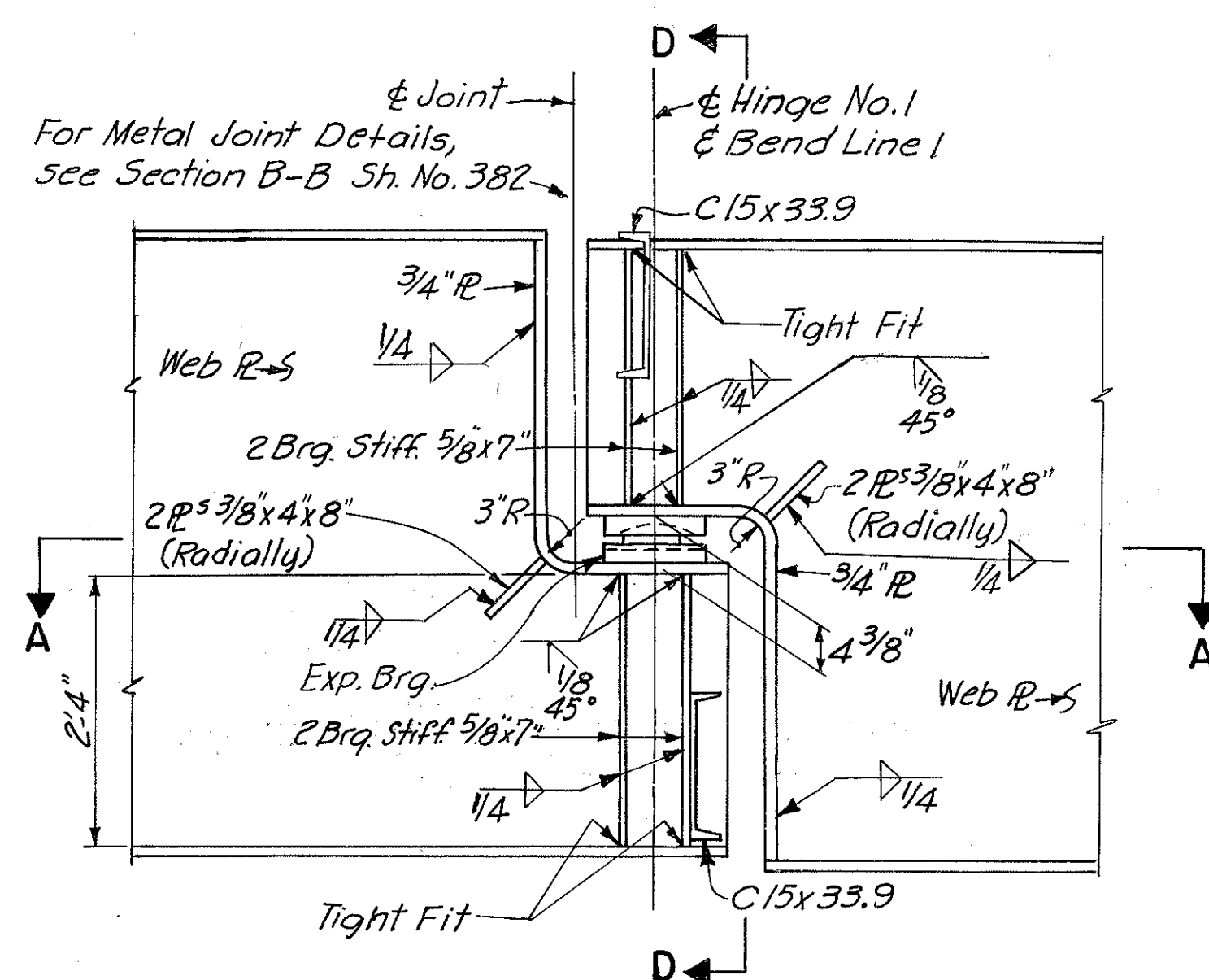
Note:  
For Deflection Angle( $\alpha$ ) see Sheet 377



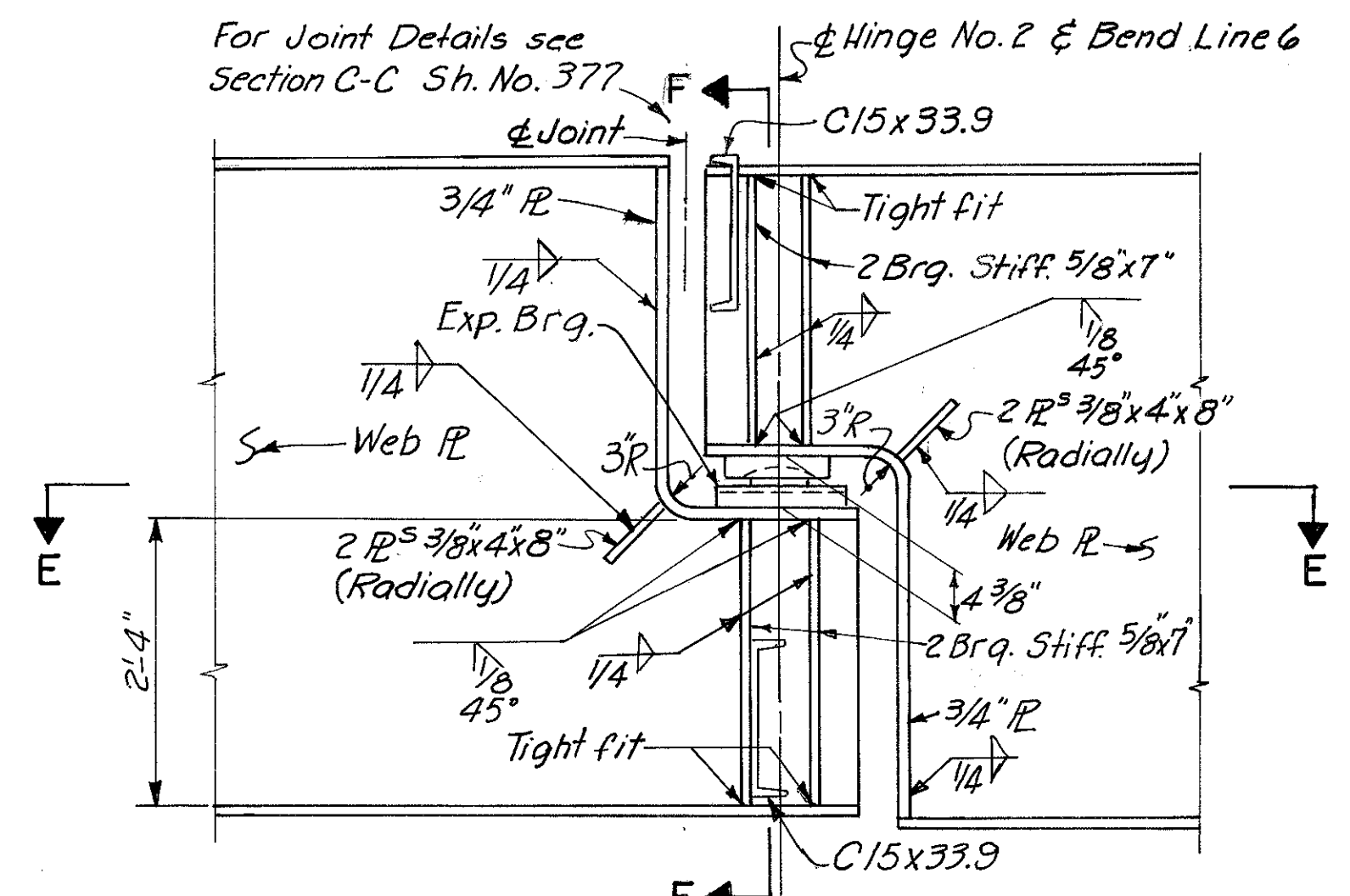
SECTION D-D



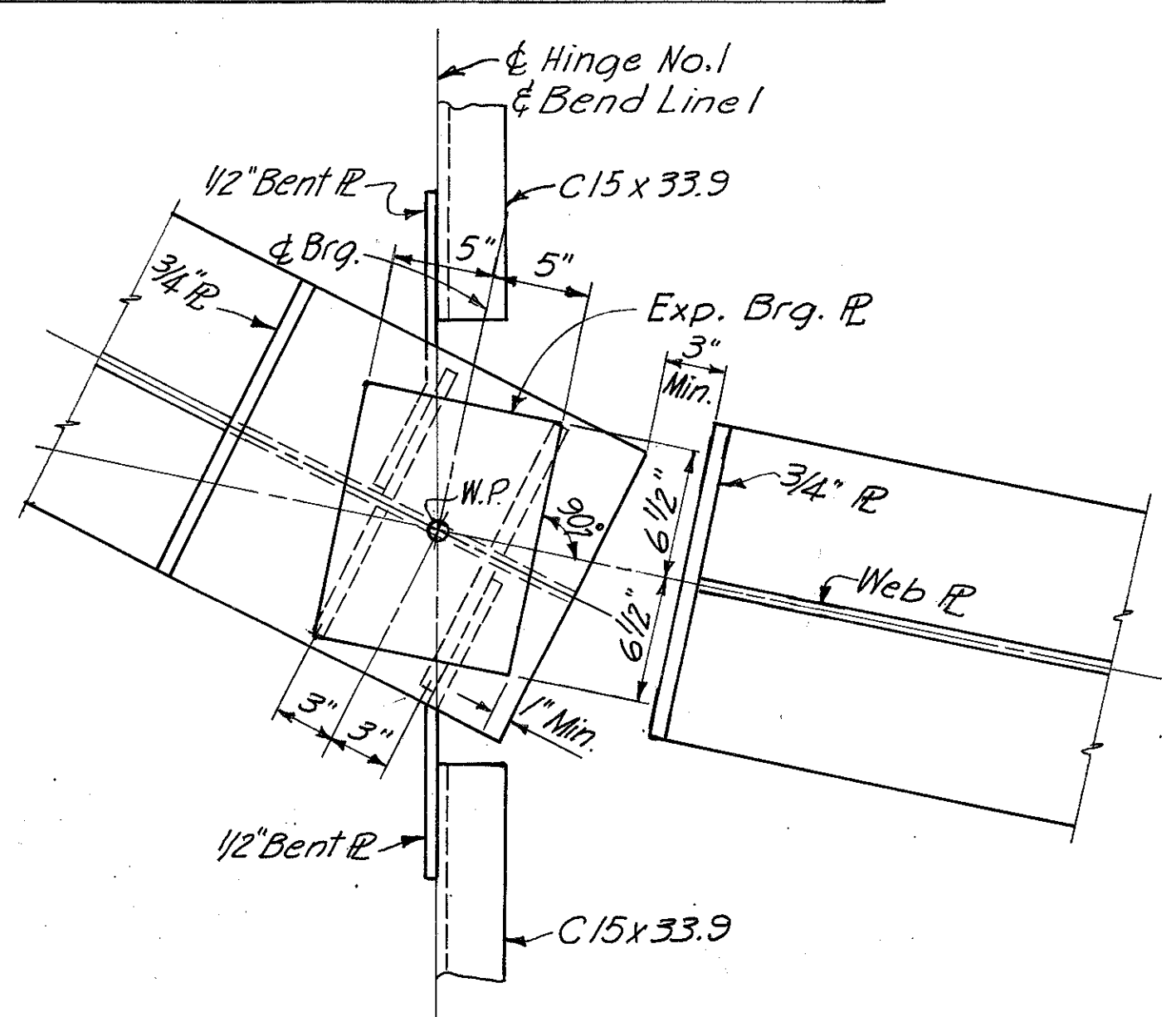
SECTION F-F  
(For other Details see Section D-D)



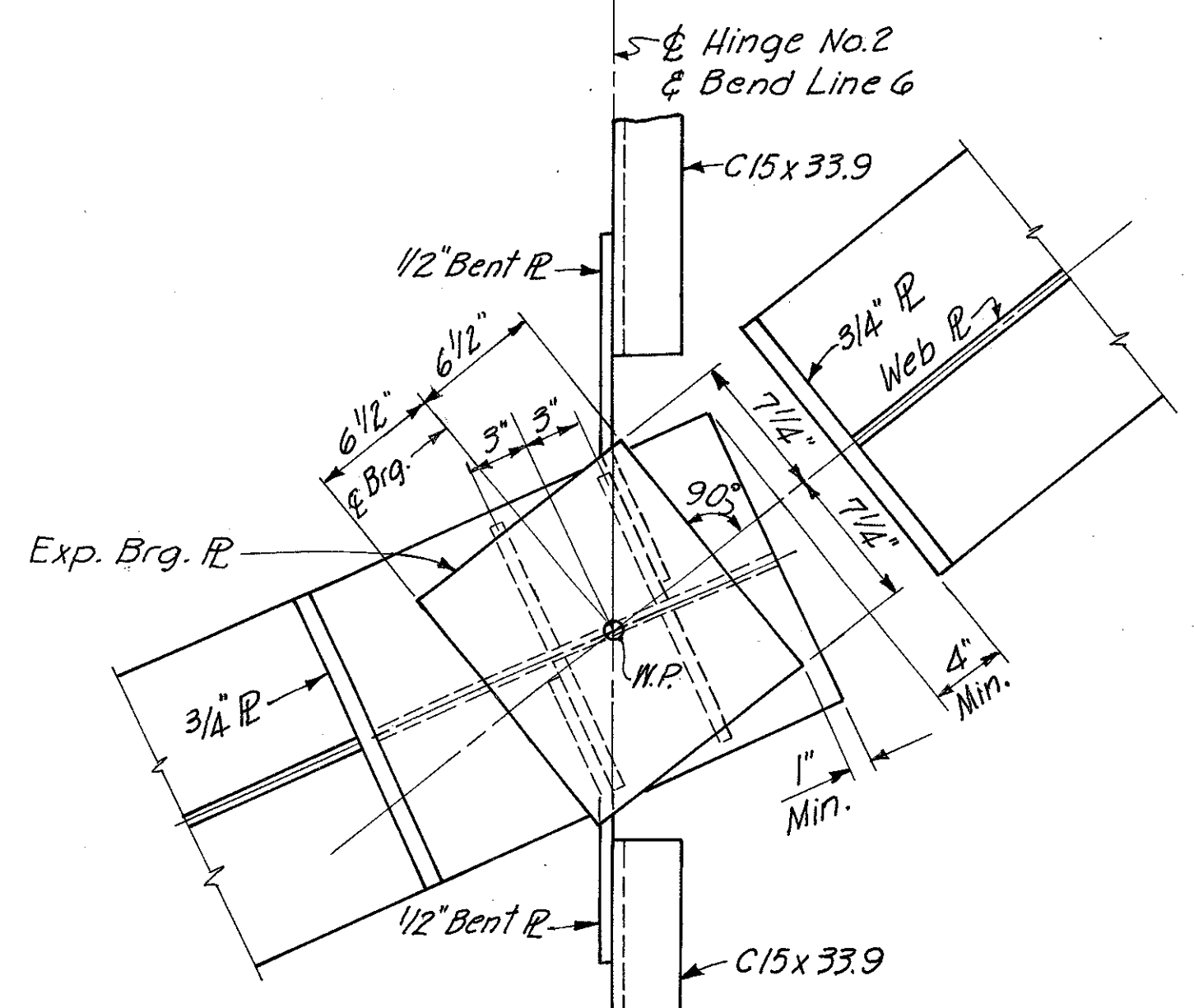
HINGE DETAIL AT BEND LINE 1



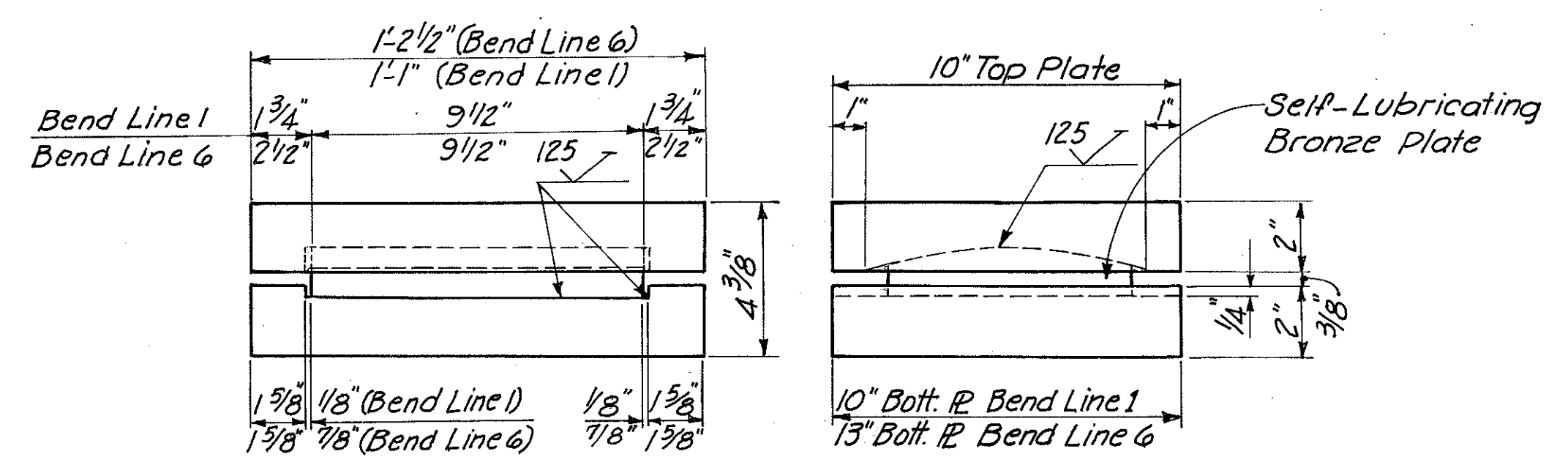
HINGE DETAIL AT BEND LINE 6



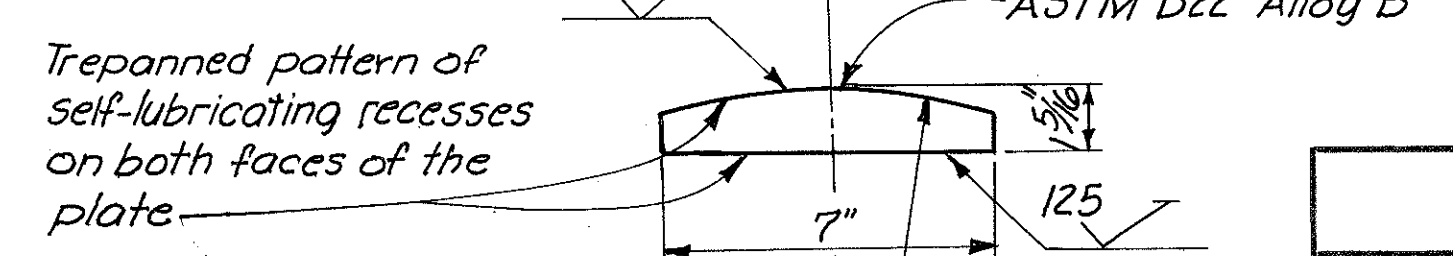
SECTION A-A



SECTION E-E



EXPANSION BEARING

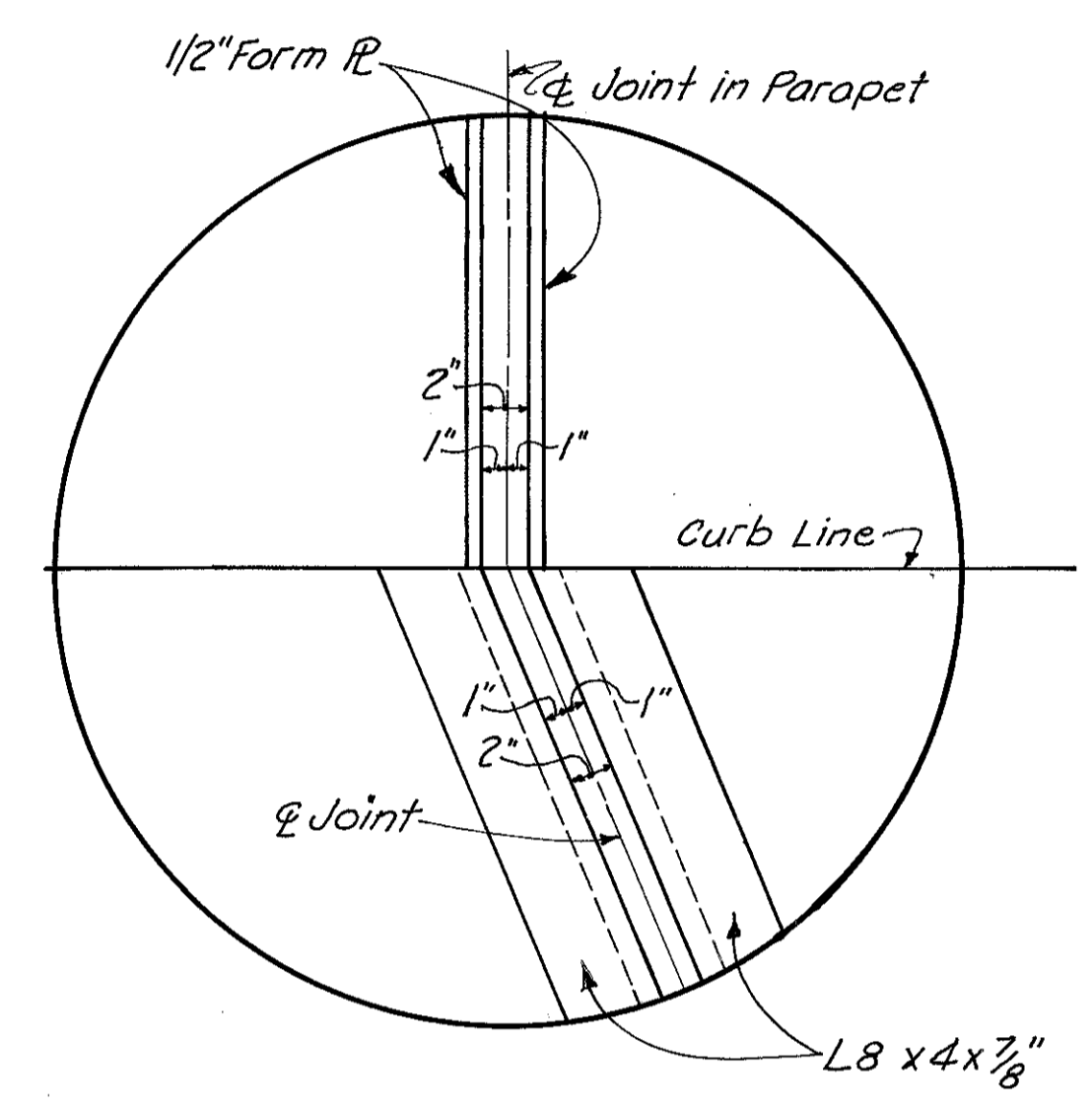
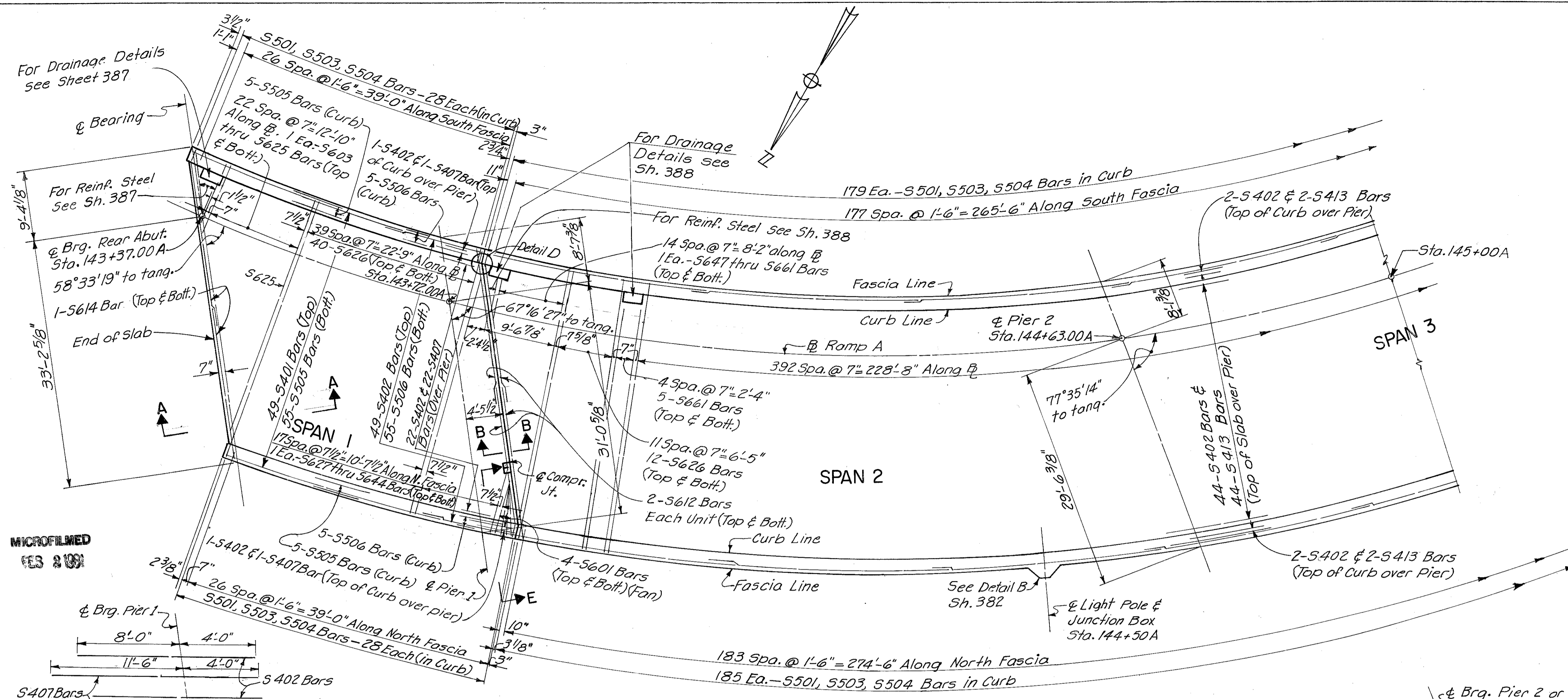


SELF-LUBRICATING  
BRONZE PLATE DETAIL

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				20/31
<b>STRUCTURAL STEEL DETAILS</b>				
BRIDGE NO. HAM-471-0047				
H&E BRIDGE NO. 10				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
J.W.H.	G.N.P.	V.W.S.	T.M.	J.H.O. 11-29-72

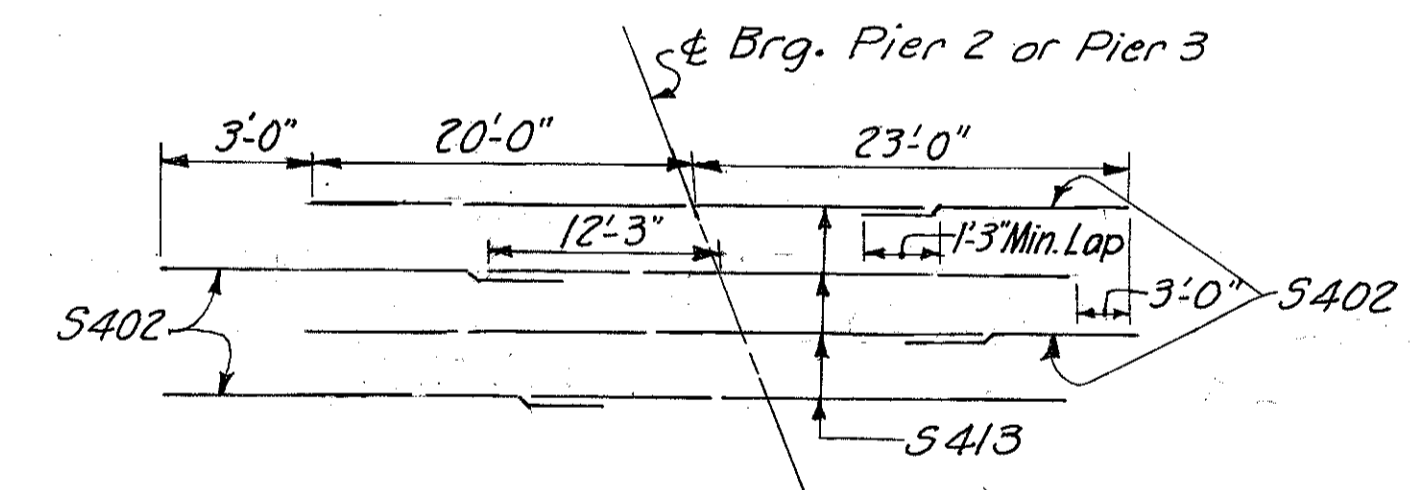
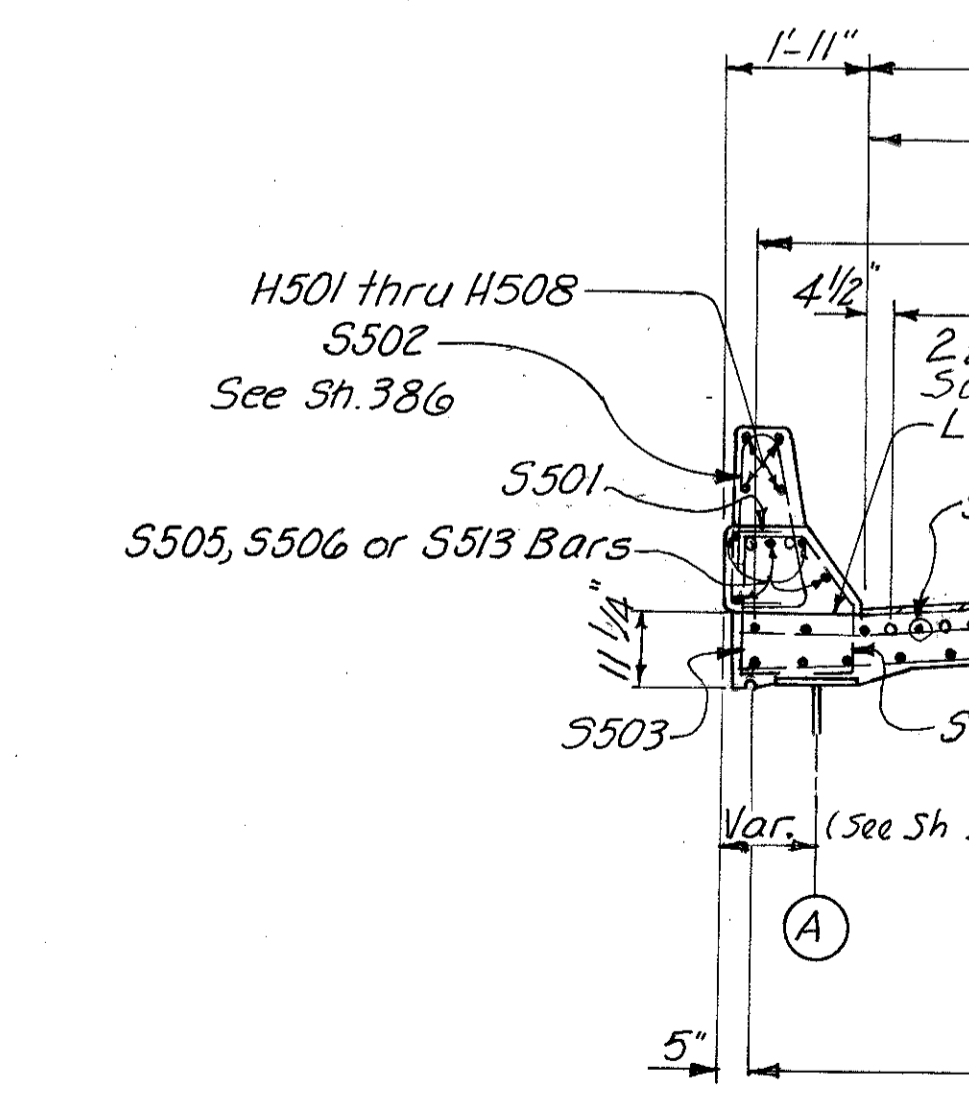
HAMILTON COUNTY  
HAM-471-0040

A HAUNCH WIDTH of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

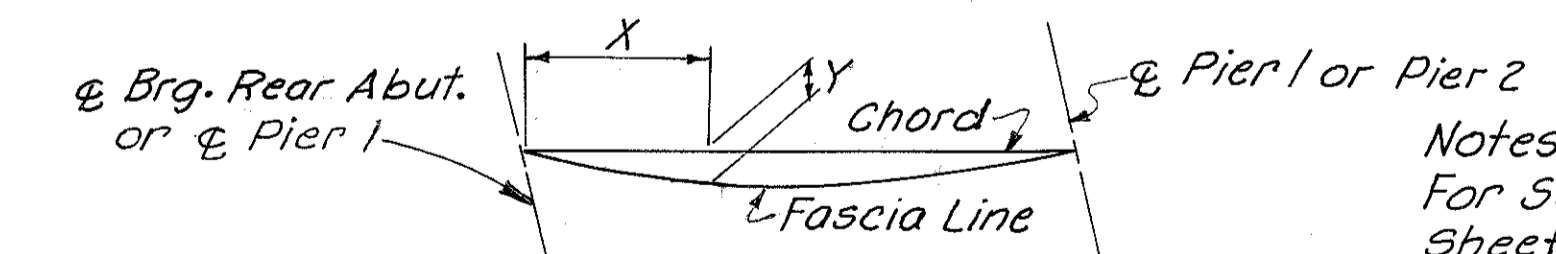


DETAIL D

S4 BARS OVER PIER I

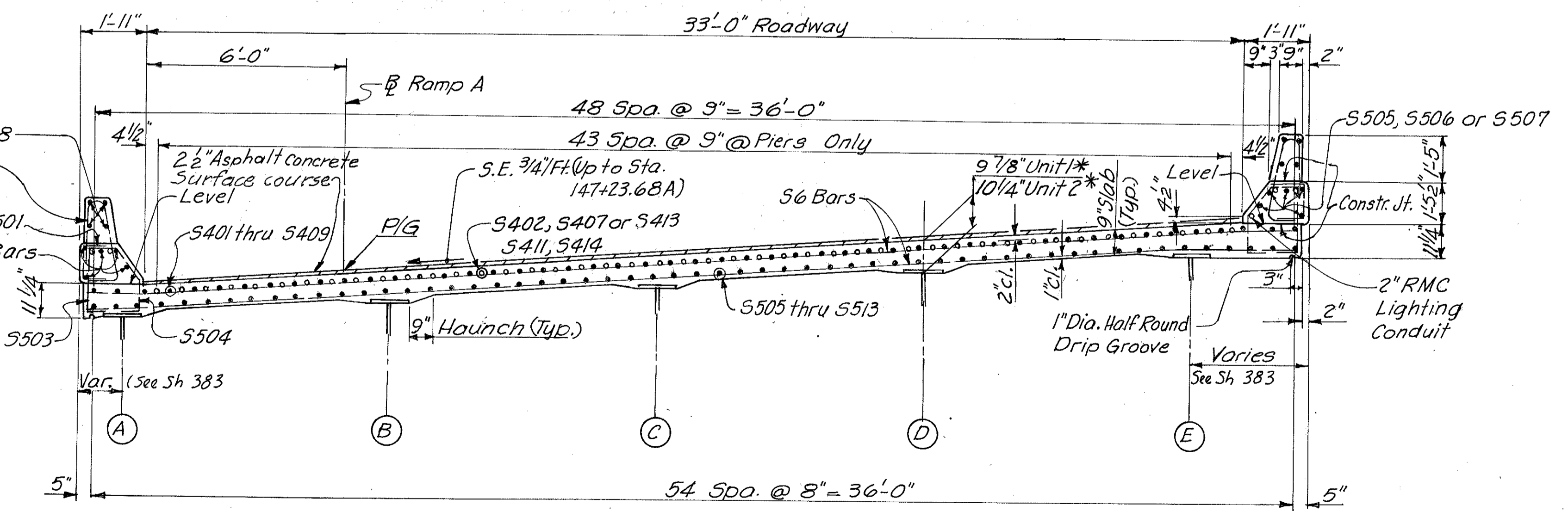


S402 & S413 BARS OVER PIER 2 & PIER 3



SPAN 1				SPAN 2			
SOUTH FASCIA		NORTH FASCIA		SOUTH FASCIA		NORTH FASCIA	
X	Y	X	Y	X	Y	X	Y
8'-9 7/8"	6 1/4"	8'-6 1/8"	5"	8'-10 5/8"	1'-7 1/8"	9'-7 1/2"	1'-7 3/8"
17'-7 7/8"	8 3/4"	17'-0 1/4"	6 3/4"	17'-9 1/4"	2'-10 1/8"	19'-3"	2'-10 3/8"
26'-5 3/4"	6 1/4"	25'-6 3/8"	5"	26'-7 7/8"	3'-8 3/4"	28'-10 3/8"	3'-9"
				35'-6 1/2"	4'-3 1/4"	38'-5 7/8"	4'-3 1/2"
				44'-5 1/8"	4'-5 3/8"	48'-1 3/8"	4'-5 5/8"
				53'-5 3/4"	4'-5 3/4"	57'-8 7/8"	4'-3 1/2"
				62'-2 1/4"	3'-8 3/4"	67'-4 1/4"	3'-9"
				71'-0 7/8"	2'-10 1/8"	76'-11 3/4"	2'-10 3/8"
				79'-11 1/2"	1'-7 1/8"	86'-7 1/4"	1'-7 3/8"

TRANSVERSE SECTION UNIT I & 2



- Indicates bars in section.
- Indicates bars over piers.

\* This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per Sec. 511.18 of the Construction and Material Specifications.

Notes:  
For Section A-A (showing roadway end dam), see Sheet 377  
For Sections B-B & E-E, see Sh. 382  
For Subdrainage and Surface Course details, see sheet 382.

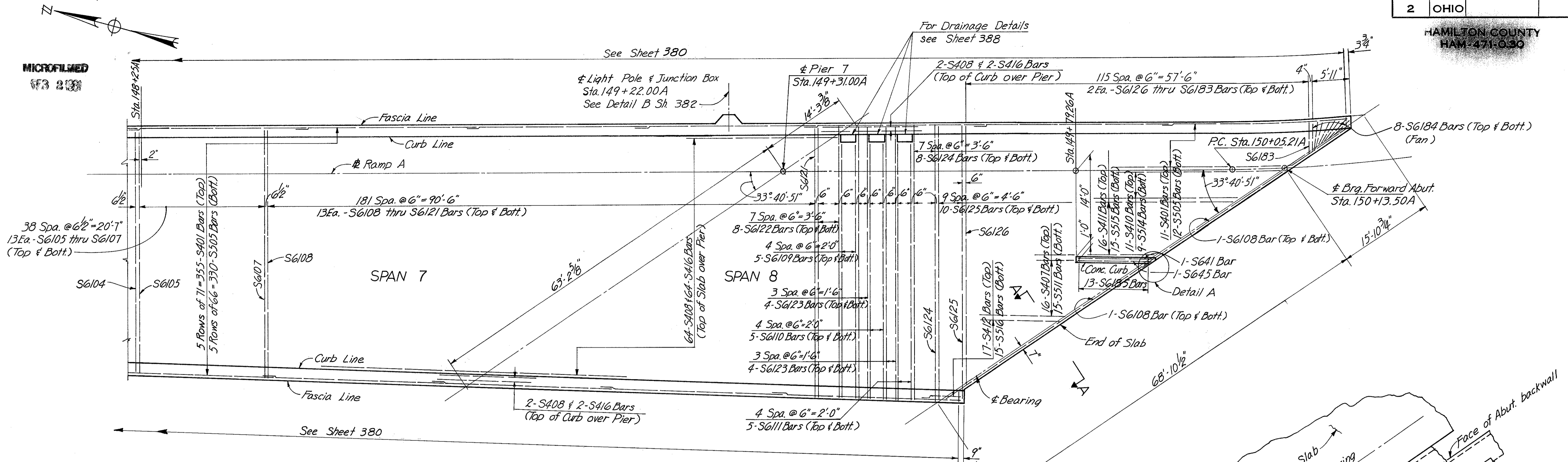
HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

2/31

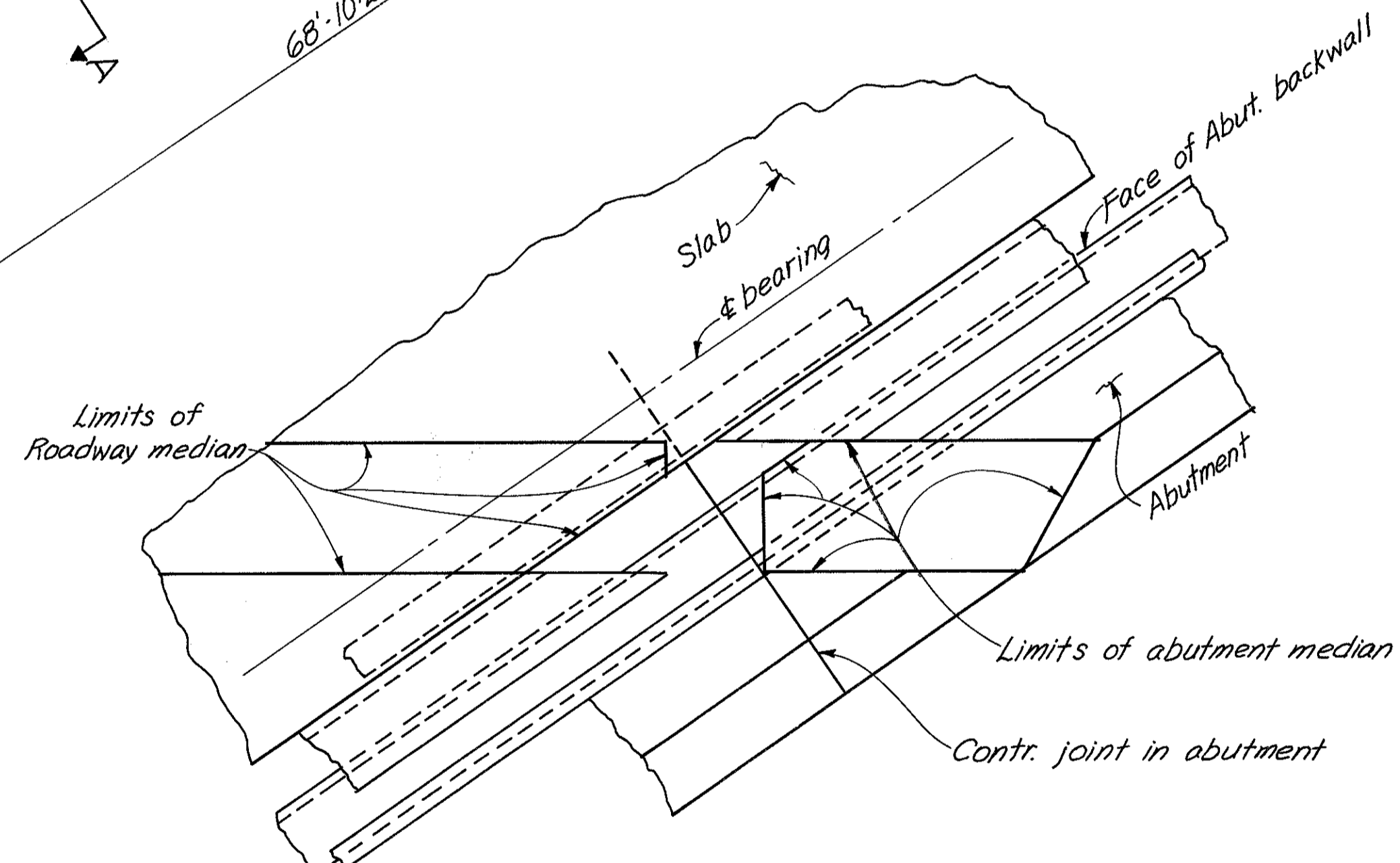
**SUPERSTRUCTURE DETAILS**  
UNIT NO. 1 & 2  
BRIDGE NO. HAM.-471-0047  
H & E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
OAF	TM	VWS	PRD	JHO	
MSD				11-21-72	





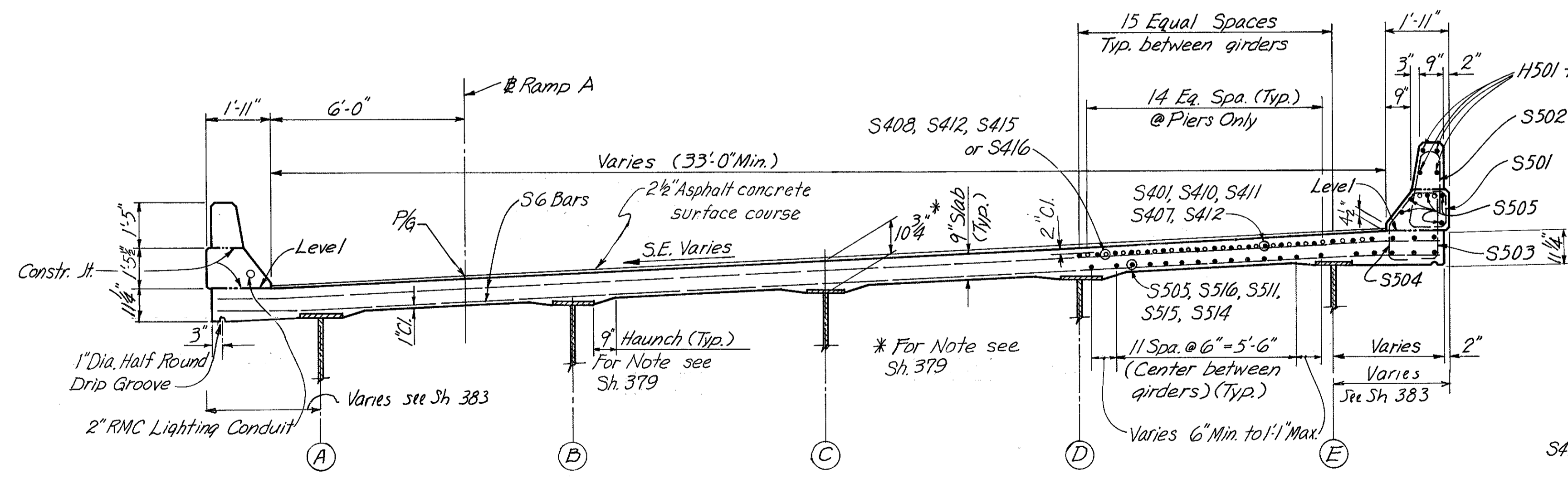
PLAN UNIT 3



DETAIL A

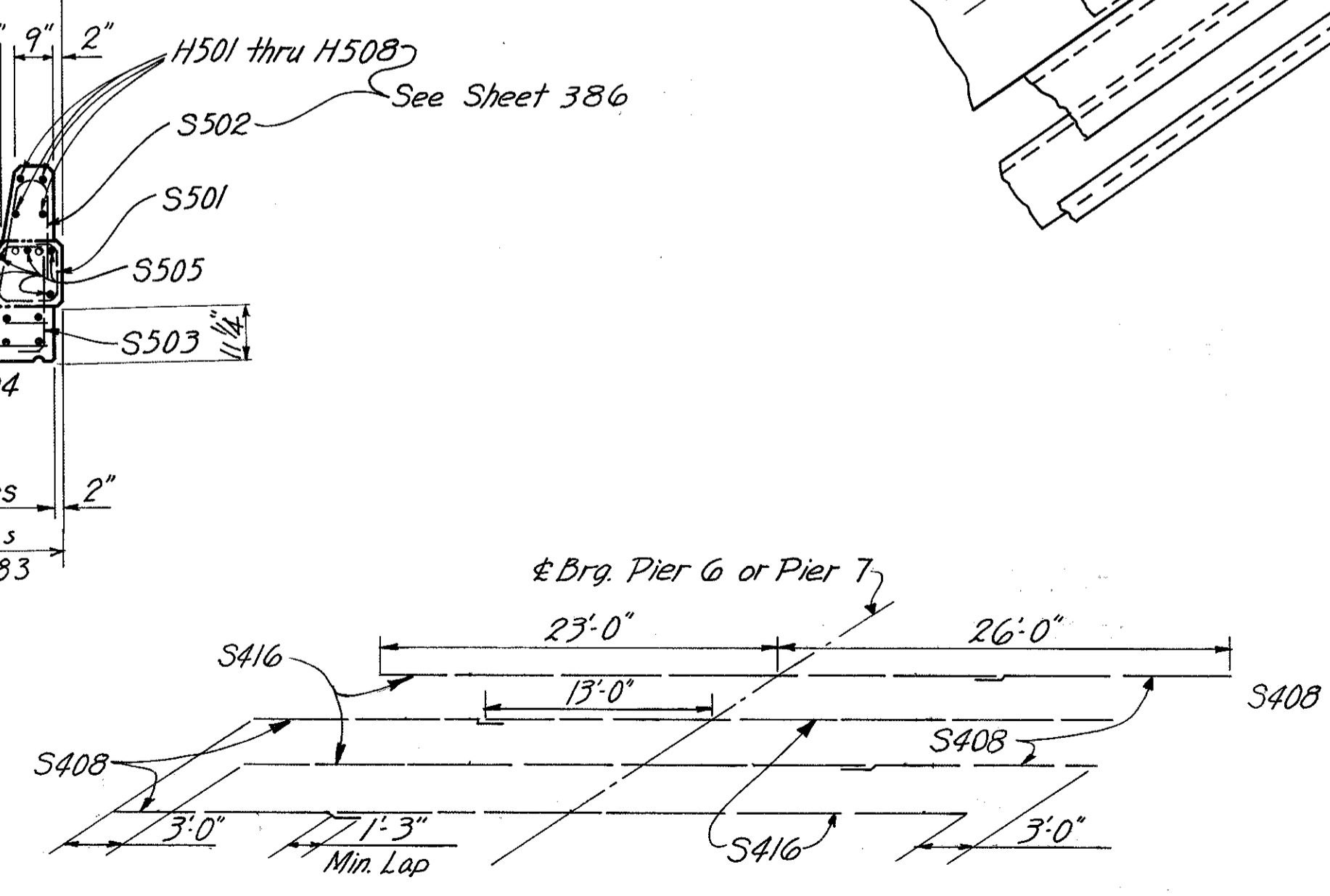
Note:  
For Section A-A, showing roadway end dam, see sheet 377.

For Subdrainage and Surface Course Details See Sheet 382.



TRANSVERSE SECTION UNIT 3

• Indicates bars in section.  
○ Indicates bars over piers.



S4 BARS OVER PIER 6 & PIER 7

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					23/31
<b>SUPERSTRUCTURE DETAILS UNIT NO. 3</b>					
BRIDGE NO. HAM.-471-0047					
H&E BRIDGE NO. 10					
DESIGNED OAF	DRAWN MSD	TRACED TM	CHECKED SL	REVIEWED DATE PRD 11-21-72	REVISIONS

MICROFILMED  
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FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

382  
494

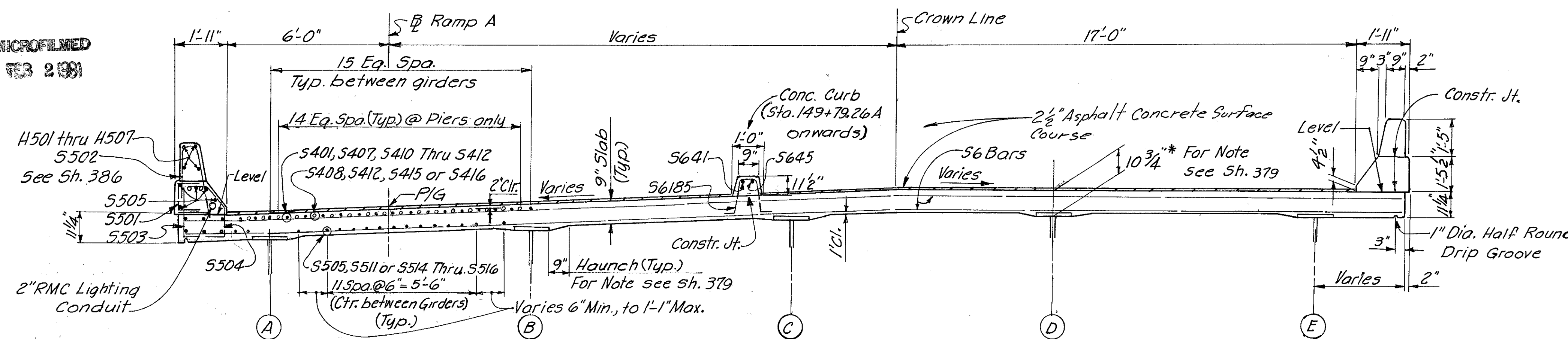
HAMILTON COUNTY  
HAM-471-030

Notes:  
Transverse reinforcing bars in Spans 1 thru 5 are to be placed radially.

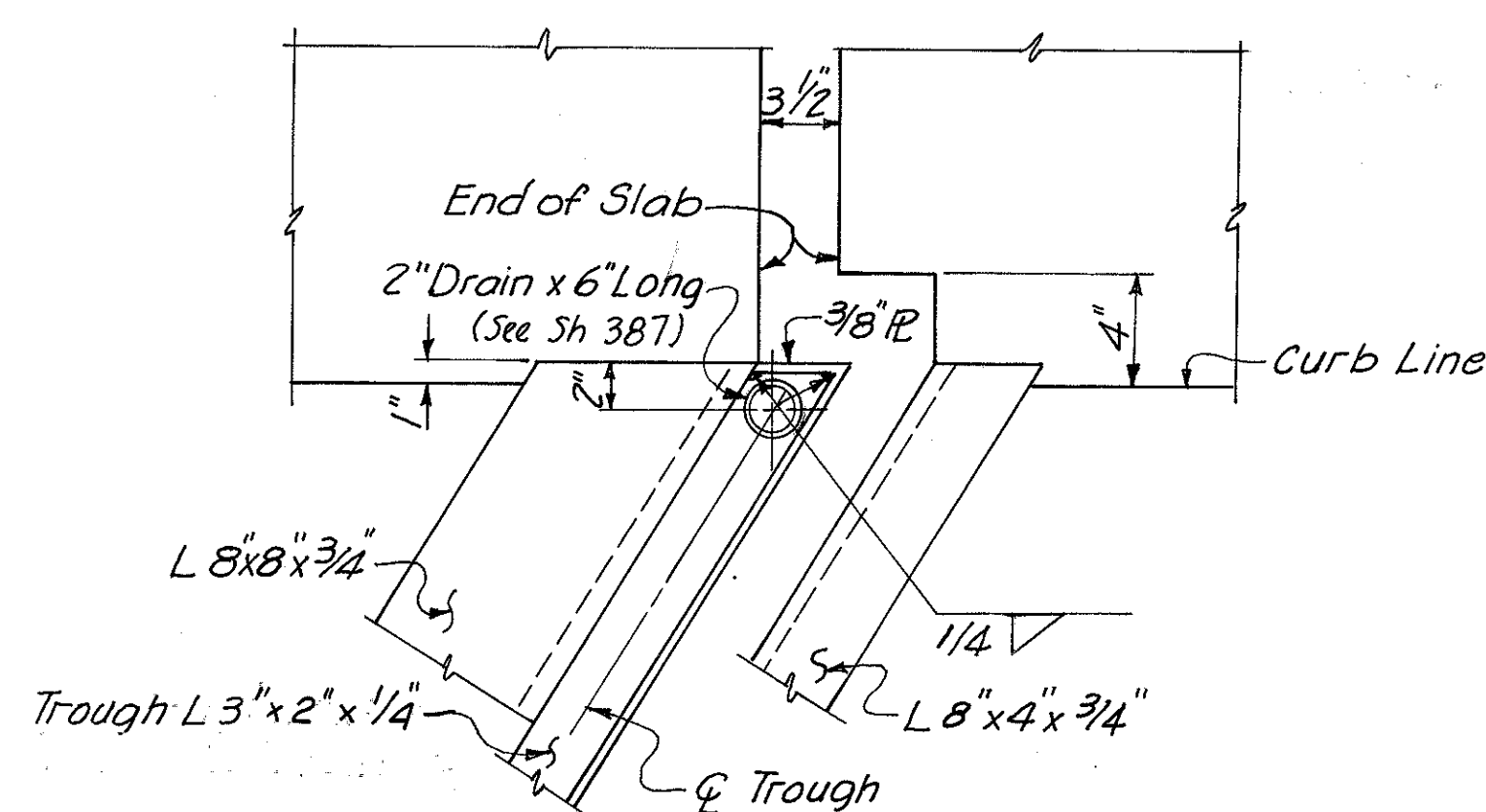
Longitudinal bars are placed parallel to the curvature of the roadway in Spans 1 through 4.  
Field bend longitudinal bars where necessary to miss inlets.

For drainage details see sheets 387 & 388

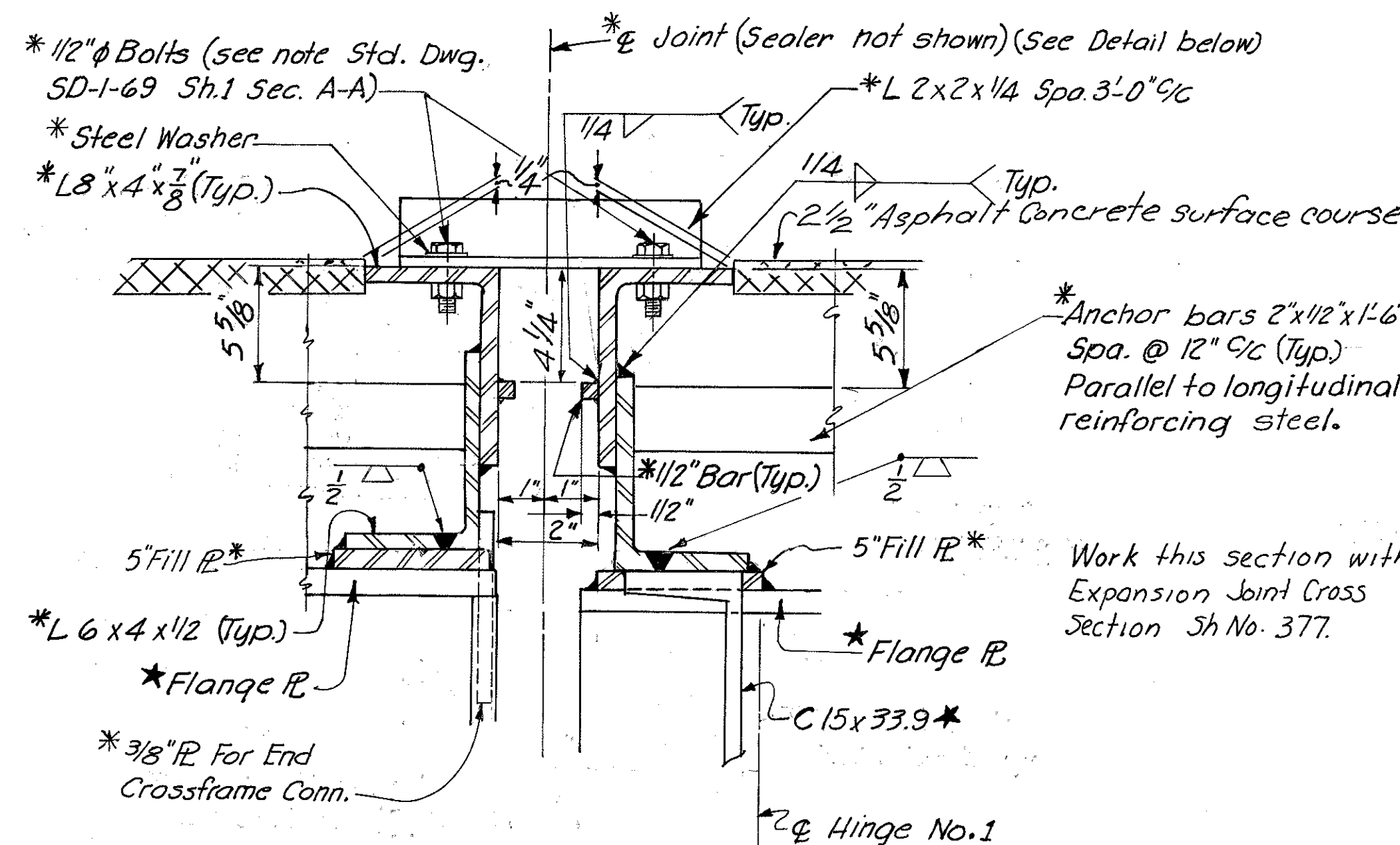
For Railing details and spacing of bars in parapet see Sheet 386



- Indicates bars in section
- Indicates bars over piers

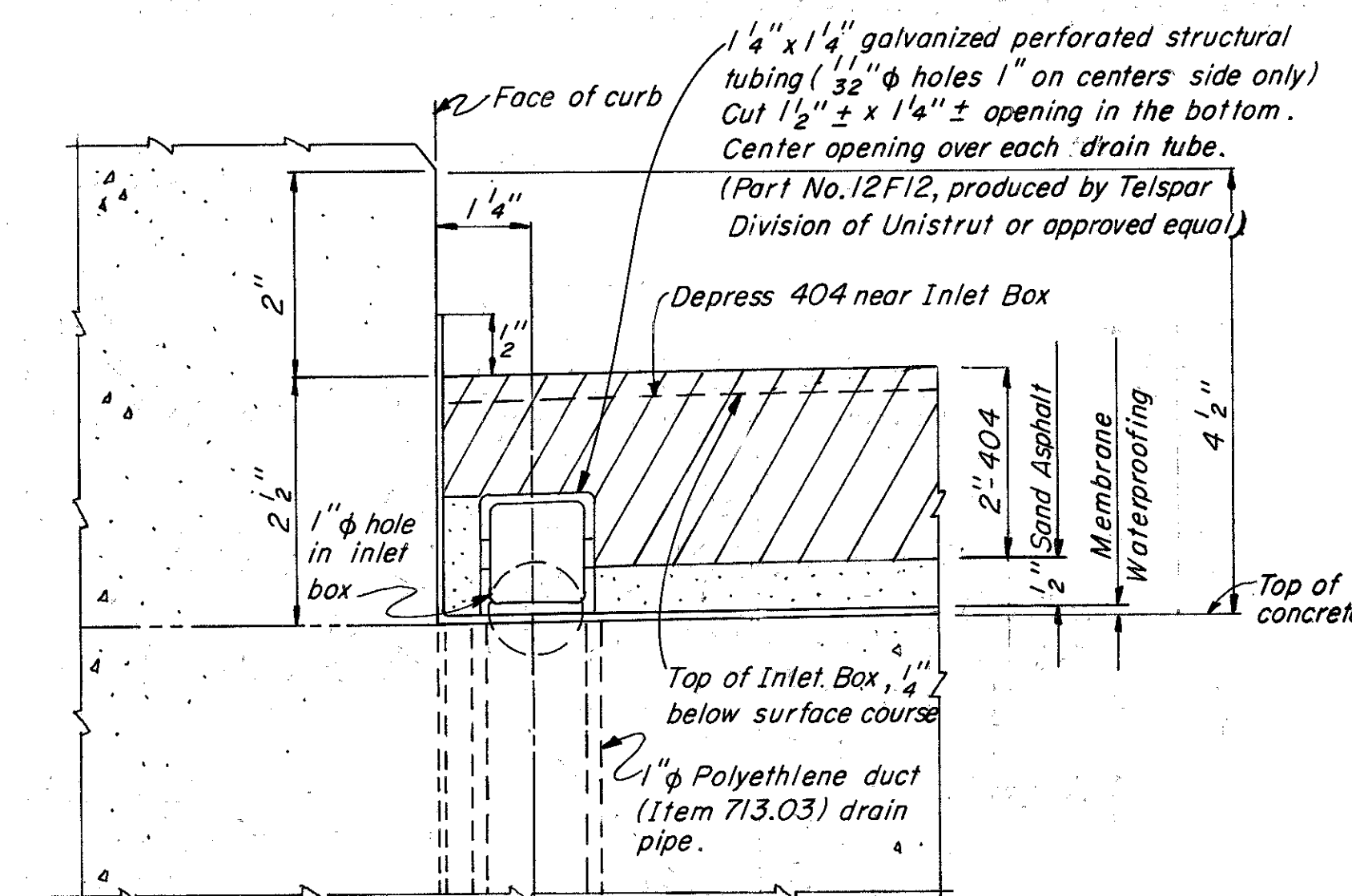


DETAIL C



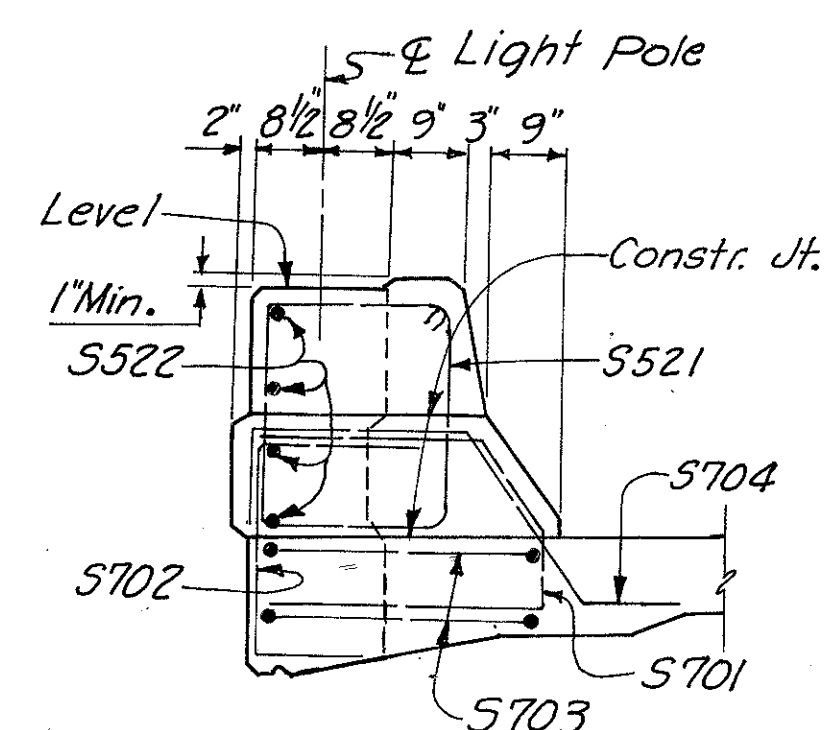
All items shown with an asterisk (\*) shall be included in Item 516, "Metal Joint with Preformed Elastic Joint Sealer" for payment.

All items shown with a star (\*) shall be included in Item 513, "Structural Steel" for payment.

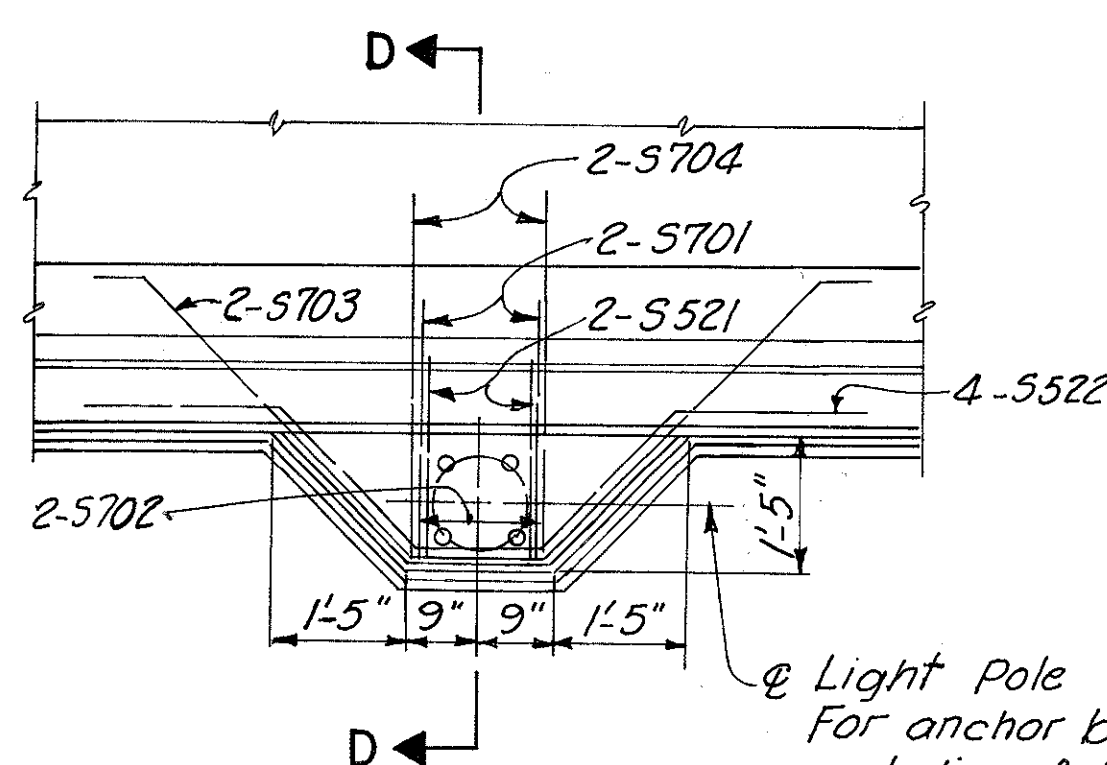


SUB DRAINAGE AND SURFACE COURSE DETAILS

In addition to the location and spacing provisions of 518.07, the Polyethylene duct drain pipes shall be located so that discharge from them will clear all structural members, including crossbracing by at least 6" (use drain pipes with elbows where necessary). Place the top of pipe flush with concrete surface. Place membrane over pipe, puncturing if membrane is a sheet type with the hole sealed around the lip of the pipe. Openings in the bottom of the structural tube may be cut in the field to match drain tube locations. Include Sub drainage with item 404 for payment.

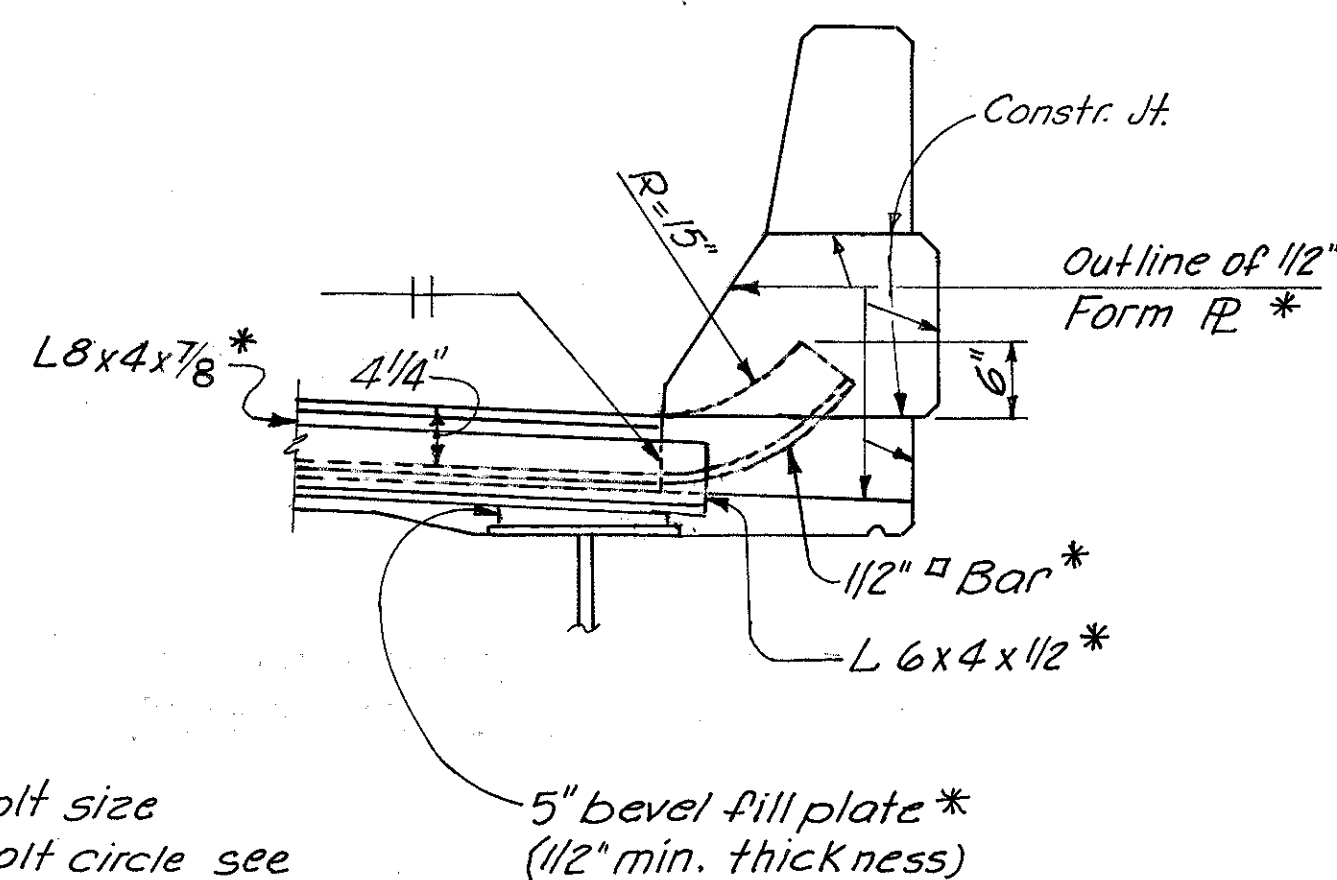


SECTION D-D

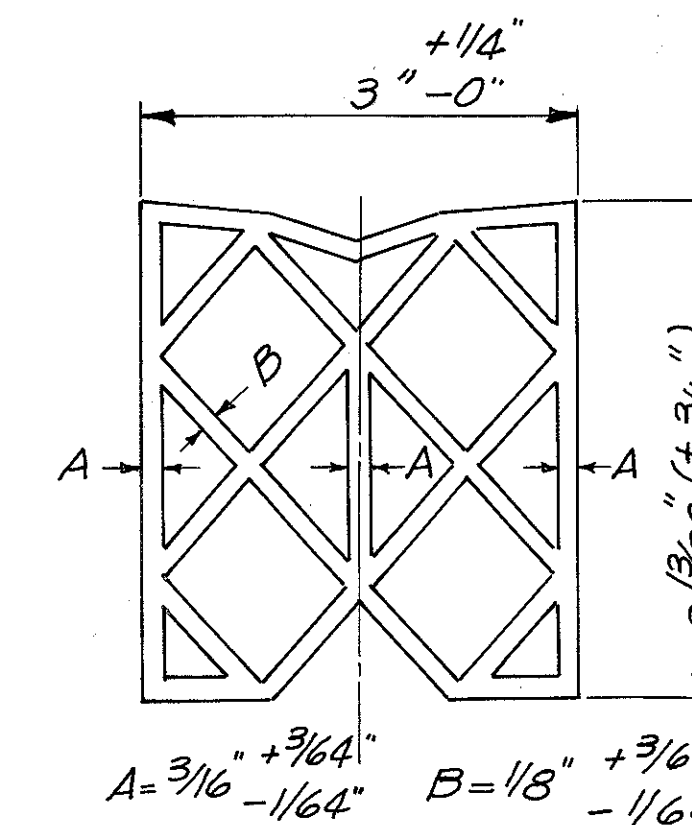


DETAIL B

For anchor bolt size and dia. of bolt circle see Lighting Plans, Sh. No. 154. Anchor bolts shall be included with Item 625 for payment. Additional references, see Sh. Nos. 143, 144 and 155 C.



SECTION E-E



PREFORMED ELASTIC JOINT SEALER DETAIL

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				24/31
SUPERSTRUCTURE DETAILS				
UNIT NO. 3				
BRIDGE NO. HAM-471-0047				
H & E BRIDGE NO. 10				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
OAF	TM	VWS	PRD	JHO 11-22-72
MSD				



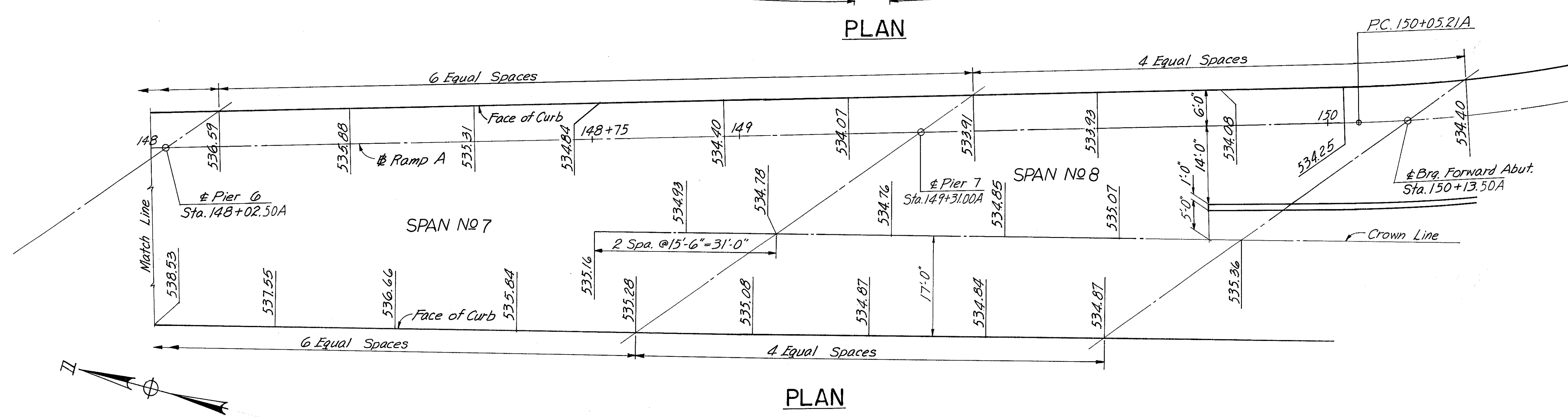
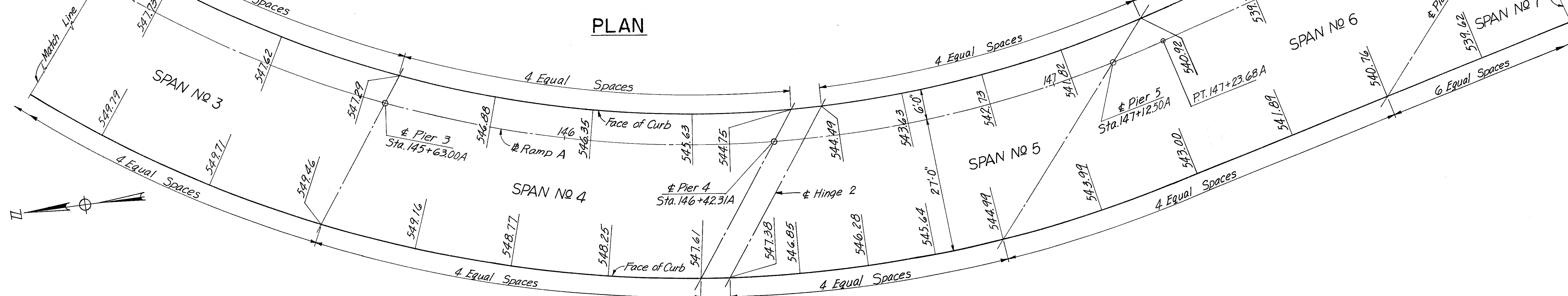
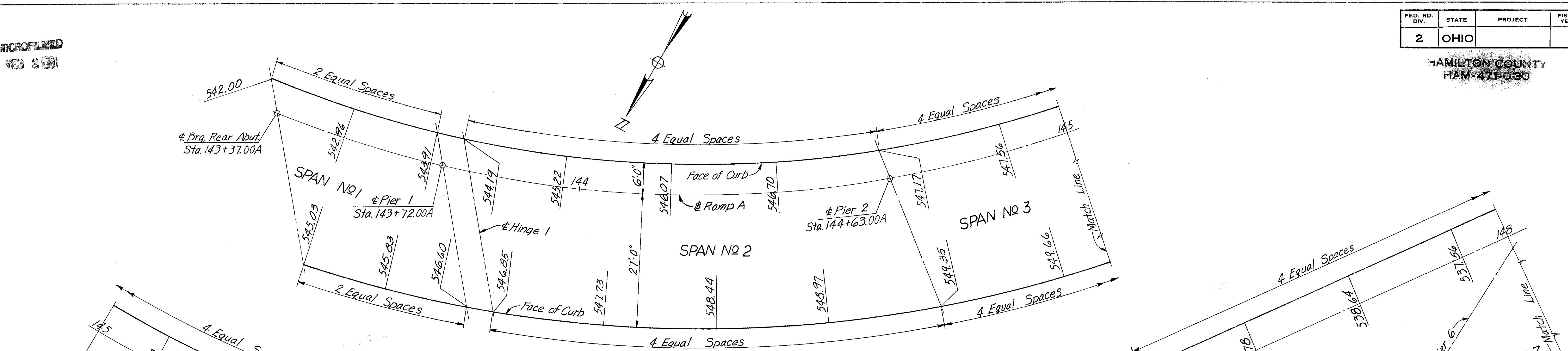


MICROFILMED  
73 331

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

384  
494

HAMILTON COUNTY  
HAM-471-030



Note: Screed elevations shown equal concrete surface elevations plus anticipated dead load deflections due to weight of deck concrete.

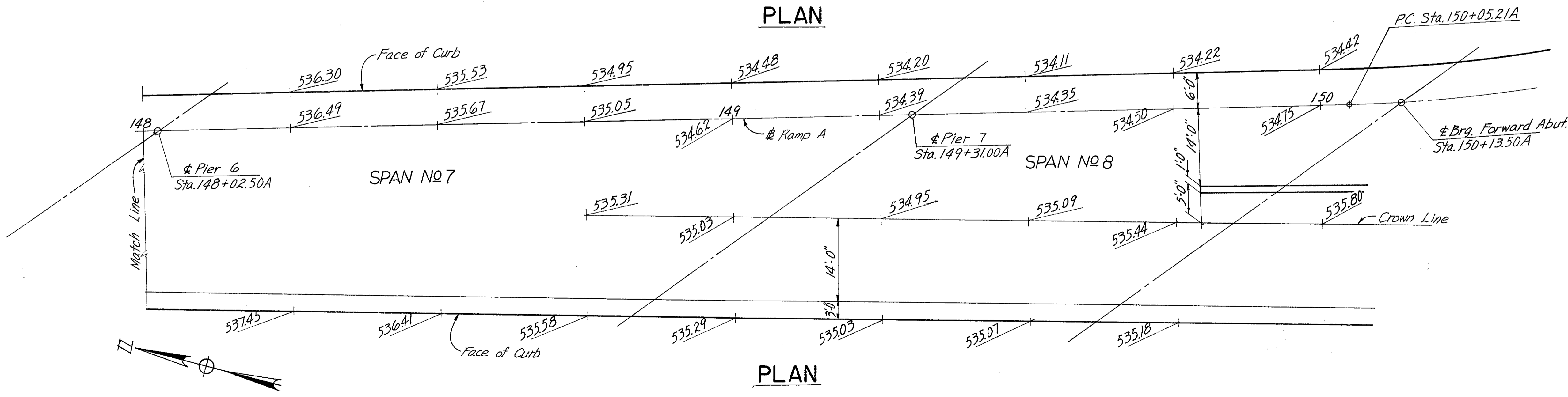
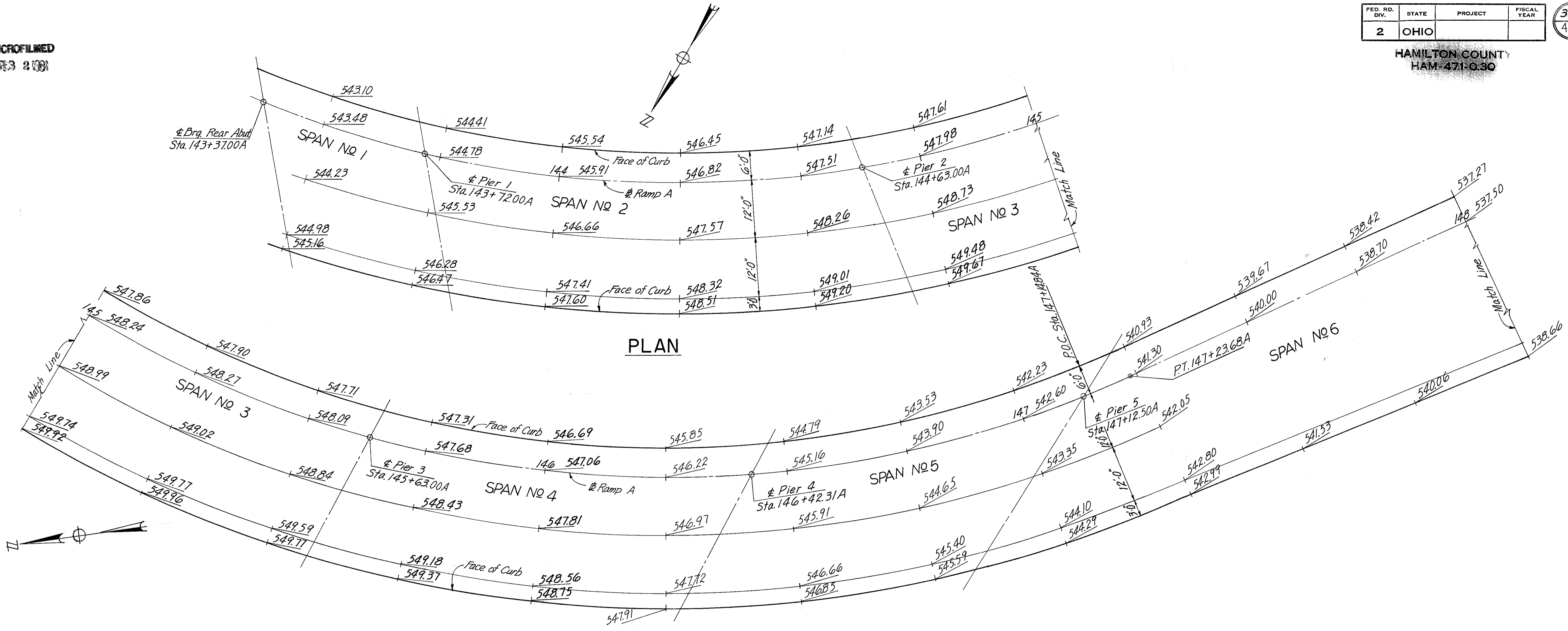
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					25/31
<b>SCREED ELEVATIONS</b>					
BRIDGE NO. HAM.-471-0047					
H&E BRIDGE NO. 10					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
GNP	SL	OAF	JHO	11-22-72	

MICROFILMED  
8/3 2 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

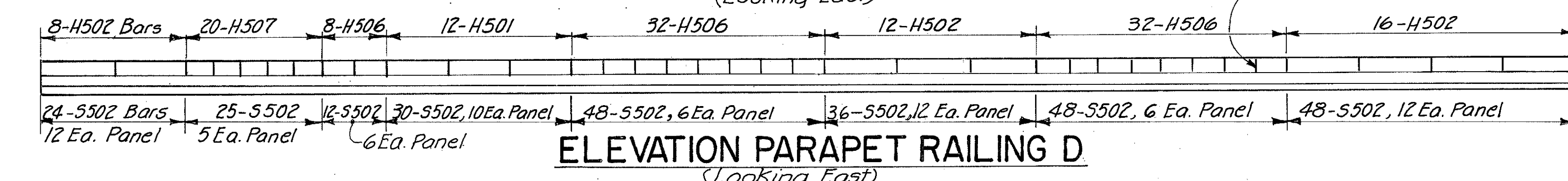
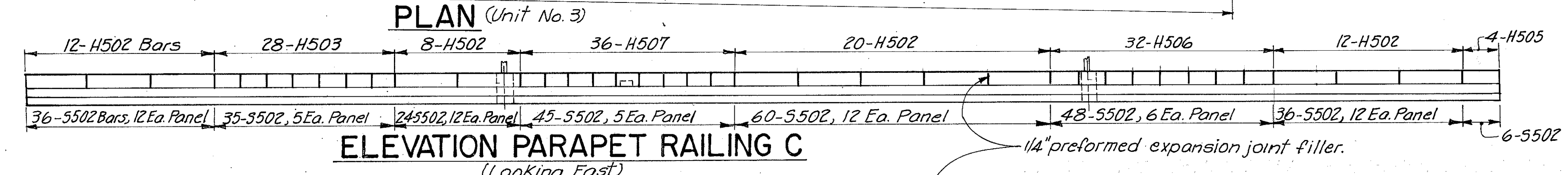
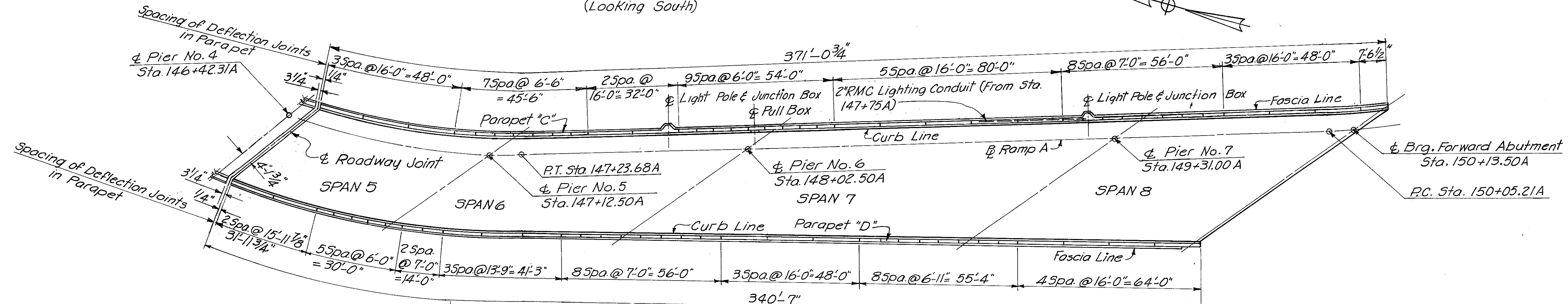
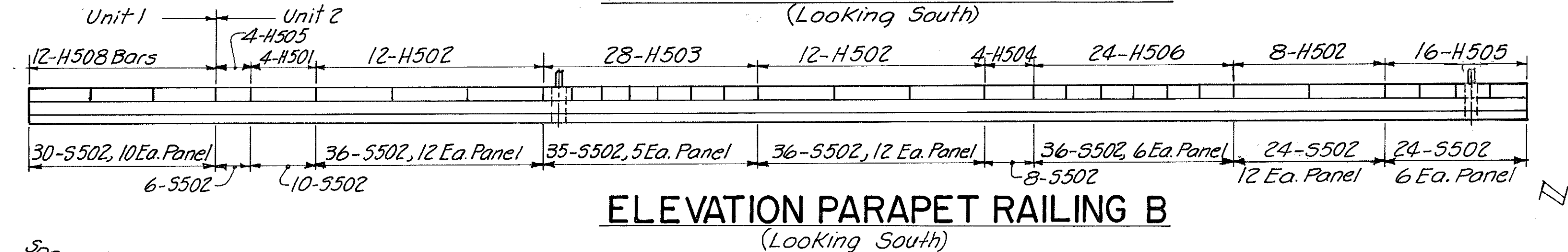
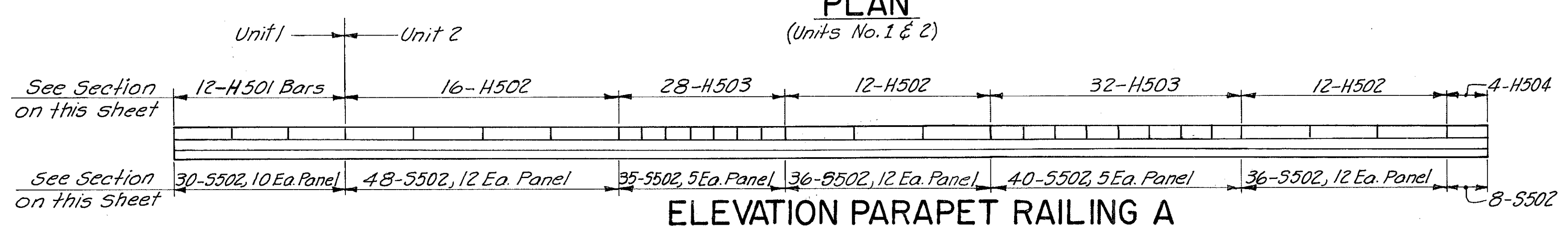
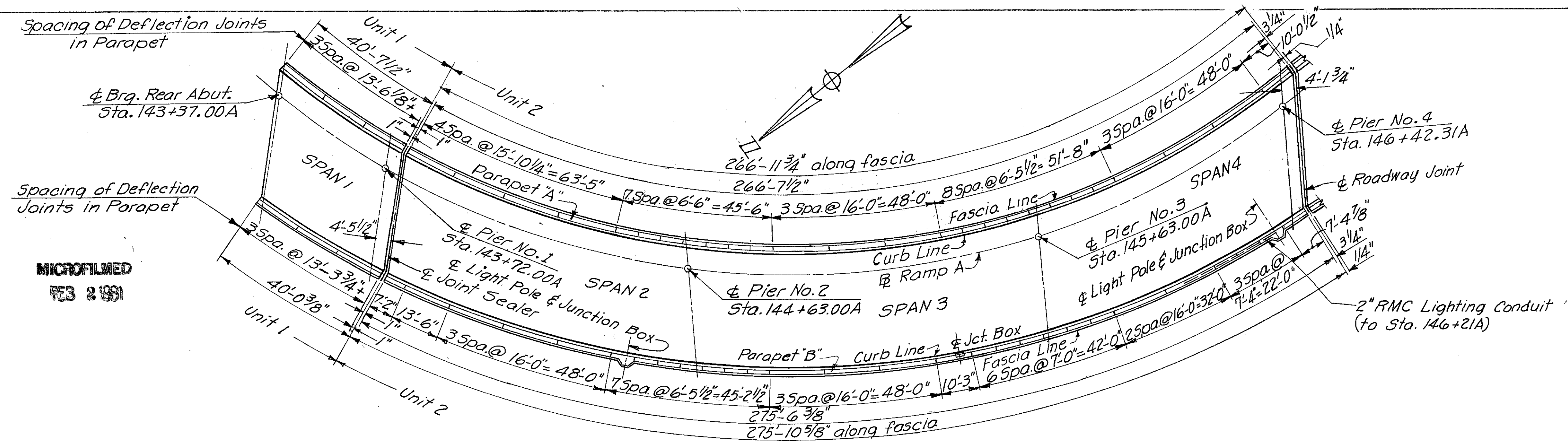
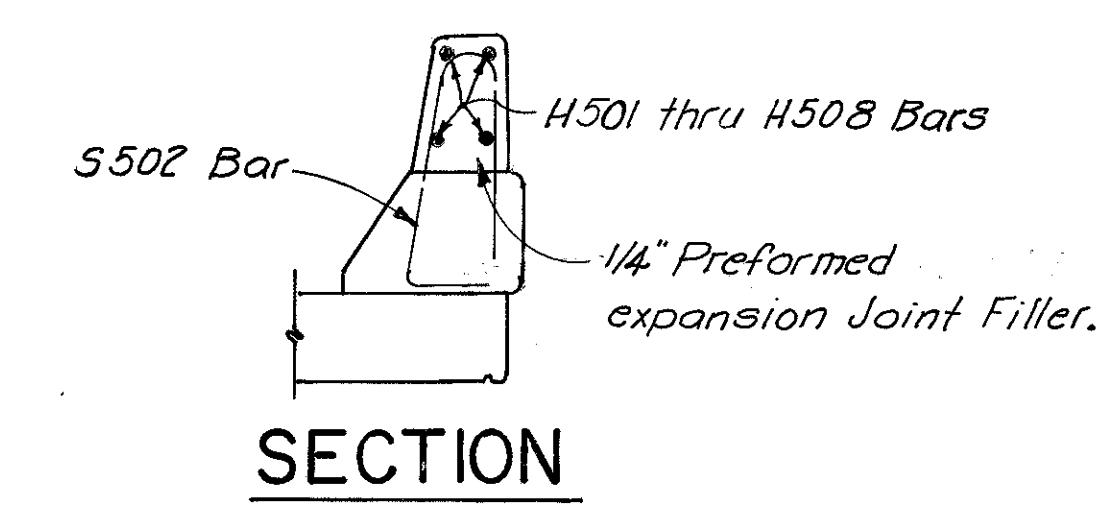
385  
494

HAMILTON COUNTY  
HAM-471-0-30



NOTE:  
Elevations are given every 25'-0"  
measured along Ramp A.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					26/31
<b>ROADWAY SURFACE ELEVATIONS</b>					
BRIDGE NO. HAM.-471-0047					
H&E BRIDGE NO. 10					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
MSD	SL	OAF	JHO	11-22-72	



Notes:  
Work this drawing with Lighting Plan Sh. No. 146.  
For Junction Box details see Sh. No. 154.  
For Pull Box details see Sh. No. 151.  
Deflection joint spacing is measured along fascia.  
For Railing Details see Standard Drawing BR-1-67 Sh. No. 1.  
For typ. lighting details see 154.  
For conduit expansion detail at abutments see Sheet 155 E (Use similar detail at other joints.)

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					27/31
<b>RAILING &amp; LIGHTING DETAILS</b>					
<b>BRIDGE NO. HAM.-471-0047</b>					
<b>H&amp;E BRIDGE NO. 10</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
AK	VWS	PRD	JH	11-22-72	

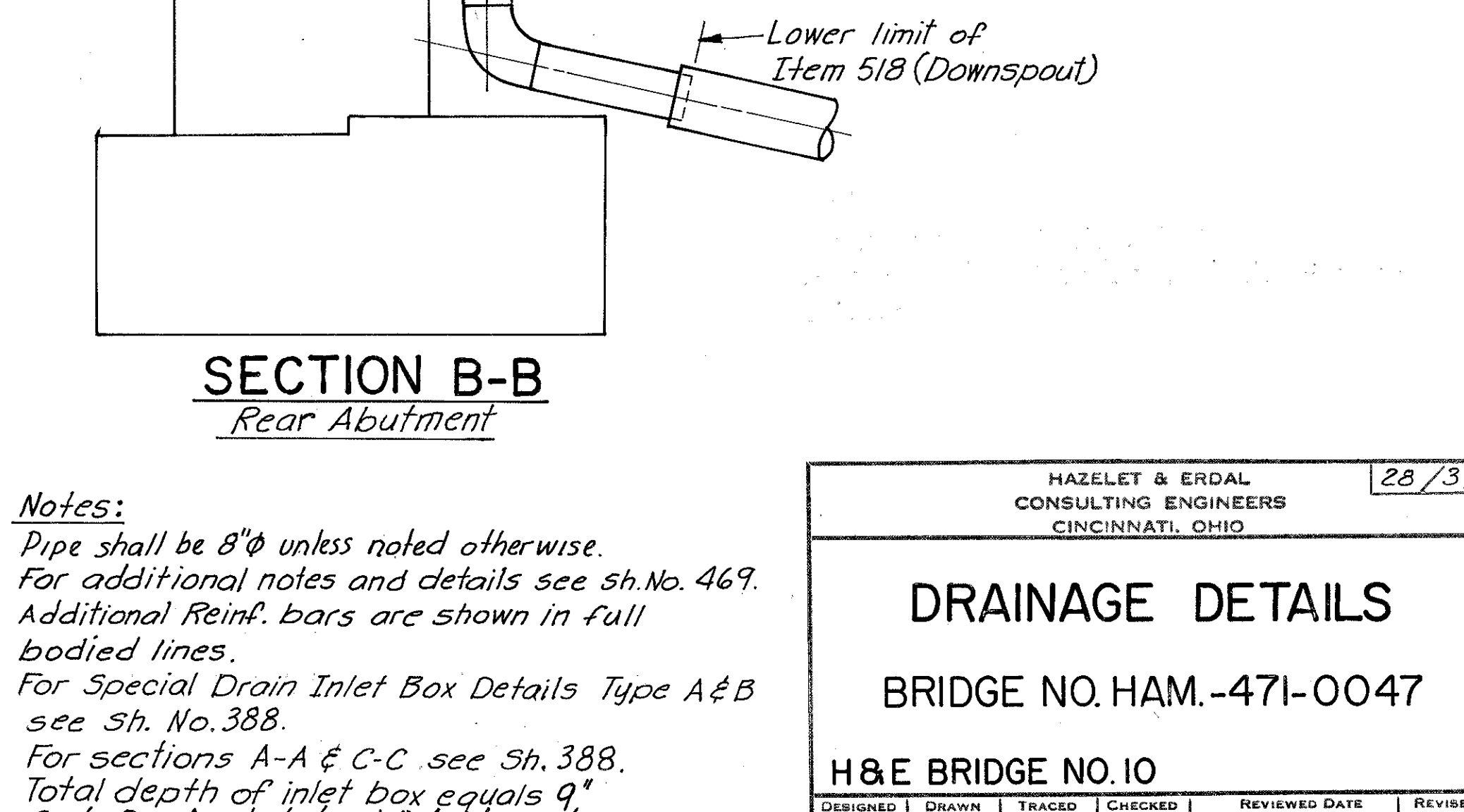
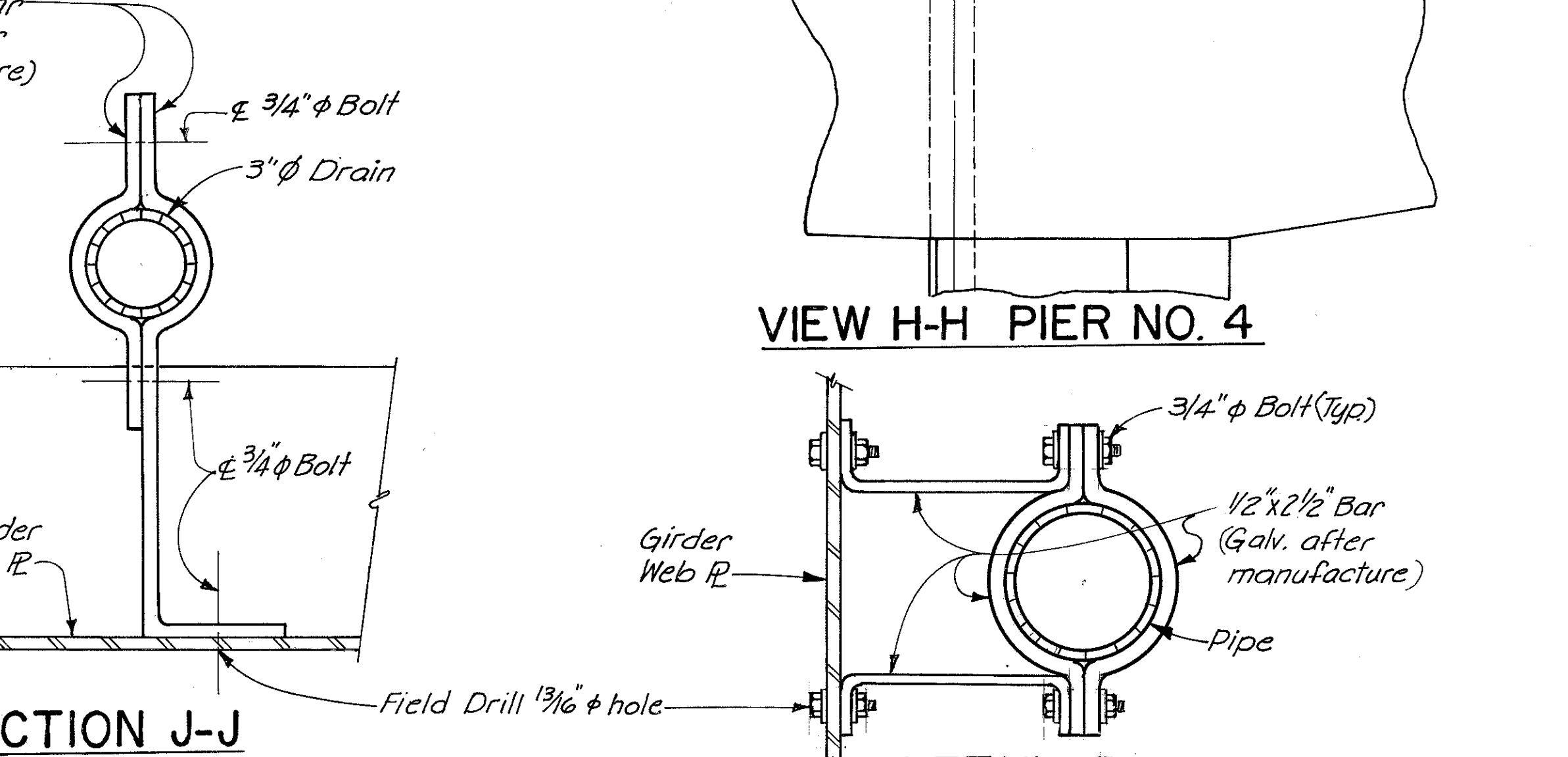
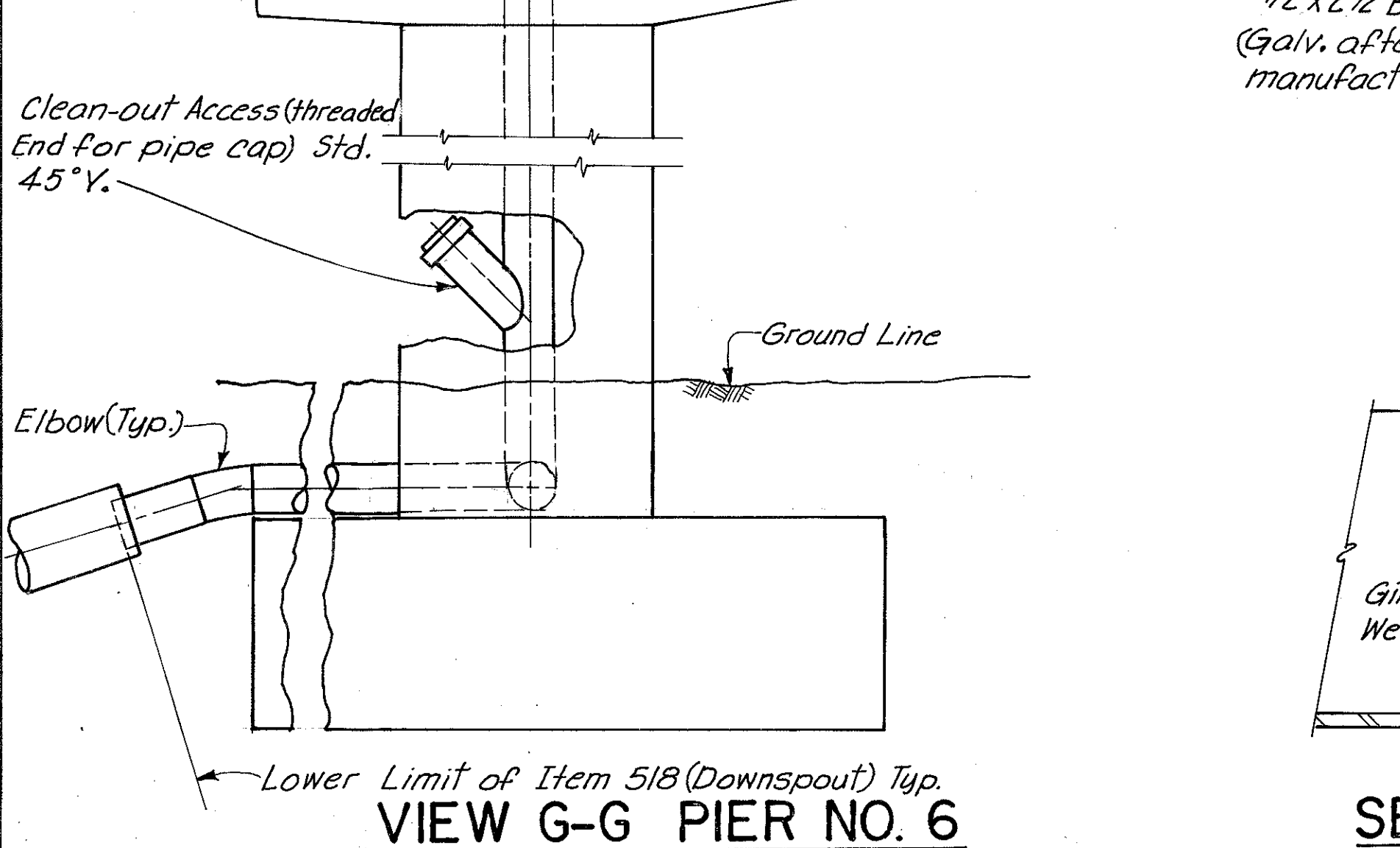
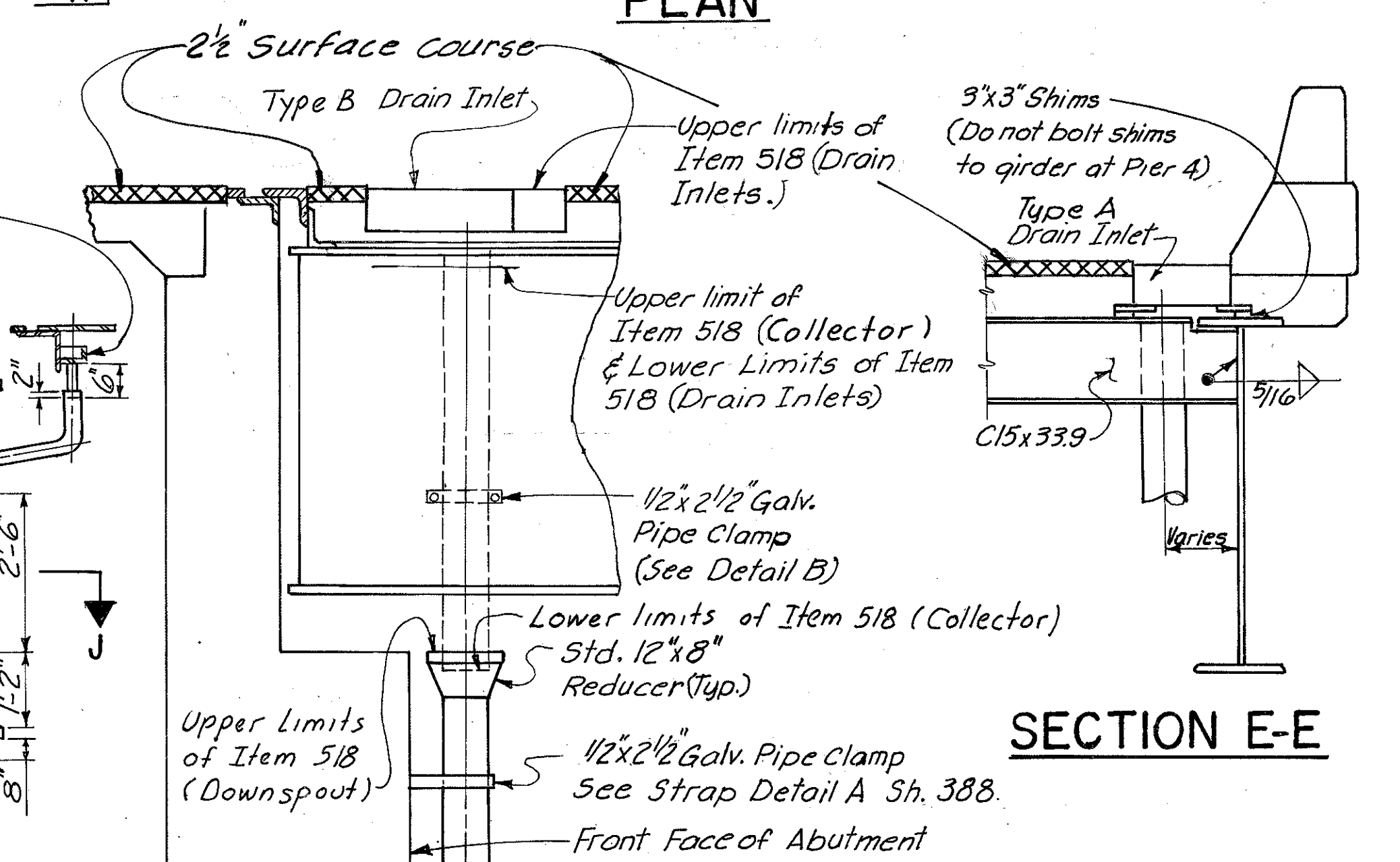
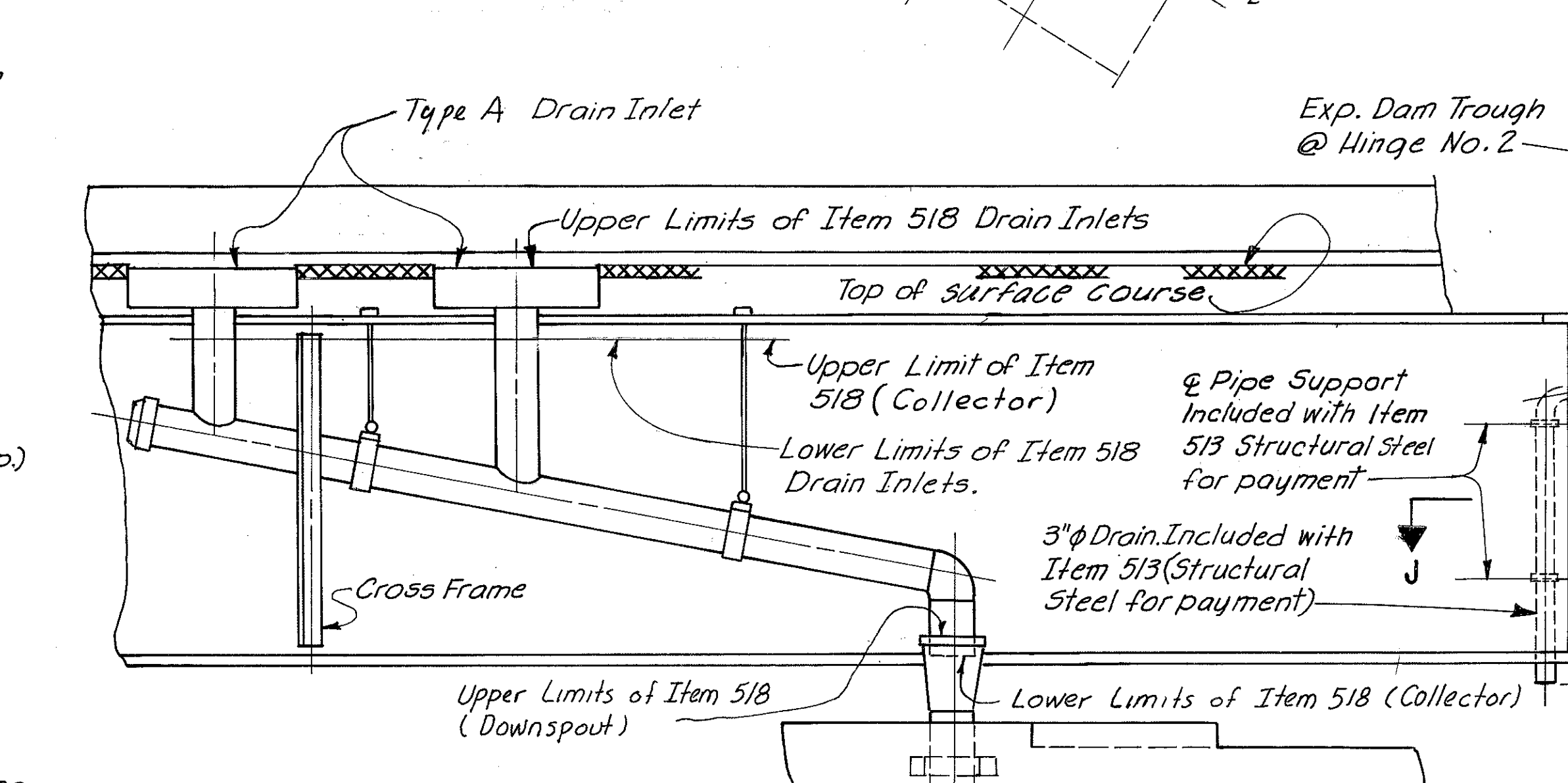
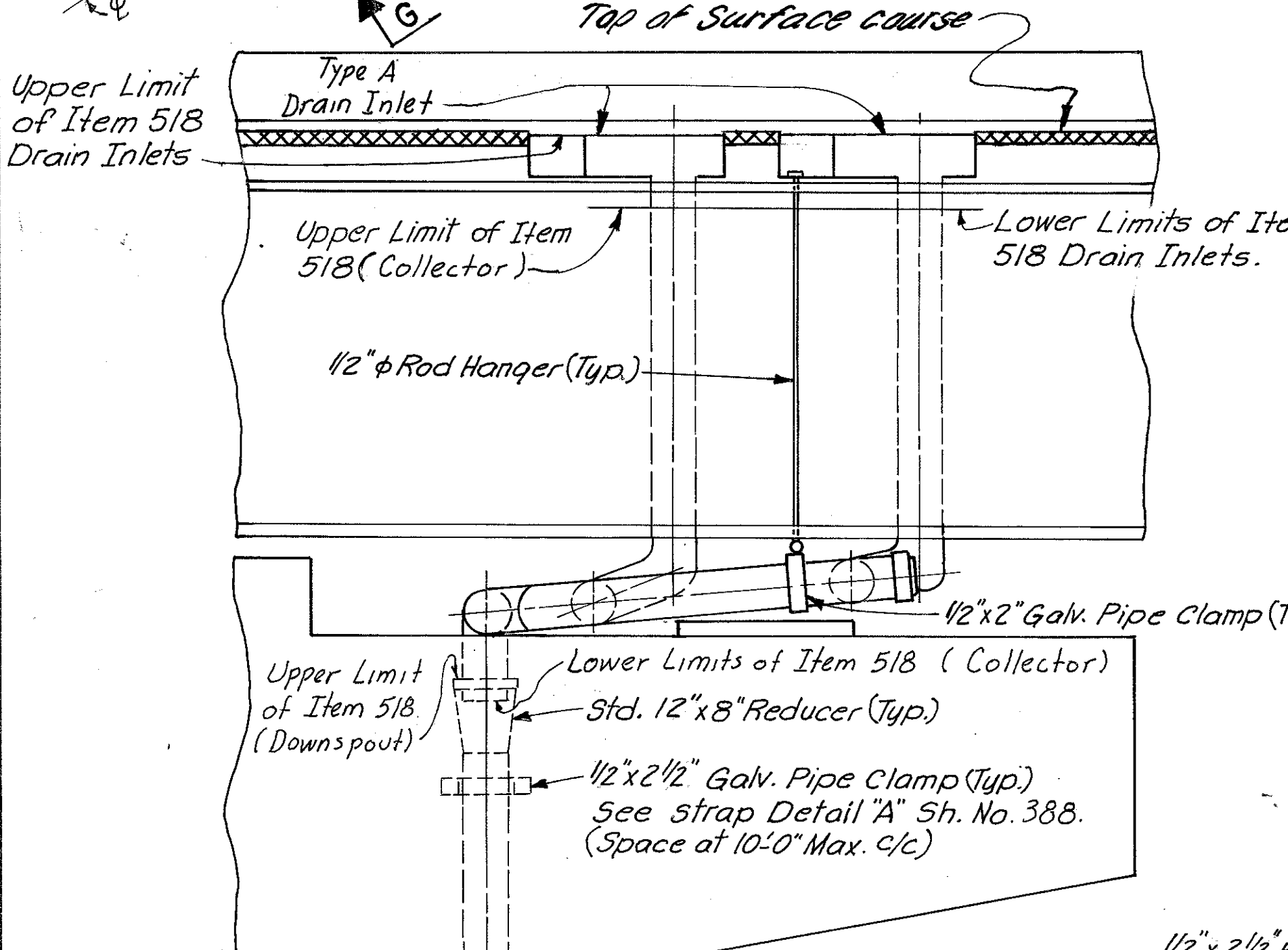
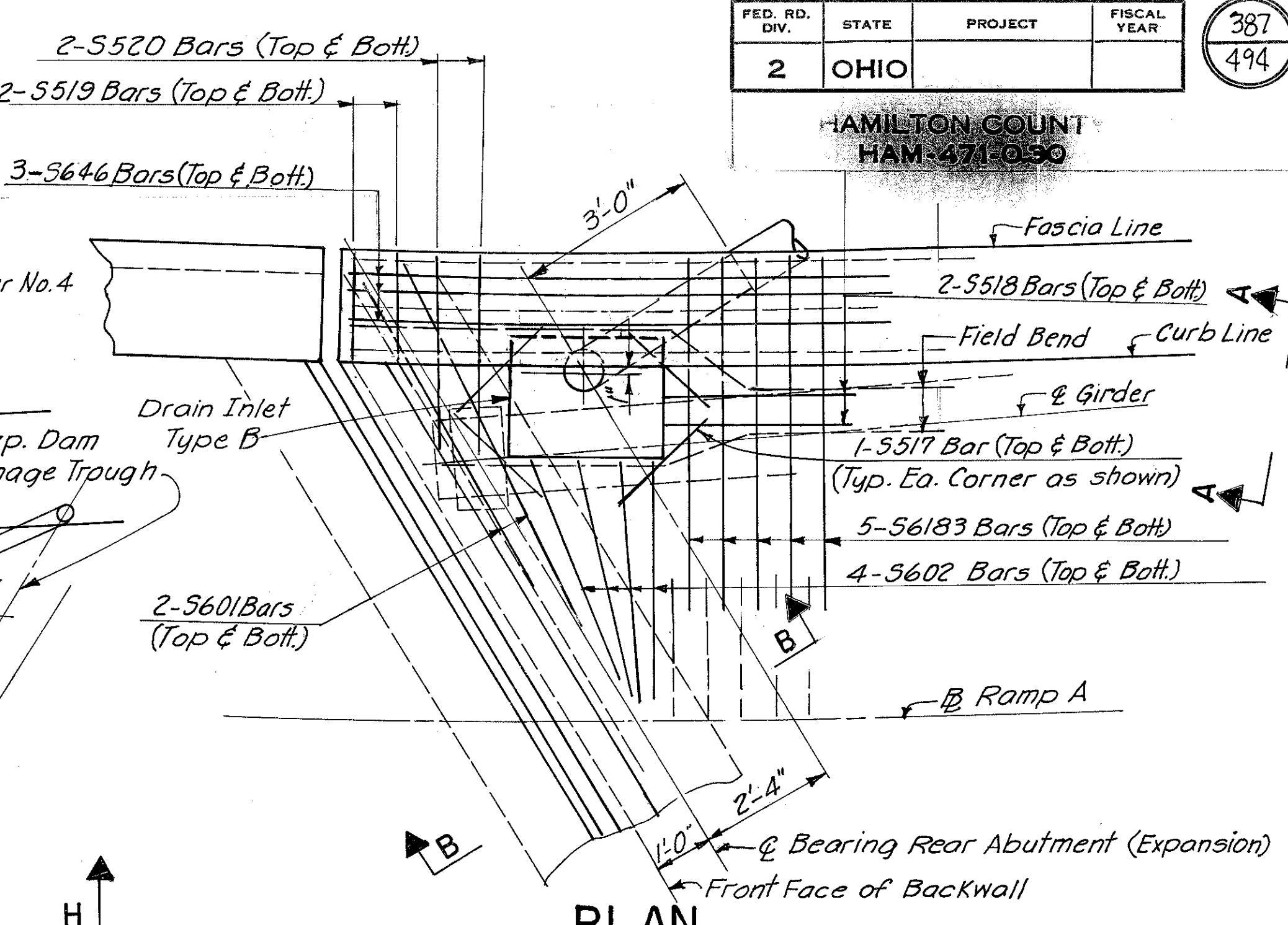
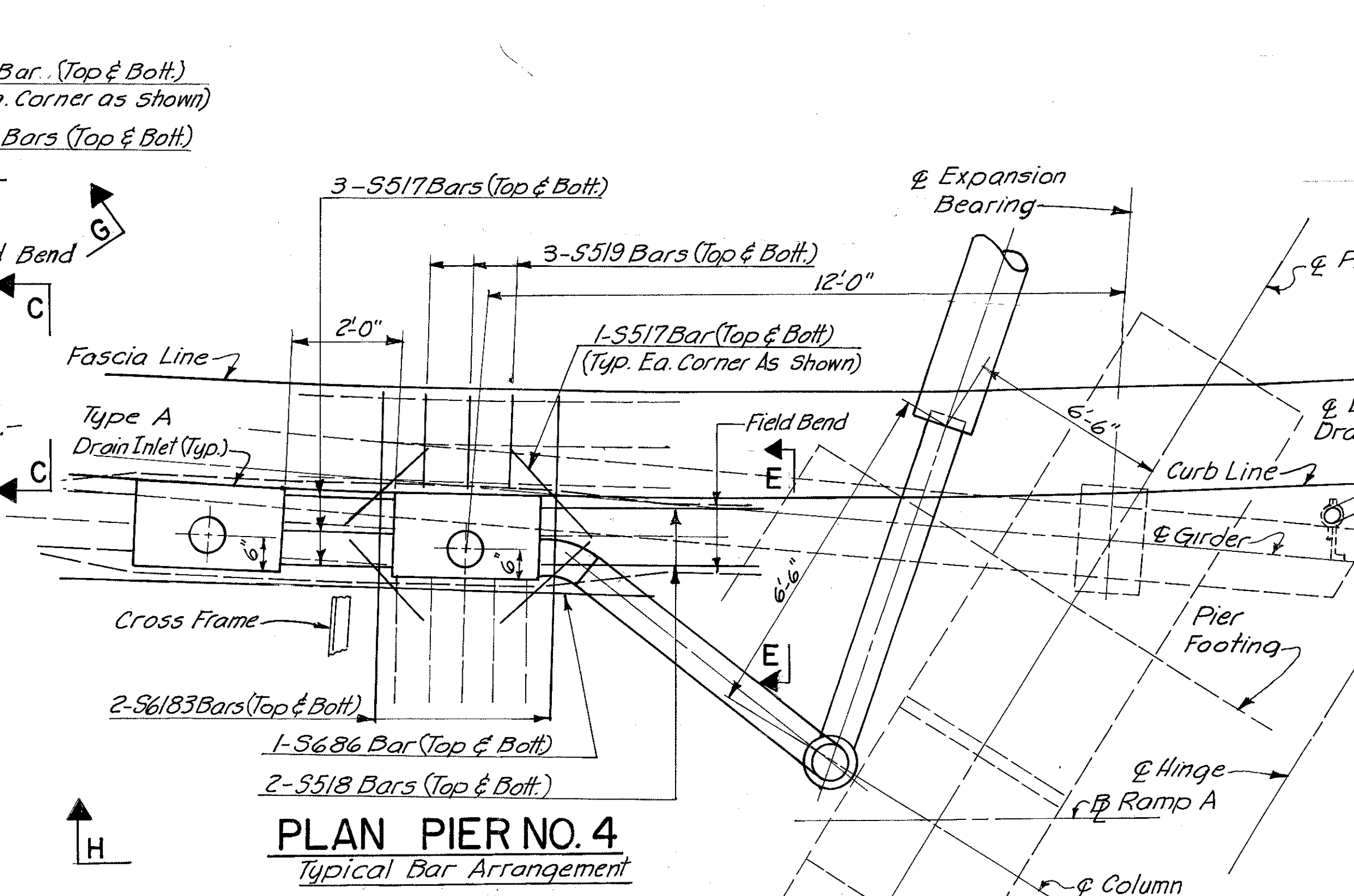
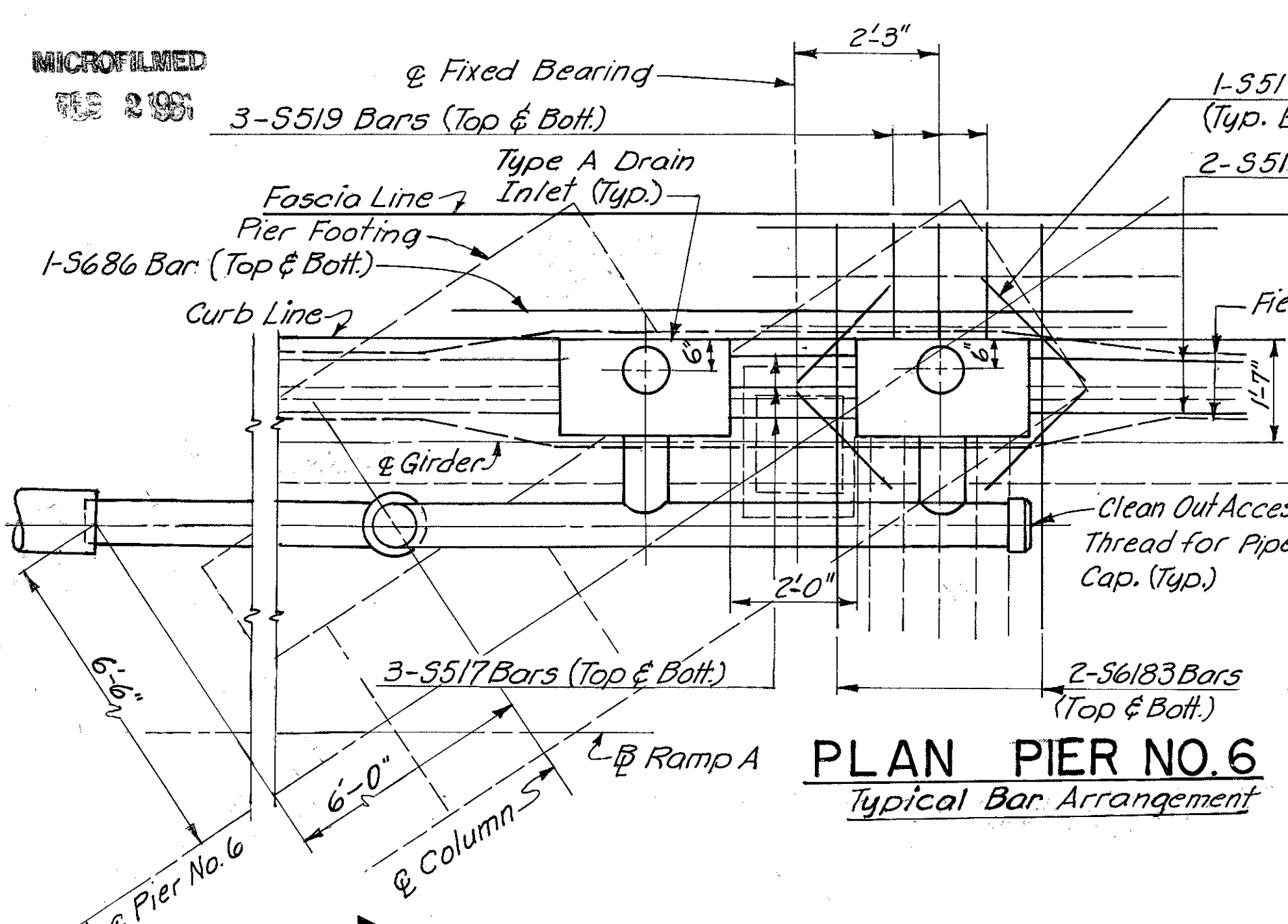
MICROFILMED  
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MICROFILMED  
7-2-95

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

387  
494

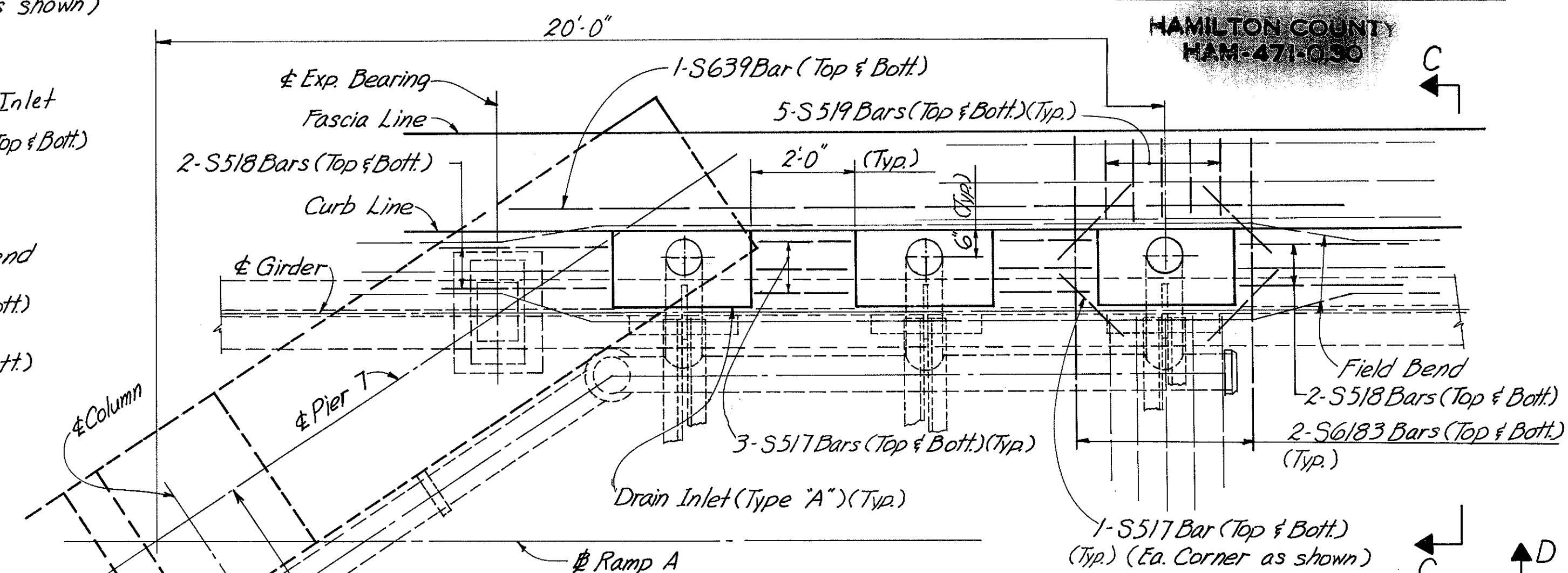
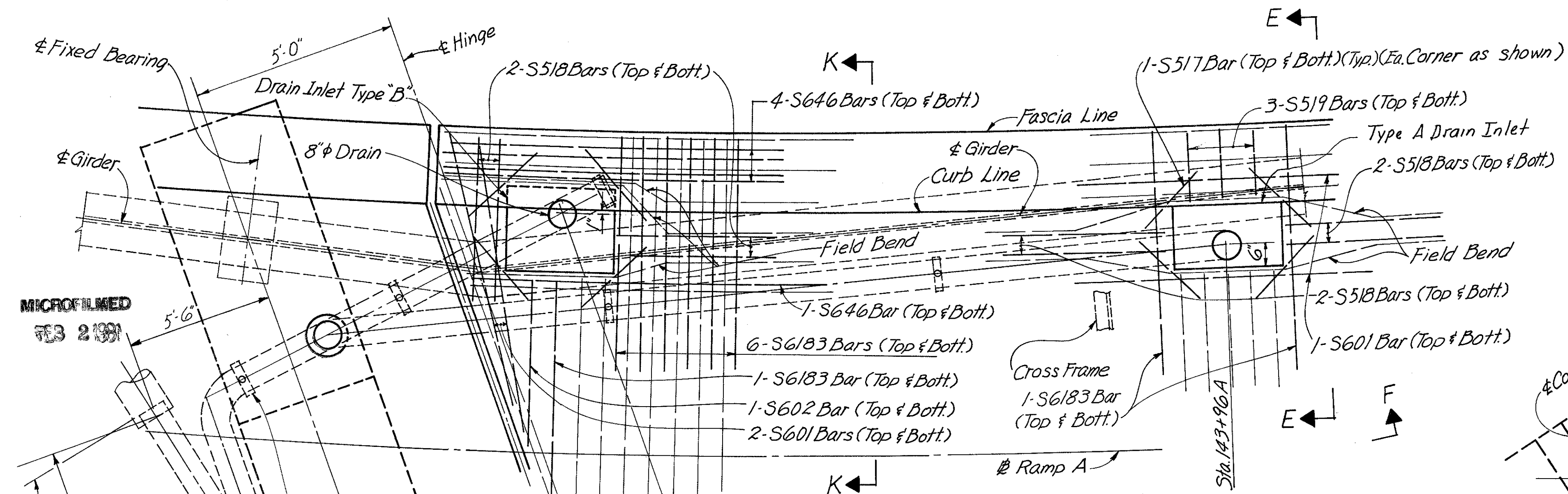
HAMILTON COUNTY  
HAM-471-0-90



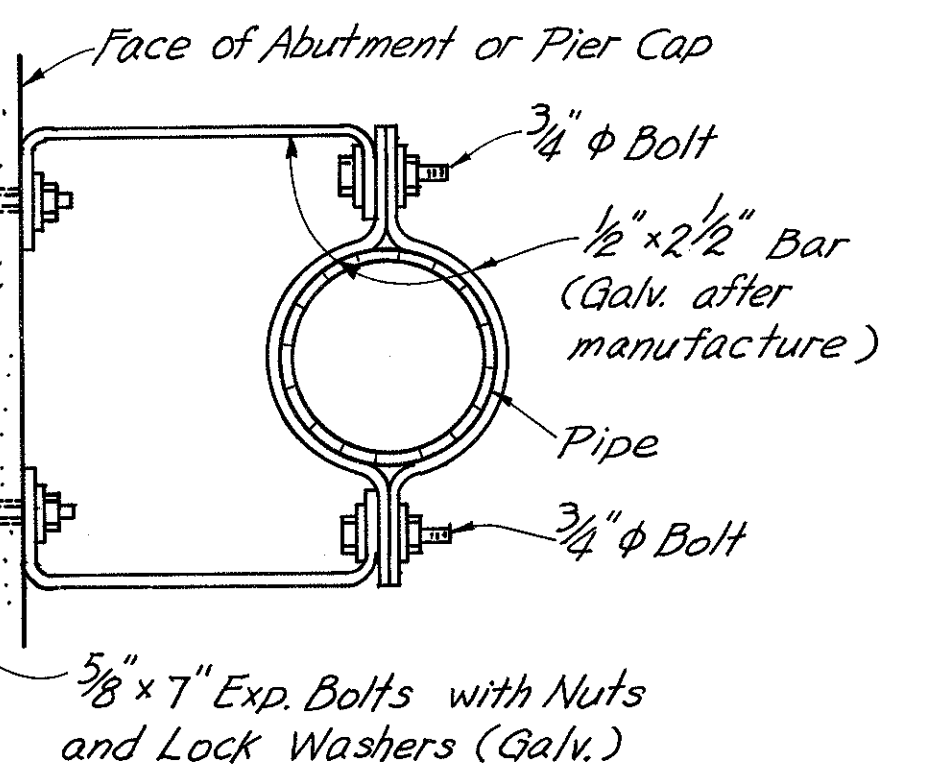
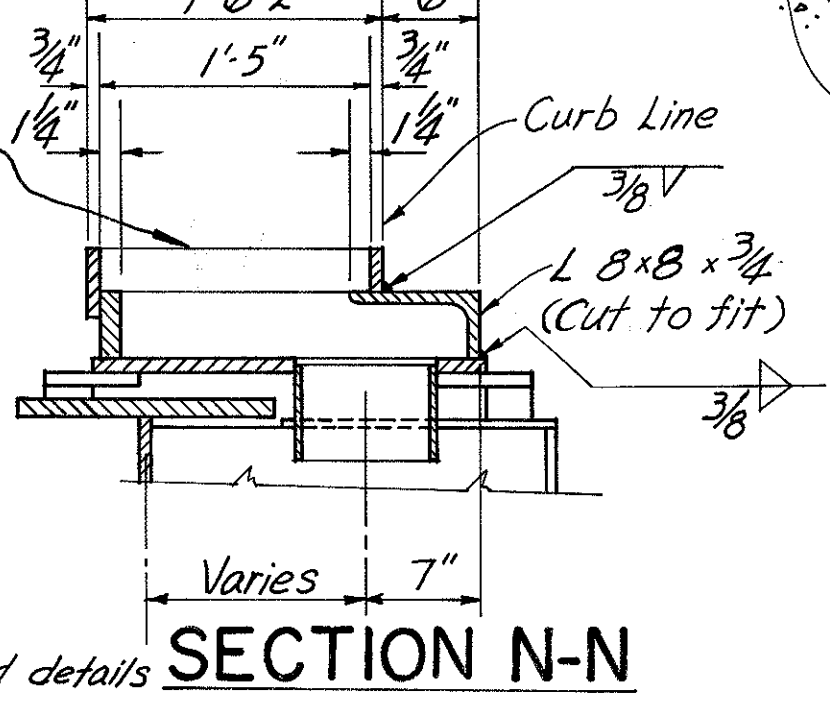
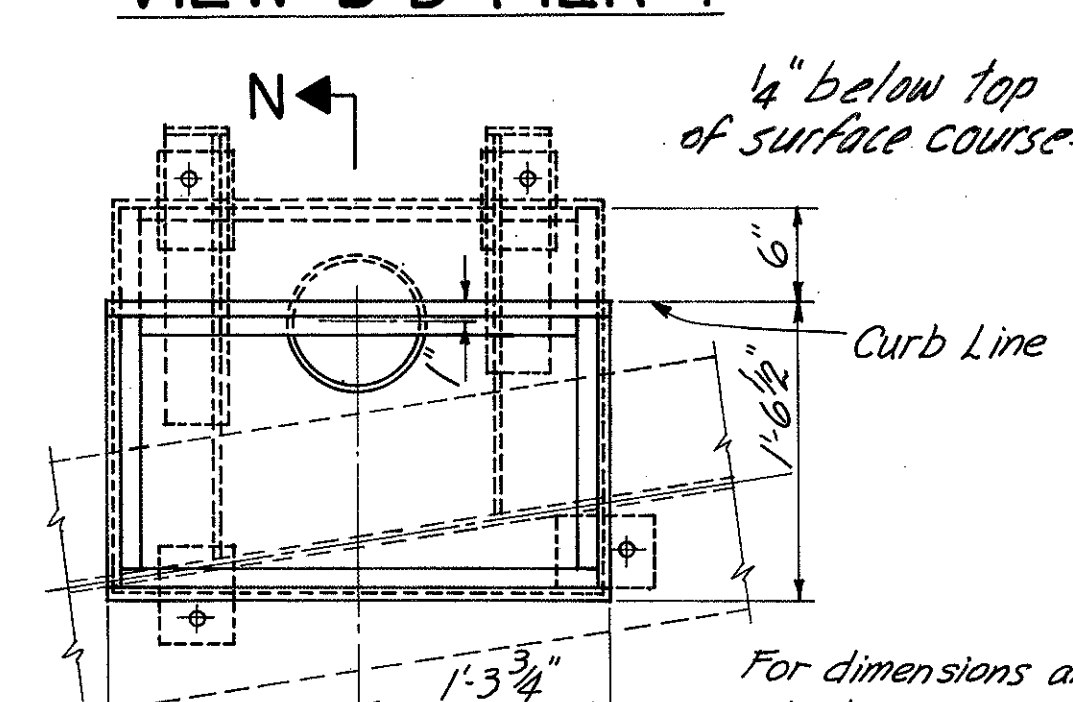
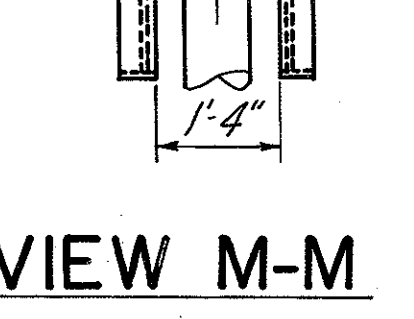
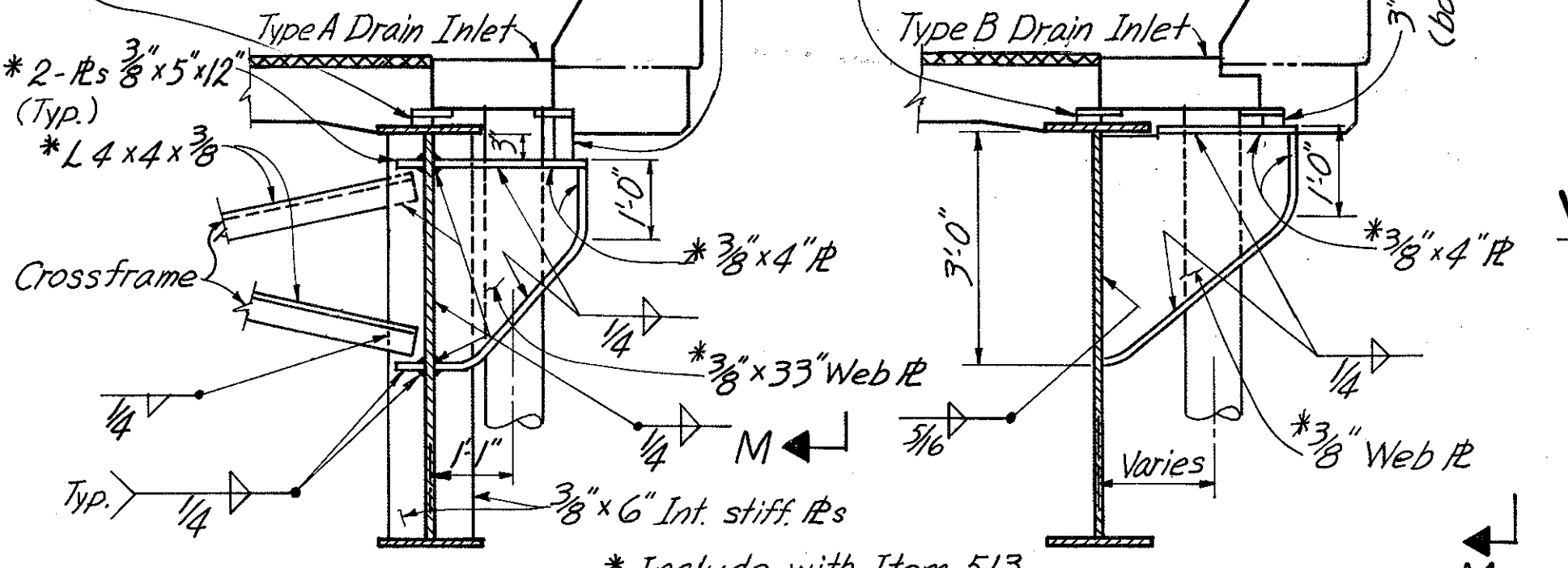
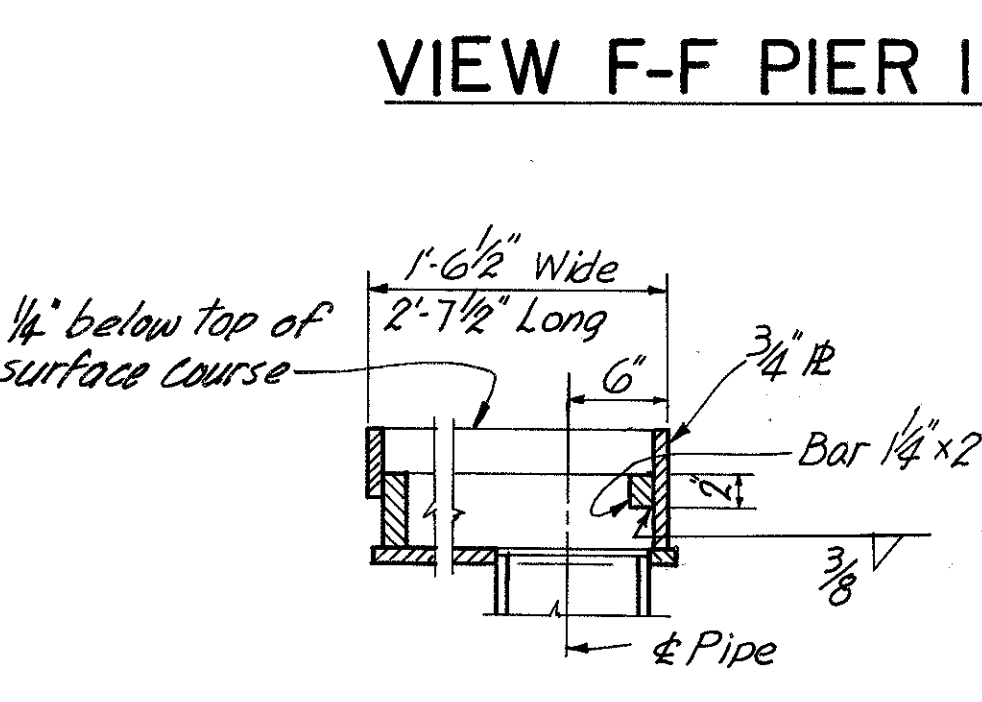
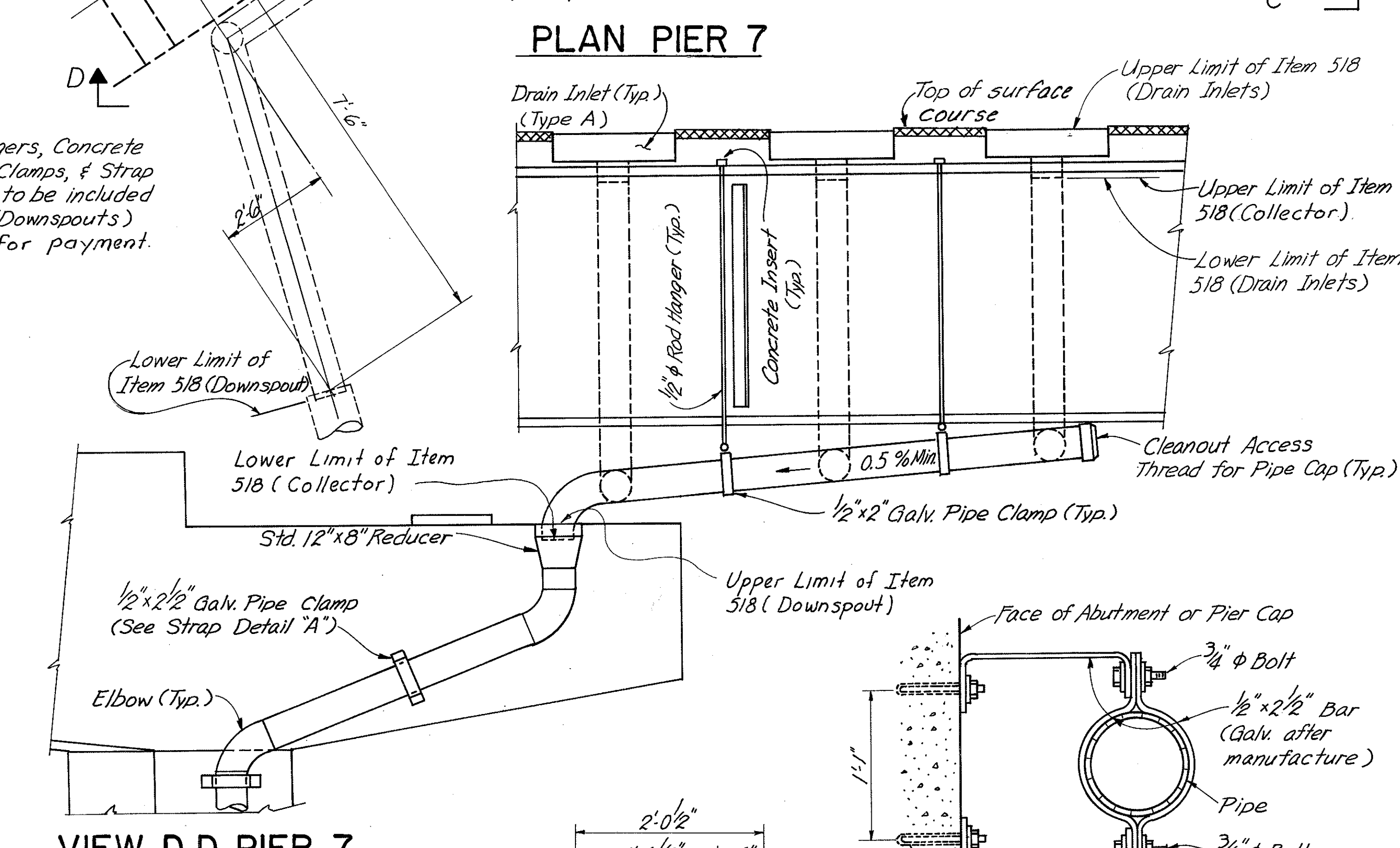
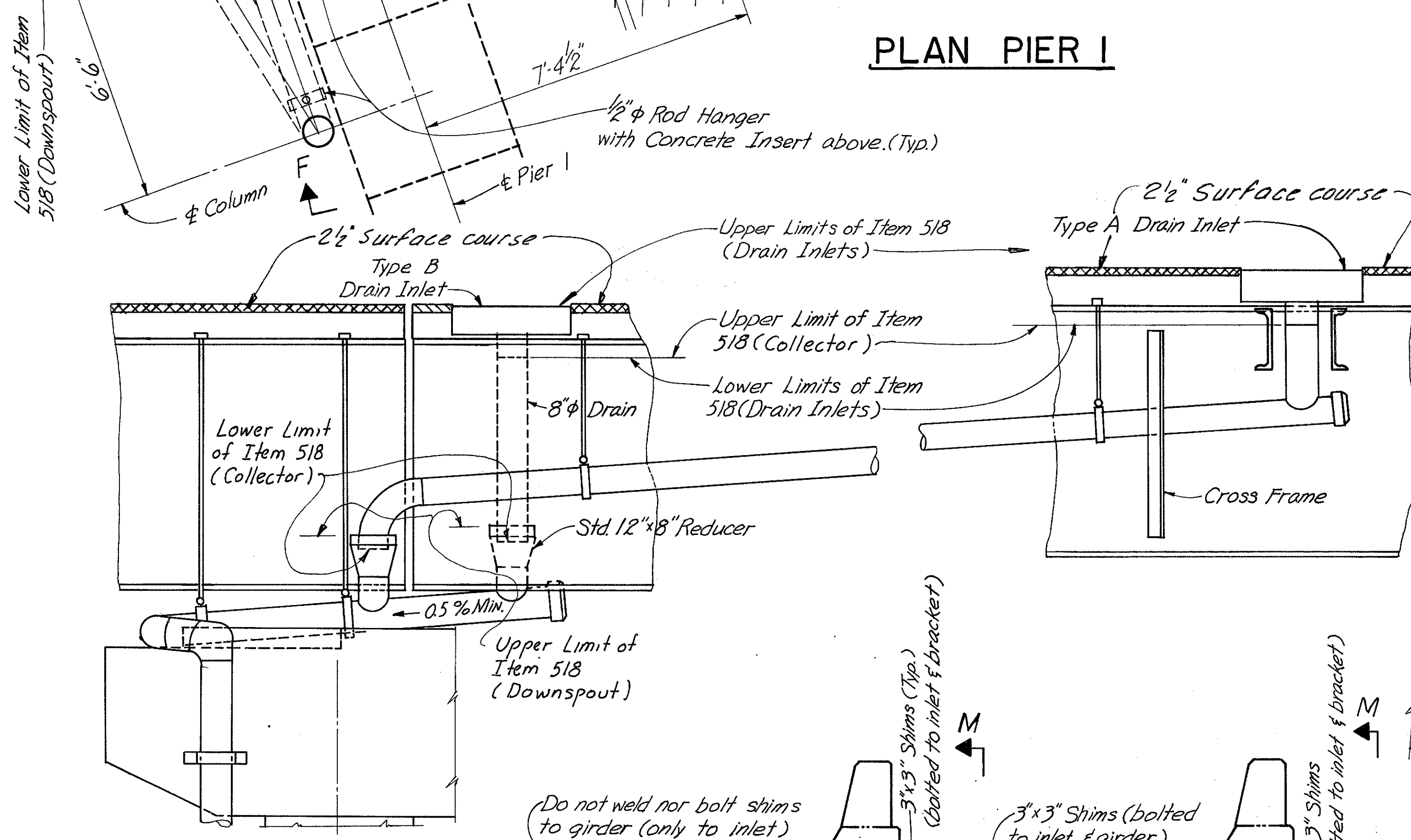
**Notes:**  
Pipe shall be 8" φ unless noted otherwise.  
For additional notes and details see Sh. No. 469.  
Additional Reinf. bars are shown in full bodied lines.  
For Special Drain Inlet Box Details Type A & B see Sh. No. 388.  
For sections A-A & C-C see Sh. 388.  
Total depth of inlet box equals 9".  
Set Drain Inlets 1/4" below top of surface course.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
28/31					
<b>DRAINAGE DETAILS</b>					
BRIDGE NO. HAM.-471-0047					
H&E BRIDGE NO. 10					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JCM	VWS	PRD		JHO 11-21-72	

HAMILTON COUNTY  
HAM-471-0030



Note:  
1/2" φ Rod Hangers, Concrete Inserts, Pipe Clamps, & Strap Details A & B, to be included with Item 518 (Downspouts) (Collector) for payment.



HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

DRAINAGE DETAILS  
BRIDGE NO. HAM. 471-0047

H&E BRIDGE NO. 10				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
JCM	SL	PRD		JH0 11-21-72

Notes:  
For Section E-E see Sh. No. 387.  
For other notes see Sh. No. 387.

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FEB 2 1991

29/31

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FEB 2 1981

HAMILTON COUNTY  
HAM-471-030

SUPERSTRUCTURE							
MARK	LENGTH	TYPE	NUMBER			TOTAL	WEIGHT
			UNIT 1	UNIT 2	UNIT 3		
S401	30'-0"	Str.	49	441	863	1353	27,114
S402	12'-0"	↑	73	96		169	1,355
S403	20'-0"			2		2	27
S404	18'-9"			10		10	125
S405	17'-6"			9		9	105
S406	16'-6"			8		8	88
S407	15'-6"		24	8	16	48	497
S408	14'-3"			10	136	146	1,390
S409	12'-9"			2		2	17
S410	26'-0"				11	11	191
S411	22'-0"			24	16	40	588
S412	8'-0"				85	85	454
S413	32'-3"			96		96	2,068
S414	25'-0"			24		24	401
S415	28'-3"				68	68	1,283
S416	36'-0"	Str.			136	136	3,271
S501	2'-0"	1	56	364	475	895	1,867
S502	5'-4"	46	60	418	561	1039	5,780
S503	2'-3"	17	56	364	475	895	2,100
S504	3'-6"	45	56	364	475	895	3,267
S505	30'-0"	Str.	65	585	929	1579	49,407
S506	12'-0"	↑	65			65	814
S507	20'-0"			8		8	167
S508	18'-9"			10		10	196
S509	17'-6"			10		10	183
S510	16'-6"			9		9	155
S511	15'-6"			10	15	25	404
S512	14'-3"			10		10	149
S513	12'-9"			8		8	106
S514	26'-0"				9	9	244
S515	22'-0"				15	15	344
S516	8'-0"				15	15	125
S517	2'-0"		8	38	58	104	217
S518	4'-0"		4	16	16	36	150
S519	1'-7"	↓	4	18	42	64	157
S520	3'-3"	Str.	4			4	14
S521	9'-0"		37	4	4	8	75
S522	9'-5"	44		8	8	16	157
S601	7'-0"	Str.	12	20	12	44	463
S602	4'-0"	↑	8	2		10	60
S603	9'-8"		2			2	29
S604	10'-9"		2			2	32
S605	11'-10"		2			2	36
S606	13'-0"		2			2	39
S607	14'-0"		2			2	42
S608	15'-0"		2			2	45
S609	16'-2"		2			2	49
S610	17'-3"		2			2	52
S611	18'-4"		2			2	55
S612	19'-5"		6	4		10	292
S613	20'-6"		2			2	62
S614	21'-7"		6	4	4	14	434
S615	22'-8"		2			2	68
S616	23'-9"		2			2	71
S617	24'-10"		2			2	75
S618	26'-0"		2			2	78
S619	27'-0"		2	2		4	162
S620	28'-0"		2	2		4	168
S621	29'-2"		2			2	88
S622	30'-3"		2			2	91
S623	31'-4"		2			2	94
S624	32'-5"		2			2	97
S625	33'-6"		2			2	100
S626	36'-3"		80	816	262	1158	63,050
S627	33'-7"		2			2	101
S628	32'-2"		2			2	97
S629	30'-8"		2			2	92
S630	29'-3"		2	2		4	176
S631	27'-9"		2			2	83
S632	26'-4"		2	2		4	158
S633	25'-0"	Str.	2			2	75

SUPERSTRUCTURE							
MARK	LENGTH	TYPE	NUMBER			TOTAL	WEIGHT
			UNIT 1	UNIT 2	UNIT 3		
S634	23'-5"	Str.	2			2	70
S635	22'-0"	↑	2			2	66
S636	20'-5"		2			2	61
S637	19'-0"		2			2	57
S638	17'-7"		2			2	53
S639	16'-0"		2		2	4	96
S640	14'-8"		2			2	44
S641	13'-2"		2		1	3	60
S642	11'-9"		2			2	35
S643	10'-3"		2			2	31
S644	8'-10"		2			2	26
S645	12'-0"				1	1	18
S646	9'-0"		6	10		16	216
S647	7'-3"		2			2	22
S648	8'-6"		2			2	26
S649	13'-9"		2			2	41
S650	15'-4"		2			2	46
S651	17'-0"		2			2	51
S652	18'-6"		2			2	56
S653	20'-0"		2			2	60
S654	21'-8"		2			2	65
S655	23'-3"		2			2	70
S656	24'-9"		2			2	74
S657	26'-5"		2			2	79
S658	28'-0"		2			2	84
S659	29'-7"		2			2	89
S660	31'-2"		2			2	94
S661	33'-0"				24	24	1,190
S663	32'-9"				2	2	98
S664	31'-9"				2	2	95
S665	30'-9"				2	2	92
S666	29'-9"				2	2	89
S667	28'-9"				2	2	86
S668	27'-9"				2	2	83
S669	26'-9"				2	2	80
S670	25'-9"				2	2	77
S671	24'-9"				2	2	74
S672	23'-9"				2	2	71
S673	22'-9"				2	2	68
S674	21'-9"				2	2	65
S675	20'-9"				2	2	62
S676	19'-9"				2	2	59
S677	18'-9"				2	2	56
S678	17'-9"				2	2	53
S679	16'-9"				2	2	50
S680	15'-9"				2	2	47
S681	14'-9"				2	2	44
S682	13'-9"				2	2	41
S683	12'-9"				2	2	38
S684	11'-9"				2	2	35
S685	10'-9"				2	2	32
S686	9'-9"				4	4	64
S687	8'-9"				2	2	47
S688	7'-9"				2	2	44
S689	34'-6"				2	2	104
S690	36'-6"				24	24	1,316
S691	36'-9"				24	24	1,325
S692	37'-0"				24	24	1,334
S693	37'-4"				24	24	1,346
S694	37'-8"				24	24	1,358
S695	38'-0"				24	24	1,370
S696	38'-5"				24	24	1,376
S697	38'-9"				24	24	1,385
S698	38'-9"				24	24	1,397
S699	39'-0"				24	24	1,406
S6101	39'-3"				34	34	2,004
S6102	39'-6"				6	6	356
S6103	39'-9"				22	22	1,313
S6104	40'-0"				22	22	1,322
S6105	40'-4"				26	26	1,575
S6106	40'-7"				26	26	1,585
S6107	40'-10"				26	26	1,594
S6108	41'-1"				30	30	1,851
S6109	41'-4"				36	36	2,235
S6110	41'-7"				36	36	2,248
S6111	41'-10"				36	36	2,262
S6112	42'-1"	Str.			26	26	1,643

SUPERSTRUCTURE							
MARK	LENGTH	TYPE	NUMBER			TOTAL	WEIGHT
			UNIT 1	UNIT 2	UNIT 3		
S6113	42'-4"	Str.			26	26	1,652
S6114	42'-7"				26	26	1,663
S6115	42'-10"				26	26	1,673
S6116	43'-1"				26	26	1,682
S6117	43'-4"				26	26	1,692
S6118	43'-7"				26	26	1,702
S6119	43'-10"				26	26	1,712
S6120	44'-1"				26	26	1,721
S6121	44'-4"				26	26	1,731
S6122	44'-7"				16	16	1,071
S6123	44'-10"				16	16	1,077
S6124	45'-1"				16	16	1,083
S6125	45'-4"				20	20	1,362
S6126	45'-3"				4	4	260
S6127	42'-7"				4	4	256
S6128	41'-11"				4	4	252
S6129	41'-3"				4	4	248
S6130	40'-7"				4	4	244
S6131	39'-11"				4	4	240
S6132	39'-3"				4	4	236
S6133	38'-7"				4	4	232
S6134	37'-11"				4	4	228
S6135	37'-3"				4	4	224
S6136	36'-7"				4	4	220
S6137	35'-11"				14	14	755
S6138	35'-3"				4	4	212
S6139	34'-7"				4	4	208
S6140	33'-11"				4	4	204
S6141	33'-3"				4	4	200
S6142	32'-7"				4	4	196
S6143	31'-11"				4	4	192
S6144	31'-3"				4	4	188
S6145	30'-7"				4	4	184
S6146	29'-11"				4	4	180
S6147	29'-3"				4	4	176
S6148	28'-7"				4	4	172
S6149	27'-11"				4	4	168
S6150	27'-3"				4	4	164
S6151	26'-7"				4	4	160
S6152	25'-11"				4	4	156
S6153	25'-3"				4	4	152
S6154	24'-7"				4	4	148
S6155	23'-11"				4	4	144
S6156	23'-3"				4	4	140
S6157	22'-7"				4	4	136
S6158	21'-11"				4	4	132
S6159	21'-3"				4	4	128
S6160	20'-7"				4	4	124
S6161	19'-11"				4	4	120
S6162	19'-3"				4	4	116
S6163	18'-7"				4	4	112
S6164	17'-11"				4	4	108
S6165	17'-3"				4	4	104
S6166	16'-11"				4	4	102
S6167	16'-3"				4	4	98
S6168	15'-7"				4	4	94
S6169	14'-11"				4	4	90
S6170	14'-3"				4	4	86
S6171	13'-7"				4	4	82
S6172	12						

HAMILTON COUNTY  
HAM-471-0.30

MICROFILMED  
FEB 2 1981

FORWARD ABUTMENT				
MARK	LENGTH	TYPE	TOTAL	WEIGHT
A551	9'-9"	1	52	529
A552	8'-11"	1	1	9
A553	8'-2"	1	1	9
A554	7'-8"	1	1	8
A555	6'-11"	1	1	7
A556	11'-0"	37	11	126
A557	8'-0"	Str.	4	33
A558	39'-6"	Str.	11	453
A559	17'-3"	16	4	72
A560	19'-3"	16	4	80
A561	12'-8"	Str.	3	40
A562	30'-0"	Str.	6	188
A563	14'-0"	Str.	5	57
A564	10'-3"	1	57	609
A565	6'-3"	Str.	3	20
A566	7'-9"	1	55	444
A567	11'-9"	16	4	49
A568	4'-4"	16	4	18
A569	7'-3"	Str.	6	45
A570	2'-8"	1	4	11
A571	28'-9"	Str.	21	630
A572	17'-0"	16	5	89
A573	16'-0"	Str.	5	83
A574	5'-0"	16	5	26
A575	4'-6"	Str.	14	66
A576	5'-4"	46	4	22
A577	4'-9"	16	1	5
A578	3'-10"	16	1	4
A579	6'-7"	1	30	206
A580	8'-10"	46	2	18
A651	11'-3"	1	52	879
A652	10'-5"	1	1	16
A653	9'-8"	1	1	15
A654	9'-2"	1	1	14
A655	8'-5"	1	1	13
A656	9'-1"	28	6	82
A657	23'-11"	1	6	216
A658	10'-3"	17	55	847
A659	6'-6"	Str.	3	29
A660	16'-2"	1	79	1919
A661	5'-10"	1	69	604
A662	8'-0"	1	69	829
A663	8'-6"	1	10	128
A664	8'-6"	Str.	3	38
A666	18'-0"	1	2	54
A667	7'-0"	1	2	21
A669	1'-8"	Str.	1	3
A670	2'-8"	Str.	1	4
A671	3'-10"	10	2	12
A851	30'-0"	Str.	20	1602
A852	21'-0"	Str.	2	112
A853	18'-6"	Str.	6	296
A854	12'-9"	16	2	68
A855	11'-0"	Str.	2	59
A856	15'-0"	Str.	2	80
A857	14'-0"	Str.	2	75
A858	8'-0"	Str.	6	128
H510	4'-8"	Str.	4	19

Total weight (Forward Abutment) = 12,118 Lbs.

PIERS											
MARK	LENGTH	TYPE	NUMBER							TOTAL	WEIGHT
P4101	7'-1"	1	44							392	1854
P4102	6'-3"	29	44							108	451
P4103	7'-0"	29			62					62	290
P4104	8'-1"	1			62					62	335
P4105	6'-1"	29				60	90	72	62	284	1156
P5098	16'-4"	37						32		32	545
P5099	14'-4"	37					18			18	269
P5100	15'-4"	37						19		19	304
P5101	12'-10"	37				76				76	1017
P5102	7'-0" to 8'-8"	1	4 Series of 4							4 Series of 4	131
P5103	7'-8" to 8'-8"	1	4 Series of 4							4 Series of 4	136
P5104	17'-4"	37							68	68	1229
P5105	8'-11" to 10'-5"	1	2 Series of 9							2 Series of 9	181
P5106	9'-7" to 10'-9"	1	2 Series of 9							2 Series of 9	191
P5107	8'-5" to 10'-1"	1	2 Series of 11							2 Series of 11	212
P5108	13'-5"	37			34					34	476
P5109	6'-1"	1	30			30	30	30	30	180	1142
P5110	12'-0"	37	62							62	776
P5111	6'-7"	1			30					30	206
P5112	9'-1" to 10'-1"	1	2 Series of 11							2 Series of 11	220
P5113	8'-1" to 11'-1"	1	2 Series of 5							2 Series of 5	100
P5114	9'-1" to 11'-1"	1	2 Series of 5							2 Series of 5	105
P5115	9'-3" to 10'-1"	1	2 Series of 7							2 Series of 7	141
P5116	9'-1" to 10'-9"	1	2 Series of 7							2 Series of 7	145
P5117	10'-3" to 12'-1"	1	2 Series of 14							2 Series of 14	326
P5118	9'-9" to 12'-7"	1	2 Series of 14							2 Series of 14	326
P5119	8'-11" to 12'-1"	1	4 Series of 13							4 Series of 13	569
P5120	9'-3" to 12'-3"	1	4 Series of 13							4 Series of 13	583
P7101	20'-9"	Str.	4							4	170
P7102	19'-10"	Str.		4	4					8	324
P7103	9'-6"	Str.						36		36	699
P7104	11'-2"	26						36		36	822
P7105	28'-6"	Str.						4		4	233
P7106	23'-3"	Str.			4					4	190
P7107	37'-2"	Str.						4		4	304
P7108	33'-0"	Str.						4		4	270
P8101	8'-6"	Str.	12							12	545
P8102	10'-6"	Str.	10	16	16	10			36	88	2465
P8103	14'-6"	Str.		12	12					24	929
P8104	11'-8"	26						42		42	1308
P8105	8'-6"	Str.				12				12	272
P8106	9'-6"	Str.						30		30	761

PIERS													
MARK	LENGTH	TYPE	NUMBER							TOTAL	WEIGHT		
P9101	29'-6"	16								16	1605		
P9102	30'-0"	Str.								2	204		
P9103	37'-11"	Str.								2	258		
P9104	13'-0"	26			32					36	3005		
P10101	26'-10"	16	6							6	693		
P10102	16'-0"	16	6							6	413		
P10103	13'-4"	26	20			24	20			36	100	5740	
P10104	11'-4"	26	24							24	1171		
P10105	21'-3"	Str.								28	2560		
P10106	6'-6"	Str.					4			4	112		
P10107	23'-0"	17								4	396		
P10108	34'-10"	17								2	300		
P10109	30'-0"	17								2	258		
P10110	11'-4"	26					20			20	975		
P10111	46'-4"	Str.								4	797		
P10112	12'-4"	26								60	3184		
P10113	17'-11"	16								8	617		
P10114	30'-0"	16								8	1033		
P10115	24'-2"	Str.								12	1248		
P10116	26'-11"	17								4	463		
P10117	30'-0"	Str.								4	516		
P10118	55'-8"	Str.								6	1437		
P11101	21'-10"	Str.	12							12	1392		
P11102	24'-0"	17	4							4	510		
P11103	16'-3"	Str.	28							136	11742		
P11104	7'-10"	24	56	60	56	48	72	78	108	478	19894		
P11105	22'-3"	Str.		30	28					58	6856		
P11106	13'-9"	16		8	8					16	1169		
P11107	27'-6"	16		8	8					16	2338		
P11108	17'-8"	26		28	32					60	5632		
P11109	23'-0"	Str.						24		24	2933		
P11110	25'-6"	Str.	2							2	271		
P11111	22'-3"	Str.						24		24	2837		
P11112	17'-9"	Str.	28							26	54	5093	
P11113	23'-6"	Str.				28				28	3496		
P11114	22'-8"	17		4						4	482		
P11115	25'-0"	Str.		6						6	797		
P11116	52'-9"	17								2	561		
P11117	30'-0"	17								2	319		
P11118	38'-0"	16								20	20	4038	
P11119	20'-2"	Str.								24	24	74	7929
P11120	30'-0"	17								2	2	319	
P11121	44'-3"	17								2	2	470	
P11122	34'-3"	16								16	16	2912	
P11123	22'-0"	Str.								24	24	2805	
P11124	17'-2"	Str.								26	26	2371	
P11125	20'-9"	Str.								46	46	5071	
P11126	46'-9"	Str.								10	10	2484	
P11127	30'-0"	Str.								6	10	2550	
P11128	38'-9"	Str.								6	6	1235	

Total Weight (Piers) = 148,199 Lbs.

For Notes see Sh. 390A

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

### REINFORCING STEEL LIST

BRIDGE NO. HAM-471-0047

H & E BRIDGE NO. 10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	AK		MSD	JH 12-13-72	

MICROFILMED  
FEB 2 1981

HAMILTON COUNTY  
HAM-471-0.30

BENT BAR SCHEDULE PIERS						
MARK	TYPE	A	B	C	D	E
P4101	1	2'-1"	3'-1"			
P4102	29	1'-4"	1'-3 1/2"	11"	1'-2"	11"
P4103	29	1'-8 1/2"	1'-7 1/2"	1'-0"	1'-0"	1'-4 3/4"
P4104	1	2'-4"	3'-7 1/2"			
P4105	29	1'-5"	1'-1"	1'-0"	1'-1"	1'-0"
P5098	37	4'-8"	3'-1"			
P5099	37	3'-8"	3'-1"			
P5100	37	4'-2"	3'-1"			
P5101	37	3'-8"	2'-4"			
P5102	1	2'-8" to 3'-6"	1'-11"			
P5103	1	3'-0" to 3'-6"	1'-11"			
P5104	37	5'-2"	3'-1"			
P5105	1	2'-9" to 3'-6"	3'-8"			
P5106	1	3'-1" to 3'-8"	3'-8"			
P5107	1	2'-9" to 3'-7"	3'-2"			
P5108	37	3'-8"	2'-7 1/2"			
P5109	1	1'-7"	3'-2"			
P5110	37	3'-8"	1'-11"			
P5111	1	1'-7"	3'-8"			
P5112	1	3'-1" to 3'-7"	3'-2"			
P5113	1	2'-7" to 4'-1"	3'-2"			
P5114	1	3'-1" to 4'-1"	3'-2"			
P5115	1	3'-2" to 3'-7"	3'-2"			
P5116	1	3'-1" to 3'-11"	3'-2"			
P5117	1	3'-8" to 4'-7"	3'-2"			
P5118	1	3'-5" to 4'-10"	3'-2"			
P5119	1	3'-5" to 5'-0"	2'-4"			
P5120	1	3'-7" to 5'-1"	2'-4"			
P7104	26	9'-6"				
P8104	26	9'-6"				
P9101	16	1'-0"	23'-3"	6'-3"	6'-2"	
P9104	26	10'-6"				
P10101	16	1'-0"	19'-10"	7'-0"	6'-11"	
P10102	16	7"	8'-9"	7'-3"	7'-2 1/2"	
P10103	26	10'-6"				
P10104	26	8'-6"				
P10107	17	2'-6"	20'-9"			
P10108	17	3'-0 1/2"	32'-1"			
P10109	17	3'-0 1/2"	27'-3"			
P10110	26	8'-6"				
P10112	26	9'-6"				
P10113	16	1'-1"	9'-8"	8'-3"	8'-2"	
P10114	16	1'-7"	21'-9"	8'-3"	8'-1"	
P10116	17	2'-6"	24'-8"			
P11102	17	2'-6"	21'-10"			
P11104	24	6'-3"				
P11106	16	8"	7'-3"	6'-6"	6'-6"	
P11107	16	10"	21'-0"	6'-6"	6'-6"	
P11108	26	14'-6"				
P11114	17	3'-0"	20'-0"			
P11116	17	3'-3 1/2"	49'-9"			
P11117	17	3'-3 1/2"	27'-0"			
P11118	16	1'-8"	27'-9"	10'-3"	10'-2"	
P11120	17	3'-0 1/2"	27'-3"			
P11121	17	3'-0 1/2"	41'-6"			
P11122	16	1'-6"	26'-0"	8'-3"	8'-1"	

BENT BAR SCHEDULE REAR ABUTMENT						
MARK	TYPE	A	B	C	D	E or R
A501	37	7'-0"	2'-0"			
A502	17	1'-3"	8'-0"			
A503	17	1'-3"	8'-6"			
A504	17	1'-3"	9'-3"			
A505	17	1'-3"	10'-0"			
A506	16	1'-4"	39'-10"	1'-6"	9"	
A507	1	2'-0"	3'-5"			
A513	46	2'-2"	2'-5"	7 1/2"		2 1/4"
A515	1	6 1/2"	1'-0"			
A527	16	1'-4"	8'-6"	1'-6"	9"	
A601	1	2'-3"	7'-0"			
A602	1	1'-6"	7'-0"			
A603	17	1'-3"	8'-0"			
A604	17	1'-3"	8'-6"			
A605	17	1'-3"	9'-3"			
A606	17	10'-0"	1'-3"			
A607	1	2'-6"	1'-5"			
A608	1	3'-8"	11"			
A609	28	9"	9"	1'-2"	6'-0"	11"
A610	28	9"	9"	1'-2"	5'-6"	11"
A611	28	9"	9"	1'-2"	5'-0"	11"
A612	28	9"	9"	1'-2"	4'-6"	11"
A613	28	9"	9"	1'-2"	4'-0"	11"
A614	28	9"	9"	1'-2"	6'-3"	11"
A615	28	9"	9"	1'-2"	5'-8"	11"
A616	28	9"	9"	1'-2"	5'-0"	11"
A617	28	9"	9"	1'-2"	4'-4"	11"
A618	1	7'-6"	1'-5"			
A619	1	3'-8"	1'-5"			
A803	16	1'-3"	6'-0"	2'-6"	2'-2"	
A809	28	3'-6 1/2"	1'-8"	7'-0"	1'-8"	6'-0 1/2"
A810	28	2'-6"	1'-8"	5'-0"	1'-8"	4'-3 3/4"
A1001	1	9'-6"	1'-2"			
A1002	1	12'-0"	1'-2"			

BENT BAR SCHEDULE FORWARD ABUTMENT						
MARK	TYPE	A	B	C	D	E or R
A551	1	1'-6"	7'-0"			
A552	1	1'-6"	6'-2"			
A553	1	1'-6"	5'-5"			
A554	1	1'-6"	4'-11"			
A555	1	1'-6"	4'-2"			
A556	37	3'-0"	2'-6"			
A559	16	11 1/2"	16'-3"	1'-0"		5 3/4"
A560	16	5'-11"	12'-6"	6'-9"	3'-3"	
A564	17	1'-3"	9'-0"			
A566	1	2'-4"	3'-6"			
A567	16	1'-5"	10'-0"	1'-9"	1'-0"	
A568	16	2'-9 1/2"	1'-0"	3'-4"	1'-10"	
A570	1	1'-0"	11"			
A572	16	11 1/2"	16'-0"	1'-0"		5 3/4"
A574	16	7"	3'-6"	1'-6"	1'-4"	
A576	46	2'-2"	2'-5"	7 1/2"		2 1/4"
A577	16	1'-5"	3'-0"	1'-9"	1'-0"	
A578	16	2'-4 1/2"	1'-0"	2'-10"	1'-7"	
A579	1	1'-7"	3'-8"			
A580	46	3'-11"	4'-2"	7 1/2"		2 1/4"
A651	1	2'-3"	7'-0"			
A652	1	2'-3"	6'-2"			
A653	1	2'-3"	5'-5"			
A654	1	2'-3"	4'-11"			
A655	1	2'-3"	4'-2"			
A656	28	9"	9"	1'-5"	7'-0"	1'-3"
A657	1	11'-6"	1'-2"			
A658	17	1'-3"	9'-0"			
A660	1	7'-6"	1'-5"			
A661	1	2'-4"	1'-5"			
A662	1	3'-8"	11"			
A663	1	3'-8"	1'-5"			
A666	1	8'-0"	2'-3"			
A667	1	2'-6"	2'-3"			
A671	10	1'-8"	3 1/2"	5"	1'-8 1/2"	
A854	16	2'-2 1/2"	10'-3"	2'-6"	1'-2"	

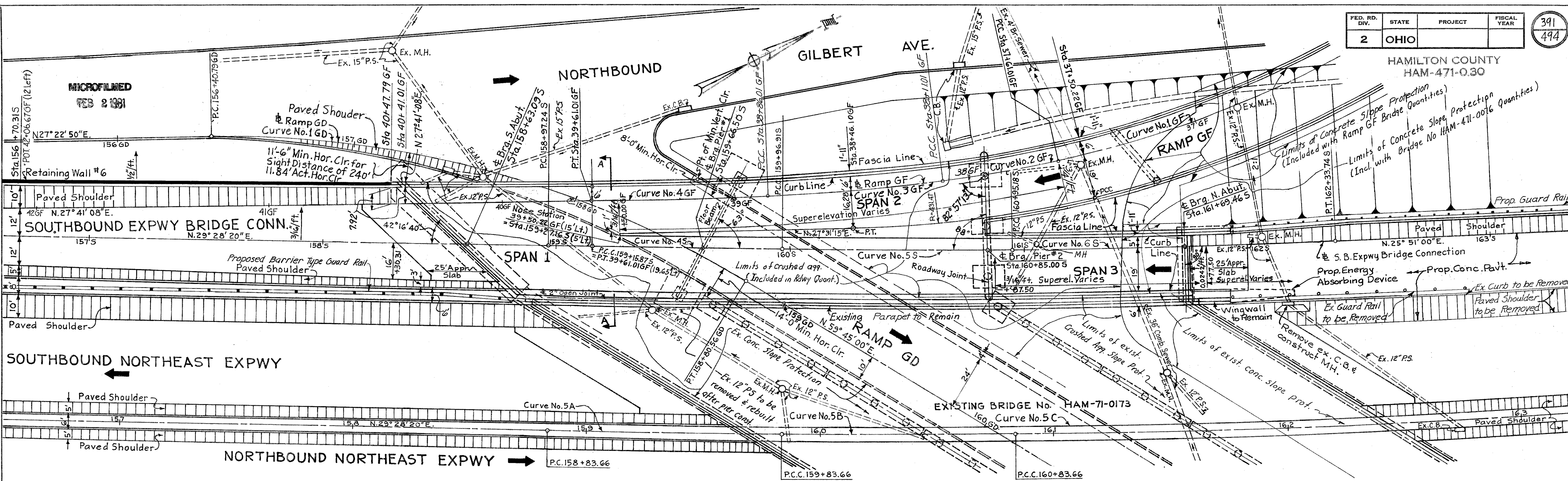
REPLACEMENT BARS			
MARK	LENGTH	TYPE	NO.
RE 401	6'-3"	Str.	1
RE 501	6'-7"	Str.	6
RE 601	6'-11"	Str.	8
RE 701	7'-3"	Str.	1
RE 801	7'-6"	Str.	1
RE 901	7'-10"	Str.	1
RE 1001	8'-3"	Str.	2
RE 1101	8'-7"	Str.	5

NOTE: Bar size is indicated in the bar mark.  
The first digit where 4 through 9 and the first two digits when 10 through 11 are used is the bar size.  
For bar bending schedule see sheet No. 470.  
Total weight of reinforcing steel = 418,808 Lbs.

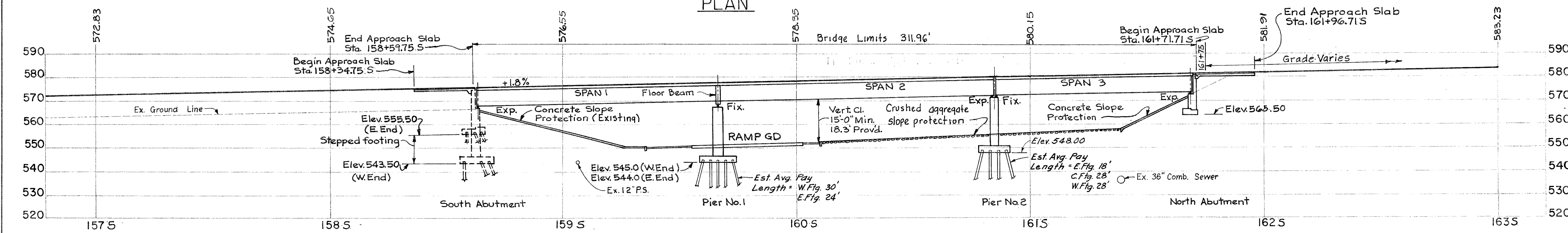
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					31/31
REINFORCING STEEL LIST					
BRIDGE NO. HAM.-471-0047					
H & E BRIDGE NO. 10					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	AK		MSD	JH0 12-13-72	



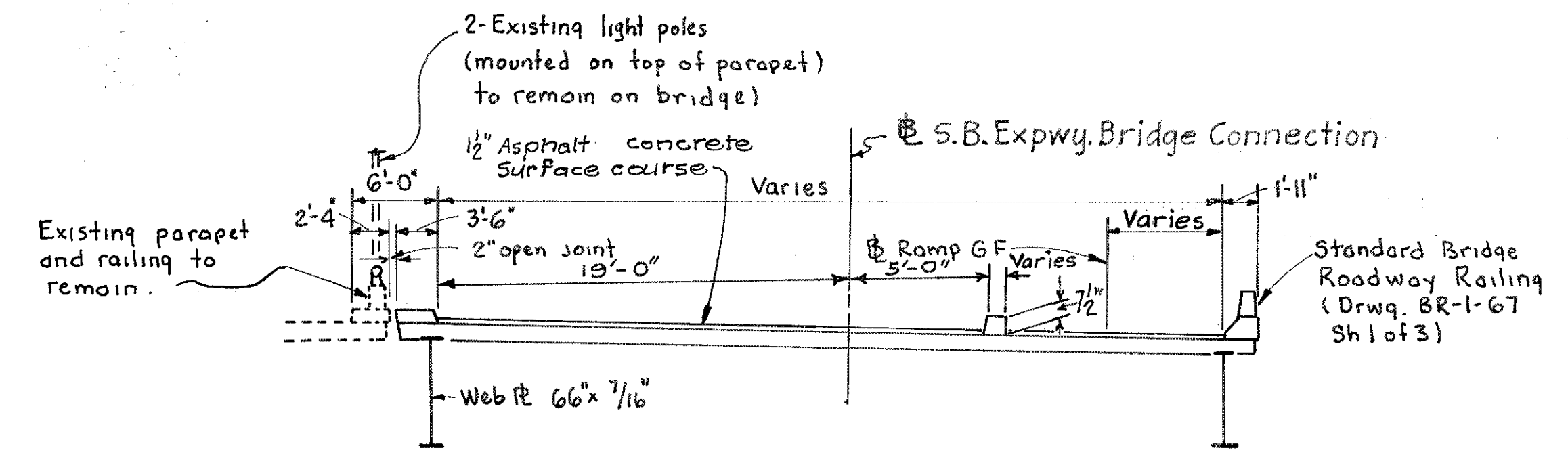
HAMILTON COUNTY  
HAM-471-030



PLAN



PROFILE ON BASE LINE



SECTION A-A

**NOTES**  
A portion of the S. Abutment has been constructed under a previous contract. The remaining portions of the bridge will be constructed under this contract.  
All piling HP 10 x 42 Steel Piles  
For Bench Marks, see sheet 33  
Earthwork limits shown are schematic. Actual slopes shall conform to plan cross-sections.

CURVE DATA		
<b>CURVE No. 4 S</b> PI Sta. 159+47.08 S $\Delta = 0^\circ 15' 01''$ $D = 0' 15' 04''$ $R = 22,816.90'$ $L = 99.67'$ $T = 49.83'$	<b>CURVE No. 5 S</b> PI Sta. 160+46.05 S $\Delta = 1^\circ 14' 59''$ $D = 1^\circ 16' 18''$ $R = 4505.57'$ $L = 98.27'$ $T = 49.14'$	<b>CURVE No. 6 S</b> PI Sta. 161+64.47 S $\Delta = 2^\circ 07' 20''$ $D = 1^\circ 31' 54''$ $R = 3740.75'$ $L = 138.56'$ $T = 69.29'$
<b>Curve No. 2 GF</b> PI Sta. 37+86.02 GF $\Delta = 5^\circ 15' 45''$ $D = 10^\circ 31' 30''$ $R = 544.38'$ $L = 50.00'$ $T = 25.02'$	<b>Curve No. 3 GF</b> PI Sta. 38+48.54 GF $\Delta = 5^\circ 36' 57''$ $D = 7^\circ 29' 15''$ $R = 765.22'$ $L = 75.00'$ $T = 37.53'$	<b>Curve No. 4 GF</b> PI Sta. 39+23.51 GF $\Delta = 1^\circ 07' 18''$ $D = 1^\circ 29' 44''$ $R = 3831.07'$ $L = 75.00'$ $T = 37.50'$

**PROPOSED STRUCTURE**  
 TYPE: Continuous Plate Girder (Span 1 & 2) and Simple Span Steel Girder (Span 3) with Reinforced Concrete Deck and Substructure.  
 SPANS: 103.41', 118.50', 84.46', % Bearings measured along base line(S)  
 ROADWAY: Varies (See Plan and Section A-A)  
 LIVE LOADING: HS 20-44 and the Interstate Alternate Loading.  
 SKEW: Varies, (See Plan)  
 ALIGNMENT: Varies, (See Plan)  
 SUPERELEVATION: Varies, (See Plan)  
 SURFACE COURSE: 12" Asphalt Concrete  
 APPROACH SLAB: AS-1-67 (25' long)

1984 Traffic Count		
a) From IR-71	ADT 9300	DHV 1540
b) From Ramp GF	7900	1010
<b>Total</b>	<b>17200</b>	<b>2550</b>

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**SITE PLAN**  
**BRIDGE No. HAM-471-0076**  
 SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD  
 H & E BRIDGE No. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
ALT.			R.A.Z.	JHD 11-9-72	

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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HAMILTON COUNTY  
HAM-471-030

## ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER-STRUCTURE	SOUTH ABUTMENT	NORTH ABUTMENT	PIERS	GENERAL		
503		Lump Sum	Cofferdams, Cribs and Sheeting					Lump		
503	450	Cu. Yd.	Unclassified Excavation			113	337			
202		Lump Sum	Portions of Structure Removed		Lump					
505		Lump Sum	Test Pile					Lump		
507	2130	Lin. Ft.	Steel Piles, HP 10x42				2130			
509	170,511	Lb.	Reinforcing Steel	129,103	2814	4638	33,896			
511	565	Cu. Yd.	Class "C" Concrete, Superstructure	565						
511	82	Cu. Yd.	Class "C" Concrete, Pier Caps and Columns				82			
511	84	Cu. Yd.	Class "C" Concrete, Abutments above Footings		30	54				
511	138	Cu. Yd.	Class "C" Concrete, Footings			18	120			
512	7	Sq. Yd.	Type B Waterproofing		2	5				
512	13	Lin. Ft.	Premolded Sealing Strip		13					
513	711,000	Lb.	** Structural Steel	711,000						
514	711,000	Lb.	Field Painting of Structural Steel	711,000						
516	57	Sq. Ft.	1" Preformed Expansion Joint Filler		10	47				
518	98	Cu. Yd.	Porous Backfill		68	30				
518	4	Each	Drain Inlets	4						
518	61	Lin. Ft.	6" Standard Pipe Downspout, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials					61		
518	24	Lin. Ft.	6" Non-Perforated, Helical Corrugated Metal Pipe including Specials, 707.01			24				
518	25	Lin. Ft.	6" Perforated, Helical Corrugated Metal Pipe, 707.01			25				
518	6	Lin. Ft.	8" Perforated, Corrugated Metal Pipe including Specials, 707.01		6					
518	56	Lin. Ft.	6" Standard Pipe Collector, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials					56		
601	107	Sq. Yd.	Concrete Slope Protection			107				
625			See Sheet 143 for Lighting Summary							
808	565	Units	Chemical Admixture for Concrete, Type A, B or D	565						
404	40	CU. YD.	ASPHALT CONCRETE (70-80 or AC 20)	40						
SPECIAL	20	CU. YD.	SAND ASPHALT (SEE PROPOSAL NOTE)	20						
SPECIAL	1370	SQ. YD.	MEMBRANE WATERPROOFING (SEE PROPOSAL NOTE)	1370						

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### GENERAL NOTES

**REFERENCE**

shall be made to Standard Drawings AS-1-67 revised 6-12-69, SD-1-69, Sheets 1 and 2 dated 6-12-69, BR-1-67, Sheet 1 revised 10-15-71, RB-1-55 revised 2-2-59, and and to Supplemental Specifications 808 dated 1-1-71, 836 dated 1-1-71, and 927 dated 1-1-71.

**DESIGN SPECIFICATIONS:**

This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1969, including the Ohio "Supplement" to these specifications.

**DESIGN DATA:**

Design Loading - HS20-44 "and the Interstate Alternate Loading"

Concrete Class C - unit stress 1200 psi. for superstructure  
unit stress 1333 psi. for substructure

Structural Steel - ASTM A36 - unit stress 20,000 psi.

Reinforcing Steel - ASTM A615, A616 or A617 - unit stress 20,000 psi.  
Spiral reinforcement may be plain bars ASTM A82, A306, A499 or A615. If bars in accordance with ASTM A616 are provided, they shall be subject to bend tests as per AASHTO Designation M42-70.

**FOUNDATION BEARING PRESSURE:** North Abutment footing is designed for a maximum bearing pressure of 2.0 tons per sq. ft.

**PILES**

shall be driven to firm contact with bedrock. If the length of penetration is approximately equal to the depth to bedrock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in 507.05 is not less than the following value for a pile hammer of the indicated energy rating:

45 tons per pile using an 11,000 ft. lb. hammer  
40 tons per pile using a 15,000 ft. lb. or greater hammer

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 35 tons per pile.

**UTILITY LINES:**

All expense involved in relocating (installing) the affected utility lines shall be borne by the Owner(s). The Contractor and Owner(s) are requested to cooperate by arranging their work in such a manner that inconvenience to either would be held to a minimum.

**SOUTH ABUTMENT:**

Portions of the South Abutment have been constructed under a previous contract. It shall be the responsibility of the Contractor to determine the existing bridge seat elevations. The Contractor shall revise, if necessary, the proposed heights of the bearing details, and shall grind, if necessary, the existing concrete areas underneath the proposed masonry plates, in order to provide a level bearing surface.

The cost of this work shall be considered as included in the unit price bid for Item 513, "Structural Steel".

**DECK REINFORCING BARS:**

AT THE CONTRACTOR'S OPTION, A PORTION (NOT TO EXCEED 25%) OF THE UPPER LONGITUDINAL BARS (S4\_\_\_) IN THE DECK SLAB MAY BE PLACED BENEATH THE UPPER TRANSVERSE BARS FOR SUPPORT OF THE TOP MAT.

**MAINTENANCE OF TRAFFIC - REFER TO SHEETS 13 AND 13A**

\*\* Includes 1268 pounds of bronze.

V. ALI  
 4-1-71  
 R. J. DAVIS  
 6-22-71

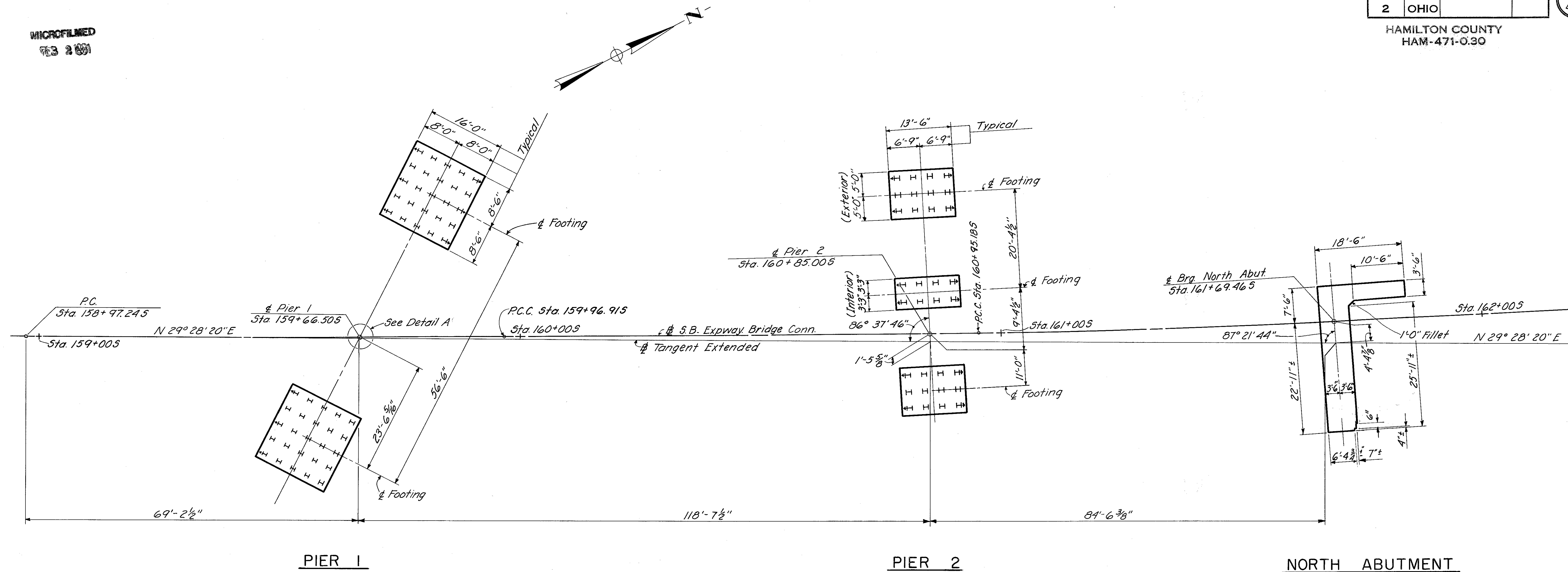
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					2A/23
<b>ESTIMATED QUANTITIES AND GENERAL NOTES</b>					
BRIDGE No. HAM-471-0076					
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD					
H & E BRIDGE No. 12					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DH		YH	JH 11-9-72	

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FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

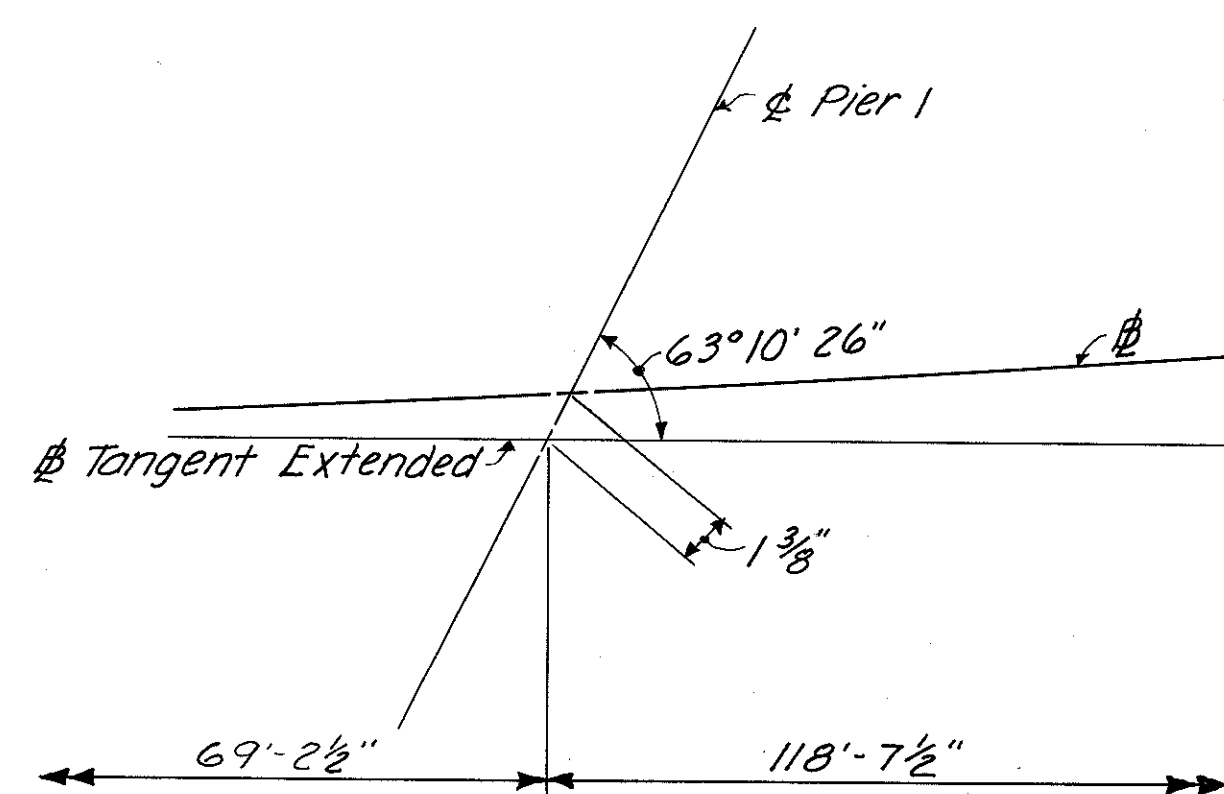
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494

HAMILTON COUNTY  
HAM-471-0.30



Note: For location of Piling see Sh. No. 398 & 399.

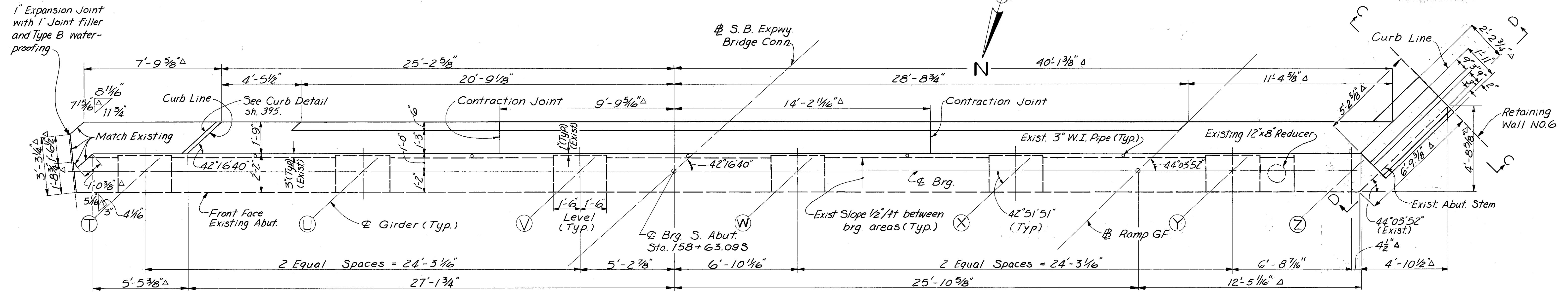
**STAKE OUT PLAN**



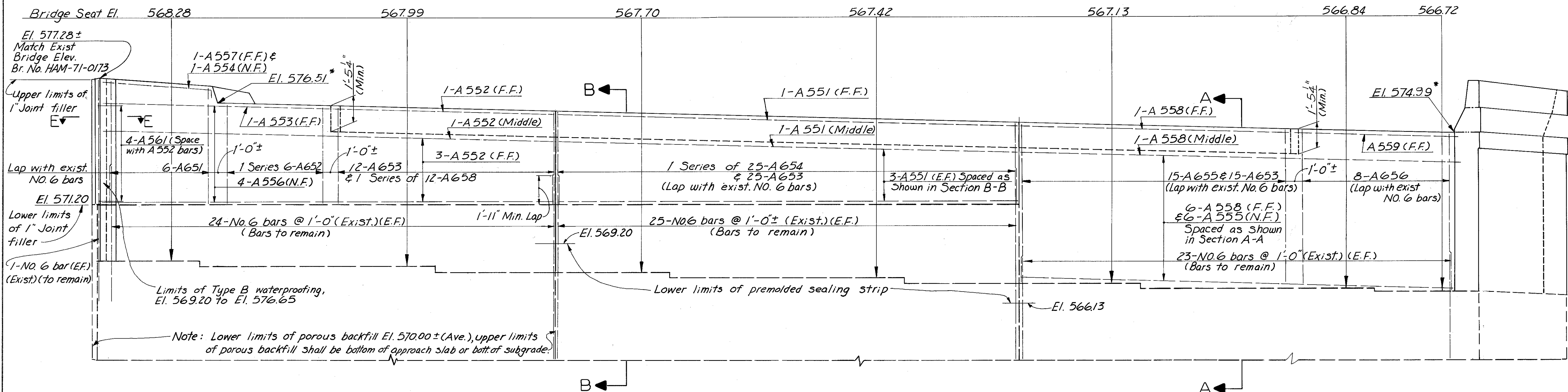
**DETAIL A**

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					3 / 23
<b>STAKE OUT PLAN</b>					
BRIDGE No. HAM-471-0076 SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE No. 12					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	D.B.S.	N.R.K.	J.C.L. 4-21-71	J.H.O. 11-9-72	

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**PLAN**



**ELEVATION**

Note:  
E.F. denotes Each Face  
N.F. denotes Near Face  
F.F. denotes Far Face  
Δ denotes existing dimensions to be verified by contractor by field measurement.  
All concrete shall be Class C concrete.  
For end finish details see Std. Dwg. SD-1-69 Sh. No. 1 & 2.

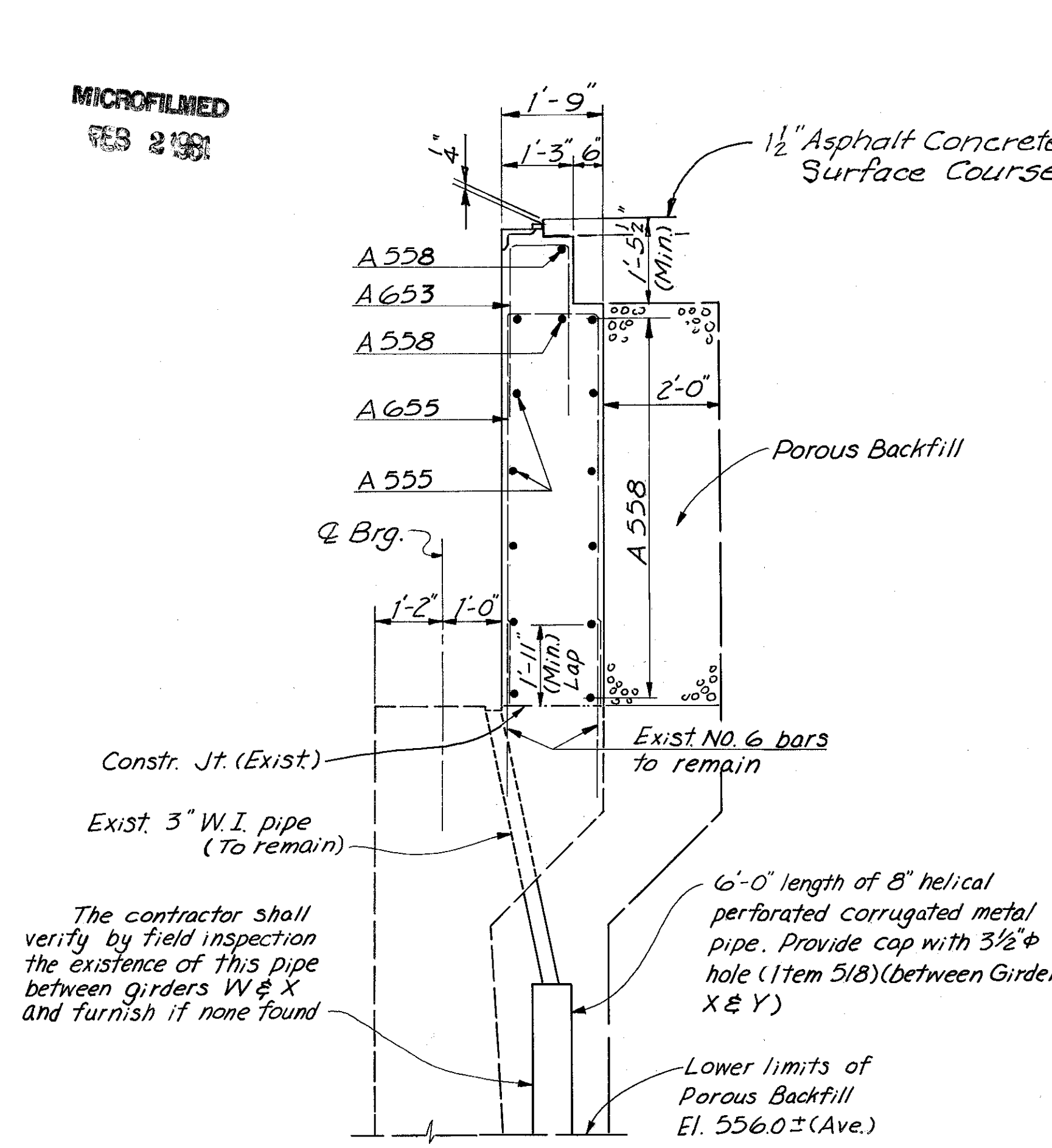
Porous Backfill 2 ft. thick shall extend up to the upper limits as shown on the plans & downward to the existing porous backfill.  
Bridge Seat Elevations as shown were proposed elevations for the construction of South Abutment of project HAM-71-(1.56)(2.51).

Note:  
Elevations marked with (\*) are given along front face of backwall (top of steel elevation, 4' below top of surface course).

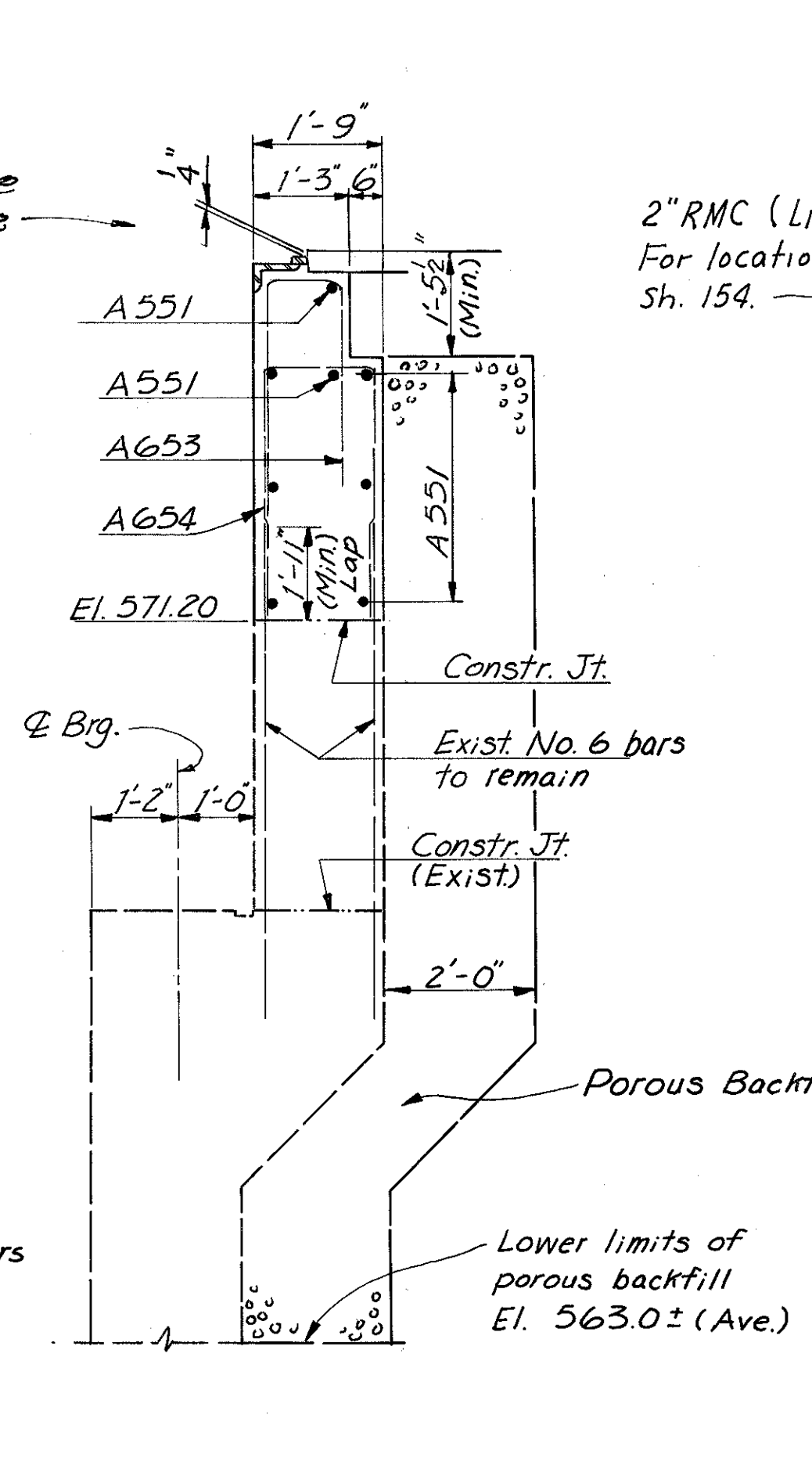
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				4	23
<b>SOUTH ABUTMENT</b>					
<b>BRIDGE NO. HAM-471-0076</b>					
<b>SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&amp;E BRIDGE NO. 12</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CYW		W.L.	JH 11-9-72	

HAMILTON COUNTY  
HAM-471-0-30

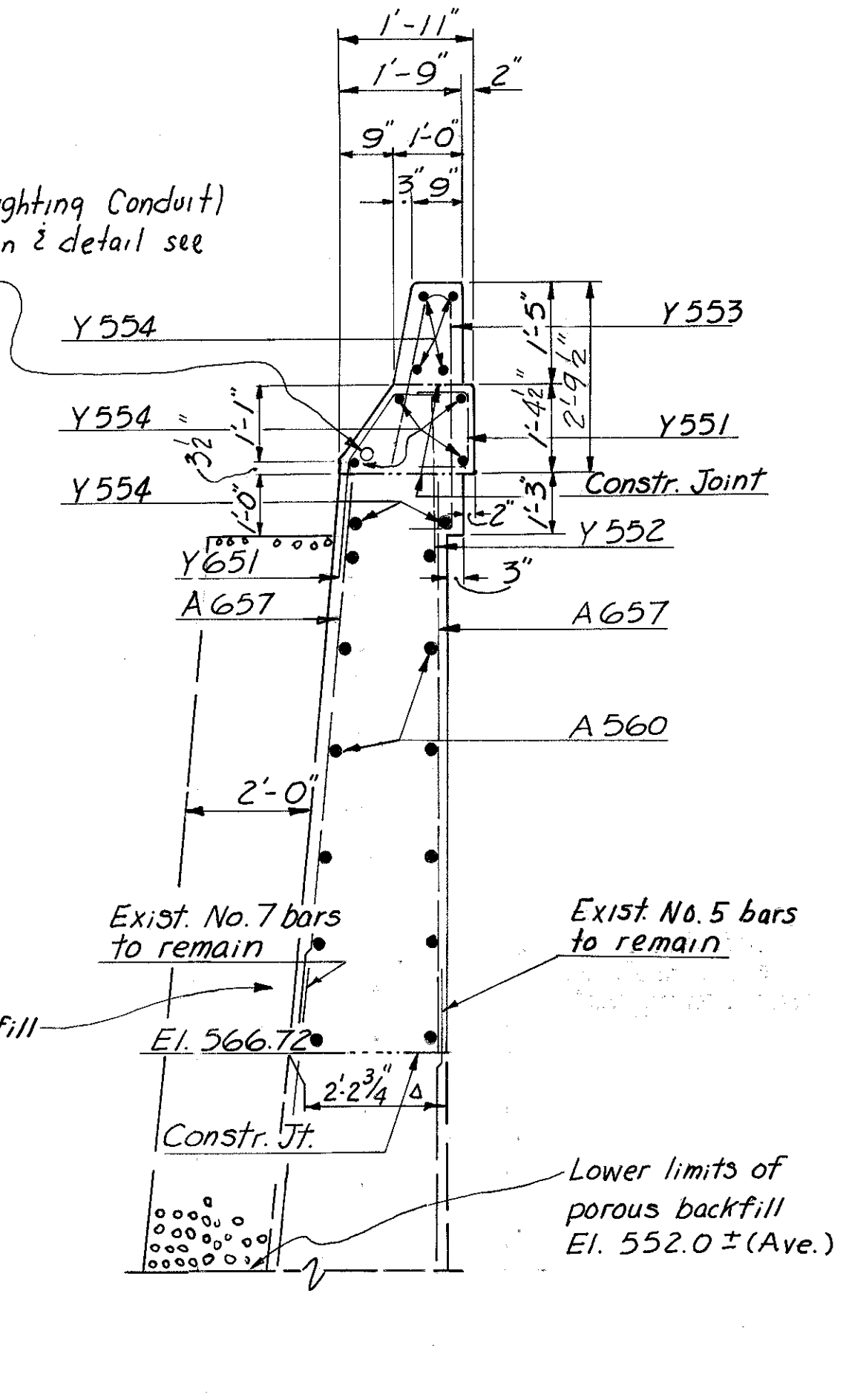
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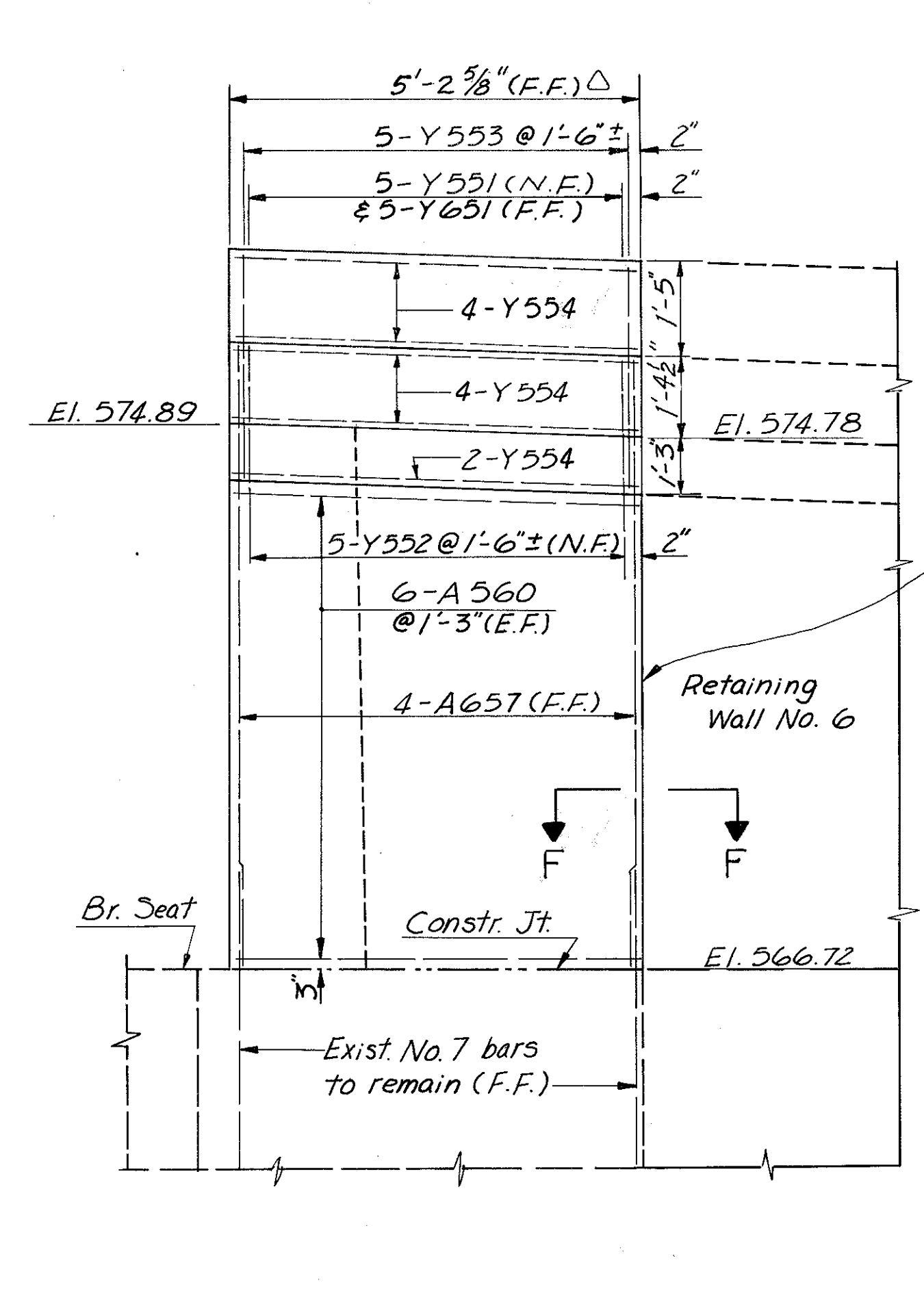
SECTION A-A



SECTION B-B

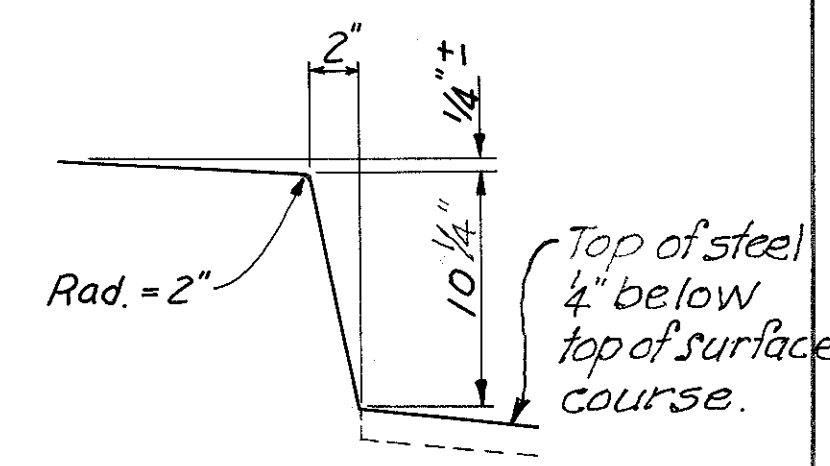


SECTION C-C



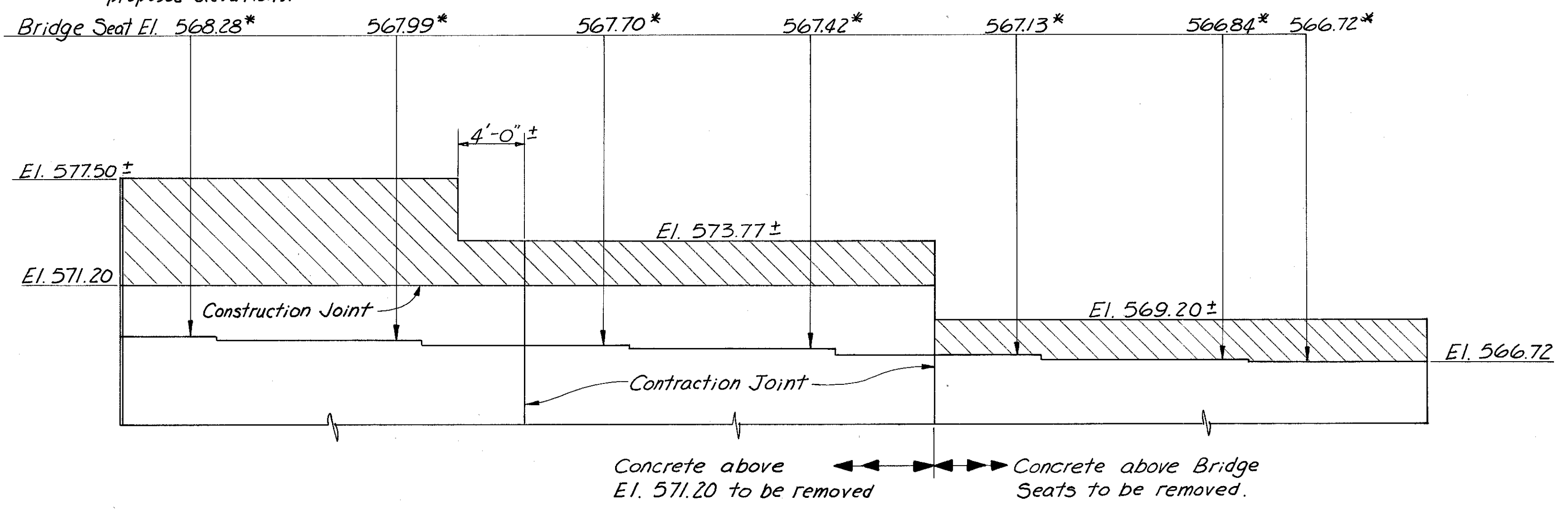
ELEVATION D-D

1" Expansion Joint with 1" Joint filler & premolded sealing strip (Include with Retaining Wall No. 6 quantities for payment.)



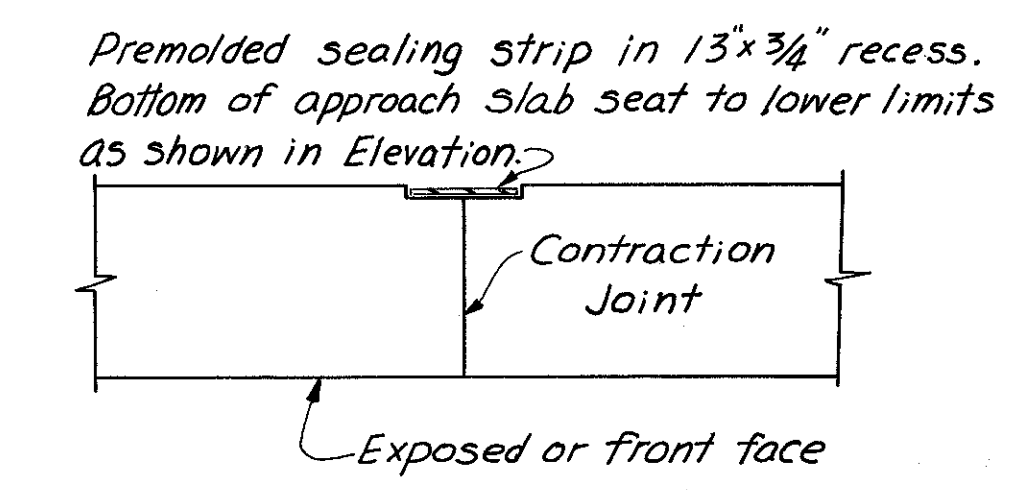
CURB DETAIL  
(East Side)

\* These elevations were proposed elevations for construction of South Abutment of Project No HAM-71-(1.56)(2.51). Dimensions T & H shown on Sheet 403 for Bearing R-150 were calculated using these elevations. However the Contractor may have to revise dimensions T & H if the as built elevations do not agree with the proposed elevations.

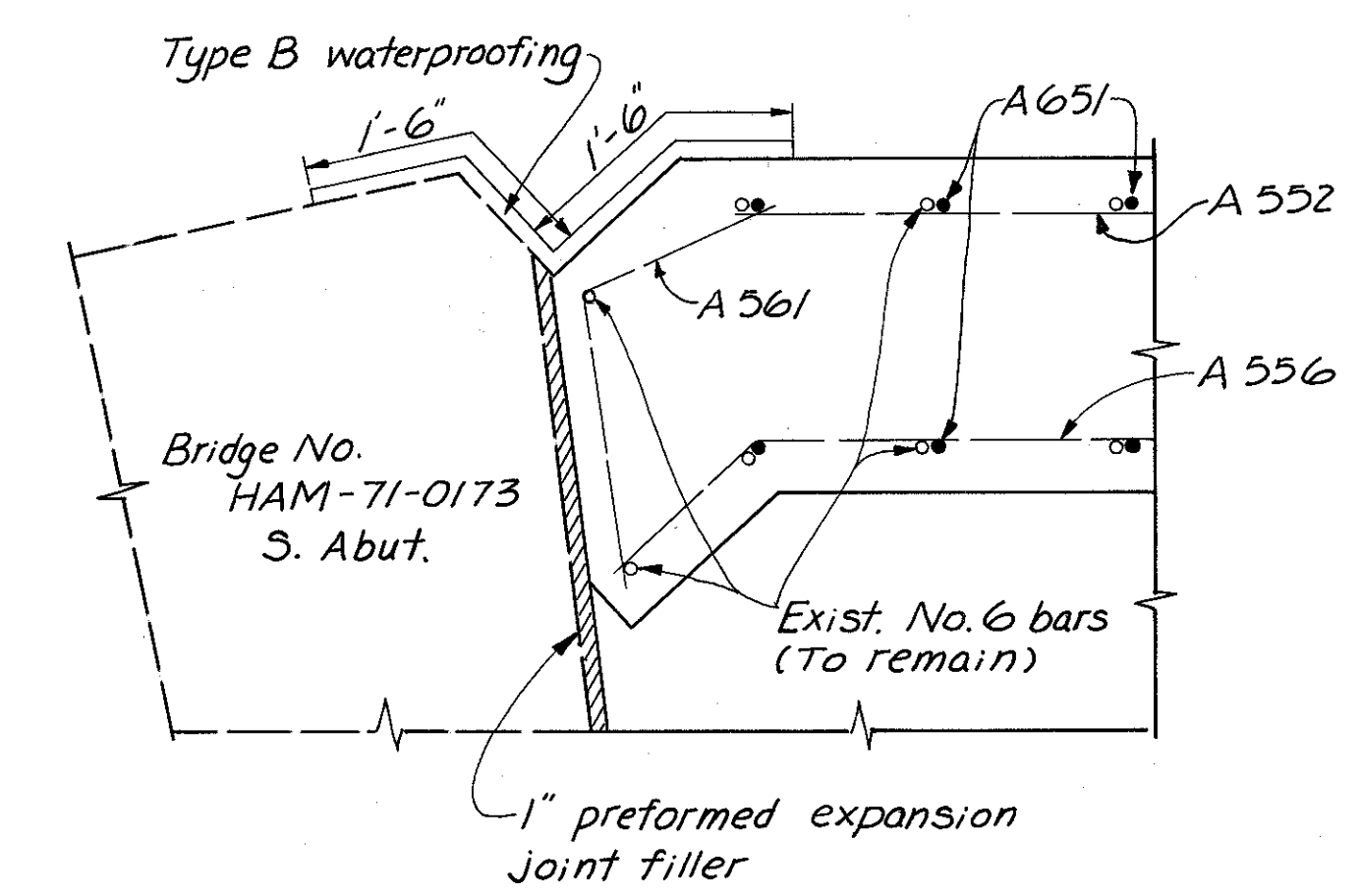


ELEVATION SHOWING REMOVAL OF EXISTING CONCRETE

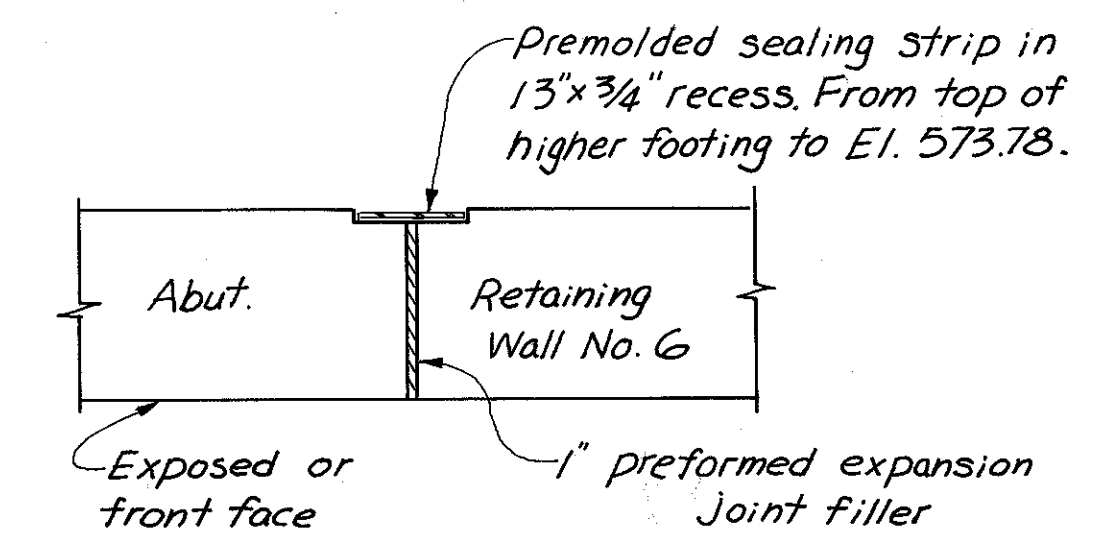
Note:  
Payment for removal of existing concrete shall be included in the contract lump sum price bid for Item 202, Portions of Structure Removed. Special care shall be taken in removing concrete so as not to damage the No. 6 size & No. 7 size reinforcing bars that are to remain.



CONTRACTION JOINT DETAIL



SECTION E-E



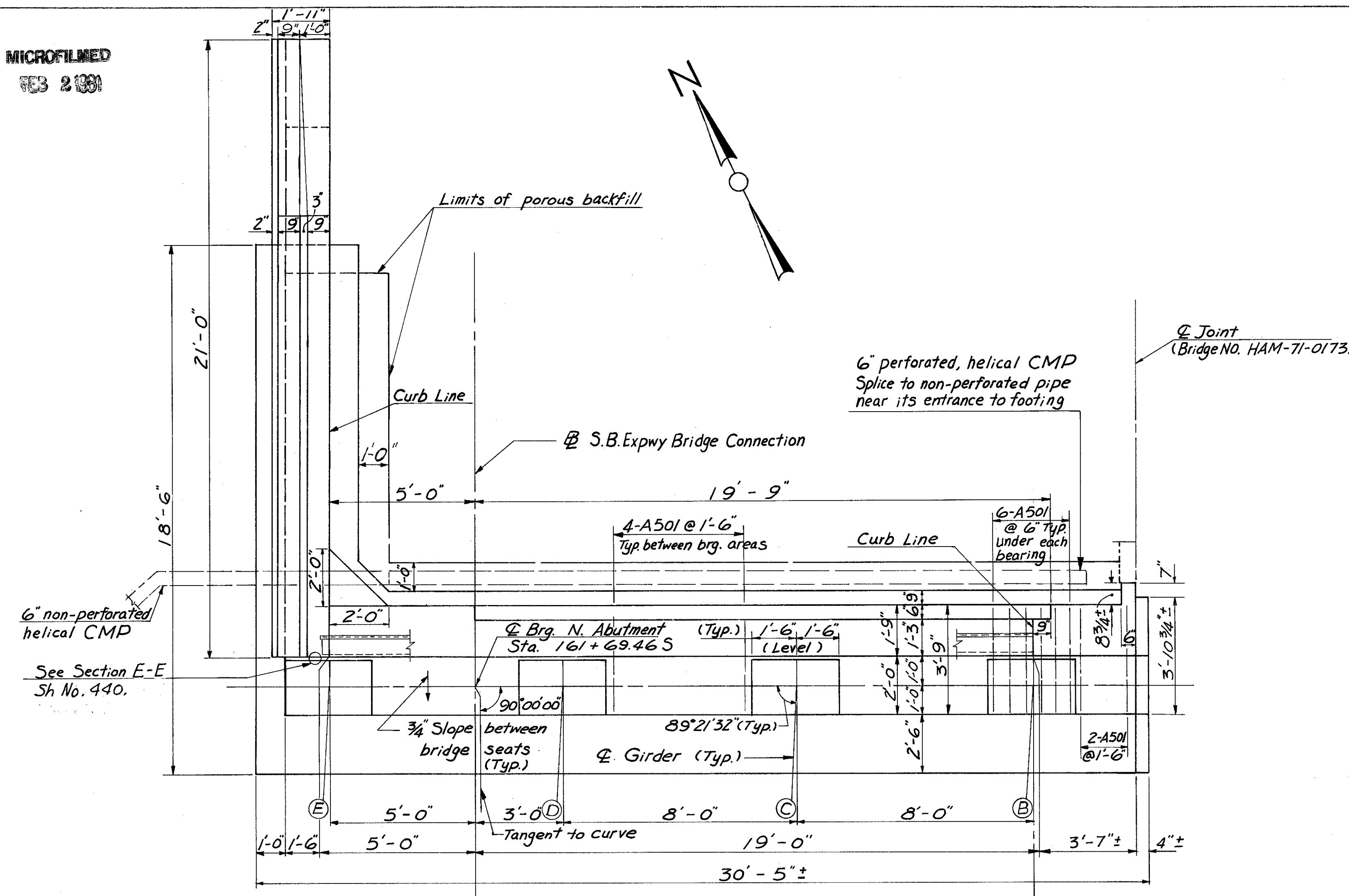
SECTION F-F

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					5/23
<b>SOUTH ABUTMENT</b>					
<b>BRIDGE NO. HAM-471-0076</b>					
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	CYW		YV.L.	JH.G. 11-9-72	

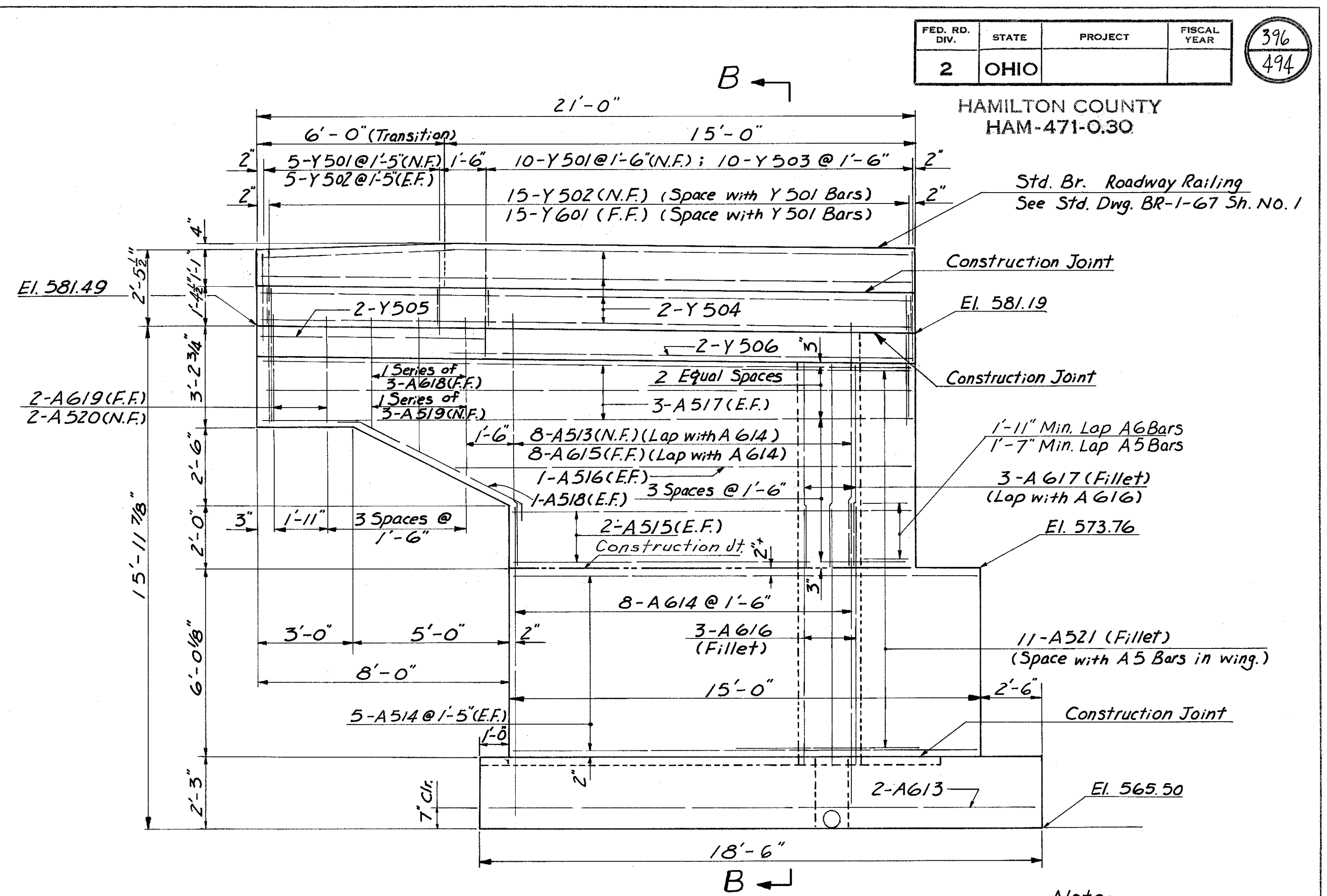
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FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

396  
494

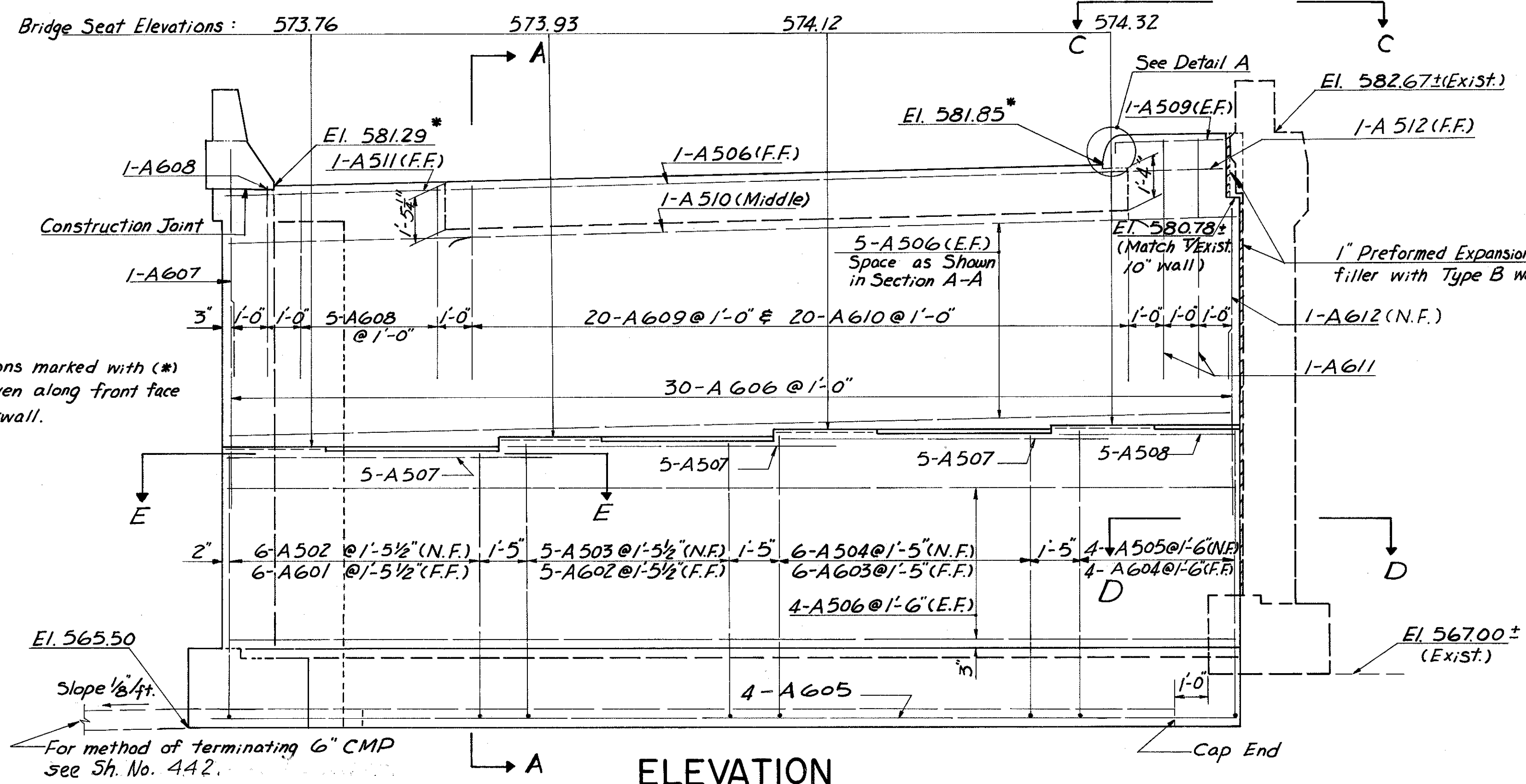


PLAN

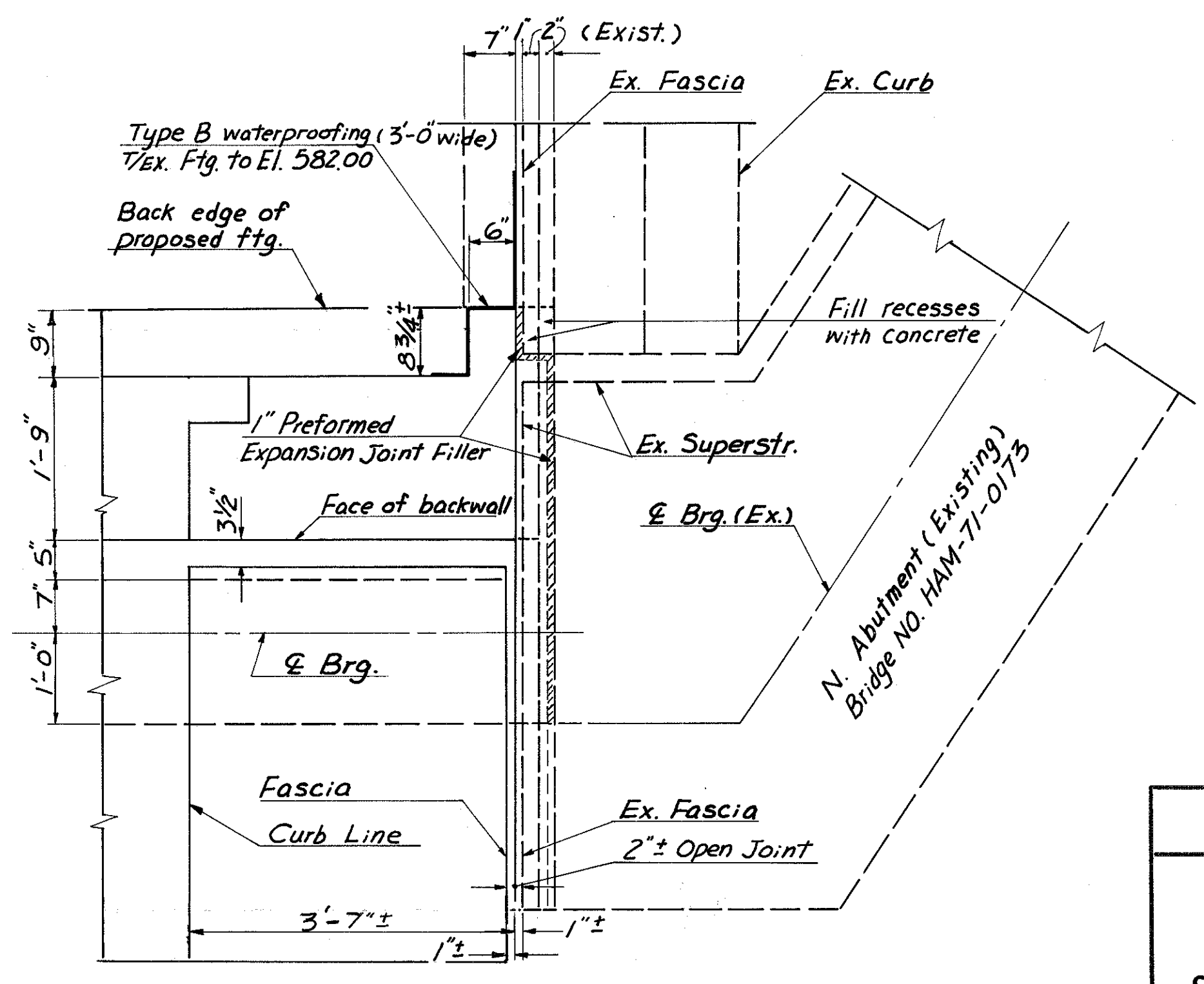


WINGWALL ELEVATION

Note:  
E.F. denotes Each Face  
N.F. denotes Near Face  
F.F. denotes Far Face  
Dimensions marked (±) shall be determined from field measurements to existing North Abutment Bridge No. HAM-71-0173 by the contractor.  
For roadway & curb end finish details See Std. Dwg. SD-1-69 Sh. No. 1 & 2.  
Provide 3" clearance to reinforcing steel in footing, minimum, unless noted otherwise.  
All concrete shall be class "C" concrete.  
Porous Backfill, shall extend up to the plane of the sub-grade and to the limits as shown in plan & sections A-A & B-B.



ELEVATION



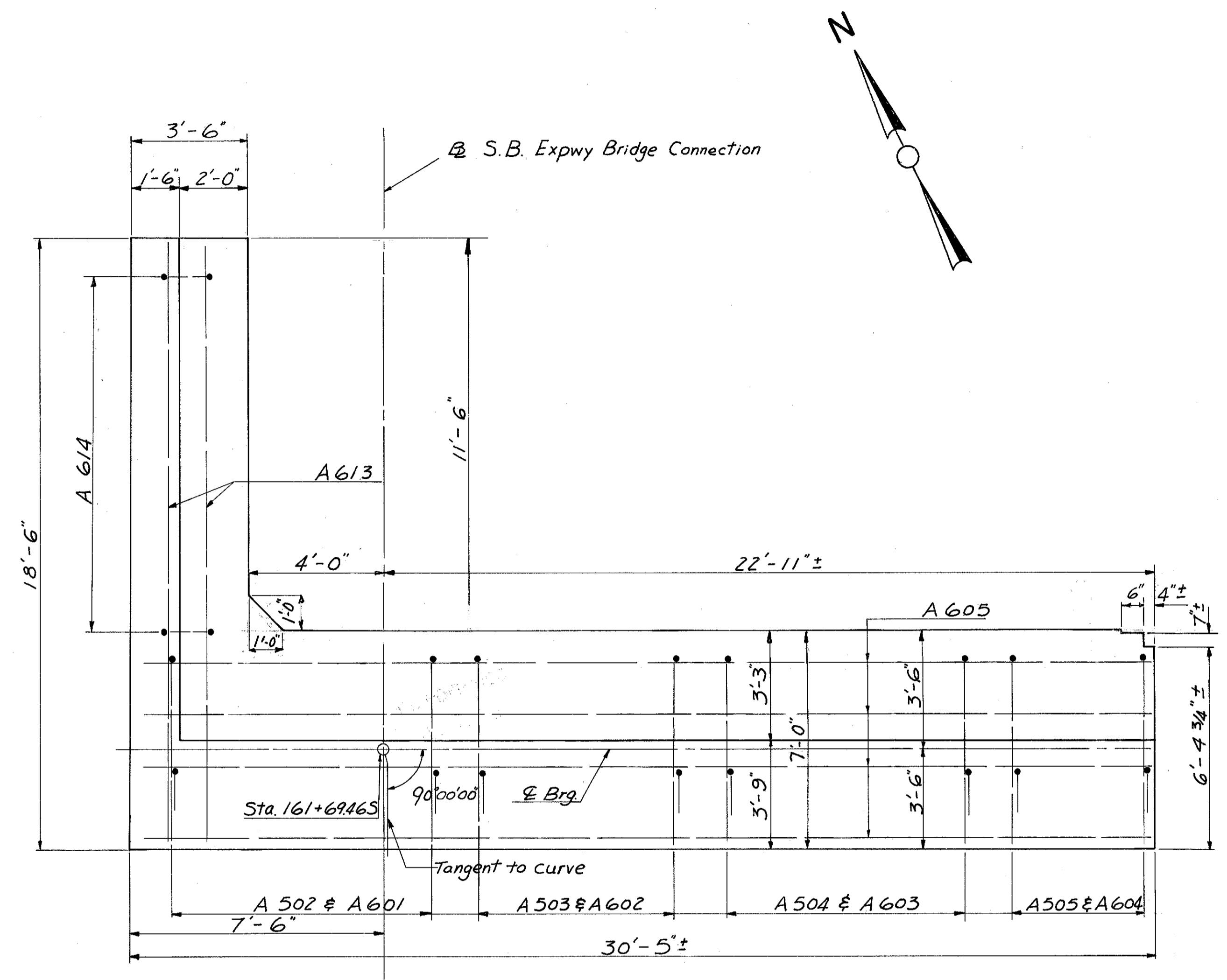
VIEW C-C

Note:  
Elevations marked with (\*) are given along front face of backwall.

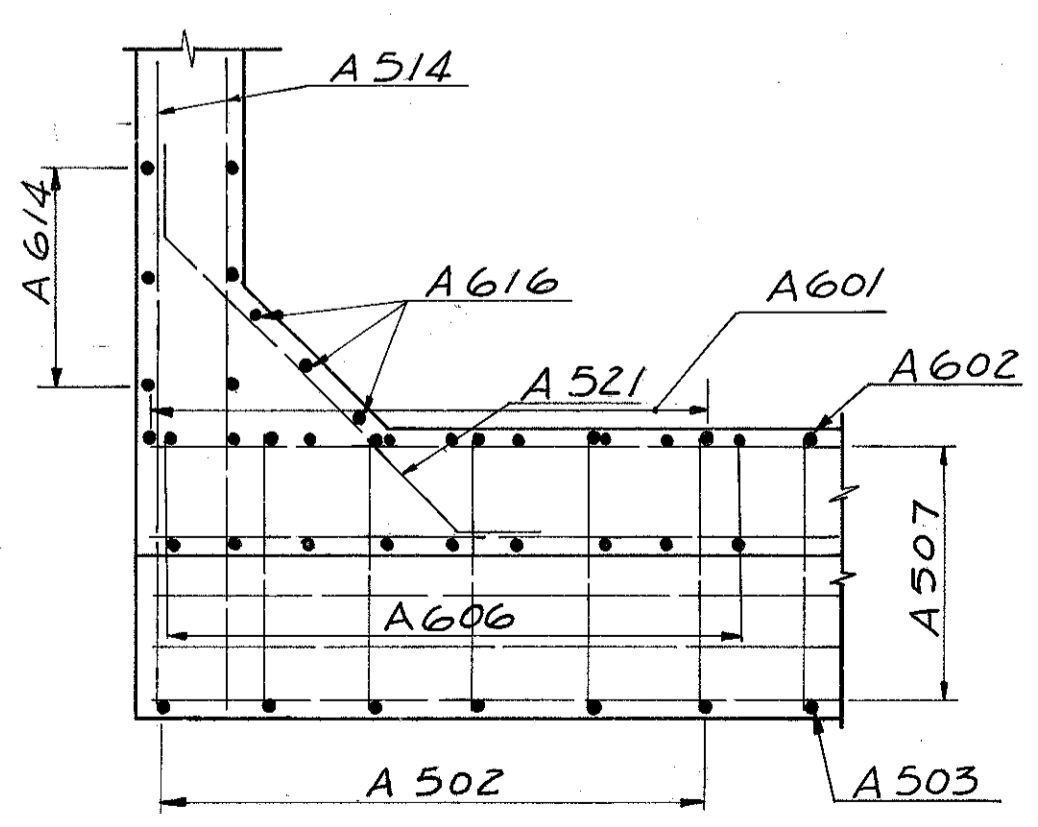
For method of terminating 6" CMP see Sh. No. 442.

HAZELT & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO		6/23
<b>NORTH ABUTMENT</b> BRIDGE NO. HAM-471-0076 SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO.12		
DESIGNED WL	DRAWN CYW	TRACED JHO
CHECKED JHO	REVIEWED DATE 11-9-72	REVISED

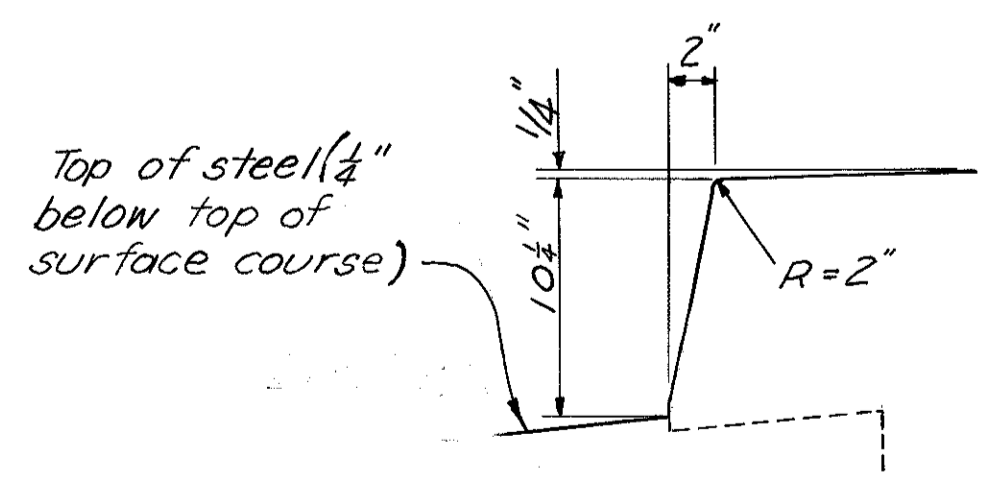
HAMILTON COUNTY  
HAM-471-0.30



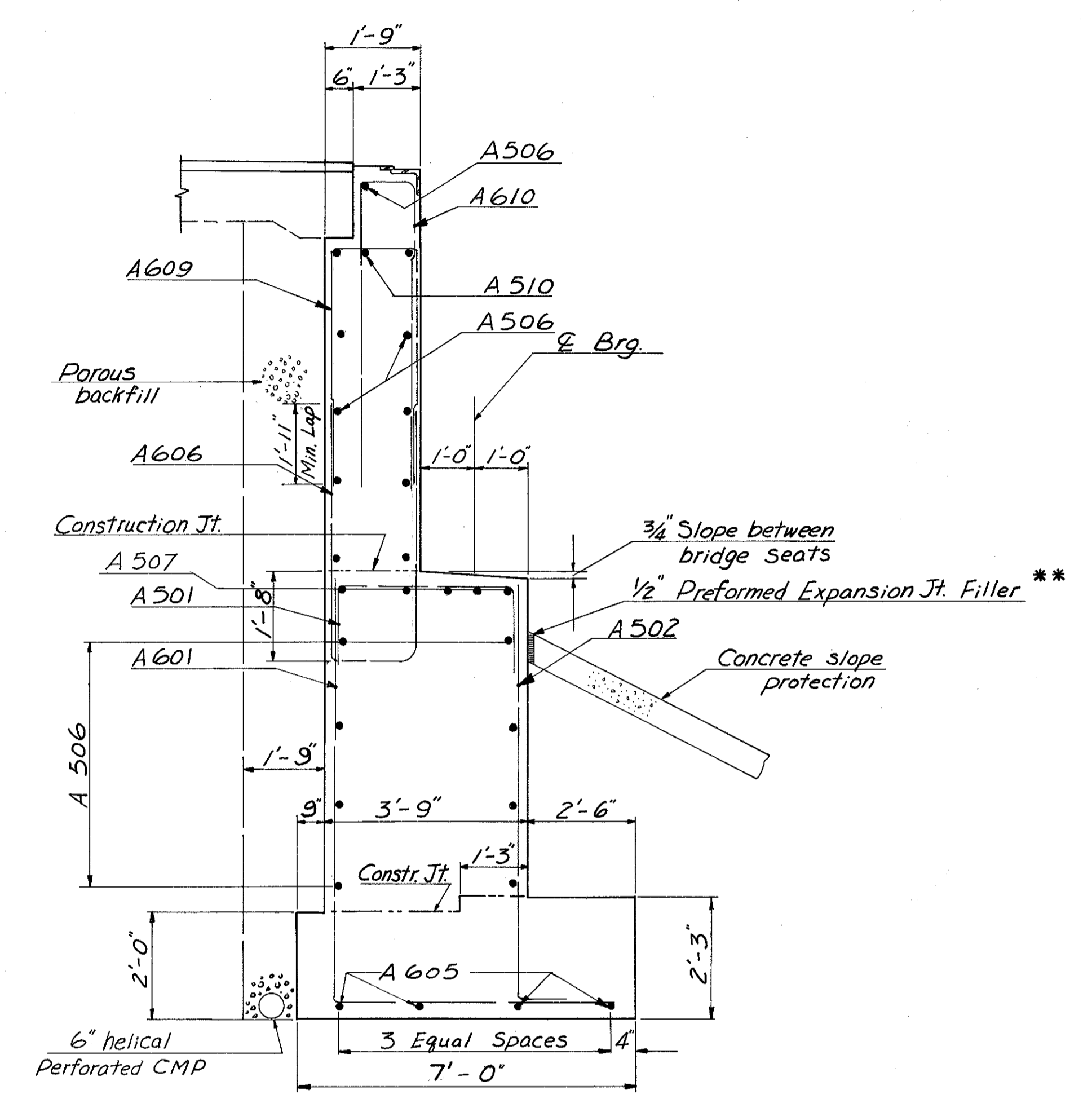
**FOOTING PLAN**  
(6" CMP Not Shown)



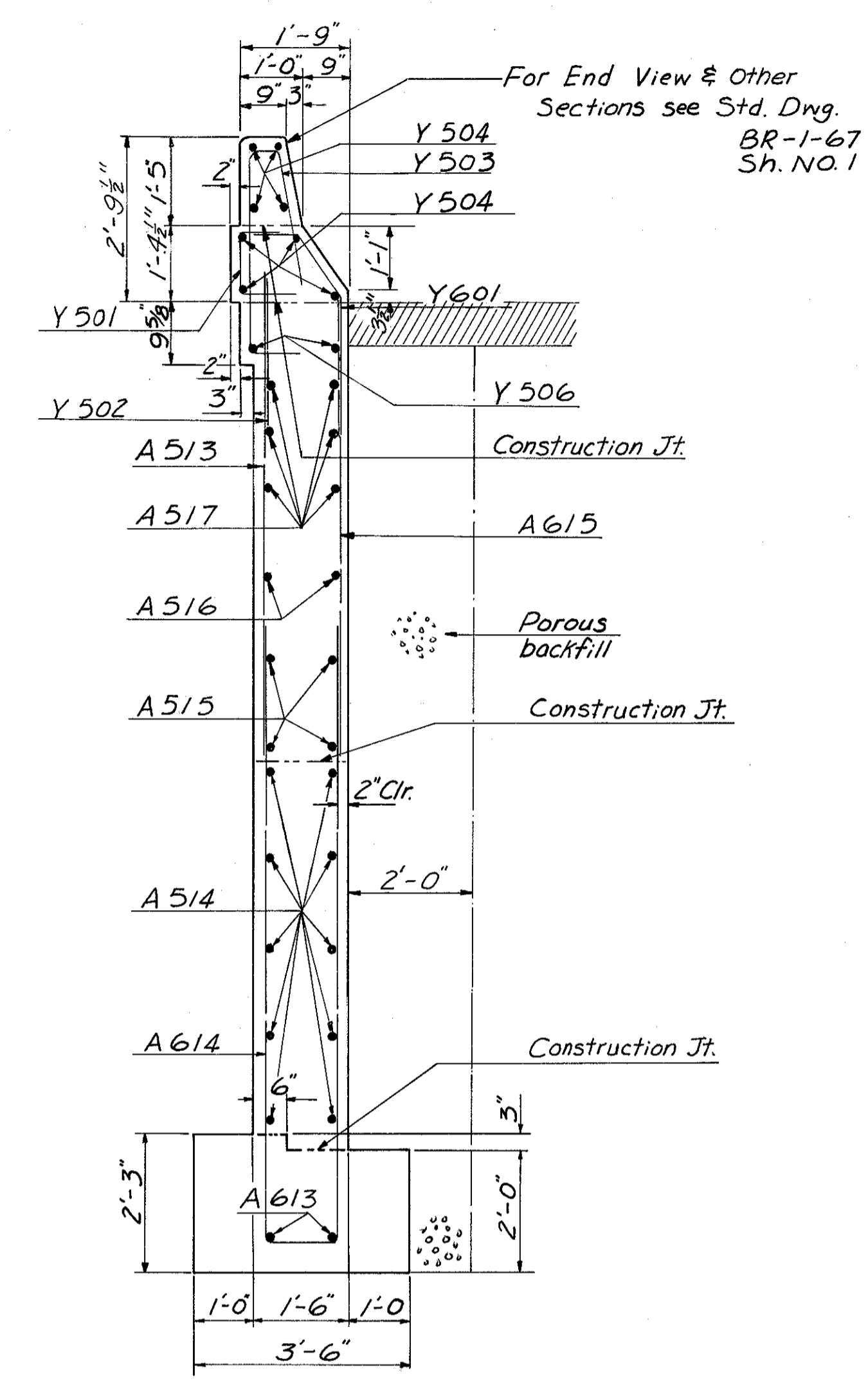
**SECTION E-E**



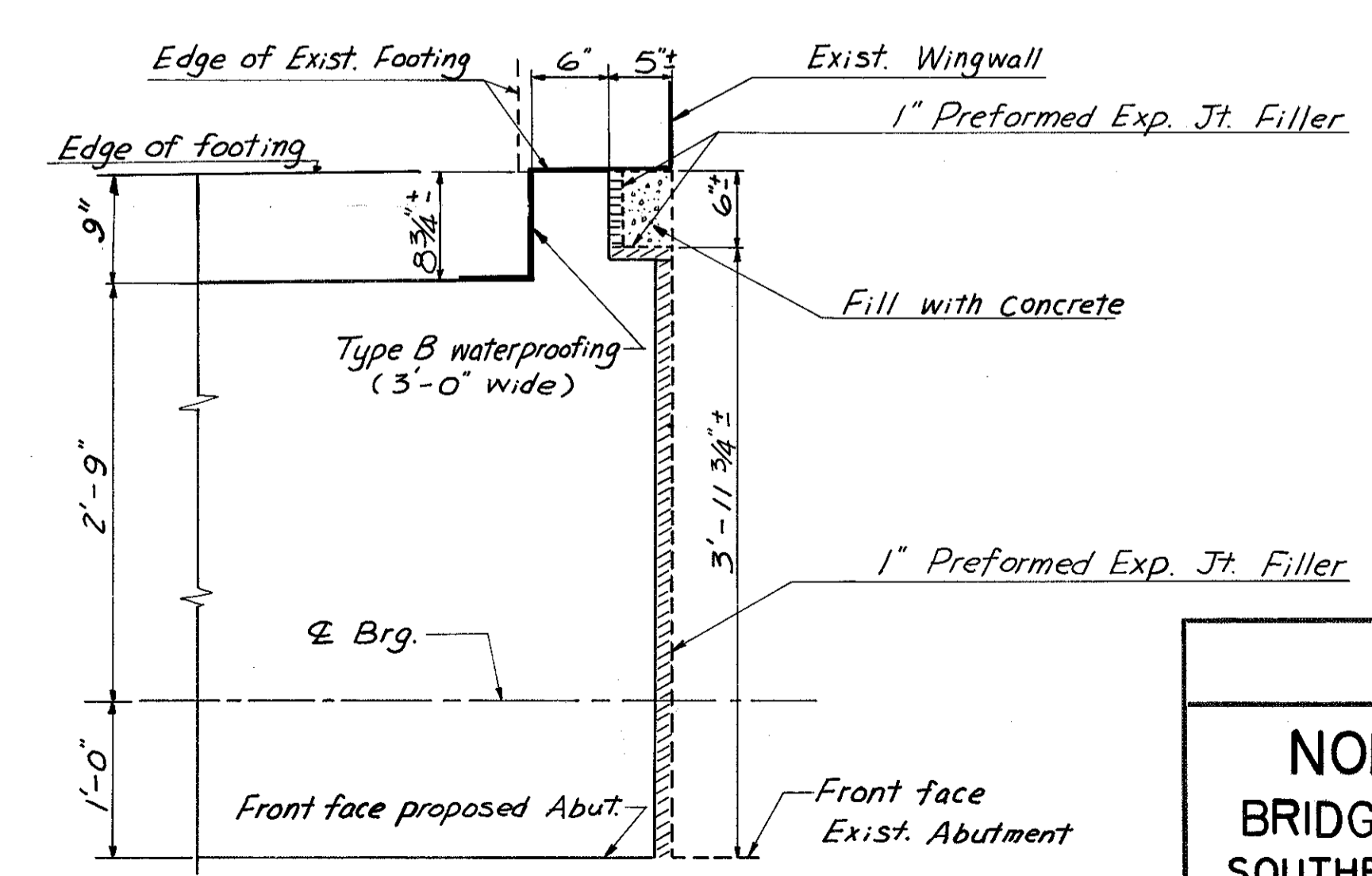
**DETAIL A**



**SECTION A-A**



**SECTION B-B**



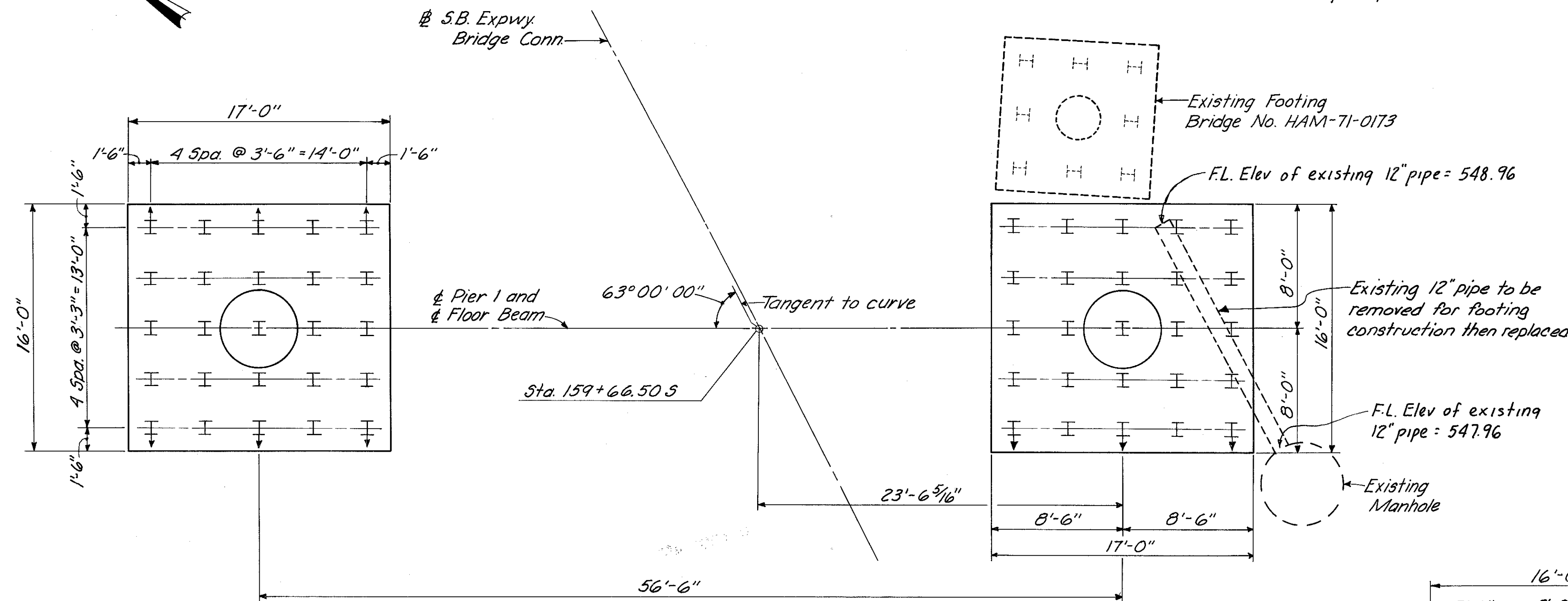
**SECTION D-D**

Note  
\*\* Included with concrete slope protection for payment.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				
7/23				
<b>NORTH ABUTMENT</b>				
BRIDGE NO. HAM-471-0076				
SOUTHBOUND EXPRESSWAY BRIDGE				
CONNECTION AND RAMP GF OVER				
RAMP GD H&E BRIDGE NO. 12				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
W/L	CYW		JH6 1-27-77	11-9-72

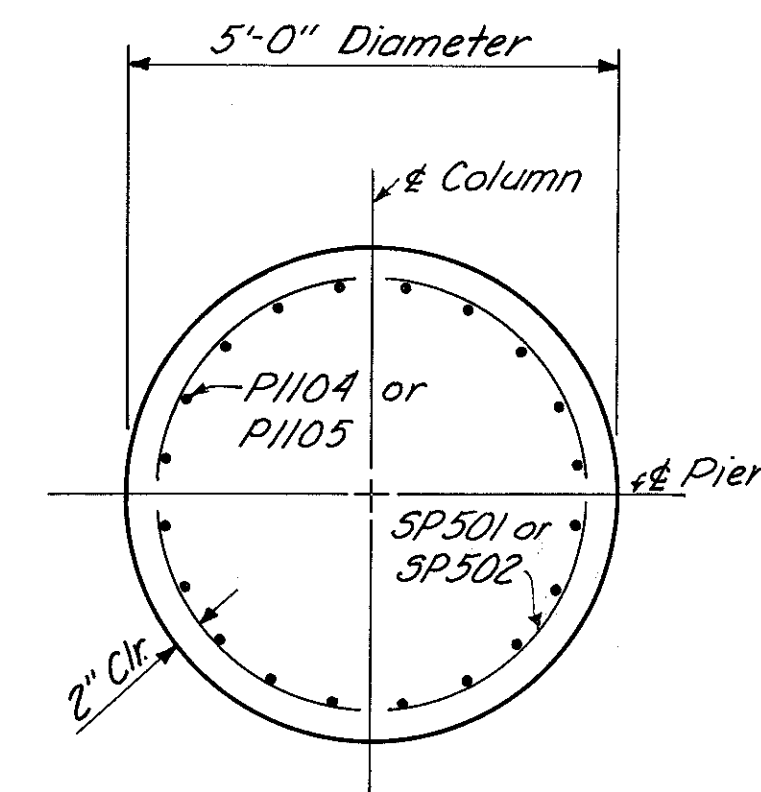
MICROFILMED  
83 2191

Note: The contractor shall locate the existing footing before driving piles for the proposed footing. Care shall be exercised in driving prop. piles so as not to damage the existing footing or piles.

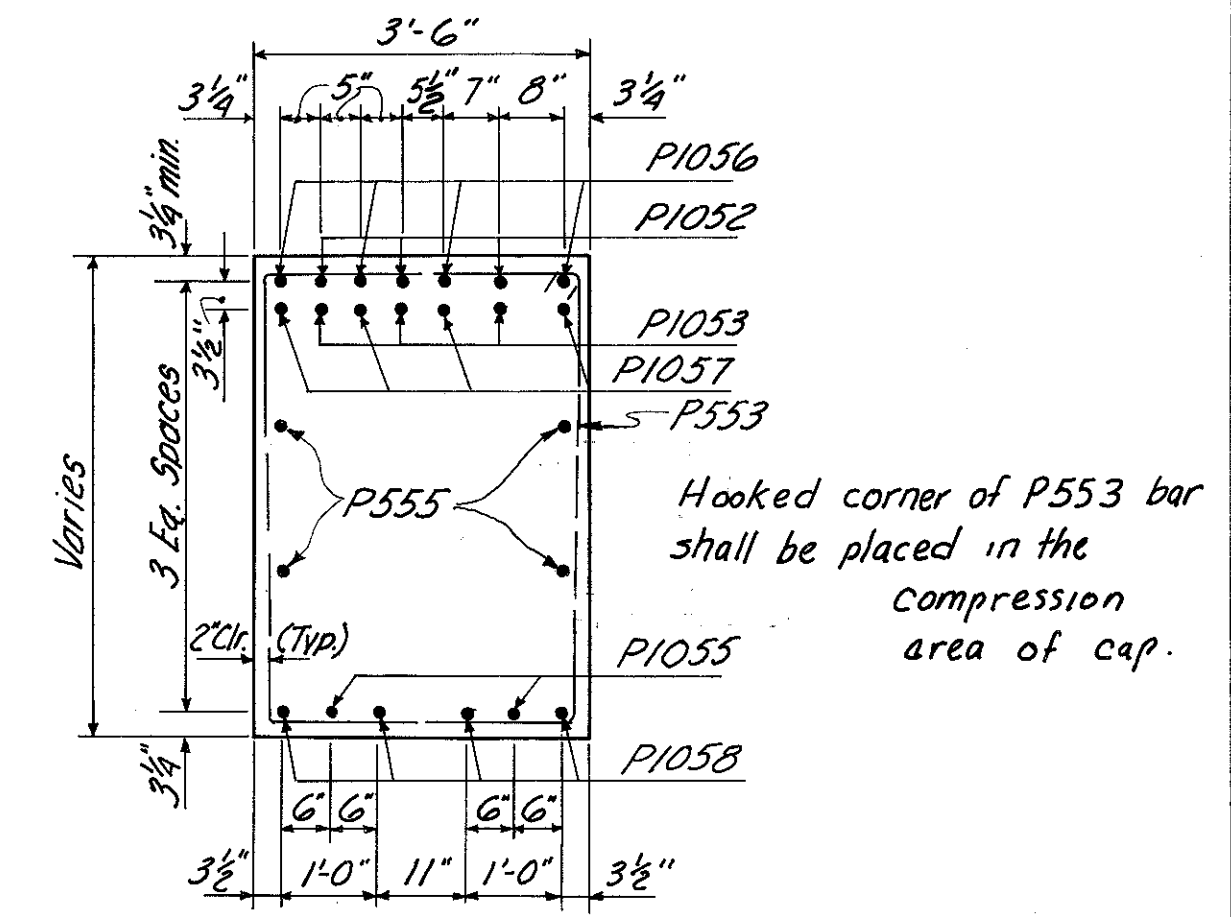


Note: Footings identical except as shown.  
⊥ denotes battered pile

**PLAN**

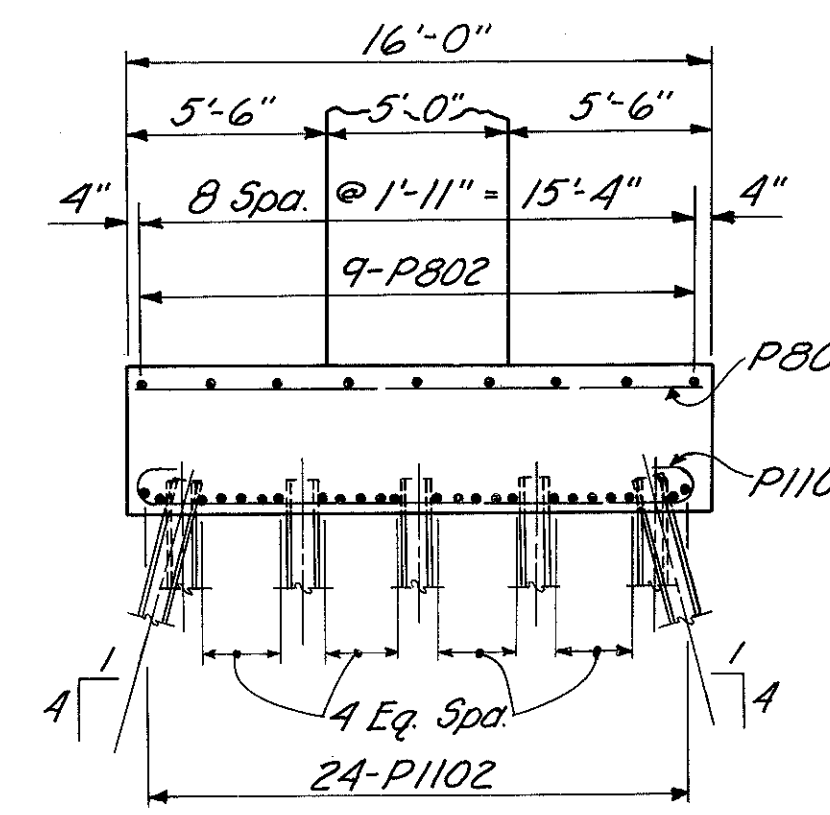


**SECTION A-A**

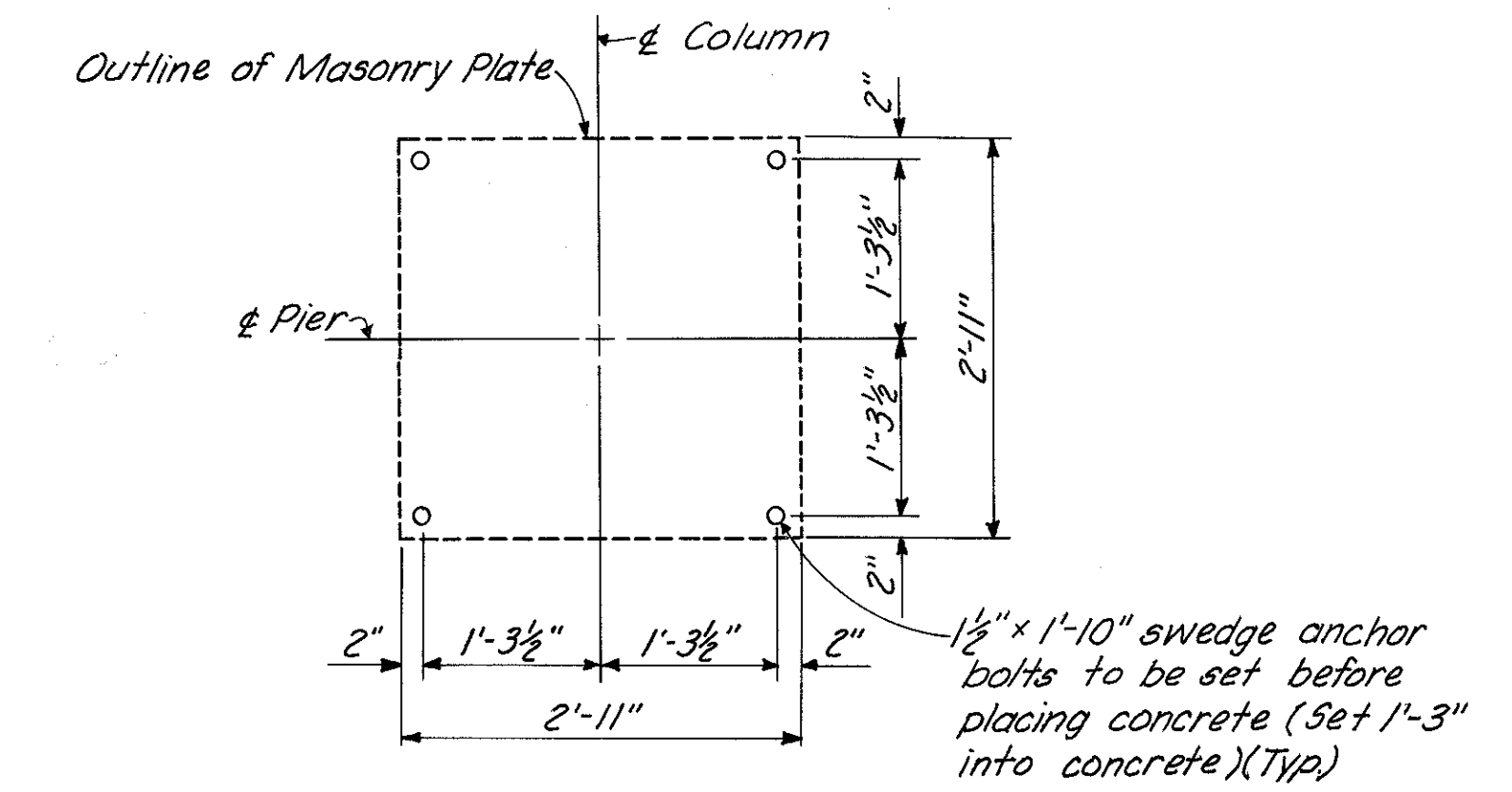


**SECTION C-C**

(For location see Sh. No 399)

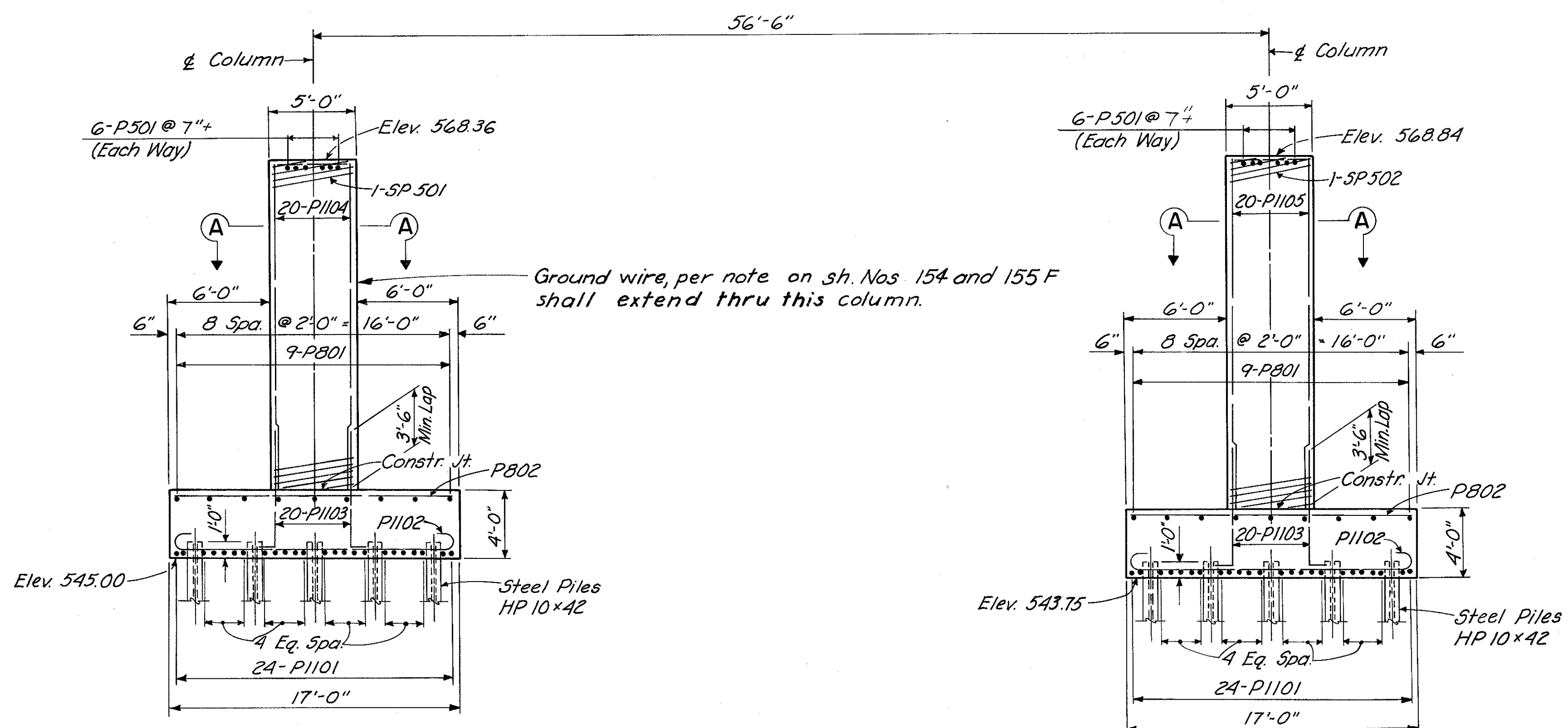


**END VIEW WEST FOOTING**

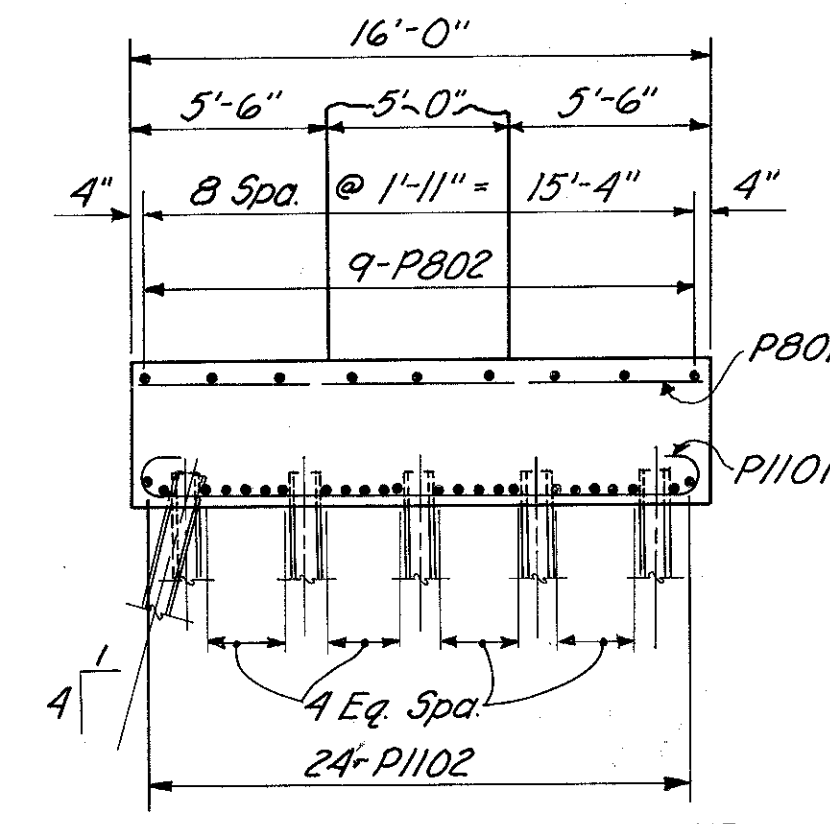


**ANCHOR BOLT DETAIL**

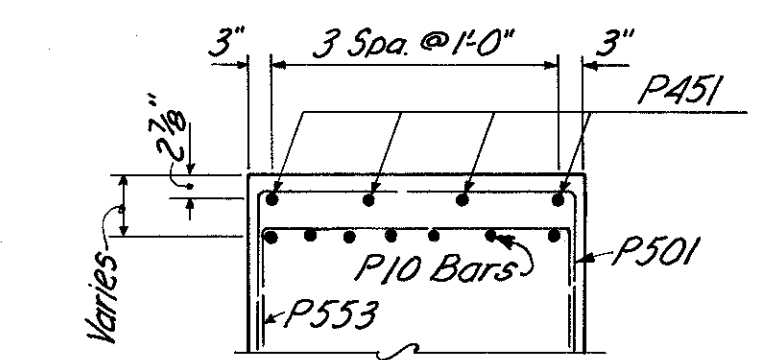
Note: Provide 3" clearance to reinforcing steel in footing, minimum.



**ELEVATION**



**END VIEW EAST FOOTING**

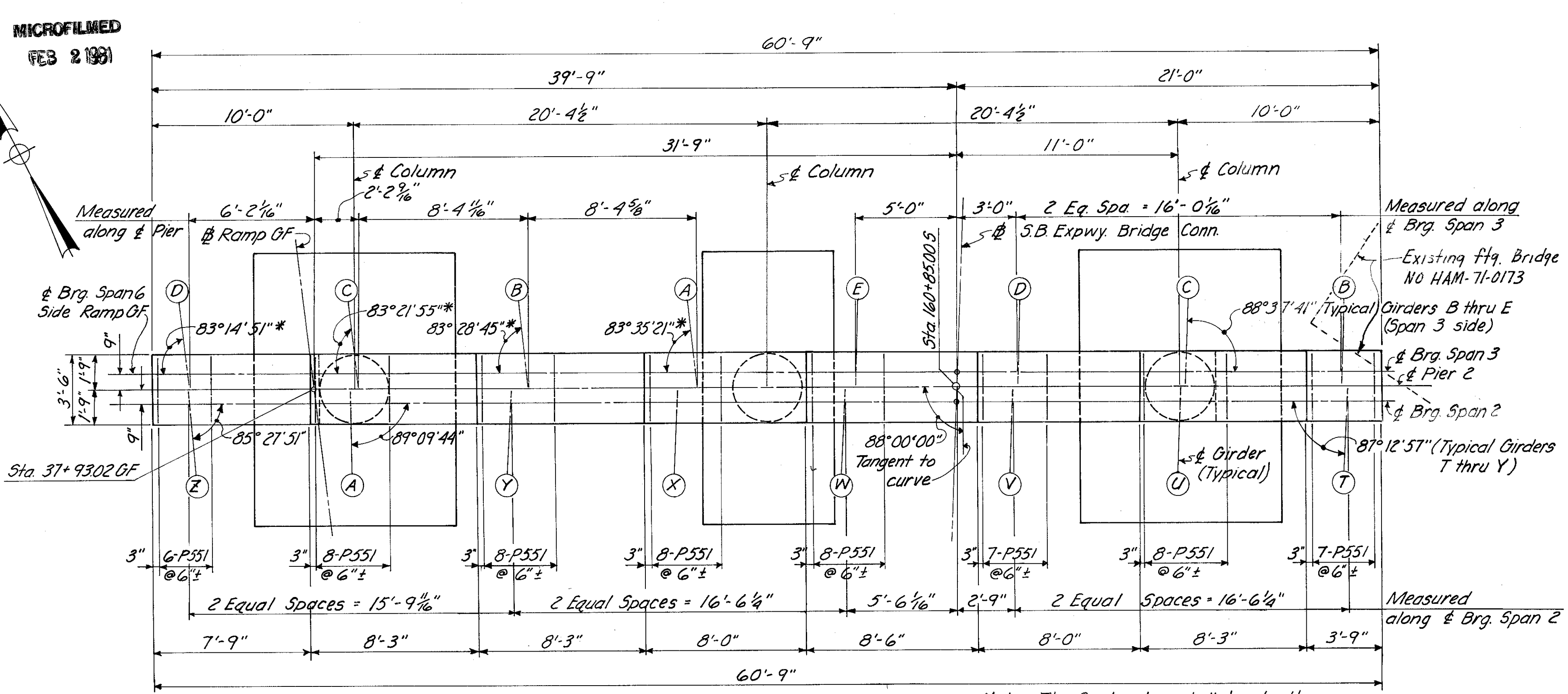
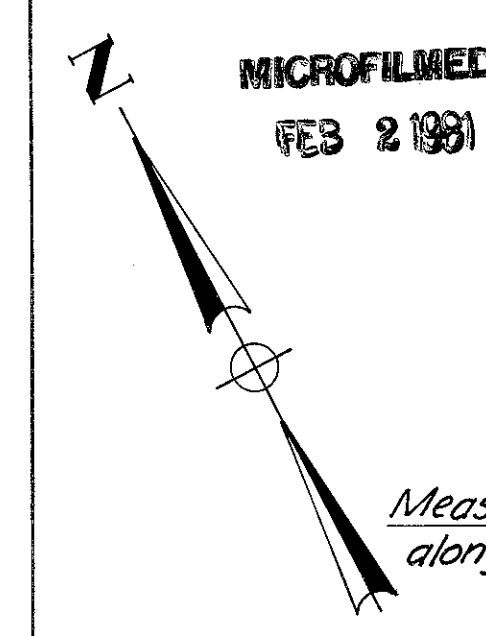


**SECTION D-D**

(For location see Sh. No 399)

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				8/23
<b>PIER I</b>				
BRIDGE NO. HAM-471-0076				
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12				
DESIGNED CYW	DRAWN DBS	TRACED TRK	CHECKED JLD 2-21-71	REVIEWED DATE JLD 11-9-72



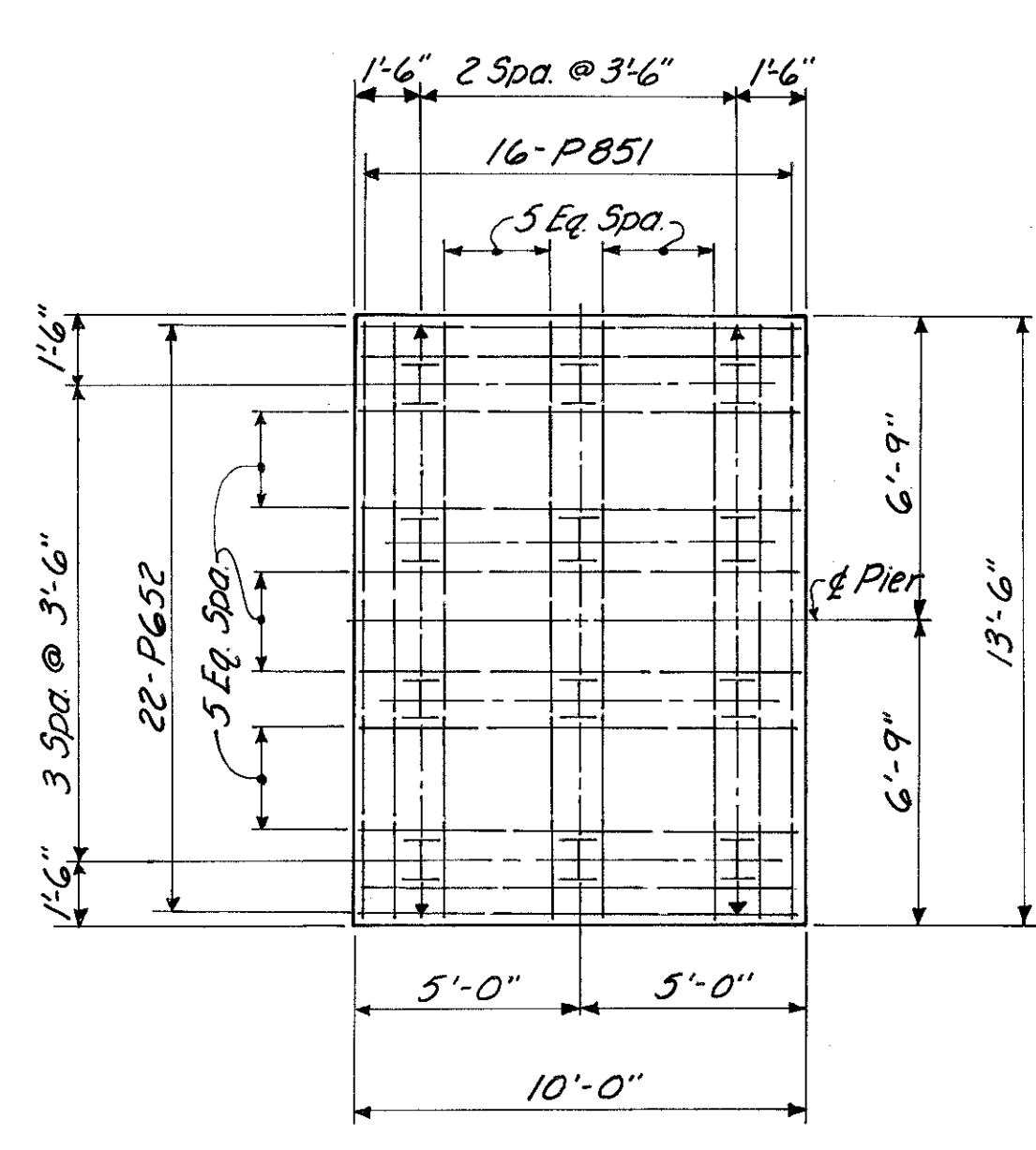


Note: Angles marked with \* are measured from  $\perp$  Brg. to tangent to girder curve.

**PLAN**

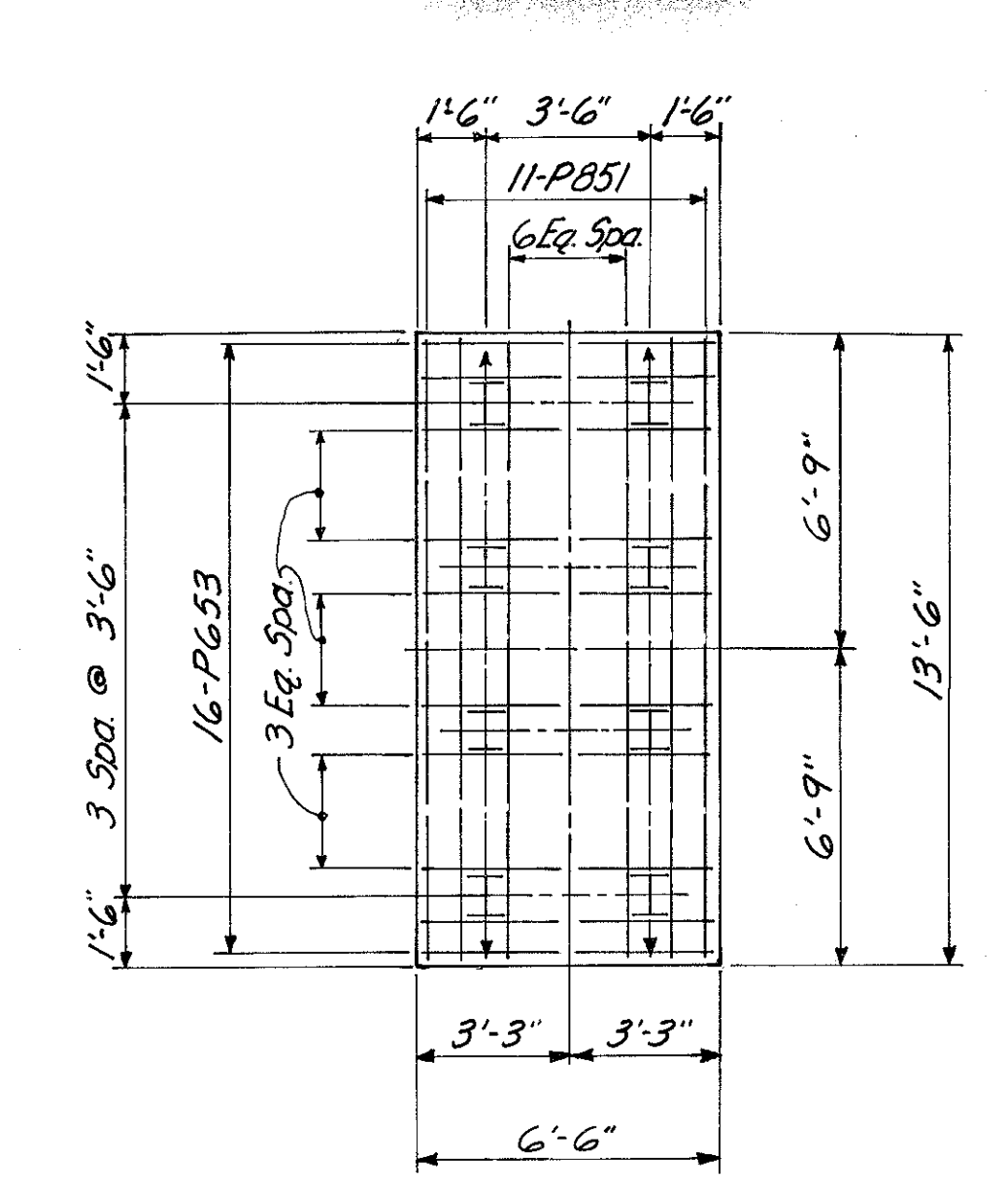
Note: The Contractor shall locate the existing footing before driving piles for the proposed footing. Care shall be exercised in driving prop. piles so as not to damage the existing footing or piles.

Note:  $\nabla$  denotes battered pile

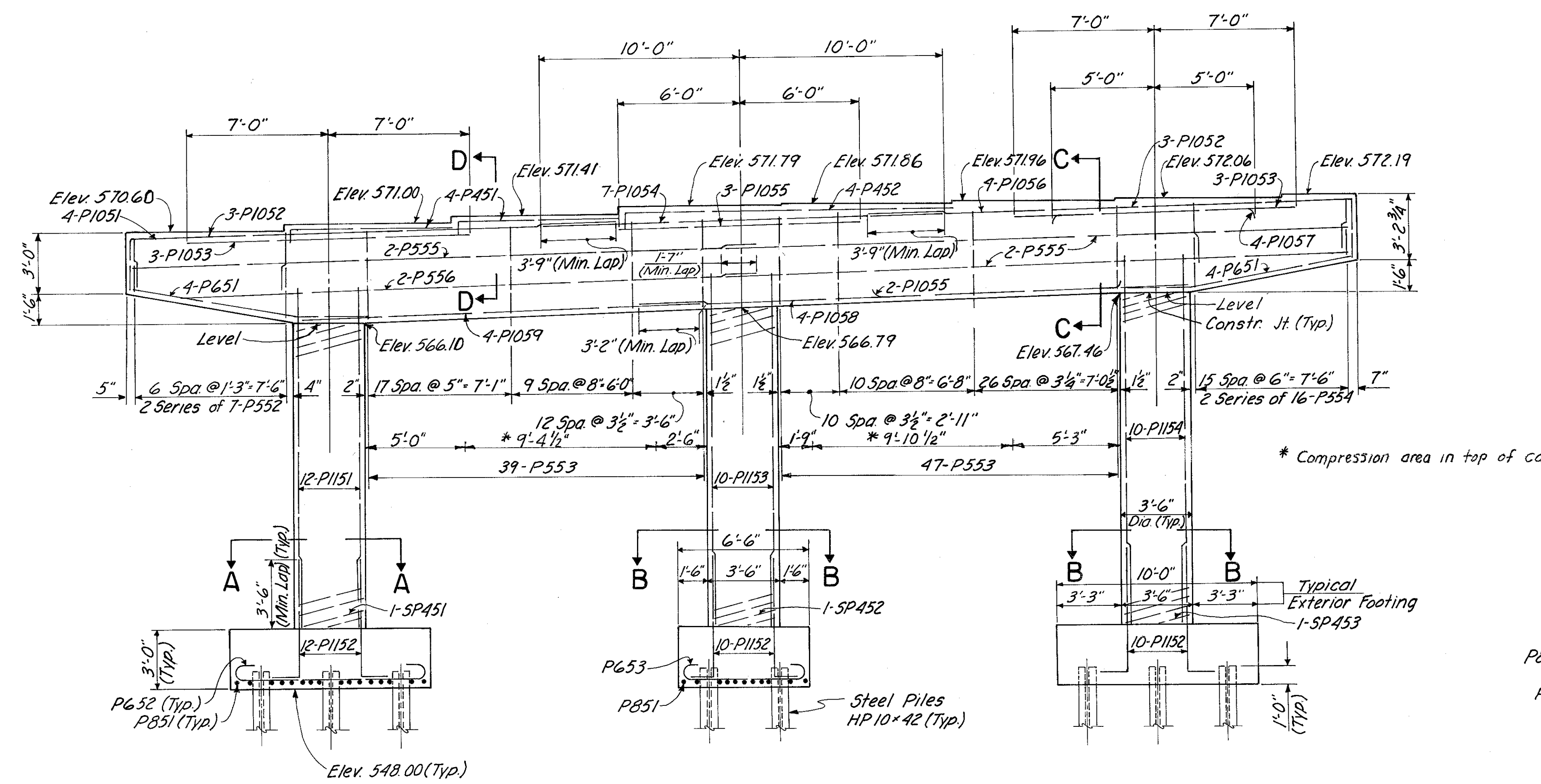


**EXTERIOR FOOTING**

Note: Provide 3" clearance to reinforcing steel in footings, minimum.



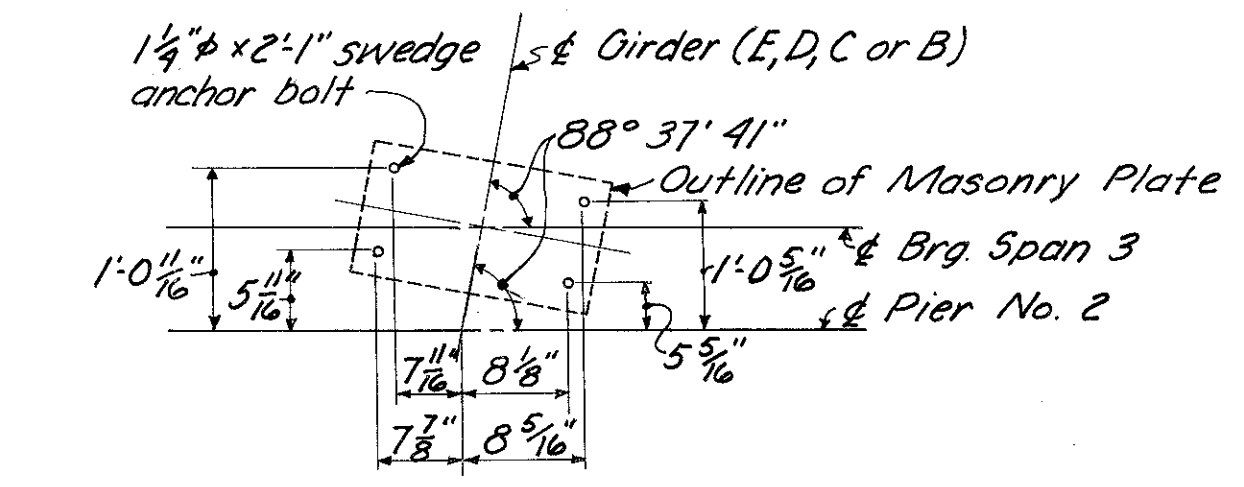
**INTERIOR FOOTING**



**ELEVATION**

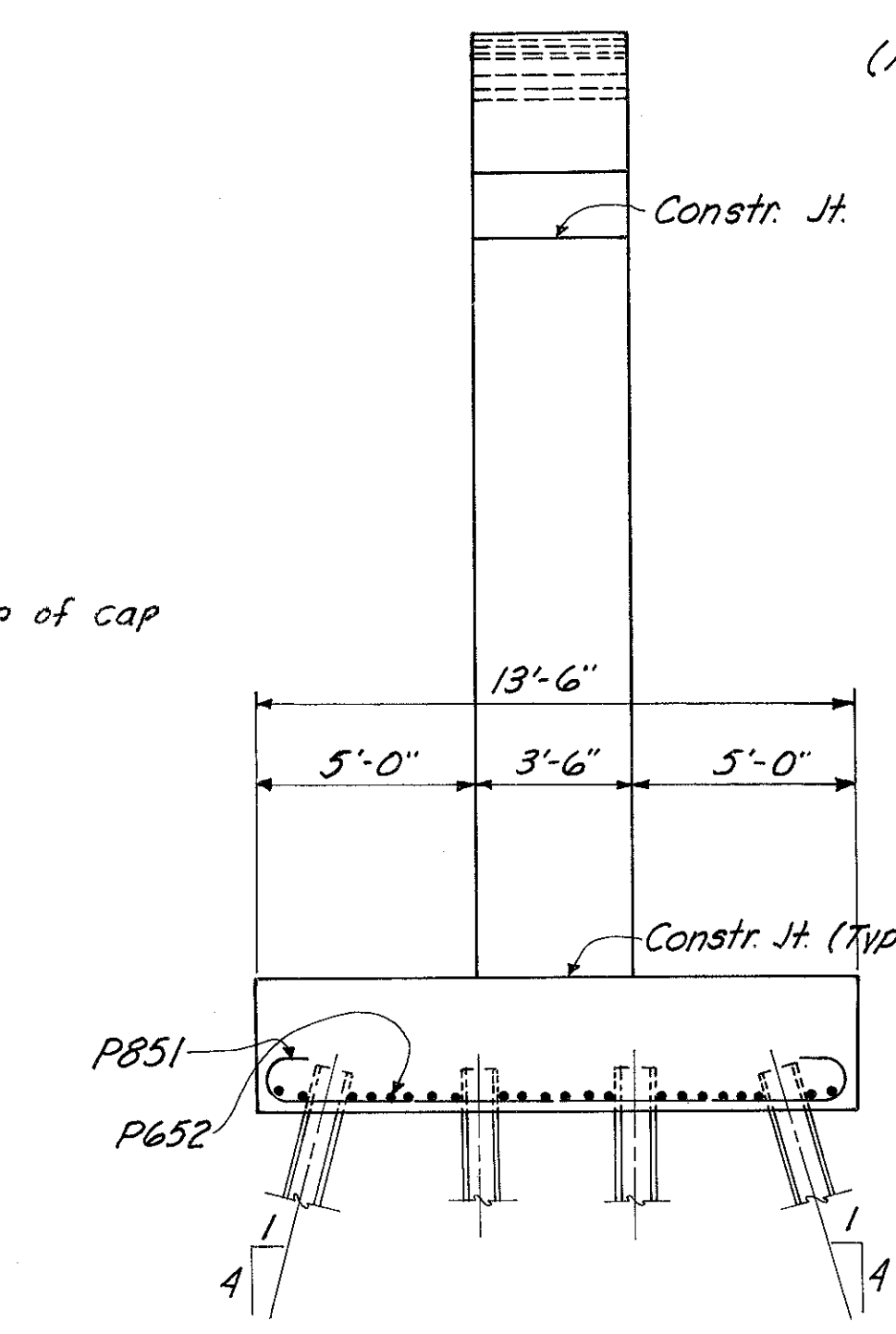
For Section C-C and Section D-D see Sh. No 398.

Note: Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bolt holes.



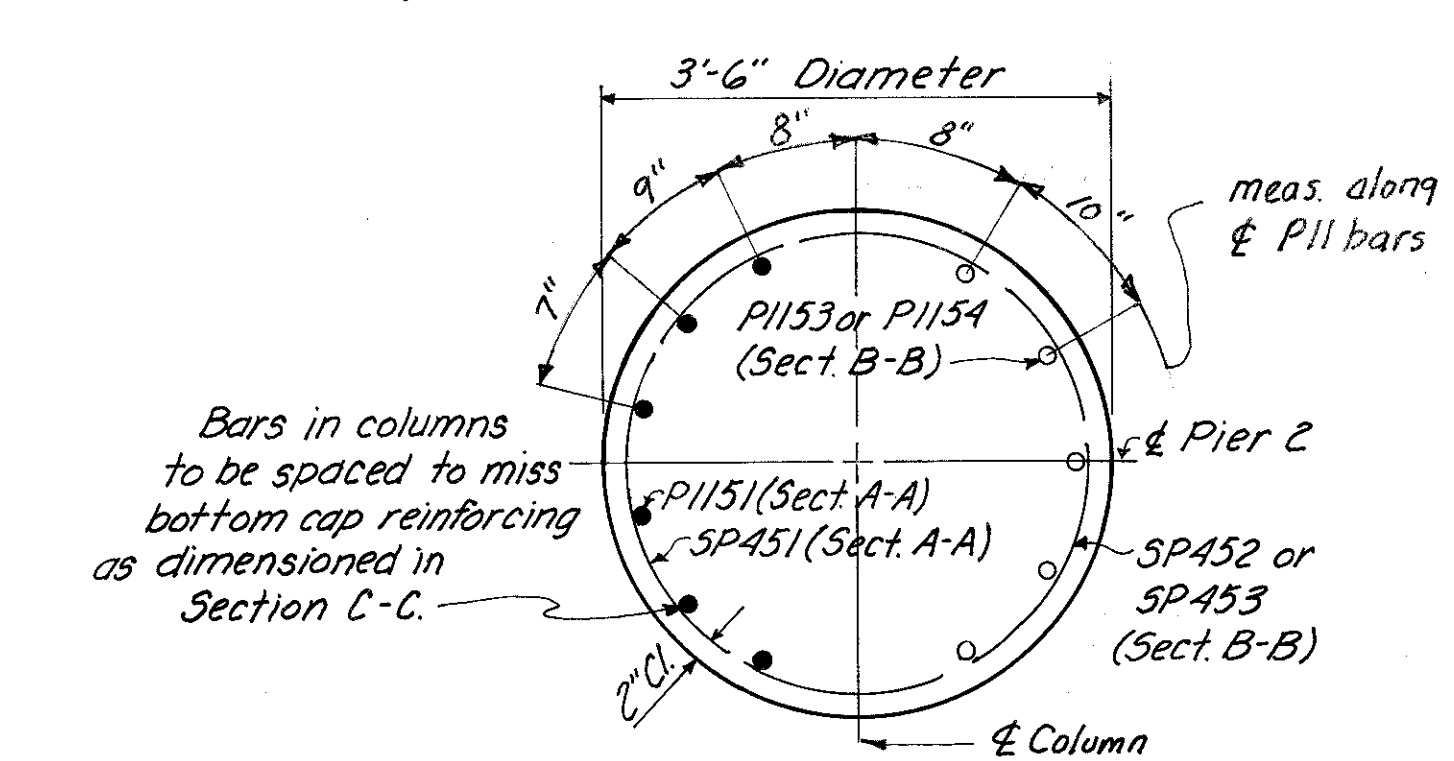
**ANCHOR BOLT LAYOUT**

(Anchor bolts only at girders E, D, C & B Span 3)



**END VIEW**

(Exterior Footing Reinforcing Shown)



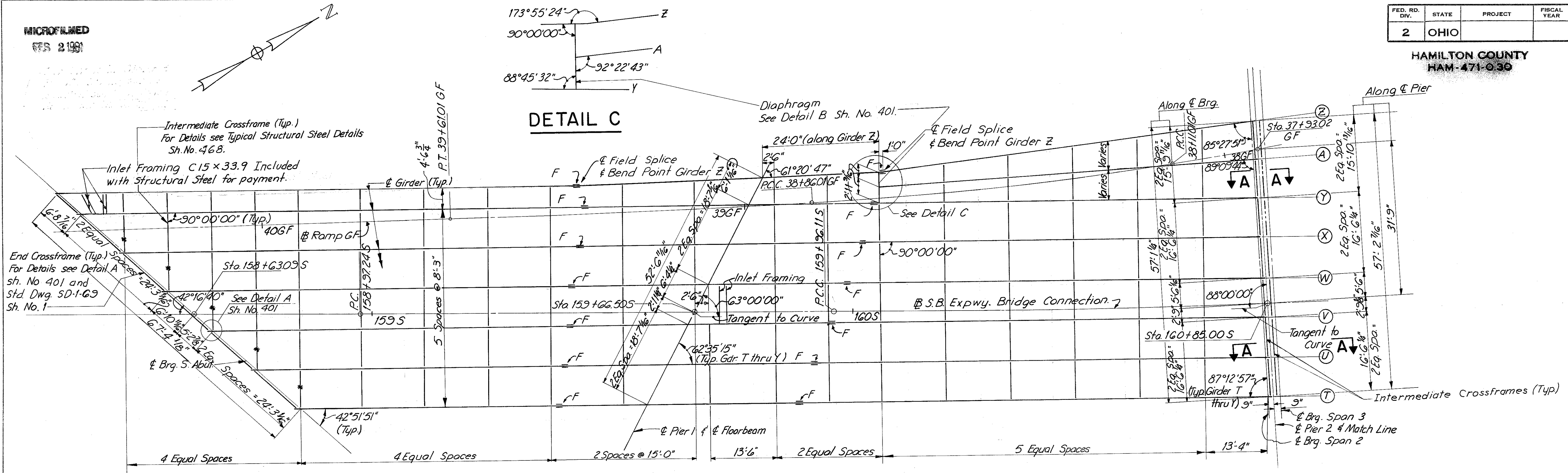
**HALF SECTION A-A**  
**HALF SECTION B-B**

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					9/23
<b>PIER 2</b>					
<b>BRIDGE NO. HAM-471-0076</b>					
<b>SOUTHBOUND EXPRESSWAY BRIDGE</b>					
<b>CONNECTION AND RAMP GF OVER</b>					
<b>RAMP GD H&amp;E BRIDGE NO. 12</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
CYW	D.B.S.	M.R.K.	W.L.	J.H.O.	
			5-3-71	11-9-72	

MICROFILMED  
FEB 2 1981

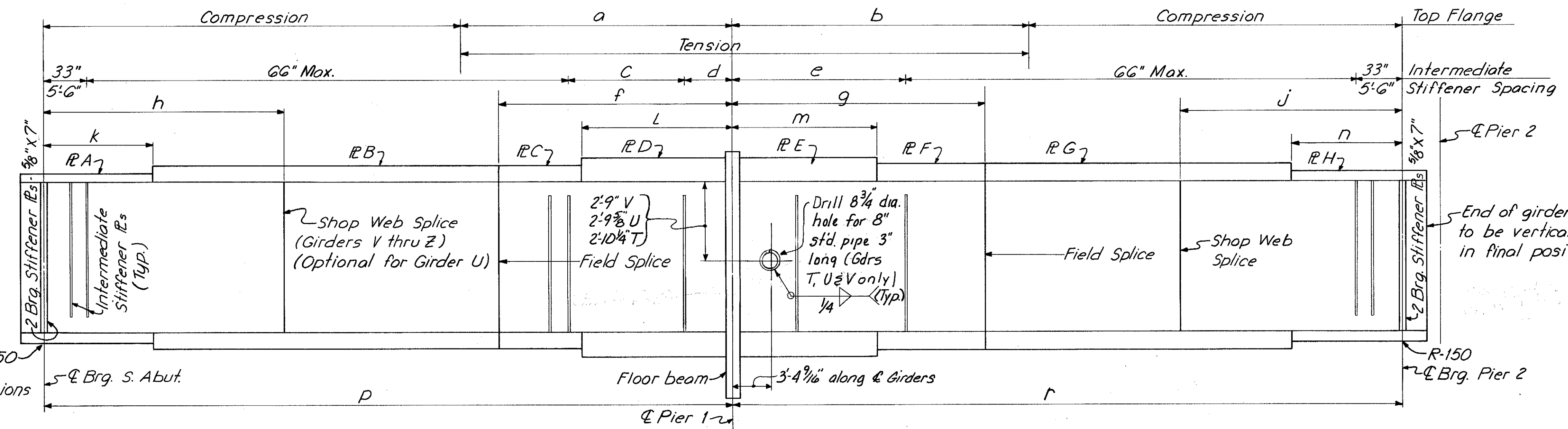
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		400 494

HAMILTON COUNTY  
HAM-471-030



Note:  
\* denotes crossframes connected to Brg. Stiffeners

NOTES:  
For treatment of ends of girders at Abutments see Std. Dwg SD-1-63 Sh. No. 1  
Longitudinal Section Bridge on Grade  
Bearing Stiffeners to be vertical in final position  
For Bearing Details see Std. Dwg. RB-1-55 and Sh. No. 403  
For Inlet Framing Details see Drainage Details Sh. No. 469 and Sh. No. 410  
For steel details not shown see Typical Structural Steel Details Sh. No. 468.  
Field flange splices shall miss crossframes and intermediate stiffeners by 1'-0" minimum and shop flange splices shall miss shop web splices by 5'-0" minimum.  
Intermediate Stiffeners are 3/8" x 6" R's. (One each side of web)  
Girders T thru Z web is 7/16" x 66". Top and bottom plates are identical.  
Items are identical for each girder except as noted.



Girder	Dim.	p	r
T		71'-10 1/2"	128'-7 1/16"
U		85'-0 1/2"	123'-10 15/16"
V		98'-2 3/16"	119'-2 3/4"
W		111'-4 3/16"	114'-6 5/8"
X		124'-6 3/16"	103'-10 1/2"
Y		137'-8 3/16"	105'-2 3/16"
Z		145'-5 1/16"	102'-3 1/16"

Girder	Plate A	Plate B	Plate C	Plate D	Plate E	Plate F	Plate G	Plate H
T		7/8" x 16"		1 1/8" x 16"		1 7/8" x 16"	1 7/8" x 16"	1 3/8" x 16"
U		7/8" x 16"		1 7/8" x 16"		1 7/8" x 16"	1 7/8" x 16"	1 3/8" x 16"
V		7/8" x 16"		2 1/4" x 16"	2 1/4" x 16"	1 3/8" x 16"	1 3/8" x 16"	1 1/4" x 16"
W		1 1/8" x 16"	1 1/8" x 16"	2 1/4" x 16"	2 3/8" x 16"	1 3/8" x 16"	1 3/8" x 16"	7/8" x 16"
X	1 1/4" x 16"	1 3/8" x 16"	1 3/8" x 16"	2 3/8" x 16"	2 3/8" x 16"	1 1/4" x 16"	1 1/4" x 16"	
Y	1 1/2" x 16"	1 3/4" x 16"	1 3/4" x 16"	2 3/8" x 16"	2 3/8" x 16"	3/4" x 16"	7/8" x 16"	
Z	1 1/2" x 16"	1 3/4" x 16"	1 3/4" x 16"	2 3/8" x 16"	2 3/8" x 16"	3/4" x 16"	7/8" x 16"	

Girder	Dim.	a	b	c	d	e	f	g	h	j	k	L	m	n
T		35'-0"	22'-0"		1 Spa. @ 60" = 5'-0"	4 Spa. @ 48" = 16'-0"	18'-0"	32'-0"		45'-0" ±	0'-0"	18'-0"	0'-0"	40'-0"
U		35'-0"	22'-0"		1 Spa. @ 60" = 5'-0"	4 Spa. @ 48" = 16'-0"	21'-0"	31'-0"		30'-0" ±	41'-0" ±	0'-0"	0'-0"	36'-0"
V		33'-0"	24'-0"		2 Spa. @ 60" = 10'-0"	2 Spa. @ 60" = 10'-0"	24'-0"	30'-0"		40'-0" ±	34'-0" ±	0'-0"	24'-0"	8'-0"
W		32'-0"	27'-0"		2 Spa. @ 60" = 10'-0"	2 Spa. @ 60" = 10'-0"	28'-0"	29'-0"		40'-0" ±	40'-0" ±	0'-0"	11'-0"	8'-0"
X		31'-0"	31'-0"		2 Spa. @ 60" = 10'-0"	2 Spa. @ 60" = 10'-0"	31'-0"	28'-0"		45'-0" ±	40'-0" ±	30'-6"	8'-0"	12'-0"
Y		30'-0"	35'-0"		2 Spa. @ 60" = 10'-0"	2 Spa. @ 57" = 9'-6"	35 Spa. @ 15'-0"	34'-0"		55'-0" ±	40'-0" ±	43'-0" ±	8'-0"	18'-0"
Z		30'-0"	35'-0"		2 Spa. @ 60" = 10'-0"	2 Spa. @ 57" = 9'-6"	35 Spa. @ 15'-0"	39'-0"		55'-0" ±	40'-0" ±	44'-0" ±	8'-0"	18'-0"

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

10/23

**STRUCTURAL STEEL DETAILS**  
BRIDGE NO. HAM-471-0076  
SOUTHBOUND EXPRESSWAY BRIDGE  
CONNECTION AND RAMP GF OVER  
RAMP GD

DESIGNED: W.L.  
DRAWN: JHD  
TRACED:  
CHECKED: W.L.  
REVIEWED DATE: 11-9-72

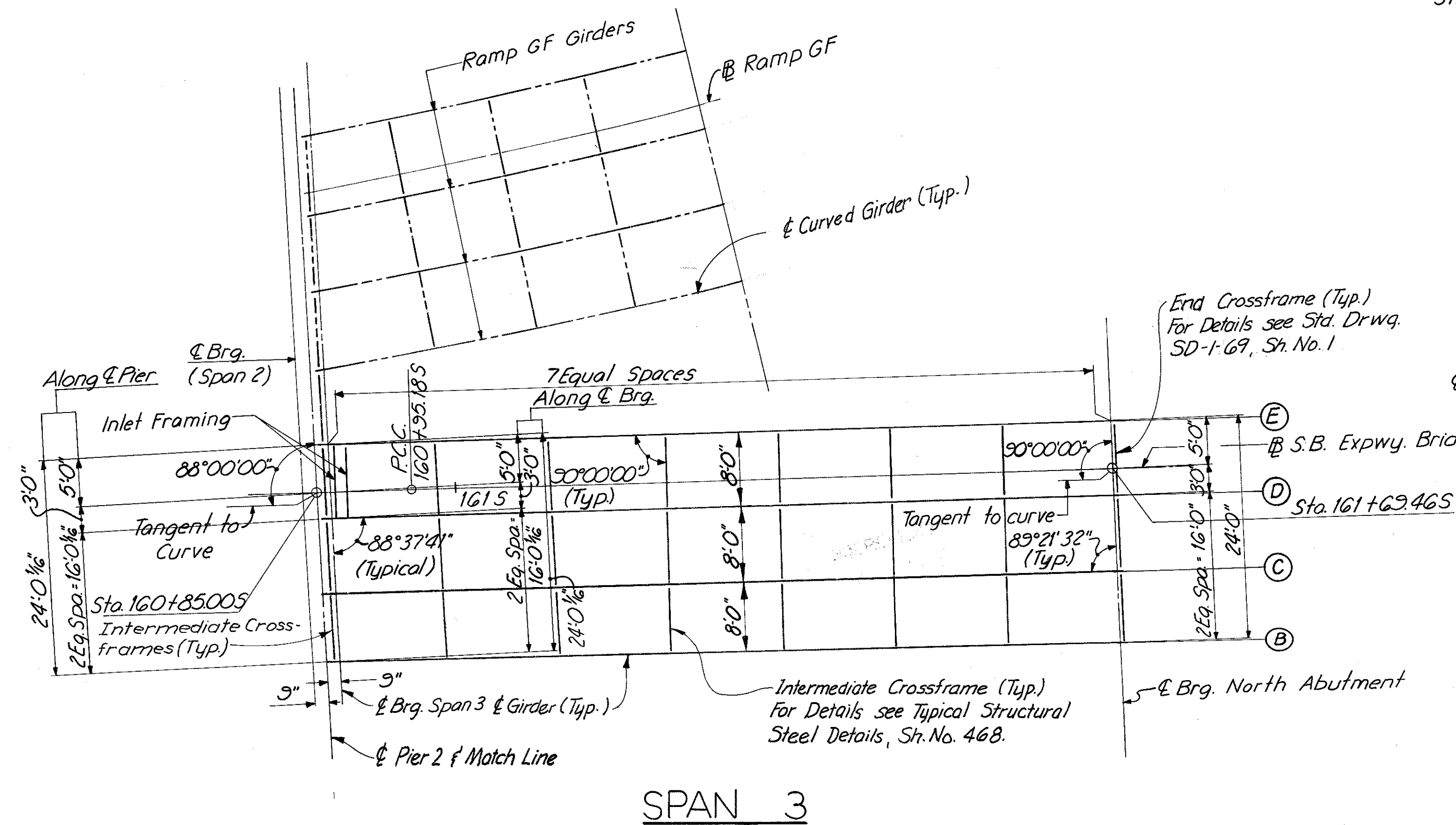
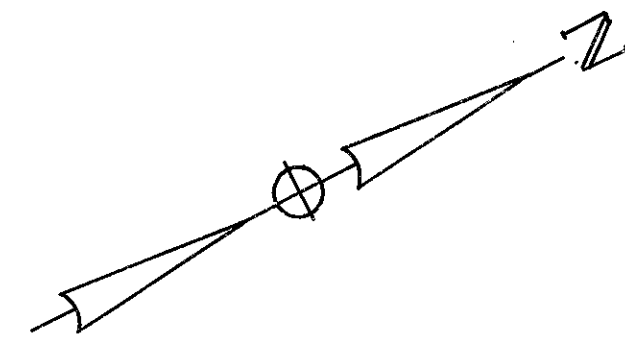
BRIDGE NO. 12

MICROFILMED  
FEB 2 1991

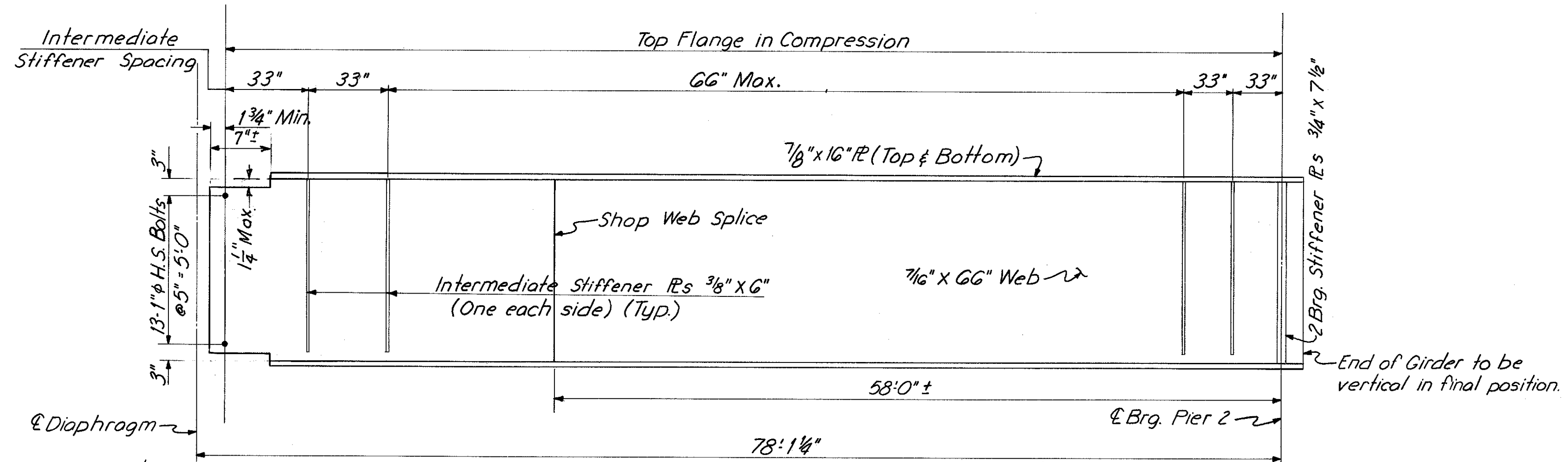
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

401  
494

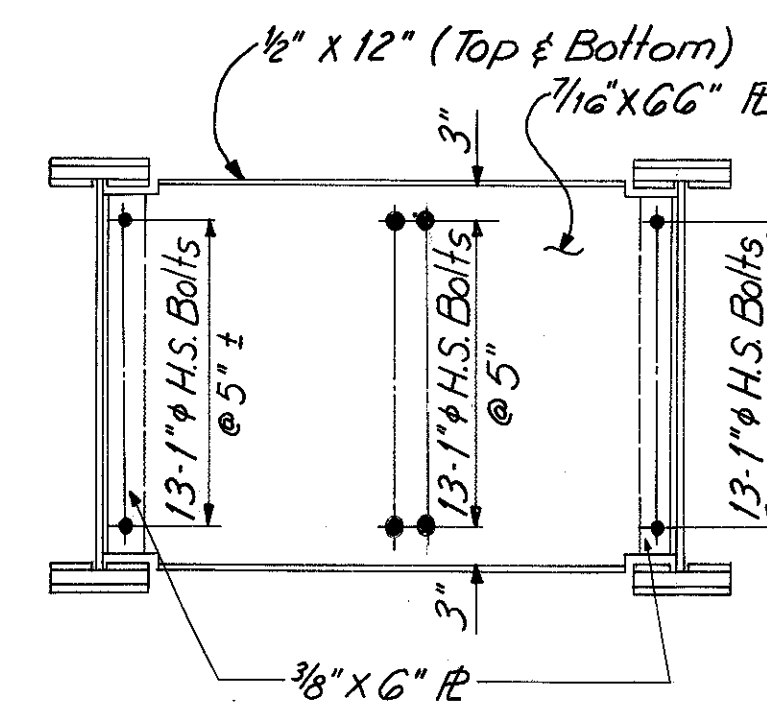
HAMILTON COUNTY  
HAM-471-030



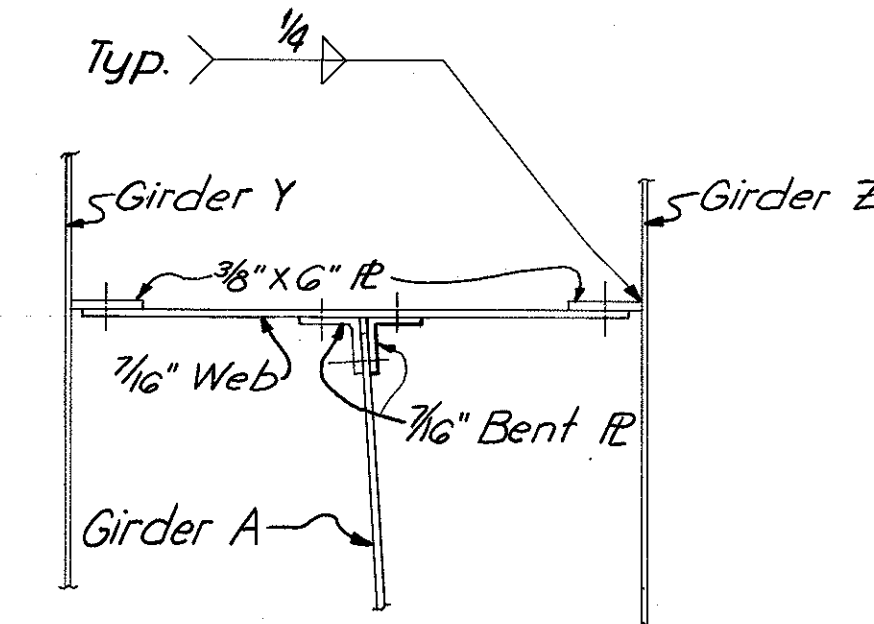
FRAMING PLAN



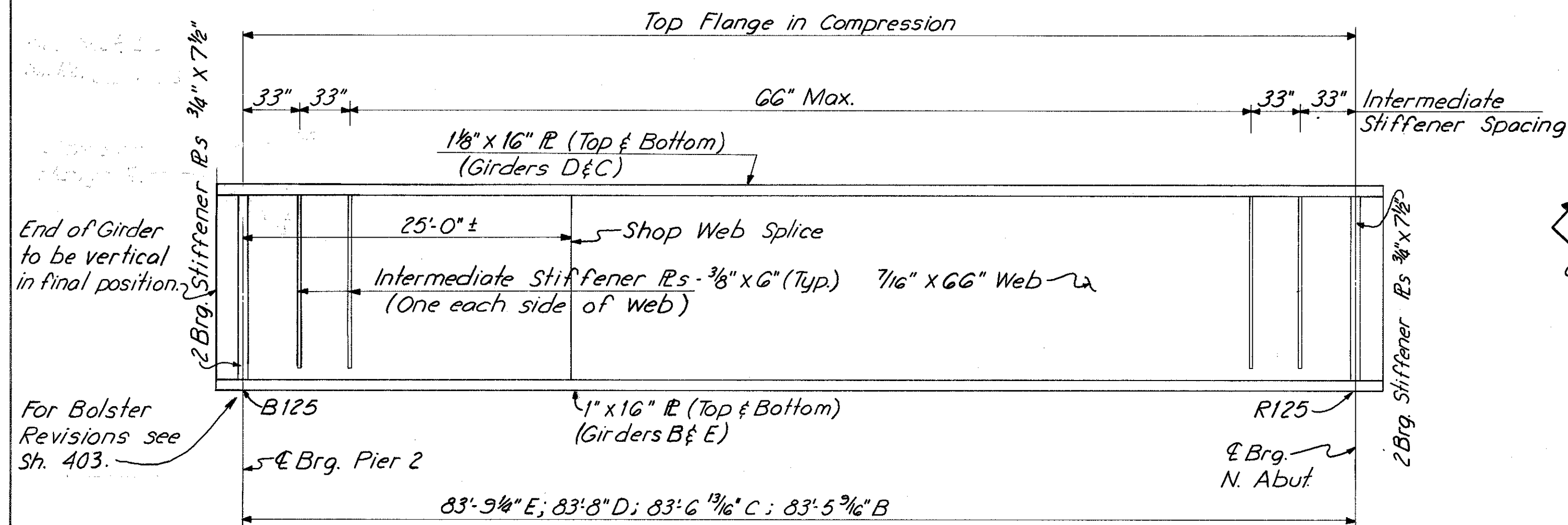
GIRDER A ELEVATION



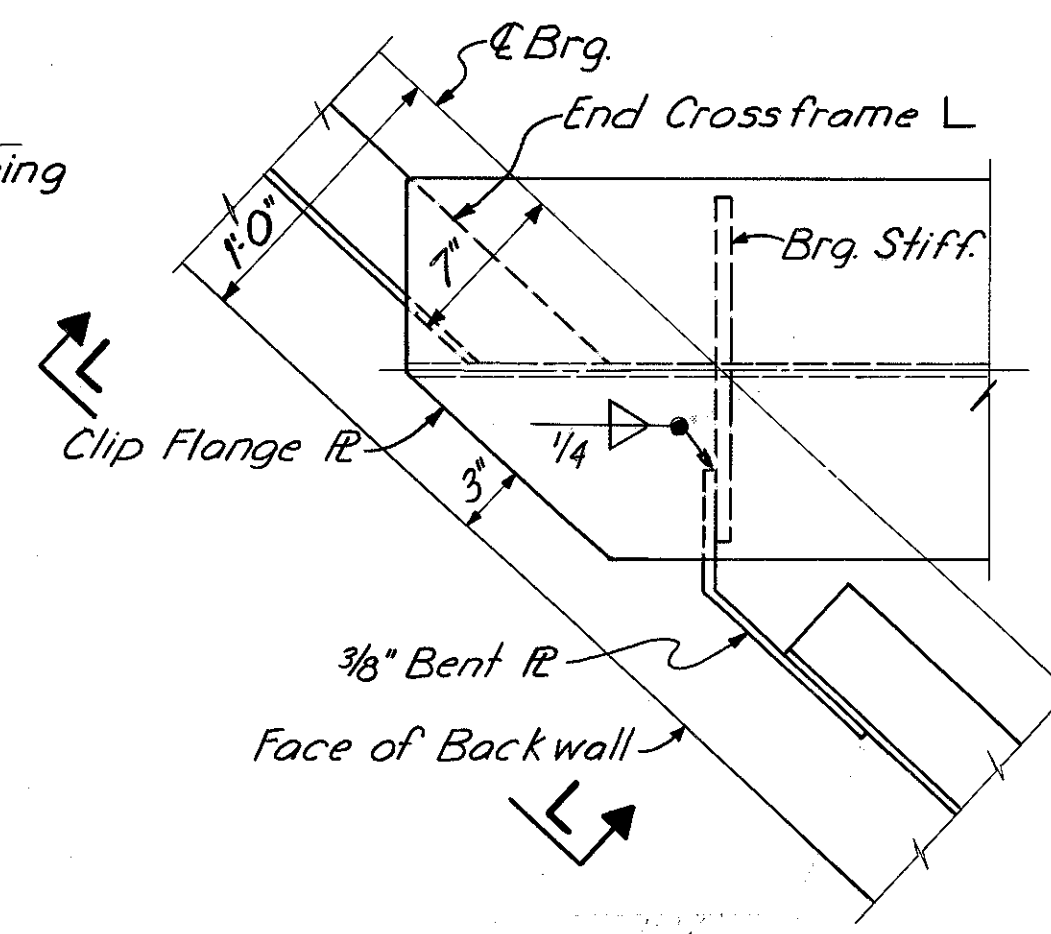
DIAPHRAGM



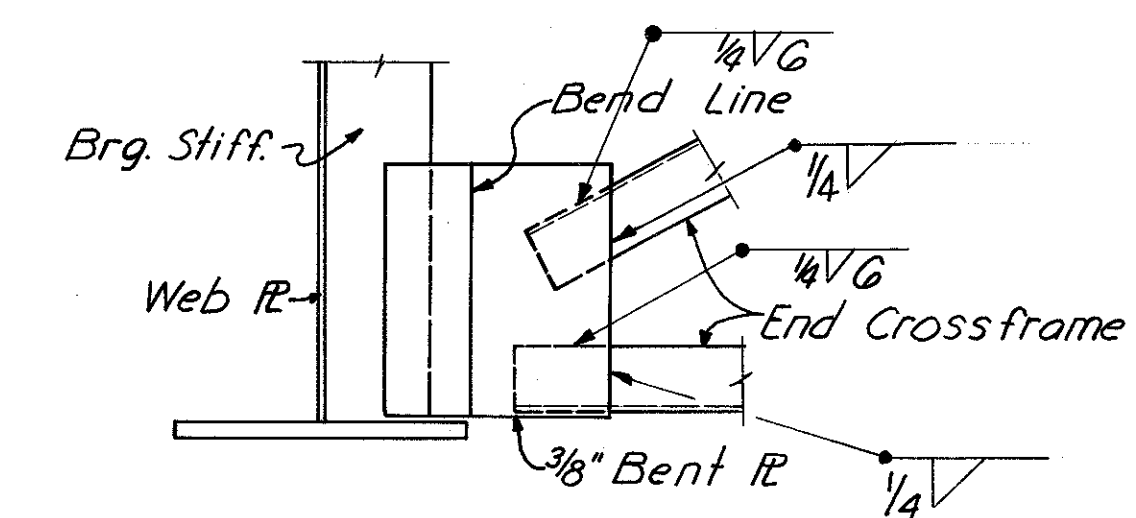
DETAIL B



GIRDER ELEVATION  
(GIRDERS B THRU E)



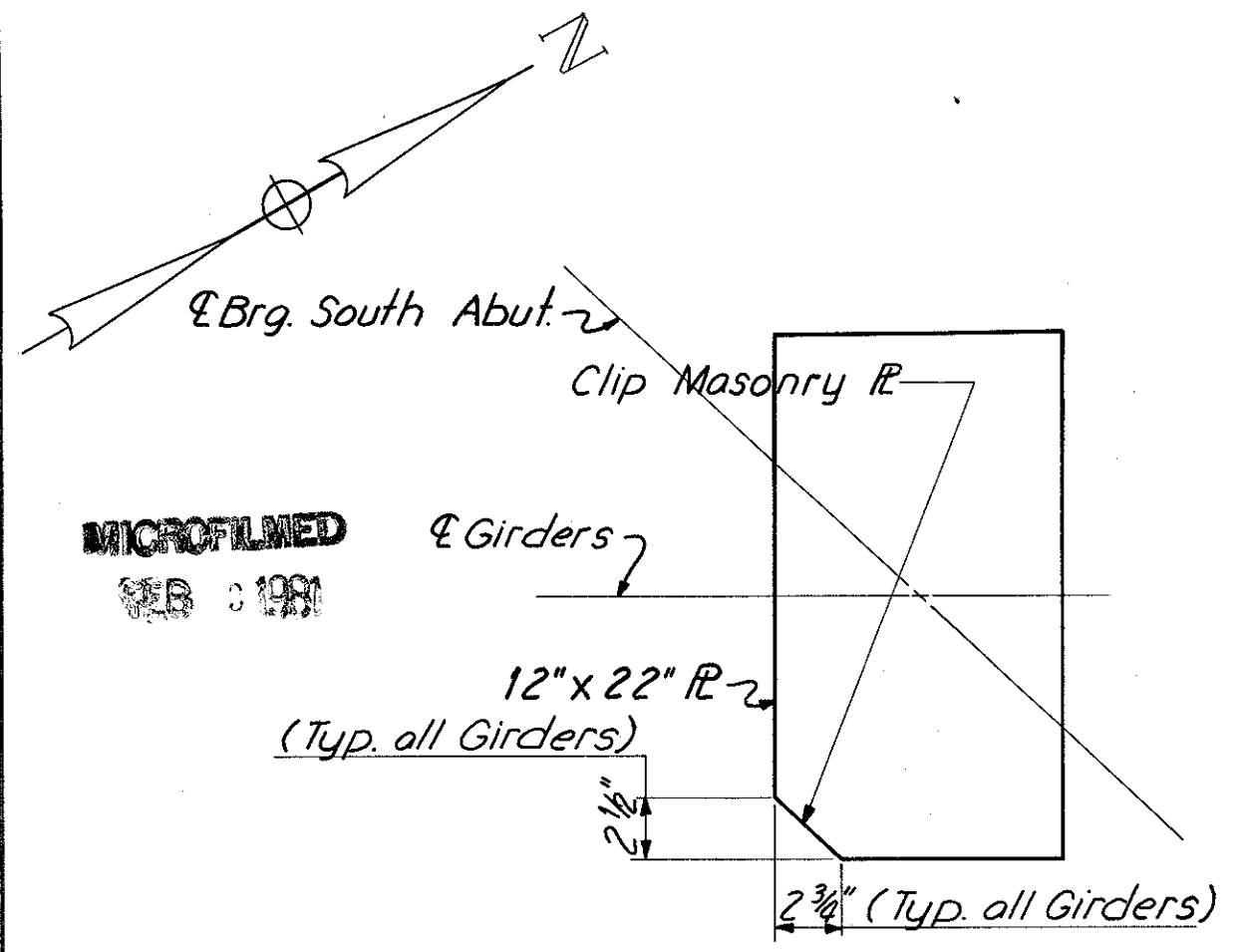
DETAIL A



SECTION L-L

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						11/23
STRUCTURAL STEEL DETAILS BRIDGE NO. HAM-471-0076 SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
WL	JHD		W.L. 2-25-71	J.H.E. 11-9-72		



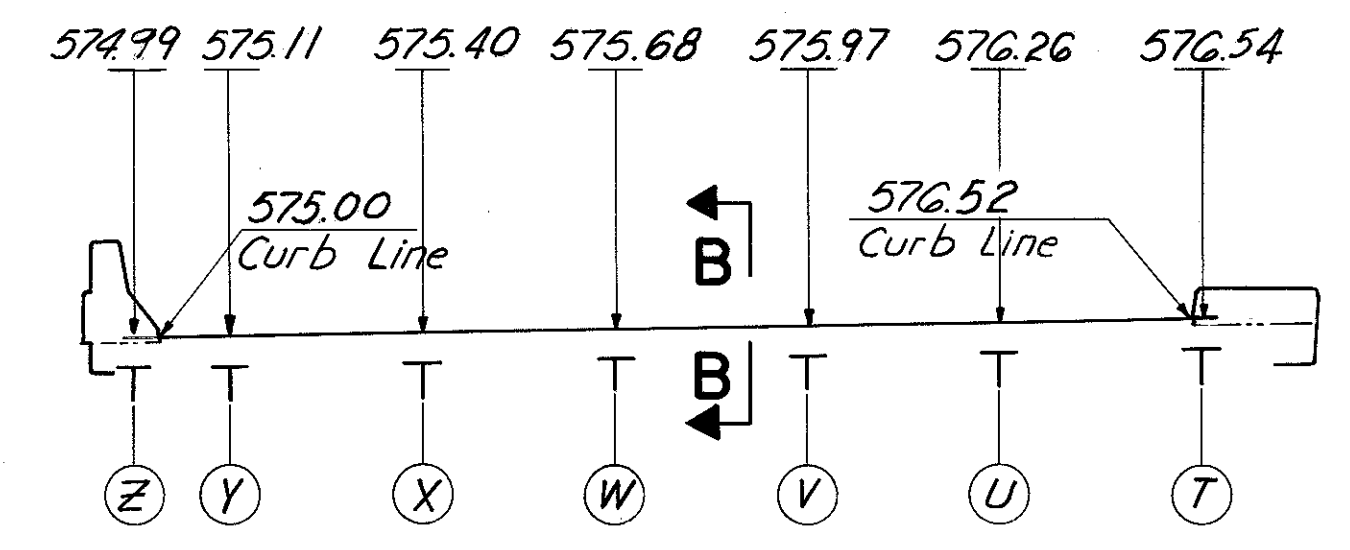


**MASONRY PLATE DETAILS**

**TABLE FOR SHOE REVISIONS AT SOUTH ABUTMENT**

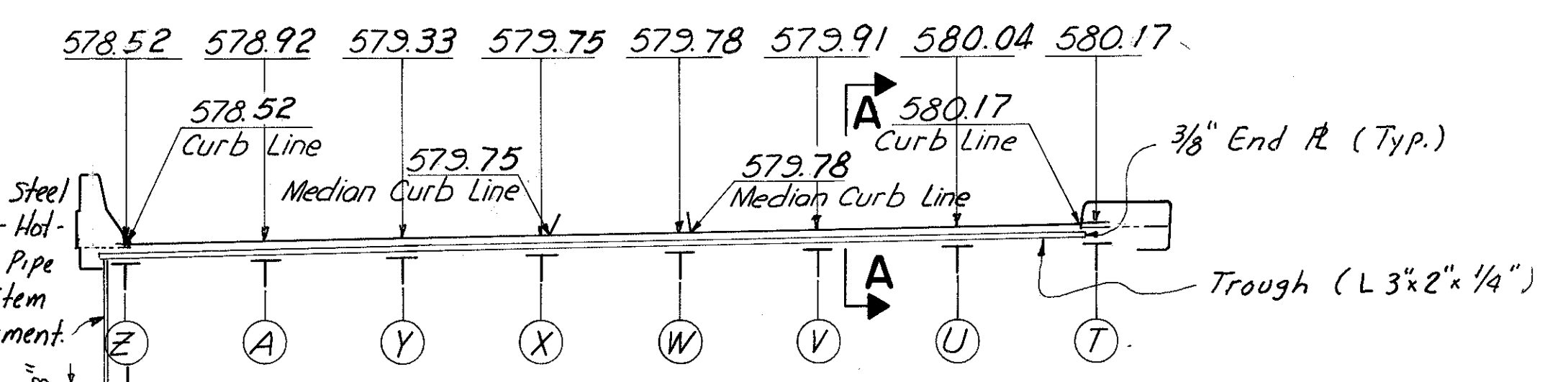
Girder	T	H
T	6 1/4" ±	17 7/8" ±
U & V	6 3/8" ±	18" ±
W	6" ±	17 5/8" ±
X	5 7/8" ±	17 1/2" ±
Y & Z	5 3/4" ±	17 3/8" ±

For location of dimensions and dimensions not shown see Std. Dwg. RB-1-55. Before fabrication of bearing details, the Contr. must first determine the existing bridge seat elevations. See note Sh. No. 392.



**EXPANSION JOINT CROSS SECTION FOR SOUTH ABUTMENT**

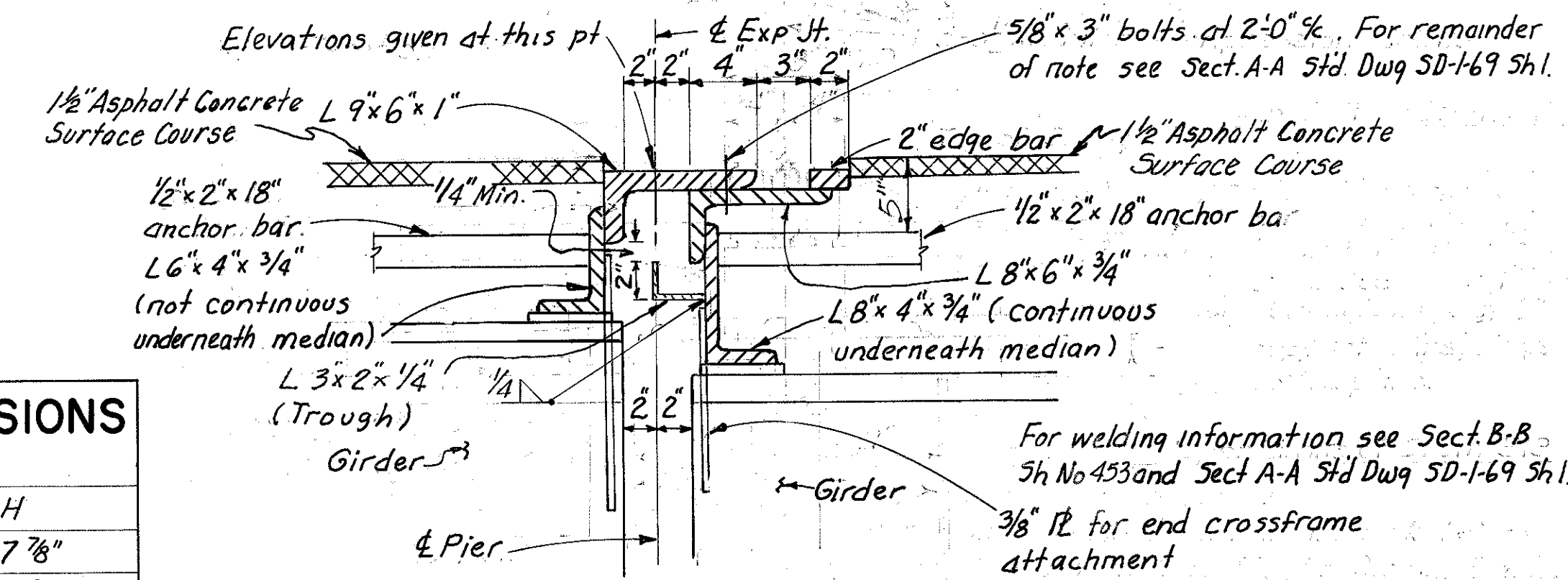
(See Notes for Expansion Joint for North Abutment)



**EXPANSION JOINT CROSS SECTION FOR PIER 2**

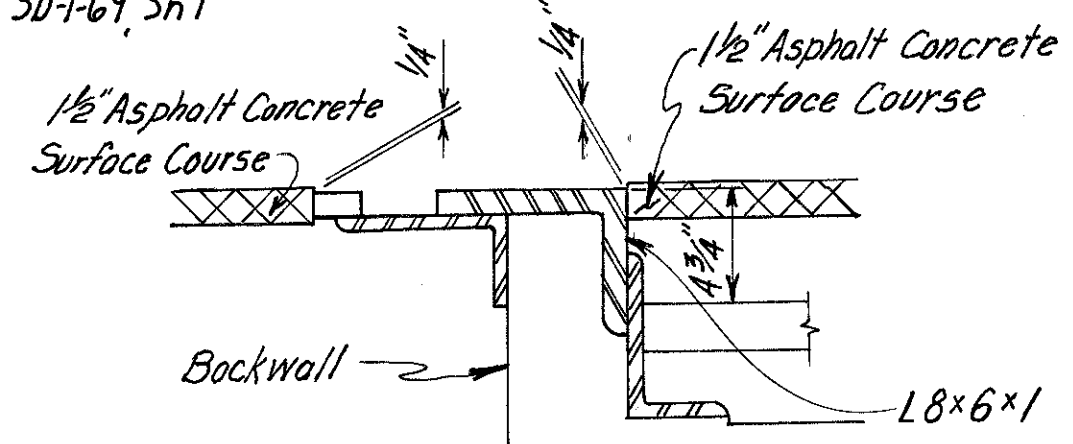
(Ramp GF & Span 3 Girders Not Shown)  
For curb plate details see Std. Dwg. SD-1-69 Sh. No. 2

**NOTES:**  
Elevations at North & South Abutments are given at back edge of 8" angle.  
Elevations at Pier 2 are given at C.Pier.  
Expansion Joints shall be bent in shop to conform to contour of roadway.



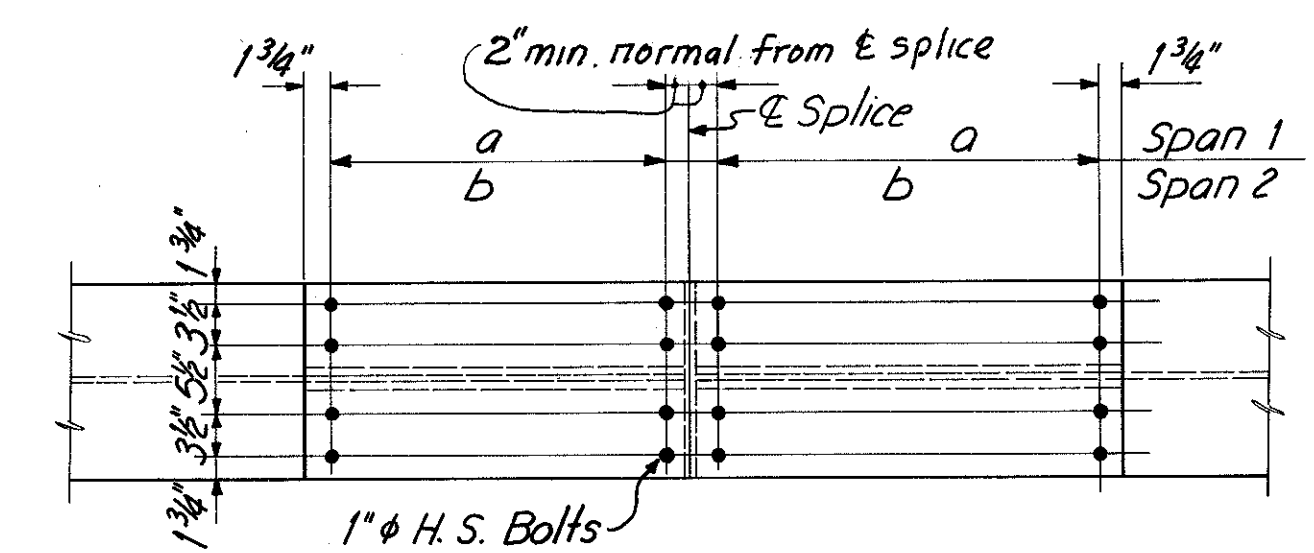
**SECTION A-A**

Work this section with Sect. A-A shown on Standard Dwg. SD-1-69 Sh. 1

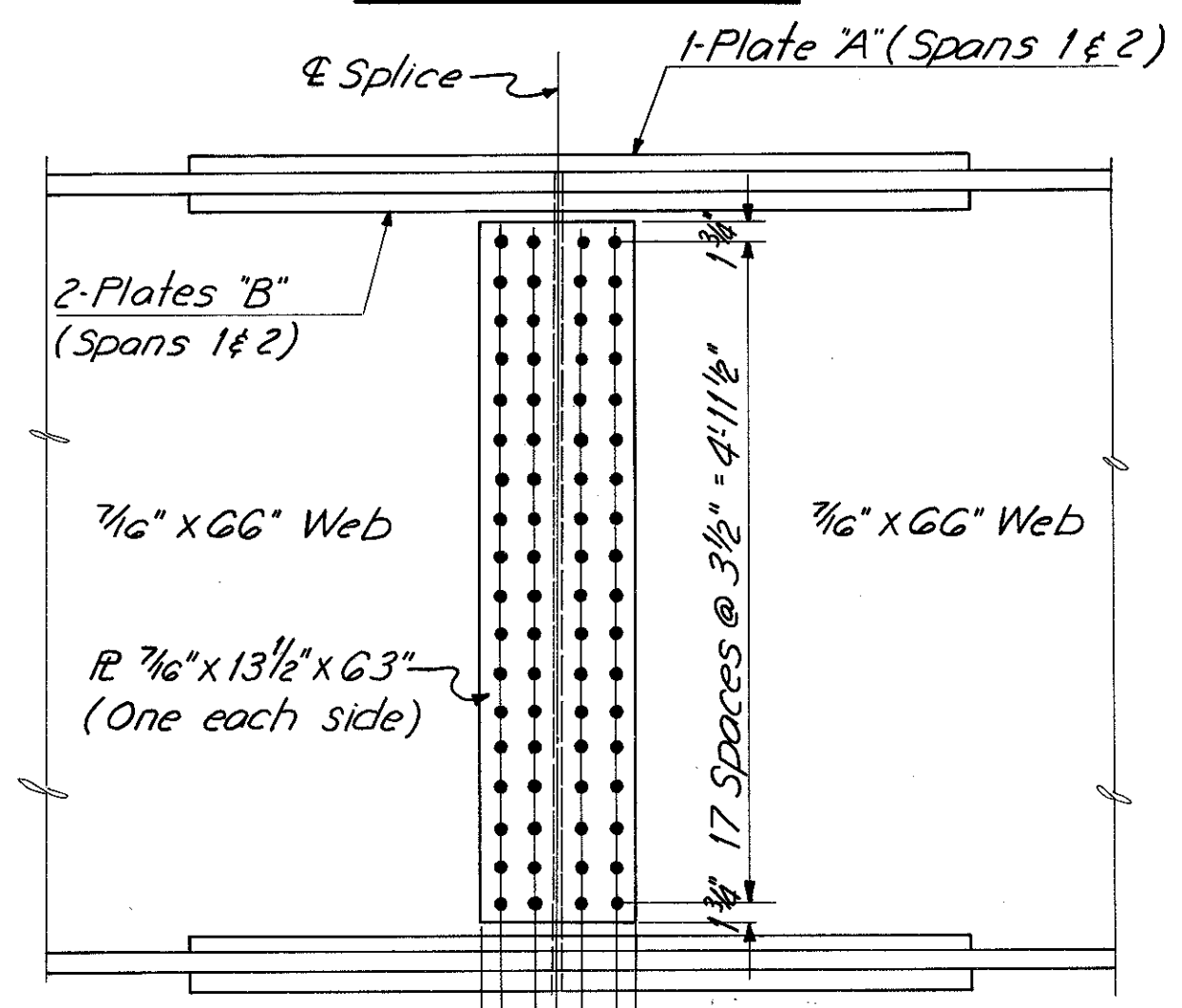


**SECTION B-B**

For additional details, See Section A-A, Std. Dwg. SD-1-69 Sh. No. 1. Provide 3" beveled bar at both ends of bridge regardless of grade.



**TOP FLANGE**

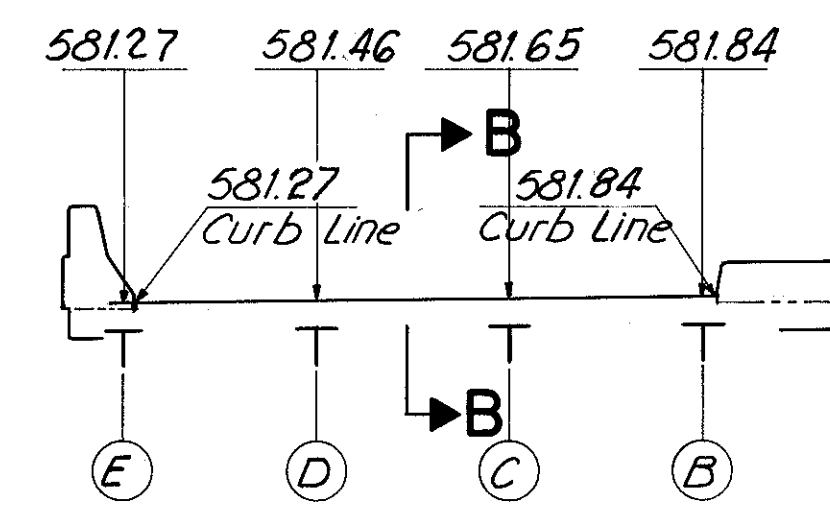


**FIELD SPLICE "F"**

Note: Top & Bottom Splice Material is identical. Contact surface of splice shall be free from all oil or paint.

**FIELD SPLICE "F"**

Girder Dim.	SPAN 1	SPAN 2
	a	b
T	2 Spa @ 3"	5 Spa @ 3"
U	2 Spa @ 3"	5 Spa @ 3"
V	2 Spa @ 3"	4 Spa @ 3"
W	3 Spa @ 3"	4 Spa @ 3"
X	4 Spa @ 3"	3 Spa @ 3"
Y	5 Spa @ 3"	2 Spa @ 3"
Z	5 Spa @ 3"	2 Spa @ 3"



**EXPANSION JOINT CROSS SECTION FOR NORTH ABUTMENT**

For curb plate details see Std. Dwg. SD-1-69 Sh. No. 2. 1/2" x 2" x 18"

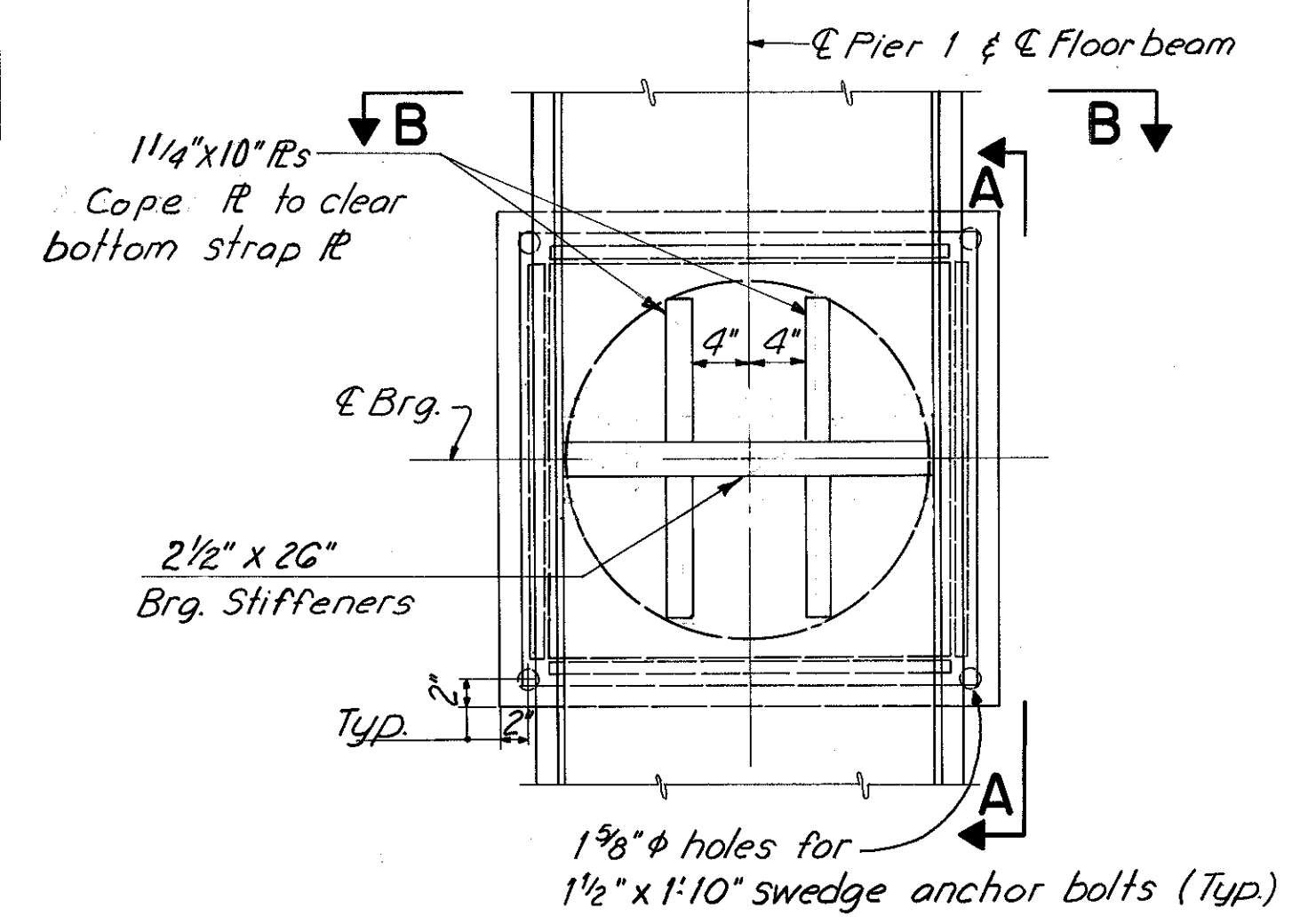
**FIELD SPLICE "F"**

Girder	SPAN 1		SPAN 2	
	Plate A	Plate B	Plate A	Plate B
T	1/2" x 16" x 19 1/2"	3/8" x 7" x 19 1/2"	1" x 16" x 37 1/2"	1 1/4" x 7" x 37 1/2"
U	1/2" x 16" x 19 1/2"	3/8" x 7" x 19 1/2"	1" x 16" x 37 1/2"	1 1/4" x 7" x 37 1/2"
V	1/2" x 16" x 19 1/2"	3/8" x 7" x 19 1/2"	7/8" x 16" x 31 1/2"	1" x 7" x 31 1/2"
W	3/8" x 16" x 25 1/2"	3/4" x 7" x 25 1/2"	3/4" x 16" x 31 1/2"	7/8" x 7" x 31 1/2"
X	7/8" x 16" x 31 1/2"	1" x 7" x 31 1/2"	3/4" x 16" x 25 1/2"	7/8" x 7" x 25 1/2"
Y	1" x 16" x 37 1/2"	1 1/8" x 7" x 37 1/2"	1/2" x 16" x 19 1/2"	3/8" x 7" x 19 1/2"
Z	1" x 16" x 37 1/2"	1 1/8" x 7" x 37 1/2"	1/2" x 16" x 19 1/2"	3/8" x 7" x 19 1/2"

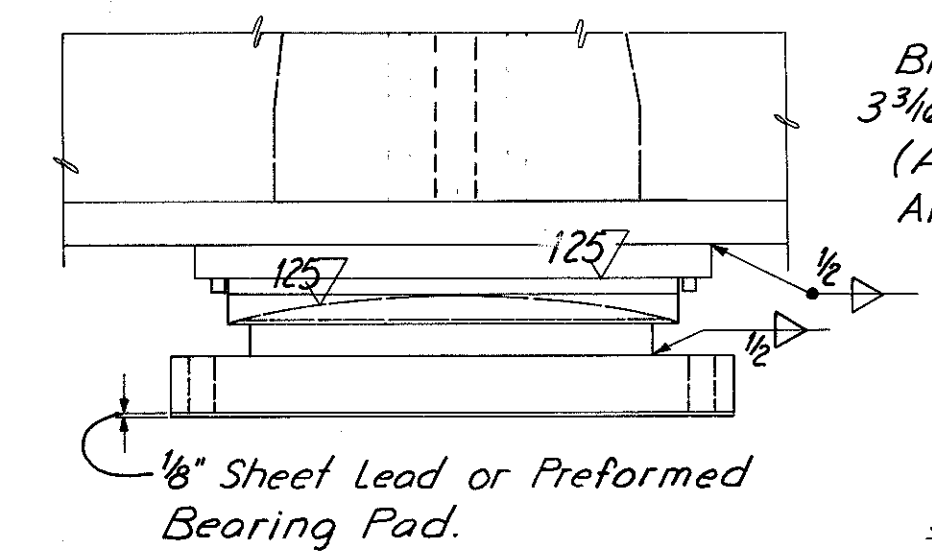
**TABLE FOR SHOE REVISIONS AT PIER 2, SPAN 3**

Girder	T	H
B	7 1/4"	17 7/8"
C	7 1/8"	17 3/4"
D	6 7/8"	17 1/2"
E	6 3/8"	17 1/4"

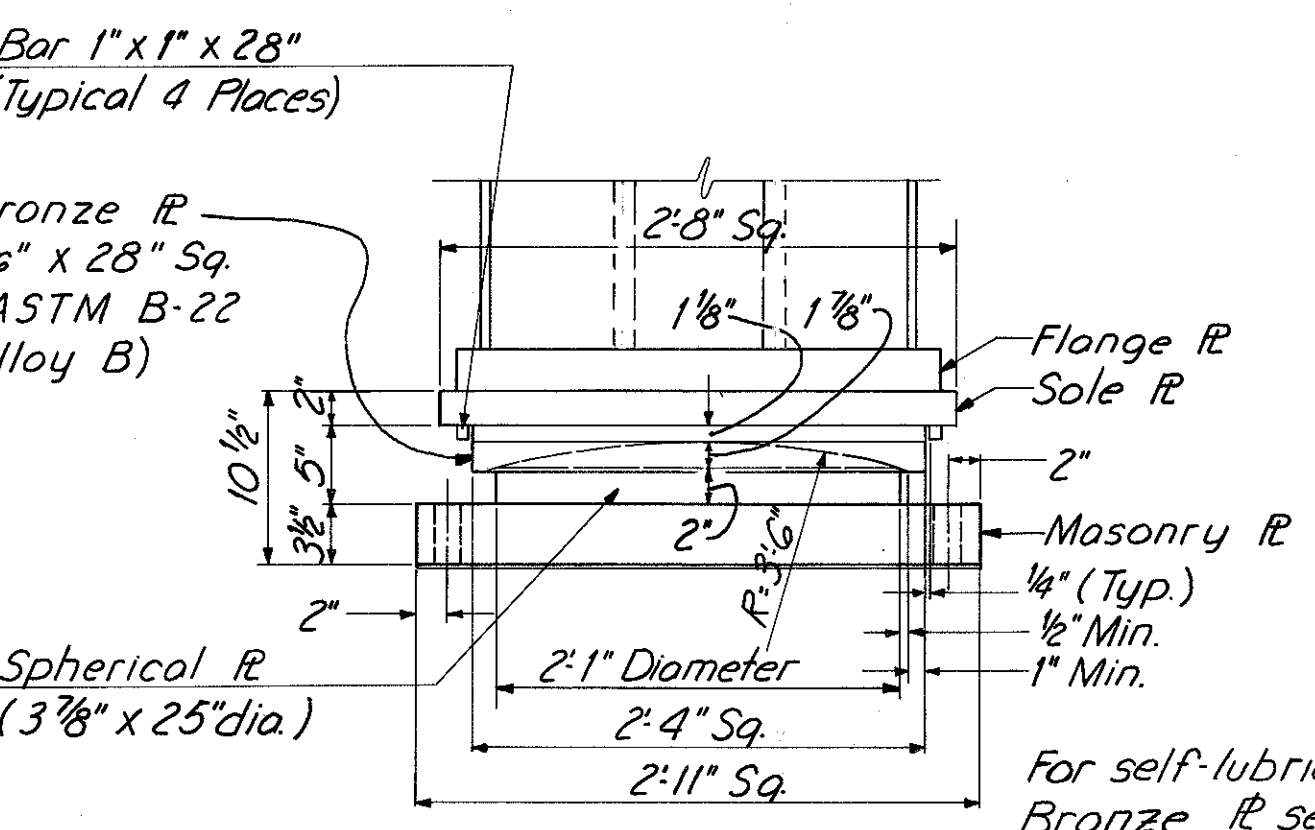
For location of dimensions and dimensions not shown see Std. Dwg. RB-1-55. Revise swedge anchor bolts length from 1'-0" to 2'-1"



**PLAN (BEARING DETAILS AT PIER 1)**



**ELEVATION A-A**



**ELEVATION B-B**

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**STRUCTURAL STEEL DETAILS**  
**BRIDGE NO. HAM-471-0076**  
SOUTHBOUND EXPRESSWAY BRIDGE  
CONNECTION AND RAMP GF OVER  
RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
WL	JHD		YCL	JHO	
			3-1-71	11-9-72	

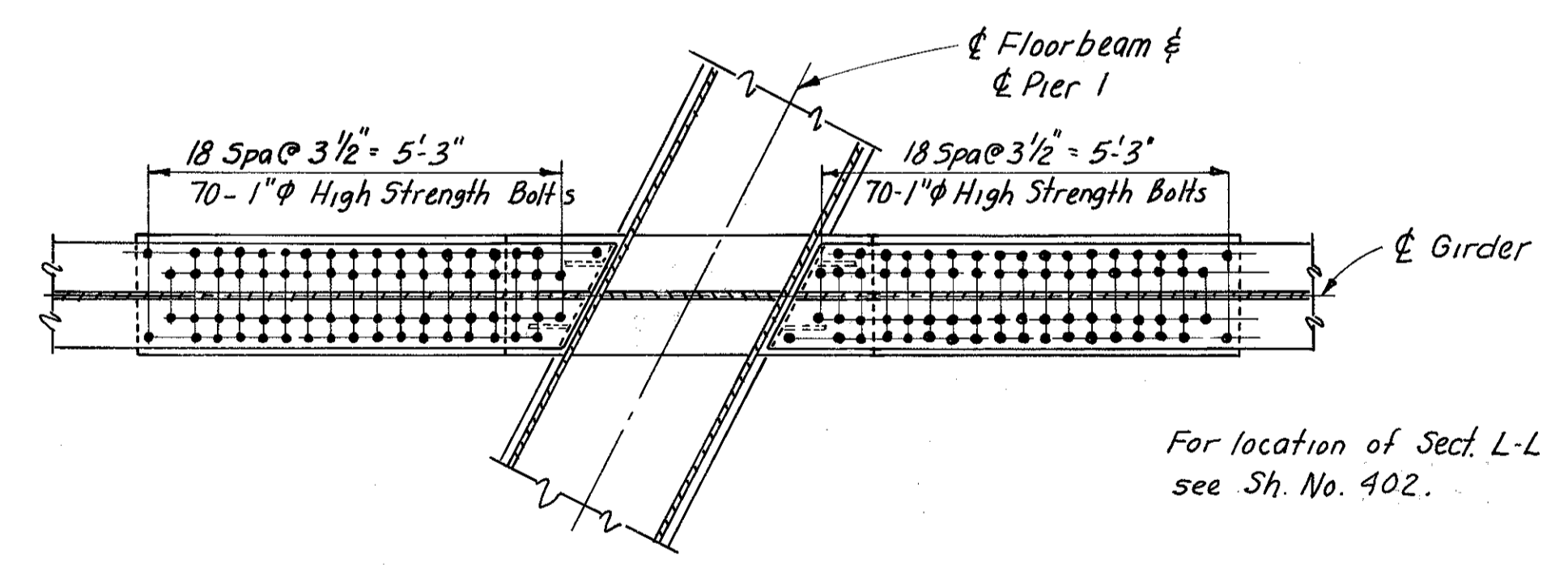
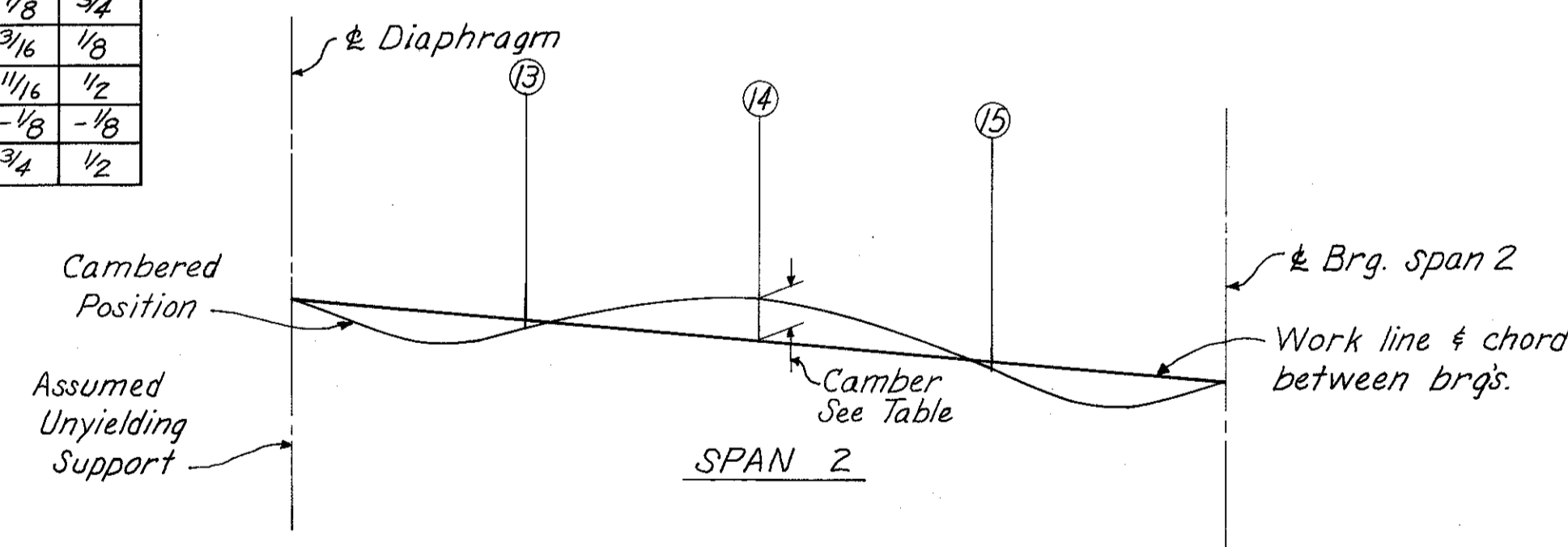
Revised 7-3-73

DEFLECTION and CAMBER (inches)		SPAN 1			SPAN 2			SPAN 3			SPAN 2		
		(1) 1/4	(2) 1/2	(3) F.S.	(5) F.S.	(6) 1/2	(7) 3/4	(10) 1/4	(11) 1/2	(12) 3/4	(13) 1/4	(14) 1/2	(15) 3/4
Girder Z	Def. due to weight of steel	1	1 3/8	1	7/16	5/8	7/16						
	Def. due to remaining D.L.	1	1 1/8	1/16	1/16	5/16	3/8						
	Adjustment reqd. for *												
	Required Shop Camber	2 3/8	3 3/8	3	3/4	1/8	-3/8						
Girder Y	Def. due to weight of steel	7/8	1 3/16	7/8	1/2	11/16	1/2						
	Def. due to remaining D.L.	1 1/8	1 5/16	1/16	1/16	1/2	1/2						
	Adjustment reqd. for *	3/8	3/4	1 3/16	-1 1/16	-2 3/16	-2 3/8						
	Required Shop Camber	2 3/8	3 1/4	2 3/4	-1/2	-1	-1 3/8						
Girder X	Def. due to weight of steel	5/8	1 1/16	5/8	7/16	9/16	7/16						
	Def. due to remaining D.L.	7/8	1 1/16	1/2	1/4	5/8	9/16						
	Adjustment reqd. for *	1/8	0	1/8	-1 1/8	-2 1/8	-2 1/4						
	Required Shop Camber	1 3/8	1 7/8	1 1/4	-3/8	-7/8	-1 1/4						
Girder W	Def. due to weight of steel	7/16	5/8	7/16	7/16	5/8	7/16						
	Def. due to remaining D.L.	9/16	5/8	3/16	7/16	1	13/16						
	Adjustment reqd. for *	0	-1/8	0	0	-1/8	0						
	Required Shop Camber	1	1 1/8	5/8	7/8	1 1/2	1 1/4						
Girder V	Def. due to weight of steel	5/16	3/8	5/16	1/2	11/16	1/2						
	Def. due to remaining D.L.	5/16	1/4	1/16	5/8	1 1/16	7/8						
	Adjustment reqd. for *	0	0	0	0	-1/8	0						
	Required Shop Camber	5/8	5/8	3/8	1 1/8	1 5/8	1 3/8						
Girder U	Def. due to weight of steel	3/16	1/4	3/16	9/16	1 1/16	9/16						
	Def. due to remaining D.L.	1/16	0	-3/16	1/16	1 5/16	1 1/16						
	Adjustment reqd. for *	0	0	0	1/8	-1/8	-1/8						
	Required Shop Camber	1/4	1/4	0	1 1/8	2	1 1/2						
Girder T	Def. due to weight of steel	1/16	1/8	1/16	5/8	7/8	5/8						
	Def. due to remaining D.L.	-1/16	-1/8	-3/16	3/4	1 3/8	1						
	Adjustment reqd. for *	0	0	0	-1/8	-1/8	0						
	Required Shop Camber	0	0	-1/8	1 1/4	2 1/8	1 5/8						
Girder A	Def. due to weight of steel										1/8"	3/16"	1/8"
	Def. due to remaining D.L.										9/16"	3/4"	9/16"
	Adjustment reqd. for *										-1 5/16"	-9/16"	-1 3/16"
	Required Shop Camber										-1/4"	3/8"	-1/8"
Girder E	Def. due to weight of steel							1/8	3/16	1/8			
	Def. due to remaining D.L.							1/2	1/16	1/2			
	Adjustment reqd. for *							0	0	1/8			
	Required Shop Camber							5/8	7/8	3/4			
Girder D	Def. due to weight of steel							3/16	1/4	3/16			
	Def. due to remaining D.L.							9/16	3/4	9/16			
	Adjustment reqd. for *							0	-1/8	-1/8			
	Required Shop Camber							3/4	7/8	5/8			
Girder C	Def. due to weight of steel							3/16	1/4	3/16			
	Def. due to remaining D.L.							9/16	3/4	9/16			
	Adjustment reqd. for *							-1/8	-1/8	0			
	Required Shop Camber							5/8	7/8	3/4			
Girder B	Def. due to weight of steel							1/8	3/16	1/8			
	Def. due to remaining D.L.							1/2	1 1/16	1/2			
	Adjustment reqd. for *							0	-1/8	-1/8			
	Required Shop Camber							5/8	3/4	1/2			

\* Horizontal Curve and Superelevation Transition.

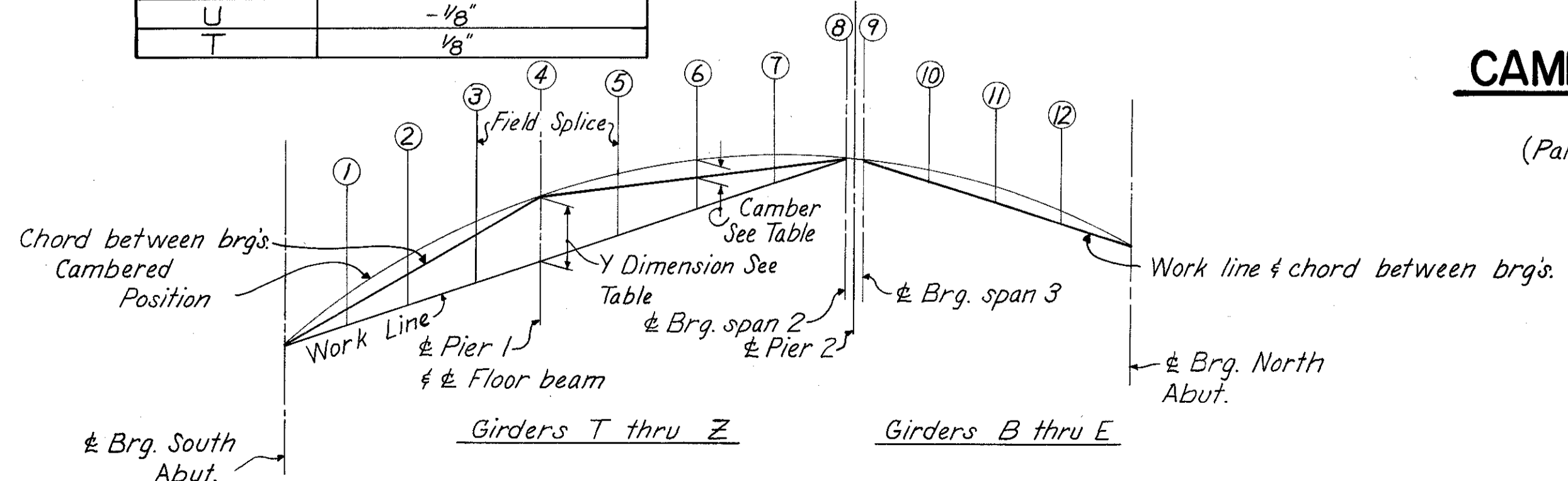
Negative values (-) are measured downward.  
No camber required for floor beam.  
Total deflection of floor beam is zero.

GIRDER	Y DIMENSIONS
Z	3 5/8"
Y	-1/2"
X	-1/8"
W	-1/8"
V	-1/8"
U	-1/8"
T	1/8"



For location of Sect. L-L see Sh. No. 402.

CAMBER DIAGRAM  
Girder A  
(Partial length girder)



CAMBER DIAGRAM

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					14/23
<b>STRUCTURAL STEEL DETAILS</b>					
<b>BRIDGE NO. HAM-471-0076</b>					
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H & E BRIDGE NO. 12					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	JBM		WKC 3-22-71	JHD 11-9-72	



MICROFILMED

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

406  
494

HAMILTON COUNTY  
HAM-471-0.30

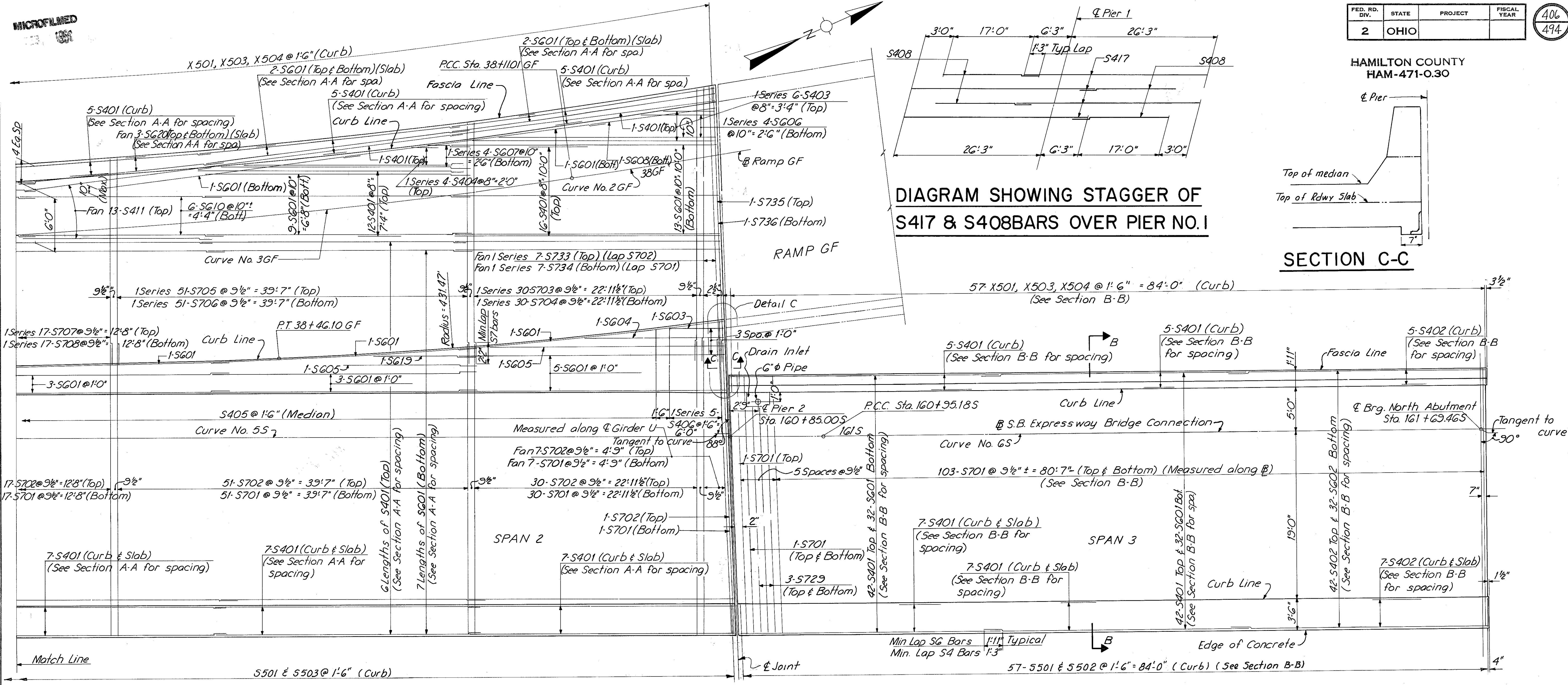
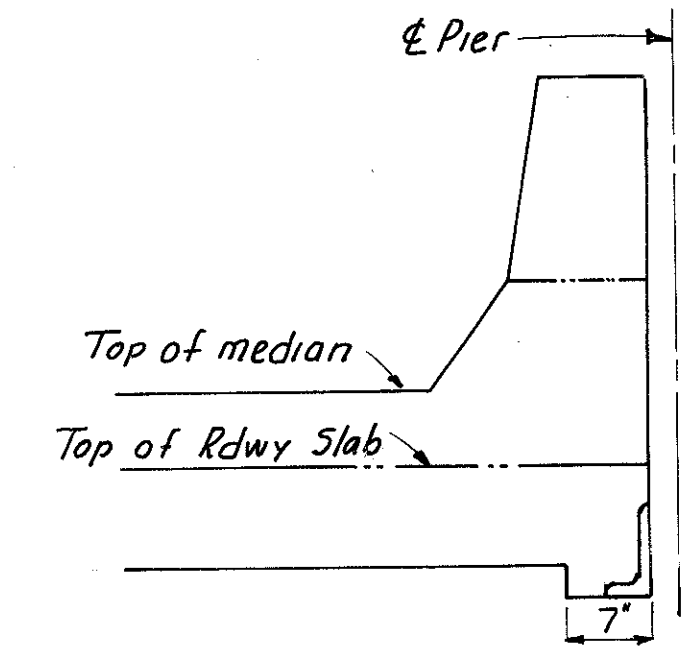
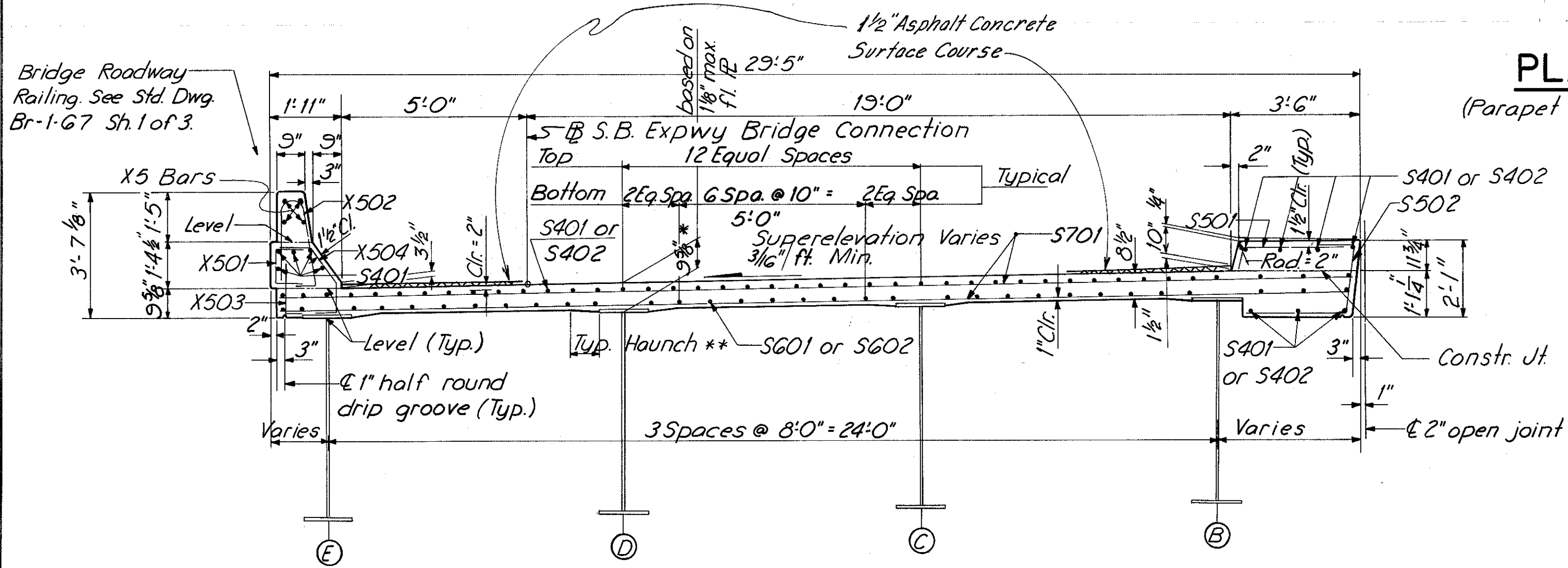


DIAGRAM SHOWING STAGGER OF S417 & S408 BARS OVER PIER NO. 1



SECTION C-C



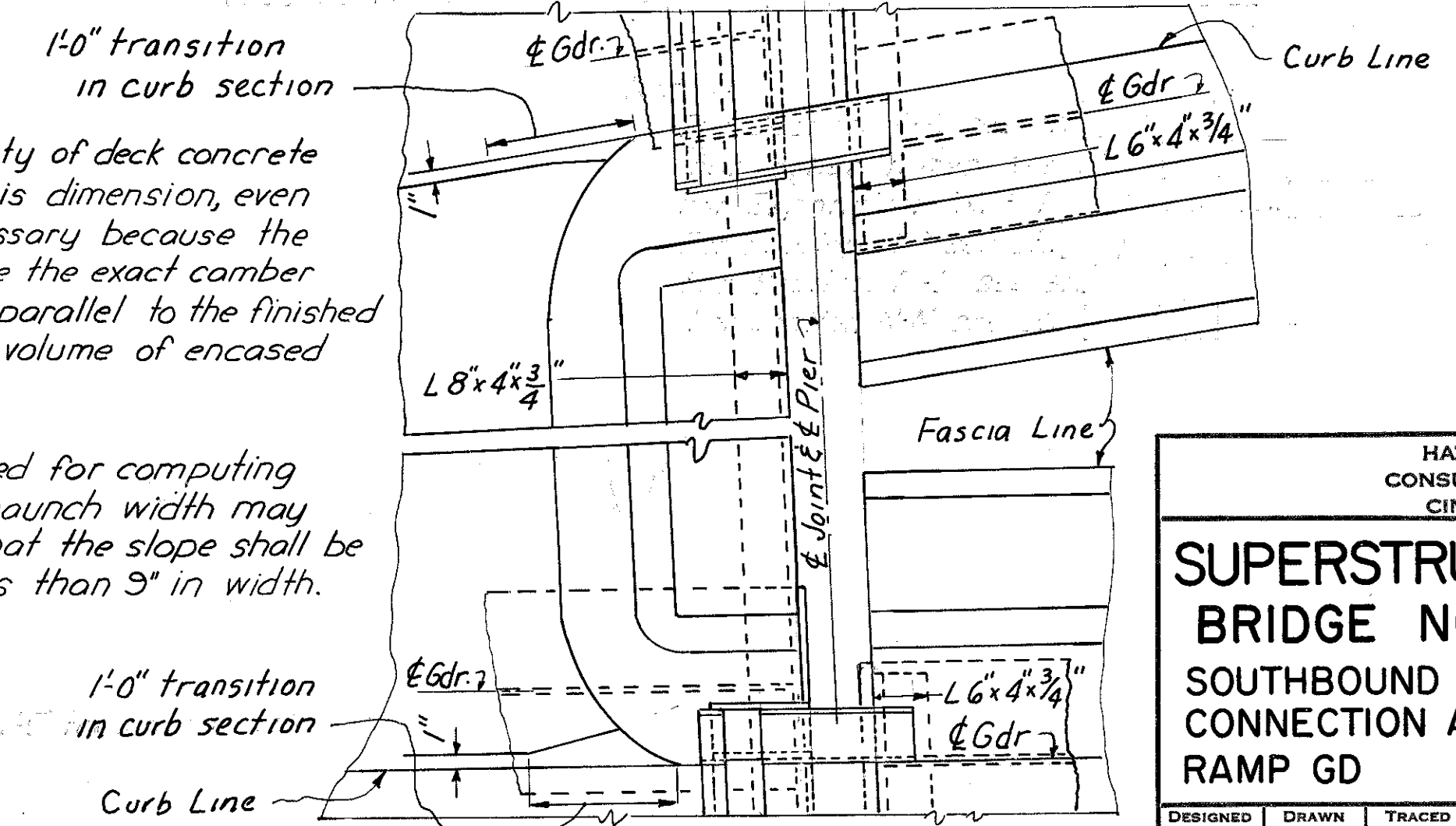
SECTION B-B

**PLAN**

(Parapet Not Shown)

\*This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per 511.18.

\*\* A haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.



DETAIL C

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					16/23
<b>SUPERSTRUCTURE DETAILS</b>					
<b>BRIDGE NO. HAM-471-0076</b>					
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	JHD		W.L.	JHD	
			3-22-71	11-9-72	

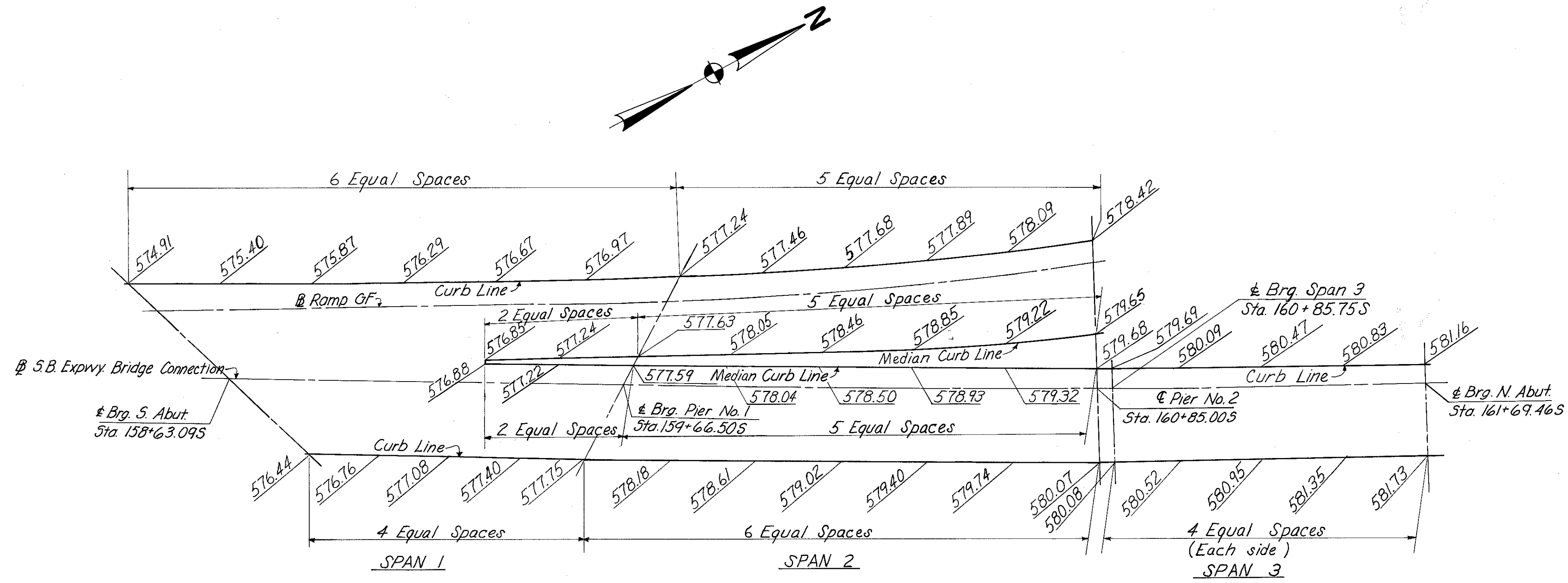


MICROFILMED  
FEB 3 1981

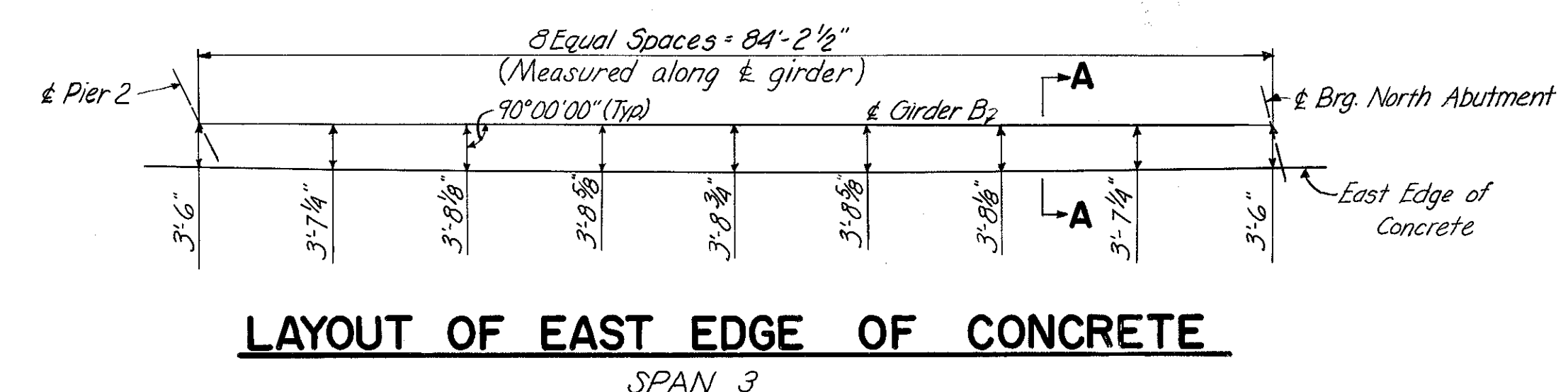
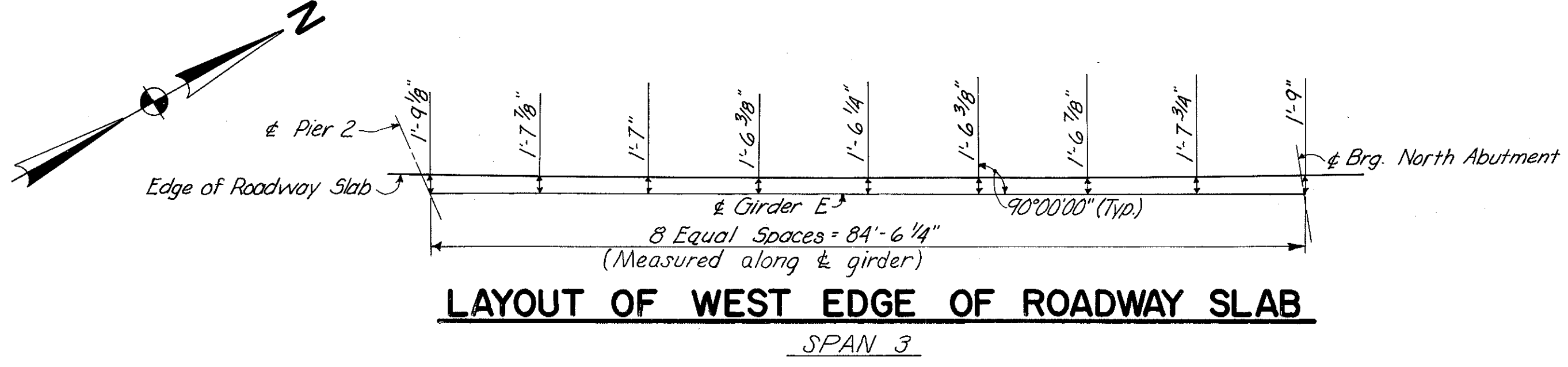
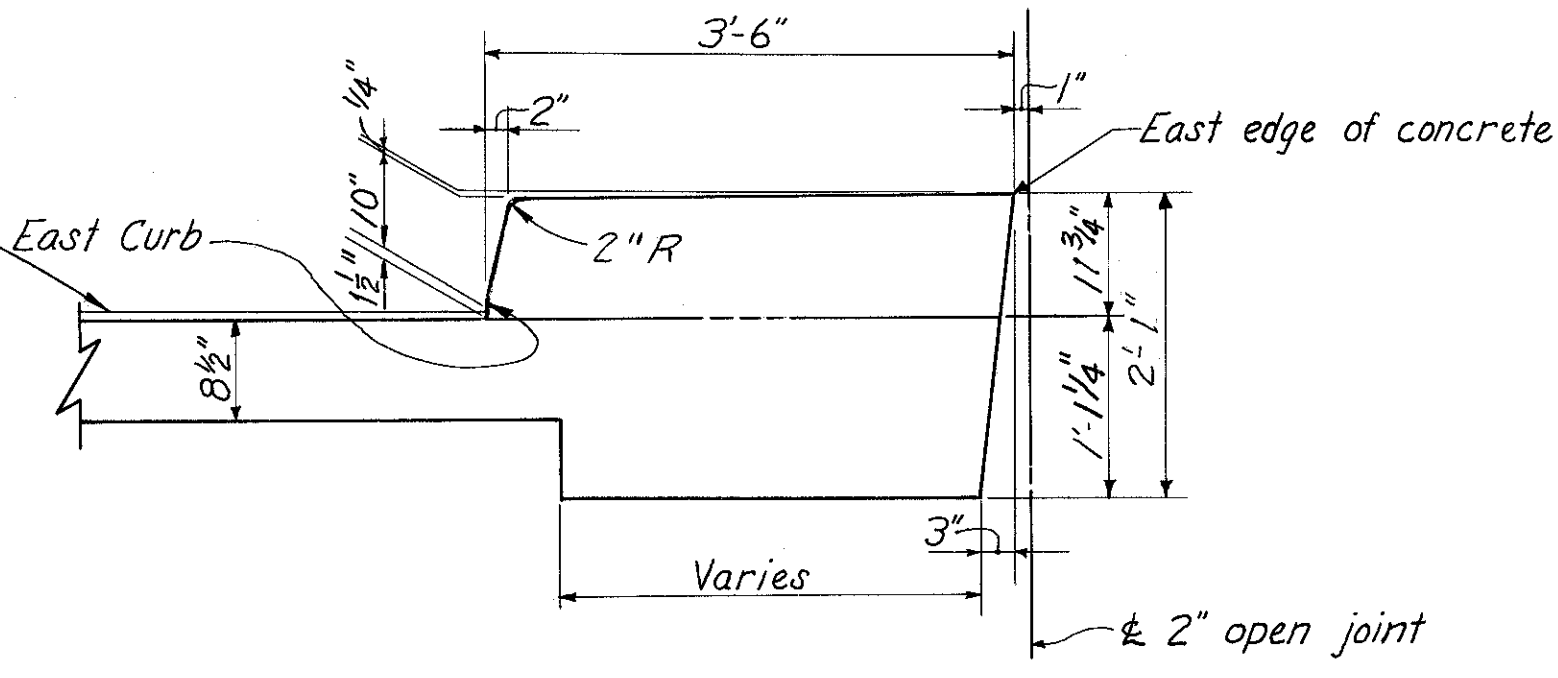
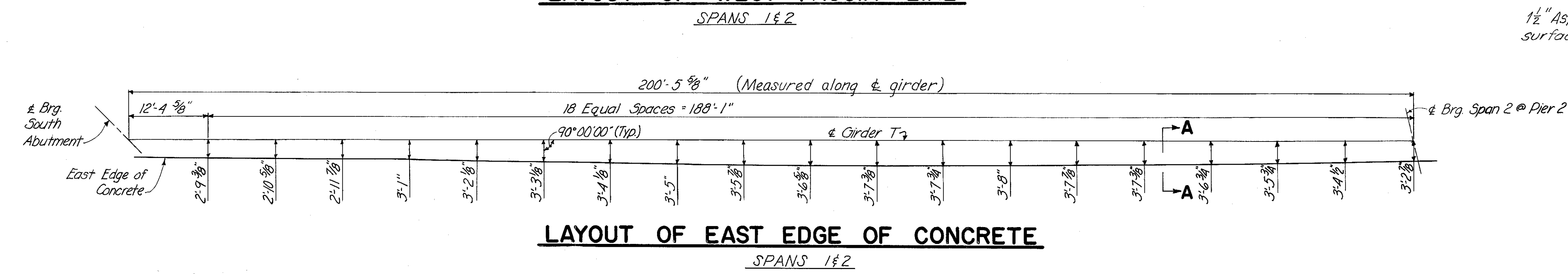
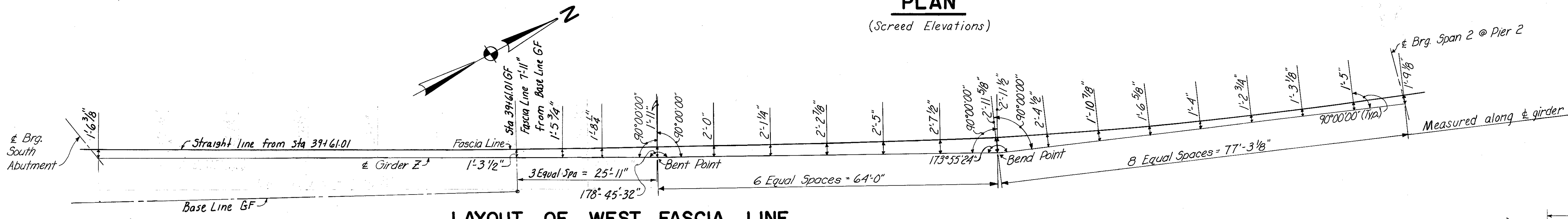
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

407  
494

HAMILTON COUNTY  
HAM-471-0.30



Note:  
Screed elevations shown equal final grade elevations plus anticipated dead load deflections due to weight of deck concrete.



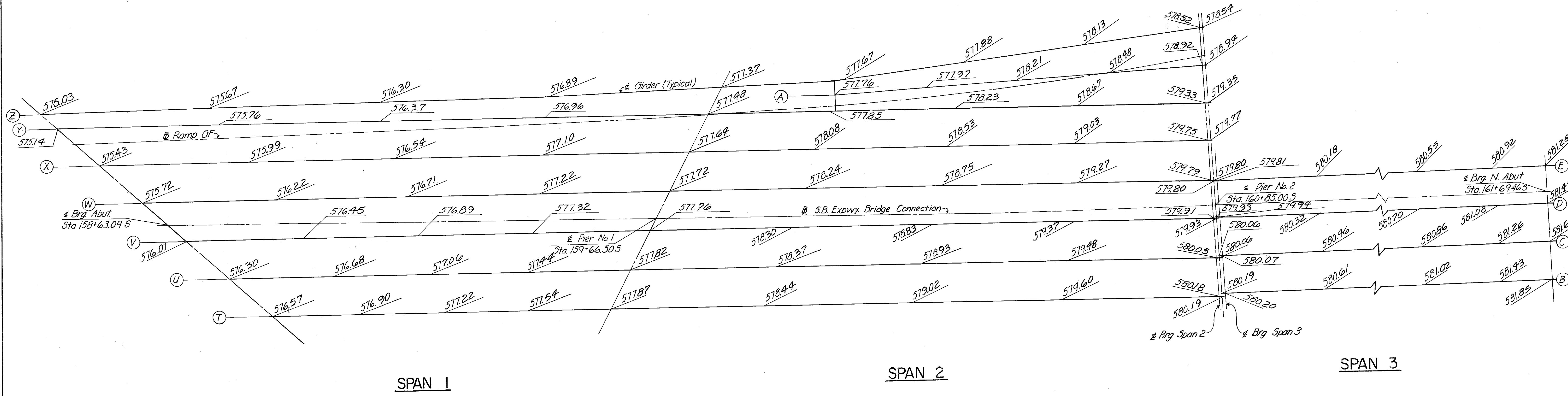
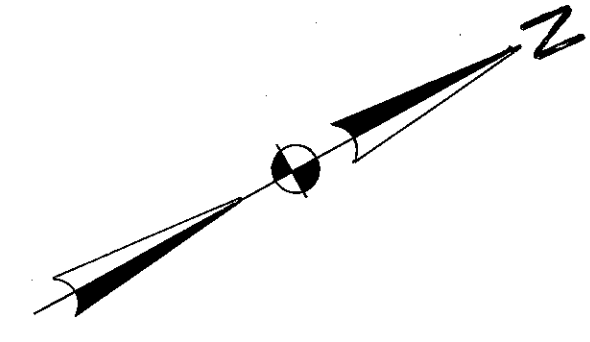
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				18   23
<b>SUPERSTRUCTURE DETAILS</b>				
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	J.B.M.		W.L.	J.H.O.
			3-22-71	11-9-72
				REVISED

MICROFILMED  
FEB 3 1981

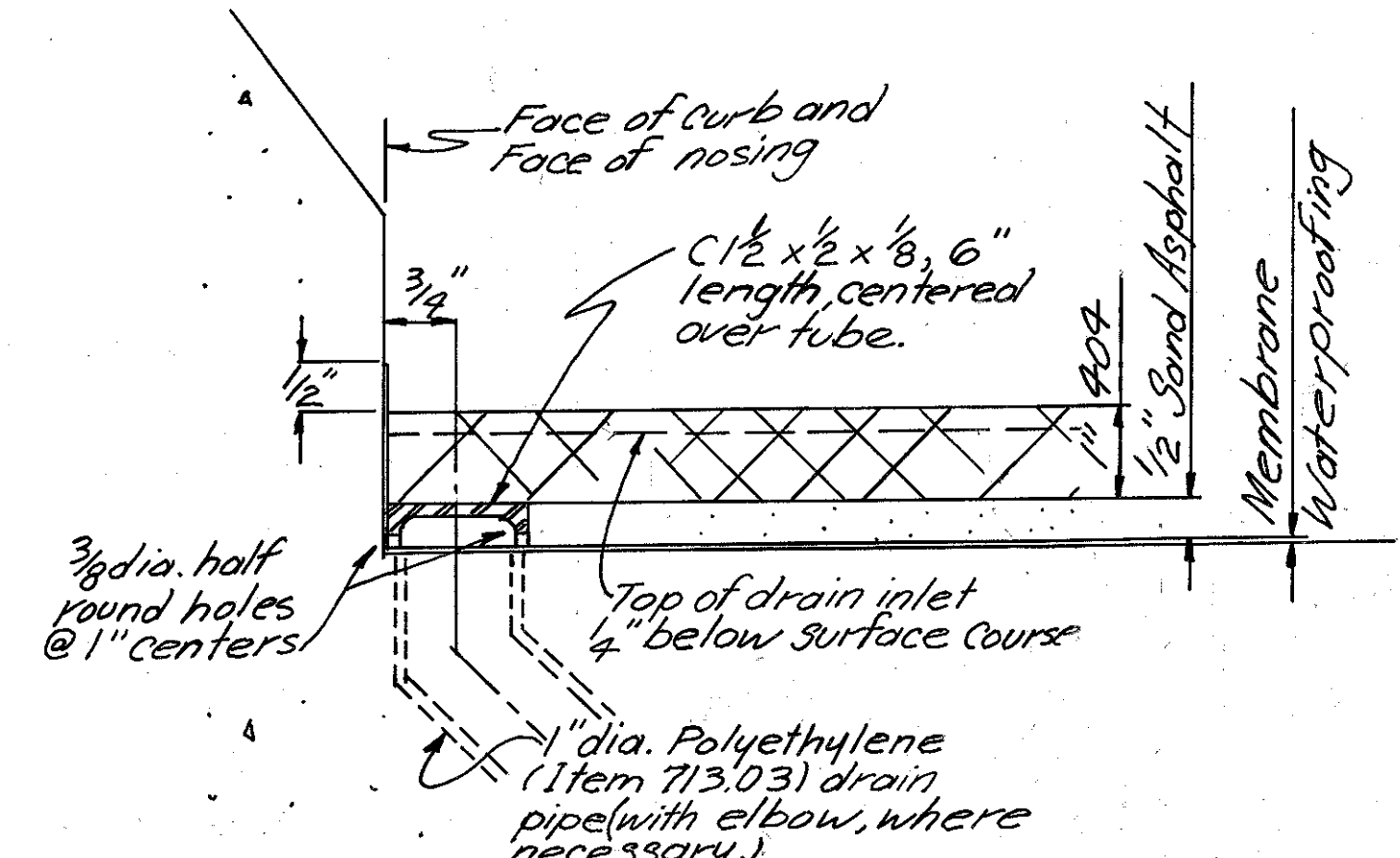
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

408  
494

HAMILTON COUNTY  
HAM-471-0.30



PLAN



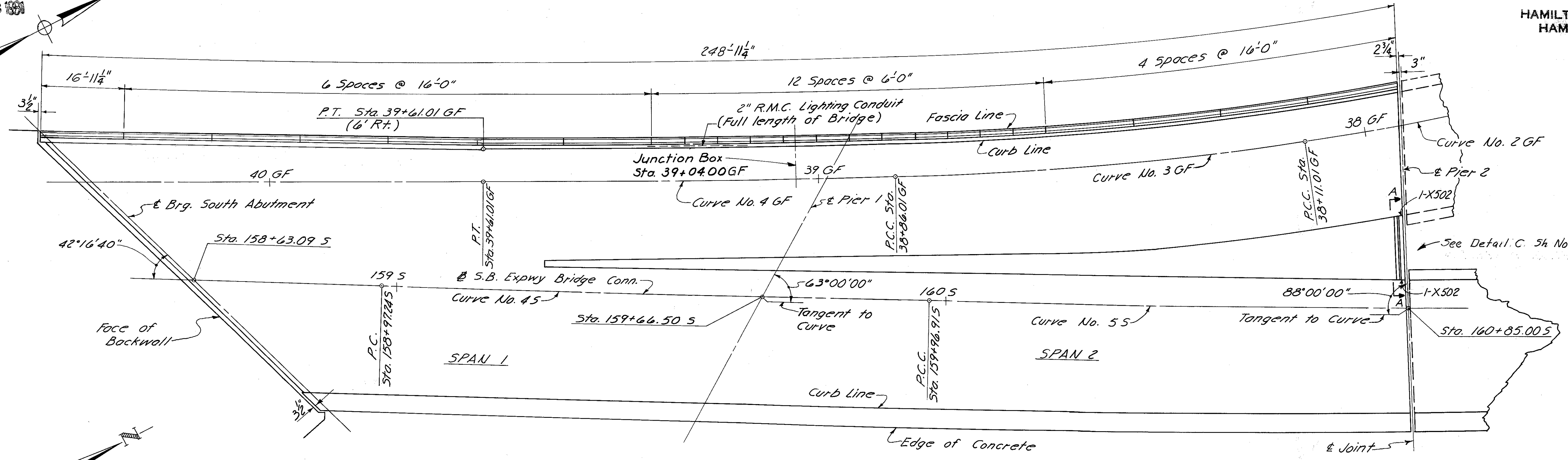
**SUB DRAINAGE AND WEARING COURSE DETAILS AT PARAPET AND NOSING**

In addition to location and spacing provisions of 518.07, the polyethylene duct drain pipes shall be located so that discharge from them will clear all structural members including crossbracing by at least 6". Place the top of the pipes flush with the concrete surface. Place membrane over pipes, puncturing if membrane is a sheet type, with the hole sealed around the lip of the pipe. Include subdrainage with Item 404, Asphalt Concrete for payment.

Note:  
Elevations are final top of surface course elevations.  
Elevations are given at & of Piers, Brgs, and 1/4 points of Girder spans.

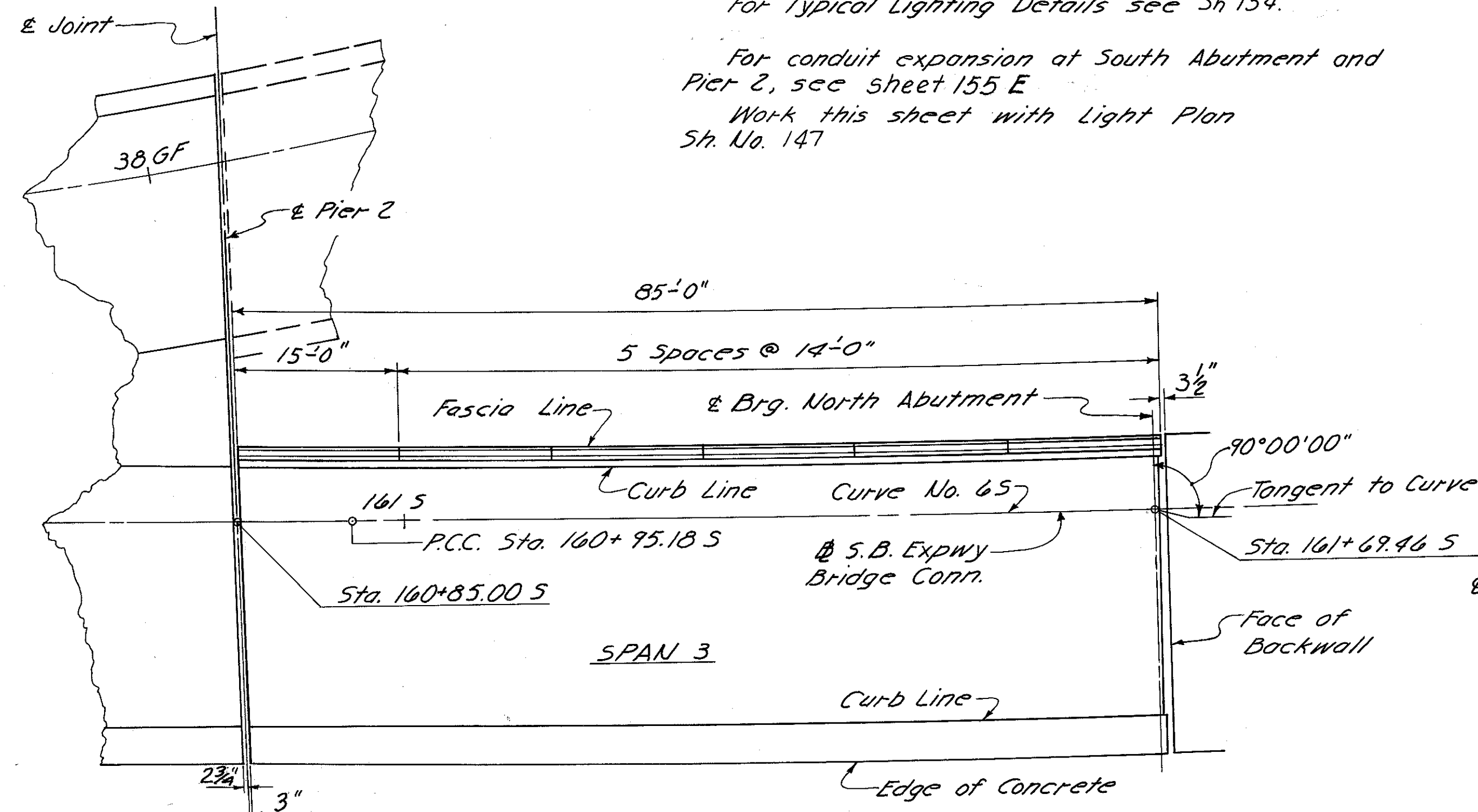
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					19/23
<b>ROADWAY SURFACE ELEVATIONS</b>					
BRIDGE No. HAM-471-0076					
SOUTHBOUND EXPRESSWAY BRIDGE					
CONNECTION AND RAMP GF OVER					
RAMP GD H&E BRIDGE NO. 12					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	NRK		W.L. 12-18-70	J.H. 11-9-72	

MICROFILMED  
FEB 3 1991

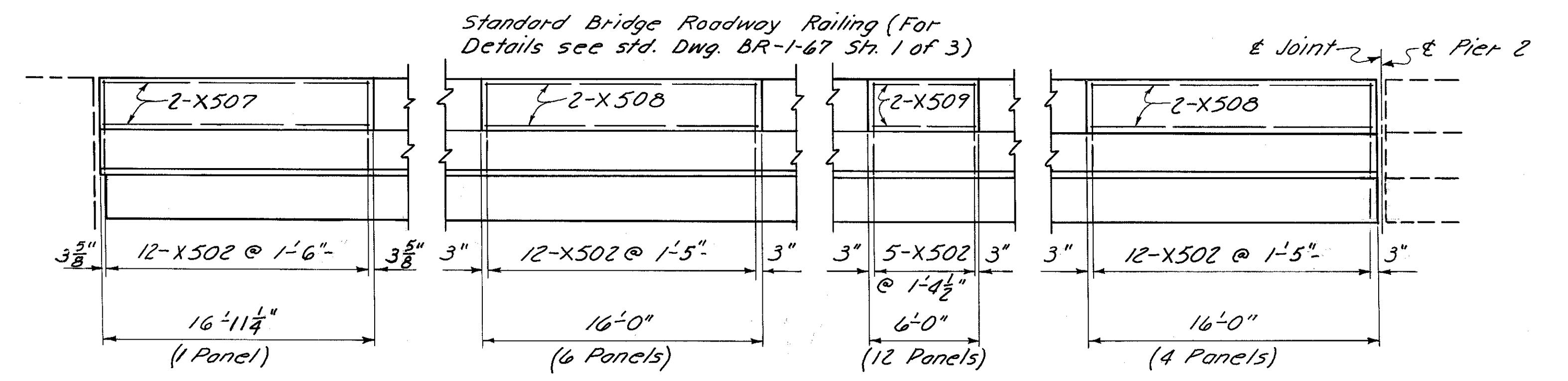


PLAN

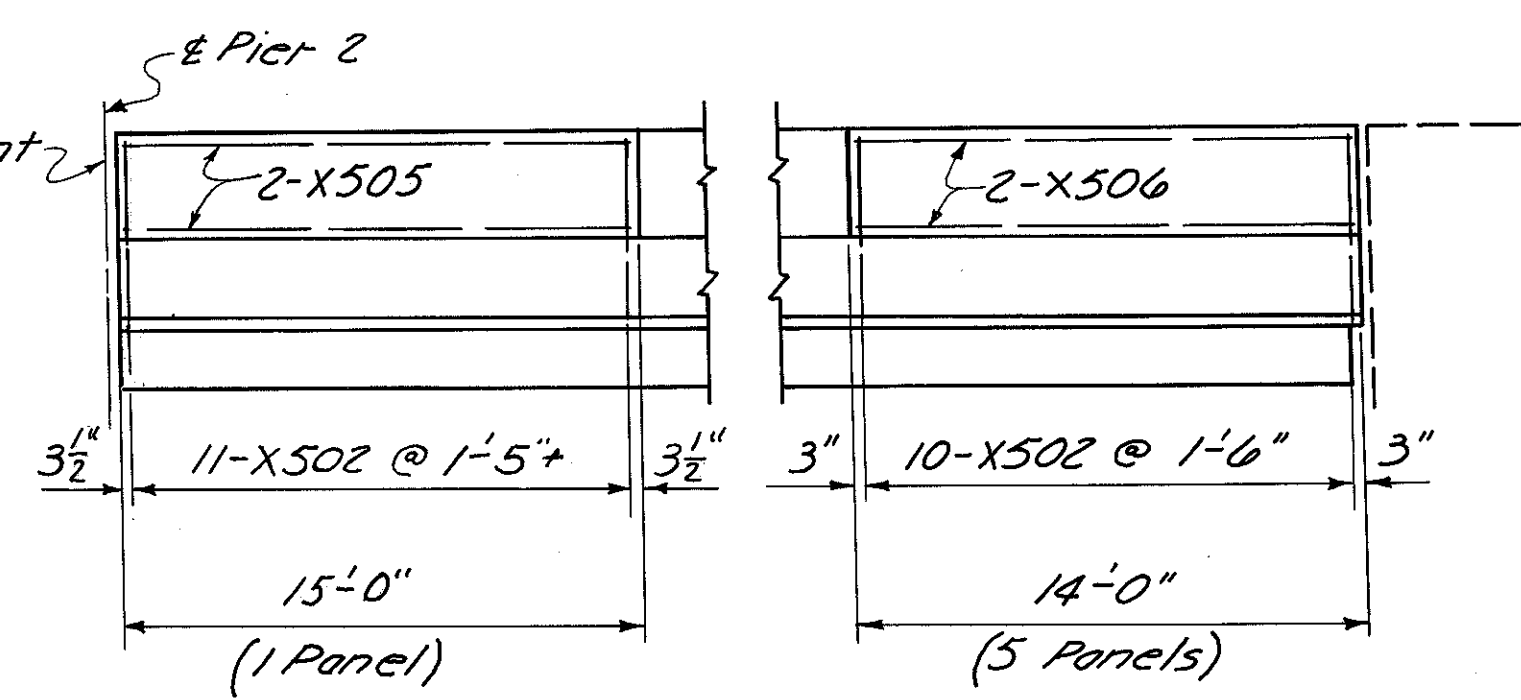
NOTES:  
Parapet deflection Joint Spacing measured along Curb Line.  
Field Bend longitudinal bars as required.  
For Typical Lighting Details see Sh 154.  
For conduit expansion at South Abutment and Pier 2, see sheet 155 E  
Work this sheet with Light Plan Sh. No. 147



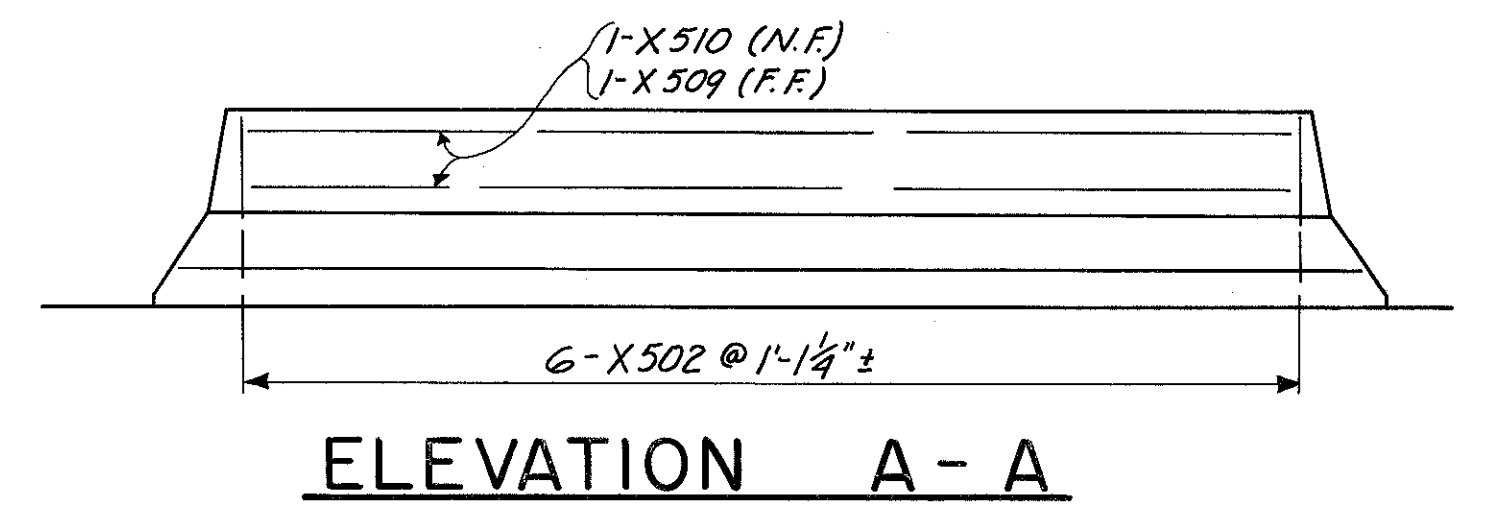
PLAN



WEST ELEVATION  
(Spans 1 & 2)

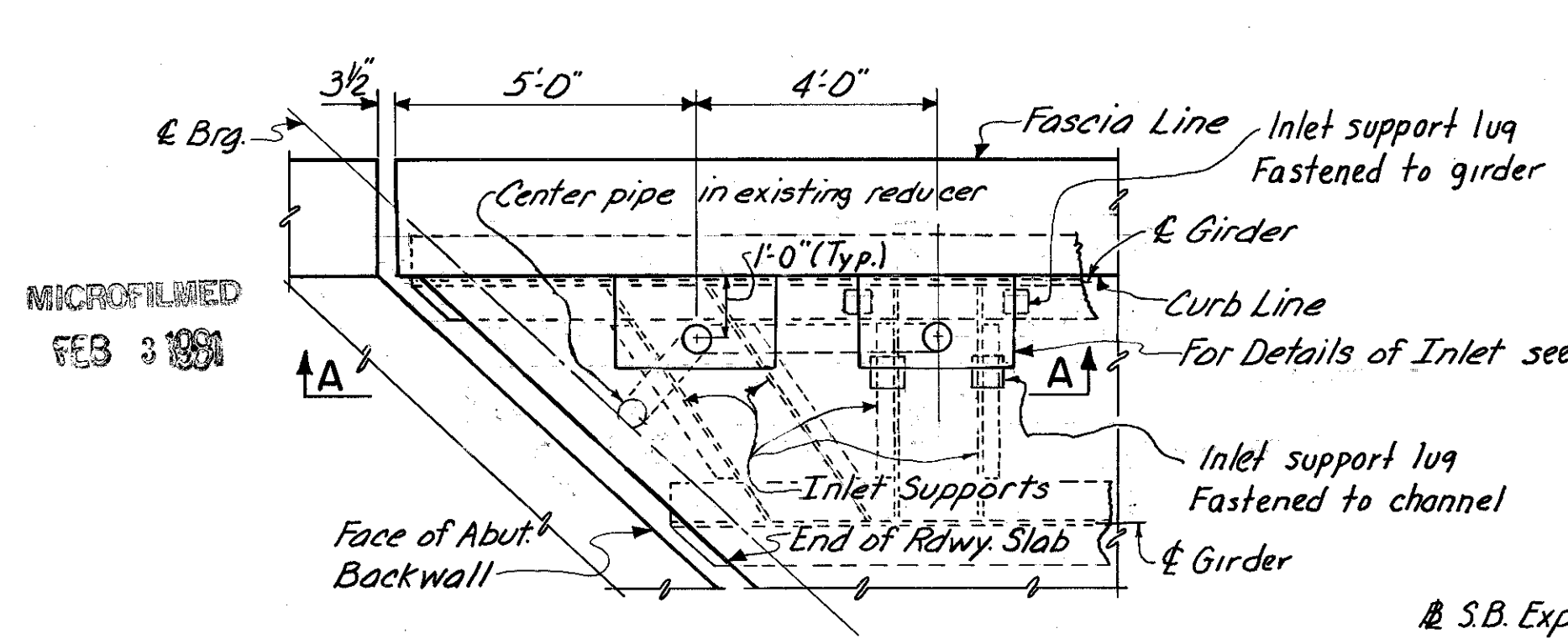


WEST ELEVATION  
(Span 3)

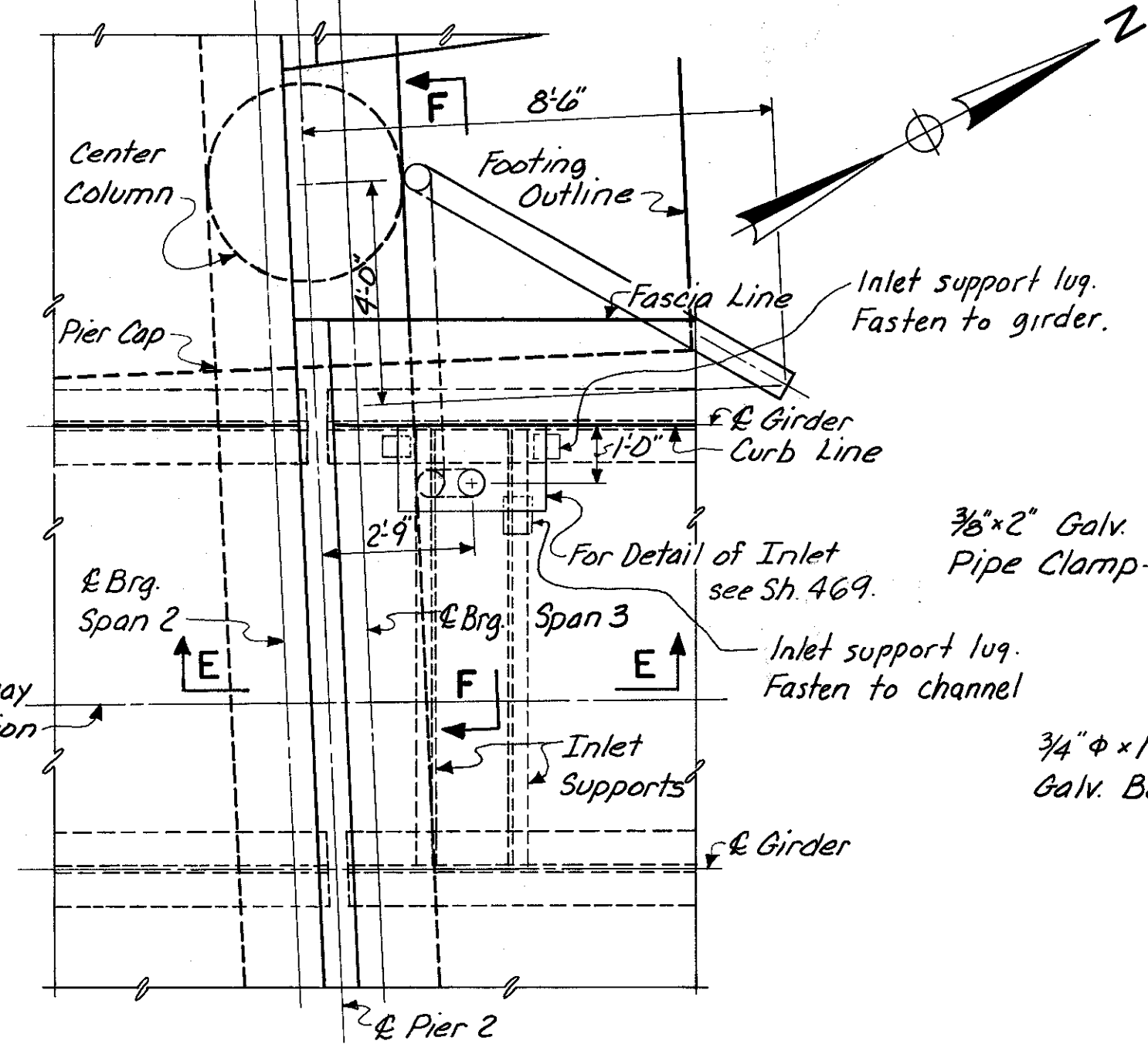
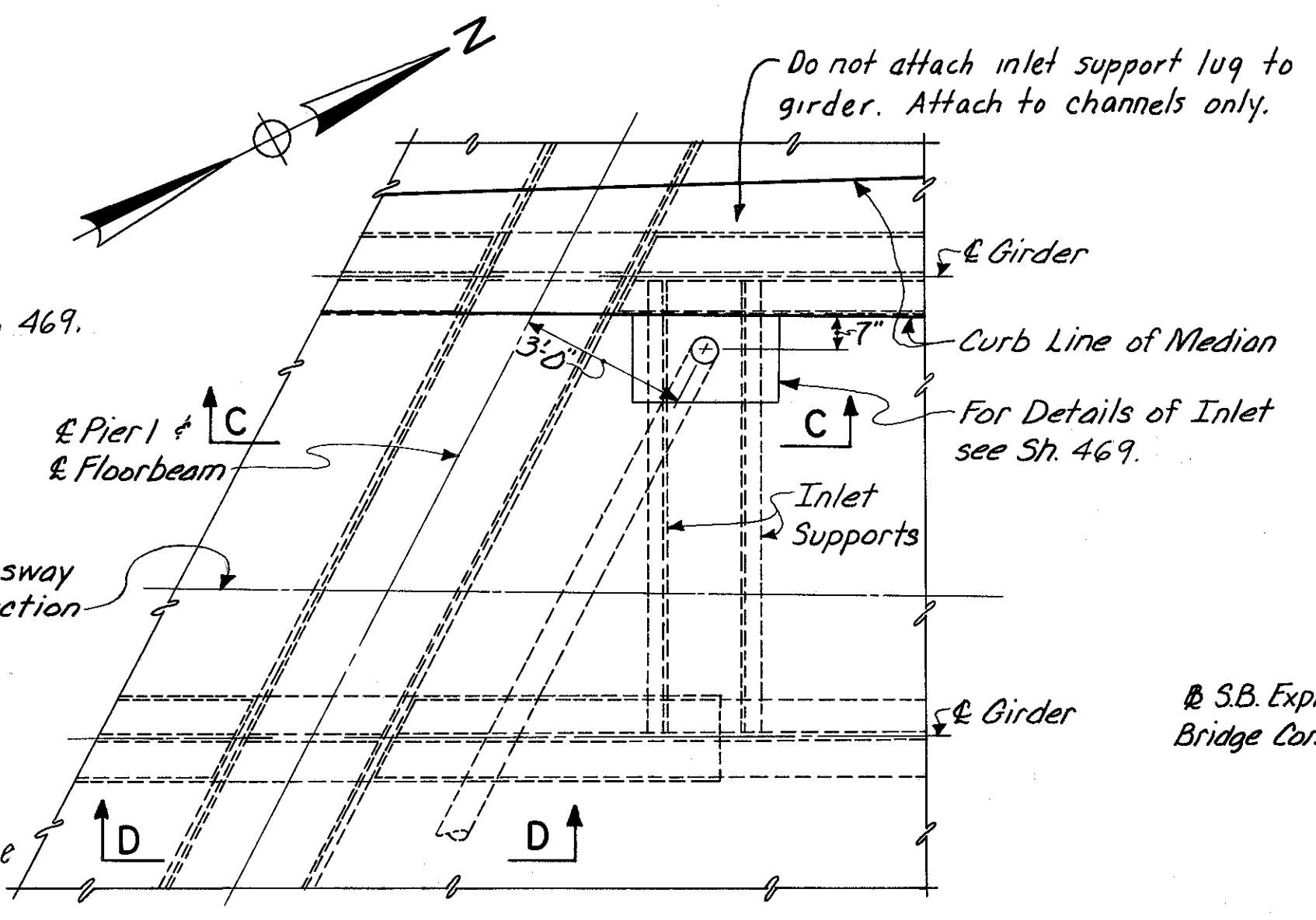


HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				20/23
<b>RAILING &amp; LIGHTING DETAILS</b>				
BRIDGE No. HAM-471-0076				
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD				
H & E BRIDGE No. 12				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	D.B.S.		W.L.	J.H.O.
			4-7-71	11-9-72
				REVISED

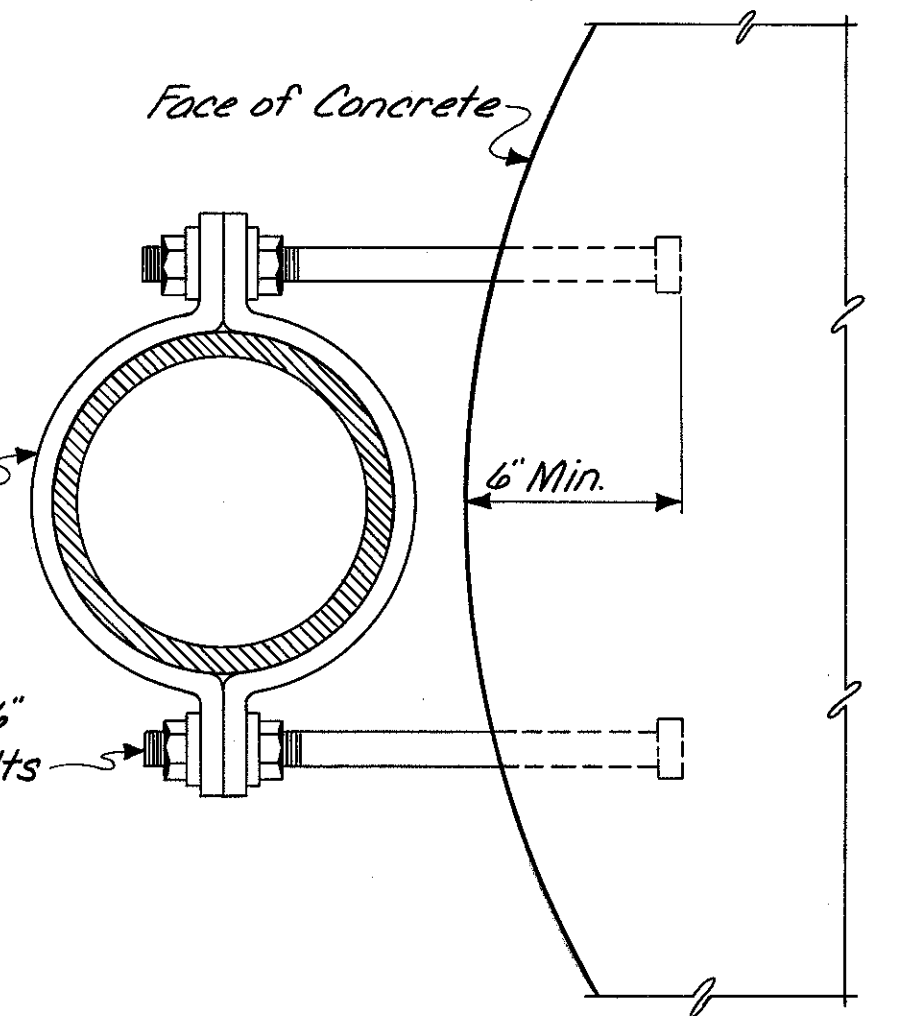
HAMILTON COUNTY  
HAM-471-0.30



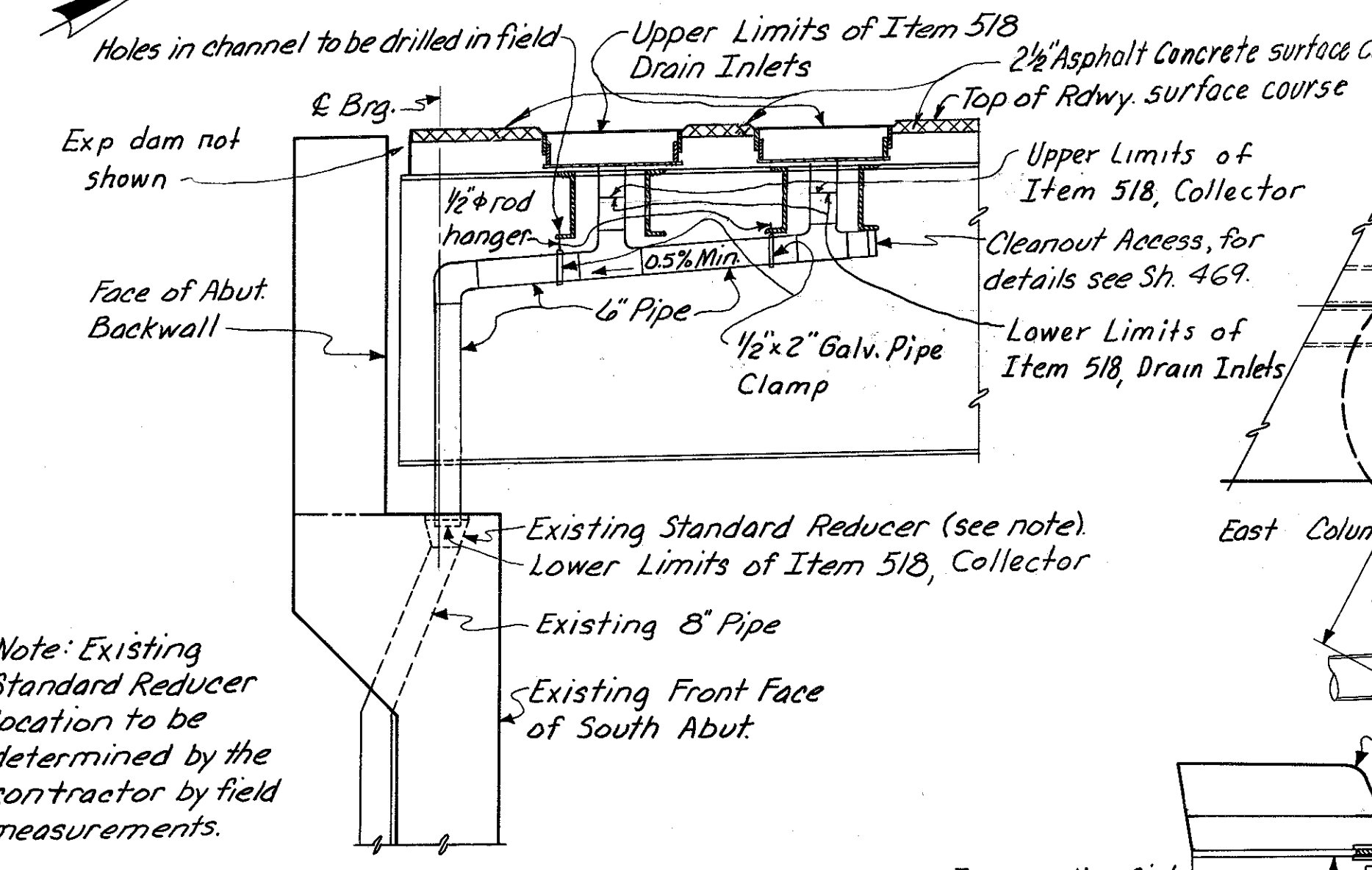
**SOUTH ABUTMENT**



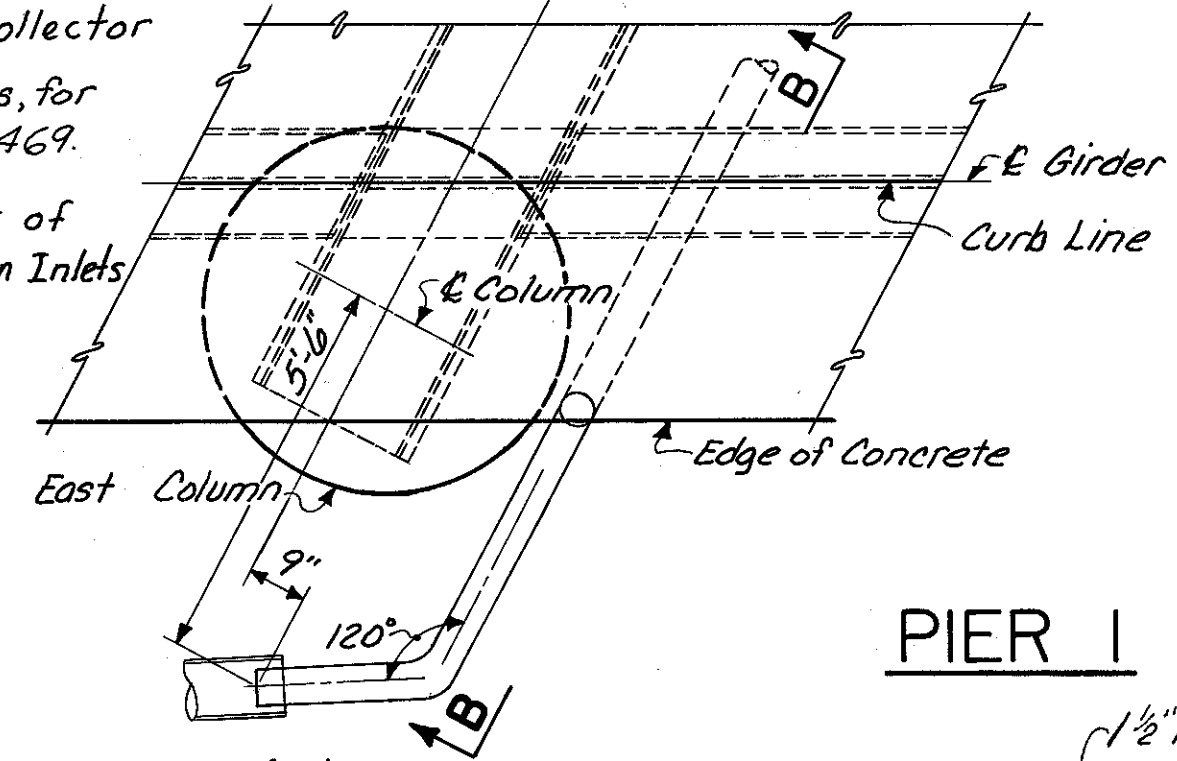
**PIER 2**



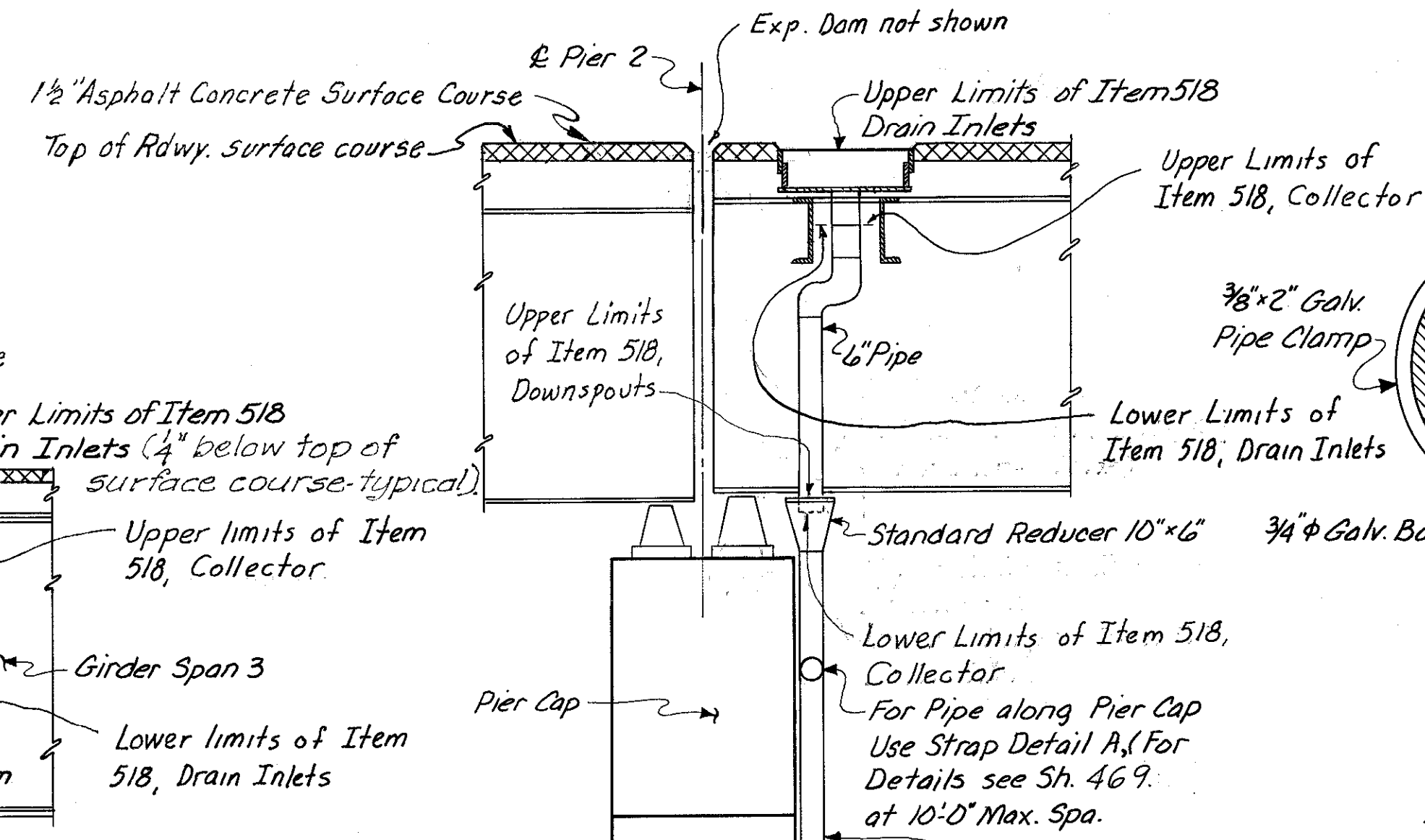
**STRAP DETAIL "B"**



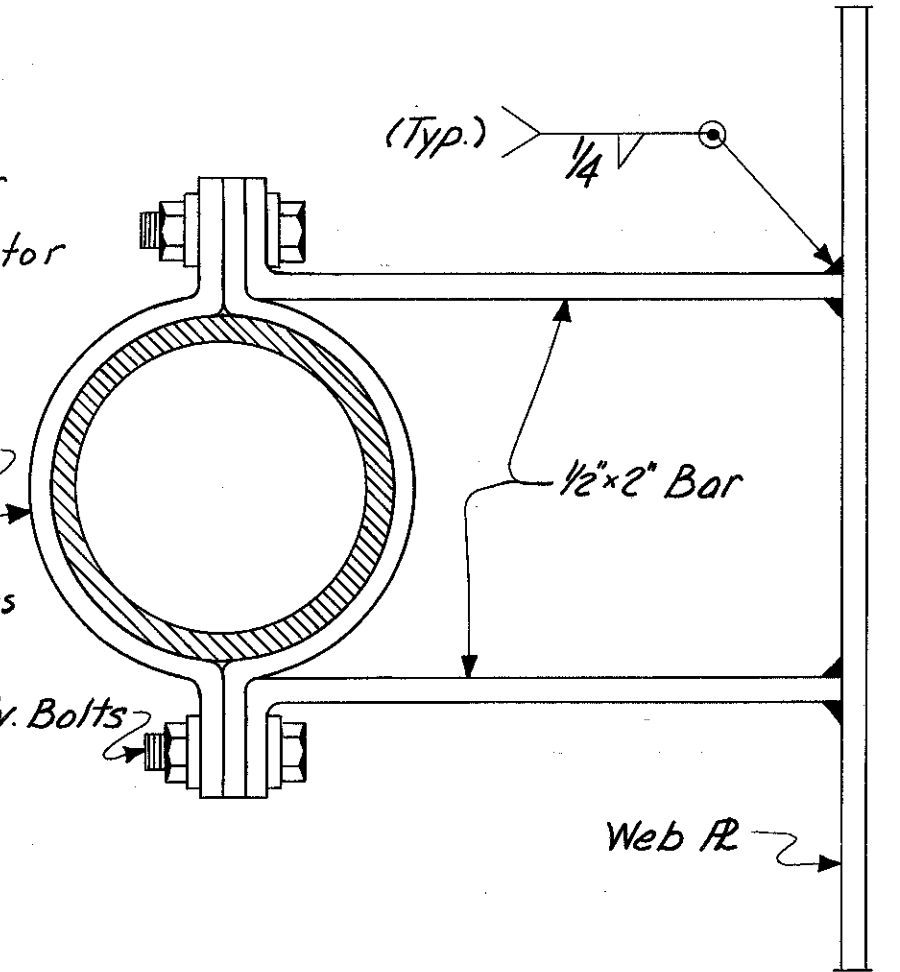
**SECTION A-A**



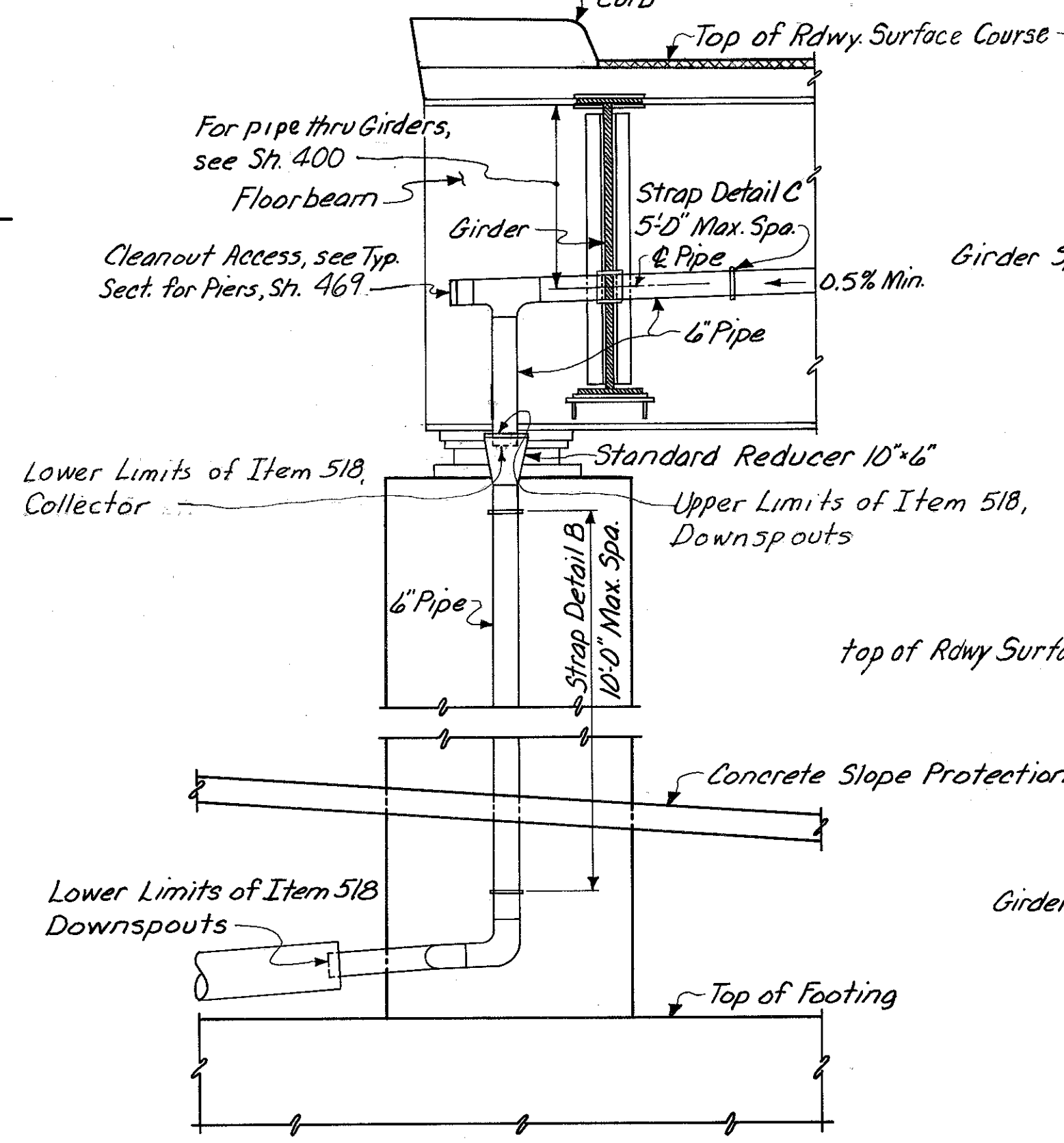
**PIER 1**



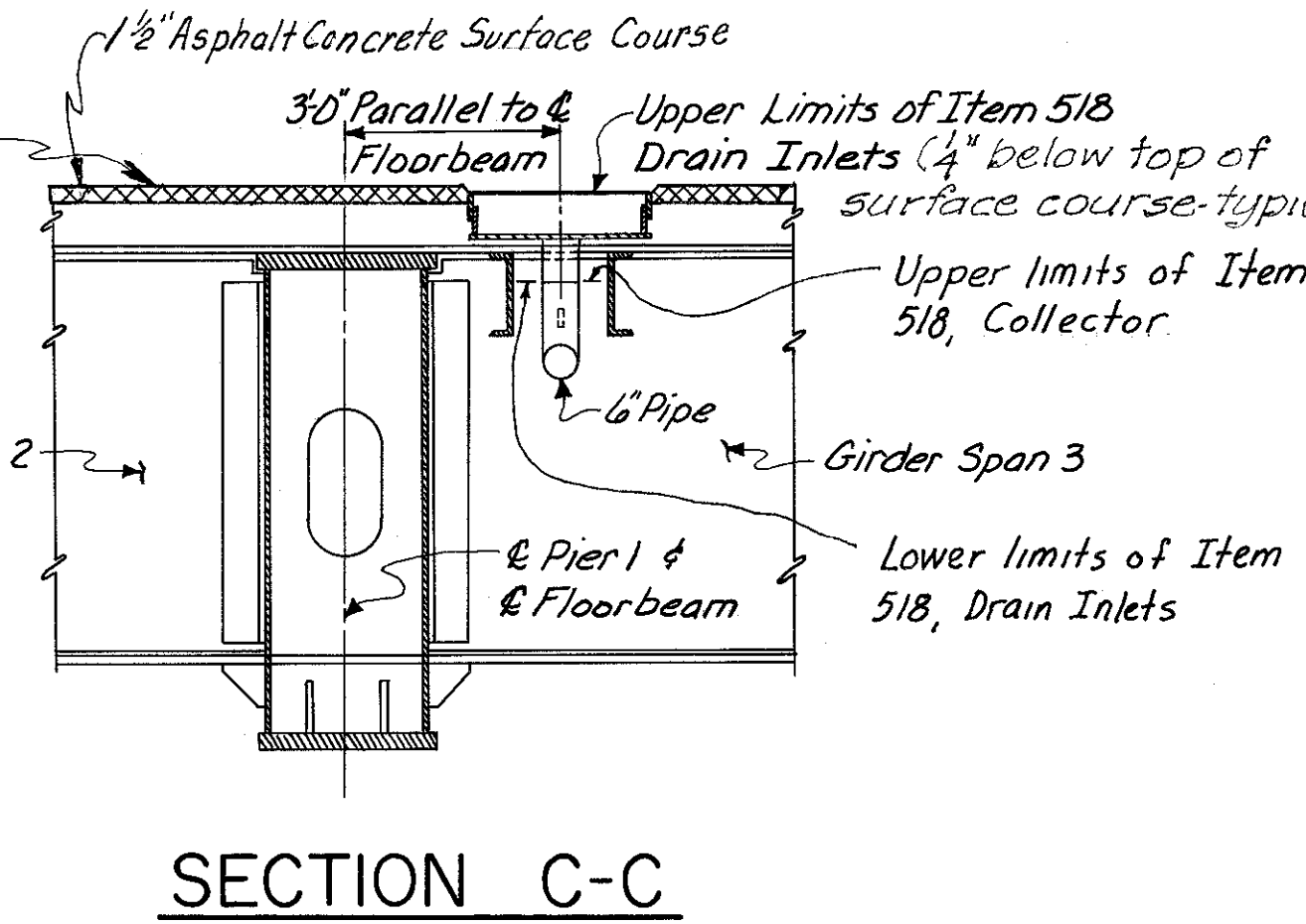
**SECTION E-E**



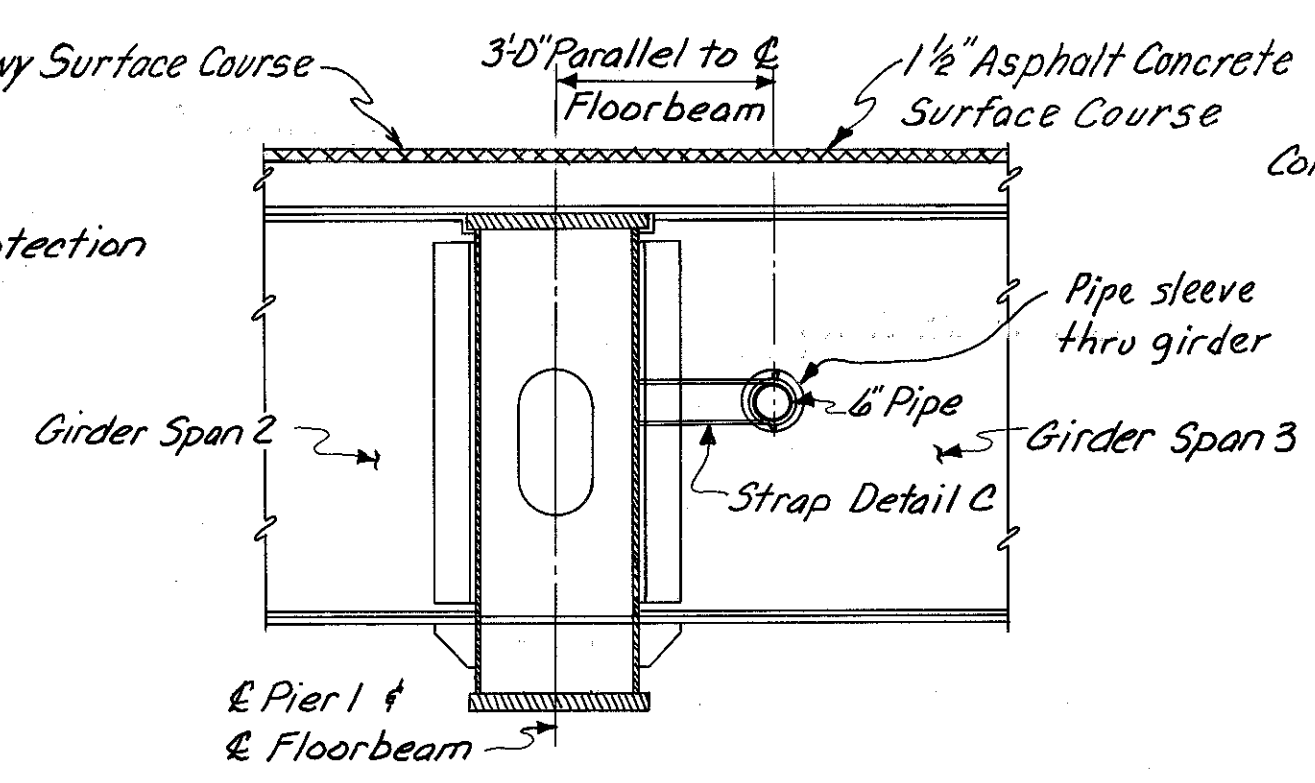
**STRAP DETAIL "C"**



**SECTION B-B**



**SECTION C-C**



**SECTION D-D**

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	G.C.K.		W.L. 4-26-71	J.H.S. 11-9-72	

**DRAINAGE DETAILS**  
BRIDGE NO. HAM 471-0076  
SOUTHBOUND EXPRESSWAY BRIDGE  
CONNECTION AND RAMP GF OVER  
RAMP GD H&E BRIDGE NO. 12

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

21/23

HAMILTON COUNTY  
HAM-471-030

MICROFILMED  
FEB 3 1980

SUPERSTRUCTURE						DIMENSIONS					
MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	A	B	C	D	E	F	G or Radius
5401	Str.	30'-0"	714	14309							
5402	Str.	27'-7"	54	995							
5403	Str.	6'-4" to 28'-1"	1 Series of 6	69							
5404	Str.	6'-4" to 25'-5"	1 Series of 4	42							
5405	8	2'-9" to 8'-11"	1 Series of 100	390	9	8" to 6'-10"	6 1/2"	6 1/2"			
5406	8	9'-0" to 9'-7"	1 Series of 5	31	9	6'-11" to 7'-6"	6 1/2"	6 1/2"			
5407	Str.	3'-7" to 30'-3"	1 Series of 39	441							
5408	Str.	18'-3"	74	902							
5409	Str.	30'-5"	1	20							
5410	Str.	3'-0" to 14'-3"	1 Series of 17	98							
5411	Str.	21'-3"	13	185							
5412	Str.	26'-4"	9	158							
5413	Str.	27'-3" to 30'-5"	1 Series of 6	116							
5414	Str.	27'-3" to 30'-5"	1 Series of 7	135							
5415	Str.	27'-3" to 29'-9"	1 Series of 4	76							
5416	Str.	17'-11"	5	60							
5417	Str.	32'-6"	74	1607							
5501	16	3'-6"	190	694	7 1/2"	3'-0"	7 1/2"	1 3/4"			
5502	7	4'-5"	57	263	7 1/2"	1'-9"	1'-9"	2 1/2"	2'-4"		
5503	7	3'-8"	133	509	7 1/2"	1'-9"	1'-9"	2 1/2"	1'-7"		
5601	Str.	30'-0"	510	22981							
5602	Str.	28'-1"	32	1350							
5603	Str.	3'-7"	1	5							
5604	Str.	11'-1"	1	17							
5605	Str.	20'-7"	2	62							
5606	Str.	8'-10" to 25'-1"	1 Series of 4	101							
5607	Str.	5'-4" to 28'-7"	1 Series of 4	102							
5608	Str.	14'-10"	1	22							
5609	Str.	3'-11" to 19'-4"	1 Series of 18	314							
5610	Str.	23'-0"	6	207							
5611	Str.	27'-9"	7	292							
5612	Str.	29'-10" to 32'-2"	1 Series of 4	186							
5613	Str.	4'-10"	1	7							
5614	Str.	3'-9"	1	6							
5615	Str.	6'-0" to 30'-3"	1 Series of 27	735							
5616	Str.	26'-2"	1	39							
5617	Str.	35'-0"	1	53							
5618	Str.	16'-10"	2	51							
5619	Str.	8'-10"	1	13							
5620	Str.	23'-6"	6	212							
5621	Str.	29'-3"	6	264							
5701	Str.	28'-8"	456	26722							
5702	Str.	33'-0"	247	16661							
5703	Str.	27'-2" to 30'-3"	1 Series of 30	1760							
5704	Str.	31'-6" to 34'-7"	1 Series of 30	2026							
5705	Str.	23'-2" to 27'-2"	1 Series of 51	2623							
5706	Str.	27'-6" to 31'-6"	1 Series of 51	3075							
5707	Str.	22'-2" to 23'-2"	1 Series of 17	788							
5708	Str.	26'-6" to 27'-6"	1 Series of 17	938							
5709	Str.	21'-4" to 22'-2"	1 Series of 22	978							
5710	Str.	25'-8" to 26'-6"	1 Series of 22	1173							
5711	Str.	20'-9" to 20'-11"	1 Series of 7	298							
5712	Str.	25'-1" to 25'-3"	1 Series of 7	360							
5713	Str.	19'-11" to 20'-9"	1 Series of 26	1081							
5714	Str.	24'-2" to 25'-1"	1 Series of 26	1309							
5715	Str.	18'-11" to 19'-11"	1 Series of 31	1230							
5716	Str.	23'-2" to 24'-2"	1 Series of 31	1500							
5717	Str.	18'-2" to 18'-11"	1 Series of 42	1592							
5718	Str.	22'-5" to 23'-2"	1 Series of 42	1957							
5719	Str.	30'-0"	38	2330							
5720	Str.	11'-3" to 34'-2"	2 Series of 32	2971							
5721	Str.	7'-3" to 21'-2"	2 Series of 19	1104							
5722	Str.	5'-8" to 7'-3"	2 Series of 3	79							
5723	Str.	1'-11" to 3'-5"	2 Series of 3	33							

SUPERSTRUCTURE						DIMENSIONS					
MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	A	B	C	D	E	F	G or Radius
5724	Str.	2'-10" to 4'-5"	2 Series of 3	44							
5725	Str.	7'-5"	2	30							
5726	Str.	8'-2"	2	33							
5727	Str.	2'-3"	4	18							
5728	Str.	35'-10"	4	293							
5729	Str.	25'-7"	14	732							
5730	Str.	24'-2"	8	395							
5731	Str.	21'-1" to 21'-4"	1 Series of 13	564							
5732	Str.	25'-5" to 25'-8"	1 Series of 13	679							
5733	Str.	30'-5" to 30'-10"	1 Series of 7	438							
5734	Str.	34'-9" to 35'-2"	1 Series of 7	500							
5735	Str.	31'-1"	1	64							
5736	Str.	35'-5"	1	72							
X501	1	2'-0"	222	463	7 1/2"	1'-0"					
X502	46	5'-4"	261	1452	2'-2"	2'-5"	7 1/2"				2 1/4"
X503	17	2'-3"	222	521	7 1/2"	1'-9"					
X504	45	3'-4"	222	771	7 1/2"	10 1/2"	11 1/2"	8"	9"	1'-2"	
X505	Str.	14'-5"	4	60							
X506	Str.	13'-8"	20	285							
X507	Str.	16'-6"	4	69							
X508	Str.	15'-8"	40	654							
X509	Str.	5'-8"	50	296							
X510	1	6'-1"	2	13							

Total Weight Reinforcing Steel (Superstructure) = 129,153 lbs.

NORTH ABUTMENT											
MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	A	B	C	D	E	F	G or Radius
A501	1	6'-4"	38	251	1'-7"	3'-5"					
A502	17	8'-3"	6	52	7 1/2"	7'-9"					
A503	17	8'-5"	5	44	7 1/2"	7'-11"					
A504	17	8'-8"	6	54	7 1/2"	8'-2"					
A505	17	8'-10"	4	37	7 1/2"	8'-4"					
A506	Str.	29'-0"	19	575							
A507	Str.	9'-5"	15	147							
A508	Str.	5'-0"	5	26							
A509	17	3'-9"	2	8	7 1/2"	3'-3"					
A510	Str.	20'-0"	1	21							
A511	Str.	6'-2"	1	6							
A512	Str.	2'-5"	1	3							
A513	Str.	7'-8"	8	64							
A514	Str.	14'-8"	10	153							
A515	Str.	12'-8"	4	53							
A516	Str.	14'-11"	2	31							
A517	Str.	20'-8"	6	129							
A518	28	6'-11"	2	14	2'-7 1/2"	7 1/2"	5'-11"	7 1/2"	5'-3"		
A519	Str.	3'-6" to 5'-0"	1 Series of 3	13							
A520	Str.	3'-5"	2	7							
A521	18	9'-0"	11	103	1'-1 1/2"	1'-1 1/2"	1'-7"	5'-10"	1'-7"	1'-1 1/2"	1'-1 1/2"
A601	17	13'-5"	6	121	5'-10"	7'-9"					
A602	17	13'-7"	5	102	5'-10"	7'-11"					
A603	17	13'-10"	6	125	5'-10"	8'-2"					
A604	17	14'-0"	4	84	5'-10"	8'-4"					
A605	Str.	29'-11"	4	180							
A606	1	10'-5"	30	469	4'-8"	1'-5"					
A607	1	13'-11"	1	21	6'-5"	1'-5"					
A608	1	11'-9"	6	107	5'-4"	1'-5"					
A609	1	9'-1"	20	273	4'-0"	1'-5"					
A610	1	11'-3"	20	338	5'-4"	11"					
A611	1	13'-1"	2	39	6'-0"	1'-5"					
A612	Str.	5'-3"	1	8							
A613	Str.	17'-6"	2	53							
A614	1	20'-4"	8	244	9'-9"	1'-2"					
A615	Str.	7'-5"	8	89							
A616	Str.	8'-3"	3	37							
A617	Str.	6'-6"	3	29							
A618	Str.	3'-2" to 4'-8"	1 Series of 3	18							
A619	Str.	3'-1"	2	9							

For Notes see Sh. 412.

HAZELET & ERDAL  
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CINCINNATI, OHIO

22/23

**REINFORCING STEEL LIST**  
BRIDGE NO. HAM-471-0076  
SOUTHBOUND EXPRESSWAY BRIDGE  
CONNECTION AND RAMP GF OVER  
RAMP GD H&E BRIDGE NO. 12

DESIGNED	DRAWN	TRACED	CHECKED	REVISED DATE	REVISED
	NRK		WXC ALT	JHO 11-9-72	

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NORTH ABUTMENT (cont'd)											
MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	DIMENSIONS						Radius
					A	B	C	D	E	F	
Y501	1	2'-0"	15	31	7 1/2"	1'-0"					
Y502	Str.	2'-10"	25	74							
Y503	47	6'-4"	10	66	2'-5"	3'-2"	7 1/2"				2 1/4"
Y504	Str.	20'-9"	8	173							
Y505	Str.	7'-3"	2	15							
Y506	Str.	14'-9"	2	31							
Y601	28	4'-11"	15	111	11 1/2"	3'-2"	1'-2"	7 1/2"	8"		
Total Weight Reinforcing Steel (North Abutment) = 4638 lbs.											

SOUTH ABUTMENT											
MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	A	B	C	D	E	F	Radius
A551	Str.	23'-8"	8	197							
A552	Str.	23'-1"	5	120							
A553	Str.	11'-9"	1	12							
A554	17	7'-6"	1	8	1'-7 1/2"	6'-0"					
A555	16	23'-11"	6	150	1'-0"	22'-7"	1'-4"	11"			
A556	16	23'-9"	4	99	7 1/2"	22'-10"	11"	8"			
A557	17	8'-6"	1	9	1'-7 1/2"	7'-0"					
A558	Str.	25'-3"	8	211							
A559	Str.	11'-0"	1	11							
A560	Str.	5'-11"	12	74							
A561	16	2'-2"	4	9	7"	1'-5"	9"	5 3/4"			
A651	1	12'-9"	6	115	5'-10"	1'-5"					
A652	1	10'-11" to 11'-2"	1 Series of 6	100	4'-11" to 5'-0 1/2"	1'-5"					
A653	1	6'-5"	52	501	2'-11"	11"					
A654	1	6'-7" to 7'-7"	1 Series of 25	266	2'-9" to 3'-3"	1'-5"					
A655	1	14'-7"	15	329	6'-9"	1'-5"					
A656	1	17'-3"	8	207	8'-1"	1'-5"					
A657	Str.	7'-9"	8	93							
A658	1	7'-9" to 8'-3"	1 Series of 12	144	3'-4" to 3'-7"	1'-5"					
Y551	1	2'-0"	5	10	7 1/2"	1'-0"					
Y552	Str.	2'-10"	5	15							
Y553	47	6'-8"	5	35	2'-5"	3'-6"	7 1/2"				2 1/4"
Y554	Str.	5'-11"	10	62							
Y651	28	4'-11"	5	37	11 1/2"	3'-2"	1'-2"	7 1/2"	8"		
Total Weight Reinforcing Steel (South Abutment) = 2814 lbs.											

PIER 1											
MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	A	B	C	D	E	F	Radius
P801	Str.	15'-6"	18	745							
P802	Str.	16'-6"	18	793							
P1101	26	18'-8"	48	4760	15'-6"						
P1102	26	19'-8"	48	5015	16'-6"						
P1103	17	8'-5"	40	1789	1'-5 1/2"	7'-3"					
P1104	Str.	19'-2"	20	2037							
P1105	Str.	20'-11"	20	2223							
P501	1	5'-11"	24	148	1'-7"	3'-0"					

PIER 1					
MARK	LENGTH	No. of BARS	WEIGHT	SHAPE	BENDING DIAGRAM
SP501	19'-2"	1	896	Bent	Type 39 Sheet No. 470
SP502	20'-11"	1	974	Bent	Type 39 Sheet No. 470
SPIRALS - Core Diameter 5/8" % - Pitch 4 1/2" % - Other details in accordance with CRSI Standard Practice					
Total Weight Reinforcing Steel (Pier 1) = 19,380 lbs.					

PIER 2											
MARK	TYPE	LENGTH	No. of BARS	WEIGHT	DIMENSIONS						Radius
					a	b	c	d	e	f	
P451	17	9'-4"	8	50	1'-5 1/2"	8'-0"					
P452	17	17'-4"	4	46	1'-5 1/2"	16'-0"					
P551	1	6'-1"	60	381	1'-7"	3'-2"					
P552	1	7'-5" to 8'-9"	2 Series of 7	118	2'-3" to 2'-11"	3'-2"					
P553	37	15'-1"	86	1353	4'-2"	3'-2"					
P554	1	7'-7" to 8'-9"	2 Series of 16	273	2'-4" to 2'-11"	3'-2"					
P555	Str.	31'-0"	6	194							
P556	Str.	29'-0"	2	60							
P651	16	10'-2"	8	122	1'-5 1/2"	1'-11"	8'-3"	8'-1 1/2"			
P652	26	10'-10"	44	716	9'-6"						
P653	26	7'-4"	16	176	6'-0"						
P851	26	15'-2"	43	1741	13'-0"						
P1051	17	26'-2"	4	450	2'-6"	23'-11 1/2"					
P1052	Str.	24'-0"	6	620							
P1053	Str.	14'-0"	6	361							
P1054	Str.	20'-0"	7	602							
P1055	Str.	12'-0"	5	258							
P1056	17	26'-6"	4	456	2'-10"	23'-11 1/2"					
P1057	Str.	10'-0"	4	172							
P1058	Str.	27'-1"	4	466							
P1059	Str.	20'-4"	4	350							
P1151	Str.	18'-7"	12	1185							
P1152	17	7'-4"	32	1247	1'-5 1/2"	6'-2"					
P1153	Str.	19'-3"	10	1023							
P1154	Str.	19'-11"	10	1058							

PIER 2					
MARK	LENGTH	No. of BARS	WEIGHT	SHAPE	BENDING DIAGRAM
SP451	15'-1"	1	332	Bent	Type 39 Sheet No.
SP452	15'-9"	1	346	Bent	Type 39 Sheet No.
SP453	16'-5"	1	360	Bent	Type 39 Sheet No.
SPIRALS - Core Diameter 3/8" % - Pitch 4 1/2" % - Other details in accordance with CRSI Standard Practice					
Total Weight Reinforcing Steel (Pier 2) = 14,516 lbs.					

REPLACEMENT BARS			
MARK	TYPE	NUMBER	LENGTH
RE401	Str.	2	6'-3"
RE501	Str.	1	6'-7"
RE601	Str.	2	6'-11"
RE701	Str.	4	7'-2"
RE801	Str.	1	7'-6"
RE1001	Str.	1	8'-2"
RE1101	Str.	2	8'-6"

NOTES:  
Bar size is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, A501 is a No. 5 size bar and P1101 is a No. 11 size bar.

For bar bending schedule see sheet No. 470.

Total weight of reinforcing steel equals 170,511 lbs.

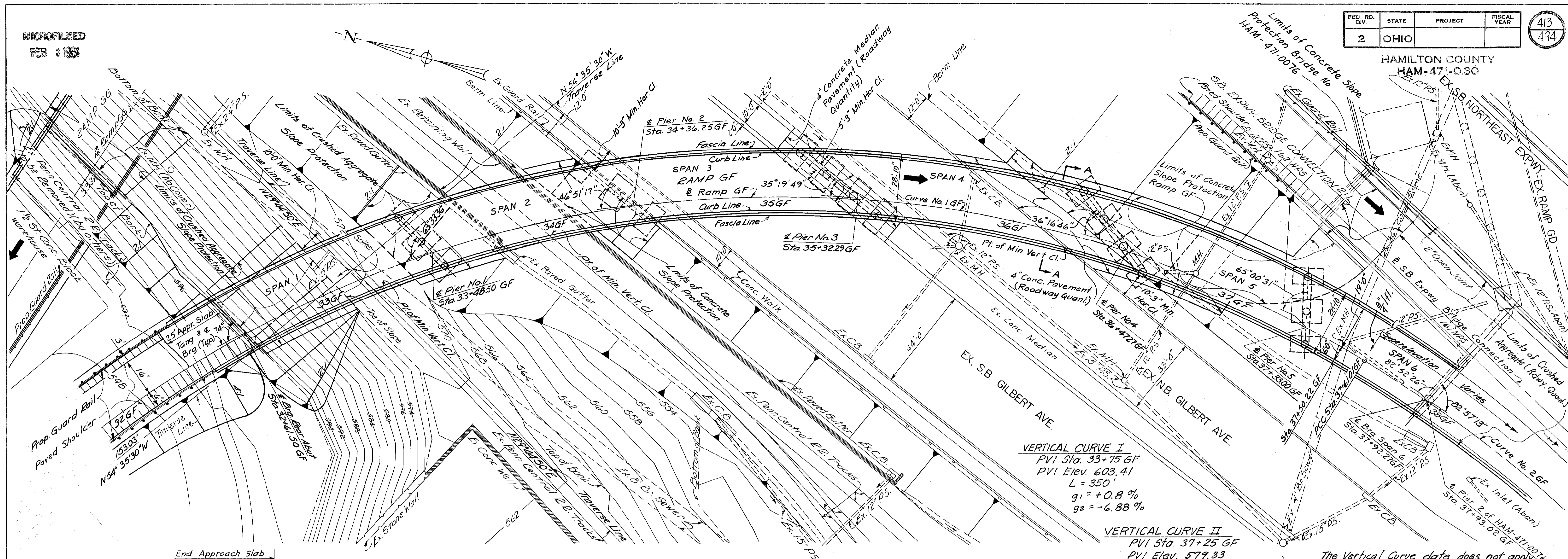
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					23/23
REINFORCING STEEL LIST					
BRIDGE NO. HAM-471-0076					
SOUTHBOUND EXPRESSWAY BRIDGE CONNECTION AND RAMP GF OVER RAMP GD H&E BRIDGE NO. 12					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVIEWED
	NRK		W.L. ALT	JH0 11-9-72	

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FEB 3 1961

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

HAMILTON COUNTY  
HAM-471-0.30

413  
494



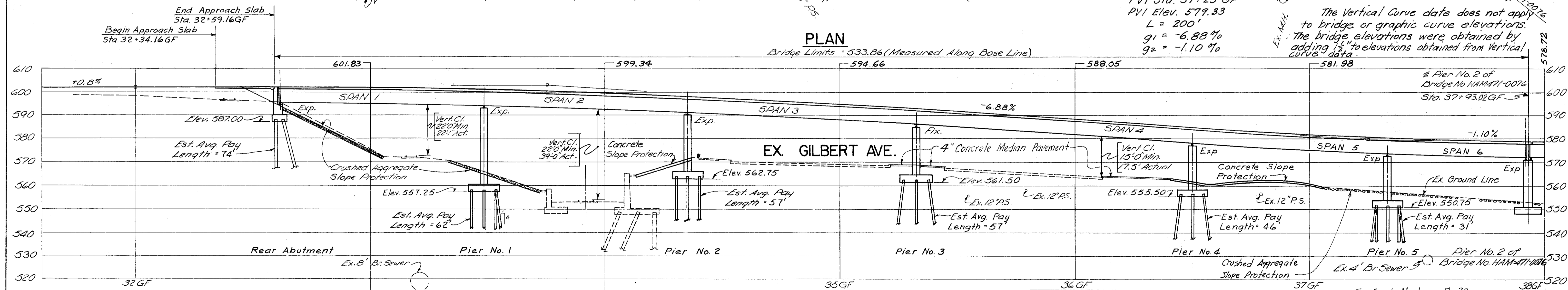
**VERTICAL CURVE I**  
PVI Sta. 33+75 GF  
PVI Elev. 603.41  
L = 350'  
g<sub>1</sub> = +0.88 %  
g<sub>2</sub> = -6.88 %

**VERTICAL CURVE II**  
PVI Sta. 37+25 GF  
PVI Elev. 579.33  
L = 200'  
g<sub>1</sub> = -6.88 %  
g<sub>2</sub> = -1.10 %

The Vertical Curve data does not apply to bridge or graphic curve elevations. The bridge elevations were obtained by adding 1/2" to elevations obtained from vertical curve data.

**PLAN**

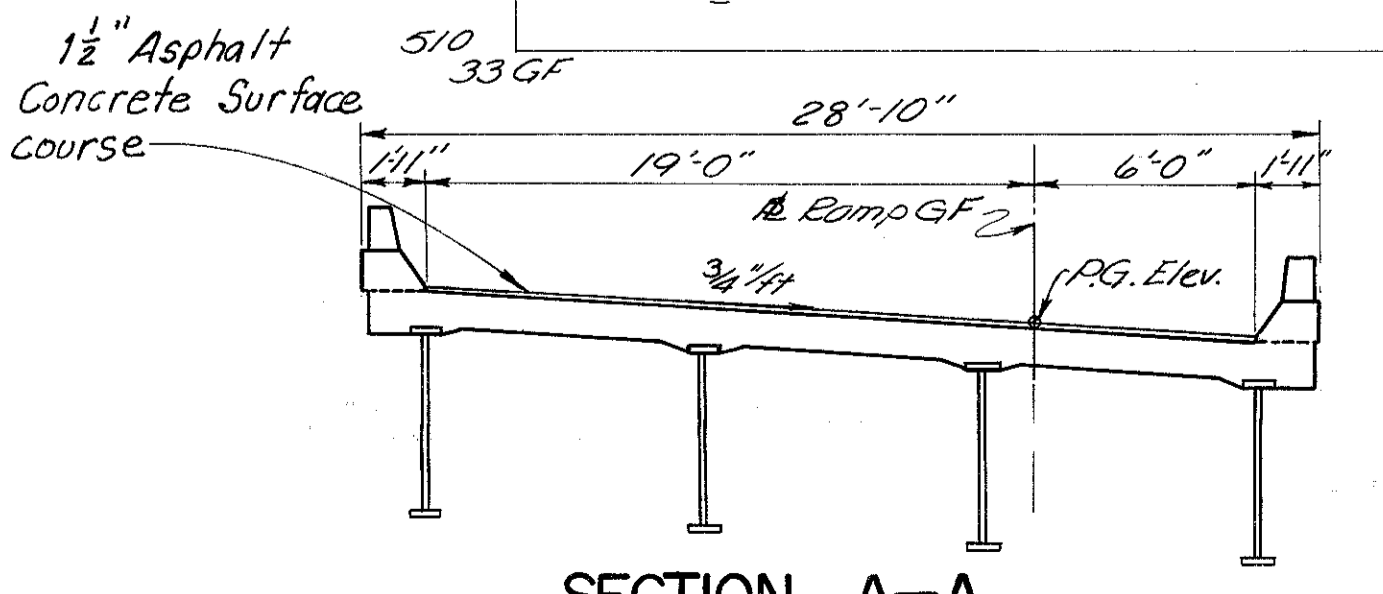
Bridge Limits = 533.86 (Measured Along Base Line)



**PROFILE ON BASE LINE**

**CURVE DATA**

Curve No. 1 GF	
P.I. Sta. 34+88.84	E = 477.47'
Δ = 87°42'41"	L = 730.93'
D = 12°00'00"	T = 458.76'
Curve No. 2 GF	
P.I. Sta. 37+86.02	E = 544.38'
Δ = 5°15'45"	L = 50.00'
D = 10°31'30"	T = 25.02'



**NOTES**  
Earthwork limits shown are schematic. Actual slopes shall conform to plan cross-sections.  
Pier 1 and Brq. Rear Abut. are parallel.  
Piers 2 and 3 are parallel.  
Piles to be HP 10x42 Steel Piles for Pier 5  
Piles to be HP 12x53 Steel Piles for Rear Abut. and Piers 1 thru 4

**1984 TRAFFIC COUNT**

ADT	DHV
7900	1010

**PROPOSED STRUCTURE**  
TYPE: Continuous Curved Welded Plate Girder with reinforced concrete deck and substructure.  
SPAN: 87.00', 87.75', 96.04', 114.98', 85.73', 159.27' (Spans 1 through 6) % Brq. measured along base line.  
ROADWAY: 26.5' 4" Parapets  
LIVE LOADING: HS 20-44 and the Interstate Alternate Loading.  
SKEW: Varies, see plan.  
SURFACE COURSE: 1/2" Asphalt Concrete  
ALIGNMENT: Varies, see plan.  
SUPERELEVATION: Varies, see plan.  
APPROACH SLAB: AS-1-67 (25'-0" long)

For Bench Marks see Sh 33.

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**SITE PLAN**  
RAMP GF OVER PENN-CENTRAL  
RAILROAD AND GILBERT AVENUE  
H&E BRIDGE NO. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
SCC	EJR	HLL	JHO	11-9-72	

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FEB 3 1991

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER-STRUCTURE	REAR ABUTMENT	PIERS	GENERAL		
503		Lump Sum	Cofferdams, Cribs and Sheeting				LUMP		
503	766	Cu. Yd.	Unclassified Excavation		111	655			
505		Lump Sum	Test Pile				LUMP		
506		Lump Sum	Pile Test Load				LUMP		
506	1	Each	Subsequent Pile Test Load				1		
507	6040	Lin. Ft.	Steel Piles, HP 12x53		1190	4850			
507	620	Lin. Ft.	Steel Piles, HP 10x42			620			
509	222,078	Lb.	Reinforcing Steel	148,951	7,560	65,567			
511	580	Cu. Yd.	Class "C" Concrete, Superstructure	580					
511	212	Cu. Yd.	Class "C" Concrete, Pier Caps and Columns			212			
511	58	Cu. Yd.	Class "C" Concrete, Abutment above Footing		58				
511	226	Cu. Yd.	Class "C" Concrete, Footings		31	195			
513	600,000	Lb.	Structural Steel	600,000					
514	600,000	Lb.	Field Painting of Structural Steel	600,000					
518	34	Cu. Yd.	Porous Backfill		34				
518	4	Each	Drain Inlets	4					
518	84	Lin. Ft.	6" Standard Pipe Downspout, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials			84			
518	20	Lin. Ft.	6" Non-Perforated, Helical Corrugated Metal Pipe including Specials, 707.01		20				
518	22	Lin. Ft.	6" Perforated, Helical Corrugated Metal Pipe, 707.01		22				
518	23	Lin. Ft.	6" Standard Pipe Collector, Alloy Steel (707.11) or Hot-dip Galvanized Steel Including Specials			23			
601	453	Sq. Yd.	Crushed Aggregate Slope Protection		227	226			
601	488	Sq. Yd.	Concrete Slope Protection			488			
625			See Sheet 143 for Lighting Summary						
808	580	Units	Chemical Admixture for Concrete, Type A, Bor D	580					
404	41	Cu. Yd.	Asphalt concrete (70-80 or AC20)	41					
Special	20	Cu. Yd.	Sand Asphalt (see proposal note)	20					
Special	1480	Sq. yd.	Membrane Waterproofing (see proposal note)	1480					

GENERAL NOTES

REFERENCE

shall be made to Standard Drawings AS-1-67 revised 6-12-69, SD-1-69, Sheets 1 and 2 dated 6-12-69, BR-1-67, Sheet 1 revised 10-15-71, RB-1-55 revised 2-2-59, and and to Supplemental Specifications '808 dated 1-1-71, and 836 dated 1-1-71.

DESIGN SPECIFICATIONS:

This structure conforms to "Standard Specifications for Highway Bridges" adopted by The American Association of State Highway Officials, 1969, including the Ohio "Supplement" to these specifications.

DESIGN DATA:

Design Loading - HS20-44 "and the Interstate Alternate Loading"

Concrete Class C - unit stress 1200 psi. for superstructure  
unit stress 1333 psi. for substructure

Structural Steel - ASTM A36- unit stress 20,000 psi.

Reinforcing Steel - ASTM A 615, A616 or A617 - unit stress 20,000 psi.

Spiral reinforcement may be plain bars ASTM A82, A306, A499 or A615. If bars in accordance with ASTM A616 are provided they shall be subject to bend tests as per AASHTO Designation M49-70.

PILES

shall be driven to firm contact with bedrock. If the length of penetration is approximately equal to the depth to bedrock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in 507.05 is not less than the following value for a pile hammer of the indicated energy rating:

For the Rear Abutment and Piers 1 thru 4

- 55 tons per pile using an 11,000 ft. lb. hammer
- 50 tons per pile using a 15,000 ft. lb. or greater hammer

For Pier 5

- 60 tons per pile using an 11,000 ft. lb. hammer
- 55 tons per pile using a 15,000 ft. lb. or greater hammer

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 40 tons per pile for the Rear Abutment and Piers 1 thru 4 piles and 35 tons per pile for Pier 5 piles.

UTILITY LINES:

All expense involved in relocating (installing) the affected utility lines shall be borne by the Owner(s). The Contractor and Owner(s) are requested to cooperate by arranging their work in such a manner that inconvenience to either would be held to a minimum.

CONSTRUCTION CLEARANCE

of 19'-0" vertically above the top of the railroad rails and 8'-0" horizontally from the center of tracks shall be maintained at all times.

DECK REINFORCING BARS: At the Contractor's option, a portion (not to exceed 25%) of the upper longitudinal bars (54) in the deck slab may be placed beneath the upper transverse bars for support of the top mat.

MAINTENANCE OF TRAFFIC - Refer to sheets 13 and 13A

QUANTITIES  
BY ALT. DATE 3-29-71  
CHECKED S.J.F. DATE 3-21-71

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					2/23
ESTIMATED QUANTITIES AND GENERAL NOTES					
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVE.					
H & E BRIDGE No. 11					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	DH		W.L.	J.H.P. 11-9-72	

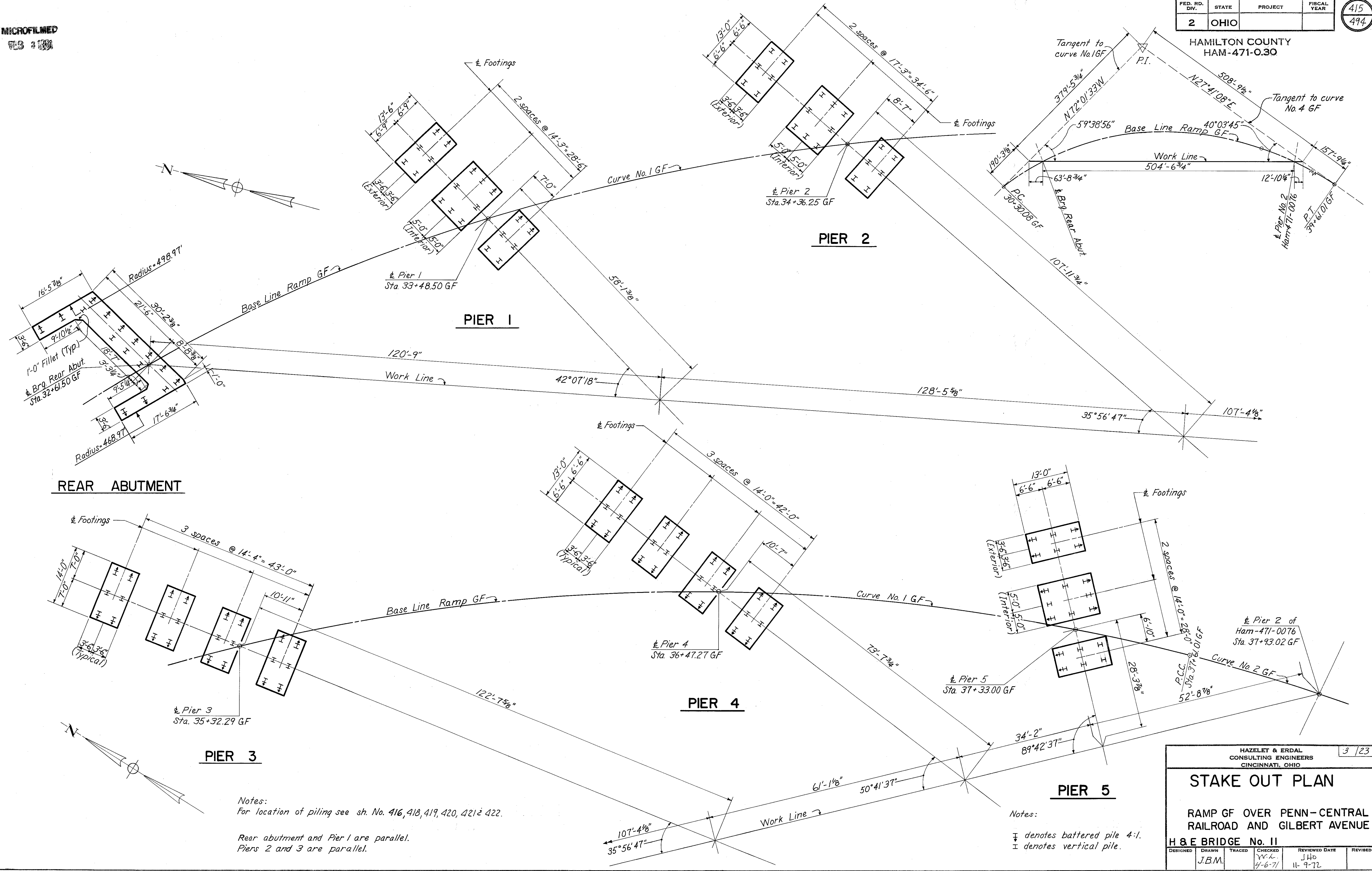


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 65 100

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

415  
 494

HAMILTON COUNTY  
 HAM-471-0.30



**REAR ABUTMENT**

**PIER 3**

**PIER 4**

**PIER 2**

**PIER 5**

Notes:  
 For location of piling see sh. No. 416, 418, 419, 420, 421 & 422.  
 Rear abutment and Pier 1 are parallel.  
 Piers 2 and 3 are parallel.

Notes:  
 ▬ denotes battered pile 4:1.  
 I denotes vertical pile.

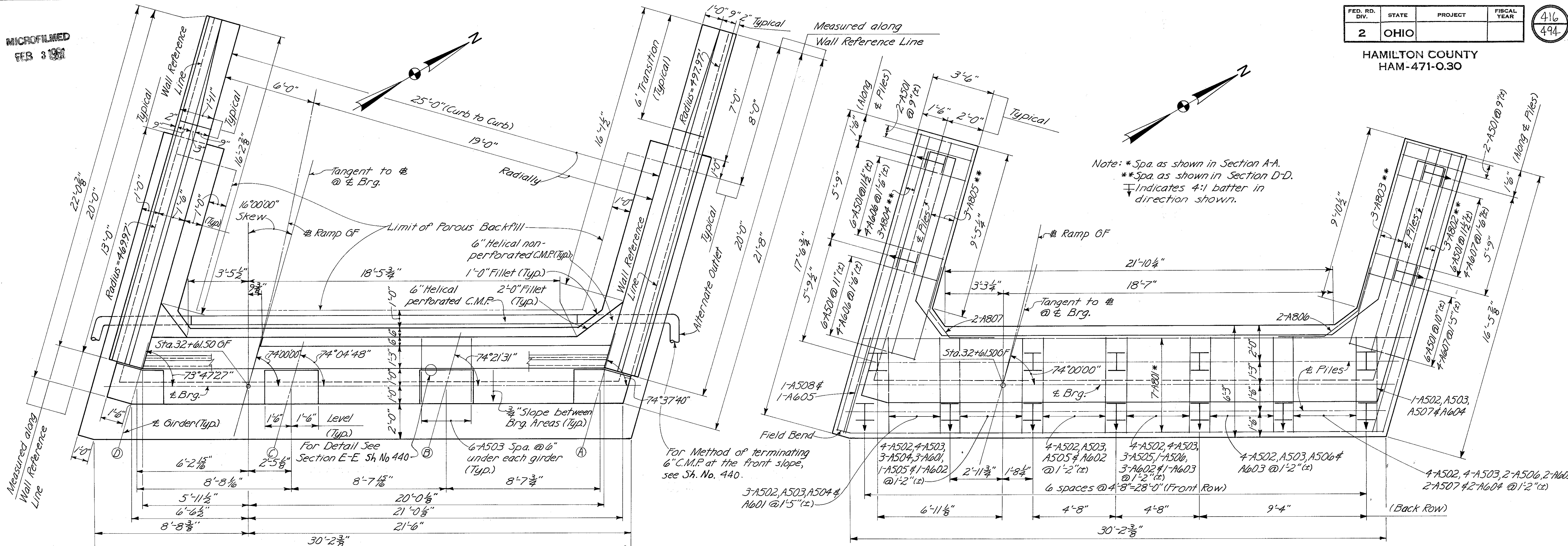
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					3 / 23
<b>STAKE OUT PLAN</b>					
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE					
H & E BRIDGE No. II					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVIEWED
	J.B.M.		J.H.D.	11-9-72	

MICROFILMED  
FEB 3 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

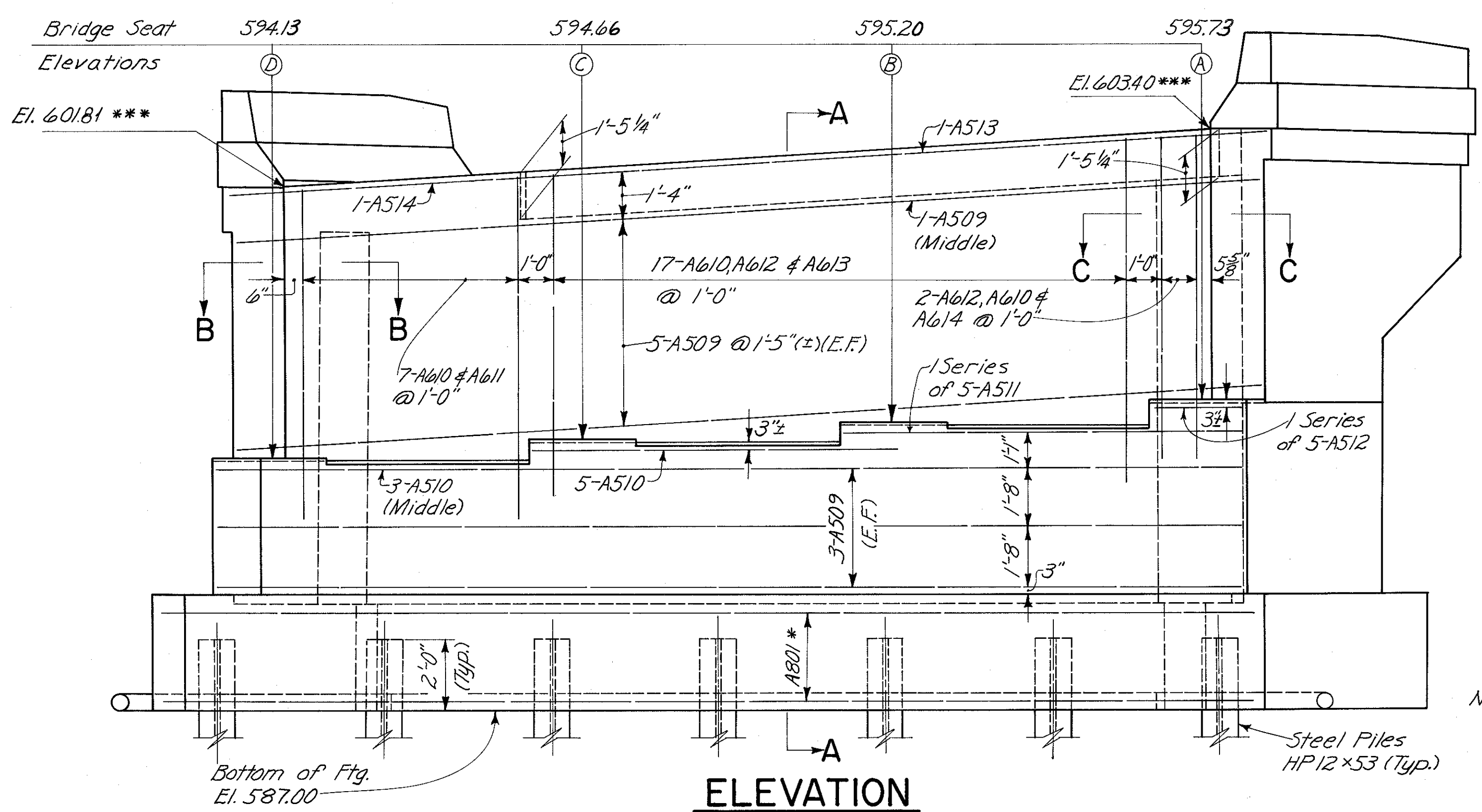
416  
494

HAMILTON COUNTY  
HAM-471-0.30

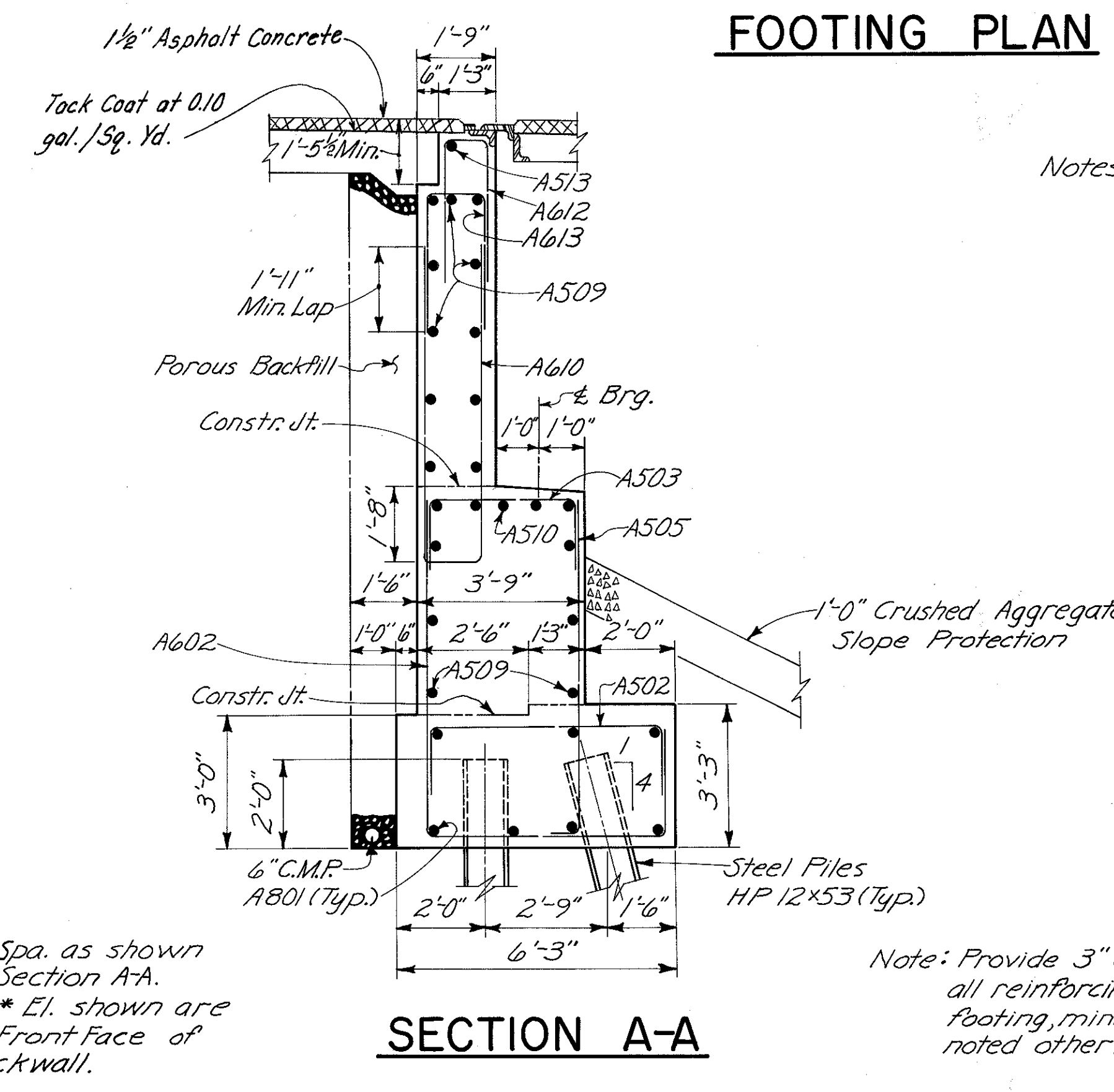


**PLAN**

**FOOTING PLAN**



**ELEVATION**



**SECTION A-A**

Notes:  
Porous Backfill, 1'-0" thick outside back edge of Footing shall extend up to the plane of the subgrade and laterally to the limits on the wingwalls as shown in plan. For Sections B-B & C-C, see Sh. No. 417. For Wingwall Details, see Sh. No. 417. For Roadway & Curb End Finish Details, see Std. Dwg. SD-1-69 Sh. No. 142. All Concrete shall be Class "C" Concrete. E.F. denotes Each Face.

Note: \* Spa. as shown in Section A-A.  
\*\*\* El. shown are at Front Face of Backwall.

Note: Provide 3" clearance for all reinforcing steel in footing, minimum, unless noted otherwise.

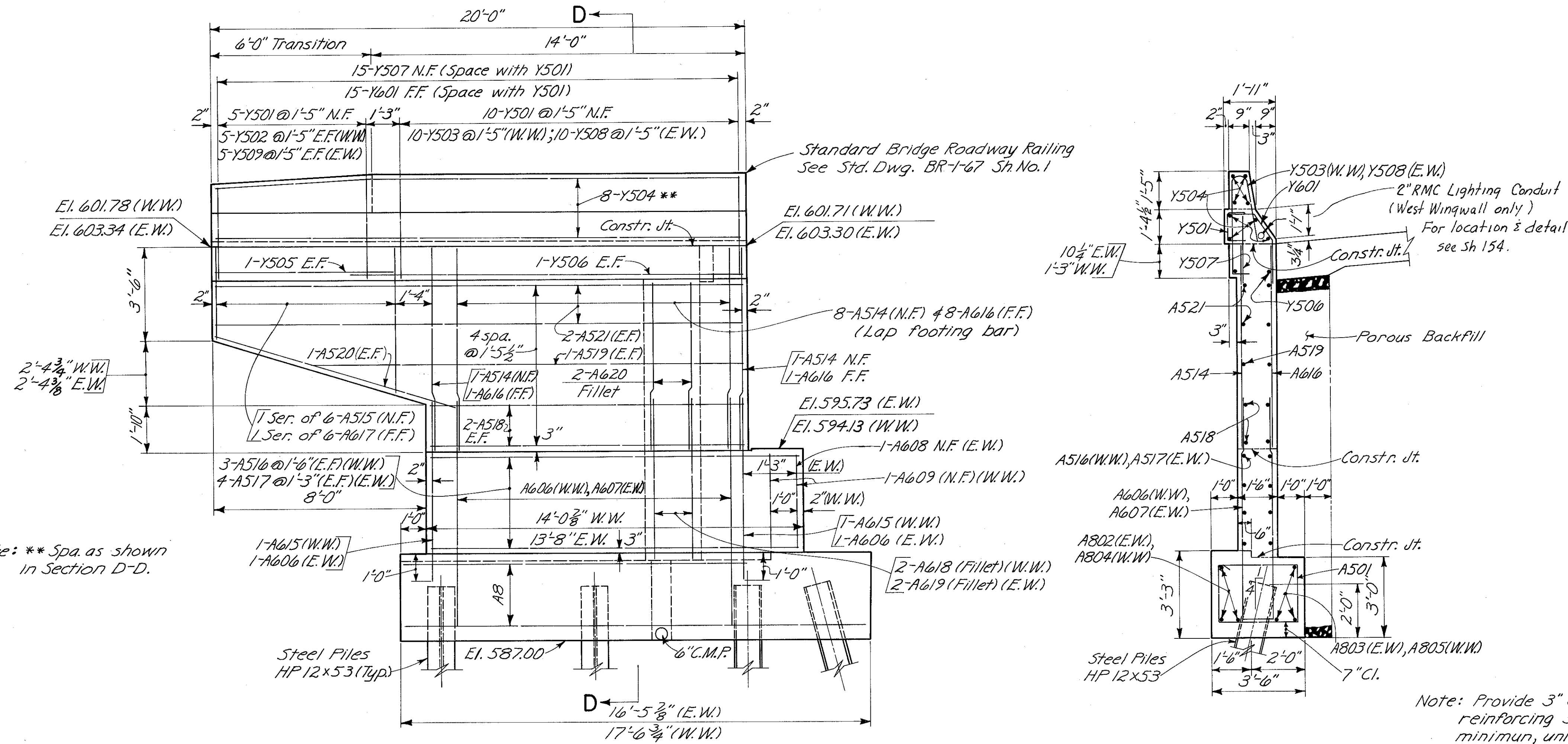
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO		4 / 23
<b>REAR ABUTMENT</b>		
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE		
H&E BRIDGE NO. 11		
DESIGNED WL	DRAWN CES	TRACED
CHECKED Y.L.	2-24-71	REVIEWED DATE JHO 11-9-72
REVISIONS		

MICROFILMED  
FEB 3 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

417  
494

HAMILTON COUNTY  
HAM-471-0.30



Notes:  
N.F. denotes Near Face.  
F.F. denotes Far Face.  
E.F. denotes Each Face.  
W.W. denotes West Wingwall.  
E.W. denotes East Wingwall.  
For Details of parapet transition see, CURB ON APPROACHES, Std. Dwg. BR-1-67 Sh. No. 1.

Note: \*\* Spa. as shown in Section D-D.

Note: Provide 3" clearance for all reinforcing steel in footing, minimum, unless noted otherwise.

**SECTION D-D**

**WINGWALL ELEVATION**

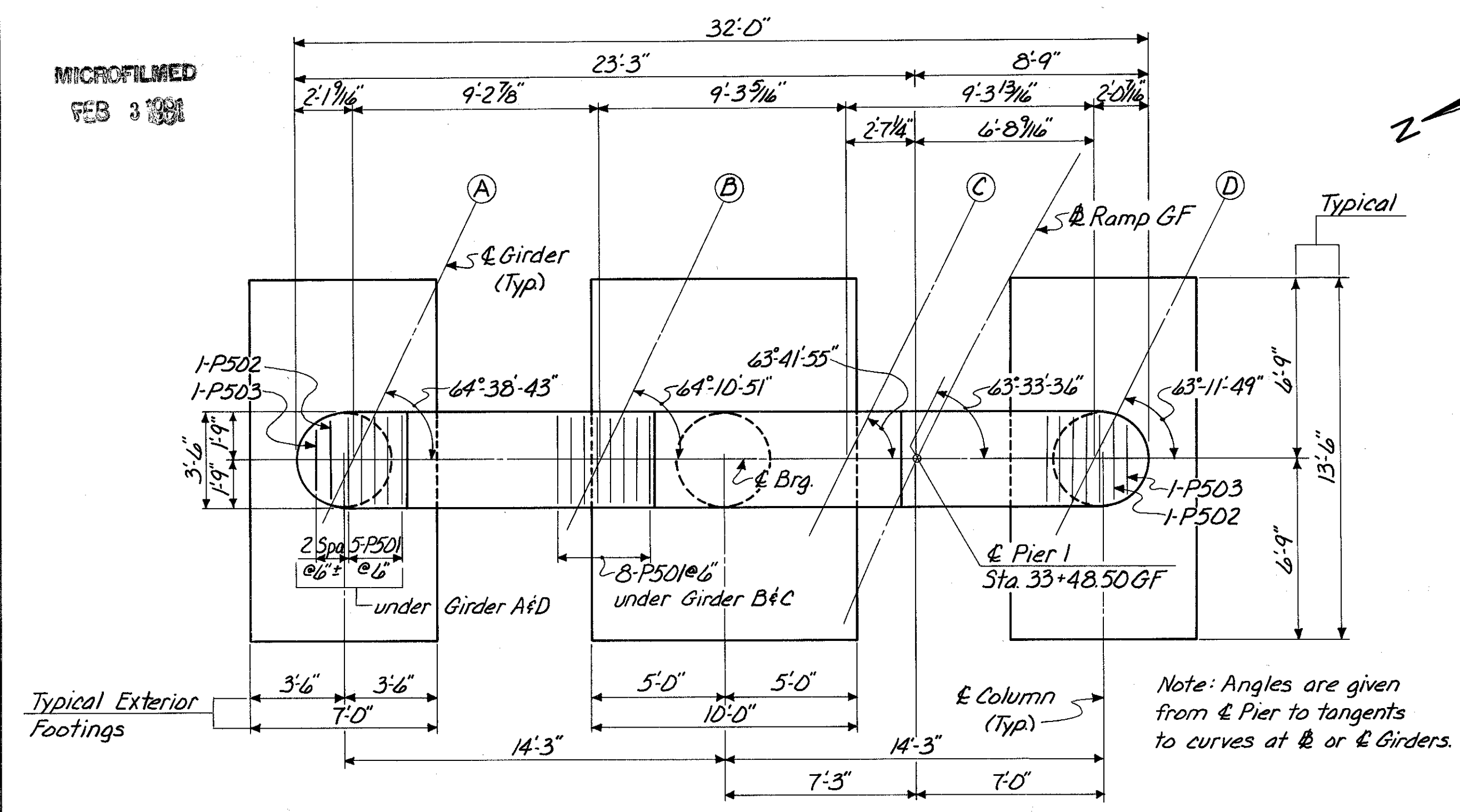
(Reinforcing steel typical for both wingwalls unless noted)

**SECTION B-B**

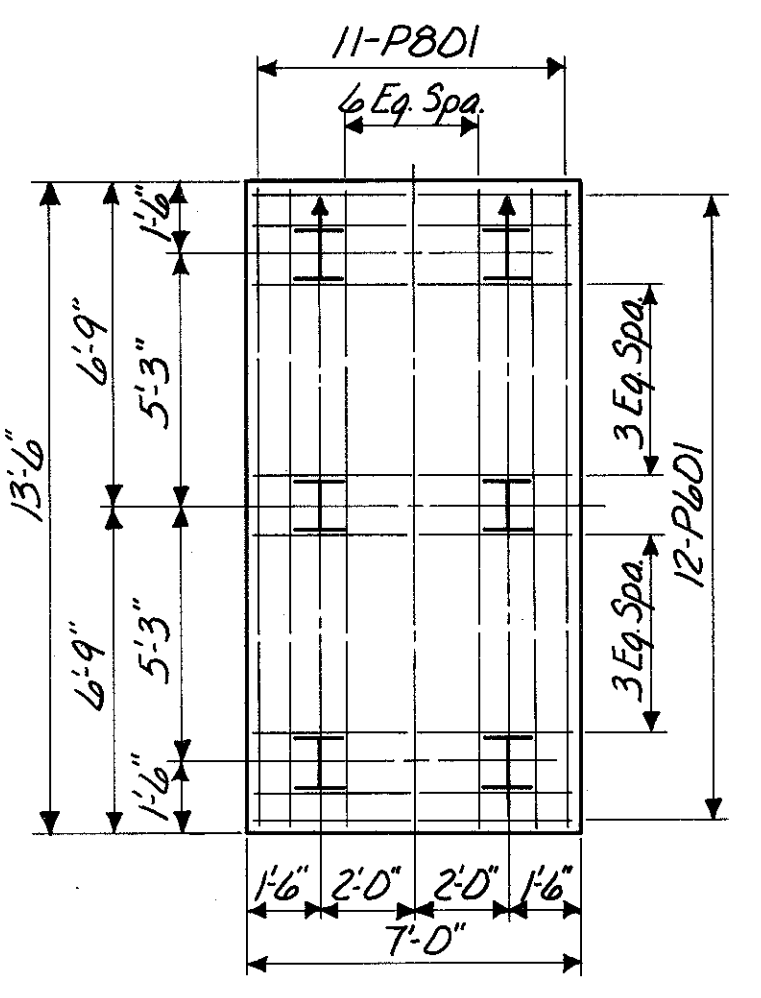
**SECTION C-C**

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					5/23
<b>REAR ABUTMENT</b>					
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE					
<b>H&amp;E BRIDGE NO. II</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
WL	CES		YWL	JHO 11-9-72	

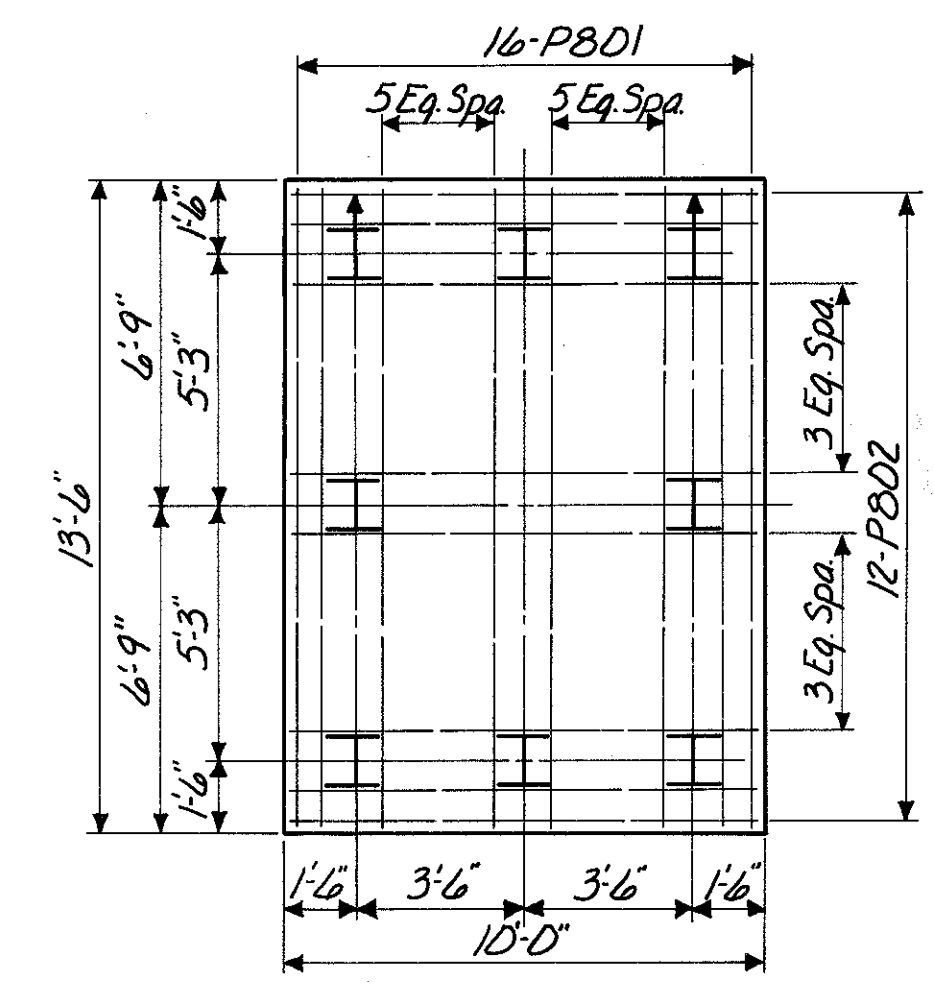
MICROFILMED  
FEB 3 1981



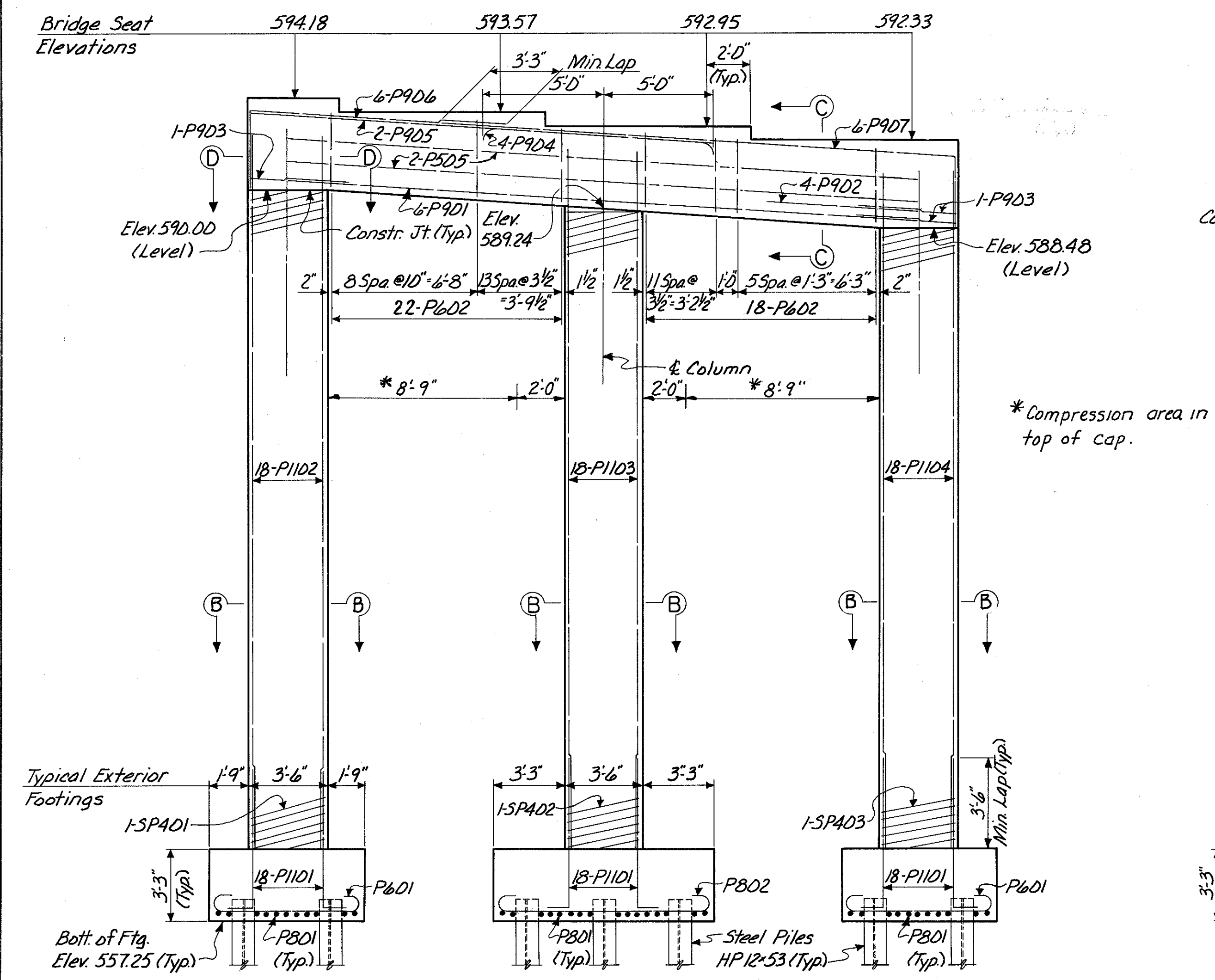
**PLAN**  
(Piles Not Shown)



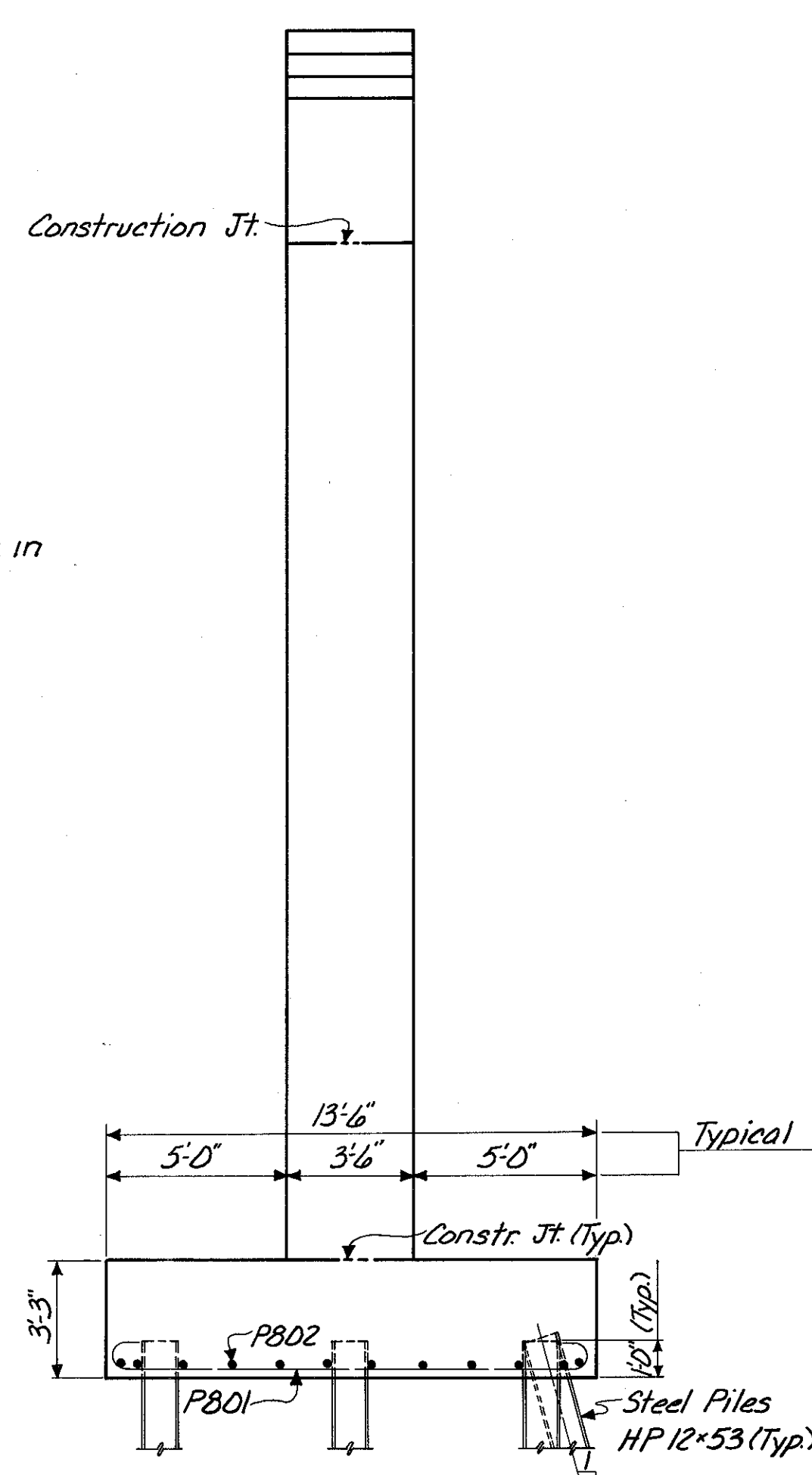
**EXTERIOR FOOTING**



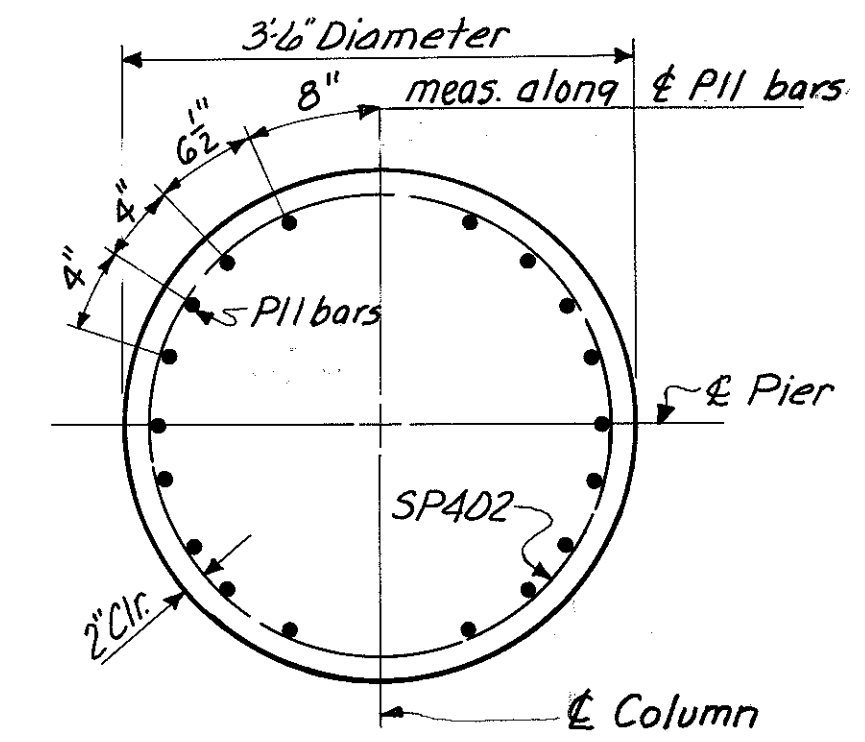
**INTERIOR FOOTING**



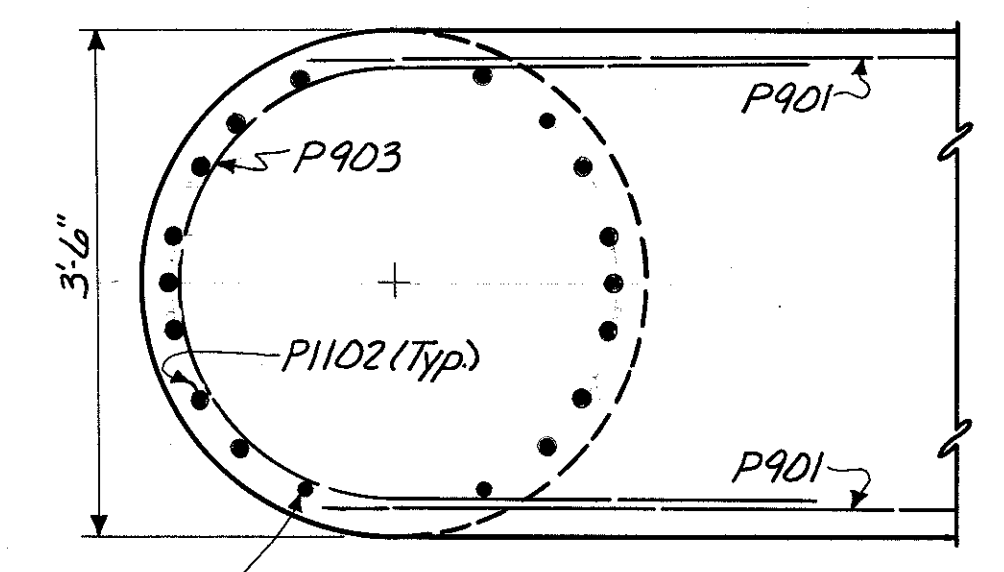
**ELEVATION**



**END ELEVATION**  
(Footing Shown is Interior Footing)

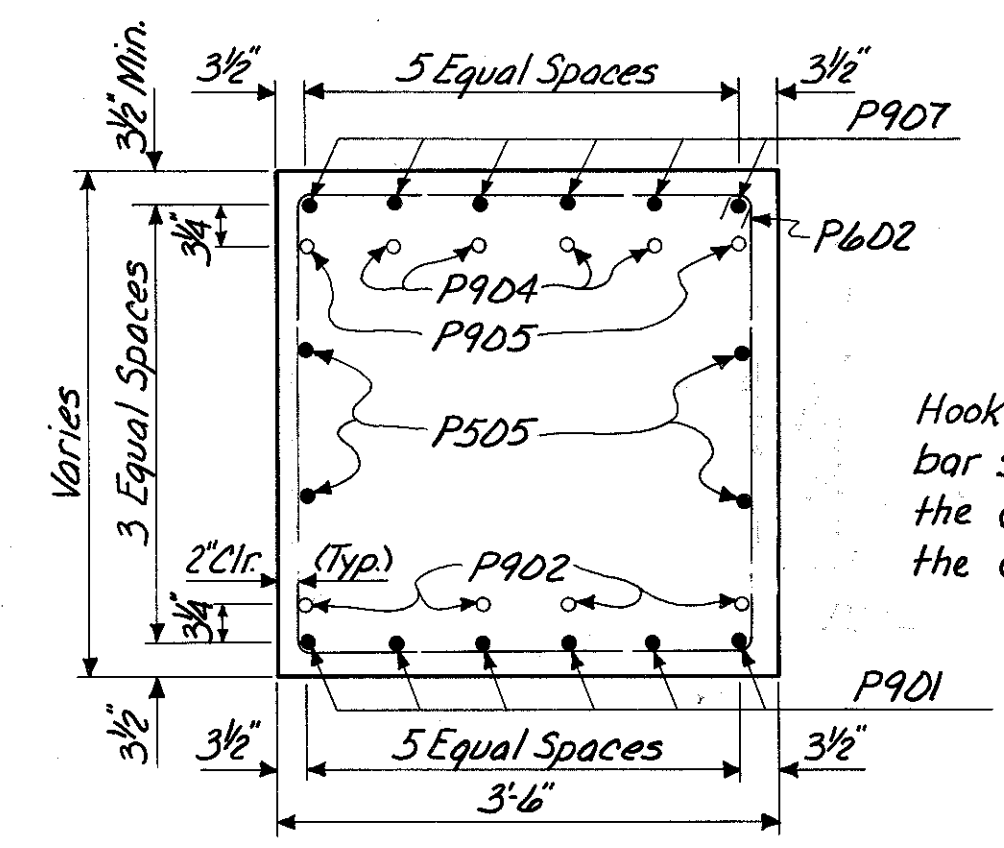


**SECTION B-B**



Note: Bars in Columns to be spaced to miss bottom cap reinforcing as dimensioned in Section C-C.

**SECTION D-D**



**SECTION C-C**

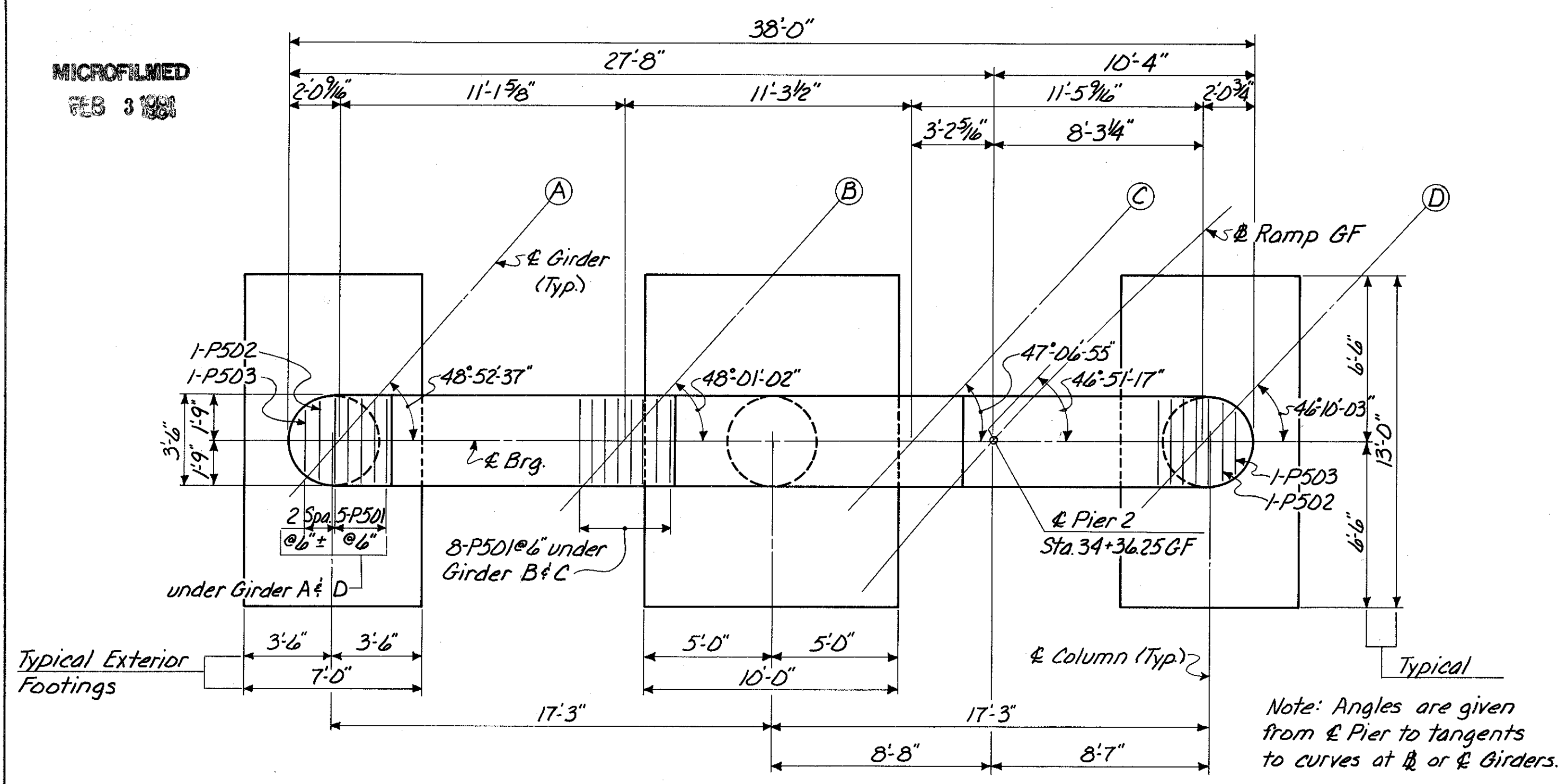
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				6/23
<b>PIER NO. 1 RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE</b>				
H&E BRIDGE NO. 11				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
W.L.	J.B.M.	G.C.K.	Y.Y.L.	J.H.O.
			4-5-71	11-9-72

MICROFILMED  
FEB 3 1981

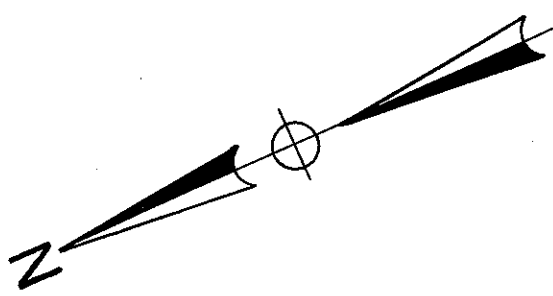
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

419  
494

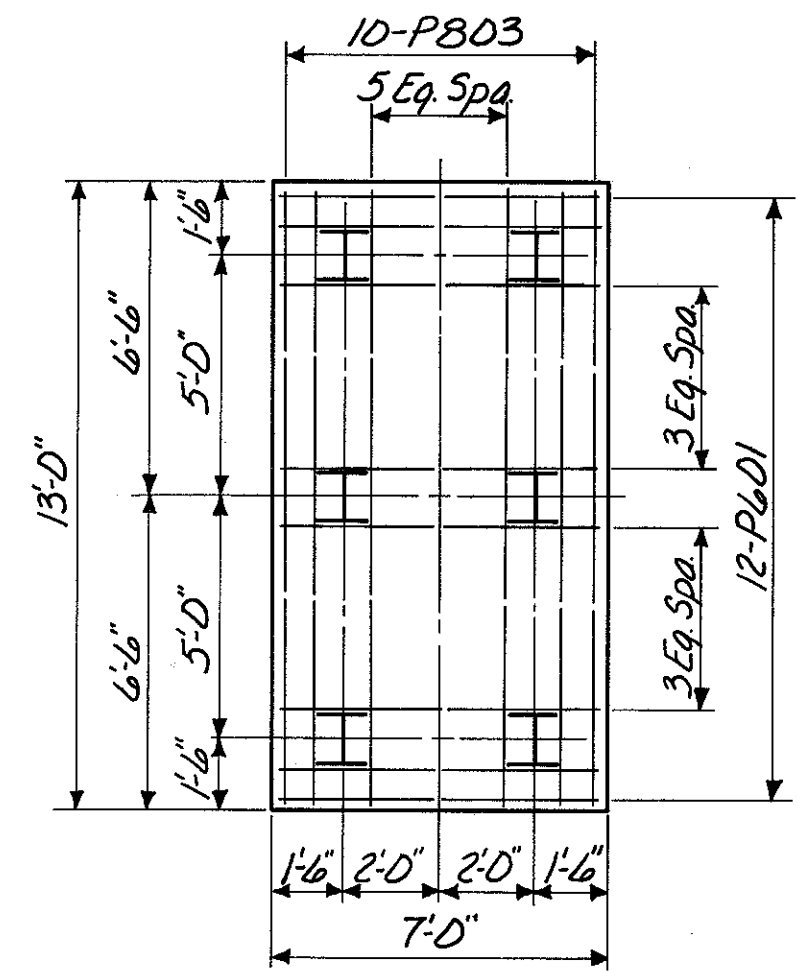
HAMILTON COUNTY  
HAM-471-0.30



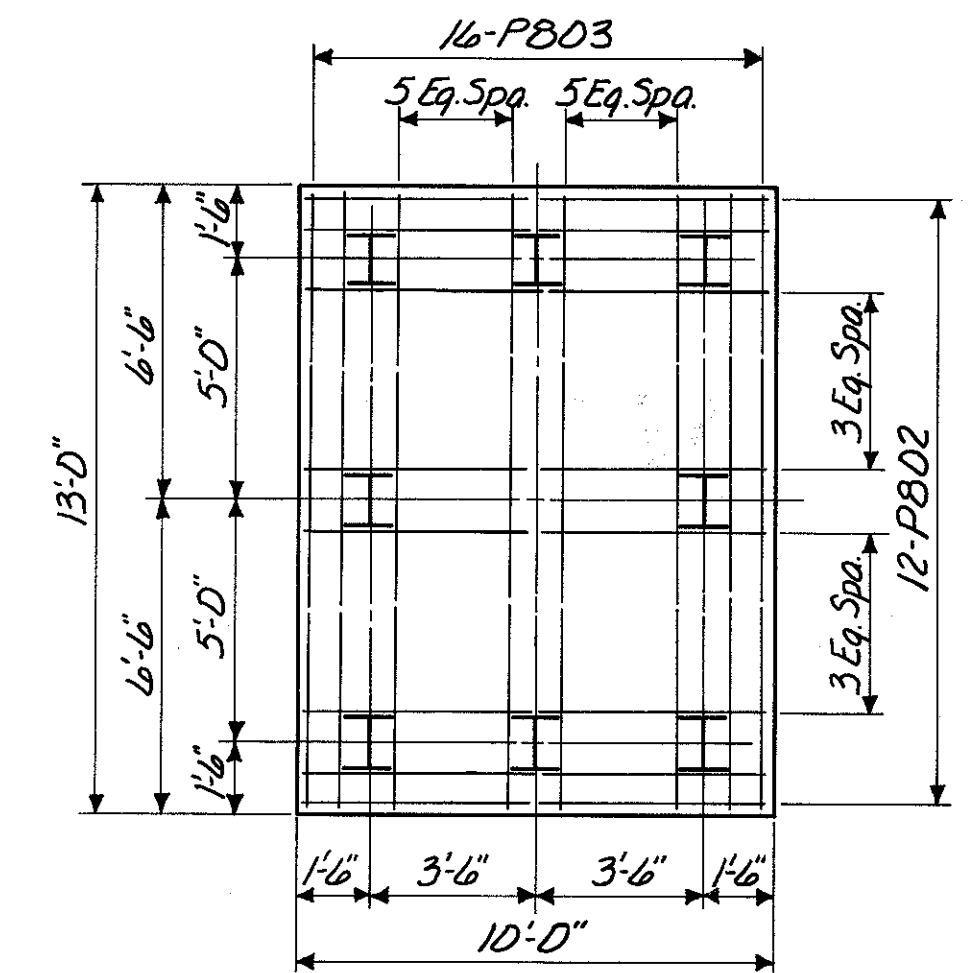
**PLAN**  
(Piles Not Shown)



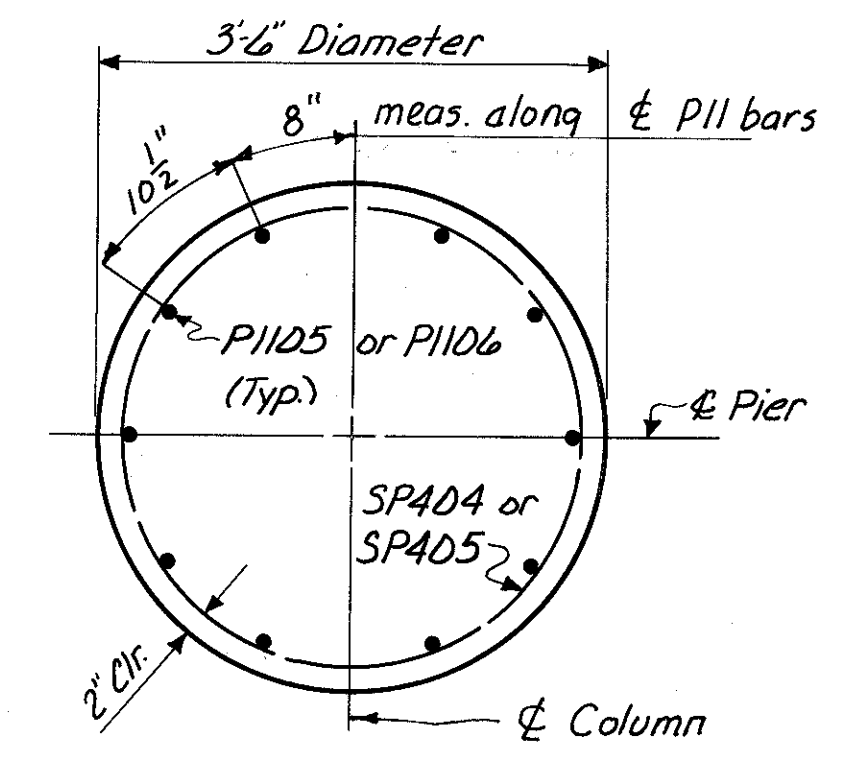
Note: Provide 3" clearance to reinforcing steel in footing, minimum.



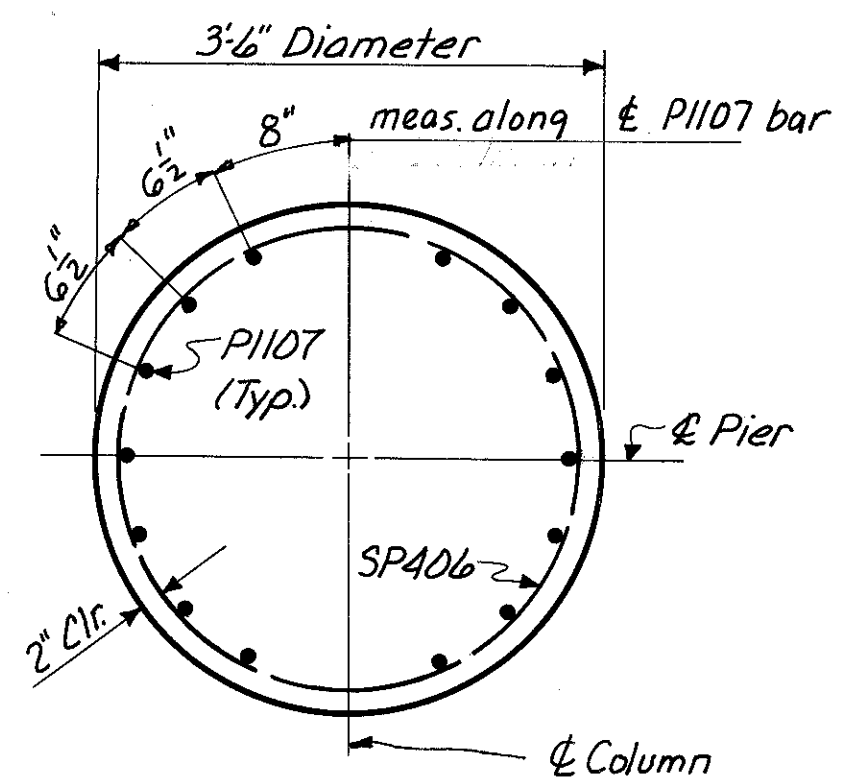
**EXTERIOR FOOTING**



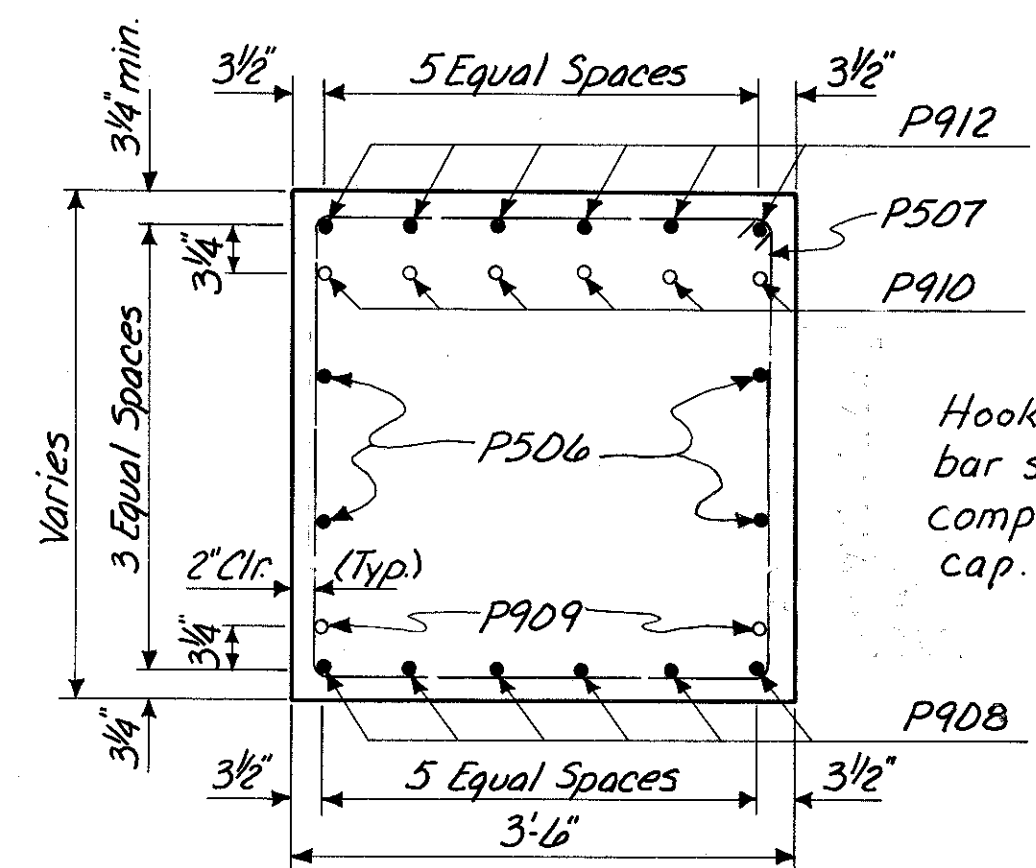
**INTERIOR FOOTING**



**SECTION A-A**

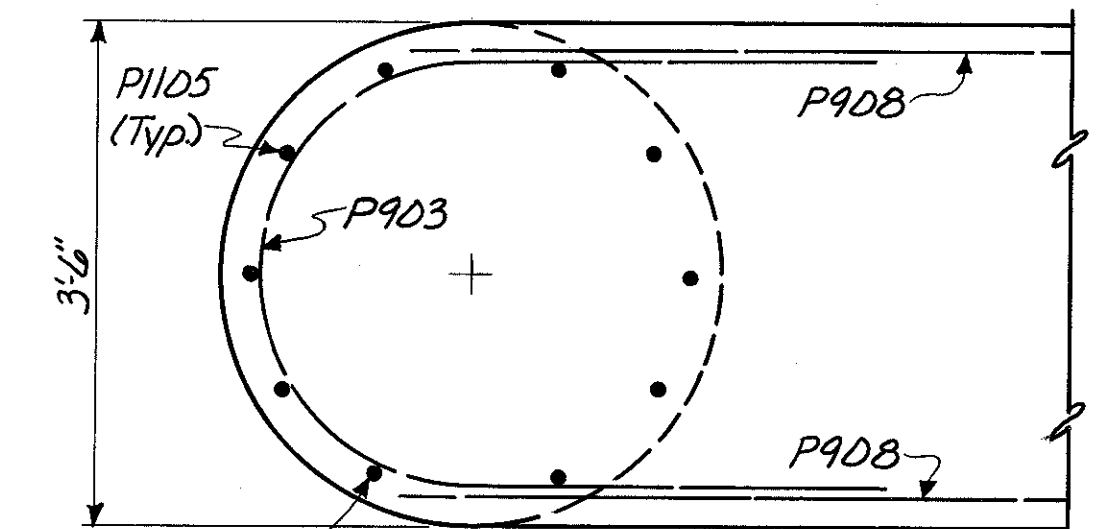


**SECTION B-B**



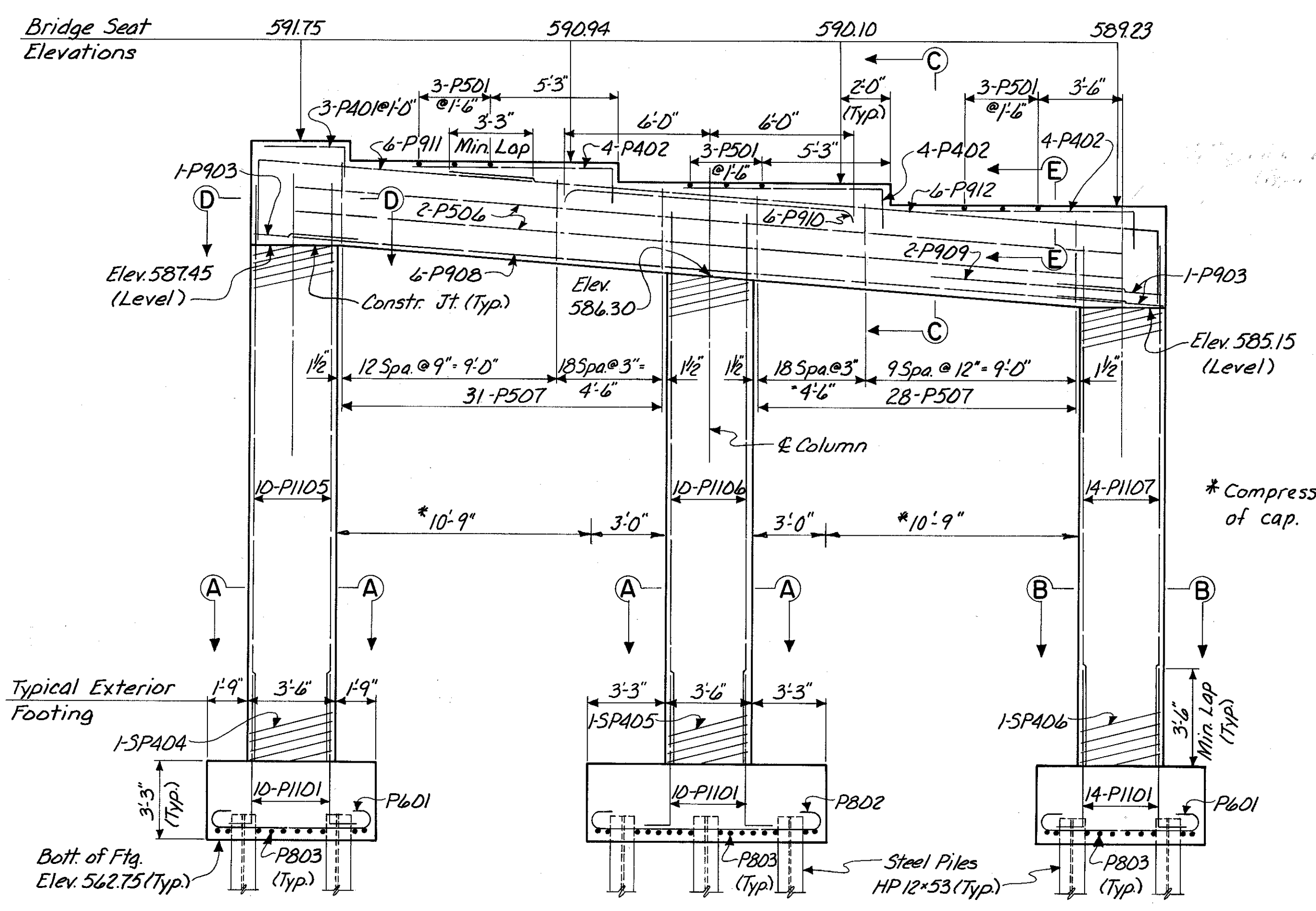
**SECTION C-C**

Hooked corner of P507 bar shall be placed in the compression area of the cap.

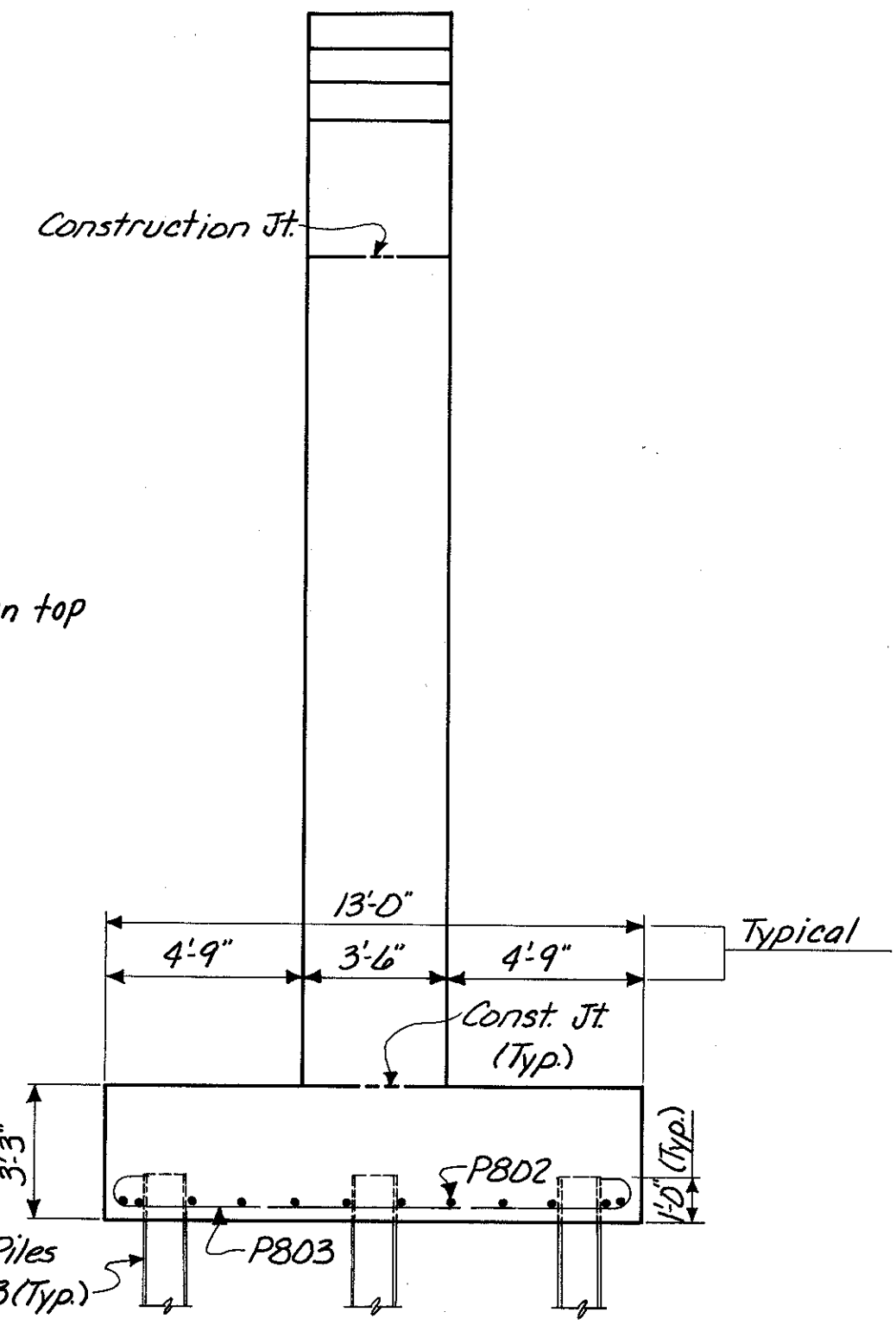


**SECTION D-D**

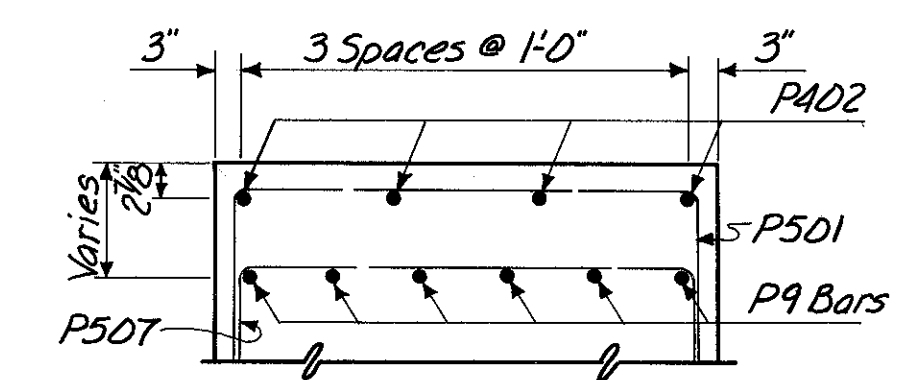
Note: Bars in Columns to be spaced to miss bottom cap reinforcing as dimensioned in Section C-C.



**ELEVATION**



**END ELEVATION**  
(Footing Shown is Interior Footing)



**SECTION E-E**

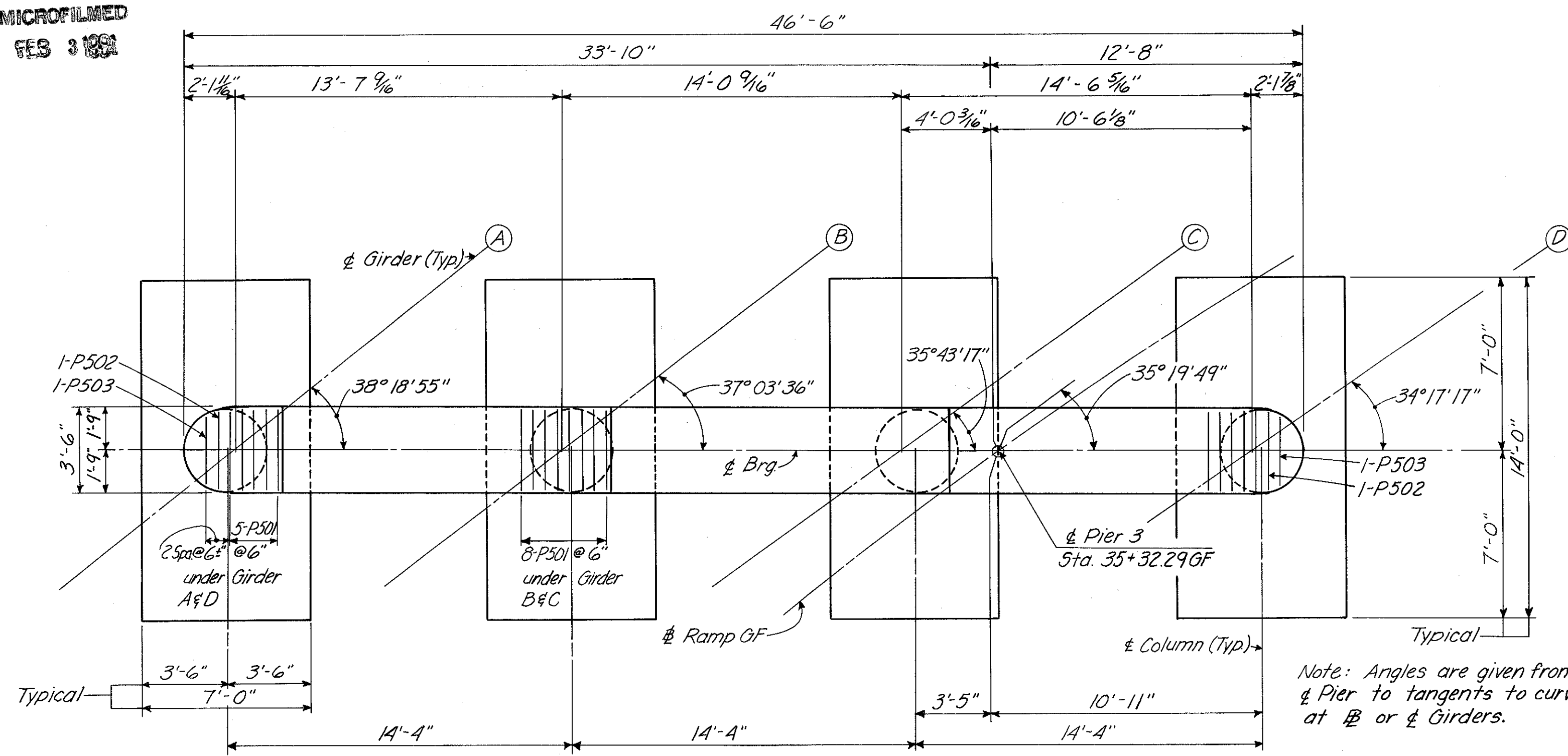
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					7/23
<b>PIER NO. 2</b>					
<b>RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE</b>					
H&E BRIDGE NO. 11					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.B.M.	G.C.K.	W.L.	J.H.O.	
			4-5-71	11-9-72	

MICROFILMED  
FES 3182

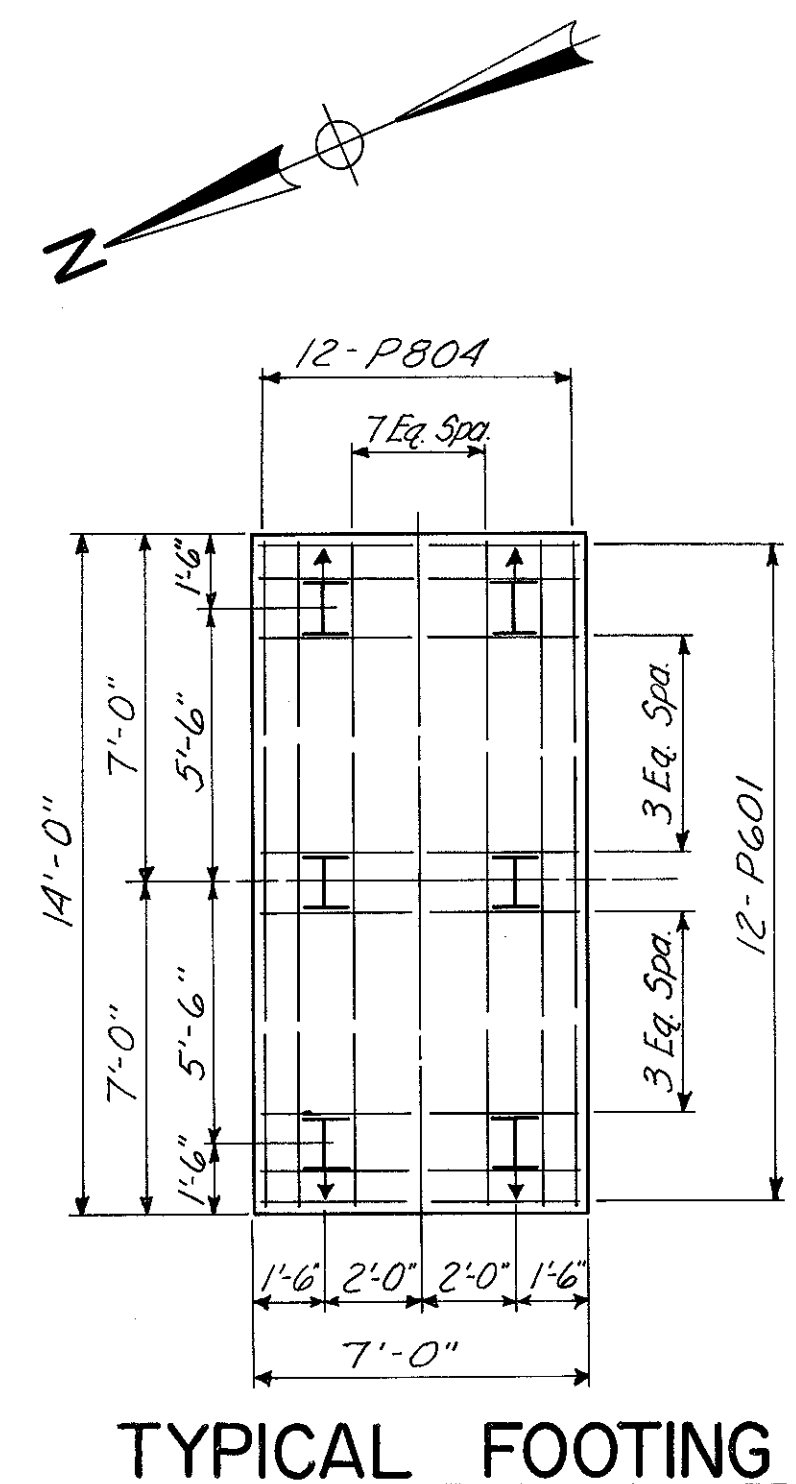
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

420  
494

HAMILTON COUNTY  
HAM-471-0.30

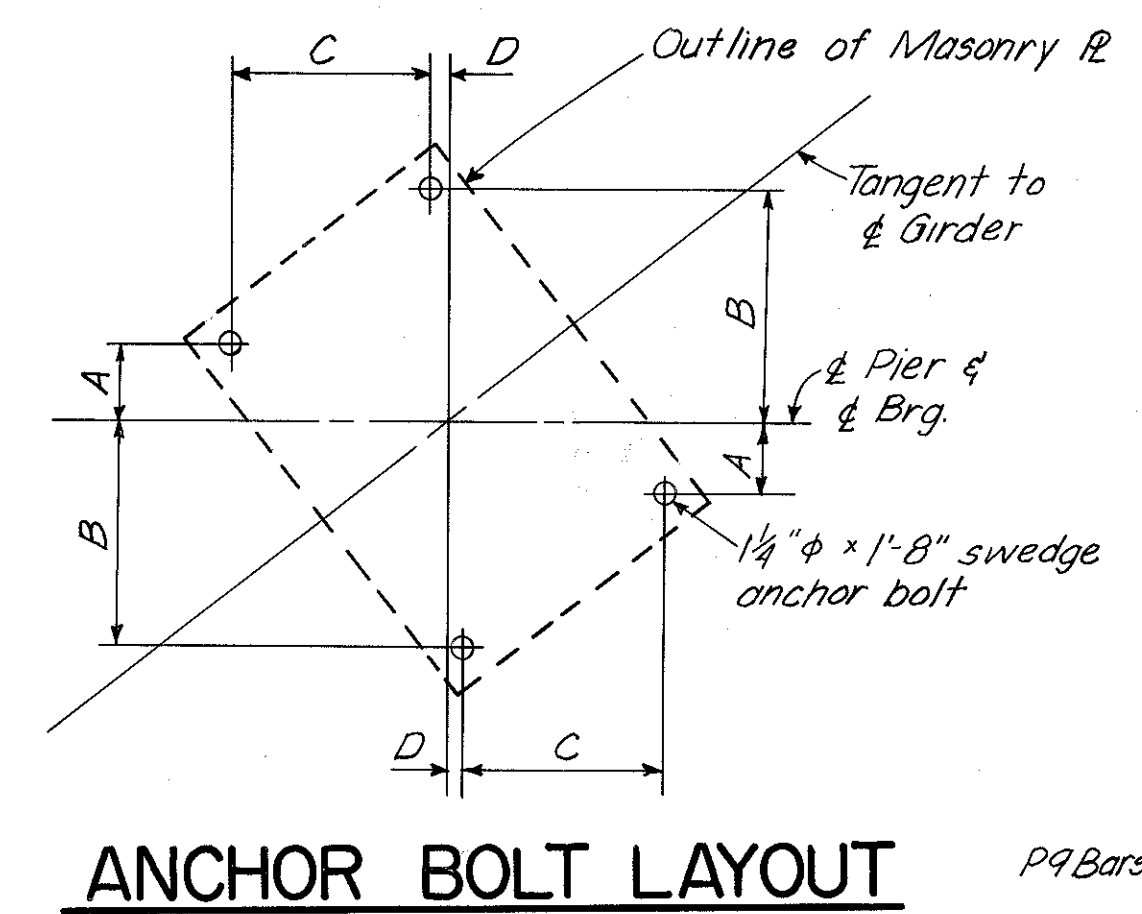


**PLAN**  
(Piles not shown)



**TYPICAL FOOTING**

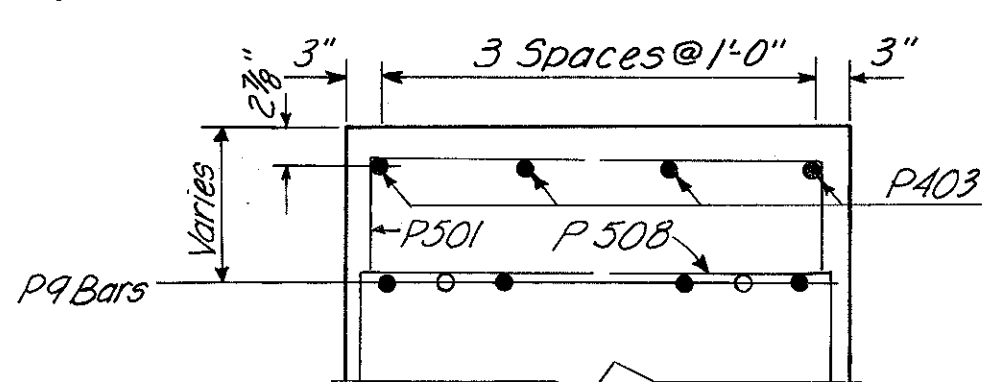
Note:  $\nabla$  denotes battered pile.



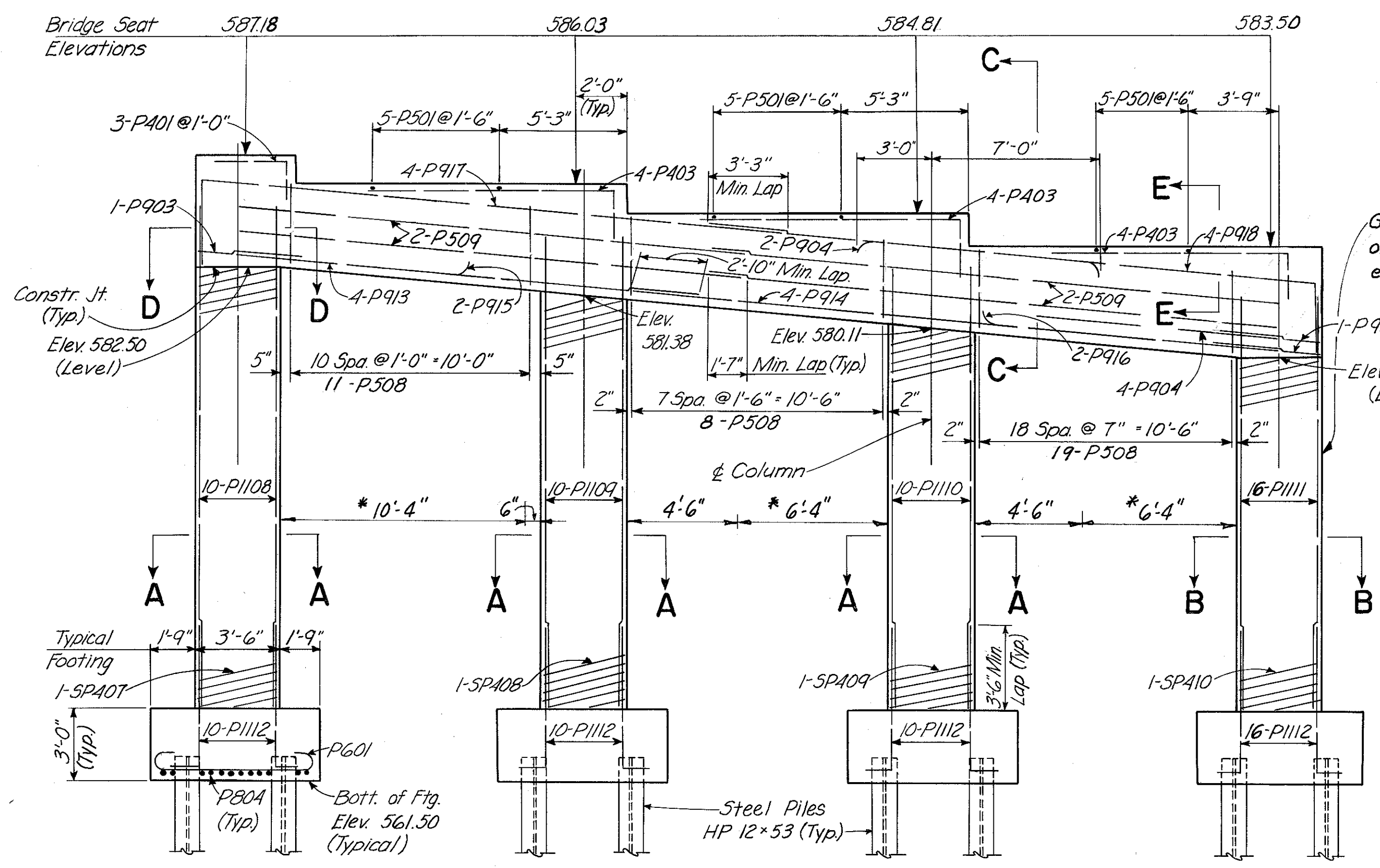
**ANCHOR BOLT LAYOUT**

**ANCHOR BOLT LAYOUT**

GIRDER	DIMENSIONS			
	A	B	C	D
A	4 1/4"	1'-2 3/8"	1'-0 9/16"	1 3/16"
B	4 3/4"	1'-2 3/8"	1'-0 3/4"	7/8"
C	5 1/4"	1'-2 1/16"	1'-1"	1/2"
D	5 1/4"	1'-2 1/16"	1'-1 1/4"	1/8"



**SECTION E-E**

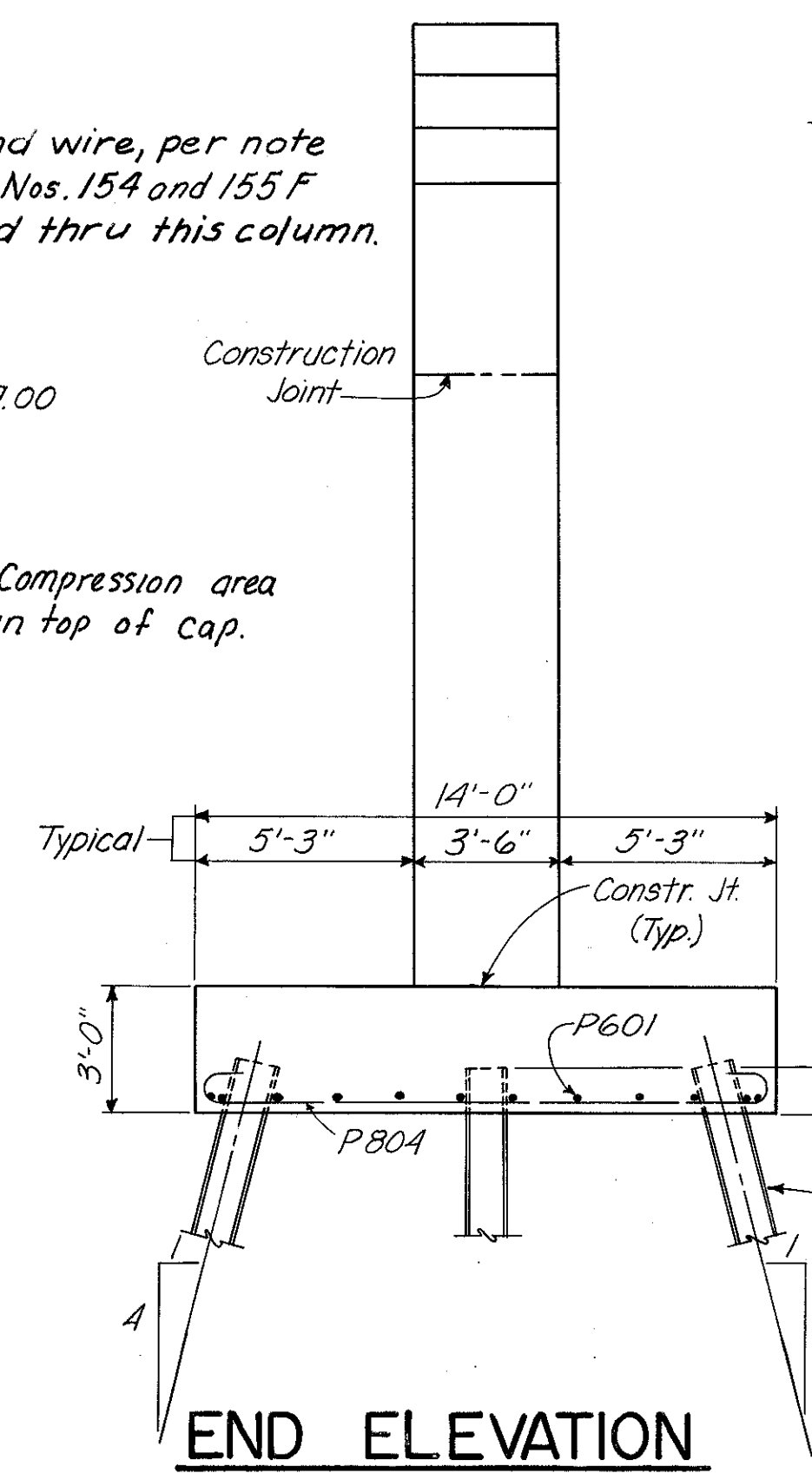


**ELEVATION**

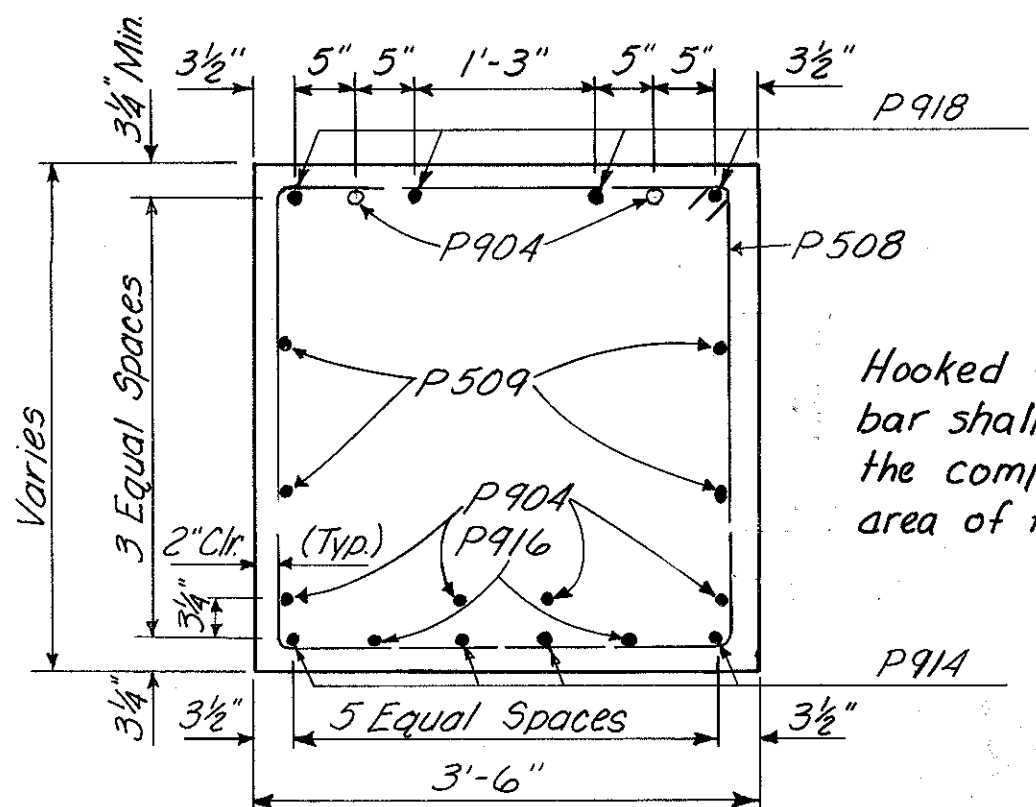
Note: Reinforcing Steel Typical for all Footings, except dowels.

Ground wire, per note on Sh. Nos. 154 and 155 F extend thru this column.

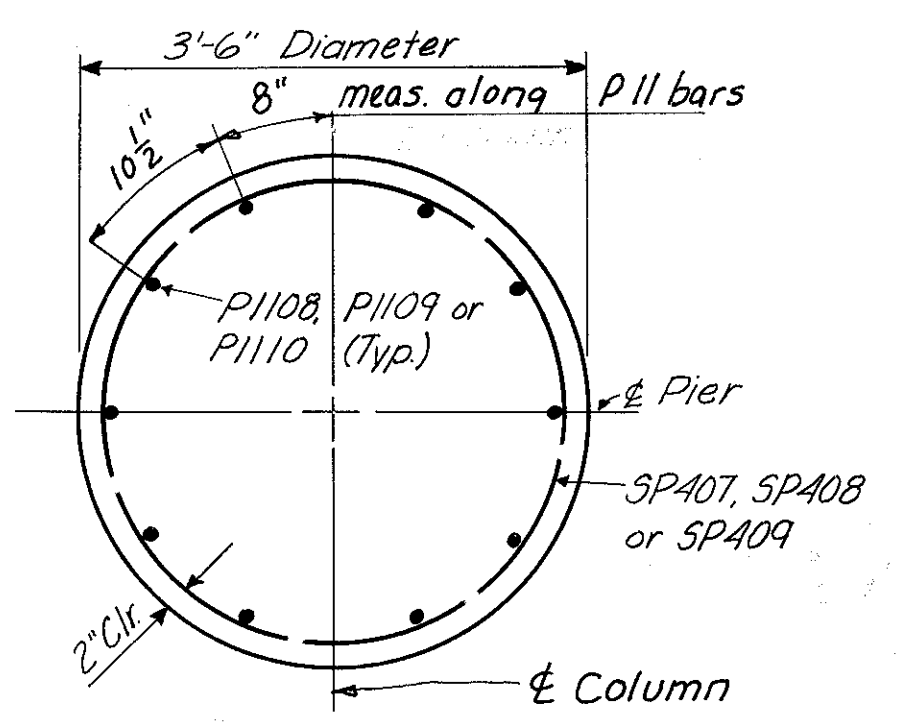
\* Compression area in top of cap.



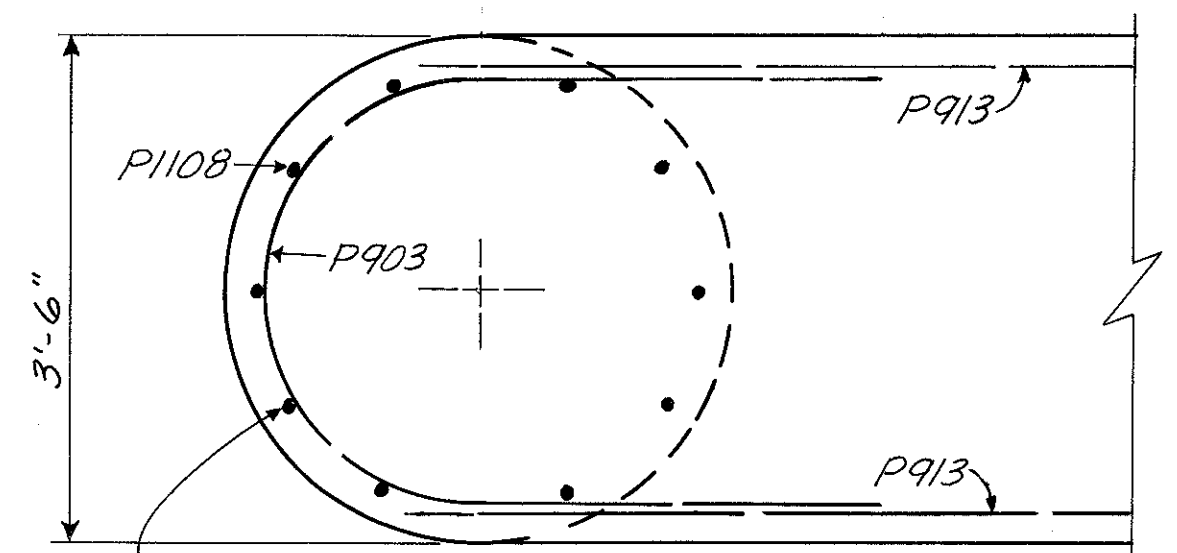
**END ELEVATION**



**SECTION C-C**

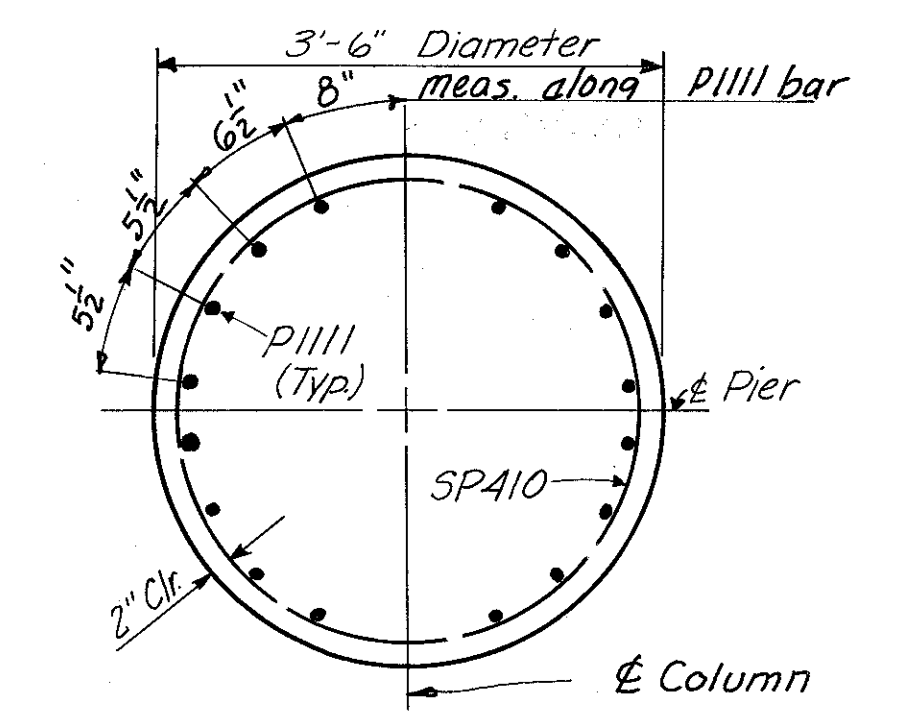


**SECTION A-A**



**SECTION D-D**

Note: Bars in columns to be spaced to miss bottom cap reinforcing as dimensioned in section C-C.



**SECTION B-B**

Note: Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bolt holes. Provide 3" clearance to reinforcing steel in footings, minimum.

HAZLET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

8 / 23

**PIER NO. 3**  
**RAMP GF OVER PENN-CENTRAL**  
**RAILROAD AND GILBERT AVENUE**

**H&E BRIDGE NO.11**

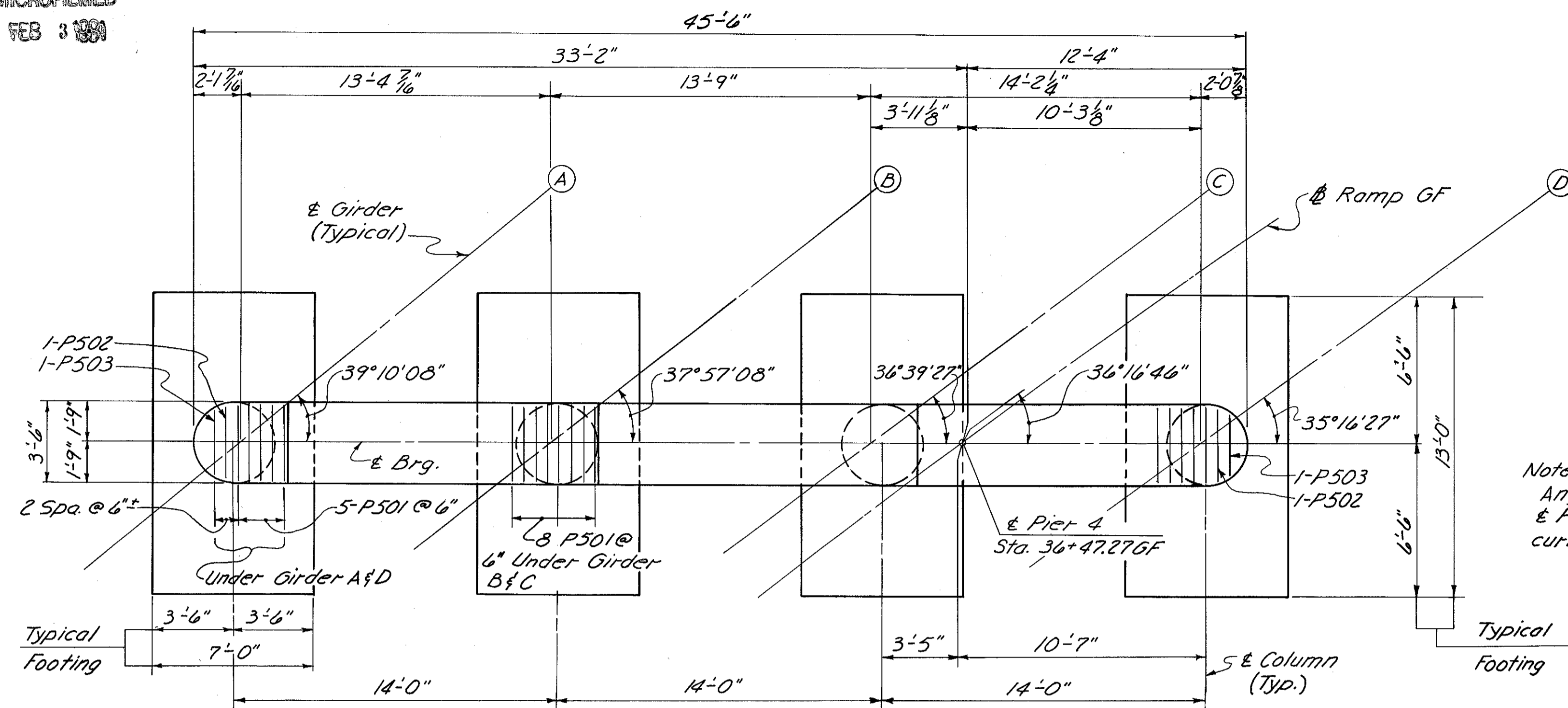
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.B.M.	NRK	J.A.C.	11-9-72	

MICROFILMED  
FEB 3 1988

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

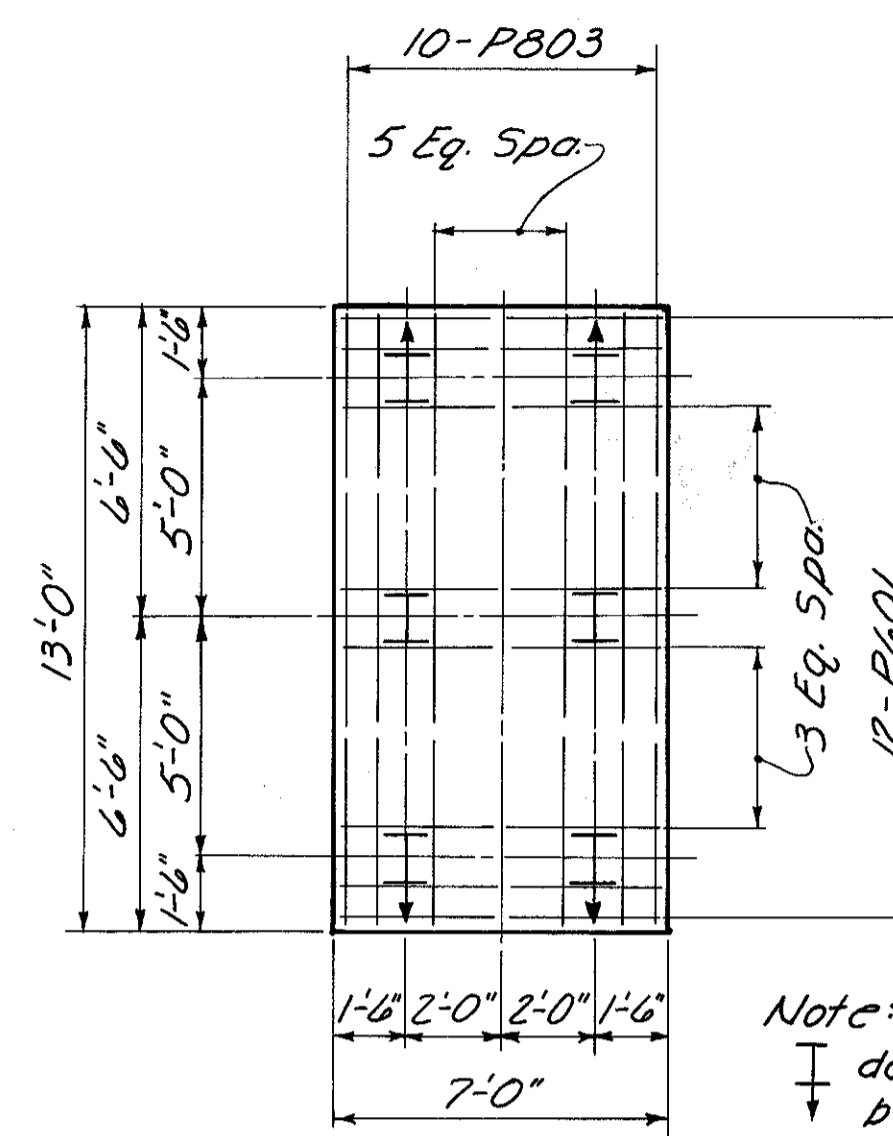
421  
494

HAMILTON COUNTY  
HAM-471-0.30



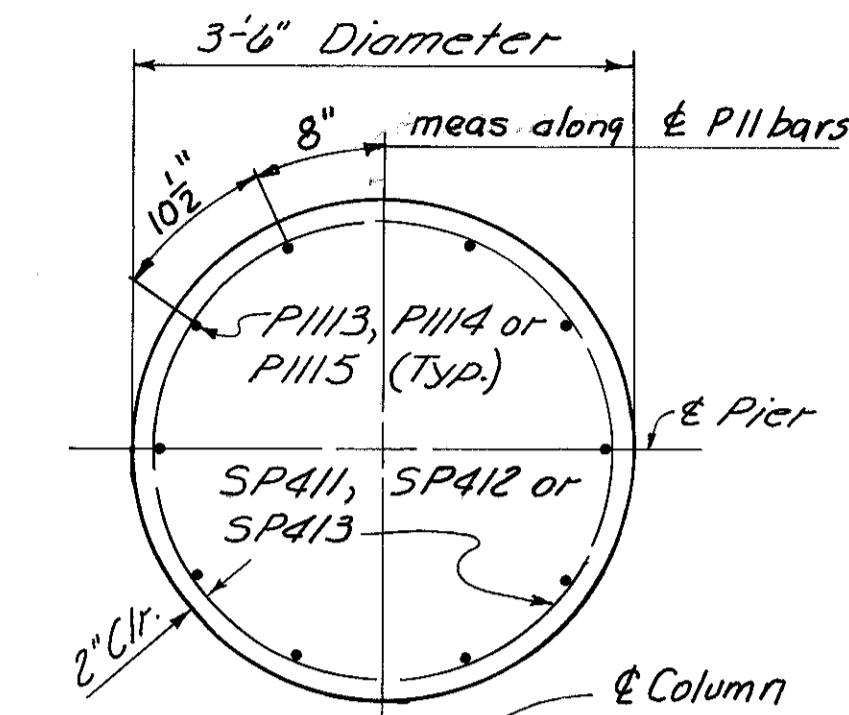
**PLAN**  
(Piles Not Shown)

Note:  
Angles are given from  
& Pier to tangents to  
curves at & or & Girders.

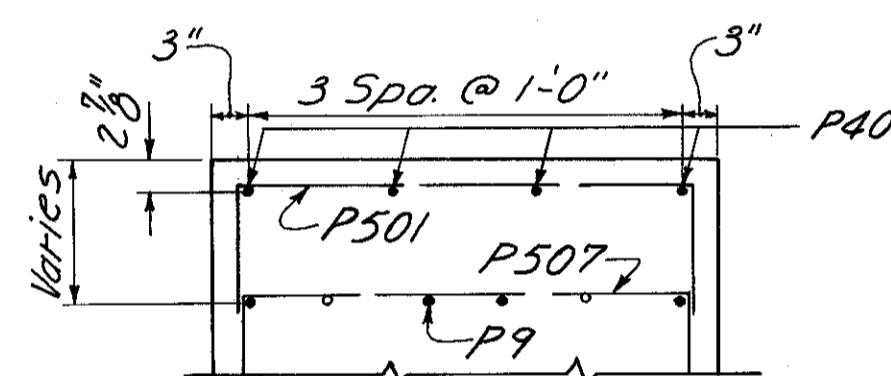


**TYPICAL FOOTING**

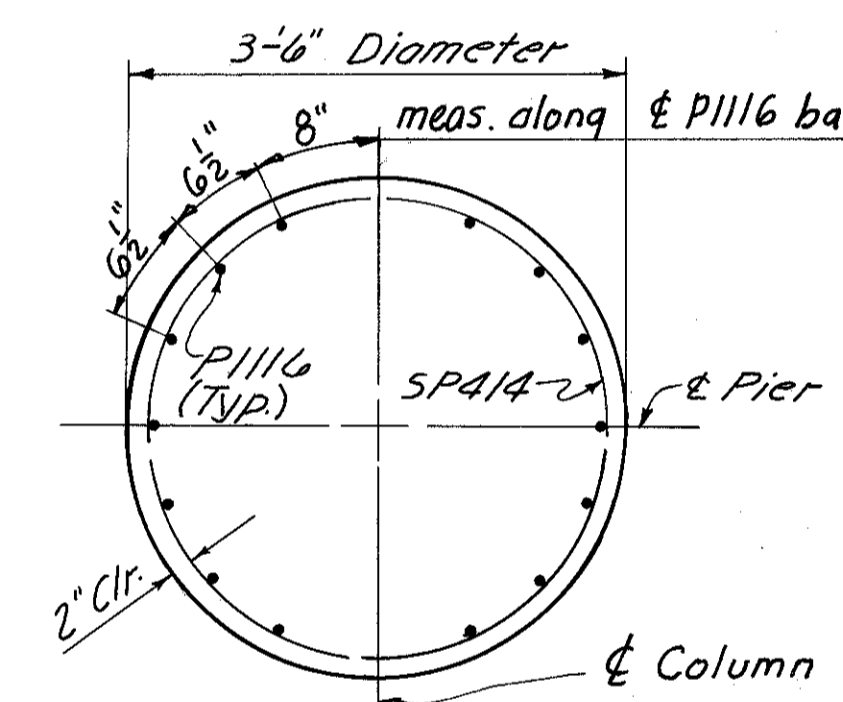
Note:  
↓ denotes  
battered Piles



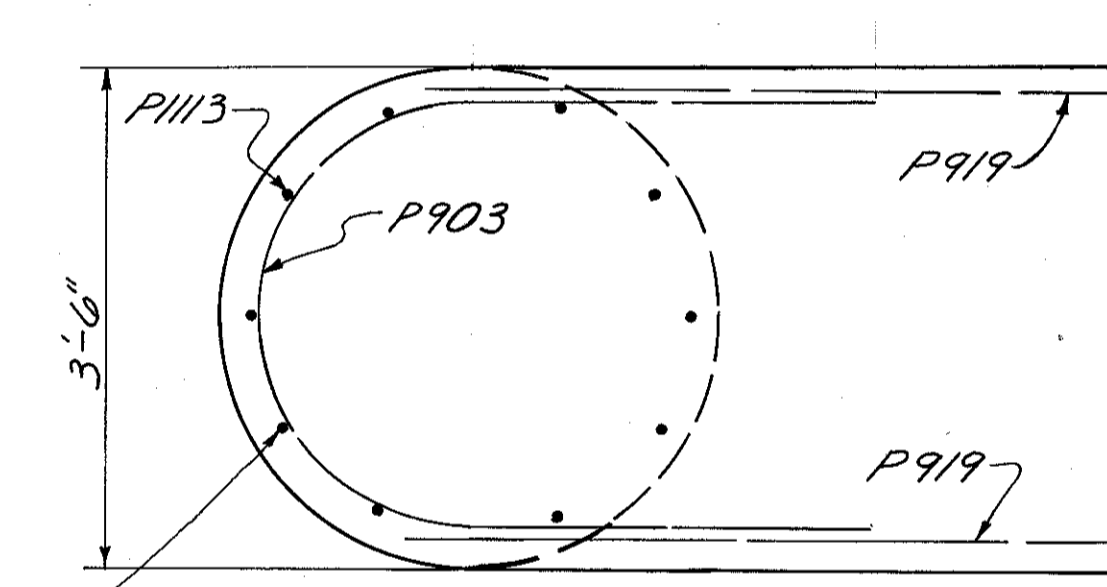
**SECTION A-A**



**SECTION E-E**

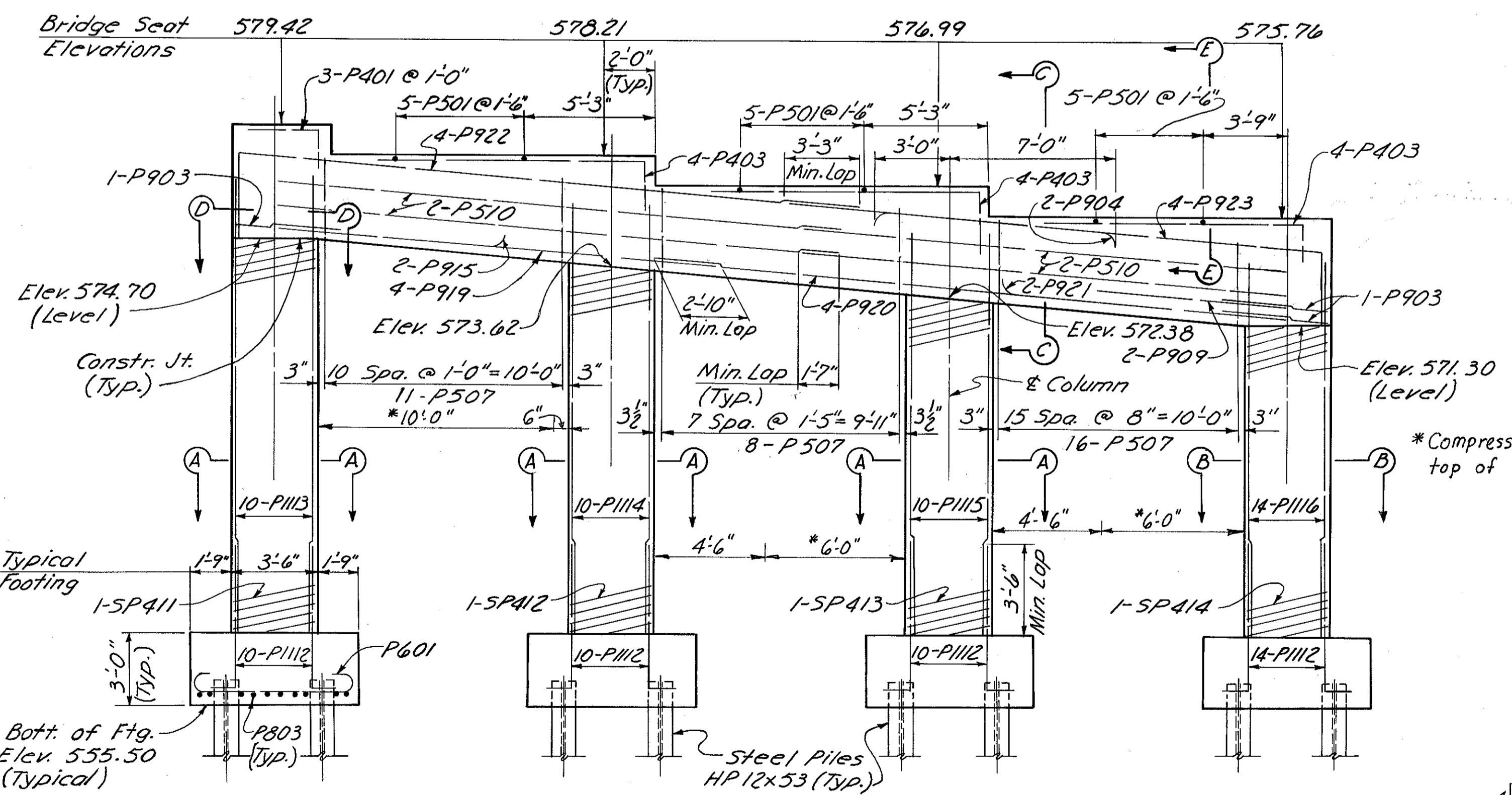


**SECTION B-B**



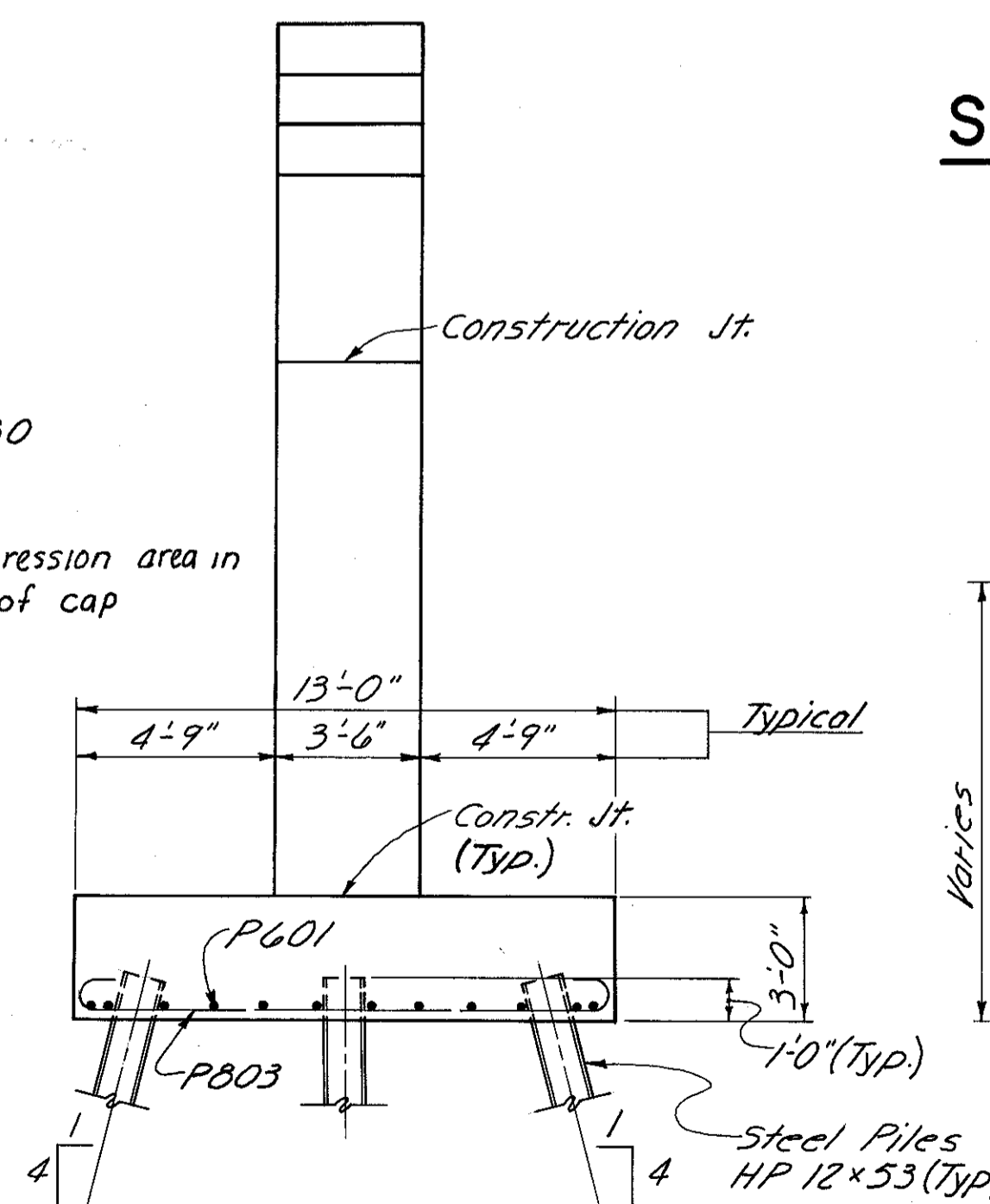
**SECTION D-D**

Bars in columns to be spaced to  
miss bottom cap reinforcing as  
dimensioned in Section C-C.

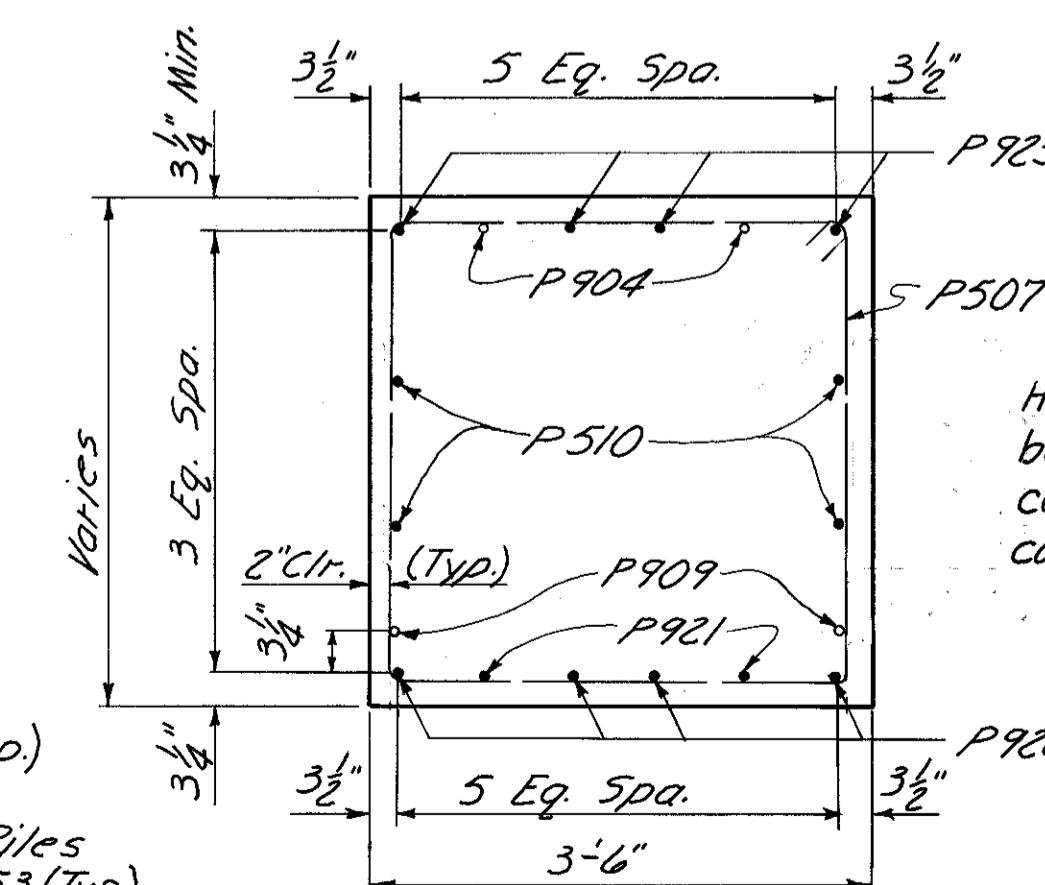


**ELEVATION**

Note: Reinforcing Steel Typical  
for all Footings, except  
dowels.



**END ELEVATION**



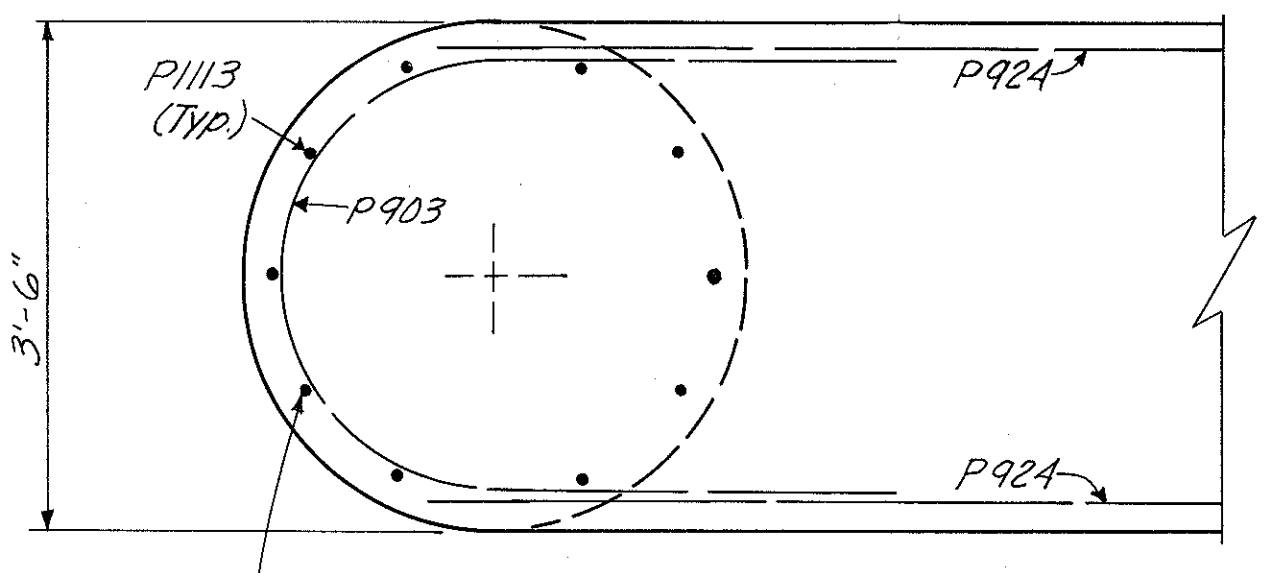
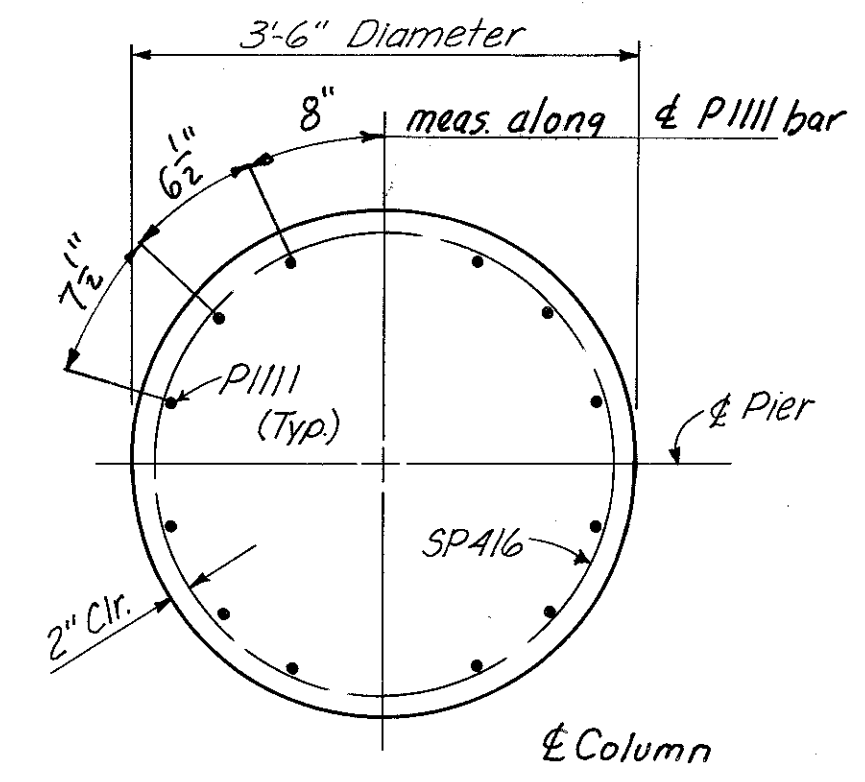
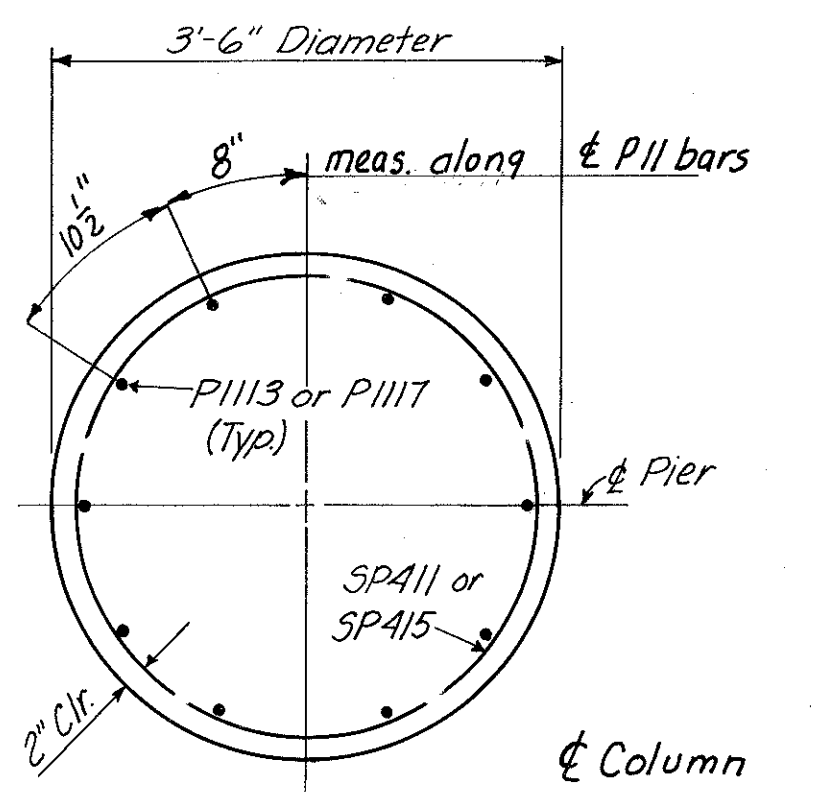
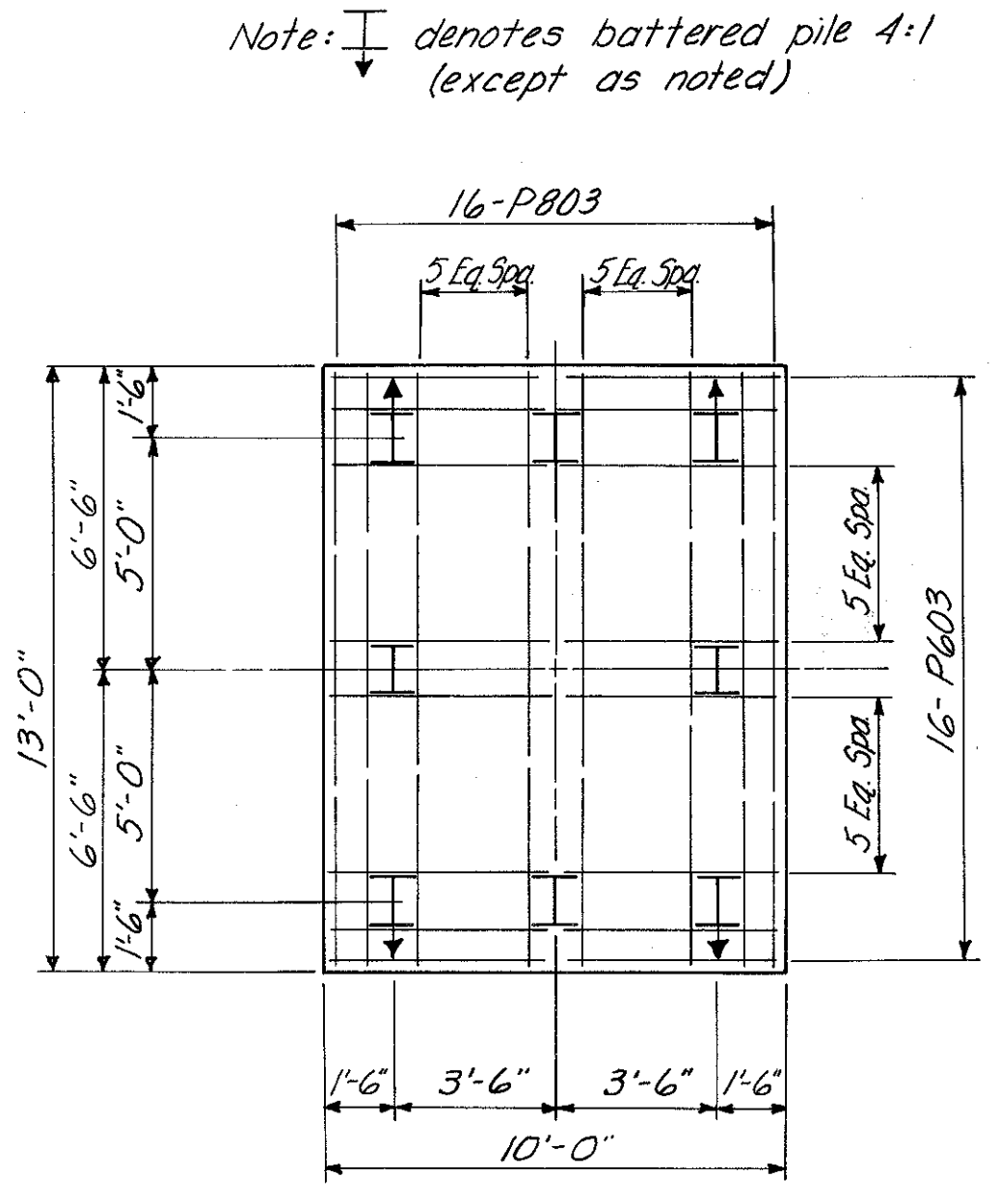
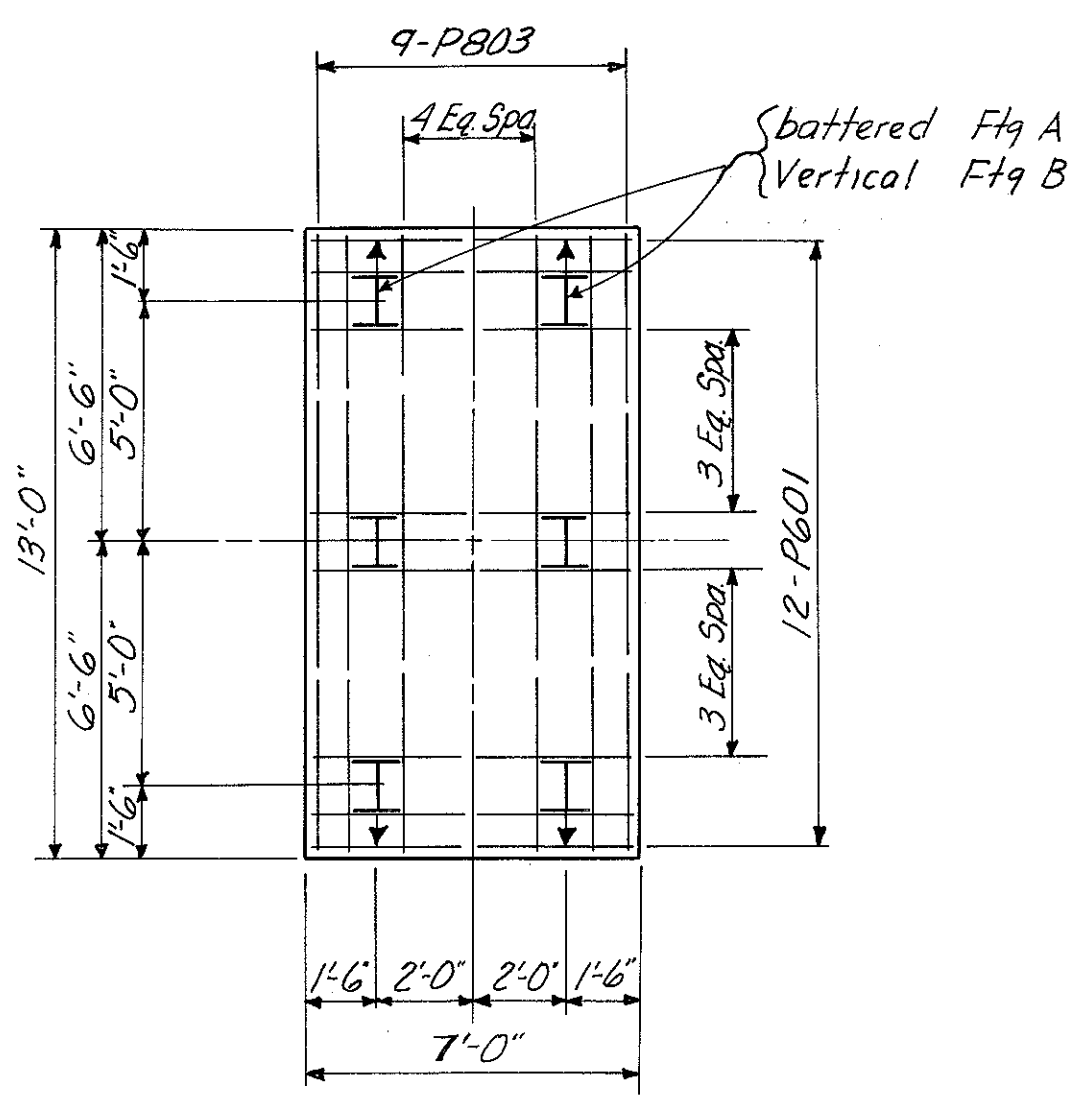
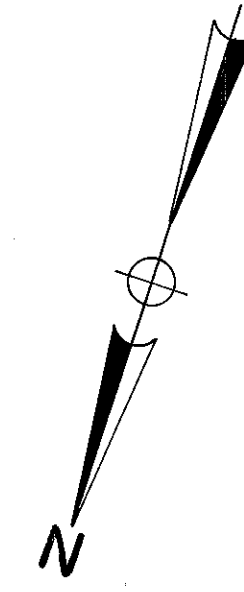
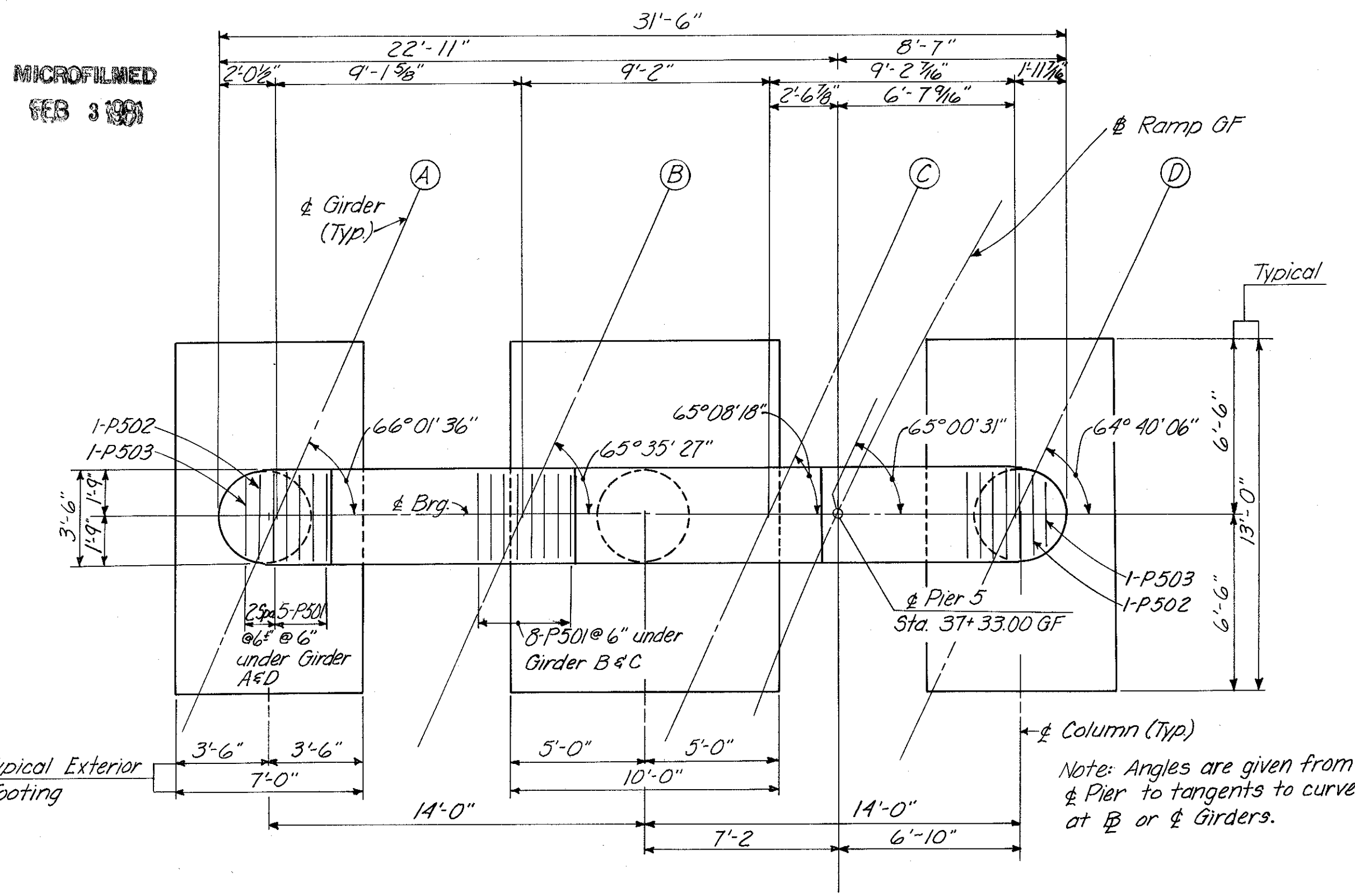
**SECTION C-C**

Note:  
Provide 3" clearance to reinforcing  
steel in footings, minimum.

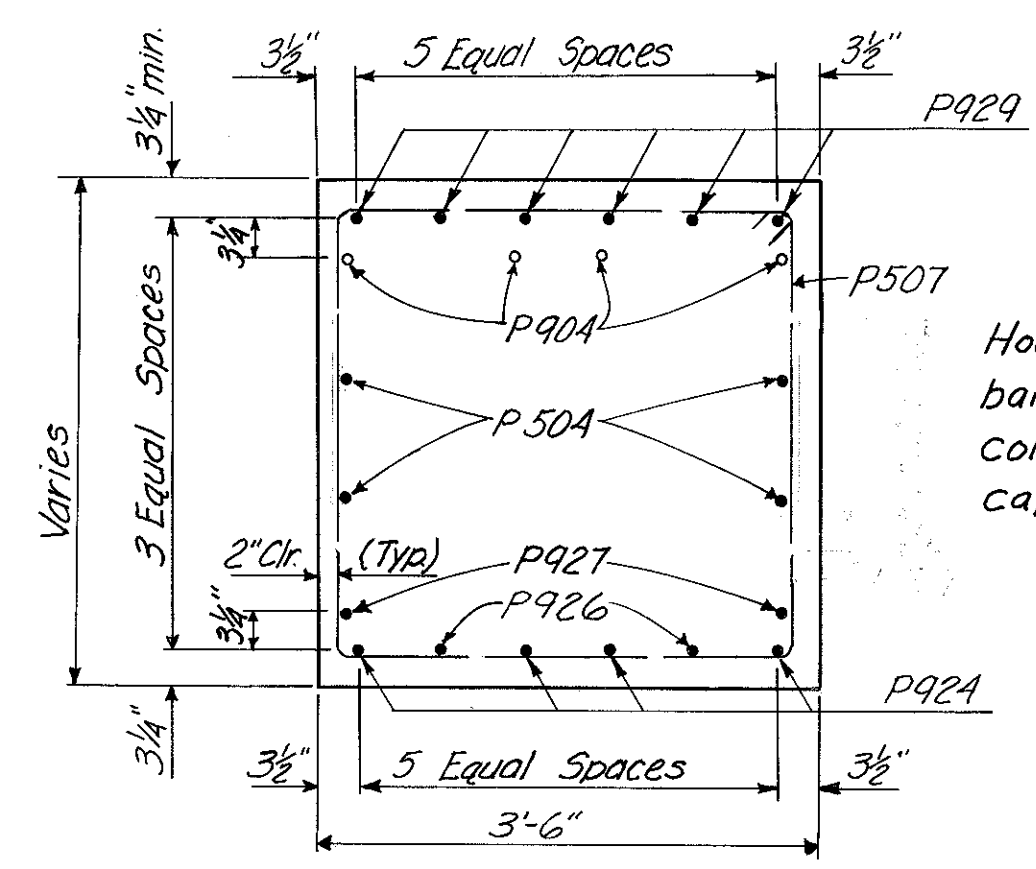
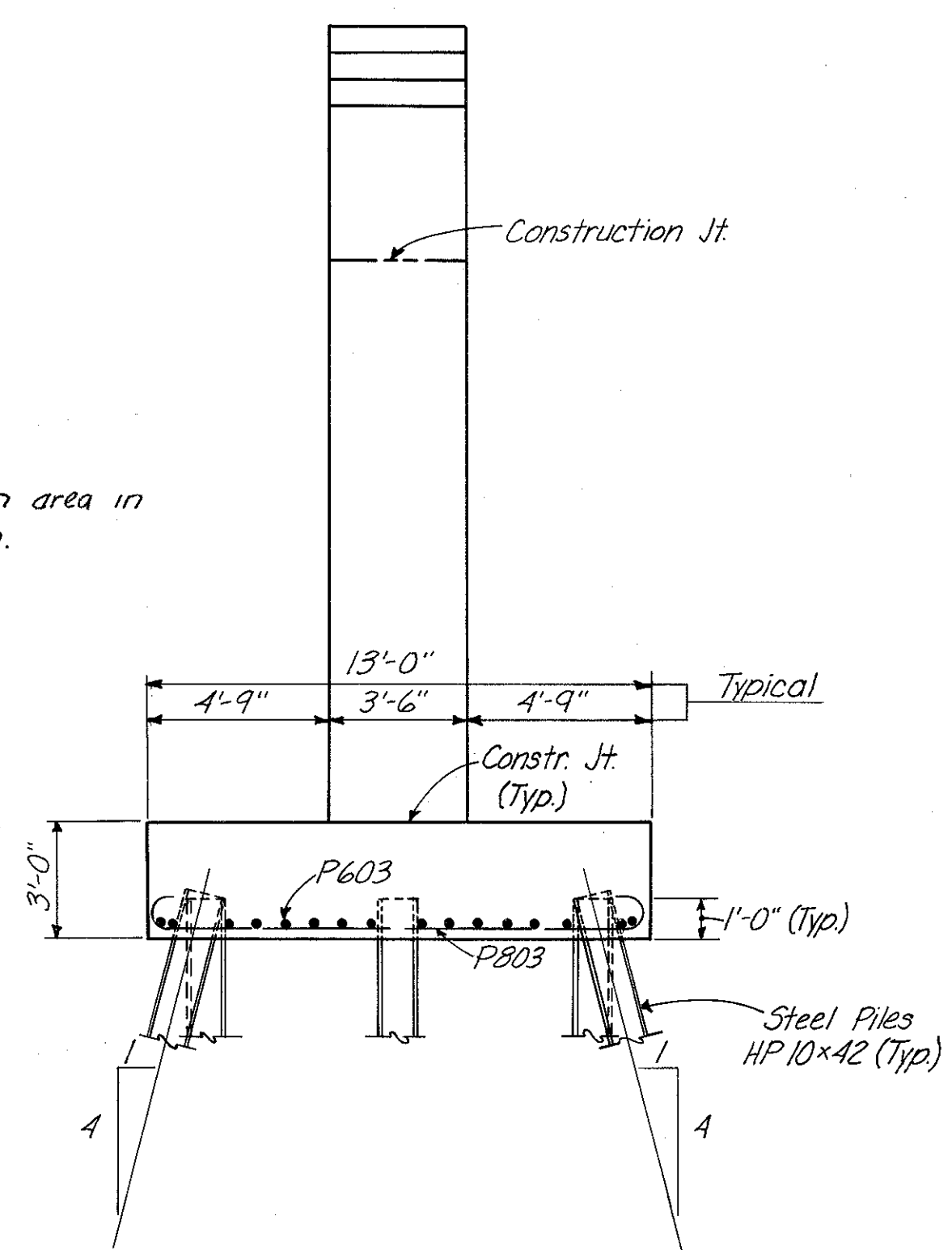
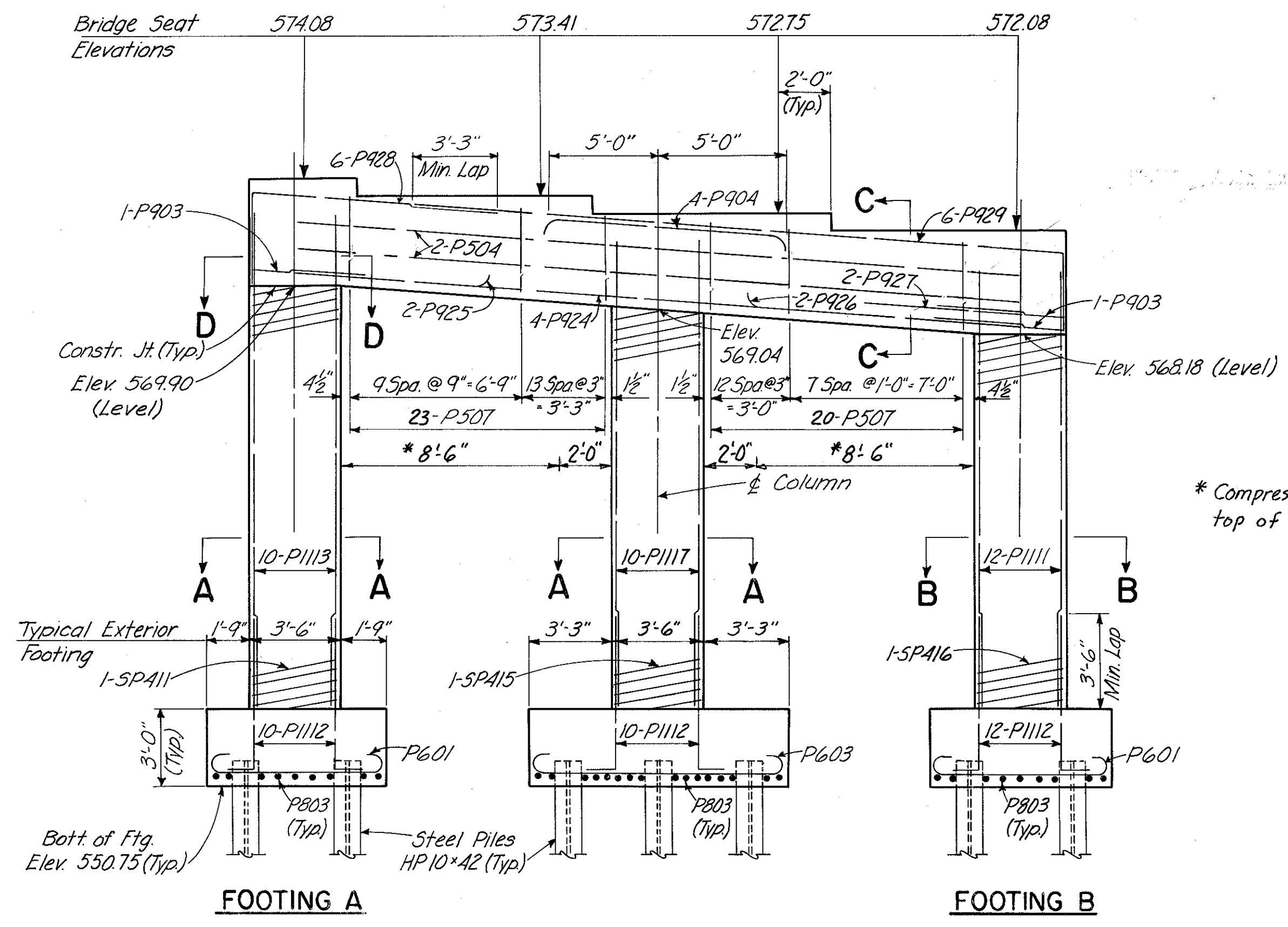
Hooked corner of P507  
bar shall be placed in the  
compression area of the  
cap.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					9/23
<b>PIER NO. 4</b>					
<b>RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE</b>					
H&E BRIDGE NO.11					
DESIGNED W.L.	DRAWN J.B.M.	TRACED D.B.S.	CHECKED V.V.L. 4-6-77	REVIEWED DATE J.H.O. 11-9-72	REVISED

HAMILTON COUNTY  
HAM-471-0.30



Note: Bars in Columns to be spaced to miss bottom cap reinforcing as dimensioned in Section C-C. Provide 3" clearance to reinforcing steel in footings, minimum.



**PIER NO. 5  
RAMP GF OVER PENN-CENTRAL  
RAILROAD AND GILBERT AVENUE**

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	J.B.M.	N.R.K.	J.H.O.	11-9-72	

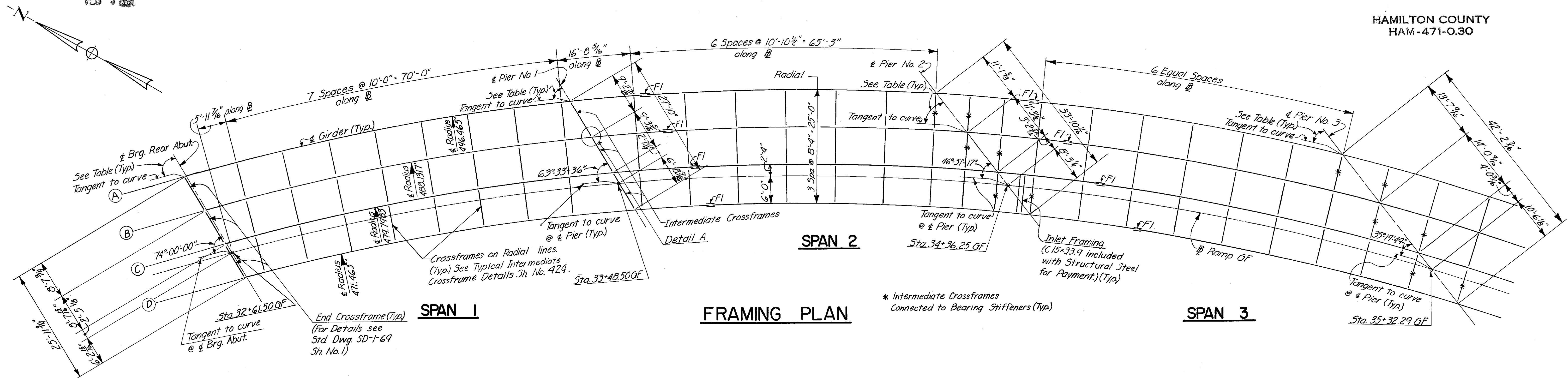


MICROFILMED  
FEB 3 1981

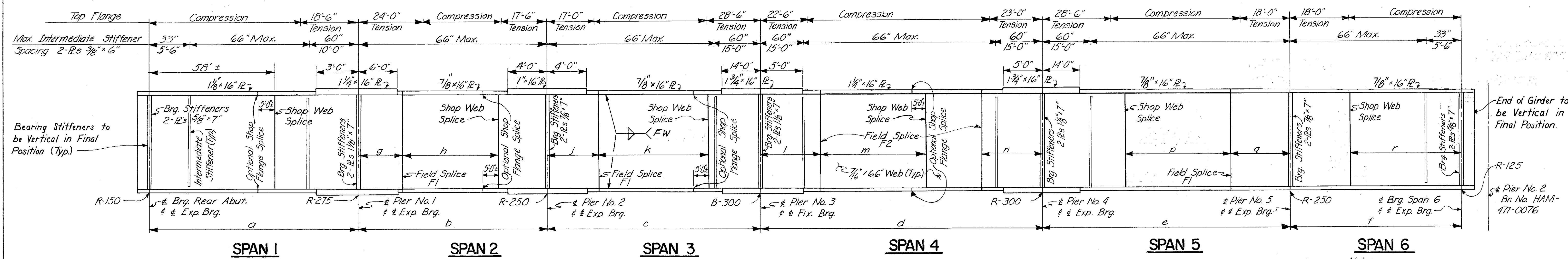
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

423  
494

HAMILTON COUNTY  
HAM-471-0.30



**FRAMING PLAN**



**GIRDER ELEVATION (Developed)**  
(Girders shall be fabricated on Curves)

Dimen. Girder	a	b	c	d	e	f	g	h	j	k	l	m	n	p	q	r
A	86'-5 1/8"	83'-1 1/2"	97'-6 3/8"	120'-4 1/8"	105'-4 1/2"	72'-7 7/8"	17'-0"	45'-0"	22'-0"	50'-0"	25'-6"	25'-0"	25'-6"	50'-0"	28'-0"	50'-0"
B	86'-5 1/2"	85'-1 1/8"	93'-4 3/8"	118'-0 1/8"	96'-1 1/2"	66'-9 3/8"	17'-0"	45'-0"	22'-6"	50'-0"	25'-6"	25'-0"	25'-6"	50'-0"	24'-0"	45'-0"
C	86'-11 3/8"	87'-1 1/8"	95'-4 1/8"	115'-7 1/8"	88'-2 1/8"	60'-10 3/8"	17'-0"	45'-0"	23'-0"	50'-0"	25'-0"	25'-0"	24'-6"	45'-0"	22'-0"	40'-0"
D	87'-2 1/2"	89'-3 3/8"	97'-9"	113'-2 1/8"	79'-2 3/8"	55'-0"	16'-6"	45'-0"	24'-0"	50'-0"	24'-6"	25'-0"	24'-0"	40'-0"	20'-6"	38'-0"

Note: The dimensions are measured horizontally along the girders curvature.

Girder	Rear Abut.	Pier 1	Pier 2	Pier 3	Pier 4	Pier 5	Exp. Span 6 Side Pier 2 Br. No. HAM-471-0076
A	74° 37' 40"	64° 38' 43"	48° 52' 37"	38° 18' 55"	39° 10' 08"	66° 01' 36"	83° 35' 21"
B	74° 21' 31"	64° 10' 51"	48° 01' 02"	37° 03' 36"	37° 51' 08"	65° 35' 27"	83° 28' 45"
C	74° 04' 48"	63° 41' 55"	47° 06' 55"	35° 43' 17"	36° 39' 27"	65° 08' 18"	83° 21' 55"
D	73° 47' 27"	63° 11' 49"	46° 10' 03"	34° 17' 17"	35° 16' 27"	64° 40' 06"	83° 14' 51"

Erection Note:  
Girders to be plumb and in correct horizontal position before crossframes are welded. Complete all welding before placing concrete deck.

Notes:  
Additional shop flange splices may be provided by the contractor with the approval of the Director. However, no additional flange splices will be permitted within 8'-0"± of the center of piers or midpoint of the spans. All field flange splices shall miss crossframes and intermediate stiffeners by 1'-0" min., and shop flange splices shall miss shop web splices by 5'-0" min.  
For Bearing Details see Standard Dwg. RB-1-55 and Sh. No. 424.  
For Inlet Framing details see Drainage Details Sh. No. 469 and Sh. No. 433.  
For treatment of ends of girders and end dam details see Standard Dwg. SD-1-69 Sh. No. 1.  
For Curb plate details see Standard Dwg. SD-1-69 Sh. No. 2.  
For Structural Steel details not shown see Typical Structural Steel Details Sh. No. 468.  
For Detail A, see Detail B Sh. No. 453.

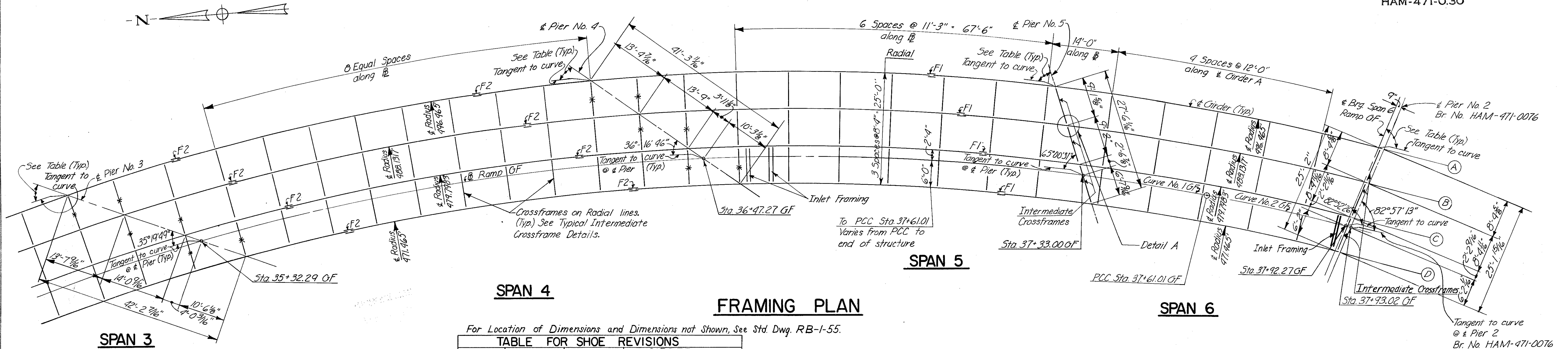
HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

11/23

**STRUCTURAL STEEL DETAILS**  
RAMP GF OVER PENN-CENTRAL  
RAILROAD AND GILBERT AVENUE

H&E BRIDGE NO. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
W.L.	CYW	N.R.K.	V.L.	11-9-72	



For Location of Dimensions and Dimensions not Shown, See Std. Dwg. RB-1-55.

TABLE FOR SHOE REVISIONS

BEARING	H	T	GIRDER
R-125	17 1/4"	6 5/8"	A & B
	17"	6 3/8"	C
	16 3/4"	6 1/8"	D

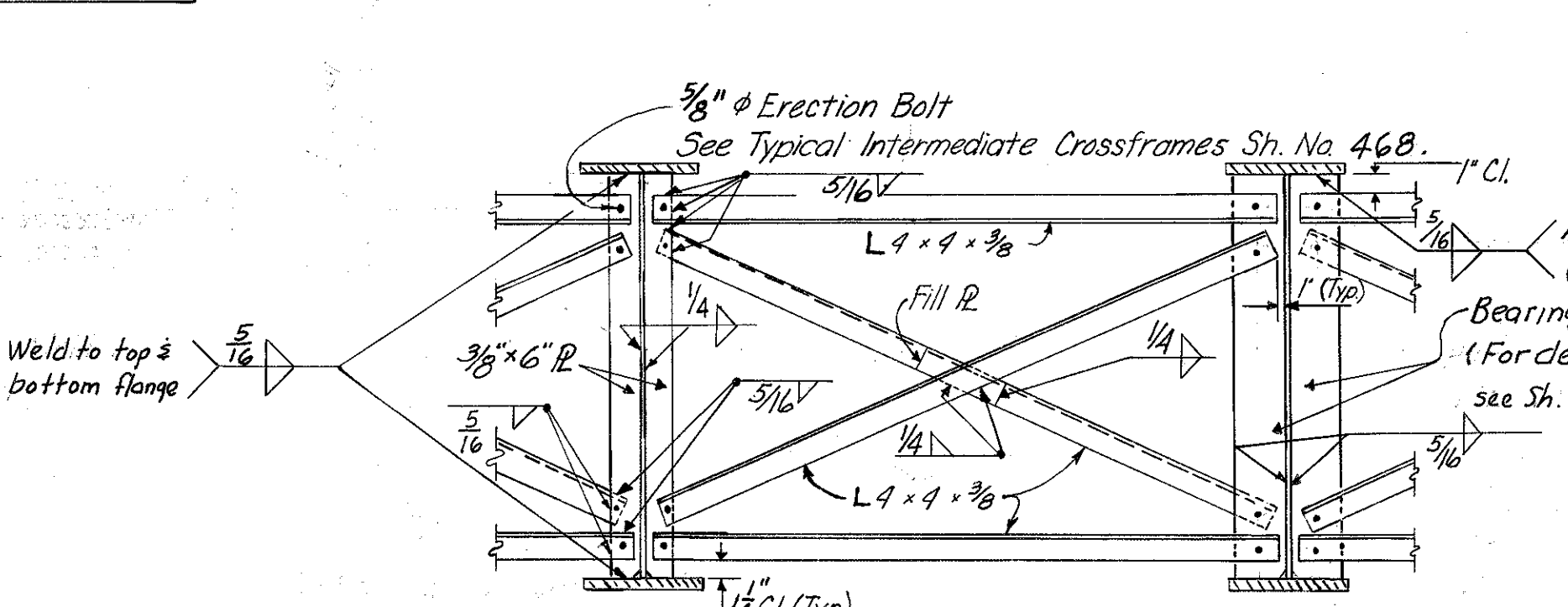
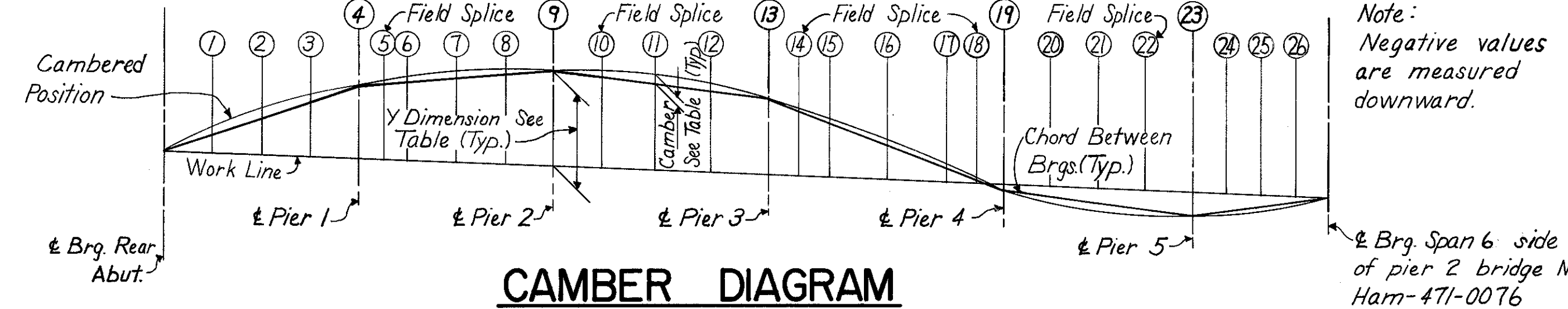
DEFLECTION and CAMBER (inches)

	SPAN 1		SPAN 2		SPAN 3		SPAN 4		SPAN 5		SPAN 6	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Girder A	1/16	1/8	1/16	0	0	0	0	0	1/16	0	1/8	0
Girder B	1/16	1/16	0	0	0	0	0	1/16	0	1/8	0	0
Girder C	1/16	1/16	0	0	0	0	0	1/16	0	1/8	0	0
Girder D	1/16	1/16	0	0	0	0	0	1/16	0	1/8	0	0

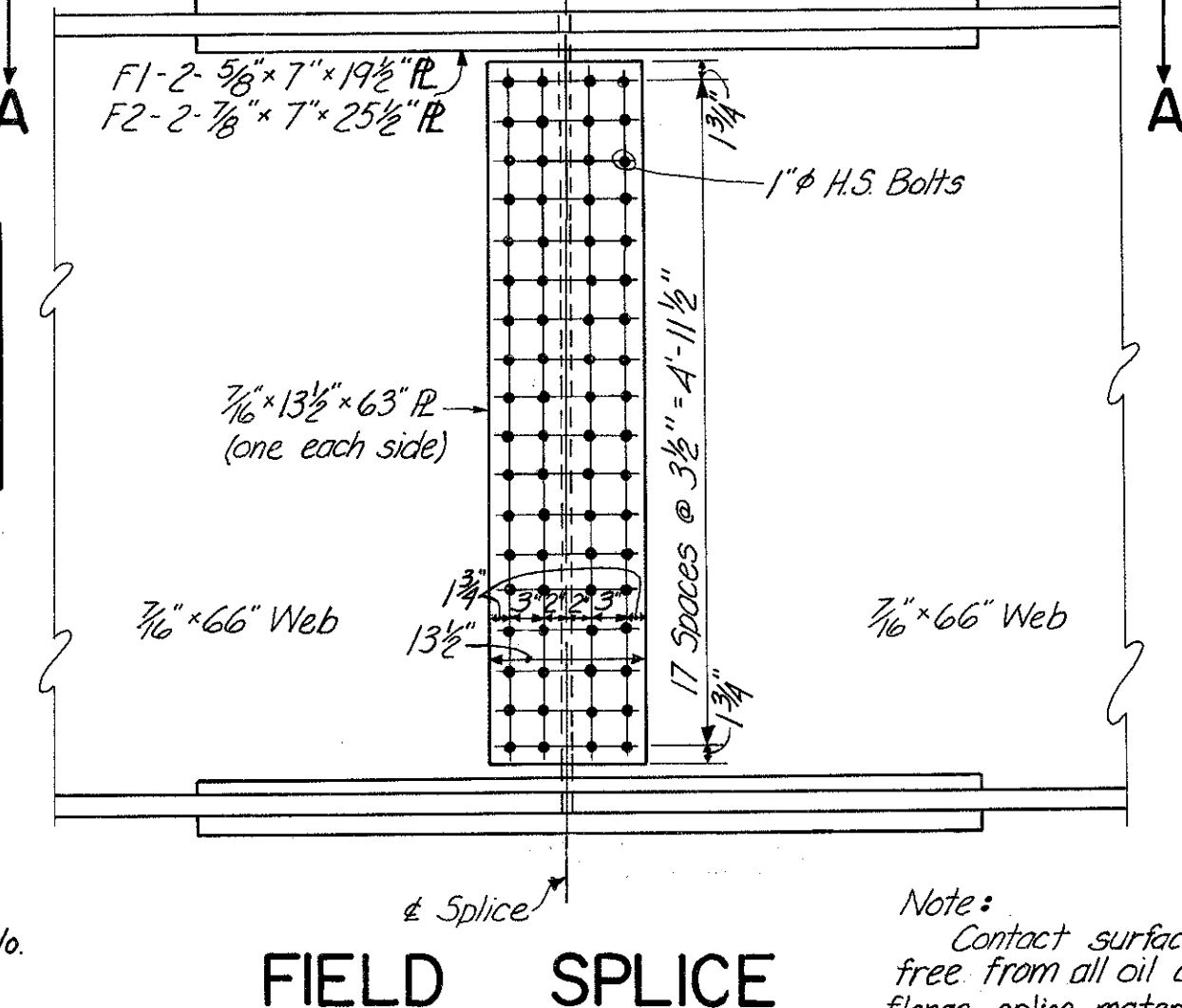
Note: Negative values are measured downward.  
\* Horizontal & vertical curves and superelevation transition.

Y DIMENSIONS

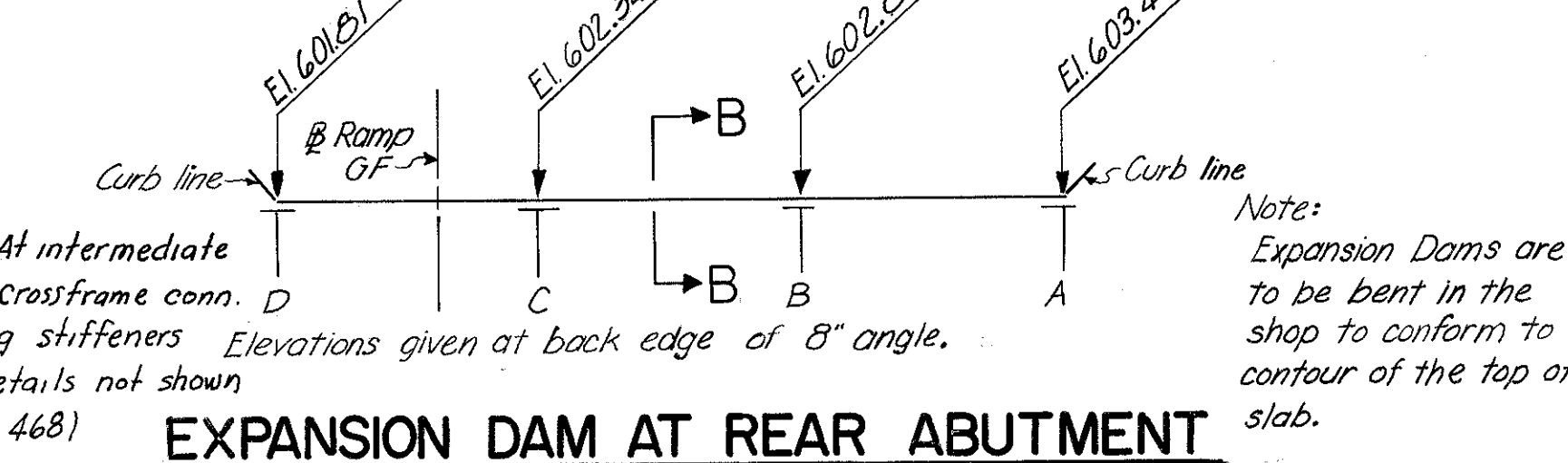
GIRDER	4	9	13	19	23
A	2'-6 3/8"	3'-6 3/8"	3'-0 1/2"	0'-4"	-0'-9 1/2"
B	2'-6 1/4"	3'-5 5/8"	2'-9"	-0'-0 1/2"	-0'-10 1/2"
C	2'-6 1/4"	3'-4 3/8"	2'-5 3/8"	-0'-3 1/2"	-0'-10 1/2"
D	2'-6 1/8"	3'-3 3/4"	2'-1 1/2"	-0'-4 5/8"	-0'-10 1/2"



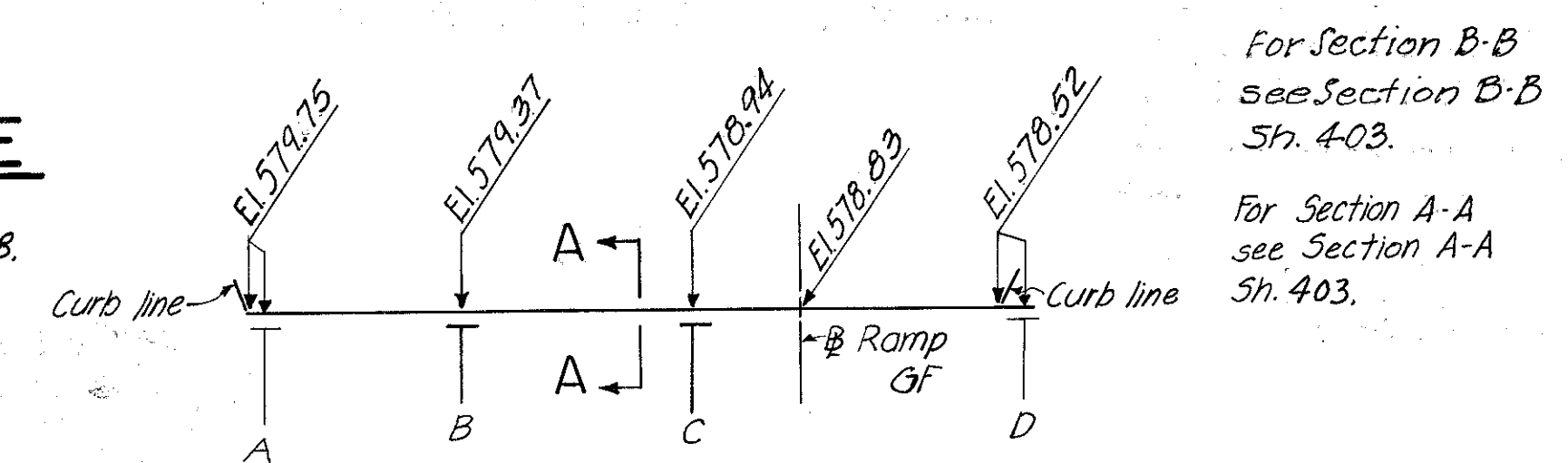
TYPICAL INTERMEDIATE CROSSFRAME  
Note: Treatment of 3/8" x 6" pl. applies only at typ. intermediate cross. conn.  
For connection of 3/8" x 6" int. stiff. pls to girder see Typ. Dwg. 468.



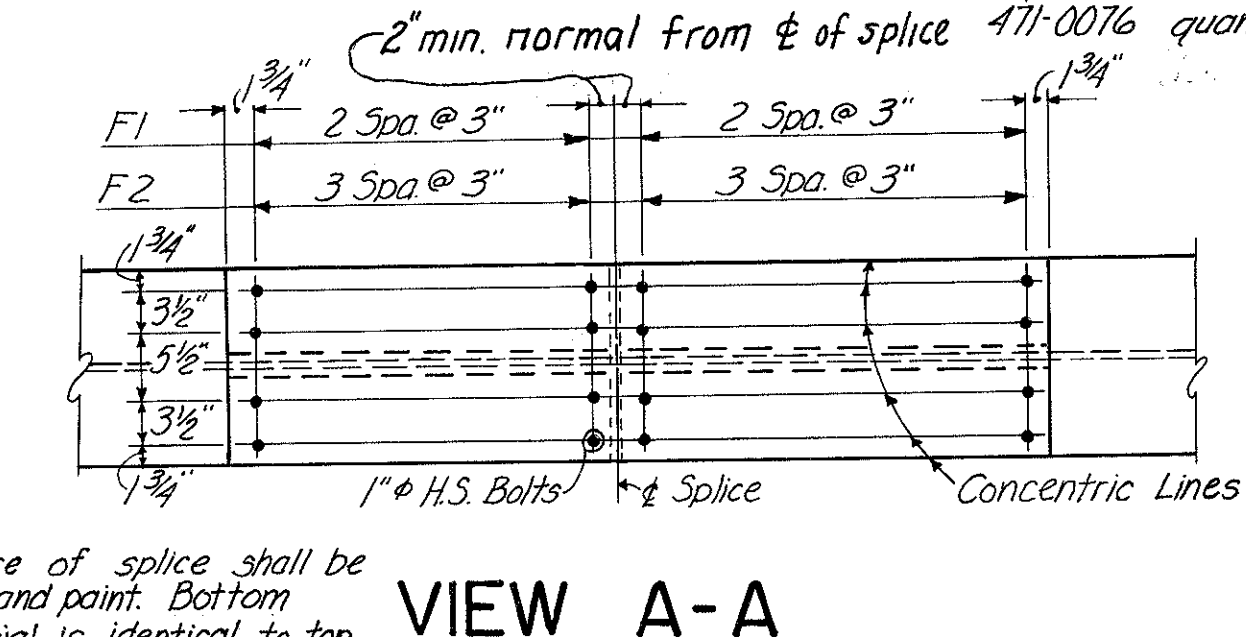
FIELD SPLICE  
Note: Contact surface of splice shall be free from all oil and paint. Bottom flange splice material is identical to top flange material.



EXPANSION DAM AT REAR ABUTMENT  
Note: Expansion Dams are to be bent in the shop to conform to the contour of the top of slab.



ROADWAY EXPANSION JOINT PIER 2  
BR. NO. HAM-471-0076  
(Expansion Joint included with Br. No. HAM-471-0076 quantities for payment)



VIEW A-A  
Note: Contact surface of splice shall be free from all oil and paint. Bottom flange splice material is identical to top flange material.

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CONSULTING ENGINEERS  
CINCINNATI, OHIO

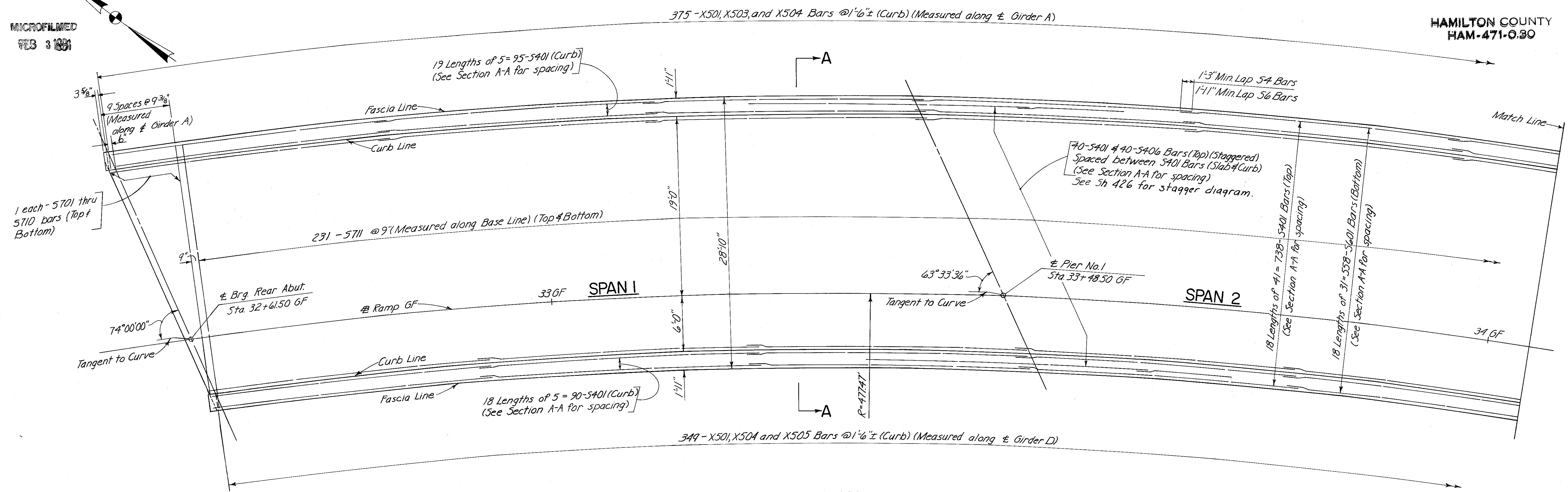
12/23

STRUCTURAL STEEL DETAILS  
RAMP GF OVER PENN-CENTRAL  
RAILROAD AND GILBERT AVENUE

H&E BRIDGE NO. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CYW	NRK	2-24-71	JHD 11.9.72	

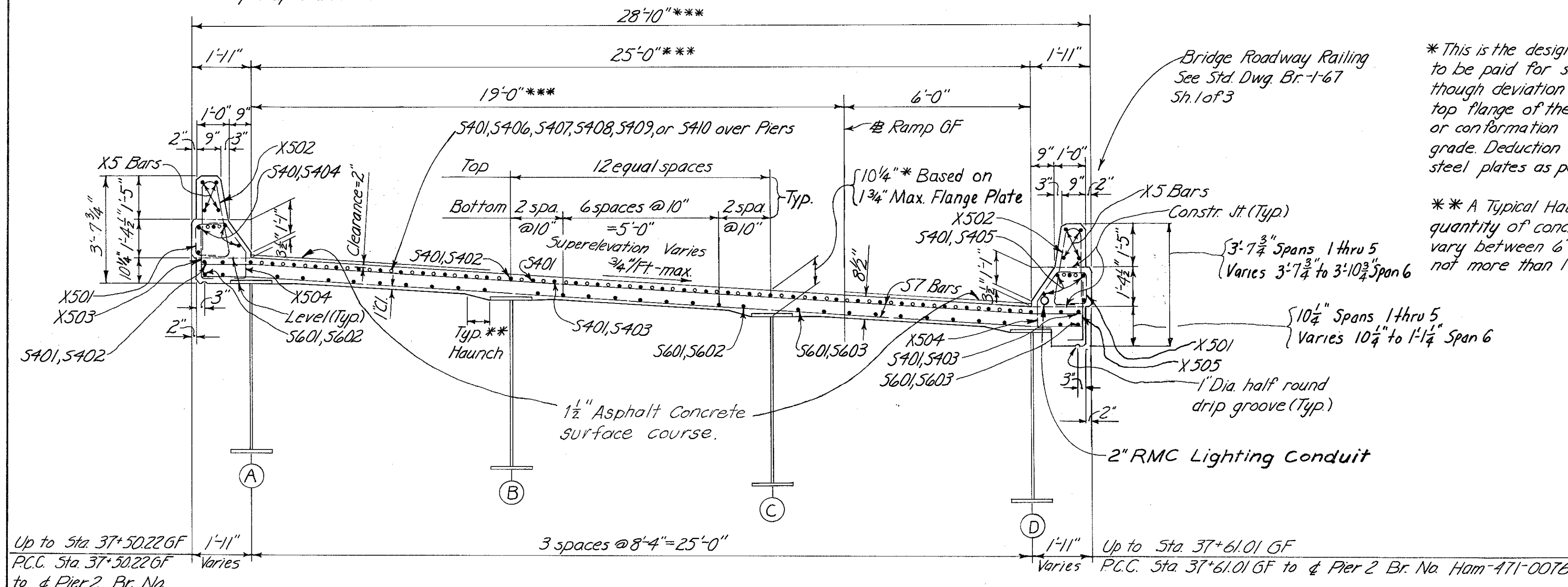
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FEB 3 1981



PLAN

Note: Provide 1/2" Clearance to reinforcing steel in parapet and curb.

\*\*\*Dimensions vary beyond Sta. 37+50.22 GF



\* This is the design dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the girder may not have the exact camber or conformation required to place it parallel to the finished grade. Deduction shall be made for volume of encased steel plates as per S111B.

\* A Typical Haunch Width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width.

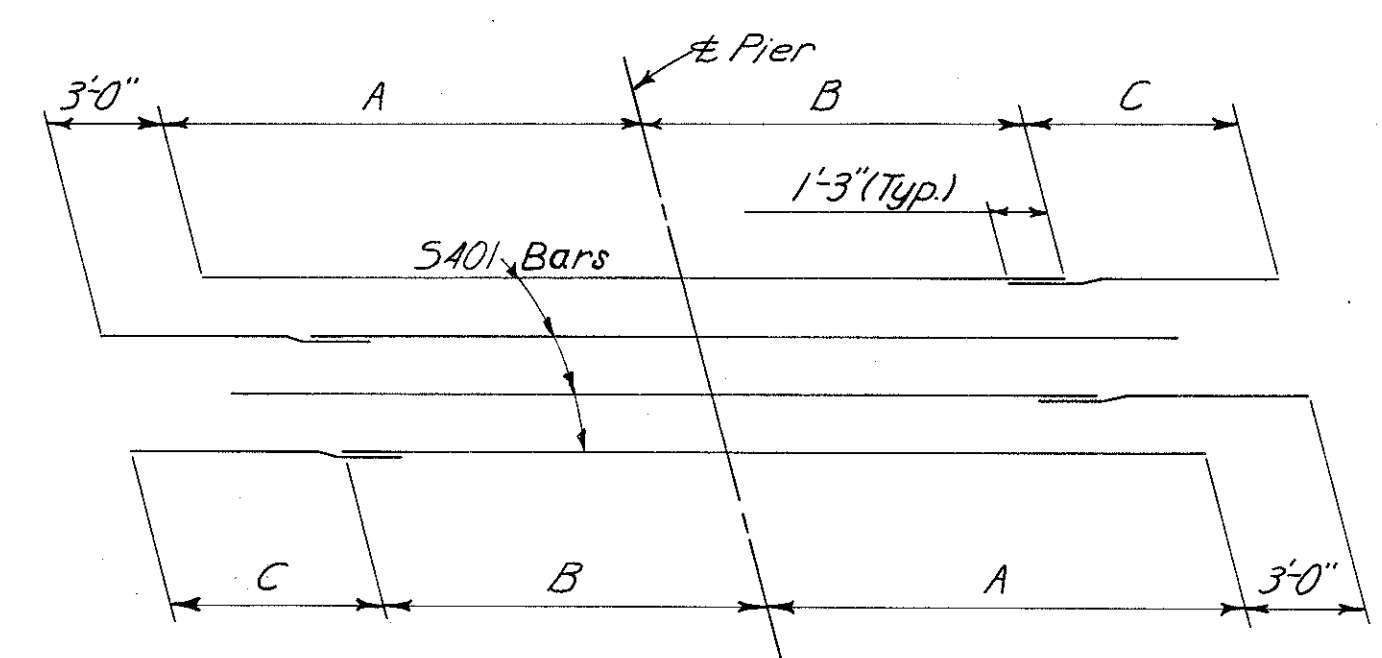
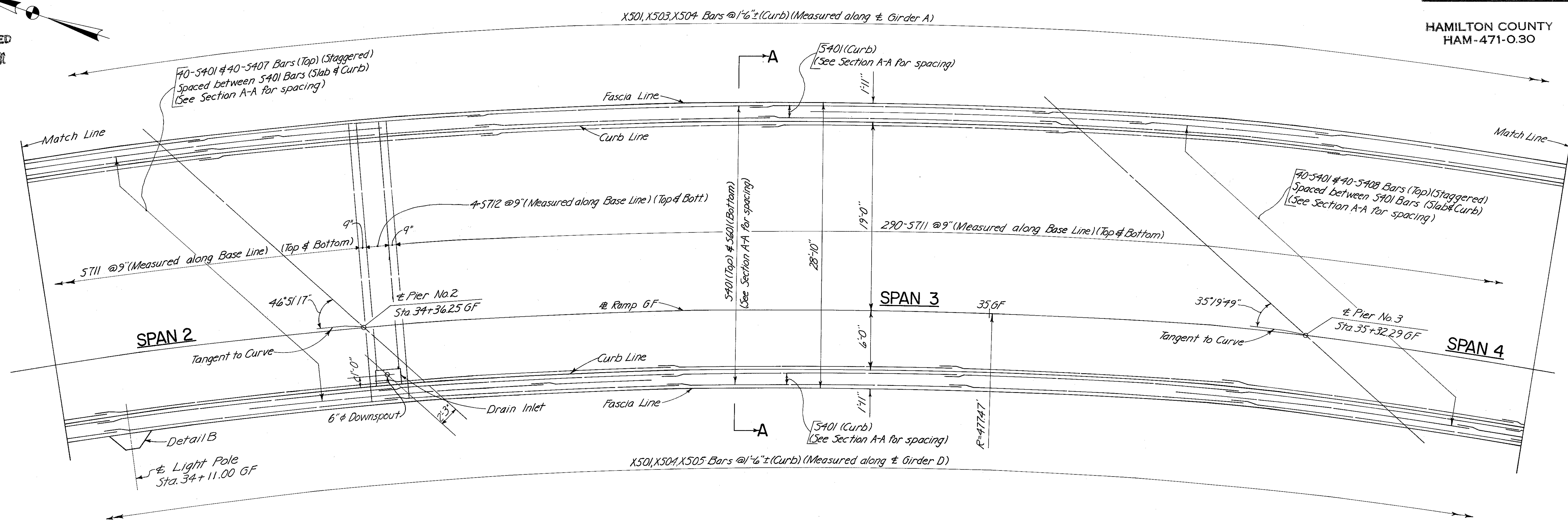
Notes: For Drainage Details, see Sh. 433.  
Cut or field bend longitudinal reinforcing steel to miss drain inlets.  
For Screed Elevations, and Top of Slab Elevations, see Sh. 430.  
For Railing Details, see Sh. 431.  
For Lighting Details, see Sh. 431.  
For End Finish Details, see Sh. 424.

For Subdrainage and wearing course details, see Sh. 427

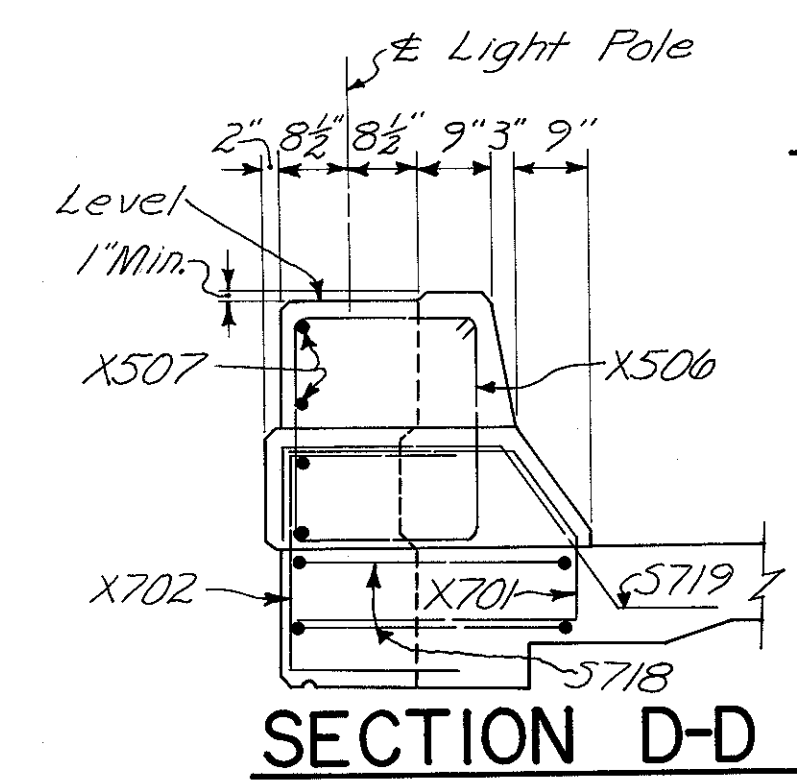
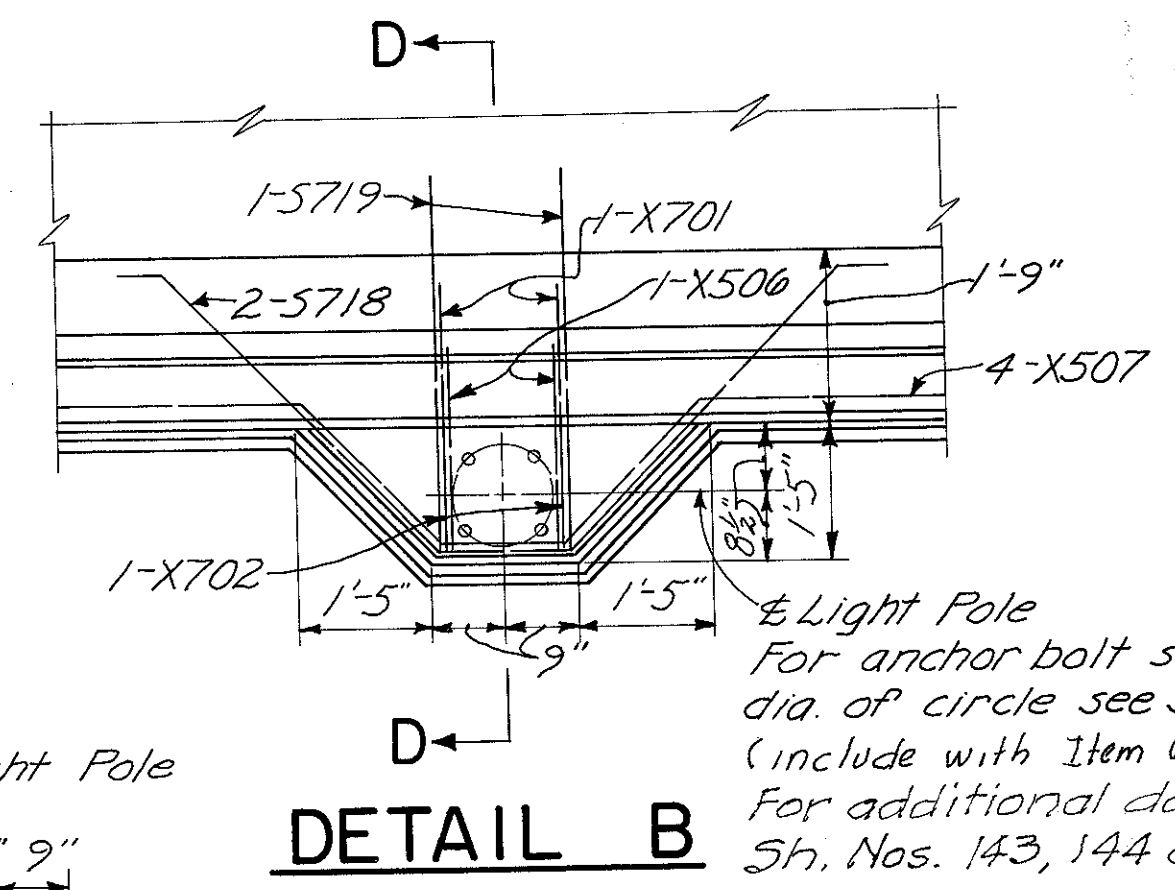
TRANSVERSE SECTION A-A

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				13 / 23
<b>SUPERSTRUCTURE DETAILS RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE</b>				
<b>H &amp; E BRIDGE No. II</b>				
DESIGNED JHO	DRAWN CES	TRACED YCL	CHECKED YCL 2-24-71	REVIEWED DATE JHO 11-9-72

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BARS OVER PIERS			
Location	A	B	C
Pier 1	18'-0"	12'-0"	9'-0"
Pier 2	19'-0"	11'-0"	11'-0"
Pier 3	22'-6"	7'-6"	18'-0"
Pier 4	21'-0"	9'-0"	15'-0"
Pier 5	15'-0"	15'-0"	3'-0"



For Notes, see Sh. 425.  
For Section AA, see Sh. 425.

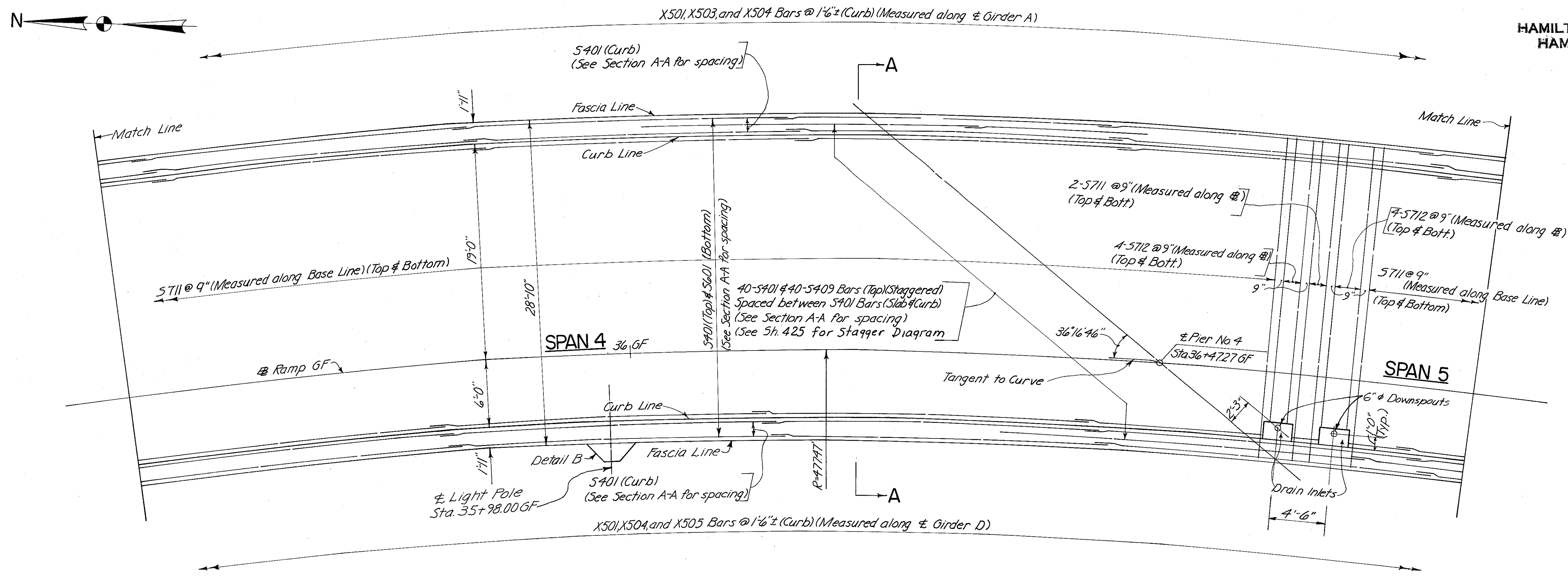
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				14/23
SUPERSTRUCTURE DETAILS RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE				
H & E BRIDGE No. 11				
DESIGNED JHO	DRAWN CES	TRACED	CHECKED W.L. 2-29-71	REVIEWED DATE JH 11-9-72

MICROFILMED  
FEB 3 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		427 494

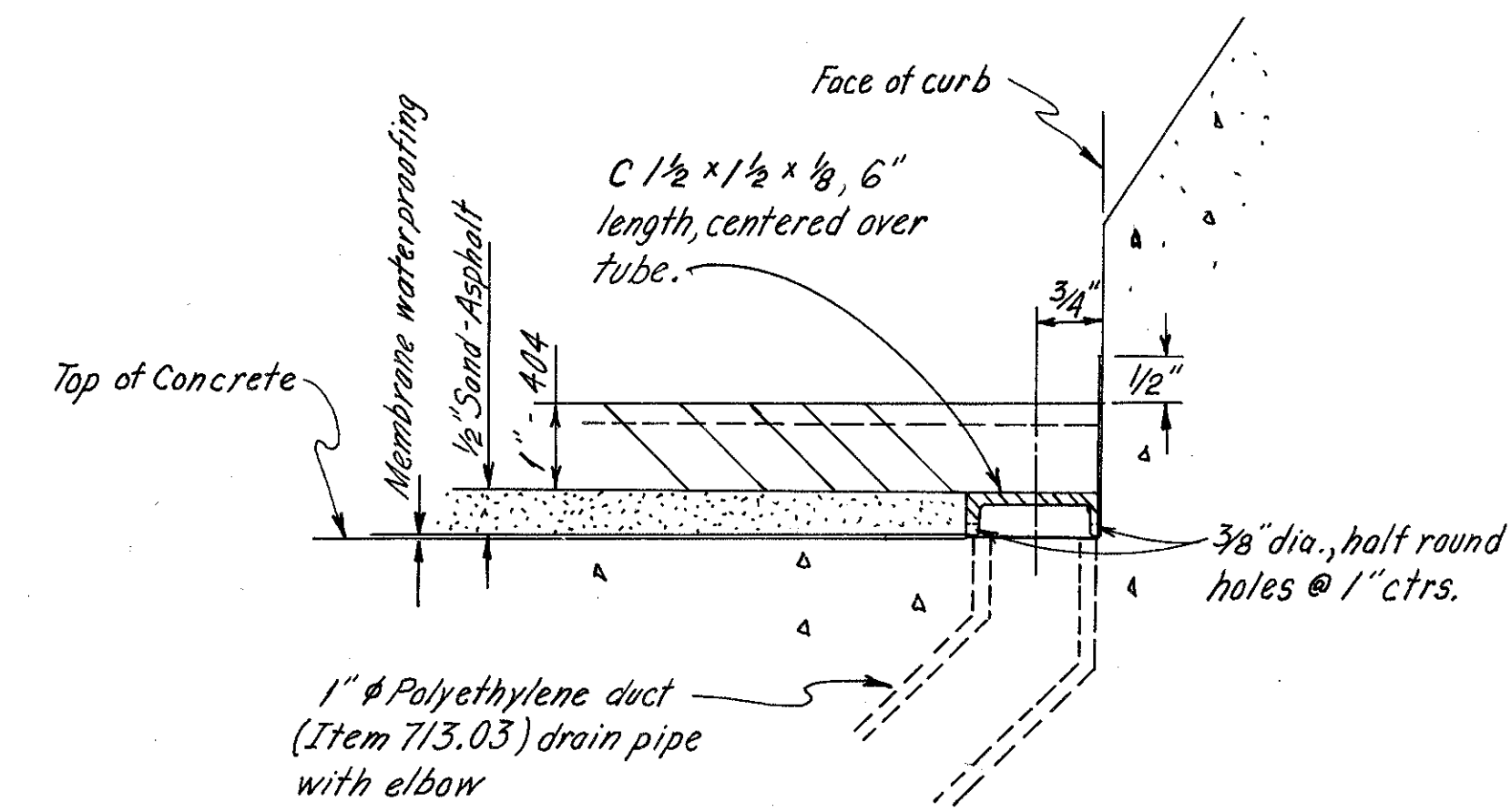
HAMILTON COUNTY  
HAM-471-0.30

392  
427-494  
Plus Some  
Piles



**PLAN**

For Notes, see Sh. 425.  
For Section A-A, see Sh. 425.  
For Detail B, see Sh. 426.



**SUBDRAINAGE AND WEARING COURSE DETAILS**

In addition to the location and spacing provisions of 518.07, the polyethylene duct drain pipes shall be located so that discharge from them will clear all structural members, including crossbracing by at least 6". Place the top of the pipe flush with the concrete surface. Place membrane over pipe, puncturing if membrane is a sheet type, with the hole sealed around the lip of the pipe.

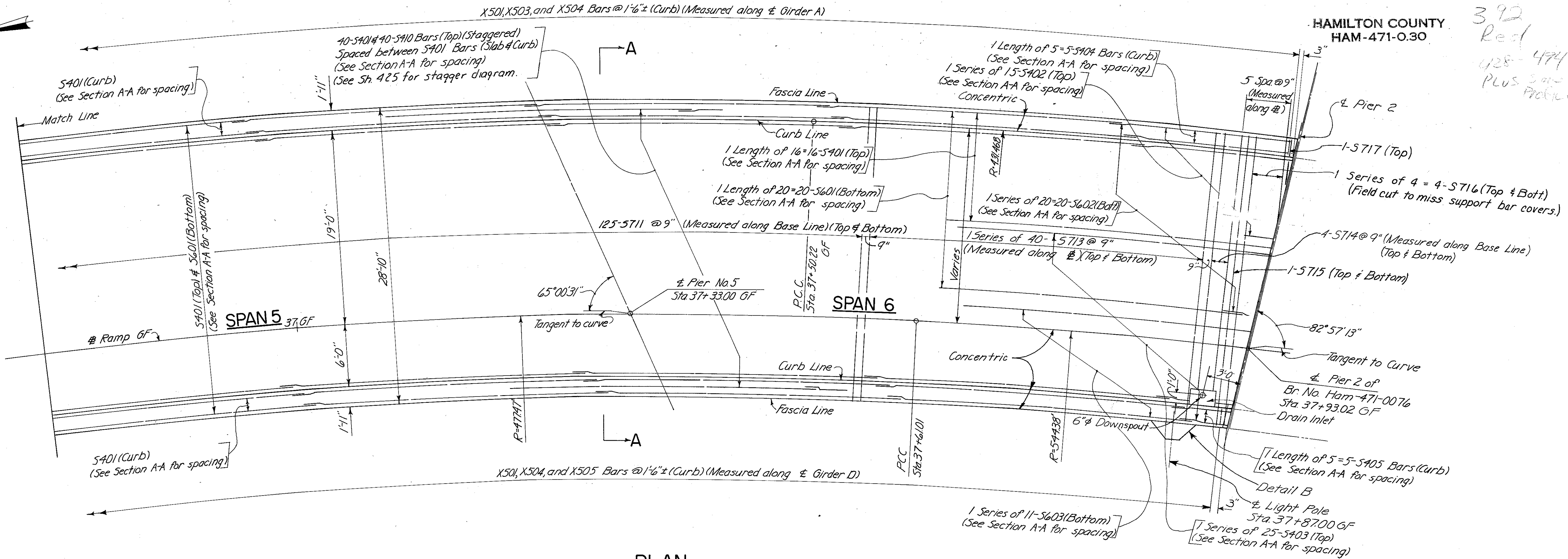
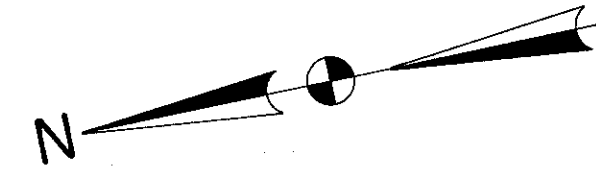
Include Subdrainage with item 404, Asphalt Concrete, for payment.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					15/23
<b>SUPERSTRUCTURE DETAILS</b>					
<b>RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE</b>					
<b>H &amp; E BRIDGE No. II</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JHO	CES		YVL	JHO 2-24-71 11-9-72	

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FEB 3 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

428  
494



PLAN

For details of Expansion Joint at Pier 2 see Sh. 403.

For Notes, see Sh. 425.  
For Section A-A, see Sh. 425.  
For Detail B, see Sh. 426.

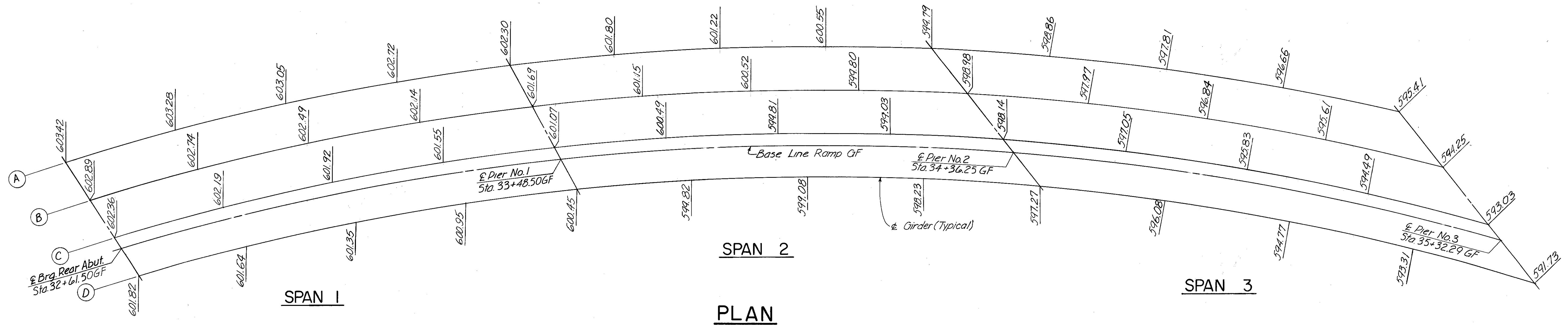
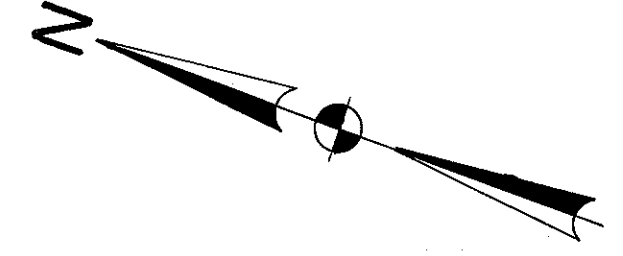
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				16/23
<b>SUPERSTRUCTURE DETAILS</b> RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE				
<b>H &amp; E BRIDGE No. II</b>				
DESIGNED JHO	DRAWN CES	TRACED	CHECKED W.L. 2-24-71	REVIEWED DATE 310 11-9-72

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

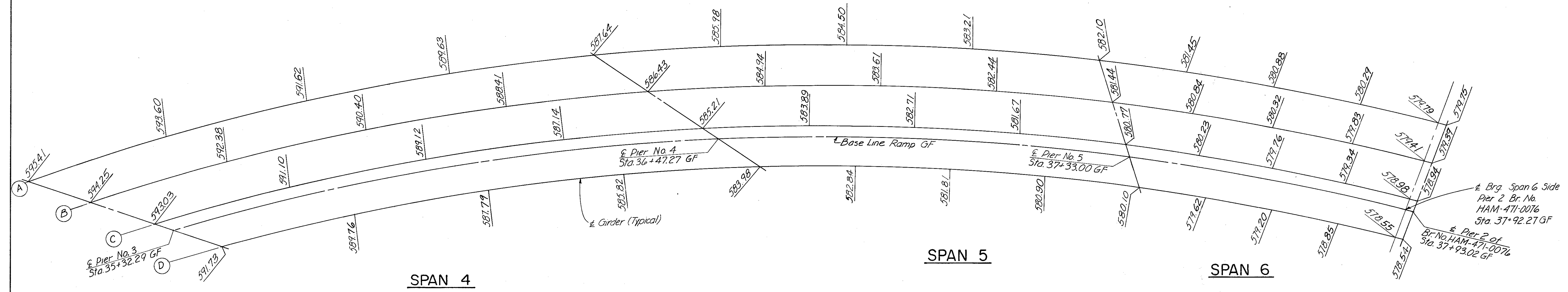
429  
494

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FEB 3 1988

HAMILTON COUNTY  
HAM-471-0.30



PLAN



PLAN

Note:  
Elevations are final top of surface course elevations.  
Elevations are given at  $\pm$  of Piers,  $\pm$  Brgs. and  $\frac{1}{4}$  points of girder spans.

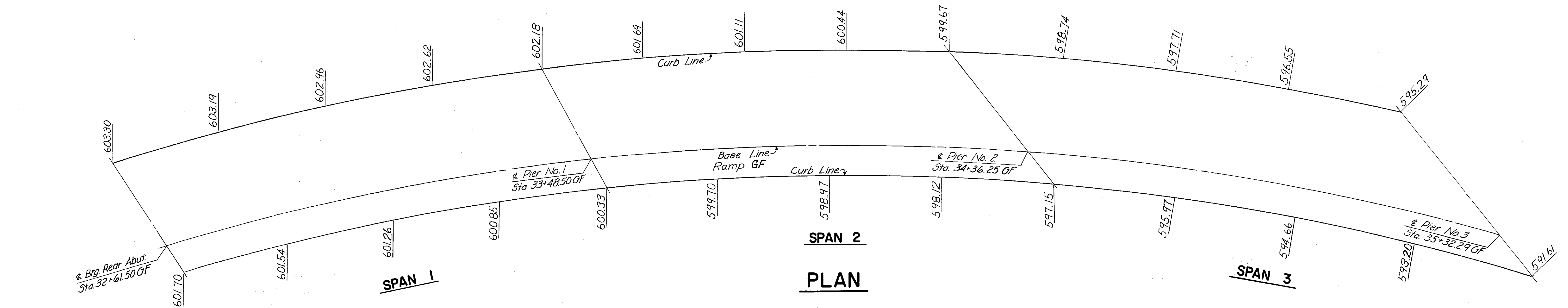
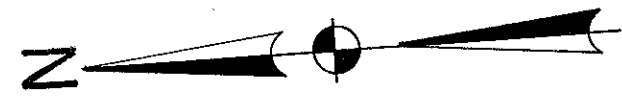
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				17/23
<b>ROADWAY SURFACE ELEVATIONS RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE</b>				
<b>H &amp; E BRIDGE No. II</b>				
DESIGNED	DRAWN	CHECKED	REVIEWED DATE	REVISED
	NRK	W.L.	12-18-70	JHO 11-9-72

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FEB 3 1981

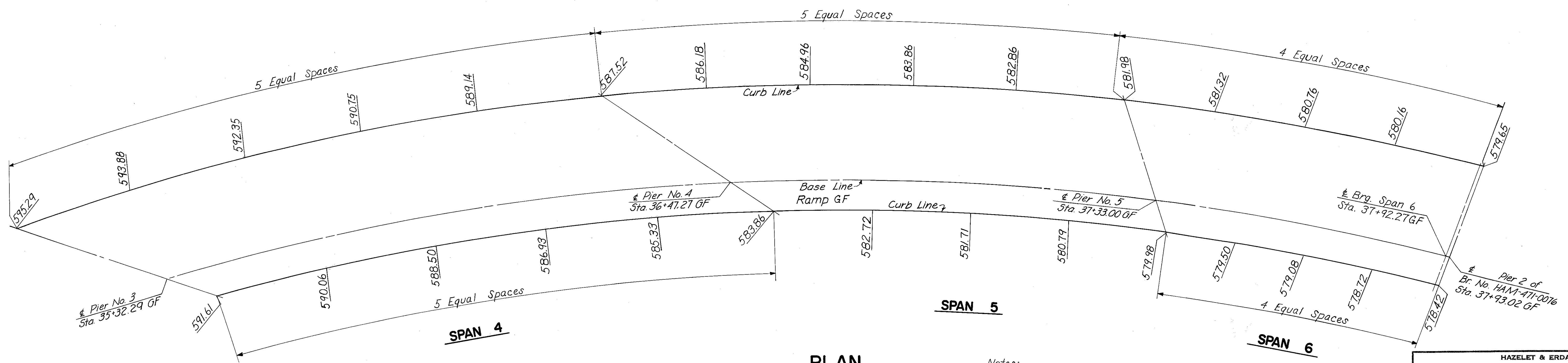
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

430  
494

HAMILTON COUNTY  
HAM-471-0.30



**SPAN 2**  
**PLAN**



**SPAN 5**  
**PLAN**

Notes:  
Screed elevations shown equal final grade elevations plus anticipated dead load deflection due to weight of deck concrete.  
All elevations shown are at 1/4 points of spans (measured along their own curb lines) and at  $\frac{1}{2}$  of Brg's unless noted otherwise.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					18   23
<b>SCREED ELEVATIONS</b>					
<b>RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE</b>					
<b>H &amp; E BRIDGE No. II</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.B.M.		Y.L.	J.A.O. 11-9-72	

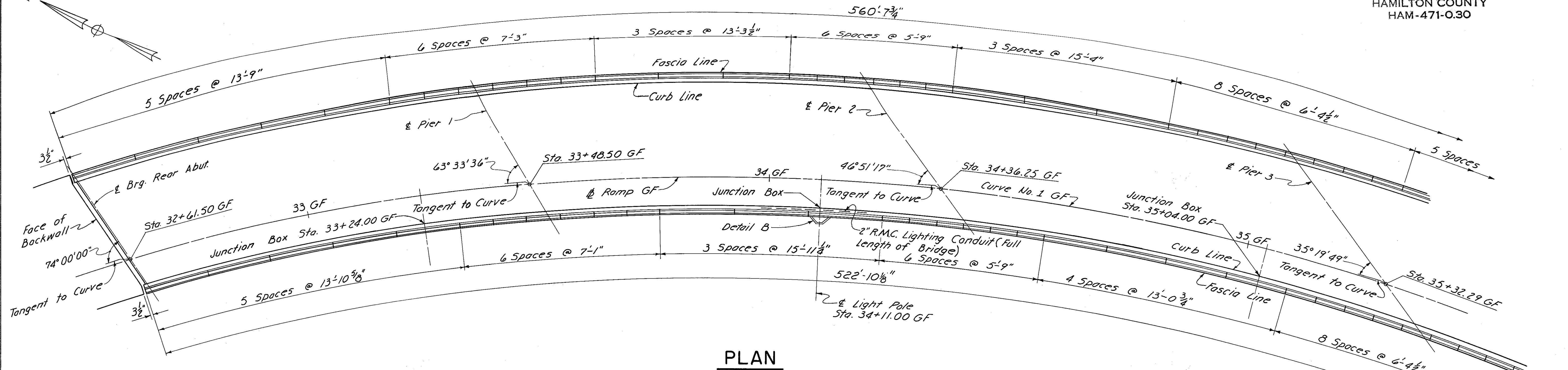


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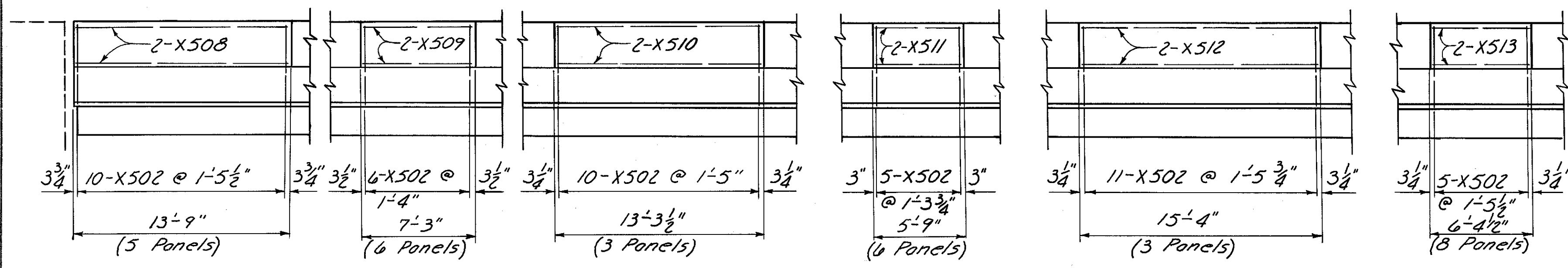
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

431  
494

HAMILTON COUNTY  
HAM-471-0.30



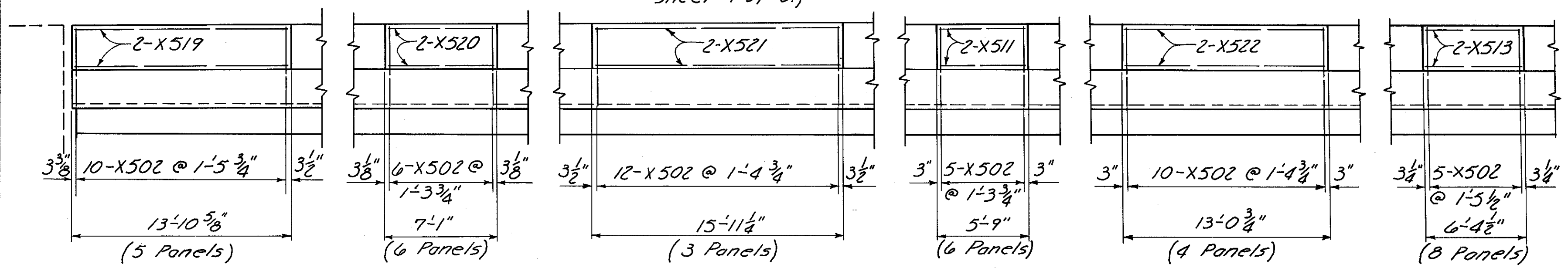
PLAN



EAST ELEVATION

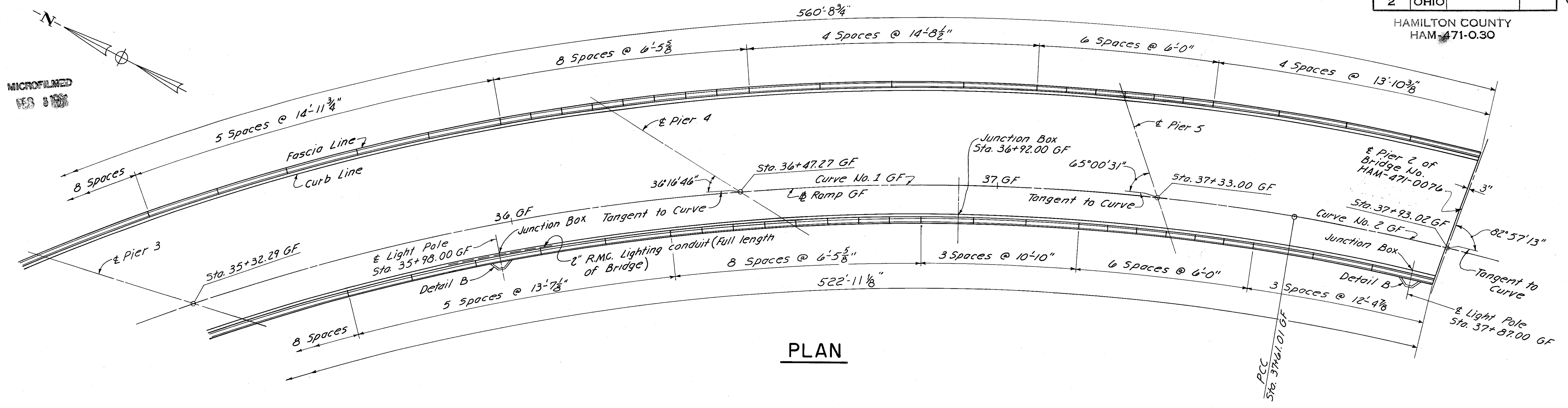
NOTES:  
Parapet deflection joint spacing measured along Curb Line.  
Field Bend longitudinal bars as required.  
For Detail B see Sh. 426.  
For Typical Lighting Details see Sh. 154.  
  
For conduit expansion at abutment and Pier 2, HAM-471-0076 see Sheet 155 E  
Work this sheet with Light Plan Sh. No. 147 and with Sh. 432.

Standard Bridge Roadway Railing  
(For details see Std. Dwg. BR-1-67, sheet 1 of 3.)

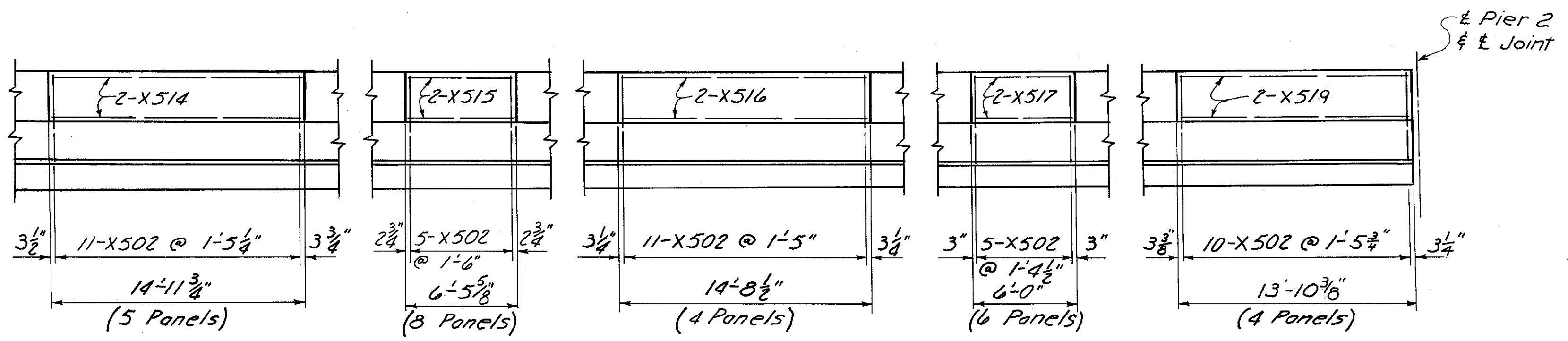


WEST ELEVATION  
(Light Pole not Shown)

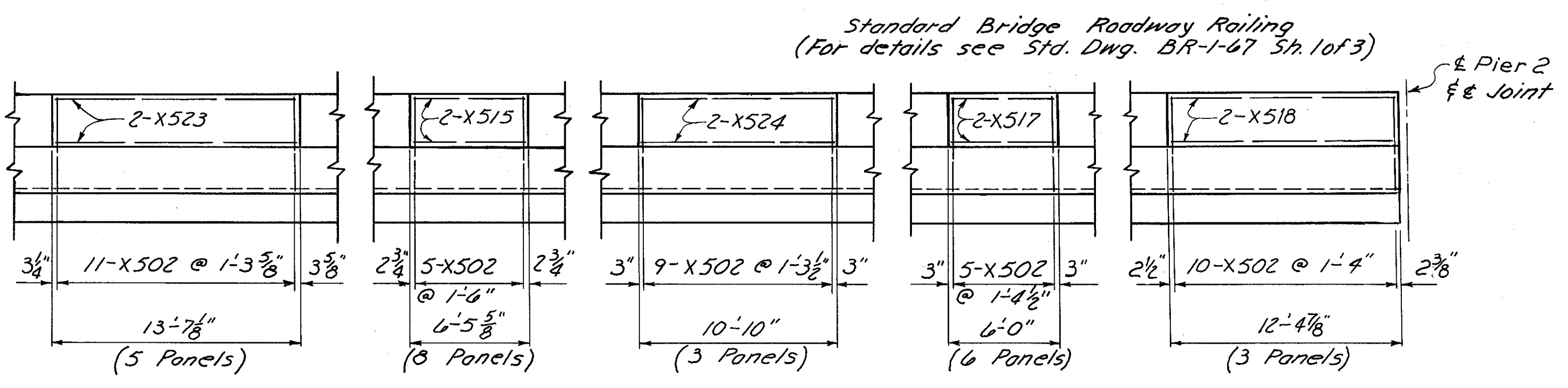
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				19 / 23
RAILING & LIGHTING DETAILS RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE				
H & E BRIDGE No. 11				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	DBS		VWZ	JHD
			3-15-71	11-9-72



**PLAN**



**EAST ELEVATION**



**WEST ELEVATION**

(Light Poles not Shown)

Standard Bridge Roadway Railing  
(For details see Std. Dwg. BR-1-67 Sh. 1 of 3)

For Notes see Sh. 431.  
Work this sheet with Sh. 431.

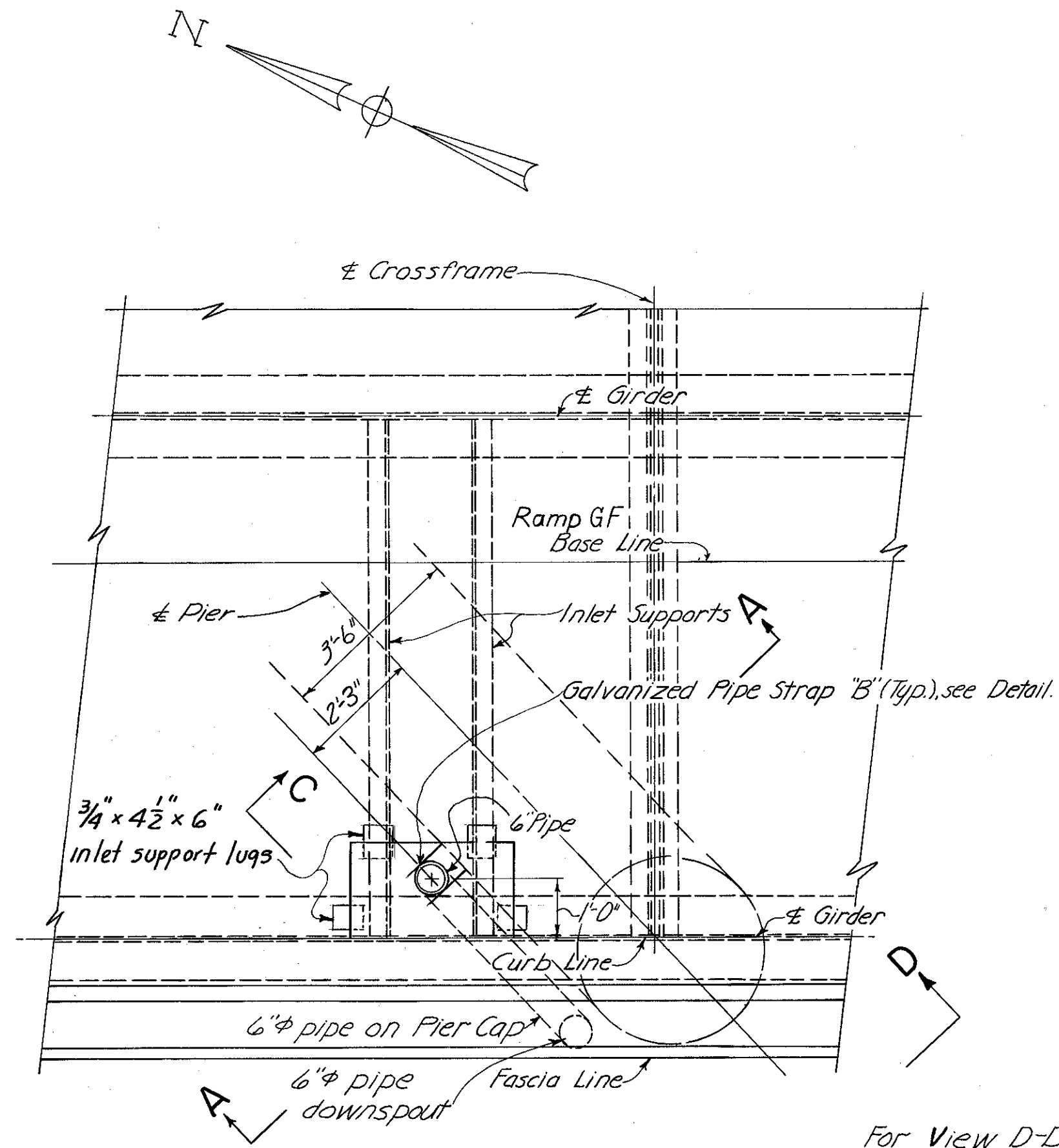
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO			20/23
<b>RAILING &amp; LIGHTING DETAILS RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE</b>			
<b>H &amp; E BRIDGE No. 11</b>			
DESIGNED	DRAWN	TRACED	CHECKED
	DBS		NYL
			3-15-71
REVIEWED DATE	11-9-72	REVISION	

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FEB 1989

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

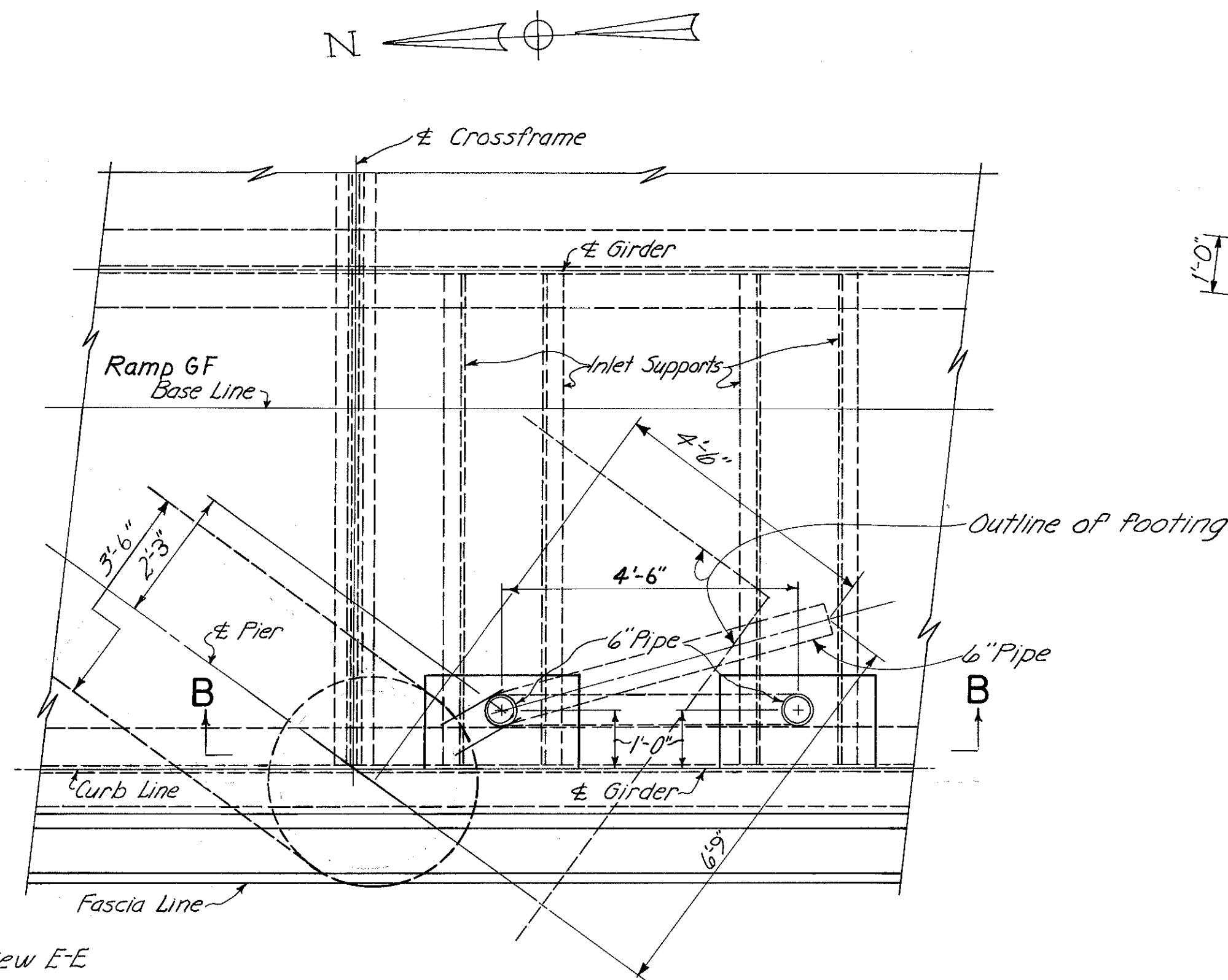
433  
494

HAMILTON COUNTY  
HAM-471-0.30

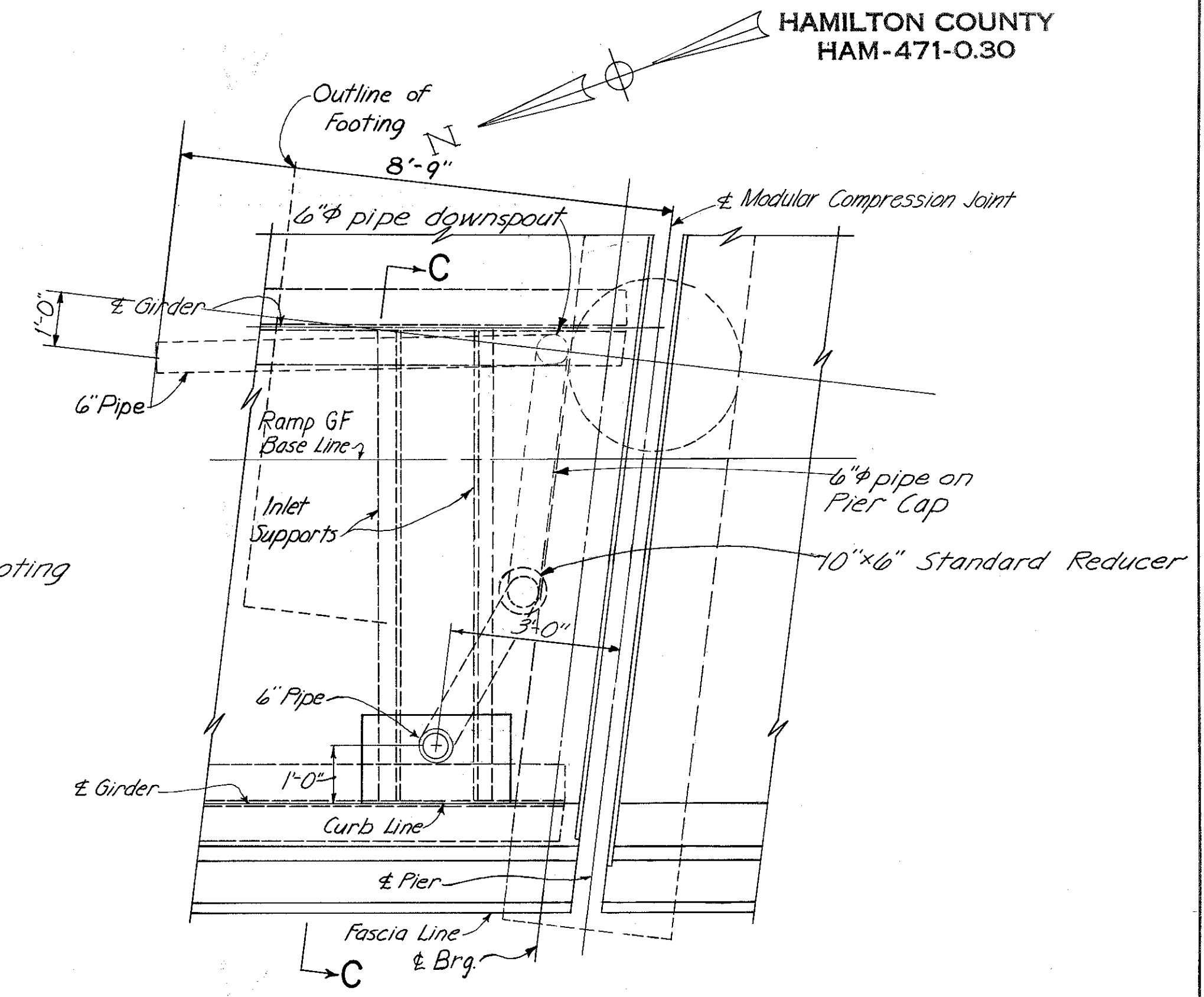


PIER 2

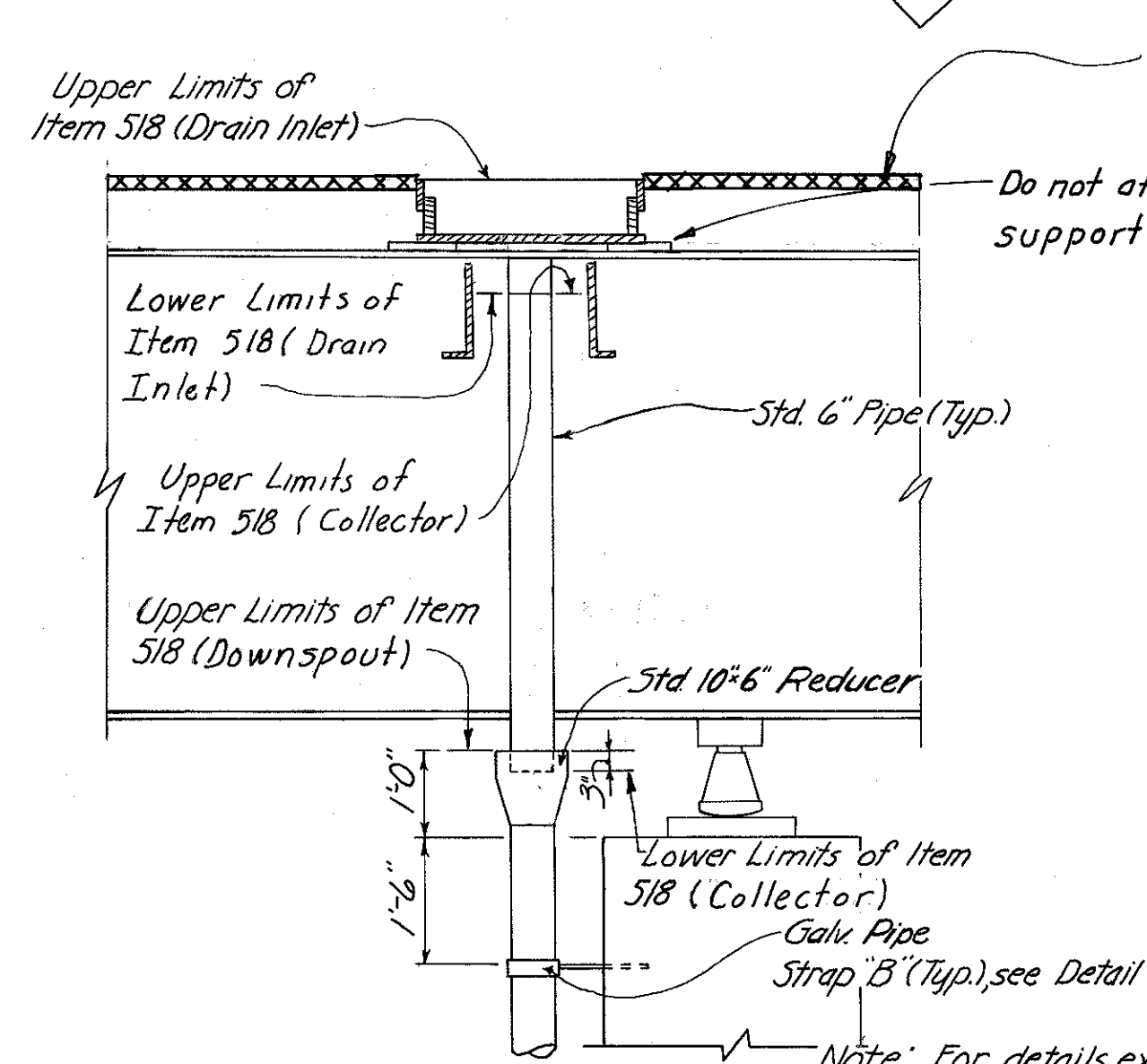
For View D-D see View E-E  
Sh. No. 464  
For similar detail.



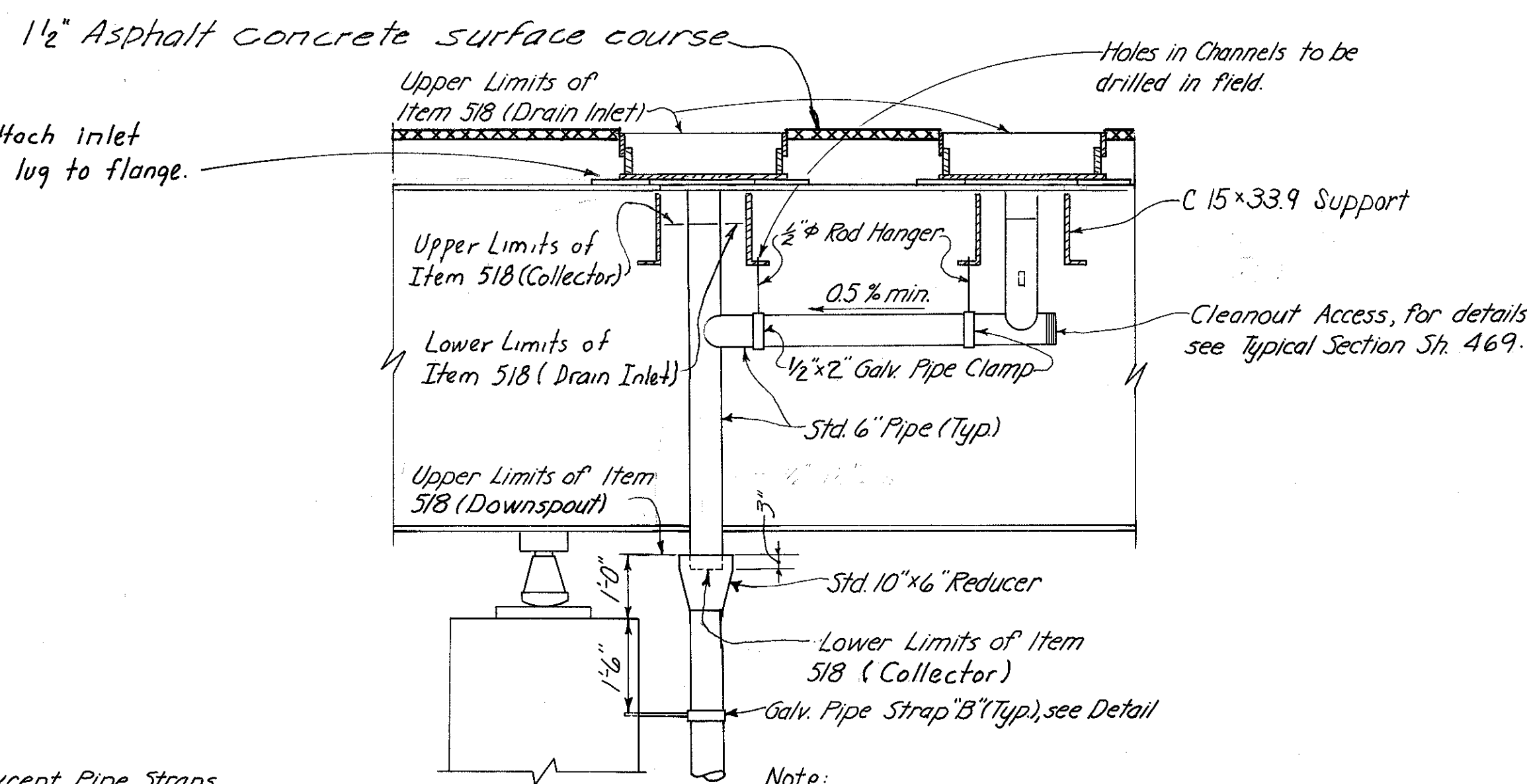
PIER 4



PIER 2  
BRIDGE No. HAM-471-0076



SECTION A-A



SECTION B-B

Notes: For Section C-C, except Pipe Straps, see Typical Section (for Piers), Drainage Details, Sh. No. 469 for similar section.  
For Inlet Framing and additional details, see Sh. No. 469.  
For Galvanized Pipe Strap "B" Details, see Sh. 464.  
Total Depth of Inlet Frame Box Equals 8 1/2"  
Drain Inlets shall be galvanized in accordance with 711.02 and are placed 1/4" below top of the asphalt concrete surface course.

Note: For details, except Pipe Straps, below bridge seat, see Typical Section (for Piers), Drainage Details, Sh. No. 469.

Note: For details at lower limits of Item 518 (Downspout) see Typical Section (for Piers), Drainage Details, Sh. No. 469.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				21/23
<b>DRAINAGE DETAILS</b> RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE H&E BRIDGE NO. 11				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	CES		Y.L.	JHD 11-9-72
				REVISED

HAMILTON COUNTY  
HAM-471-0.30

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FEB 3 1981

SUPERSTRUCTURE					DIMENSIONS						
MARK	TYPE	LENGTH	No. of BARS	WEIGHT	A	B	C	D	E	F	Radius
S401	Str.	30'-0"	1139	22,826.							
S402	Str.	1-10" to 16-5"	1 Series of 15	91.							
S403	Str.	2'-8" to 30'-1"	1 Series of 25	273.							
S404	Str.	16'-5"	5	55.							
S405	Str.	5'-1"	5	17.							
S406	Str.	10'-3"	40	274.							
S407	Str.	12'-3"	40	327.							
S408	Str.	19'-3"	40	514.							
S409	Str.	16'-3"	40	434.							
S410	Str.	4'-3"	40	114.							
S601	Str.	30'-0"	578	26,045.							
S602	Str.	2'-6" to 29'-1"	1 Series of 20	474.							
S603	Str.	14'-8" to 29'-6"	1 Series of 11	366.							
S701	Str.	1'-10"	2	7.							
S702	Str.	4'-7"	2	19.							
S703	Str.	7'-5"	2	30.							
S704	Str.	10'-2"	2	42.							
S705	Str.	12'-11"	2	53.							
S706	Str.	15'-8"	2	64.							
S707	Str.	18'-4"	2	75.							
S708	Str.	21'-1"	2	86.							
S709	Str.	23'-8"	2	97.							
S710	Str.	26'-3"	2	107.							
S711	Str.	28'-2"	1296	74,614.							
S712	Str.	25'-0"	24	1,226.							
S713	Str.	28'-1" to 27'-10"	2 Series of 40	4,572.							
S714	Str.	24'-7"	8	402.							
S715	Str.	27'-9"	2	113.							
S716	Str.	24'-0" to 6'-0"	2 Series of 4	245.							
S717	Str.	3'-9"	1	8.							
S718	44	11'-5"	6	140.	1'-5"	2'-11/2"	4'-2"	2'-11/2"	1'-0"		
S719	21	6'-0"	6	74.	2'-4"	2'-0"	1'-2"	1'-8"	1'-0"	1'-0"	
X501	1	2'-0"	724	1,510.	7 1/2"	1'-0"					2 1/4"
X502	46	5'-4"	842	4,684.	2'-2"	2'-5"	7 1/2"				
X503	17	2'-3"	375	880.	7 1/2"	1'-9"					
X504	45	3'-3"	724	2,454.	7 1/2"	10 1/2"	11 1/2"	8"	9"	1'-2"	
X505	17	2'-8"	349	971.	7 1/2"	2'-2"					
X506	37	8'-11"	6	56.	2'-4"	1'-11"					
X507	44	7'-1"	12	89.	1'-4"	1'-5"	2'-0"	1'-5"	1'-0"		
X508	Str.	13'-5"	20	280.							
X509	Str.	6'-11"	24	173.							
X510	Str.	13'-0"	12	163.							
X511	Str.	5'-5"	48	271.							
X512	Str.	15'-0"	12	188.							
X513	Str.	6'-1"	64	406.							
X514	Str.	14'-8"	20	306.							
X515	Str.	6'-2"	64	412.							
X516	Str.	14'-5"	16	240.							
X517	Str.	5'-8"	48	284.							
X518	Str.	12'-1"	12	151.							
X519	Str.	13'-7"	36	510.							
X520	Str.	6'-9"	24	169.							
X521	Str.	15'-7"	12	195.							
X522	Str.	12'-9"	16	213.							
X523	Str.	13'-3"	20	276.							
X524	Str.	10'-6"	12	131.							
X701	45	6'-10"	6	84.	2'-10"	10"	11 1/2"	8"	2'-4"	1'-2"	
X702	1	5'-9"	6	71.	2'-0"	2'-1"					

Total Weight (Superstructure) = 148,951 lbs.

REAR ABUTMENT					DIMENSIONS						
MARK	TYPE	LENGTH	No. of BARS	WEIGHT	A	B	C	D	E	F	Radius
A501	37	10'-9"	28	314.	3'-0"	2'-2"					
A502	1	8'-3"	24	206.	1'-7"	5'-4"					
A503	1	6'-4"	48	317.	1'-7"	3'-5"					
A504	17	7'-1"	6	44.	7 1/2"	6'-7"					
A505	17	7'-7"	8	63.	7 1/2"	7'-1"					
A506	17	8'-2"	7	60.	7 1/2"	7'-8"					
A507	17	8'-8"	3	27.	7 1/2"	8'-2"					
A508	1	8'-5"	1	9.	1'-7"	5'-6"					
A509	Str.	28'-9"	17	510.							
A510	Str.	10'-2"	8	85.							
A511	Str.	11'-2" to 12'-0"	1 Series of 5	60.							
A512	Str.	2'-6" to 3'-4"	1 Series of 5	15.							
A513	Str.	22'-9"	1	24.							
A514	Str.	7'-5"	21	162.							
A515	Str.	3'-2" to 5'-2"	2 Series of 6	52.							
A516	Str.	13'-8"	6	85.							
A517	Str.	13'-4"	8	111.							
A518	Str.	11'-8"	8	97.							
A519	Str.	15'-8"	4	65.							
A520	Str.	10'-0"	4	42.							
A521	Str.	19'-8"	8	164.							
A601	2	14'-1"	6	127.	6'-7"	5'-4"	2'-6"				
A602	2	14'-7"	8	175.	7'-1"	5'-4"	2'-6"				
A603	2	15'-2"	7	159.	7'-8"	5'-4"	2'-6"				
A604	2	15'-8"	3	71.	8'-2"	5'-4"	2'-6"				
A605	1	10'-2"	1	15.	2'-6"	5'-6"					
A606	1	17'-10"	10	268.	8'-6"	1'-2"					
A607	1	20'-10"	8	250.	10'-0"	1'-2"					
A608	Str.	5'-4"	1	8.							
A609	Str.	3'-8"	2	11.							
A610	1	16'-1"	26	628.	7'-6"	1'-5"					
A611	1	8'-11"	7	94.	3'-11"	1'-5"					
A612	1	6'-11"	19	197.	3'-2"	11"					
A613	1	6'-3"	17	160.	2'-7"	1'-5"					
A614	1	5'-5"	2	16.	2'-2"	1'-5"					
A615	1	14'-6"	2	44.	6'-10"	1'-2"					
A616	Str.	7'-5"	20	223.							
A617	Str.	3'-2" to 5'-2"	2 Series of 6	75.							
A618	Str.	6'-1"	2	18.							
A619	Str.	7'-8"	2	23.							
A620	Str.	5'-10"	4	35.							
A621	10	9'-5"	11	156.	1'-6"	1'-2"	5'-7"	1'-11"			
A622	10	11'-1"	12	200.	1'-2"	1'-6"	7'-3"	1'-11"			
A801	Str.	30'-8"	7	573.							
A802	Str.	16'-0"	3	128.							
A803	Str.	11'-10"	3	95.							
A804	Str.	17'-0"	3	136.							
A805	Str.	12'-3"	3	98.							
A806	10	7'-2"	2	38.	1'-6"	1'-11/2"	2'-2"	2'-6"			
A807	10	6'-7"	2	35.	2'-0"	1'-6"	1'-7"	2'-6"			
Y501	1	2'-0"	30	63.	7 1/2"	1'-0"					
Y502	Str.	3'-4"	10	35.							
Y503	47	6'-10"	10	71.	2'-5"	3'-8"	7 1/2"				2 1/4"
Y504	Str.	19'-8"	16	328.							
Y505	Str.	7'-3"	4	30.							
Y506	Str.	14'-0"	4	58.							
Y507	Str.	2'-10"	30	89.							
Y508	47	6'-5"	10	67.	2'-5"	3'-3"	7 1/2"				2 1/4"
Y509	Str.	2'-11"	10	30.							
Y601	28	4'-11"	30	221.	11 1/2"	3'-2"	1'-2"	7 1/2"	8"		

Total Weight (Rear Abutment) = 7,560 lbs.

For notes see sh. 435.

HAZLET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

22/23

### REINFORCING STEEL LIST

RAMP GF OVER PENN-CENTRAL  
RAILROAD AND GILBERT AVENUE

H&E BRIDGE NO. 11

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	J.B.M.		V.L. A.L.T.	J.H.O. 11-9-72	

MICROFILMED  
FEB 3 1981

HAMILTON COUNTY  
HAM-471-030

MARK	TYPE	LENGTH	No. of BARS	WEIGHT	DIMENSIONS						
					A	B	C	D	E	F	Radius
P401	17	4'-10"	9	29	1'-9 1/2"	3'-2"					
P402	17	9'-11"	12	79	1'-9 1/2"	8'-3"					
P403	17	12'-11"	24	207	1'-9 1/2"	11'-3"					
P501	1	6'-1"	169	1072	1'-7"	3'-2"					
P502	1	5'-9"	10	60	1'-7"	2'-10"					
P503	1	5'-4"	10	57	1'-7"	2'-5"					
P504	Str.	28'-0"	4	117							
P505	Str.	28'-7"	4	119							
P506	Str.	34'-7"	4	144							
P507	37	13'-1"	137	1869	3'-2"	3'-2"					
P508	37	13'-3"	38	525	3'-3"	3'-2"					
P509	Str.	22'-4"	8	186							
P510	Str.	21'-10"	8	182							
P601	26	7'-10"	168	1977	6'-6"						
P602	35	14'-2"	40	851	3'-2"	3'-2"	2'-0"	3'-2"	3'-2"		
P603	26	10'-10"	16	260	9'-6"						
P801	26	15'-2"	38	1539	13'-0"						
P802	26	11'-8"	24	748	9'-6"						
P803	26	14'-8"	110	4308	12'-6"						
P804	26	15'-8"	48	2008	13'-6"						
P901	Str.	29'-6"	6	602							
P902	Str.	8'-6"	4	116							
P903	33	9'-11"	15	506	4'-3"	2'-10"					1'-3 3/4"
P904	Str.	10'-0"	16	544							
P905	Str.	20'-10"	2	142							
P906	19	13'-5"	6	274	10'-4"	3'-4"	3'-4"	2 1/2"			
P907	16	27'-2"	6	554	2'-10"	24'-7"	2'-10"	2"			
P908	Str.	35'-6"	6	724							
P909	Str.	9'-6"	4	129							
P910	Str.	12'-0"	6	245							
P911	19	15'-11"	6	325	12'-11"	3'-3"	3'-3"	3"			
P912	16	30'-7"	6	624	2'-10"	28'-0"	2'-10"	2 1/2"			
P913	Str.	20'-6"	4	279							
P914	Str.	28'-6"	4	388							
P915	Str.	11'-0"	4	150							
P916	Str.	14'-0"	2	95							
P917	19	27'-10"	4	379	24'-9"	3'-4"	3'-4"	3 1/2"			
P918	16	27'-4"	4	372	2'-10"	24'-9"	2'-10"	3"			
P919	Str.	20'-0"	4	272							
P920	Str.	27'-9"	4	377							
P921	Str.	13'-9"	2	94							
P922	19	27'-4"	4	372	24'-3"	3'-4"	3'-4"	3 1/2"			
P923	16	26'-10"	4	365	2'-10"	24'-3"	2'-10"	3"			
P924	Str.	29'-0"	4	394							
P925	Str.	9'-0"	2	61							
P926	Str.	12'-0"	2	82							
P927	Str.	6'-6"	2	44							
P928	19	12'-5"	6	253	9'-5"	3'-3"	3'-3"	3"			
P929	16	27'-7"	6	563	2'-10"	25'-0"	2'-10"	2 1/2"			
P1101	17	7'-7"	88	3546	1'-5 1/2"	6'-5"					
P1102	Str.	32'-6"	18	3108							
P1103	Str.	31'-10"	18	3044							
P1104	Str.	31'-0"	18	2965							
P1105	Str.	24'-5"	10	1297							
P1106	Str.	23'-4"	10	1239							
P1107	Str.	22'-2"	14	1649							
P1108	Str.	21'-0"	10	1116							
P1109	Str.	19'-10"	10	1054							
P1110	Str.	18'-7"	10	987							
P1111	Str.	17'-5"	28	2591							
P1112	17	7'-4"	122	4753	1'-5 1/2"	6'-2"					
P1113	Str.	19'-2"	20	2037							
P1114	Str.	18'-1"	10	961							
P1115	Str.	16'-10"	10	894							
P1116	Str.	15'-10"	14	1179							
P1117	Str.	18'-3"	10	970							

PIERS					
MARK	LENGTH	No. of BARS	WEIGHT	SHAPE	BENDING DIAGRAM
SP401	29'-6"	1	630	Bent	Type 39 Sheet No. 470
SP402	28'-9"	1	615	Bent	Type 39 Sheet No. 470
SP403	28'-0"	1	599	Bent	Type 39 Sheet No. 470
SP404	21'-5"	1	463	Bent	Type 39 Sheet No. 470
SP405	20'-4"	1	441	Bent	Type 39 Sheet No. 470
SP406	19'-2"	1	416	Bent	Type 39 Sheet No. 470
SP407	18'-0"	1	392	Bent	Type 39 Sheet No. 470
SP408	16'-10"	1	368	Bent	Type 39 Sheet No. 470
SP409	15'-7"	1	342	Bent	Type 39 Sheet No. 470
SP410	14'-6"	1	320	Bent	Type 39 Sheet No. 470
SP411	16'-2"	2	354	Bent	Type 39 Sheet No. 470
SP412	15'-1"	1	332	Bent	Type 39 Sheet No. 470
SP413	13'-10"	1	306	Bent	Type 39 Sheet No. 470
SP414	12'-9"	1	284	Bent	Type 39 Sheet No. 470
SP415	15'-3"	1	335	Bent	Type 39 Sheet No. 470
SP416	14'-5"	1	318	Bent	Type 39 Sheet No. 470

SPIRALS - Core Diameter 38"  
- Pitch 4 1/2" %  
- Other Details in Accordance with  
CRSI Standard Practice

Total Weight (Piers) = 65,567 lbs

REPLACEMENT BARS			
MARK	TYPE	NUMBER	LENGTH
RE 401	Str.	2	6'-3"
RE 501	Str.	2	6'-7"
RE 601	Str.	2	6'-11"
RE 701	Str.	5	7'-2"
RE 801	Str.	1	7'-6"
RE 901	Str.	1	7'-10"
RE 1101	Str.	2	8'-6"

NOTES:

Bar size is indicated in the bar mark.  
The first digit where three digits are used,  
and the first two digits where four are  
used, indicate the bar size number.  
For example, A501 is a No. 5 size bar  
and P1101 is a No. 11 size bar.

For bar bending schedule see sheet  
No. TD/3

Total weight of reinforcing steel equals  
222,078 lbs.

HAZELT & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				23/23
<b>REINFORCING STEEL LIST</b>				
RAMP GF OVER PENN-CENTRAL RAILROAD AND GILBERT AVENUE				
<b>H&amp;E BRIDGE NO. 11</b>				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	NRK.		A.L.T.	JHD 11-9-72
			Y.L.	
				REVISED

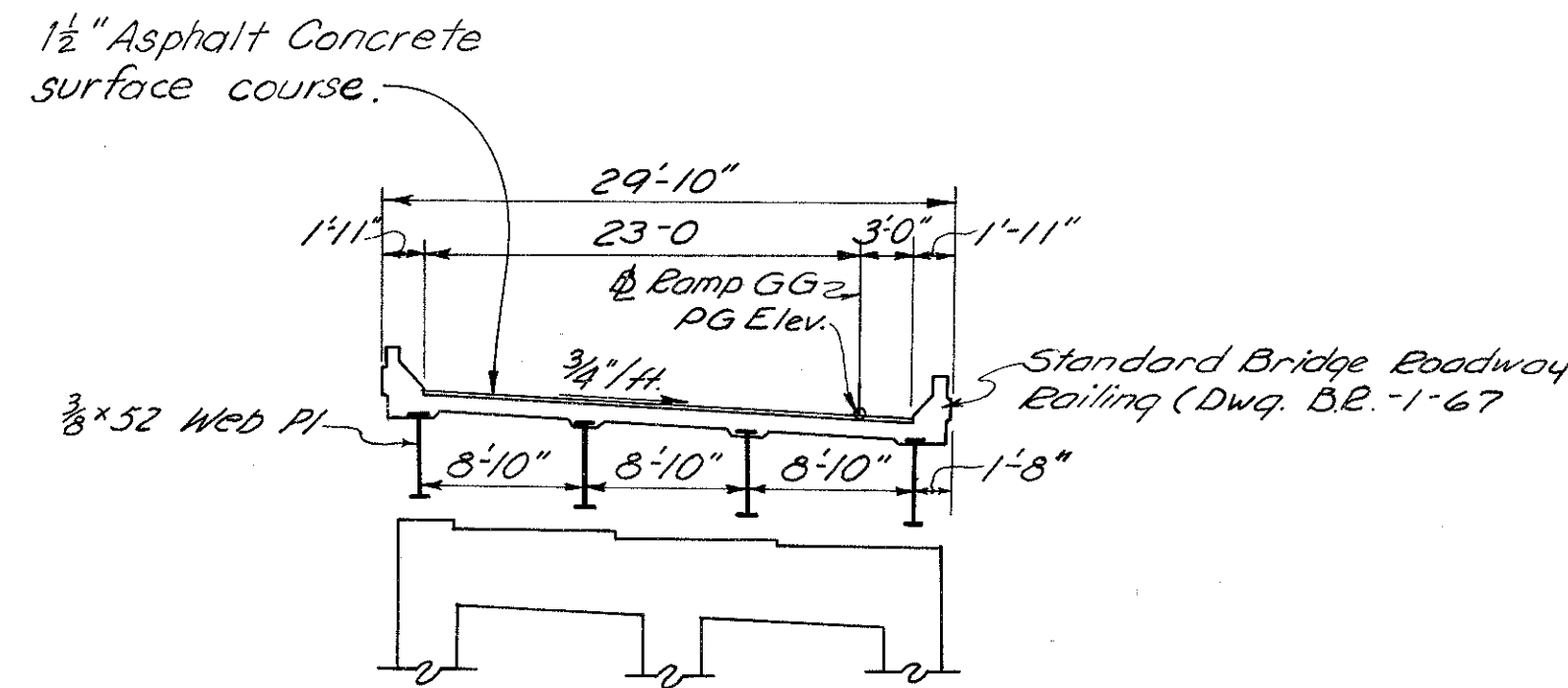
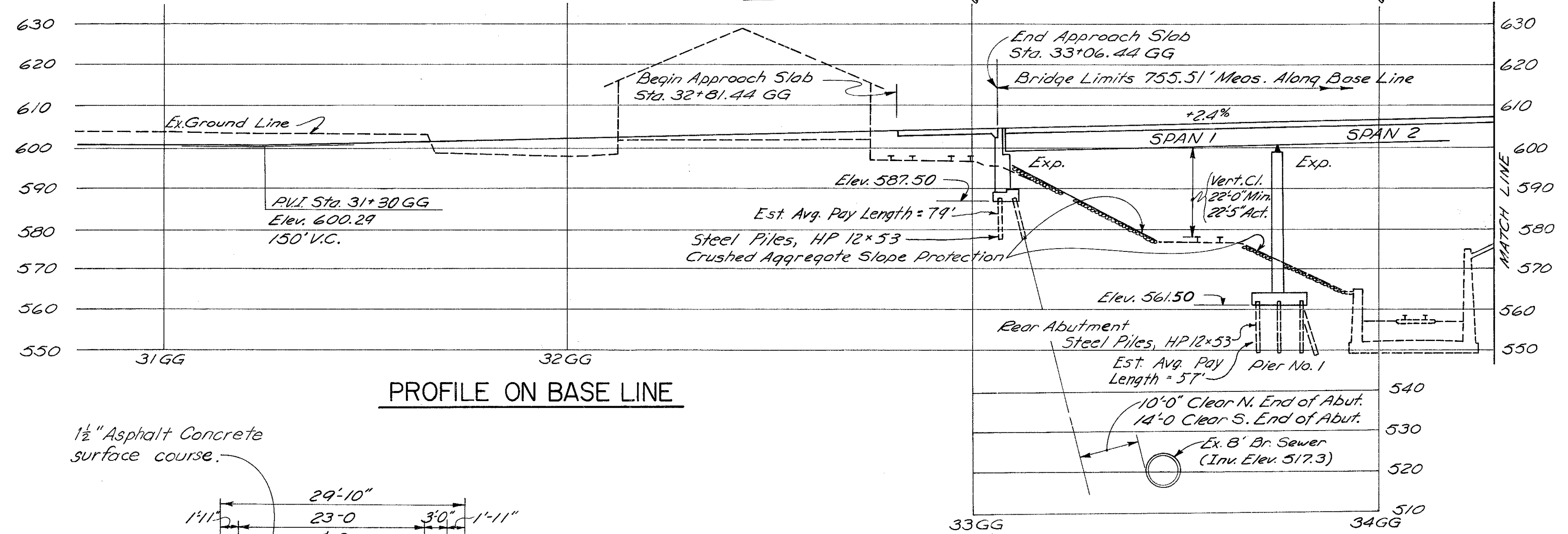
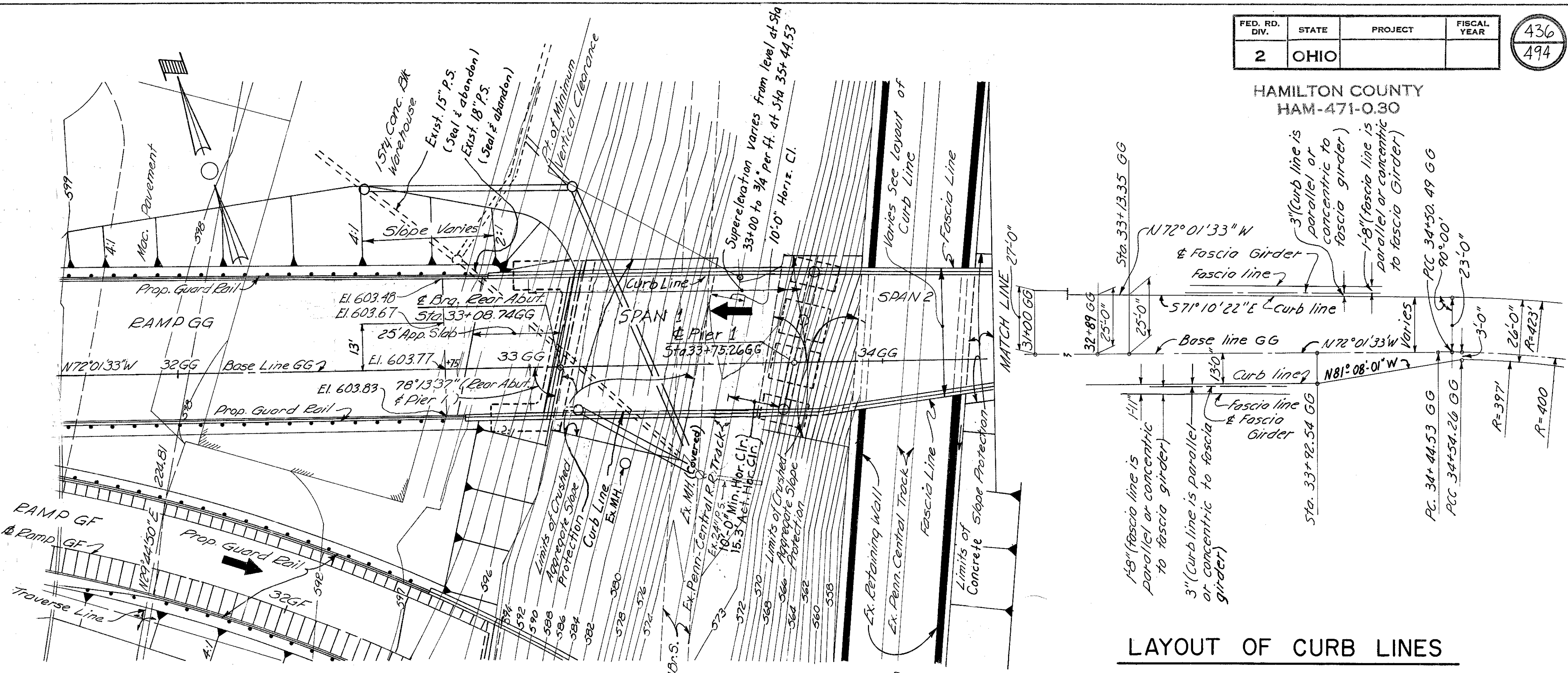
HAMILTON COUNTY  
HAM-471-0.30

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**VERTICAL CURVE I** see sheet 2/33  
 PVI Sta. 36+00 GG  
 PVI Elev. 611.57  
 L = 230'  
 g<sub>1</sub> = +2.4 %  
 g<sub>2</sub> = -1.6 %

**VERTICAL CURVE II** see sheet 2/33  
 PVI Sta. 38+65 GG  
 PVI Elev. 607.33  
 L = 300'  
 g<sub>1</sub> = 1.6 %  
 g<sub>2</sub> = -5.2 %

**Note**  
 The Vertical curve data does not apply to bridge or graphic curve elevations. The bridge elevations were obtained by adding 1 1/2" to elevations obtained from vertical curve data.



**NOTE**  
 Piers 6, 7, 8, 9, and the footings only for Pier No. 3 as shown on Sheet 2 have been constructed under a previous contract. The remaining substructure units, and all superstructure shall be constructed under this contract.

**NOTE**  
 For Design Specifications, Proposed Structure Data and Notes see Sheet 437.

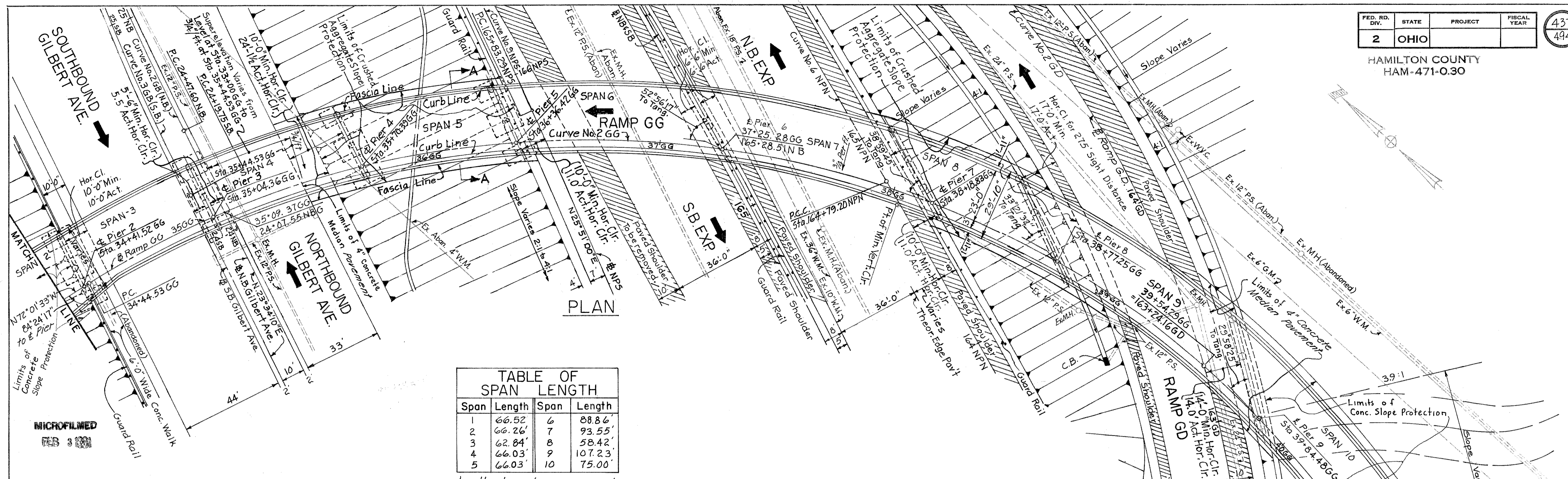
LAYOUT OF CURB LINES

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
		RTE	H.L.L.	JHD 11-7-72	

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CONSULTING ENGINEERS  
CINCINNATI, OHIO

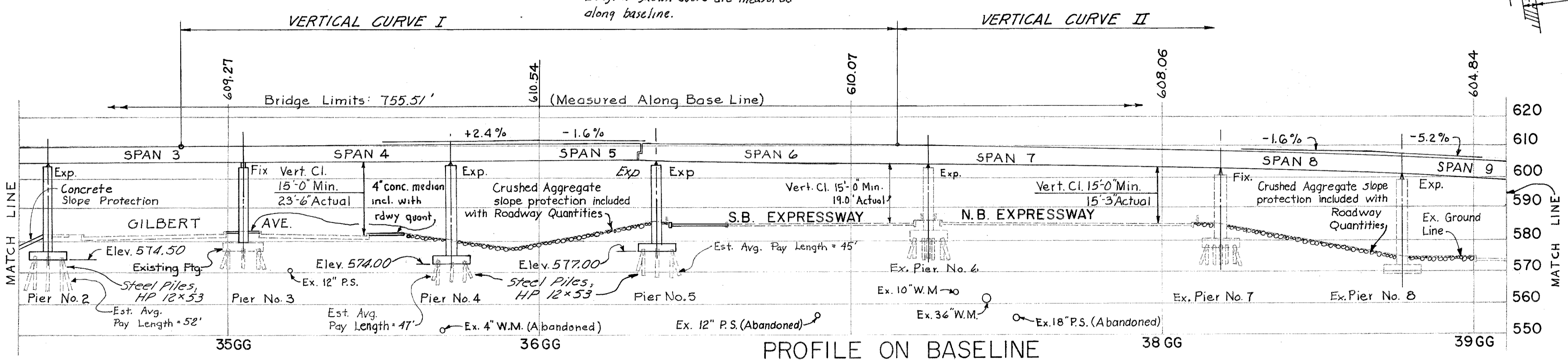
SITE PLAN  
BRIDGE NO. HAM.-71-0184  
RAMP GG OVER  
GILBERT AVE. AND I-71

H & E BRIDGE NO. 15



Span	Length	Span	Length
1	66.52'	6	88.86'
2	66.26'	7	93.55'
3	62.84'	8	58.42'
4	66.03'	9	107.23'
5	66.03'	10	75.00'

Lengths shown above are measured along baseline.



**CURVE DATA**  
BASE LINE RAMP GG  
P.I. Sta. 40+40.54 GG  
P.C. Sta. 34+44.53 GG  
P.T. Sta. 42+28.30 GG  
 $\Delta = 112^\circ 15' 58''$   
 $D = 14^\circ 19' 26''$   
 $R = 400.00'$   
 $L = 783.77'$   
 $T = 596.01'$

**NOTES**

For Bench Marks, see sheet 33. Piers 6, 7, 8, 9 and the footing only for Pier No. 3 have been constructed under a previous contract. The remaining portions of the bridge shall be constructed under this contract. Rear Abutment and Pier 1 are parallel. Piers 2, 3, 4 and 5 are parallel.

**PROPOSED STRUCTURE**

TYPE: Continuous Steel Plate Curved Girders with reinforced concrete deck and substructure

SPANS: Lengths Vary, see tabulation

ROADWAY: 26'-0" f/f Curbs (Spans 4 thru 10) Varies, See Layout of Curb Lines (Spans 1, 2, 3)

SKEW: Varies, See Plan

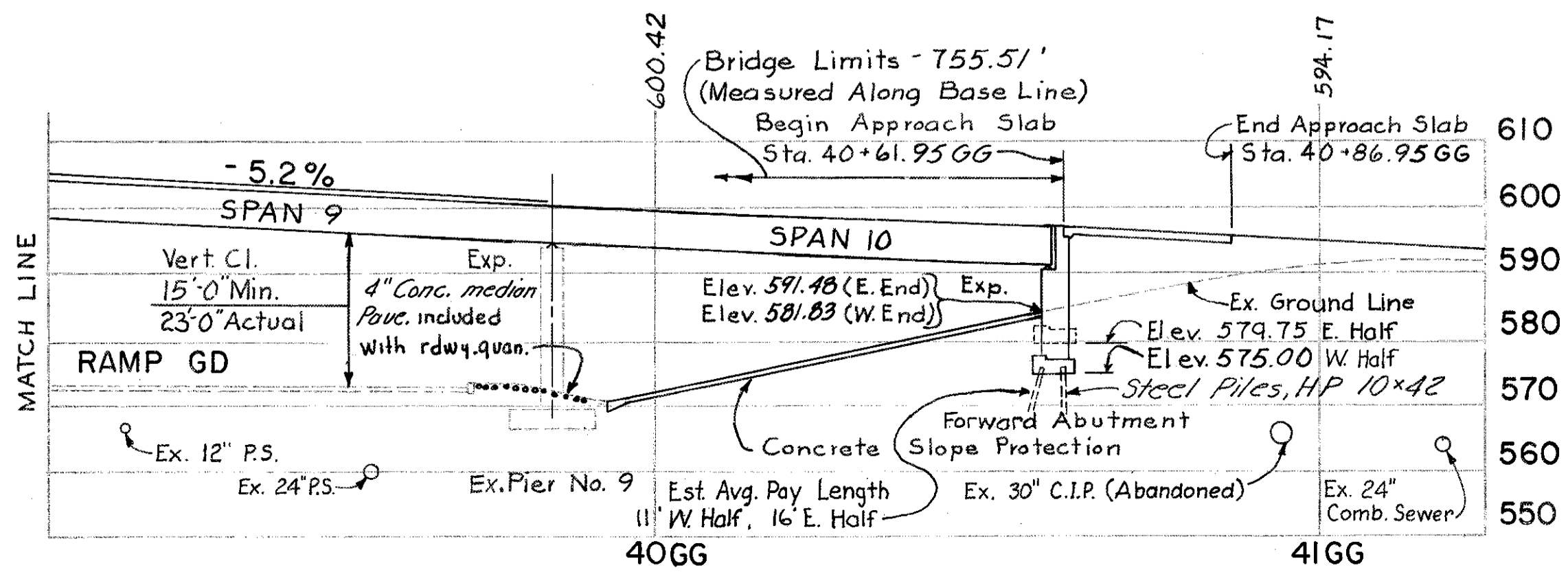
LIVE LOADING: HS 20-44 and the Interstate Alternate Loading

SURFACE COURSE: 1 1/2" Asphalt surface course

APPROACH SLABS: AS-1-67 25' long

ALIGNMENT: Varies, See Plan

SUPERELEVATION: Varies, See Plan



1984 Traffic Count	ATD=6800
	DHV= 730
2 / 33	
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO	
<b>SITE PLAN</b> <b>BRIDGE No. HAM-71-0184</b> RAMP GG OVER GILBERT AVE. AND I-71	
H & E BRIDGE No. 15	
DESIGNED	TRACED
ALT.	ALT.
H.L.L.	H.L.L.
CHECKED	REVIEWED DATE
JH0	11-7-72
REVISED	

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FEB 3 1981

## ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	SUPER- STRUCTURE	REAR ABUTMENT	FORWARD ABUTMENT	PIERS	GENERAL
503		Lump Sum	Cofferdams, Cribs and Sheeting					Lump
503	1010	Cu. Yd.	Unclassified Excavation		194	256	560	
504	234	Sq. Ft.	Steel Sheet Piling Left in Place (minimum section modulus of 7 in. <sup>3</sup> per foot of wall)			234		
505		Lump Sum	Test Pile					Lump
507	6800	Lin. Ft.	Steel Piles, HP 12x53		2210		4590	
507	610	Lin. Ft.	Steel Piles, HP 10x42			610		
509	304,557	Lb.	Reinforcing Steel	222,505	11,314	11,921	58,817	
511	866	Cu. Yd.	Class "C" Concrete, Superstructure	866				
511	222	Cu. Yd.	Class "C" Concrete, Pier Caps and Columns				222	
511	190	Cu. Yd.	Class "C" Concrete, Abutments above Footings		95	95		
511	284	Cu. Yd.	Class "C" Concrete, Footings		65	66	153	
512	13	Lin. Ft.	Premolded Sealing Strip			13		
513	864,000	Lb.	** Structural Steel	864,000				
514	864,000	Lb.	Field Painting of Structural Steel	864,000				
516	36	Sq. Ft.	1" Preformed Expansion Joint Filler			36		
518	178	Cu. Yd.	Porous Backfill		100	78		
518	4	Each	Drain Inlets	4				
518	60	Lin. Ft.	6" Standard Pipe Downspout, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials					60
518	78	Lin. Ft.	6" Non-Perforated, Helical Corrugated Metal Pipe including Specials, 707.01		56	22		
518	112	Lin. Ft.	6" Perforated, Helical Corrugated Metal Pipe, 707.01		54	58		
518	21	Lin. Ft.	6" Standard Pipe Collector, Alloy Steel (707.11) or Hot-dip Galvanized Steel, Including Specials					21
601	366	Sq. Yd.	Crushed Aggregate Slope Protection					366
601	625	Sq. Yd.	Concrete Slope Protection					625
625			See Sheet 143 for Lighting Summary					
808	866	Units	Chemical Admixture for Concrete, Type A, B or D	866				
404	65	Cu. Yd.	Asphalt concrete (70-80 or AC20)	65				
Special	32	Cu. Yd.	Sand Asphalt (See proposal note)	32				
Special	2328	Sq. Yd.	Membrane Waterproofing (See proposal note)	2328				

\*\* Includes 104 pounds of bronze.

## GENERAL NOTES

**REFERENCE**

shall be made to Standard Drawings AS-1-67 revised 6-12-69, SD-1-69, Sheets 1 and 2 dated 6-12-69, BR-1-67, Sheet 1 revised 10-15-71, RB-1-55 revised 2-2-59, FSB-1-62 revised 1-15-63 and to Supplemental Specifications 808 dated 1-1-71, 835 dated 1-1-71, and 927 dated 1-1-71.

**DESIGN SPECIFICATIONS:**

This structure conforms to "Standard Specifications for Highway Bridges" adopted by the American Association of State Highway Officials, 1969, including the Ohio "Supplement" to these specifications.

**DESIGN DATA:**

Design Loading - HS20-44 "and the Interstate Alternate Loading"

Concrete Class C - unit stress 1200 psi. for superstructure  
unit stress 1333 psi. for substructure

Structural Steel - ASTM A36 - unit stress 20,000 psi.

Reinforcing Steel - ASTM A615, A616 or A617 - unit stress 20,000 psi..

Spiral reinforcement may be plain bars ASTM A82, A306, A499 or A615. If bars in accordance with ASTM A616 are provided they shall be subject to bend tests as per AASHTO Designation M42-70.

**PILES**

shall be driven to firm contact with bedrock. If the length of penetration is approximately equal to the depth to bedrock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in 507.05 is not less than the following value for a pile hammer of the indicated energy rating:

For the Rear Abutment and Pier Piles

55 tons per pile using an 11,000 ft. lb. hammer  
50 tons per pile using a 15,000 ft. lb. or greater hammer

For the Forward Abutment

60 tons per pile using an 11,000 ft. lb. hammer  
55 tons per pile using a 15,000 ft. lb. or greater hammer

If the energy rating of the hammer is between the ratings as shown above, the required formula capacity shall be determined by interpolation. The design load is 40 tons per pile for the Rear Abutment and Pier piles and 35 tons per pile for the Forward Abutment piles.

**UTILITY LINES:**

All expense involved in relocating (installing) the affected utility lines shall be borne by the Owner(s). The Contractor and Owner(s) are requested to cooperate by arranging their work in such a manner that inconvenience to either would be held to a minimum.

**PIERS 6, 7, 8 AND 9**

have been constructed under a previous contract. It shall be the responsibility of the Contractor to determine all the existing bridge seat elevations. The Contractor shall revise, if necessary, the proposed heights of the bearing details at Piers 6, 7, 8 and 9, and shall grind, if necessary, the existing concrete areas underneath the proposed masonry plates, in order to provide a level bearing surface.

The cost of this work shall be considered as included in the unit price bid for Item 513, "Structural Steel".

DECK REINFORCING BARS: At the Contractor's option, a portion (not to exceed 25%) of the upper longitudinal bars (S4\_) in the deck slab may be placed beneath the upper transverse bars for support of the top mat.

MAINTENANCE OF TRAFFIC: Refer to Sheets 13 and 13A.

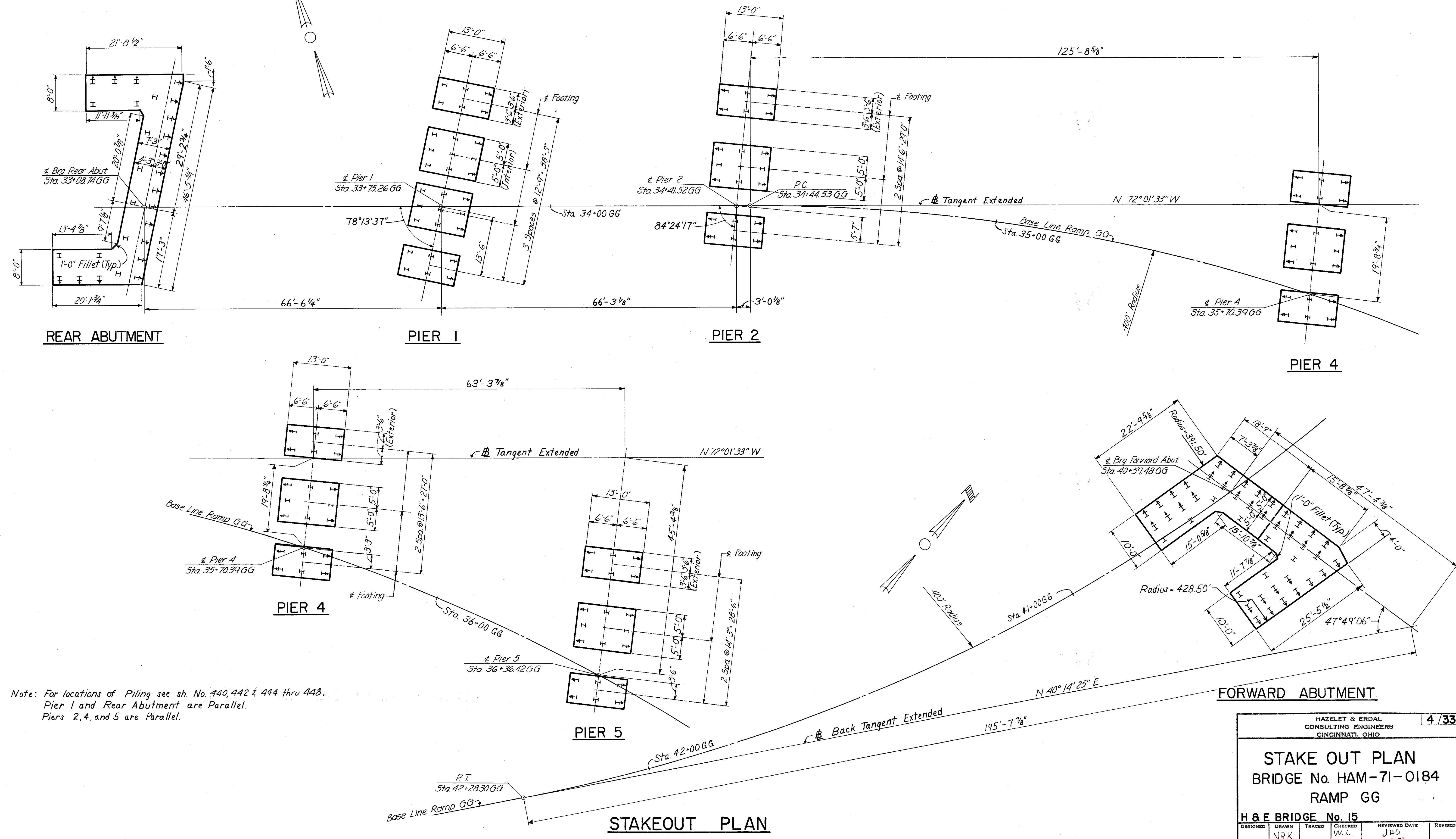
QUANTITIES  
 BY ALT. DATE 12-22-70  
 CHECKED BY DATE 2-3-71

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				3/33
<b>ESTIMATED QUANTITIES AND GENERAL NOTES</b>				
BRIDGE No. HAM-71-0184				
RAMP GG				
H & E BRIDGE No. 15				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	DH		Y.L.	JHO
			2-10-71	11-7-72



HAMILTON COUNTY  
HAM-471-O.30

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FES 3 1981



Note: For locations of Piling see sh. No. 440, 442 & 444 thru 448.  
Pier 1 and Rear Abutment are Parallel.  
Piers 2, 4, and 5 are Parallel.

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CONSULTING ENGINEERS  
CINCINNATI, OHIO

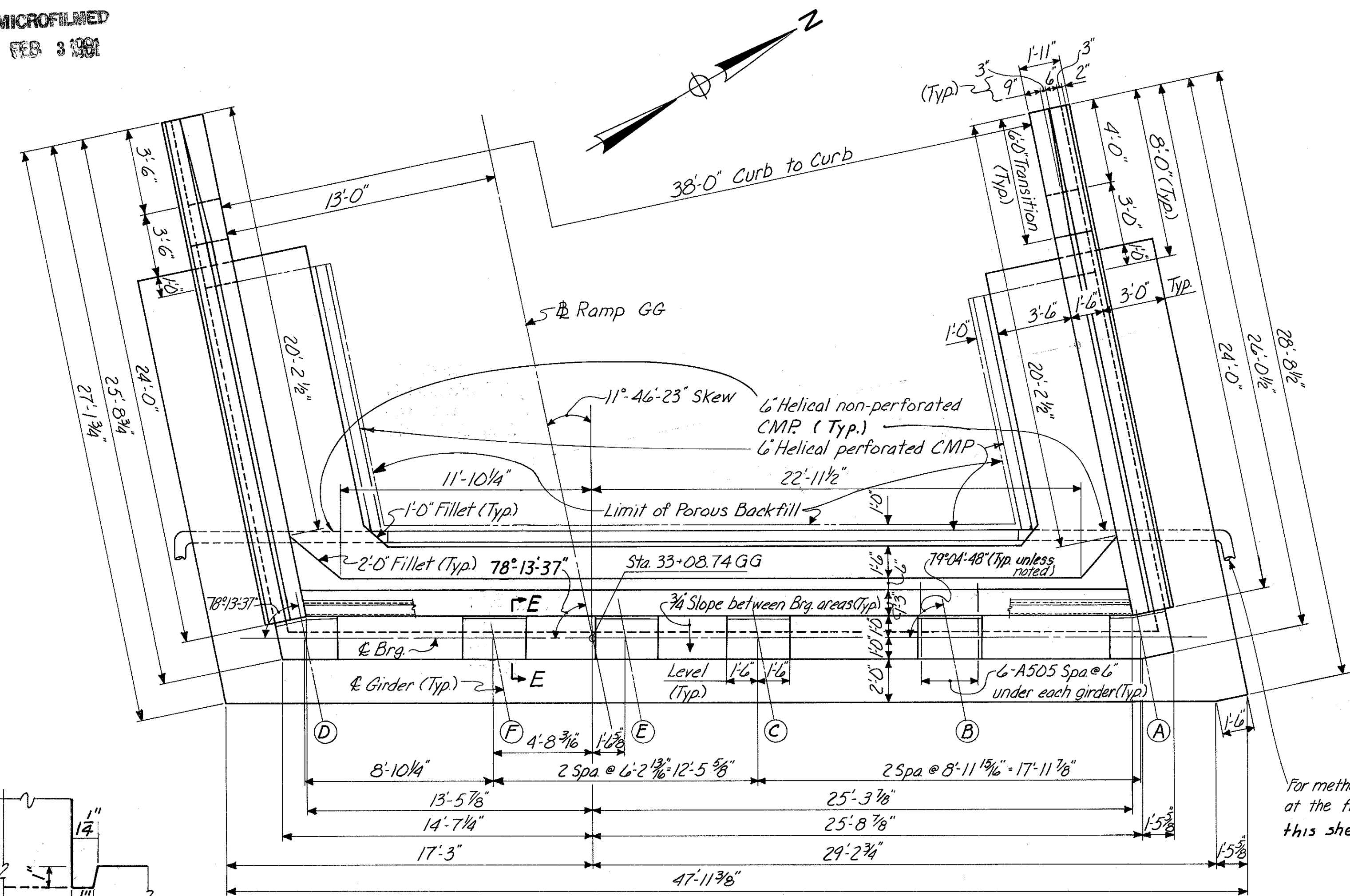
4 / 33

**STAKE OUT PLAN**  
BRIDGE No. HAM-71-0184  
RAMP GG

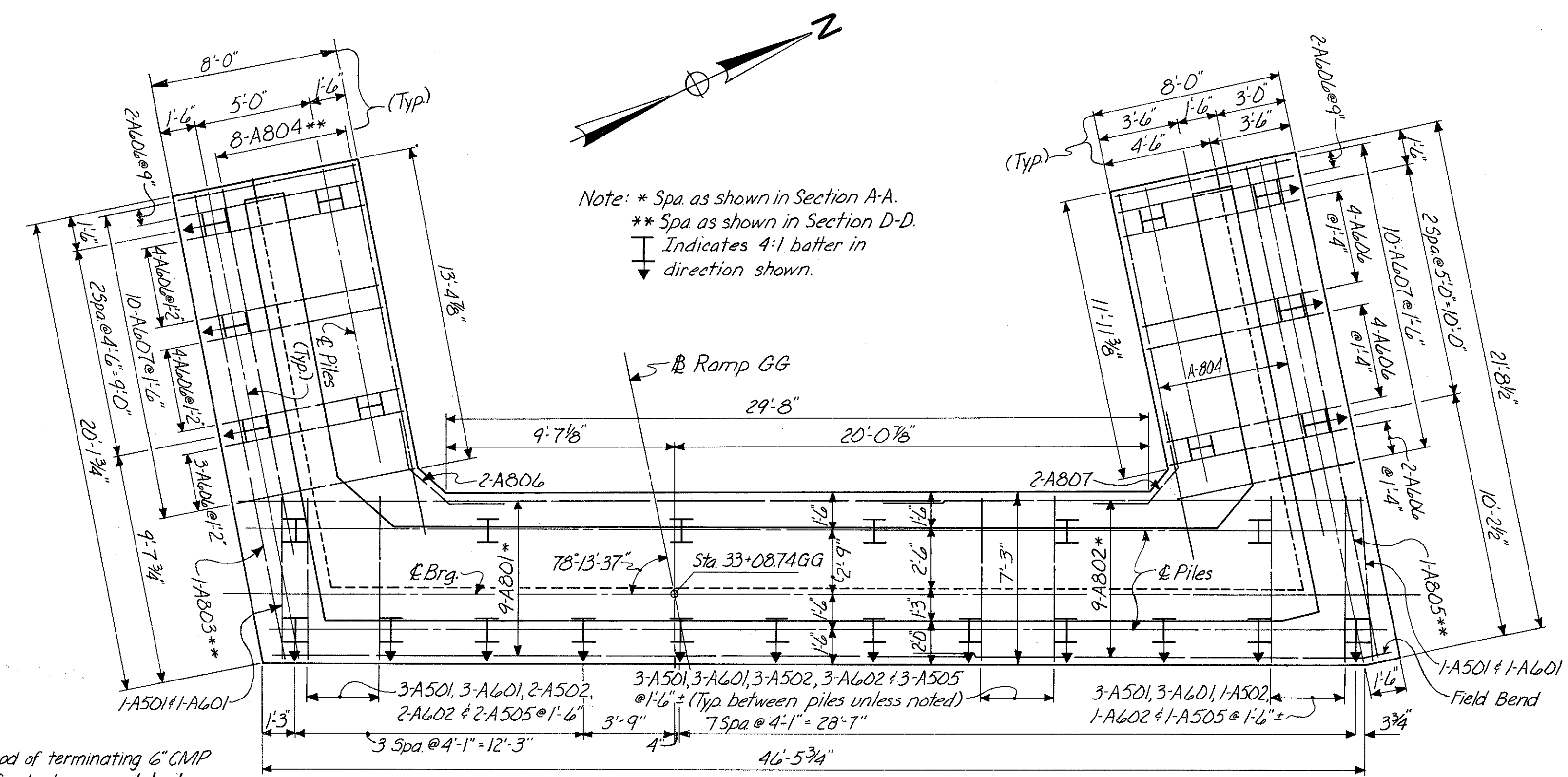
H & E BRIDGE No. 15				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	NRK		W.L.	J 40
			1-19-71	11-7-72

**STAKEOUT PLAN**

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FEB 3 1991

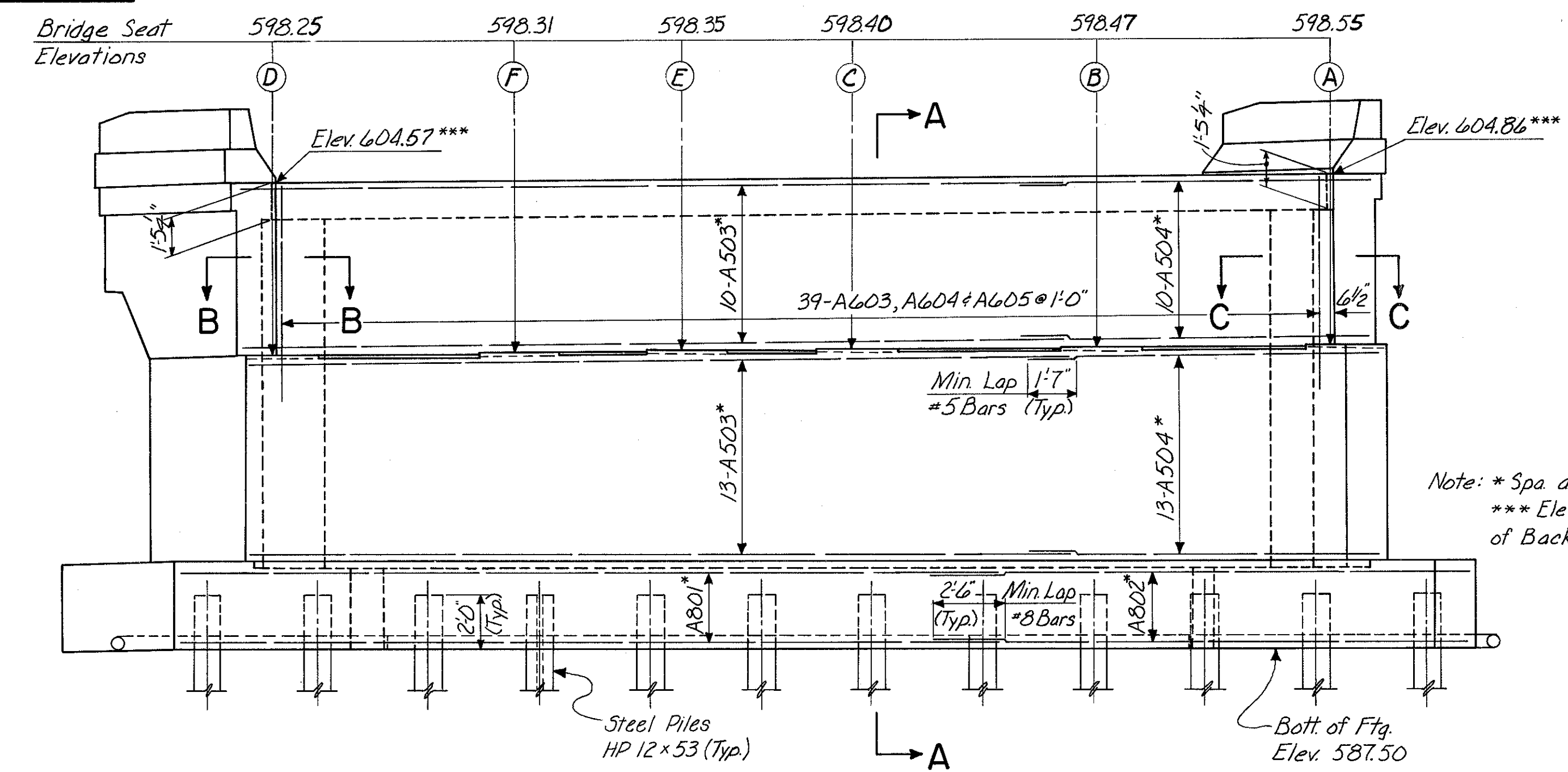


PLAN

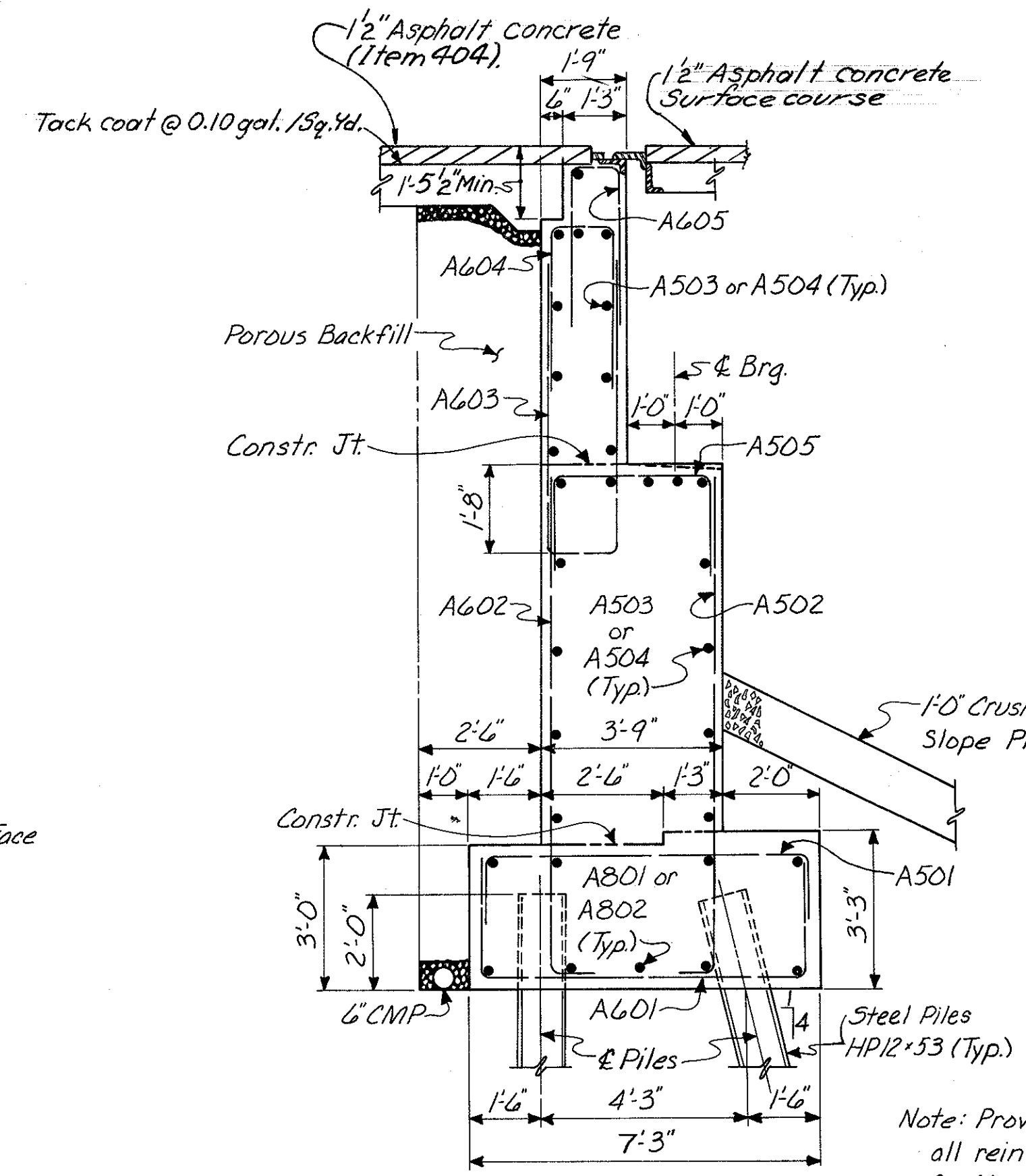


FOOTING PLAN

SECTION E-E



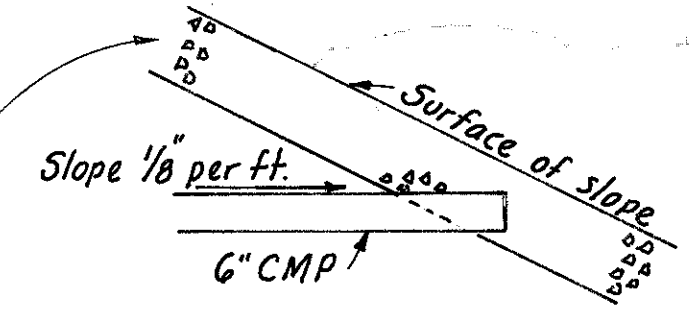
ELEVATION



SECTION A-A

Notes:  
Porous Backfill, 1'-0" thick outside back edge of footing shall extend up to the plane of the subgrade and laterally to the limits on the wingwalls as shown in plan.  
For Sections B-B & C-C, see Sh. No. 441.  
For Wingwall Details, see Sh. No. 441.  
For Roadway & Curb End Finish Details, see Std. Dwg. SD-1-69 Sh. No. 1 & 2.  
All Concrete shall be Class C Concrete.

METHOD OF TERMINATING 6" CMP AT THE FRONT SLOPE



Note: Provide 3" clearance for all reinforcing steel in footing, minimum, unless noted otherwise.

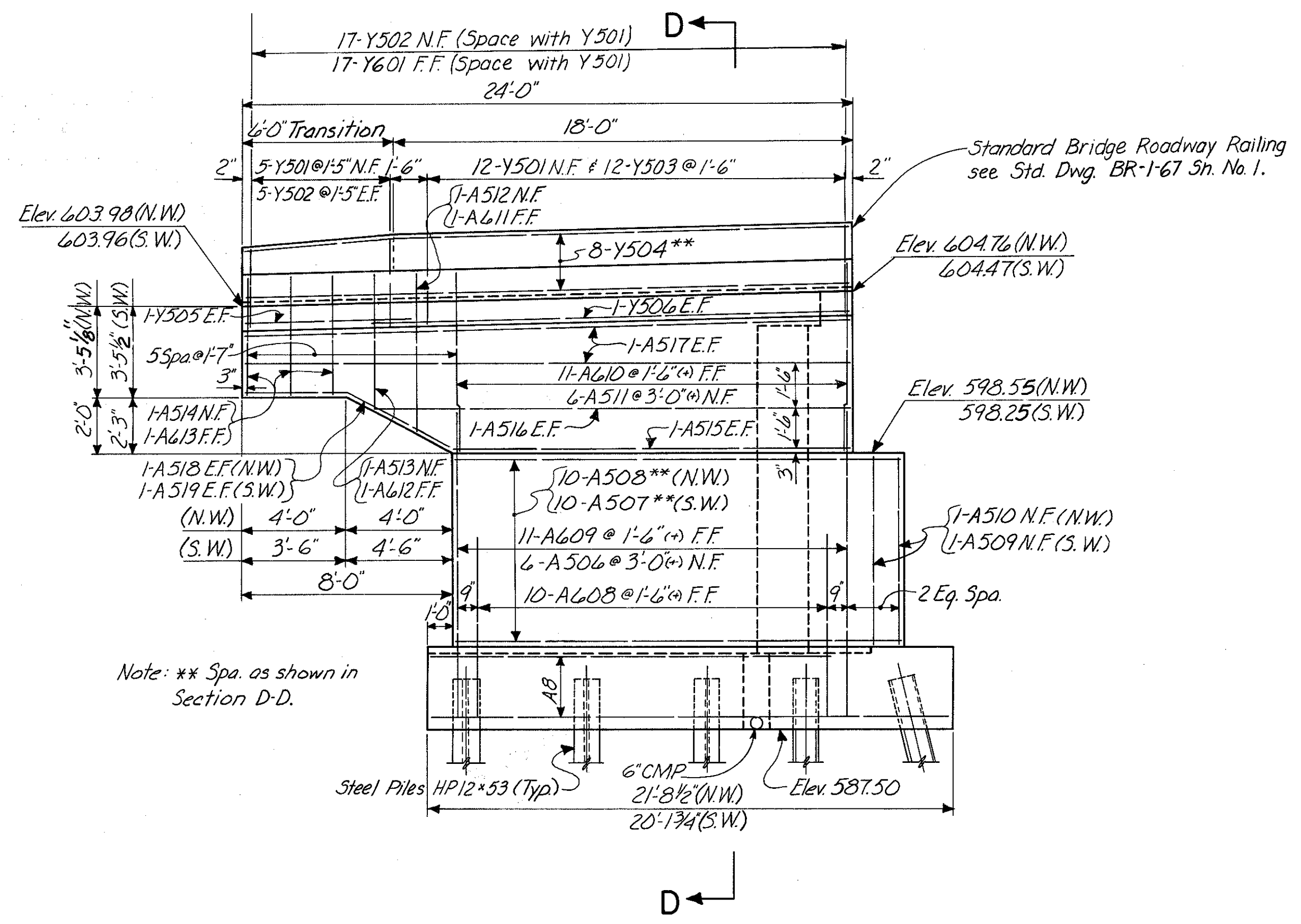
HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						5/33
<b>REAR ABUTMENT BRIDGE NO. HAM-71-0184 RAMP GG</b>						
H&E BRIDGE NO.15						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
SCC	GCK	GCK	W.L. 1-19-71	J.H.O. 11-7-72		

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FEB 3 1991

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

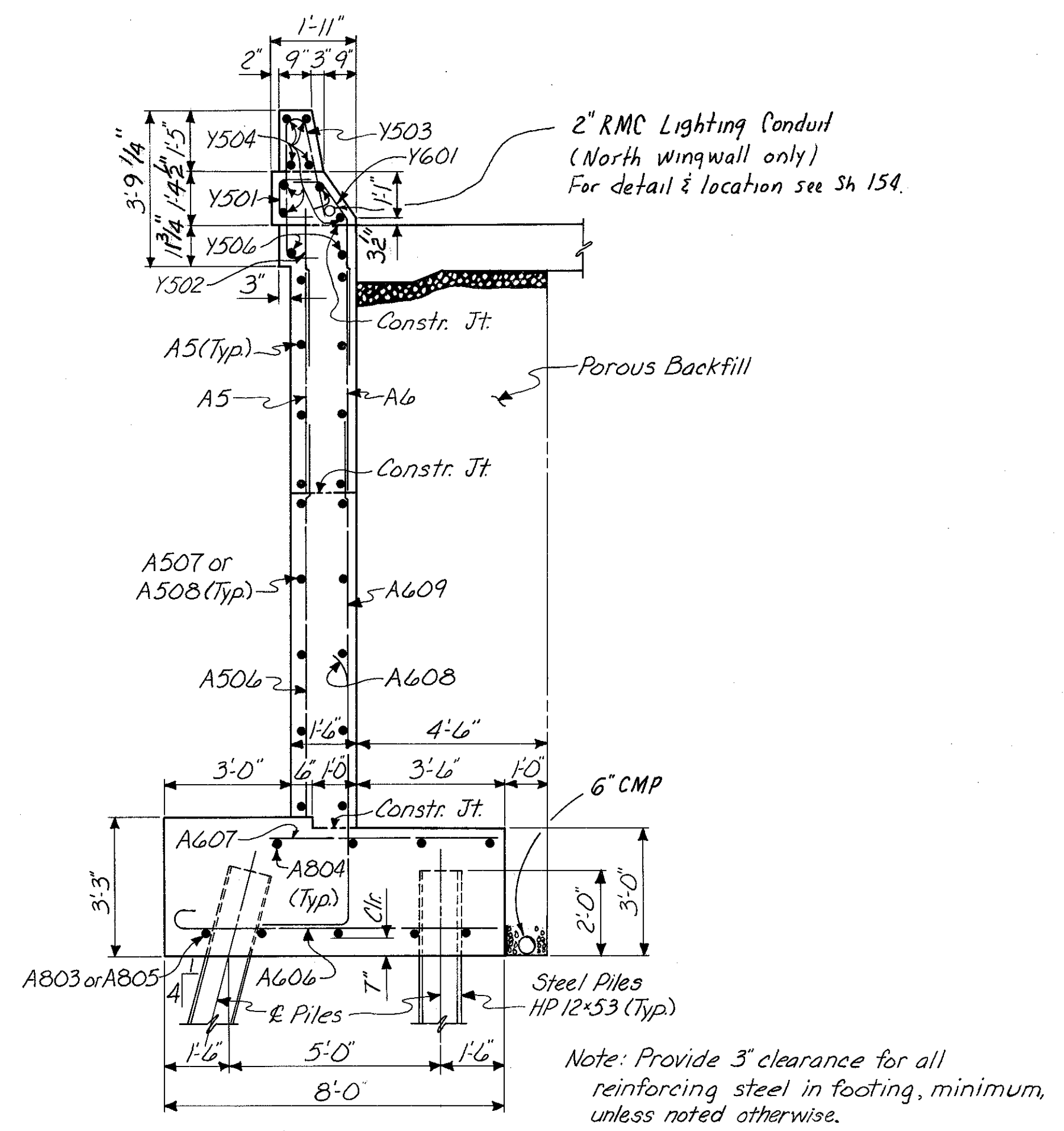
441  
494

HAMILTON COUNTY  
HAM-471-0.30

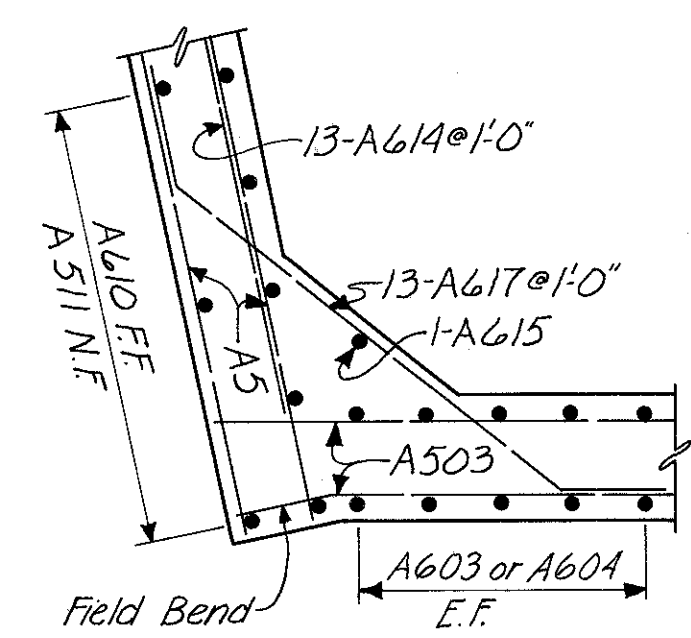


**WINGWALL ELEVATION**

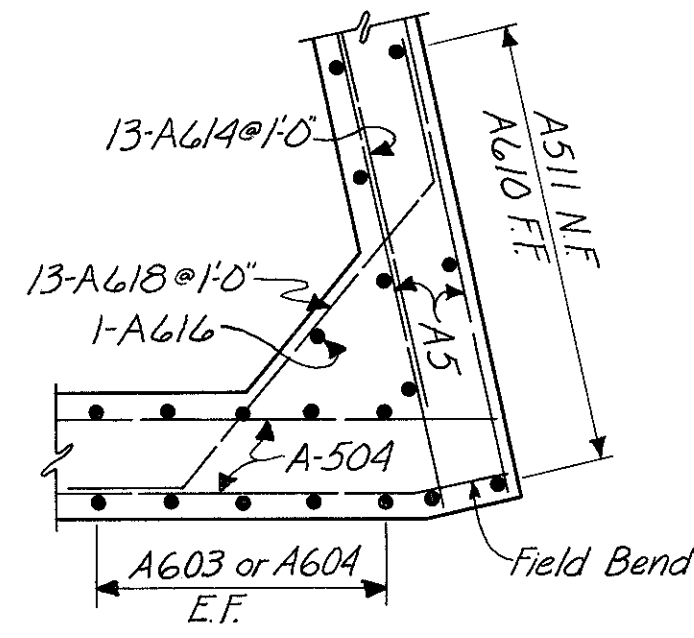
(Reinforcing steel typical for both wingwalls unless noted)



**SECTION D-D**



**SECTION B-B**

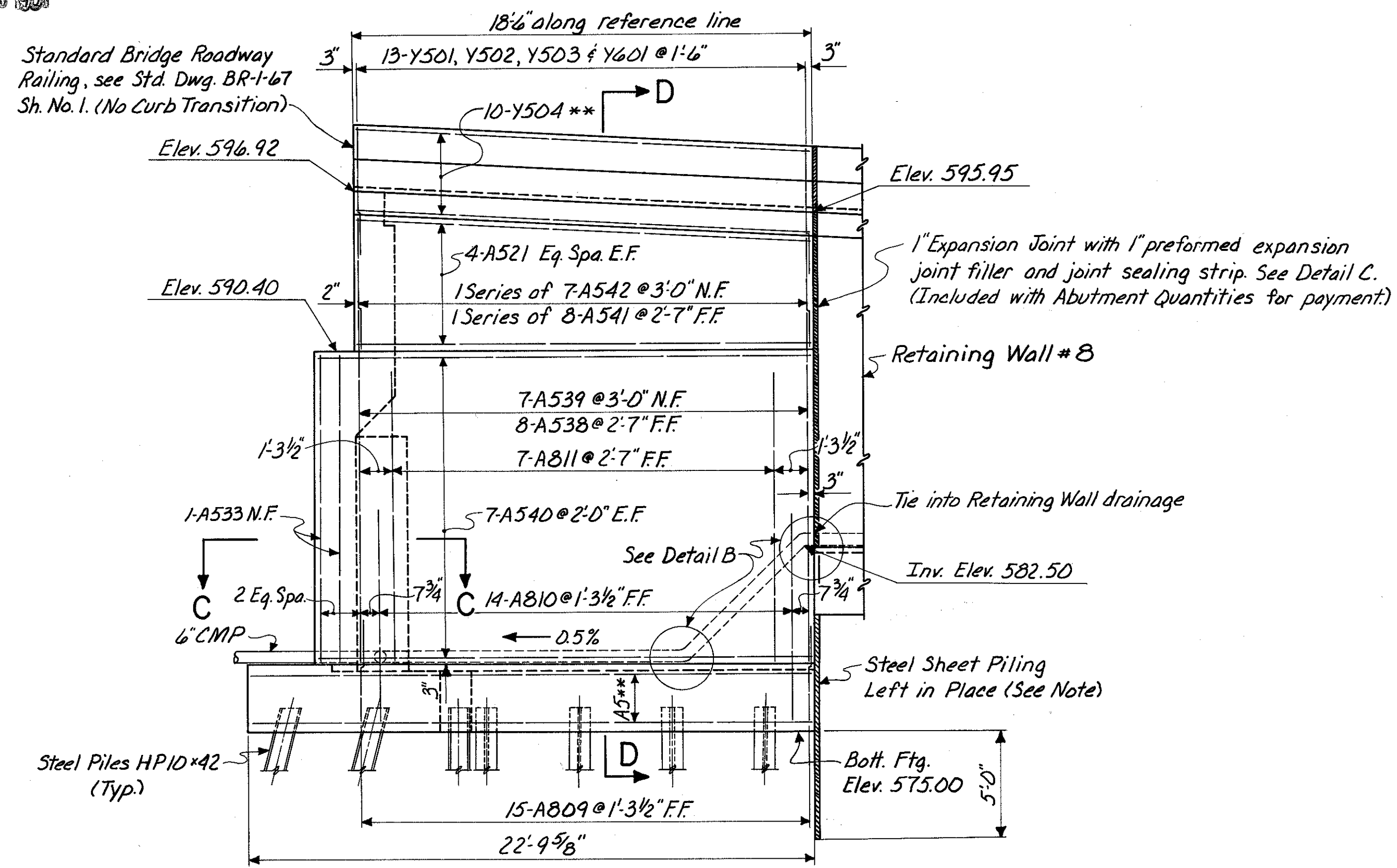


**SECTION C-C**

**NOTES:**  
N.F. denotes Near Face.  
F.F. denotes Far Face.  
E.F. denotes Each Face.  
N.W. denotes North Wingwall.  
S.W. denotes South Wingwall.  
For details of parapet transition see  
Curbs on Approaches, Std. Dwg. BR-1-67  
Sh. No. 1.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				6 / 33
<b>REAR ABUTMENT BRIDGE NO. HAM-71-0184 RAMP GG</b>				
H&E BRIDGE NO.15				
DESIGNED SCC	DRAWN GCK	TRACED GCK	CHECKED W.L. 1-19-71	REVIEWED DATE JHO 11-7-72

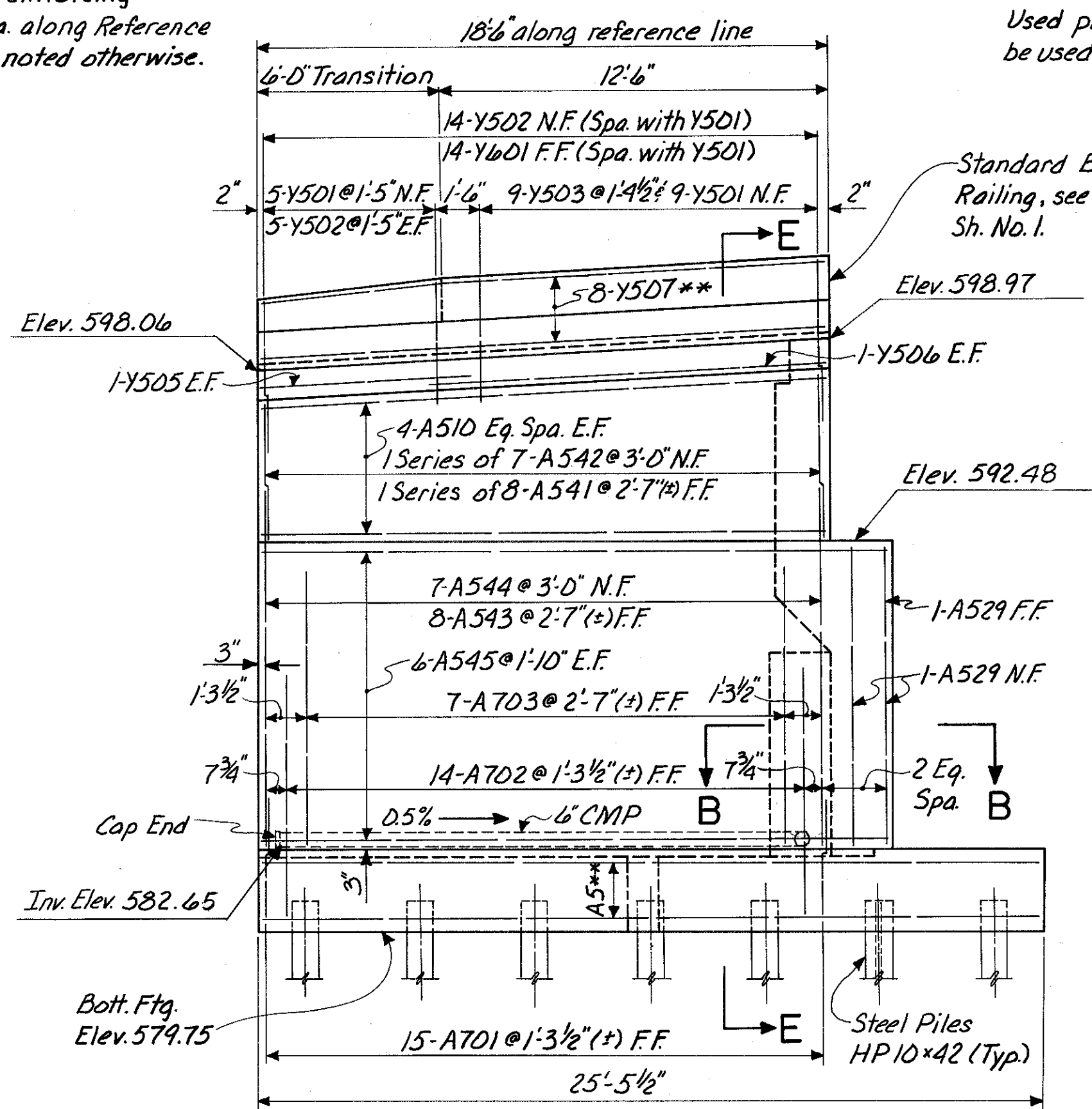




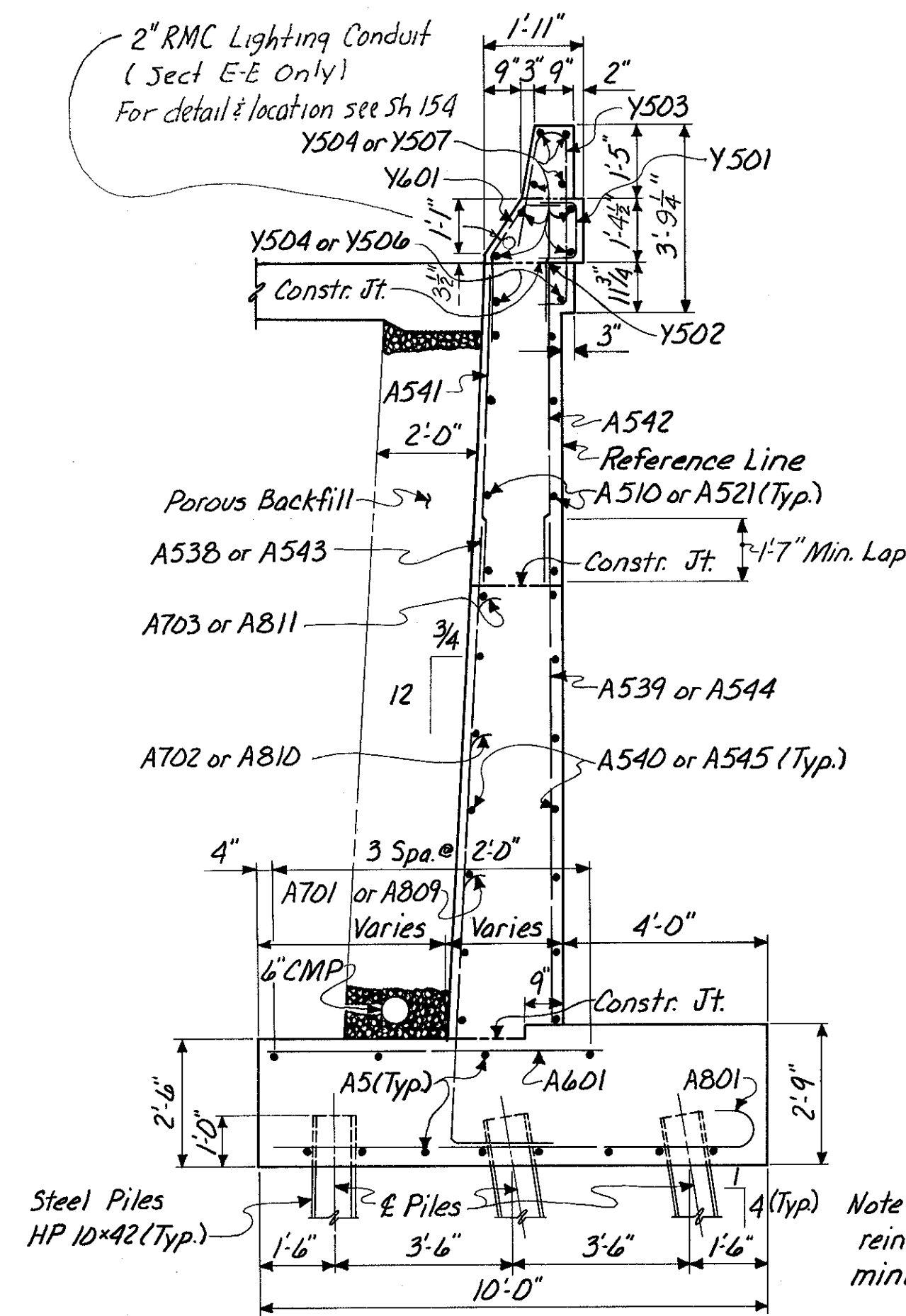
**WEST WINGWALL ELEVATION**

Note: \*\* Spa. as shown in Section D-D or E-E. All vertical reinforcing bars are spa. along Reference Line unless noted otherwise.

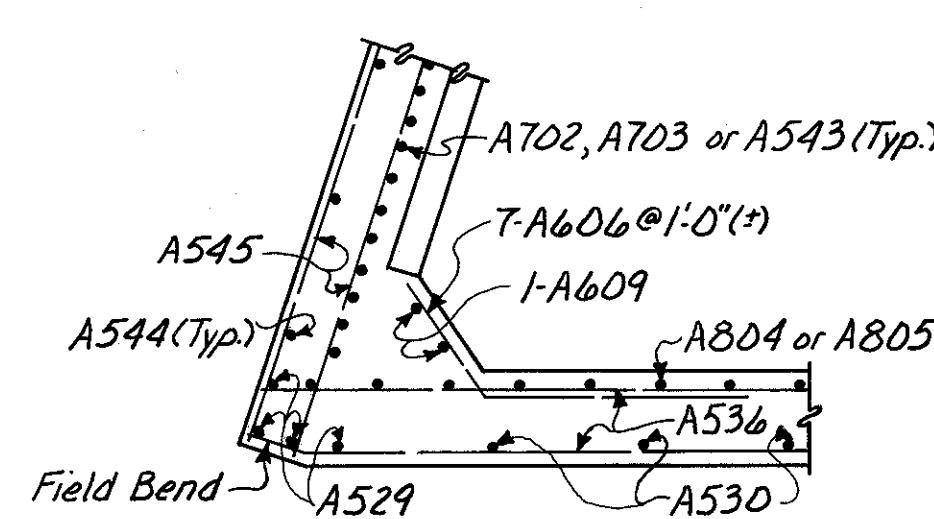
Note: Steel Sheet Piling left in place shall have a minimum section modulus of 7 in.<sup>3</sup> per foot of wall. Used piling in good condition may be used.



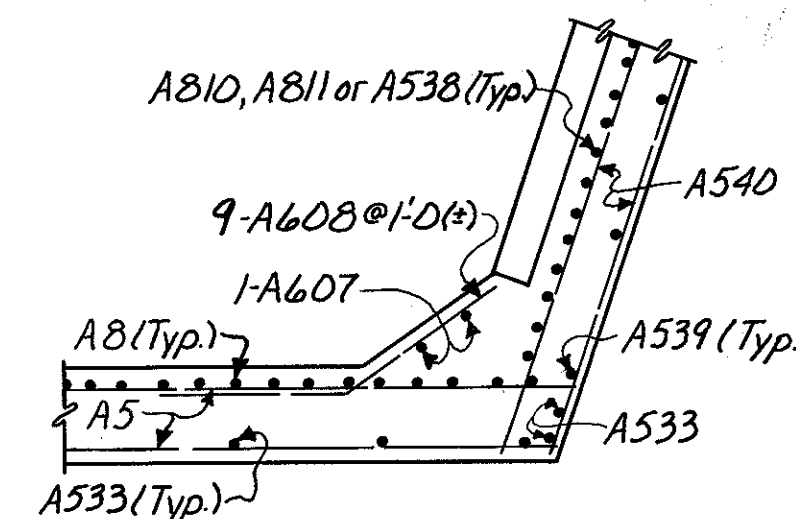
**EAST WINGWALL ELEVATION**



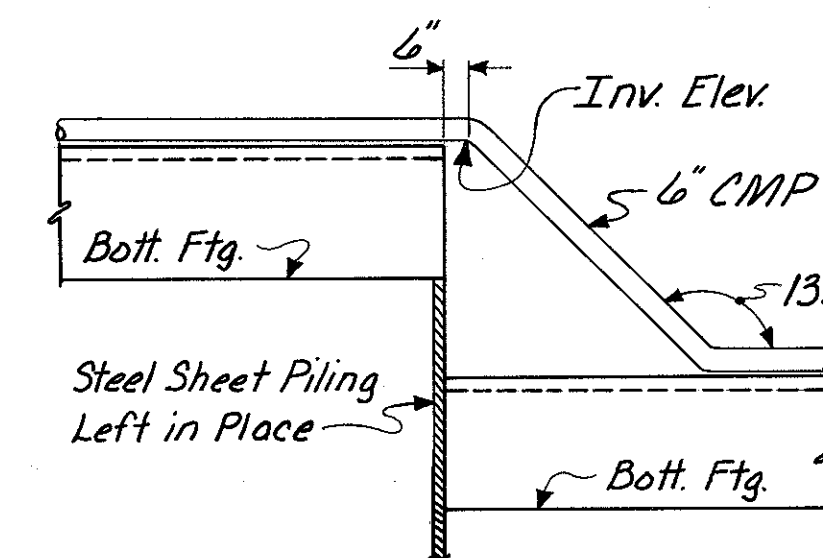
**SECTION D-D  
SECTION E-E**



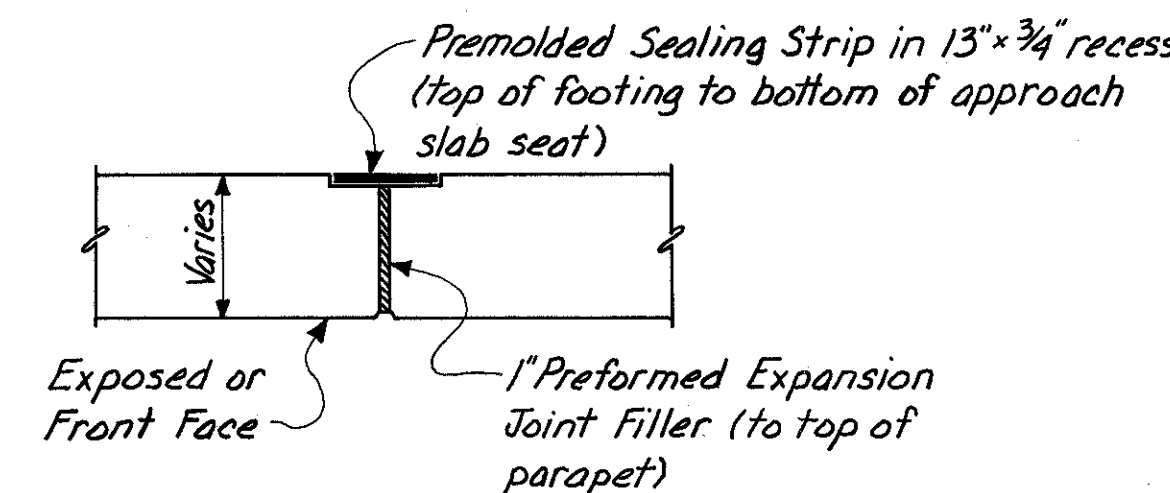
**SECTION B-B**



**SECTION C-C**



**DETAIL A  
DETAIL B (Opposite Hand)**

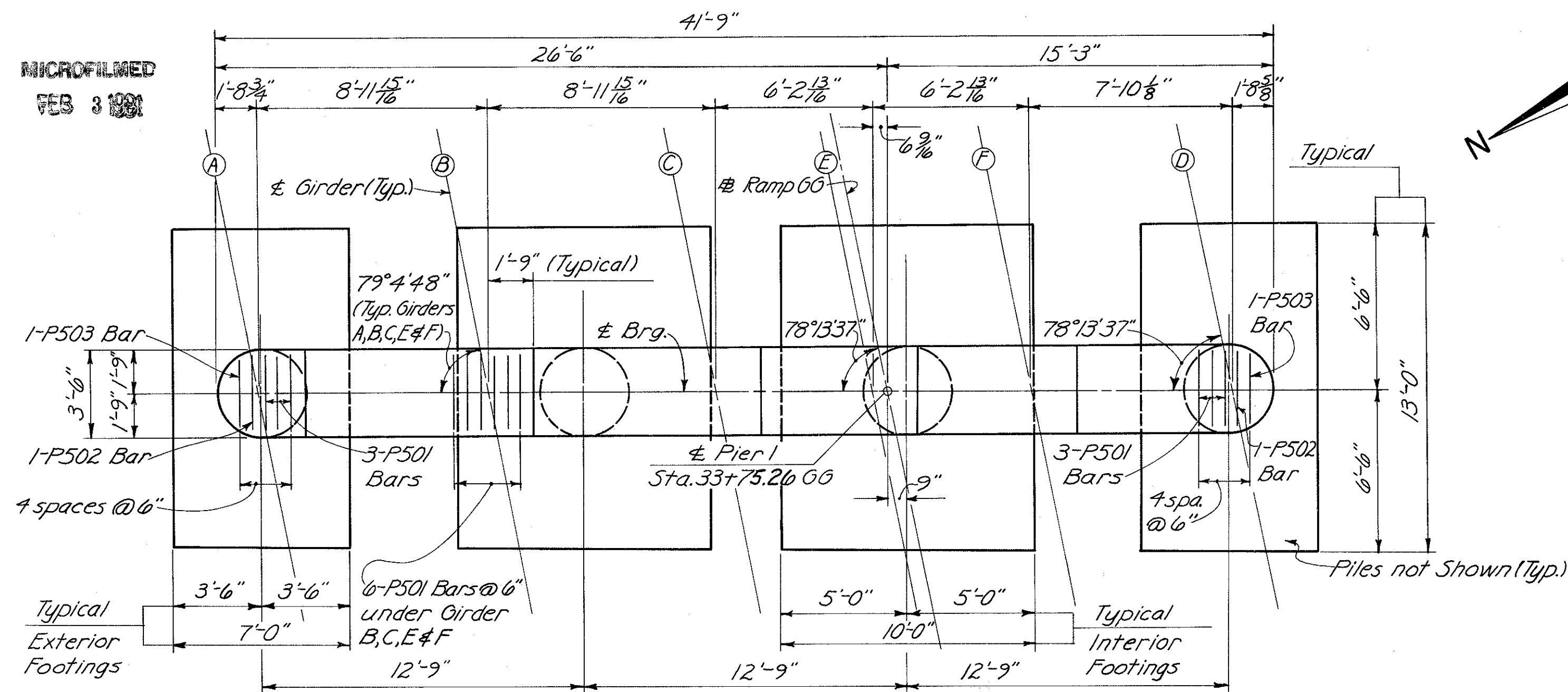


**DETAIL C**

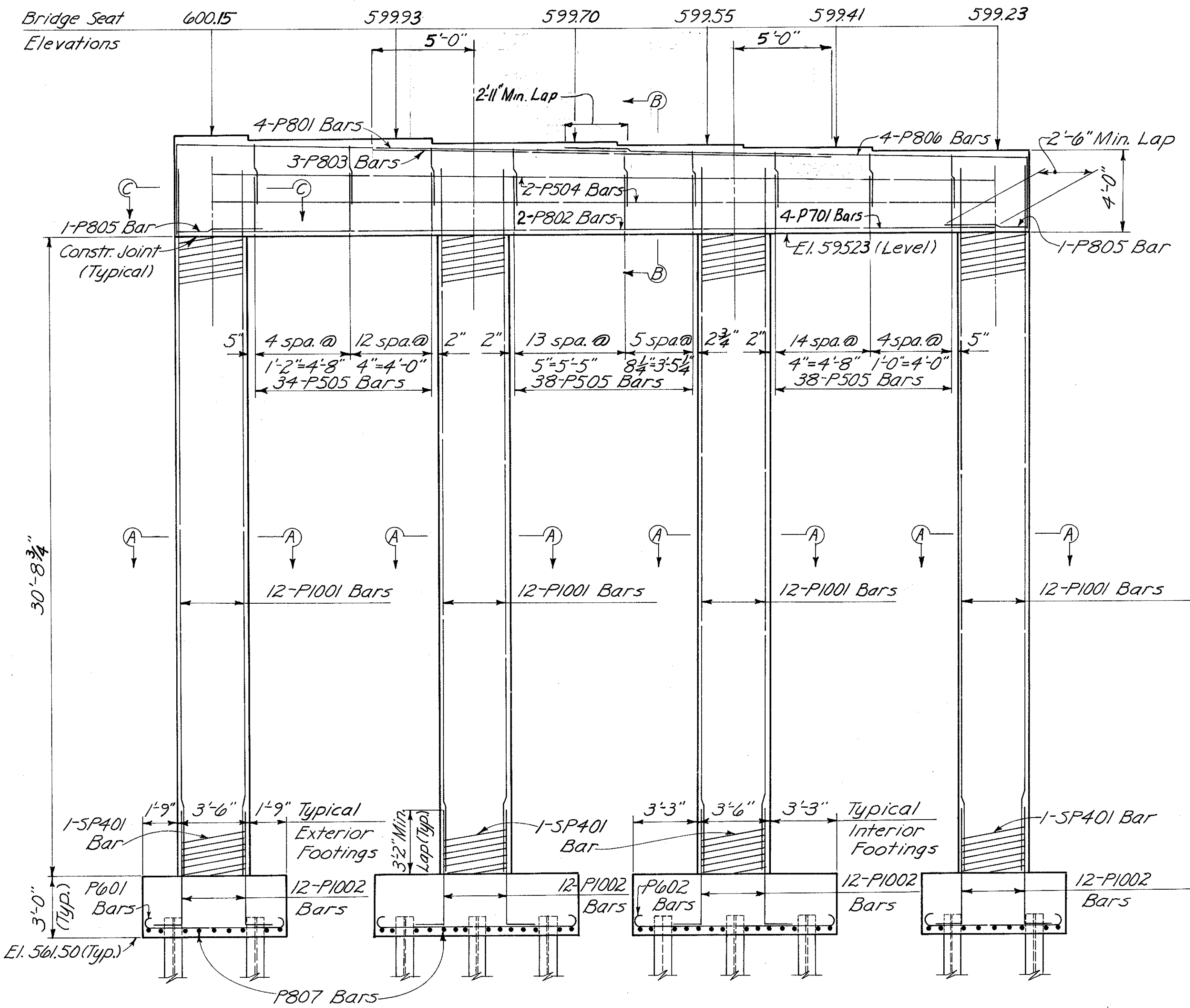
**NOTES:**  
N.F. denotes Near Face.  
F.F. denotes Far Face.  
E.F. denotes Each Face.  
For Details of Parapet Transition see Curbs on Approaches, Std. Dwg. BR-1-67 Sh. No. 1. (For East Wingwall only)

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					8/33
<b>FORWARD ABUTMENT BRIDGE NO. HAM-71-0184 RAMP GG</b>					
<b>H&amp;E BRIDGE NO. 15</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	GCK		YLL 2-10-71	JHO 11-7-72	

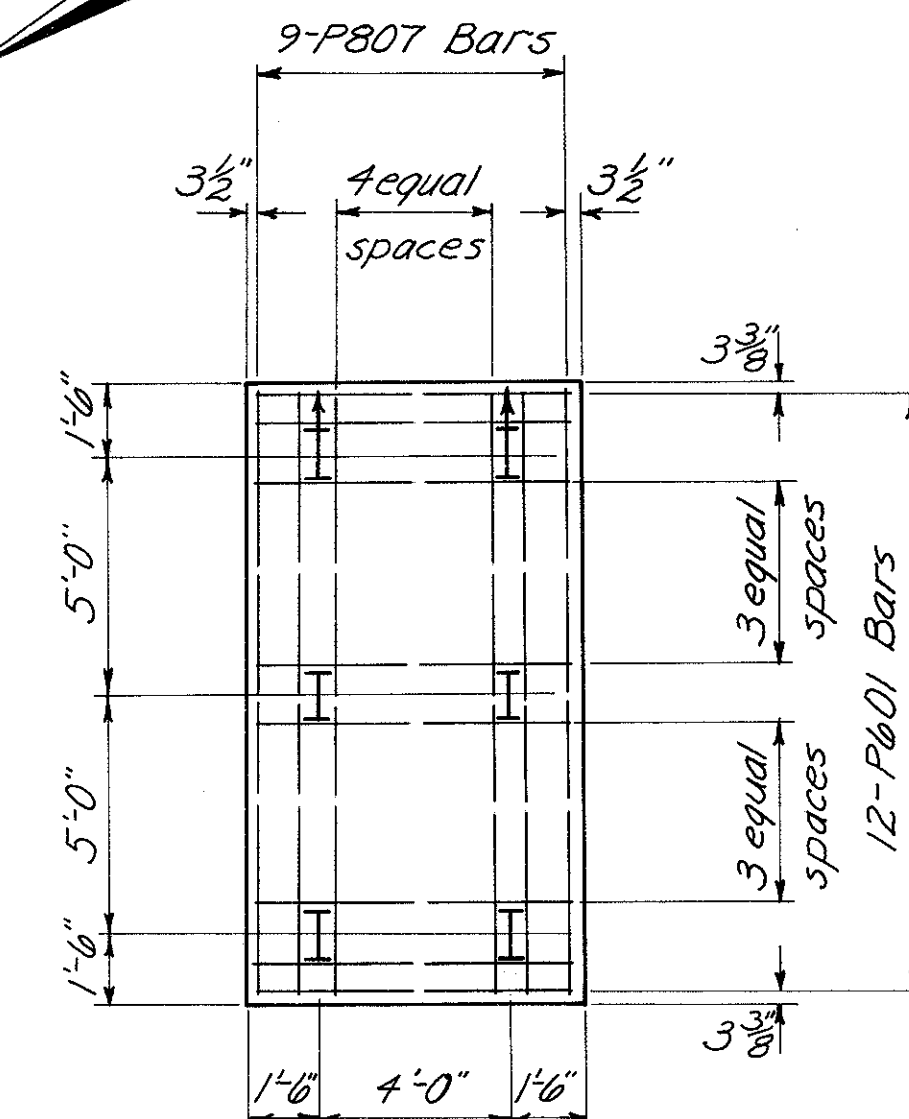
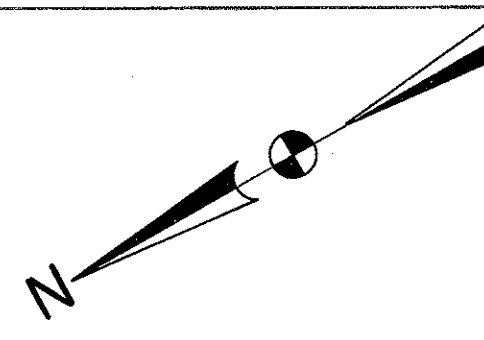
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FEB 3 1981



PLAN

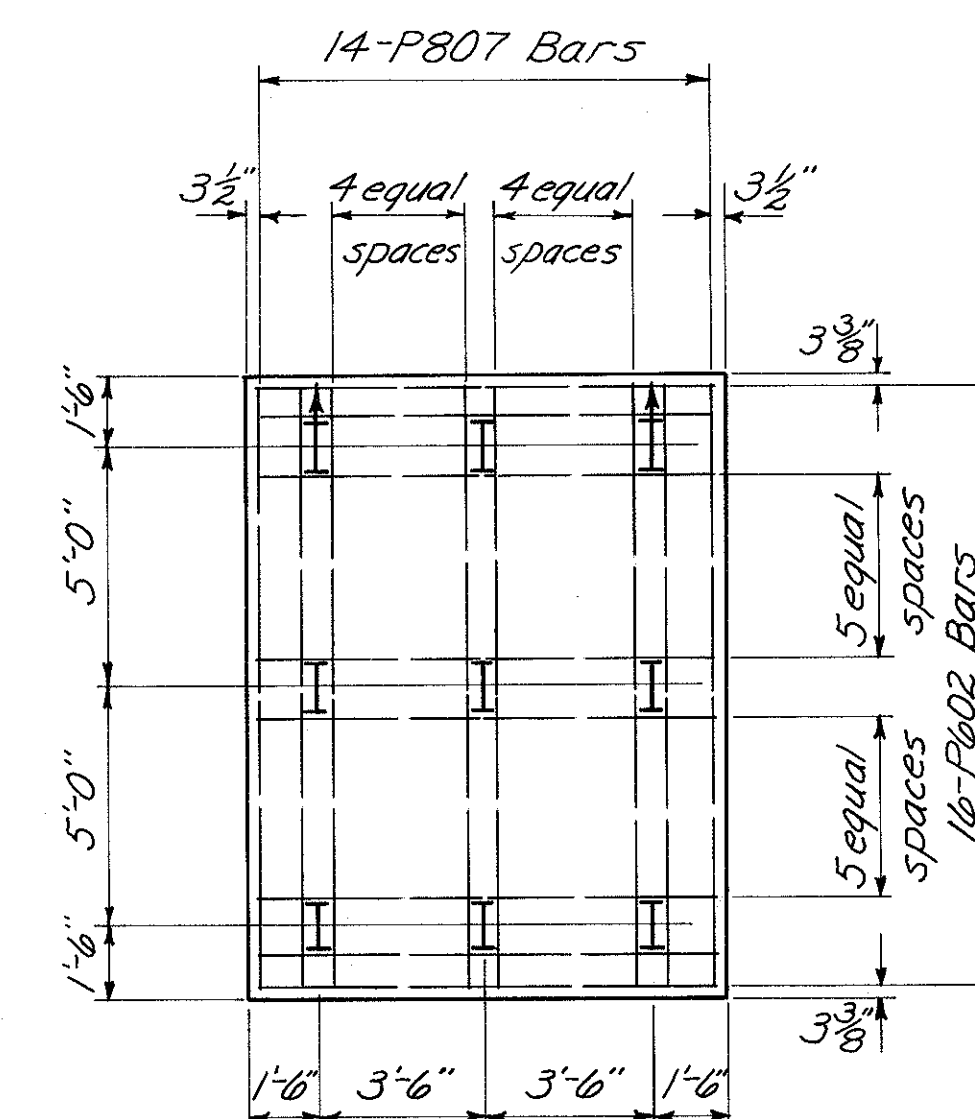


ELEVATION



Note: † denotes battered pile

TYPICAL EXTERIOR FOOTING



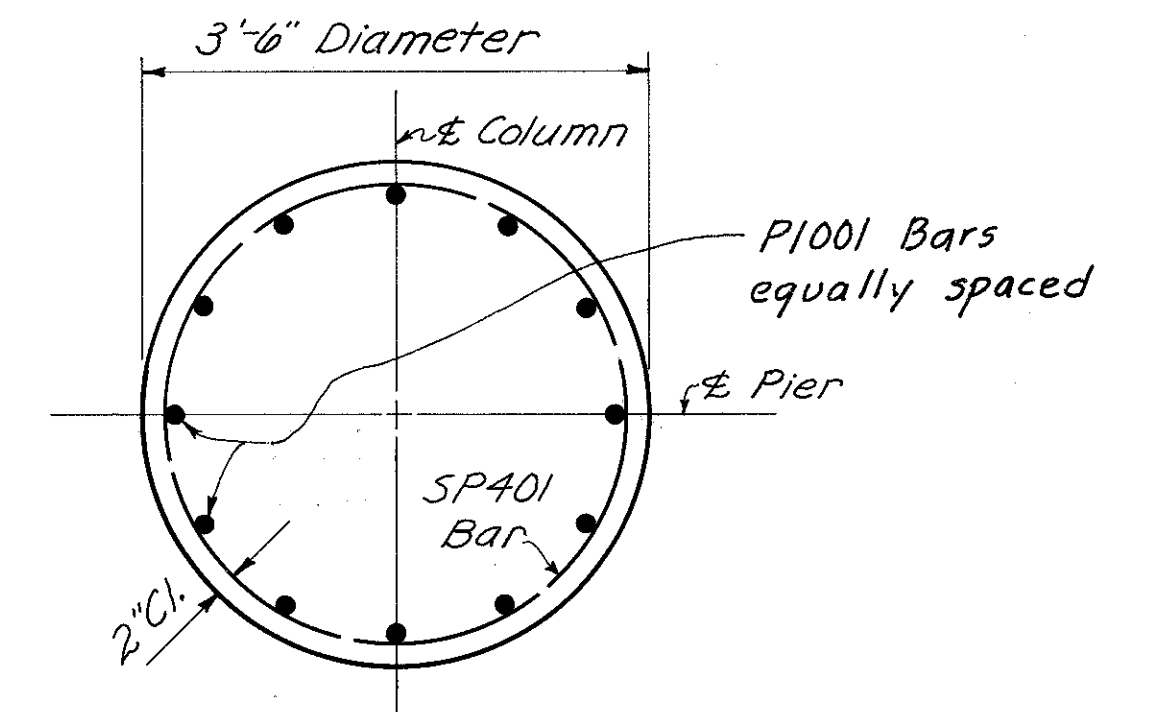
Note: Provide 3" clearance to reinforcing steel in footings, minimum.

TYPICAL INTERIOR FOOTING

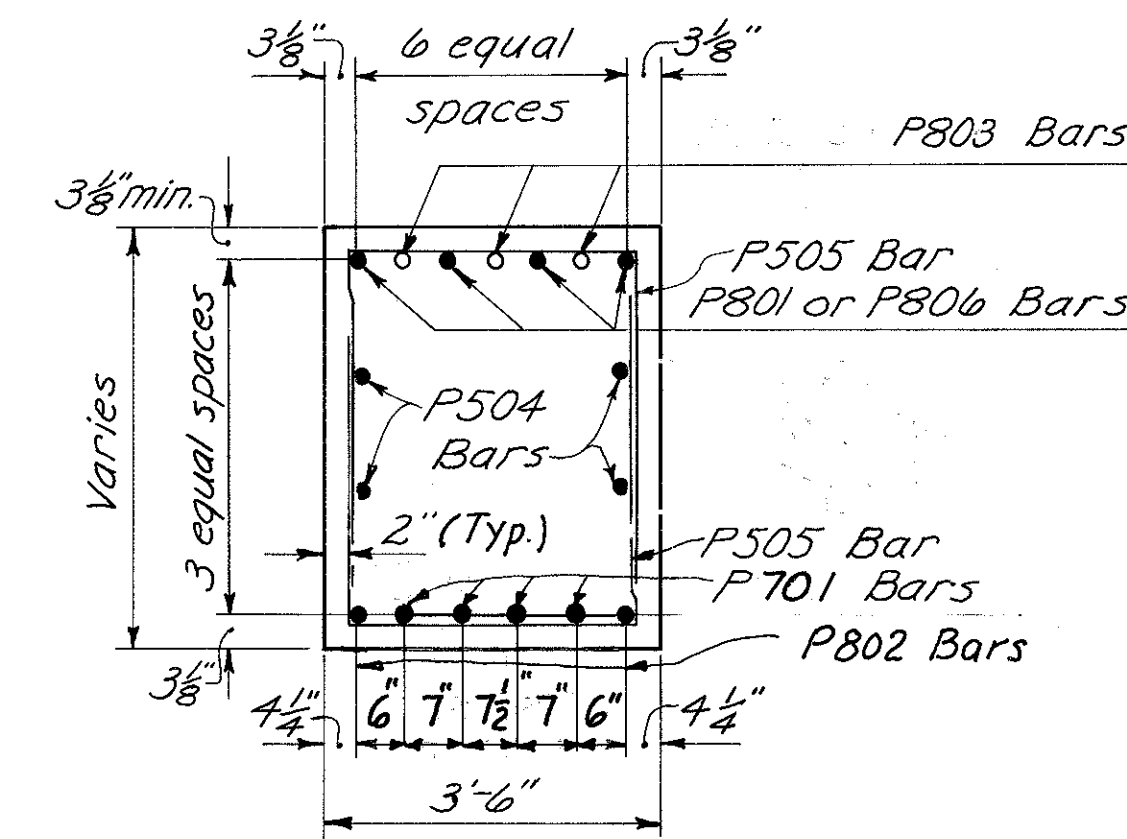
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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494

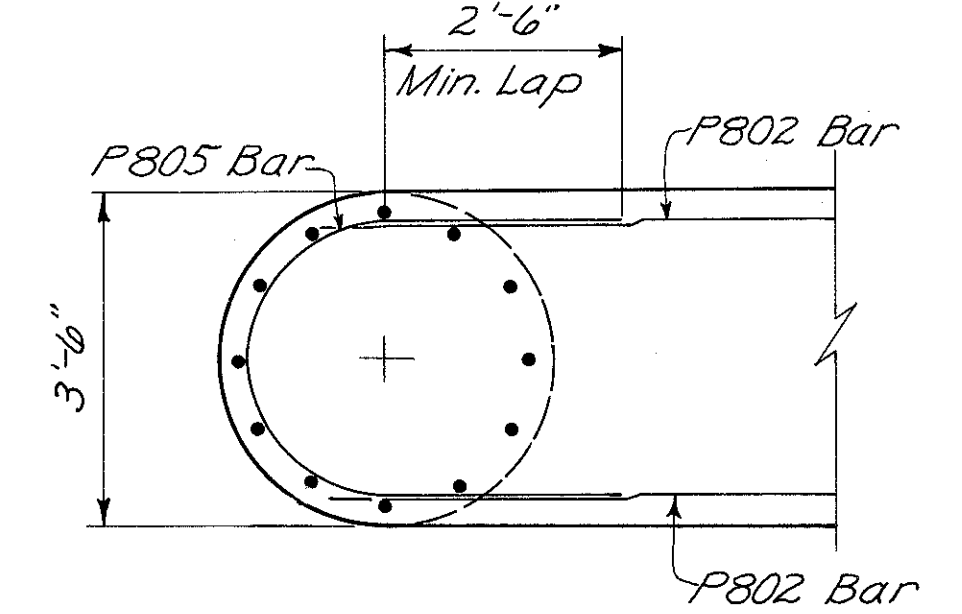
HAMILTON COUNTY  
HAM-471-0.30



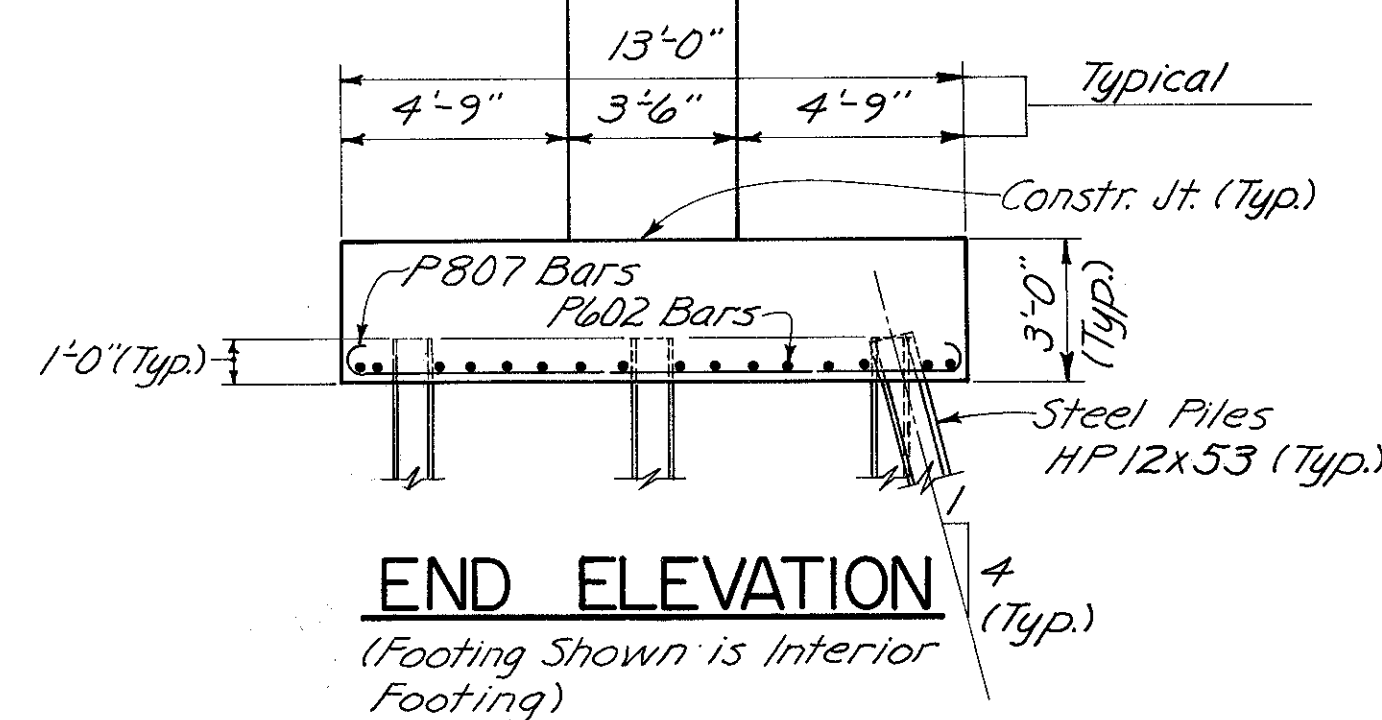
SECTION A-A



SECTION B-B



SECTION C-C



END ELEVATION

(Footing Shown is Interior Footing)

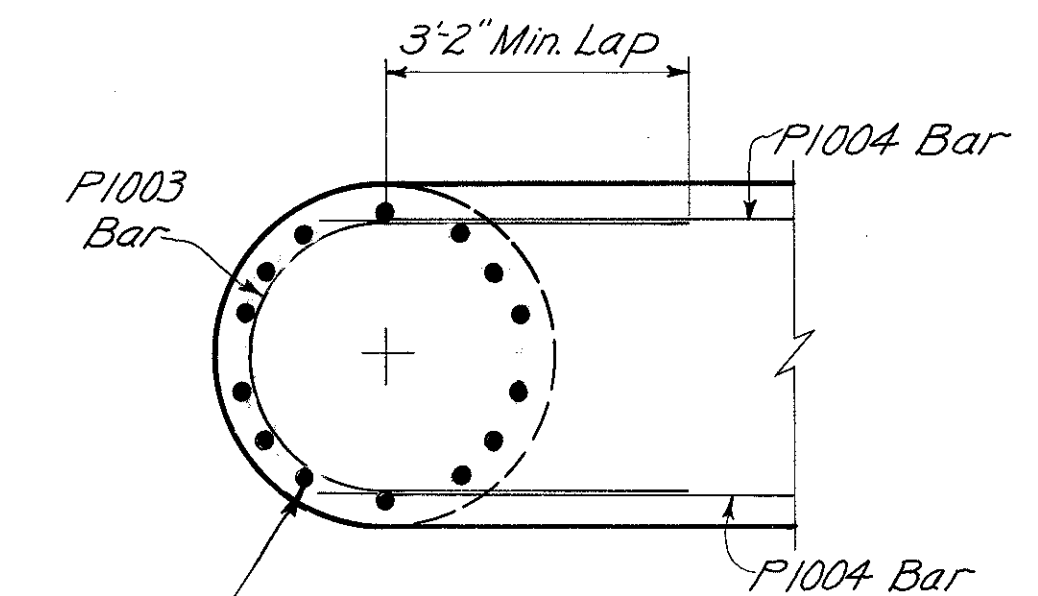
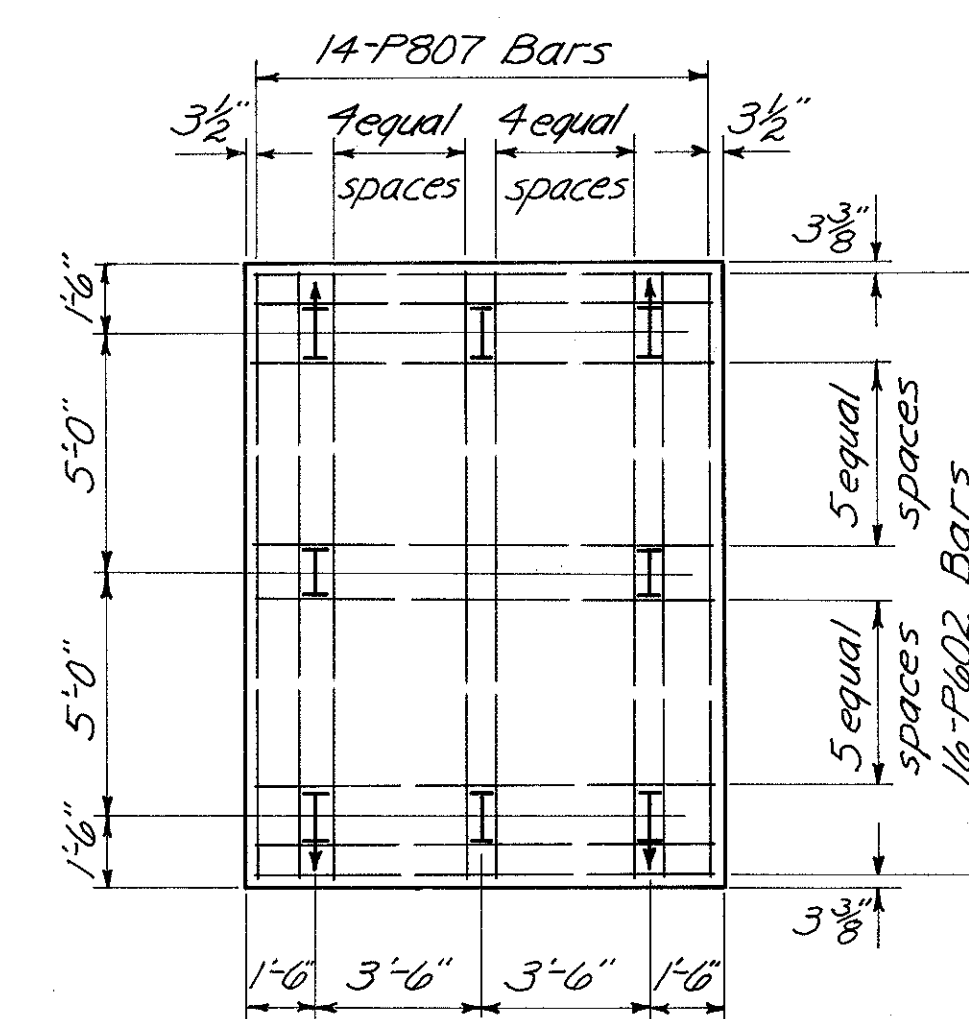
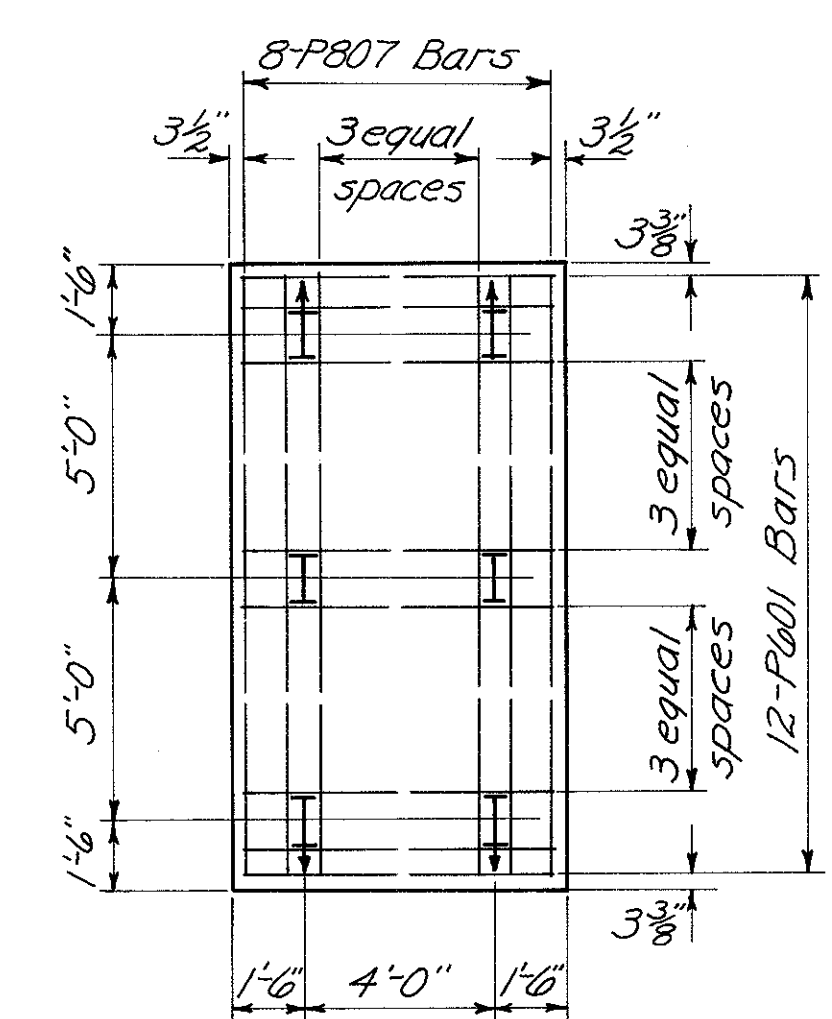
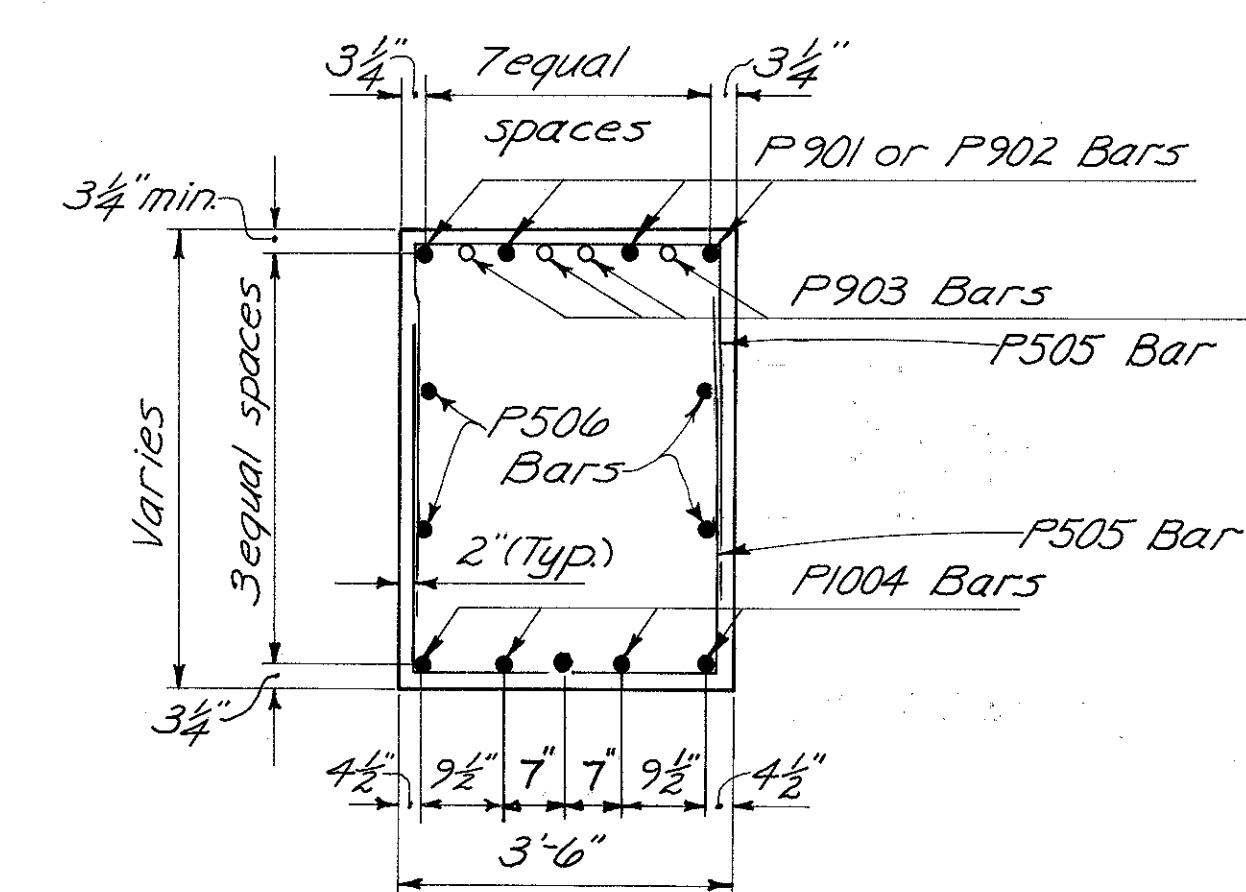
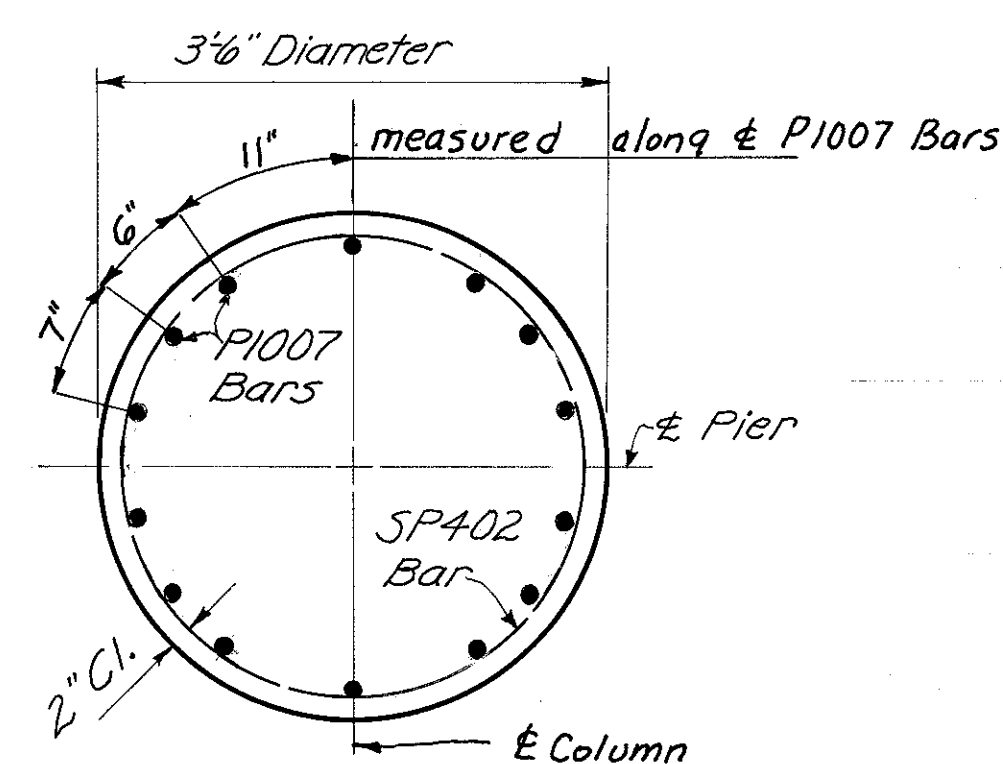
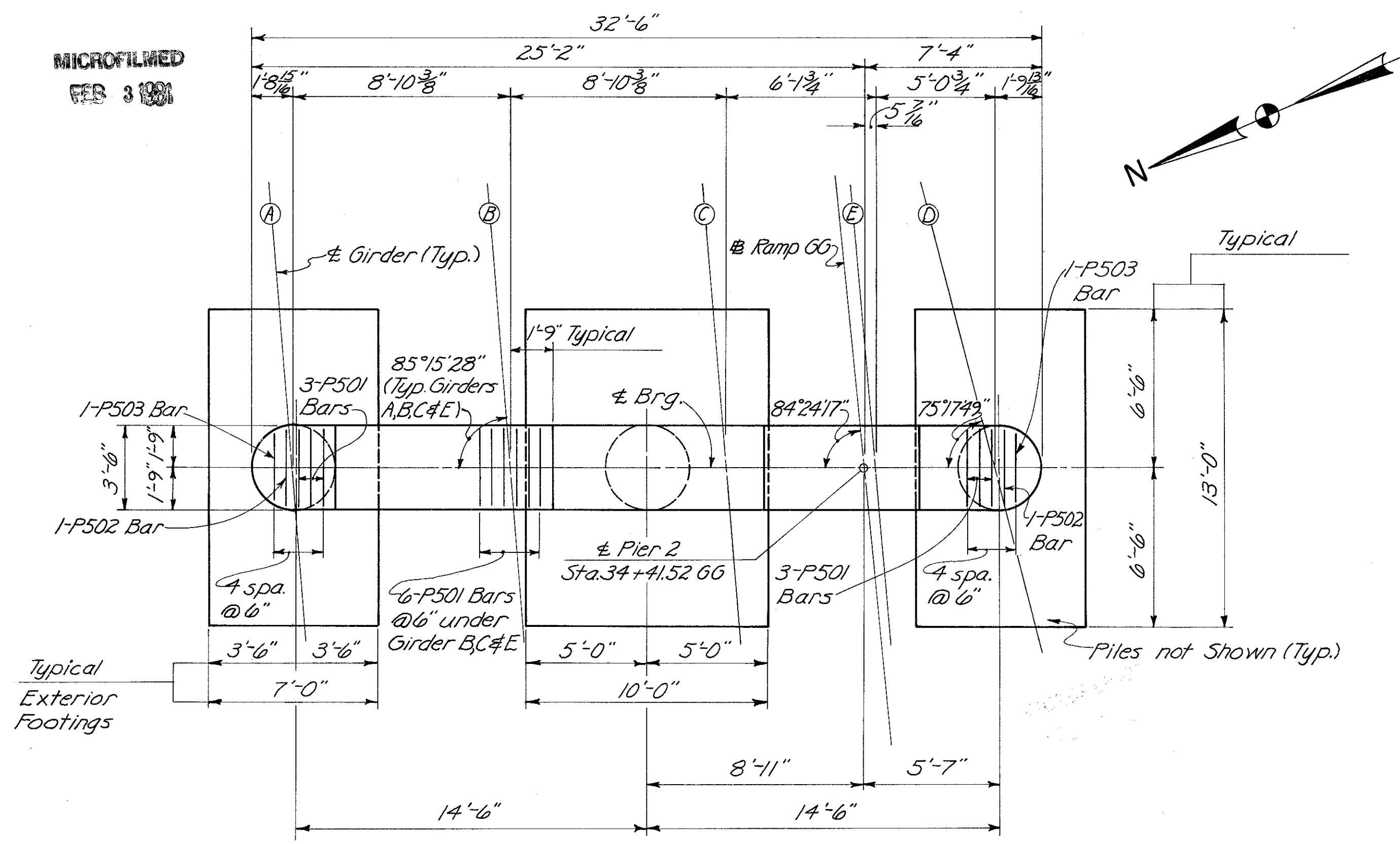
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					9/33
<b>PIER No. 1</b>					
<b>BRIDGE No. HAM-71-0184</b>					
<b>RAMP GG</b>					
H & E BRIDGE No. 15					
DESIGNED W/L	DRAWN CES	TRACED	CHECKED Y.L. 1-12-71	REVIEWED DATE J.H.D. 11-7-72	REVISIONS

MICROFILMED  
FEB 3 1981

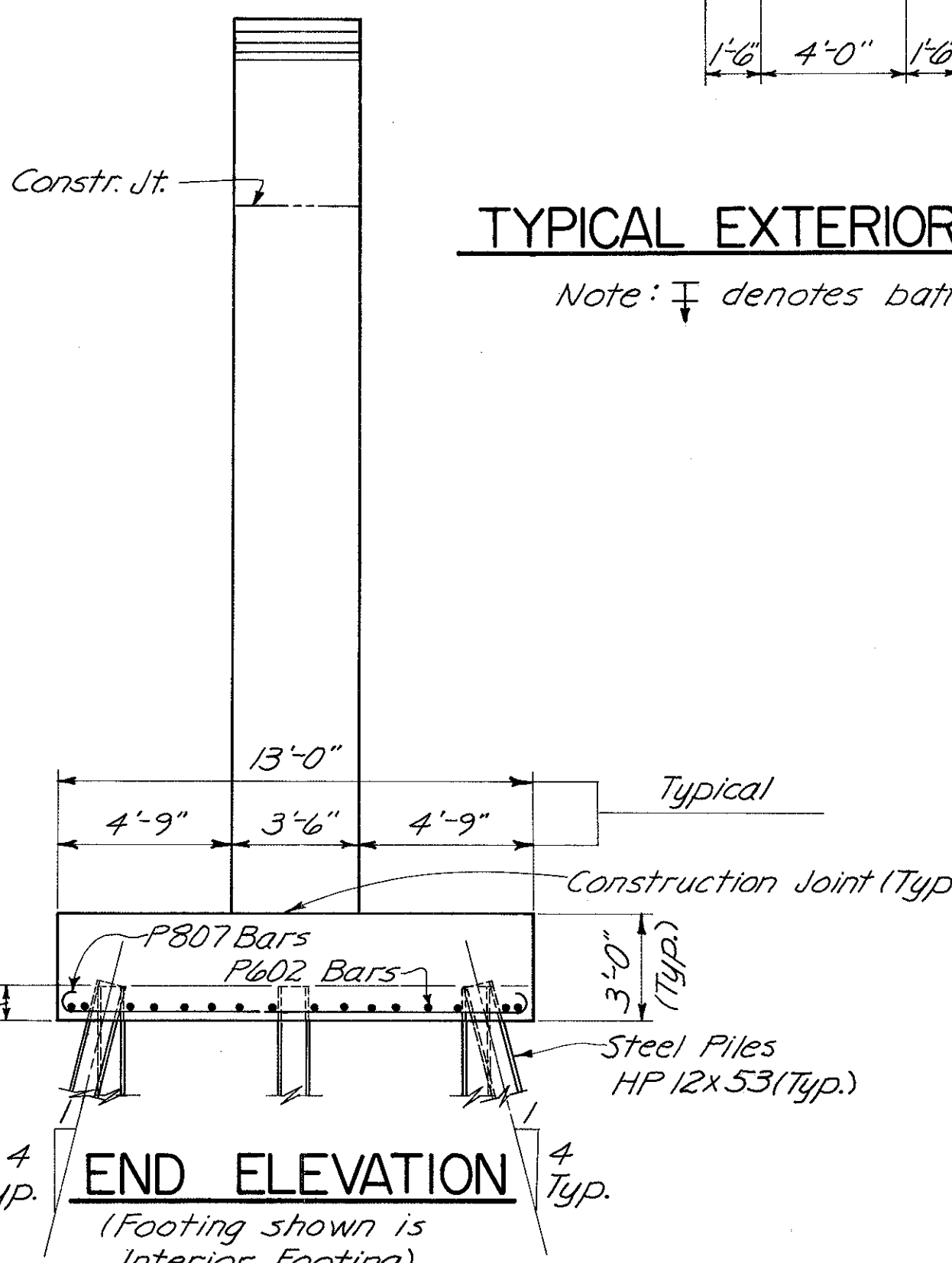
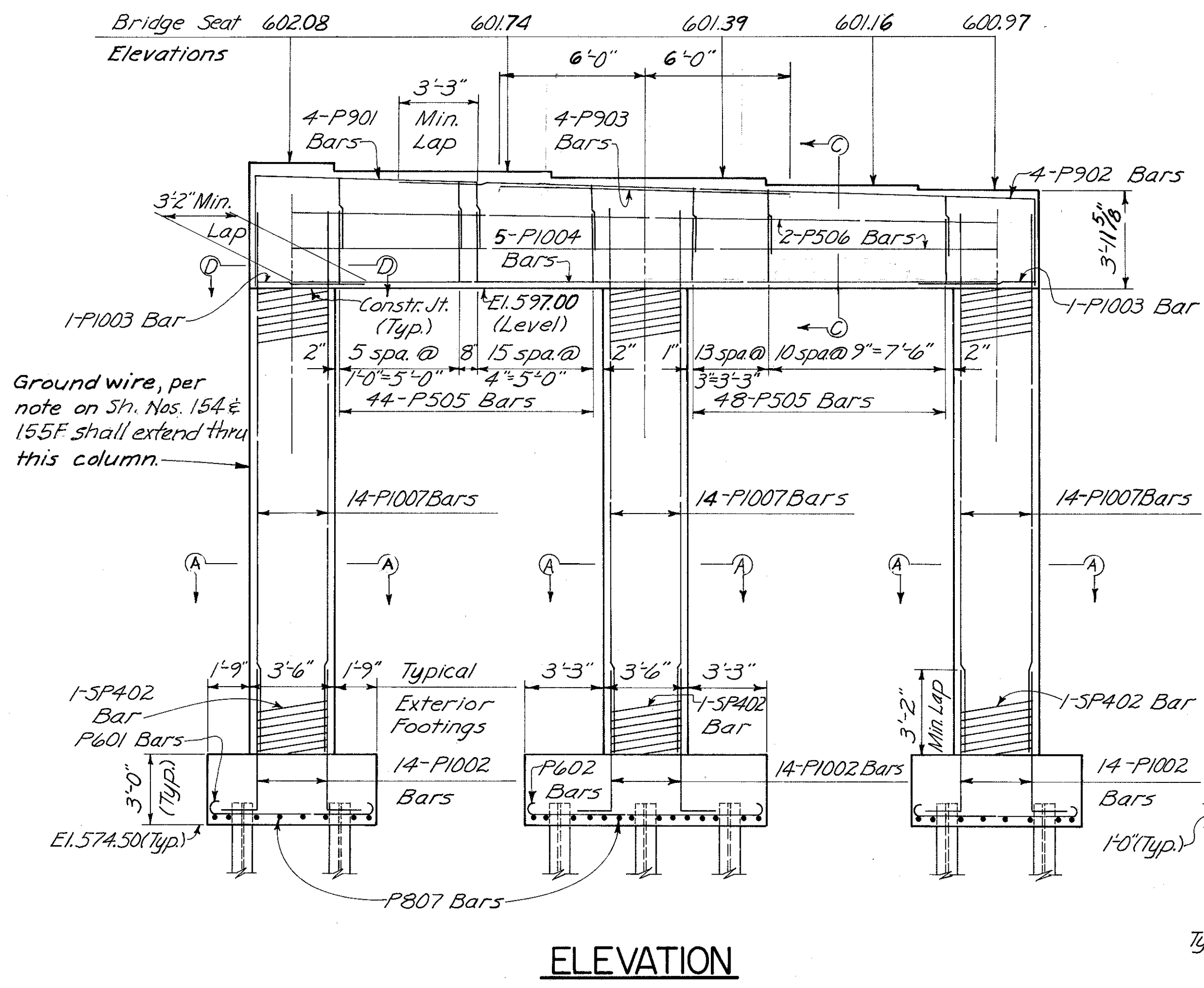
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

445  
494

HAMILTON COUNTY  
HAM-471-0.30



Note: Bars in column to be spaced to miss bottom cap reinforcing as dimensioned in Section C-C



Note: † denotes battered pile

Note: Provide 3" clearance to reinforcing steel in footings, min.

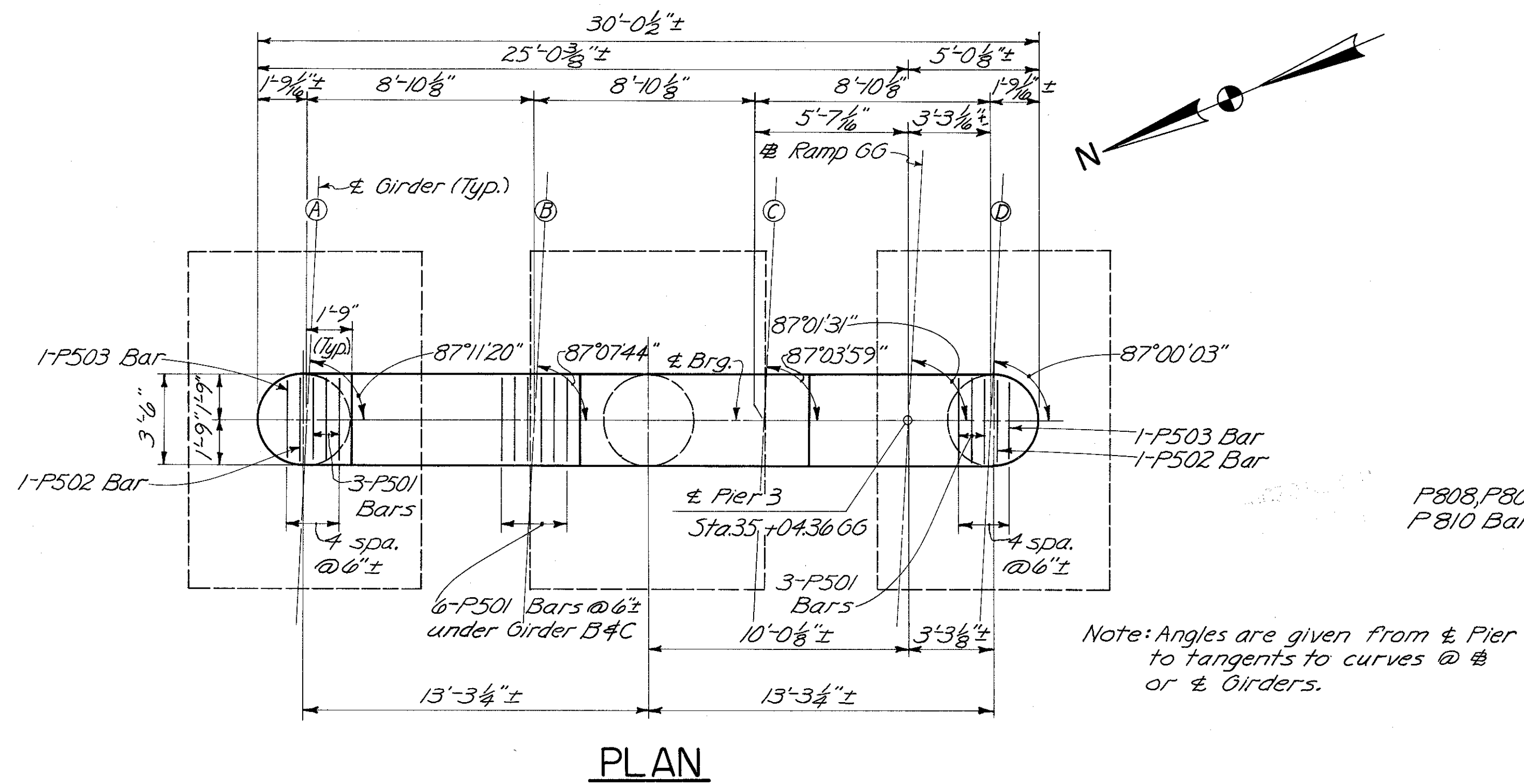
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						10/33
PIER No. 2 BRIDGE No. HAM-71-0184 RAMP GG						
H & E BRIDGE No. 15						
DESIGNED WJL	DRAWN CES	TRACED	CHECKED V.L. 1-12-71	REVIEWED DATE JHd 11-7-72	REVISED	

MICROFILMED  
FEB 3 1973

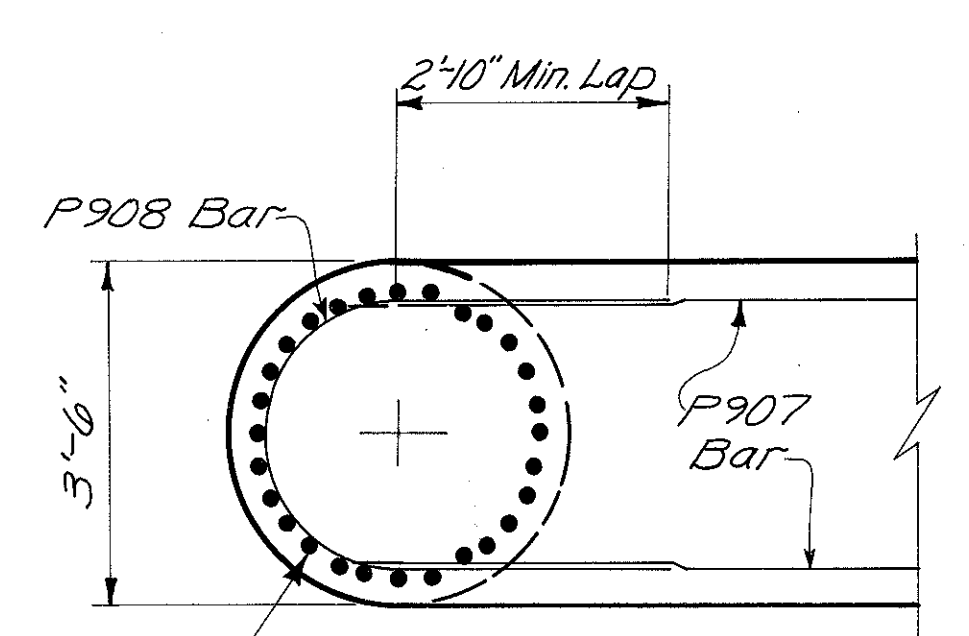
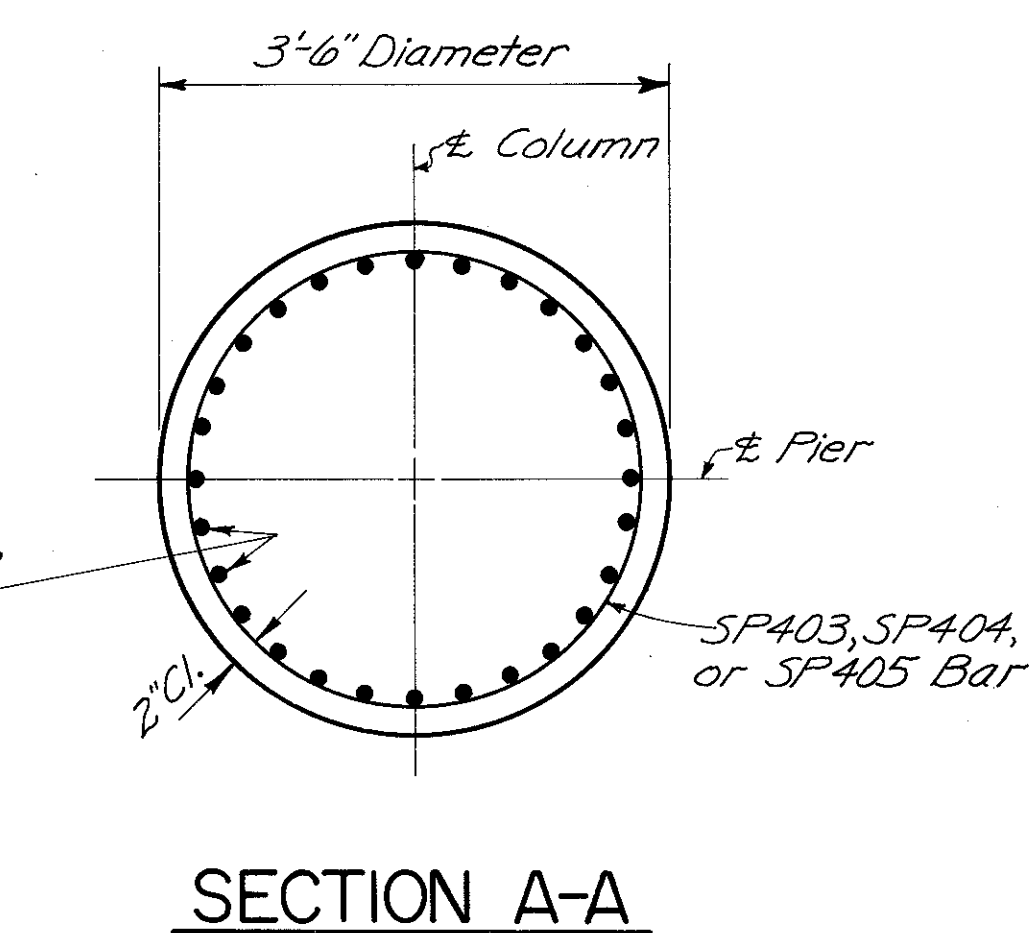
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

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494

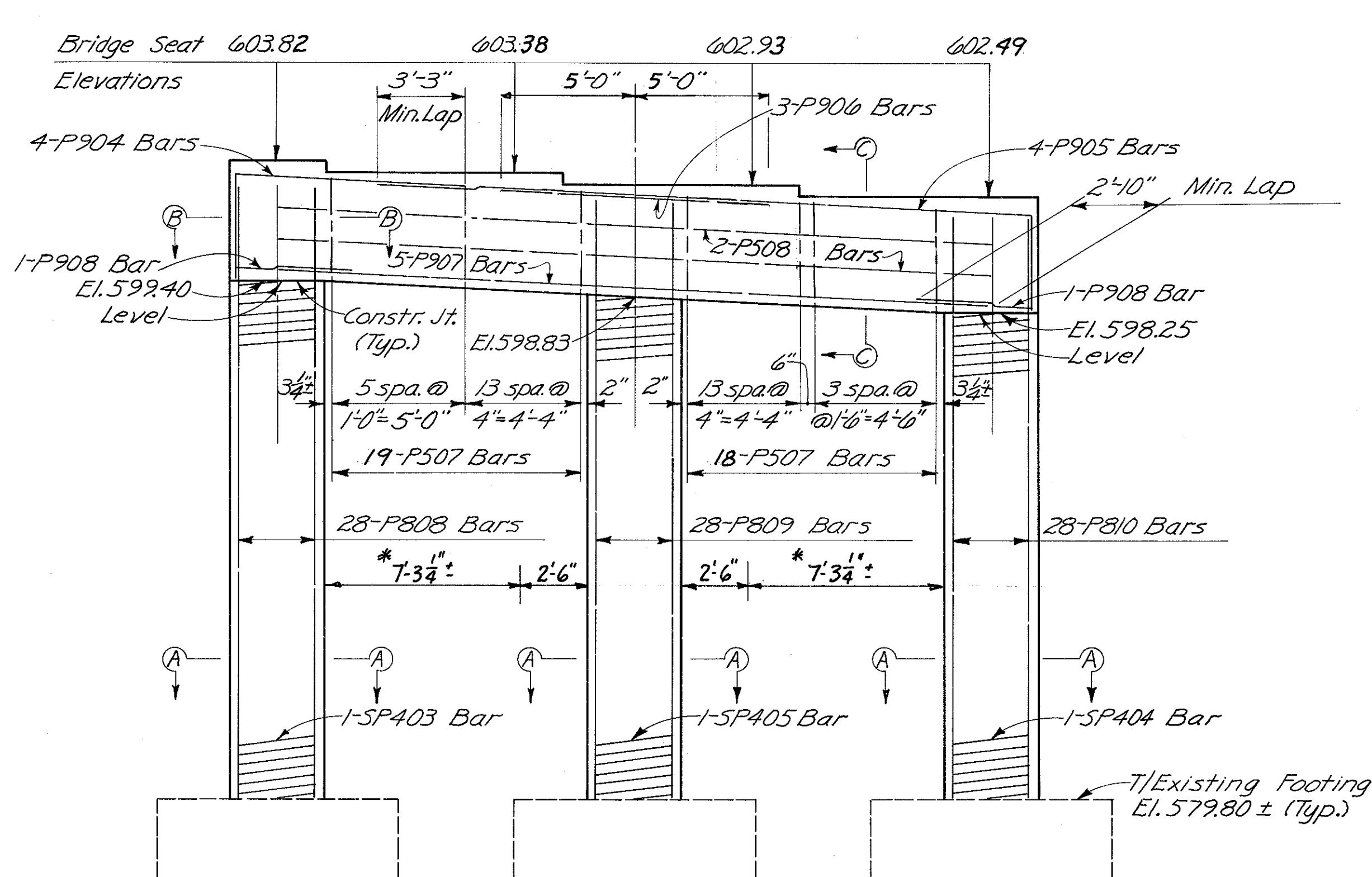
HAMILTON COUNTY  
HAM-471-0.30



PLAN



Note:  
Column bars to lap existing dowel bars in footing.  
Care must be exercised in order that the bottom  
lower of cap bars can thread through column bars.

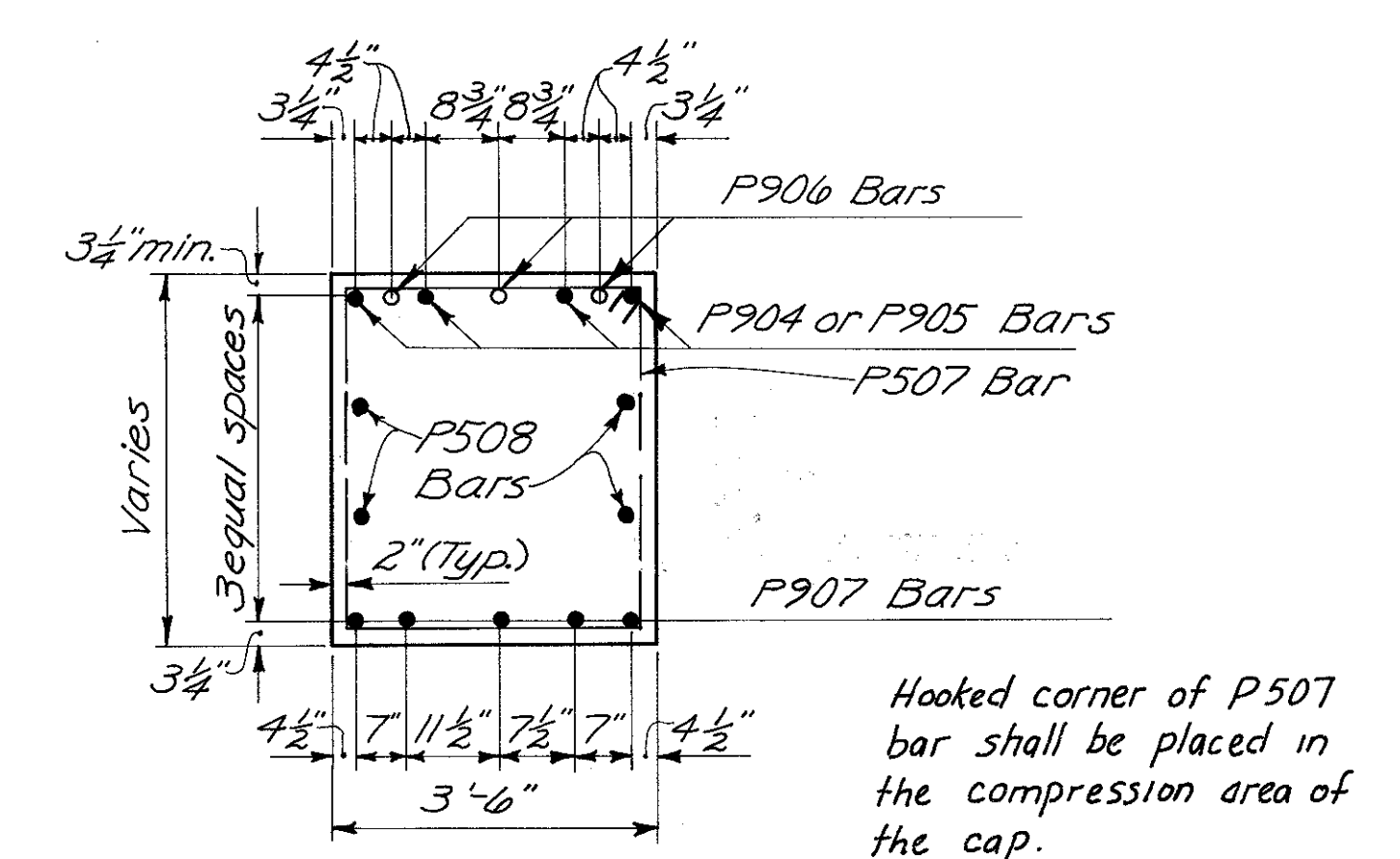


ELEVATION

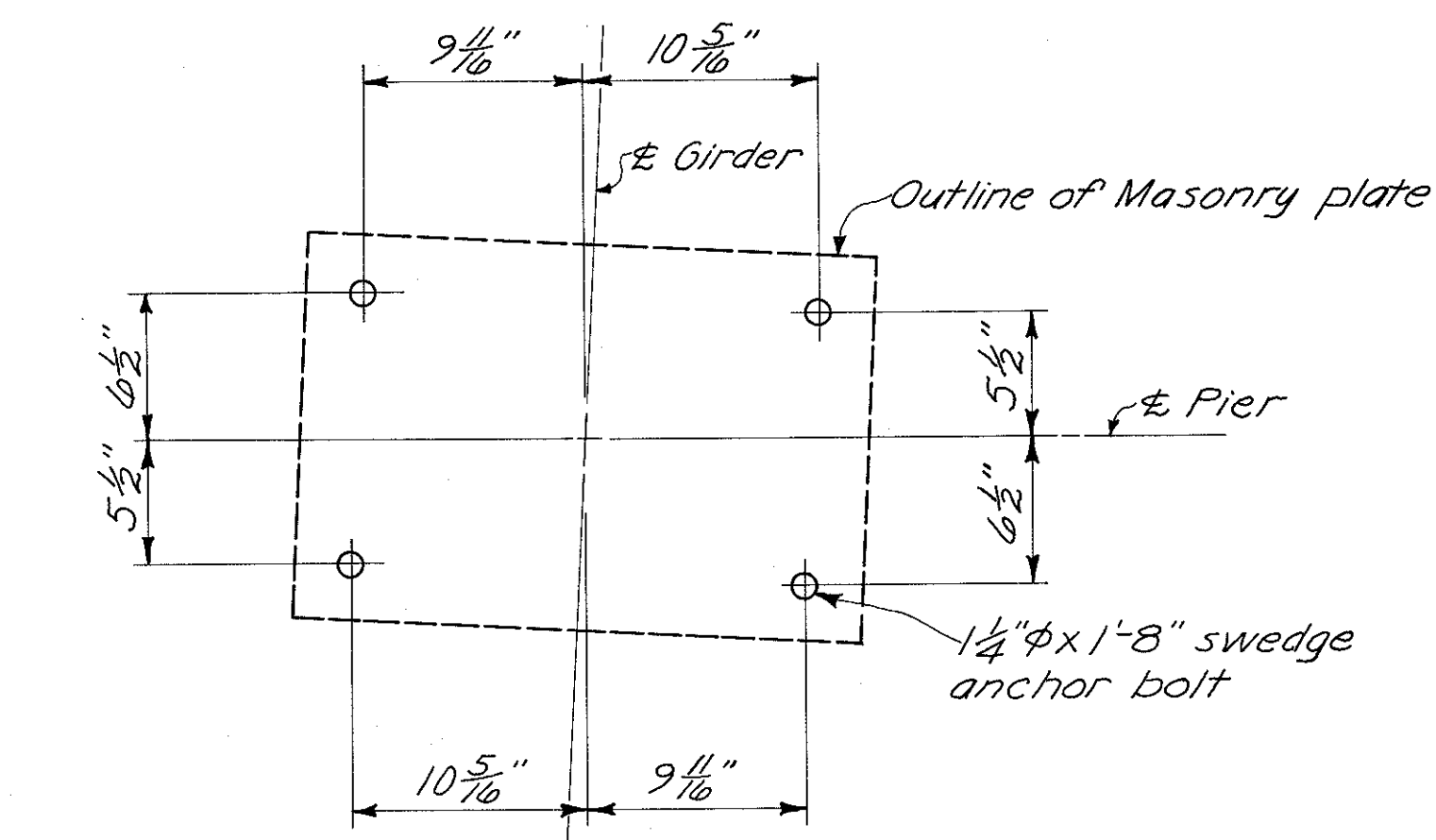
Note: Existing Footings Built under a previous contract.

\* Compression area in top of Cap

Note: The existing dowel bars projecting out of the footings shall be cleaned of the asphaltic coating before new column reinforcing is placed. This work shall be incidental to the concrete work.



SECTION C-C



Notes:  
Dimensions marked (±) shall be verified from field measurements to the existing footings by the contractor.  
Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bolt holes.

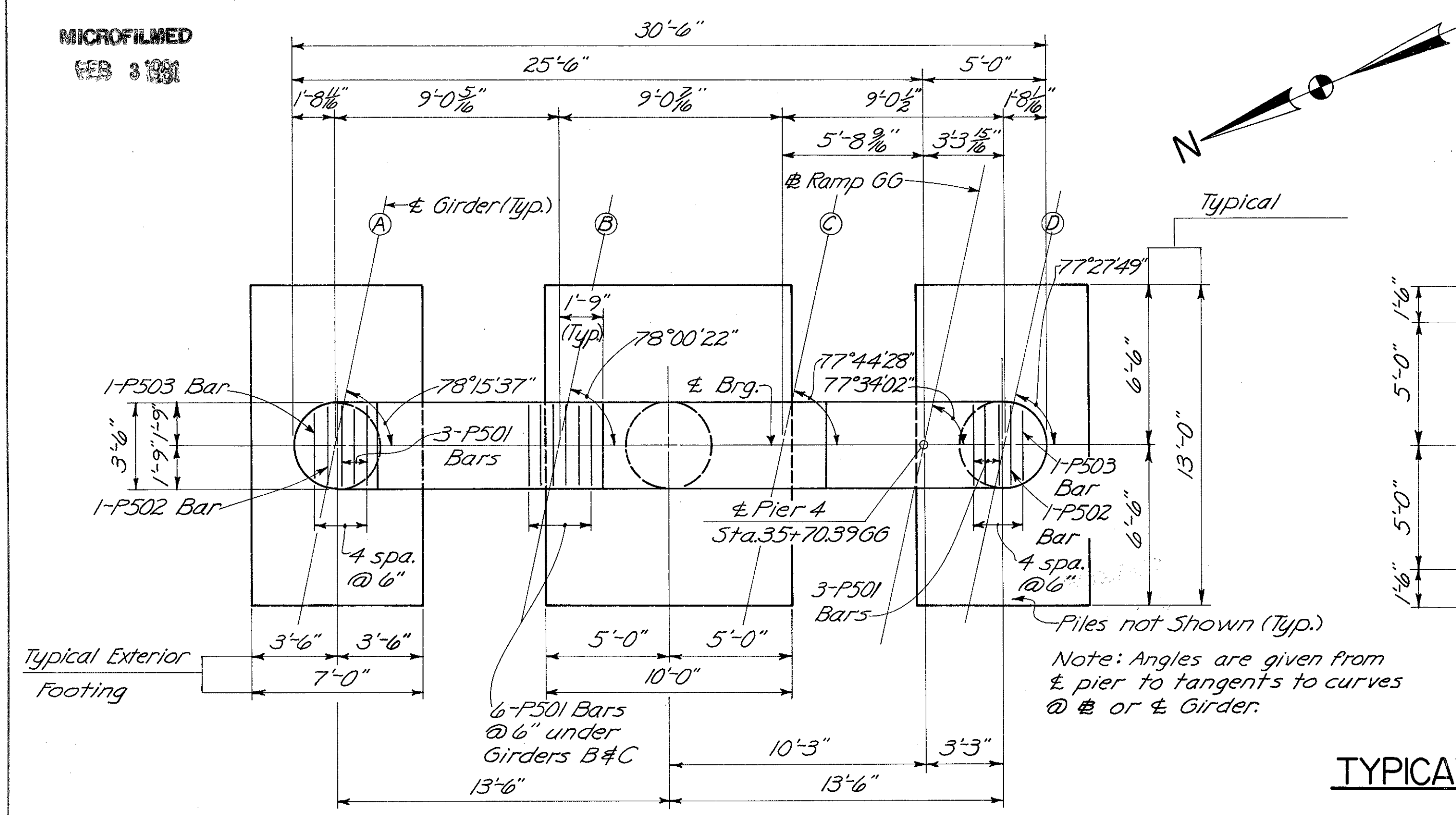
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				11/33
<b>PIER No. 3</b>				
BRIDGE No. HAM-71-0184				
RAMP GG				
H & E BRIDGE No. 15				
DESIGNED W/L	DRAWN CES	TRACED	CHECKED W.L. 1-12-71	REVIEWED DATE J.H.S. 11-7-72



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FEB 3 1981

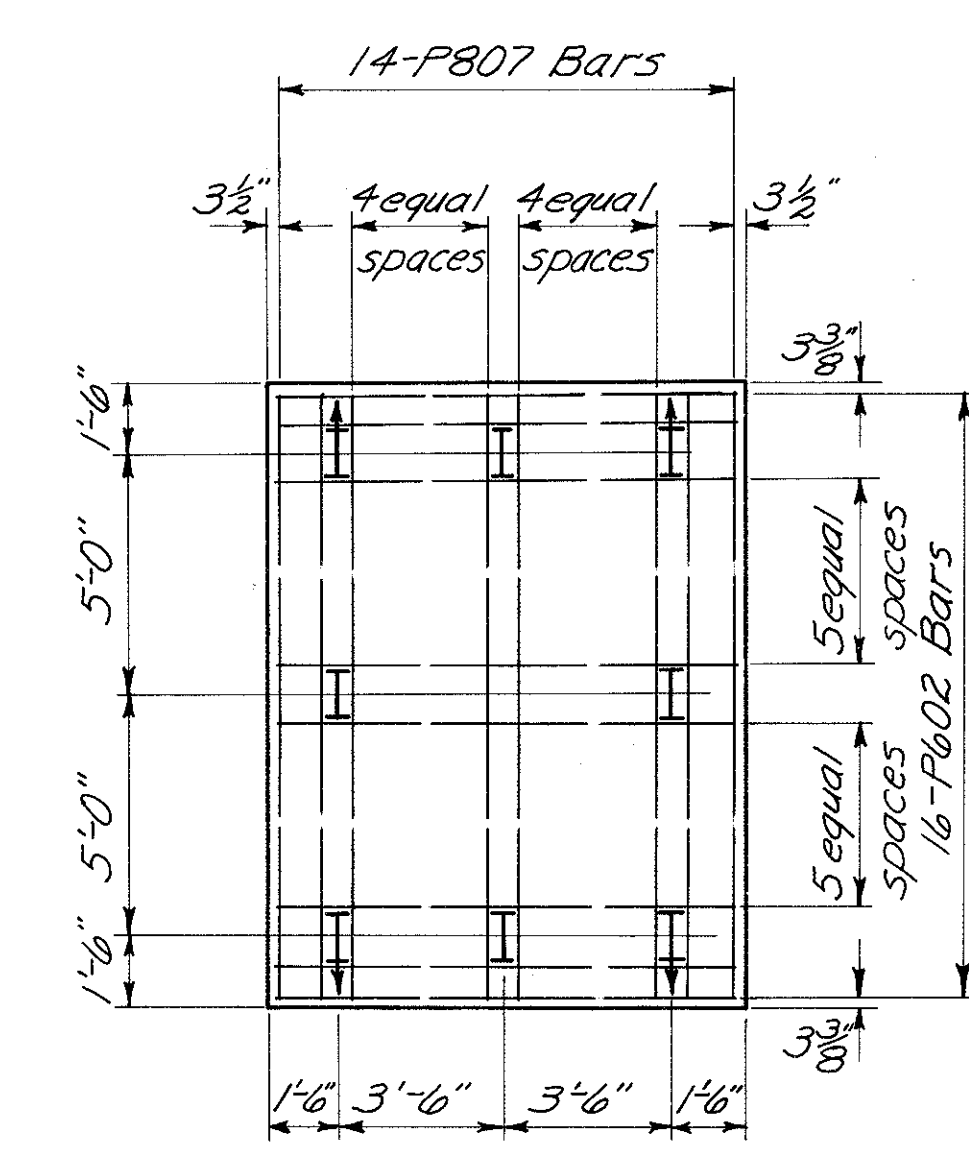
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		447 494

HAMILTON COUNTY  
HAM-471-0.30

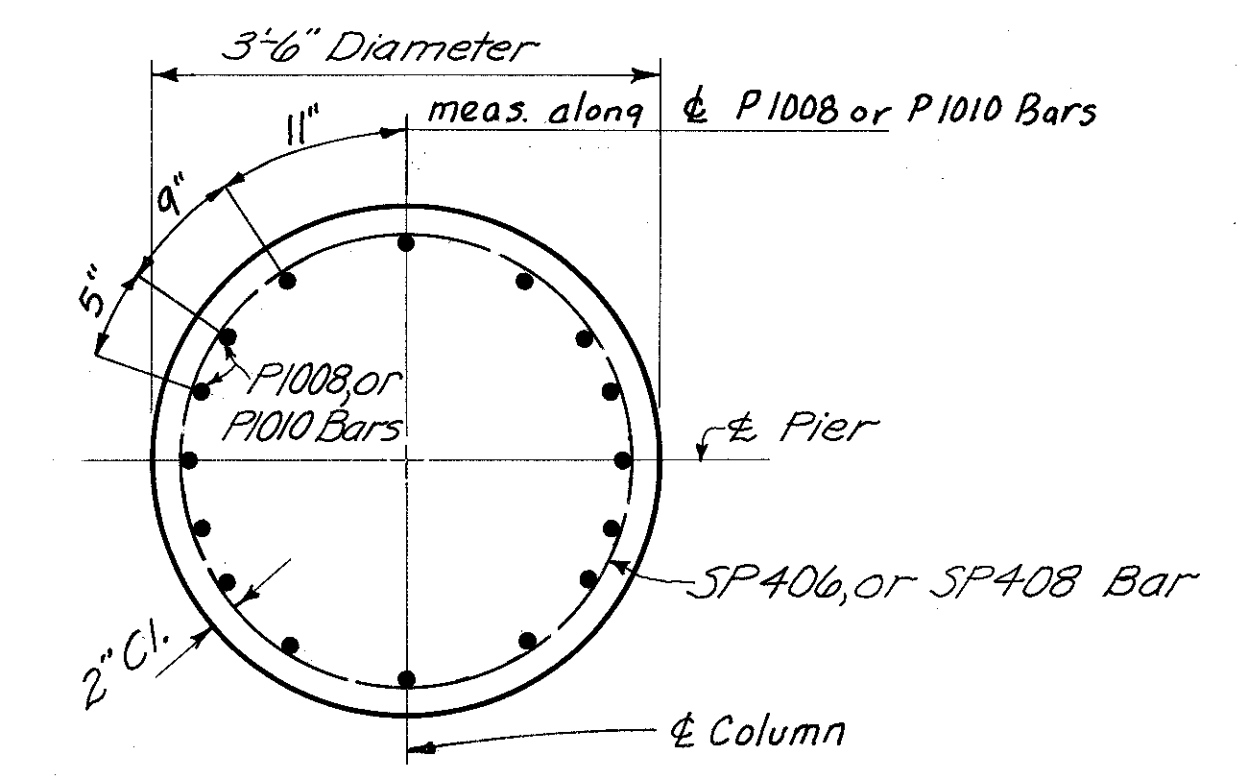


TYPICAL EXTERIOR FOOTING

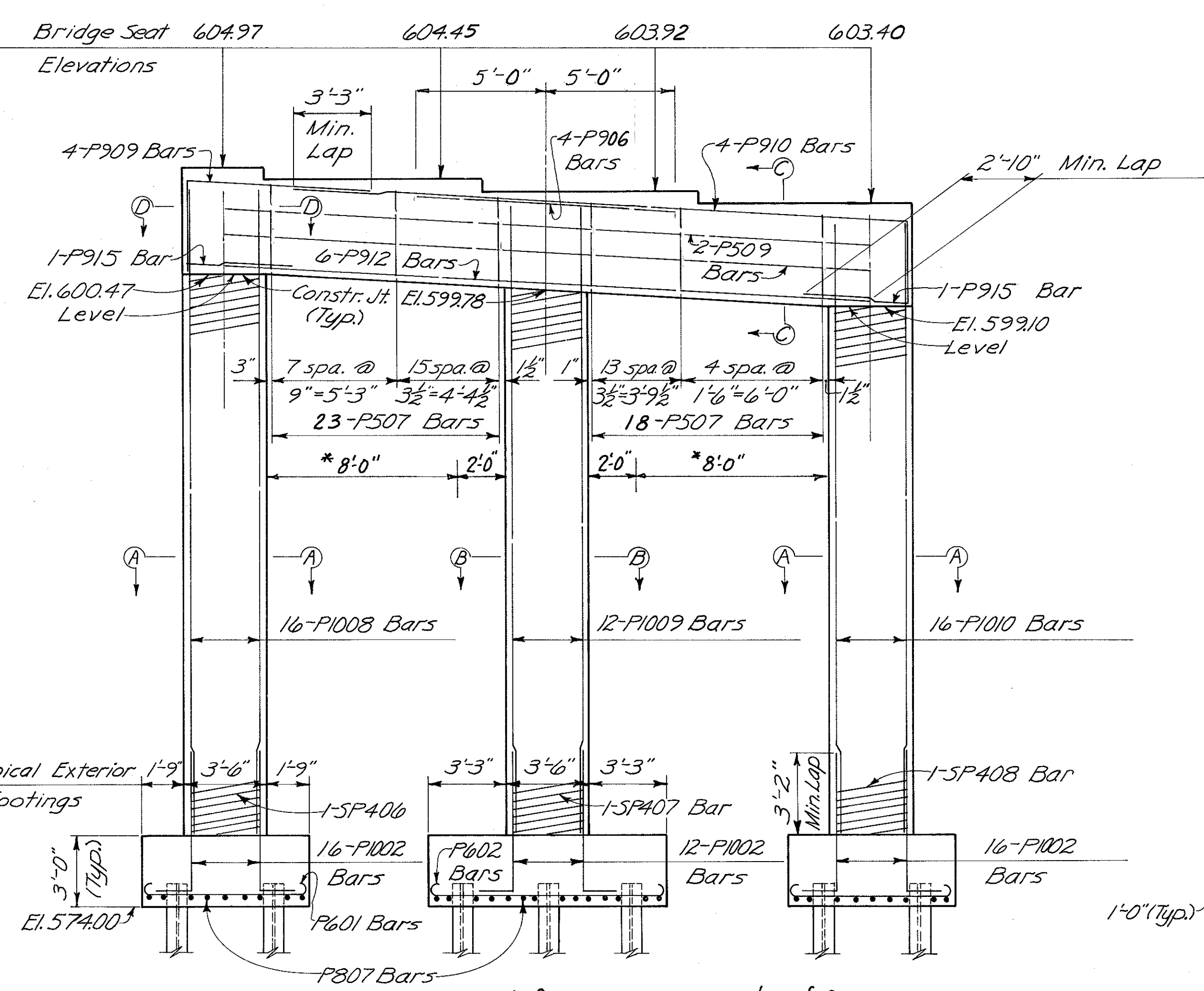
Note: † denotes battered pile



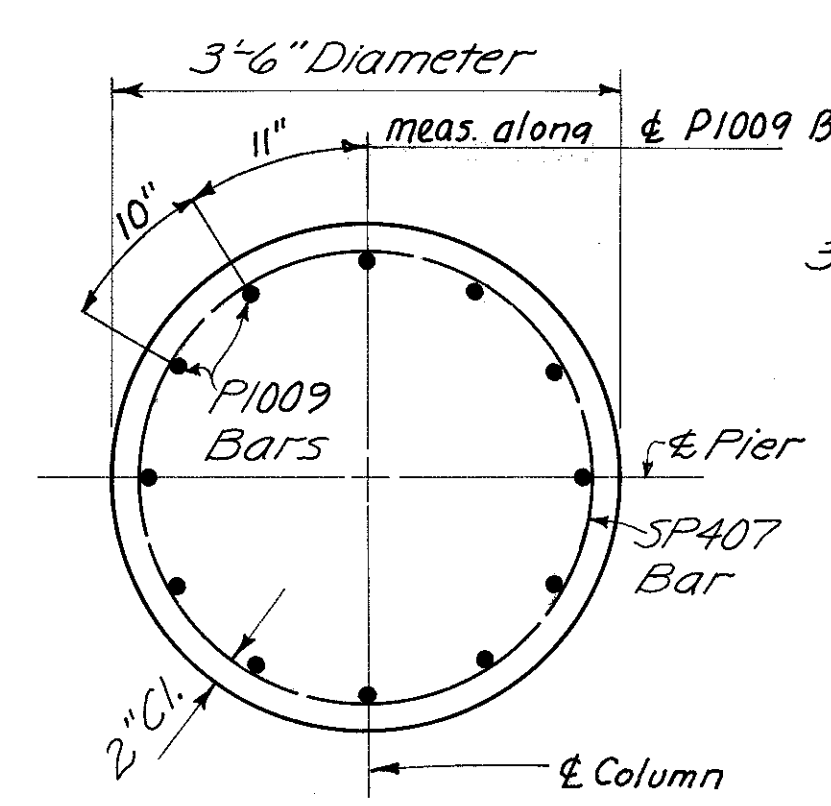
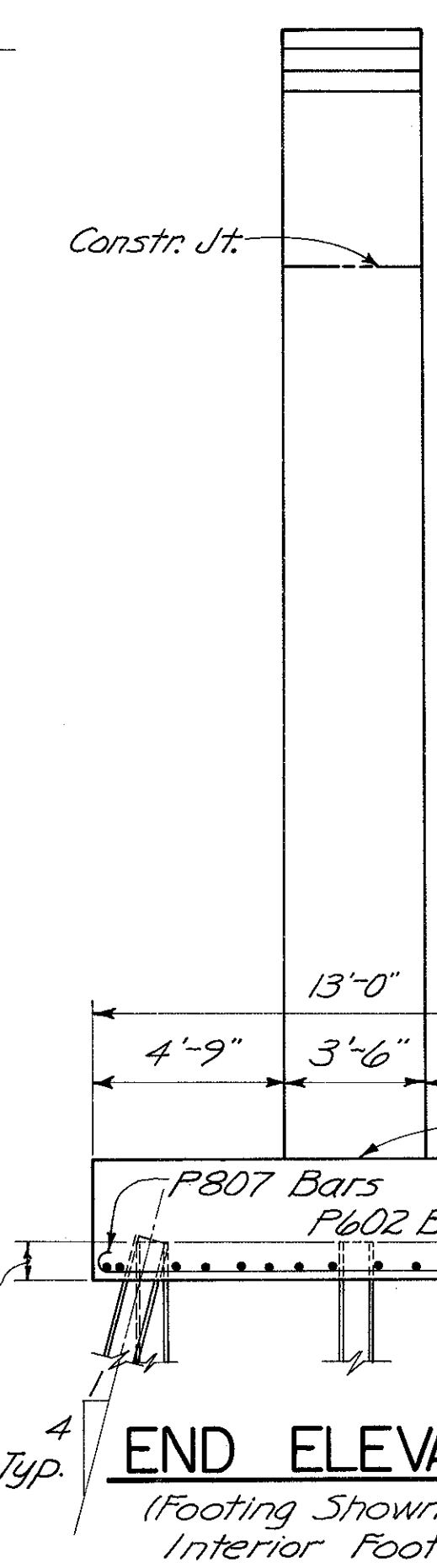
Note: Provide 3" clearance to reinforcing steel in footings, minimum.



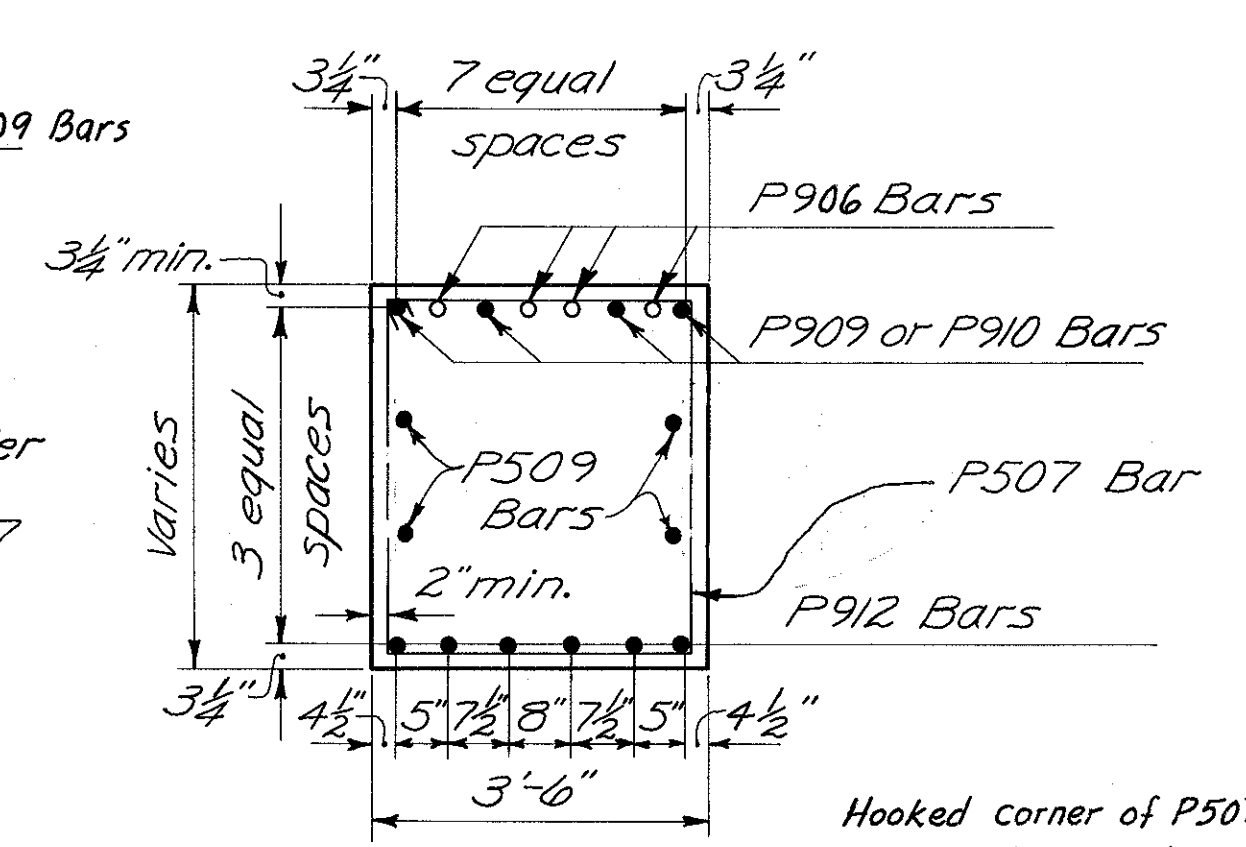
SECTION A-A



ELEVATION

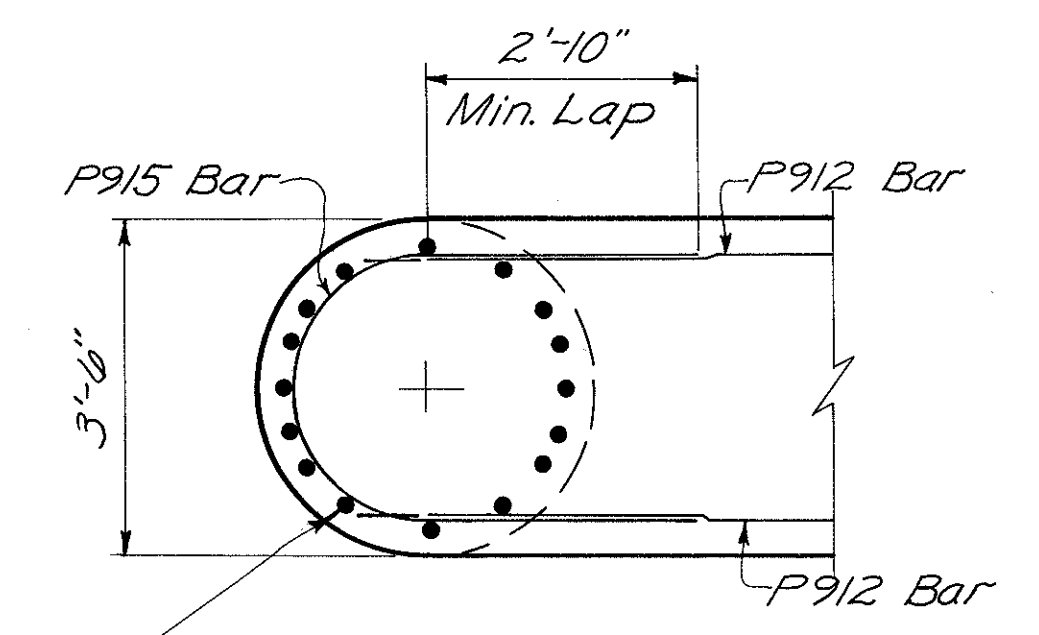


SECTION B-B



SECTION C-C

Hooked corner of P507 bar shall be placed in the compression area of the cap.



SECTION D-D

Note: Bars in column to be spaced to miss bottom cap reinforcing as dimensioned in Section C-C.

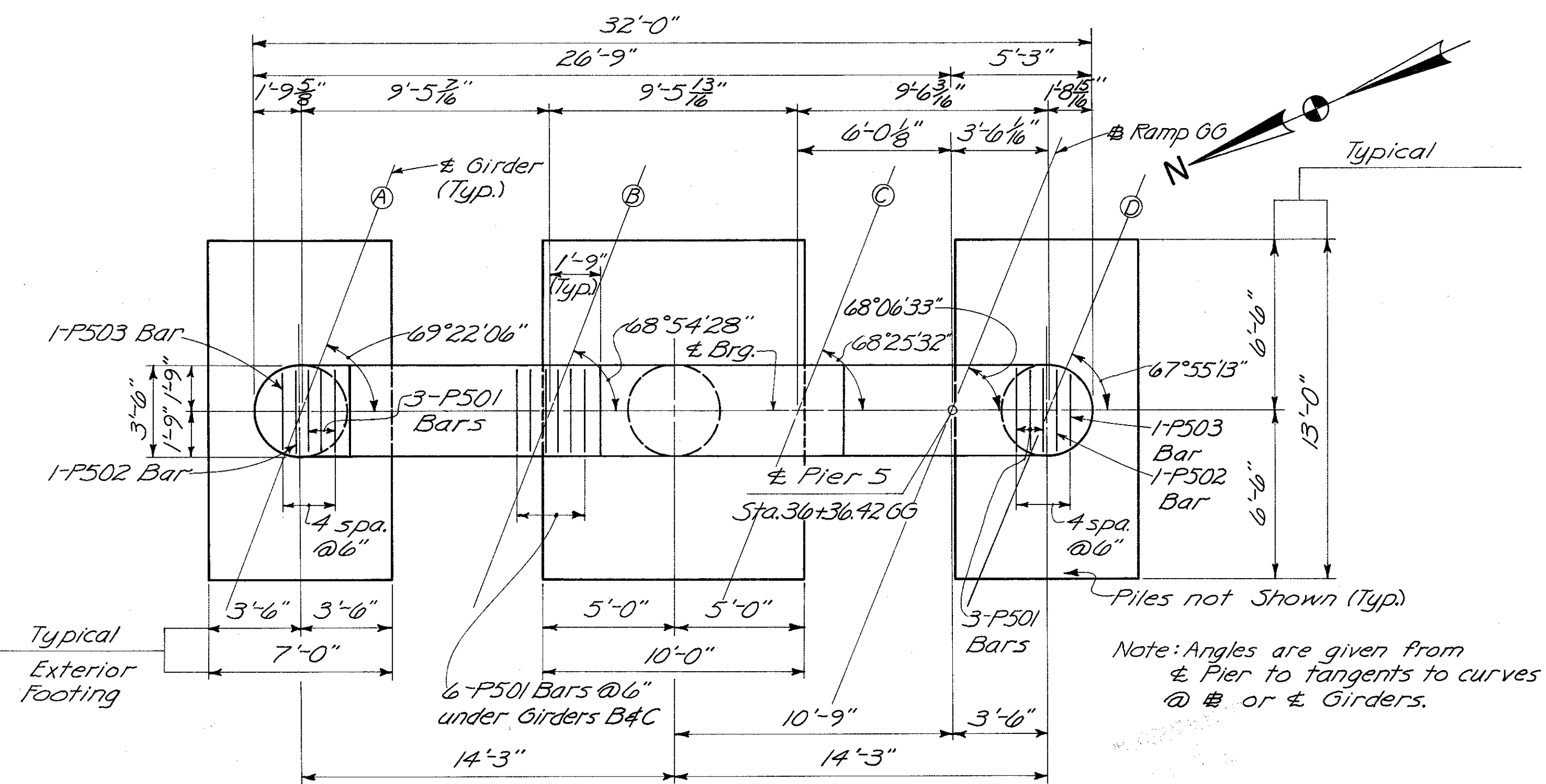
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					12/33
<b>PIER No.4</b>					
BRIDGE No. HAM-71-0184					
RAMP GG					
H & E BRIDGE No. 15					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CES		JHC	11-7-72	

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FEB 3 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

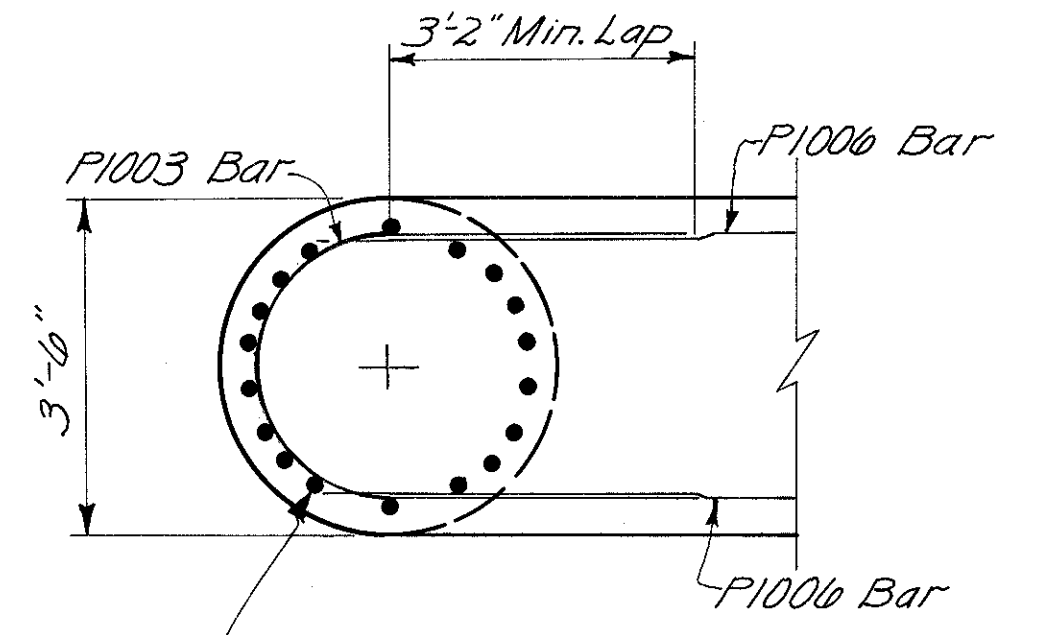
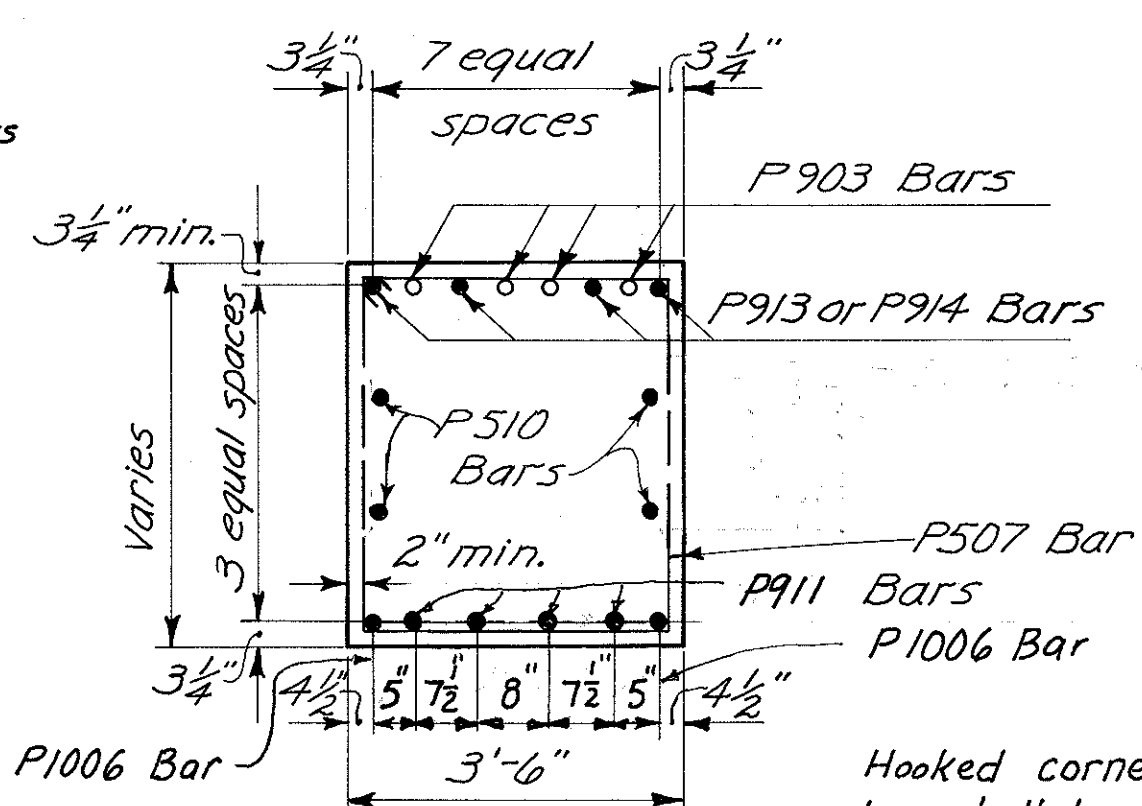
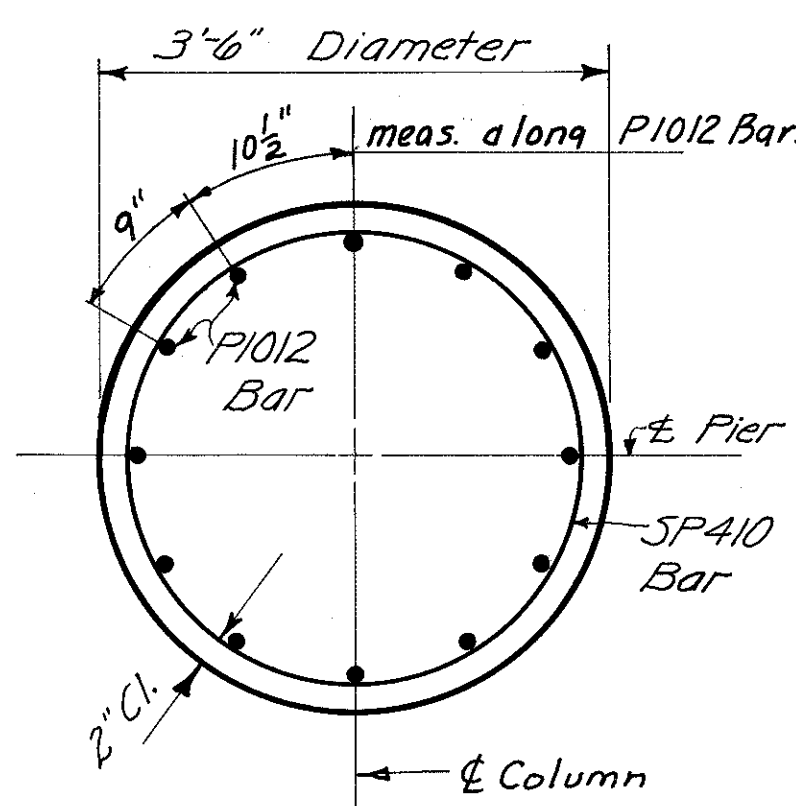
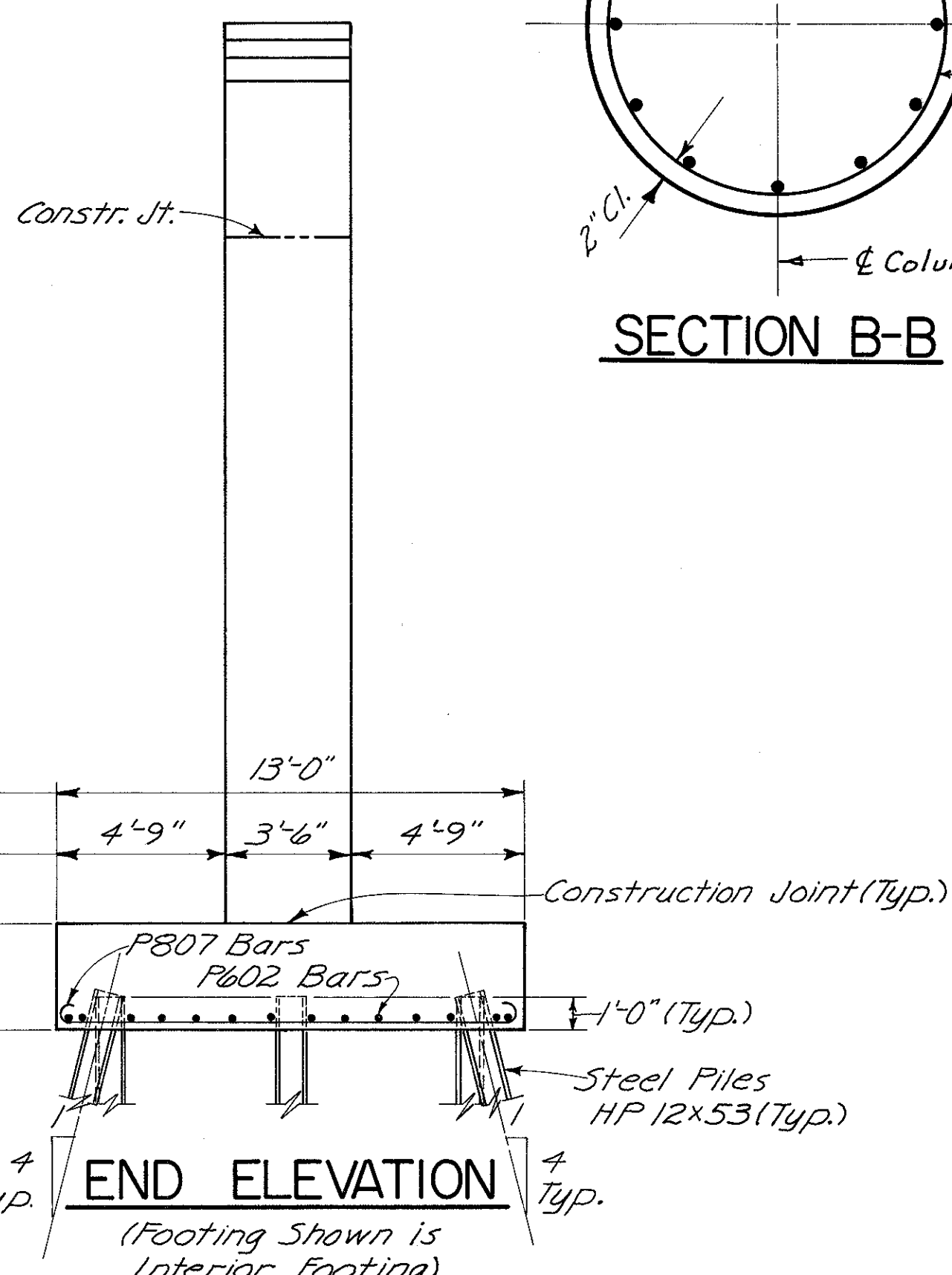
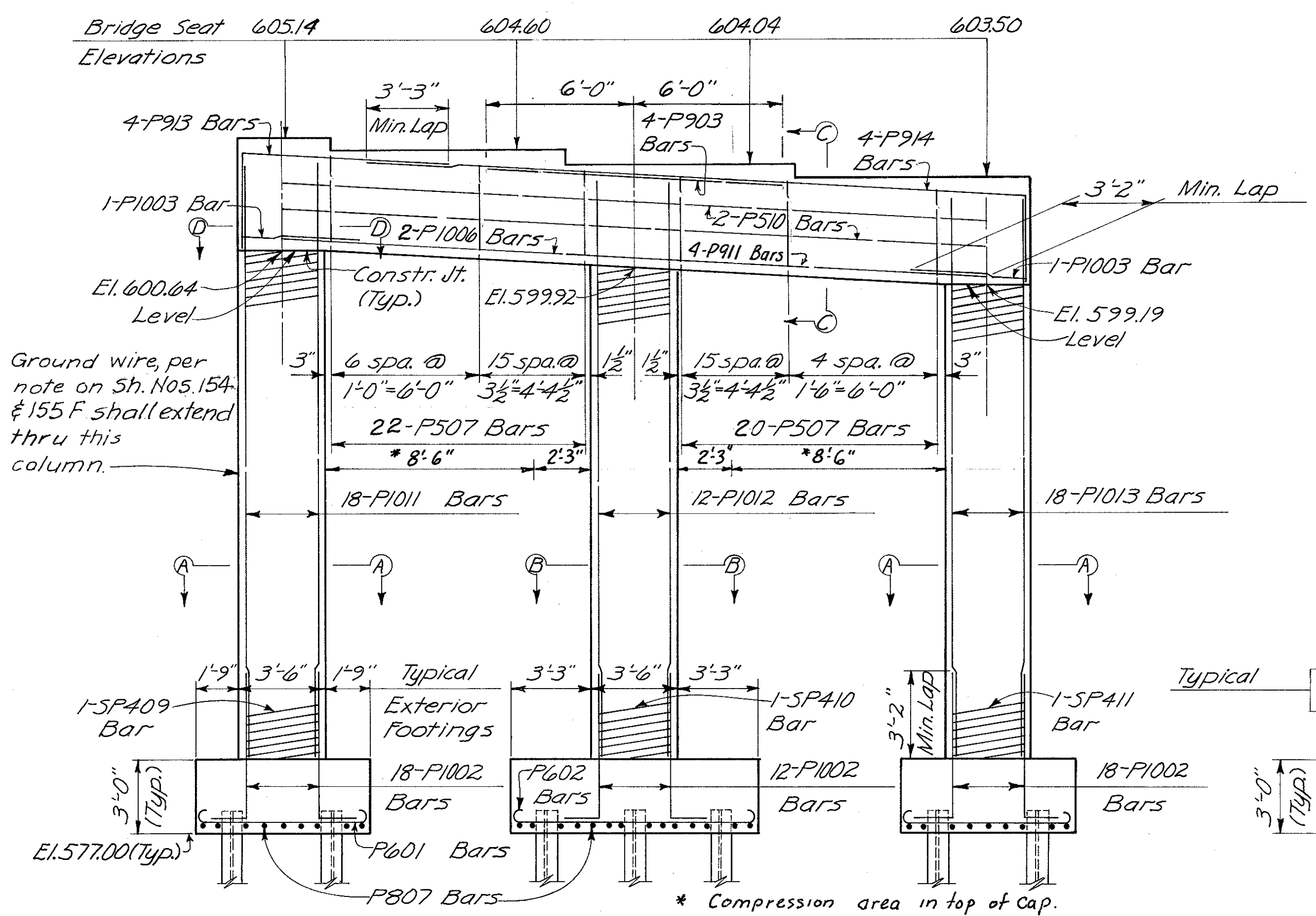
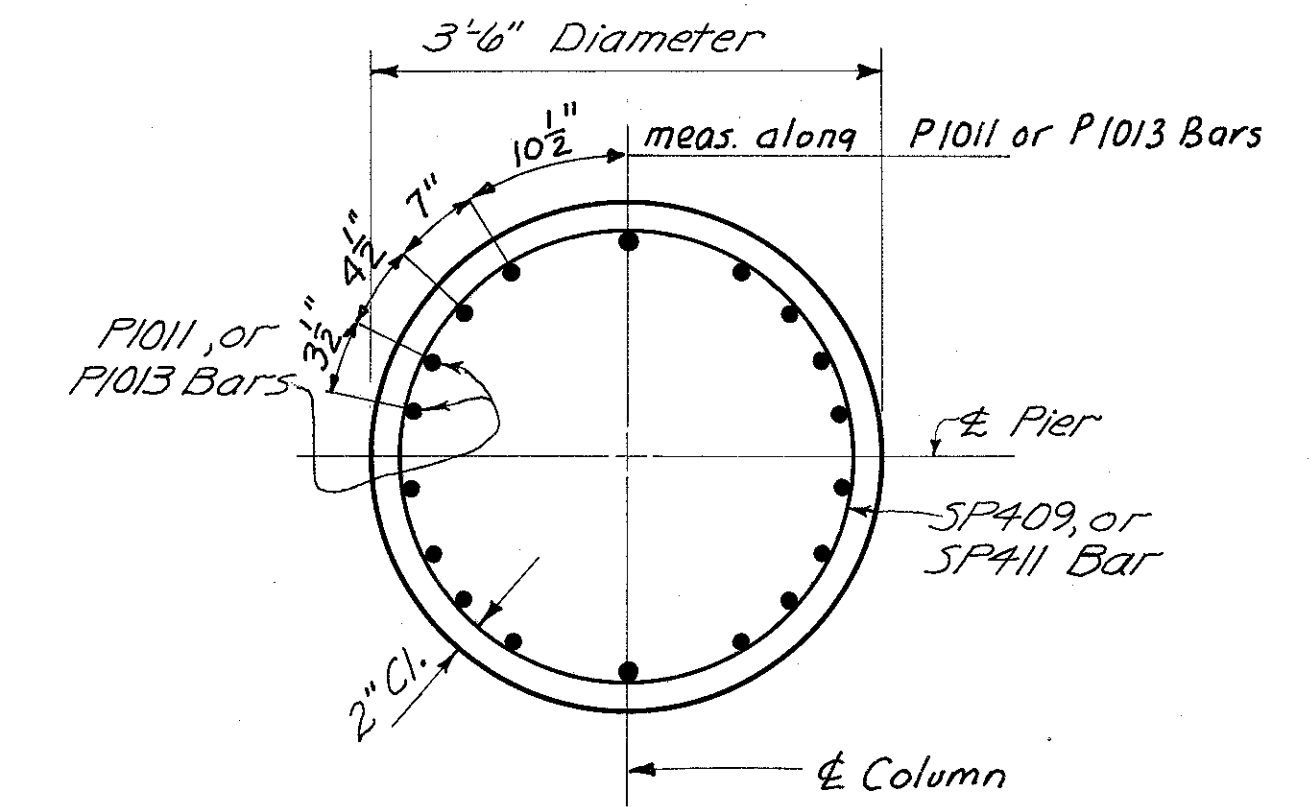
448  
494

HAMILTON COUNTY  
HAM-471-0.30



TYPICAL EXTERIOR FOOTING  
Note:  $\nabla$  denotes battered pile.

INTERIOR FOOTING  
Note: Provide 3" clearance to reinforcing steel in footings, minimum.

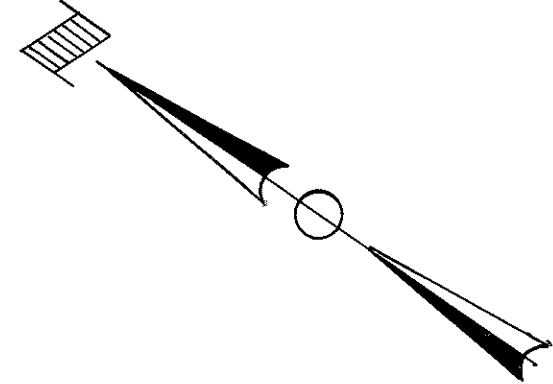


SECTION D-D  
Note: Bars in column to be spaced to miss bottom cap reinforcing as dimensioned in Section C-C.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				13/33
<b>PIER No. 5</b>				
BRIDGE No. HAM-71-0184				
RAMP GG				
H & E BRIDGE No. 15				
DESIGNED W/L	DRAWN CES	TRACED	CHECKED W.L. 1-12-71	REVIEWED DATE J.H.O. 11-7-72

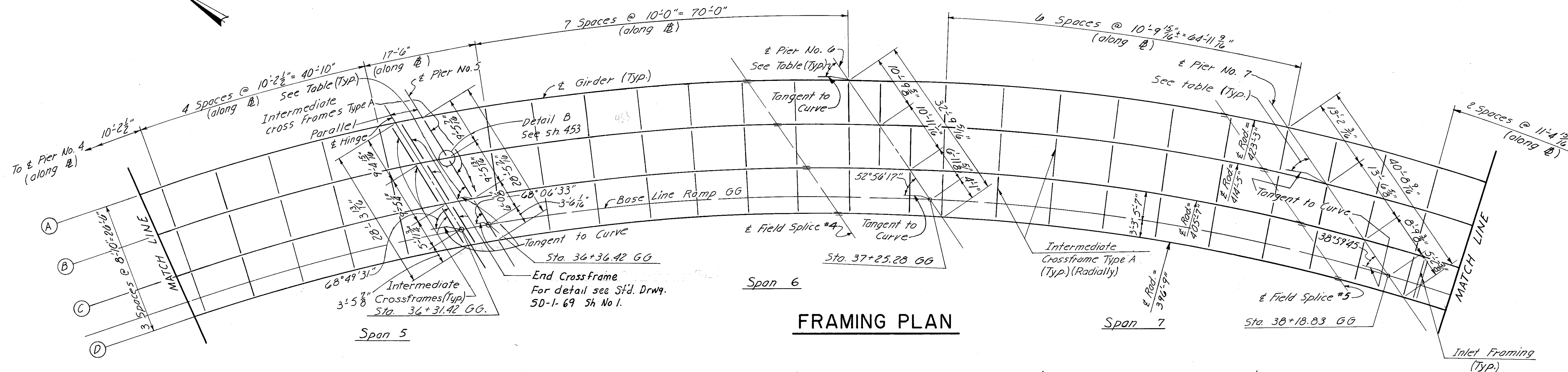


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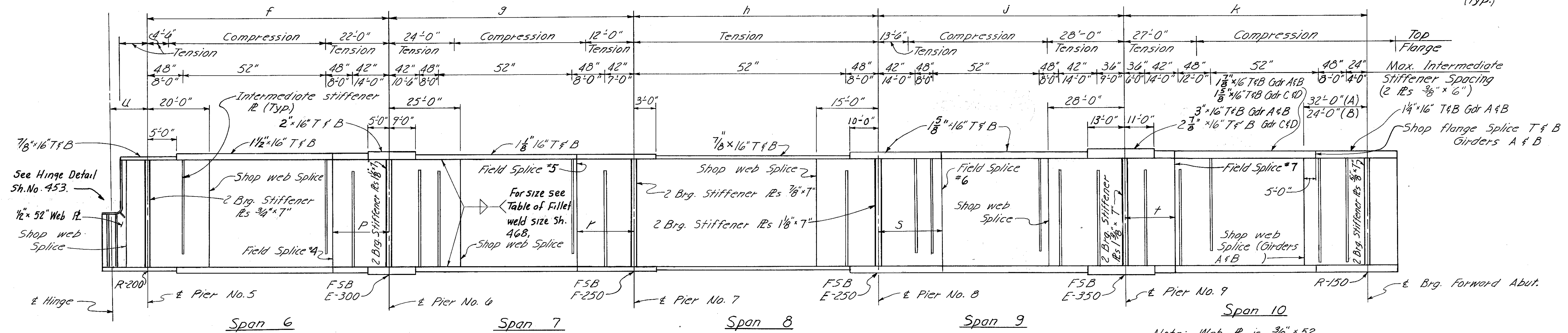


FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		450 494

HAMILTON COUNTY  
HAM-471-0.30



**FRAMING PLAN**



**GIRDER ELEVATION (developed)**

**TABLE OF GIRDER LENGTH DATA**

Dimen. Girder	a	b	c	d	e	f	g	h	j	k	l	m	n	p	r	s	t	u
A	66'-3 3/8"	63'-5 3/8"	62'-9 1/8"	65'-11 1/2"	60'-8 1/8"	86'-0 3/8"	88'-7 1/8"	56'-1"	109'-4"	109'-3 3/8"	20'-0"	12'-11 3/8"	16'-5 3/8"	20'-5 3/8"	12'-6 3/8"	23'-9 3/8"	17'-11 3/8"	4'-11 1/2"
B	66'-3 3/8"	64'-5 3/8"	62'-9 1/8"	65'-11 1/8"	60'-10"	87'-0 1/8"	90'-4 3/8"	56'-9 3/8"	108'-4 3/8"	96'-10 3/8"	20'-0"	12'-11 3/8"	16'-5 3/8"	20'-7 1/8"	12'-10 3/8"	24'-9 3/8"	18'-10 3/8"	4'-11 1/8"
C	66'-3 3/8"	65'-5 1/2"	62'-9 1/8"	66'-0 3/8"	60'-11 1/8"	88'-1 1/8"	92'-2 3/8"	57'-8 3/8"	107'-7 1/8"	83'-8 1/8"	20'-0"	12'-11 3/8"	16'-5 3/8"	20'-10 1/8"	13'-2 1/8"	26'-0 1/8"	20'-1"	4'-11 3/8"
D	66'-0 1/2"	69'-1 1/2"	63'-2 3/8"	66'-0 3/8"	61'-0 1/8"	89'-3 3/8"	94'-4 1/8"	58'-10 1/8"	107'-1"	69'-8 3/8"	20'-0 1/8"	13'-4 3/8"	16'-4 1/8"	21'-1 1/8"	13'-7 1/8"	27'-7 1/8"	21'-7 3/8"	5'-0 1/8"
E	66'-3 3/8"	66'-1 1/8"									20'-0"							
F	66'-3 3/8"										20'-0"							

HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

15/33

**STRUCTURAL STEEL DETAILS**  
BRIDGE NO. HAM-71-0184  
RAMP GG

H&E BRIDGE NO. 15

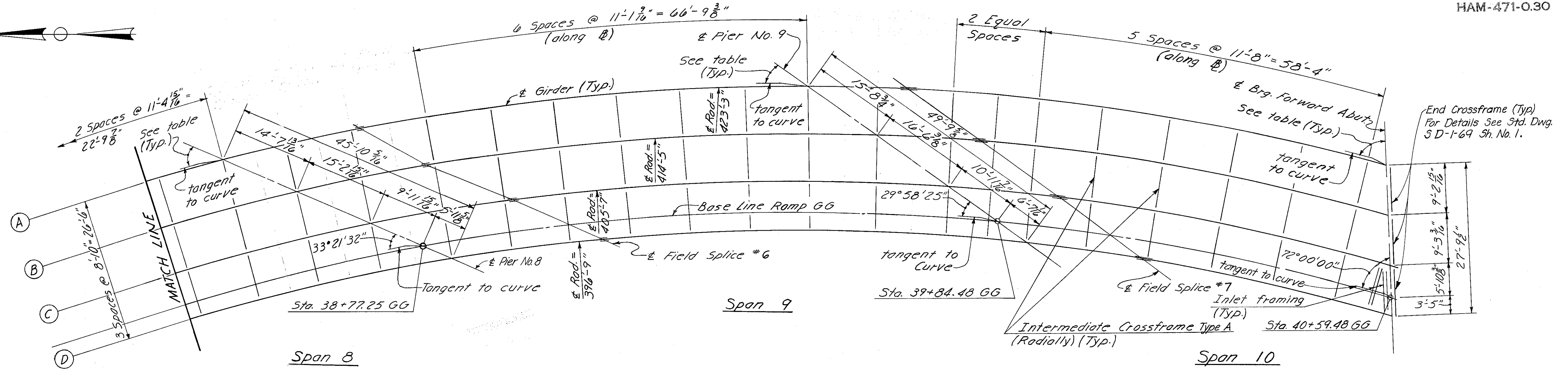
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	C.Y.W.	DBS	Y.L.	J46 11-8-72	

MICROFILMED  
FEB 3 1991

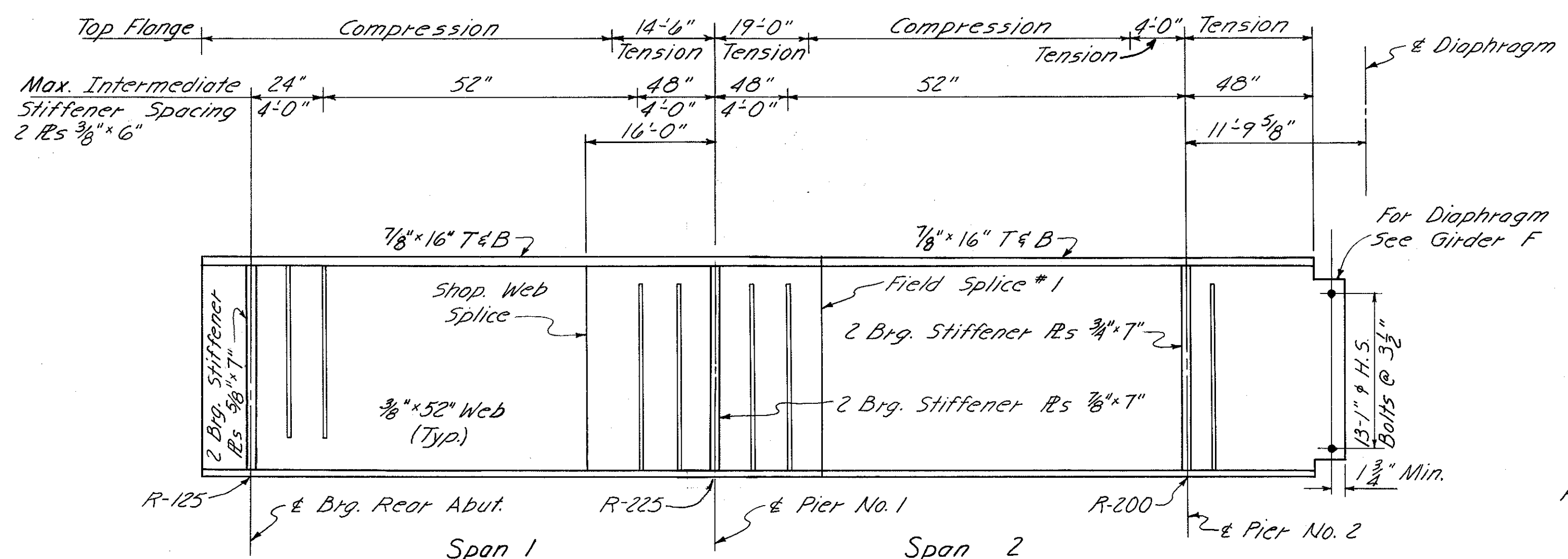
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

451  
494

HAMILTON COUNTY  
HAM-471-0.30

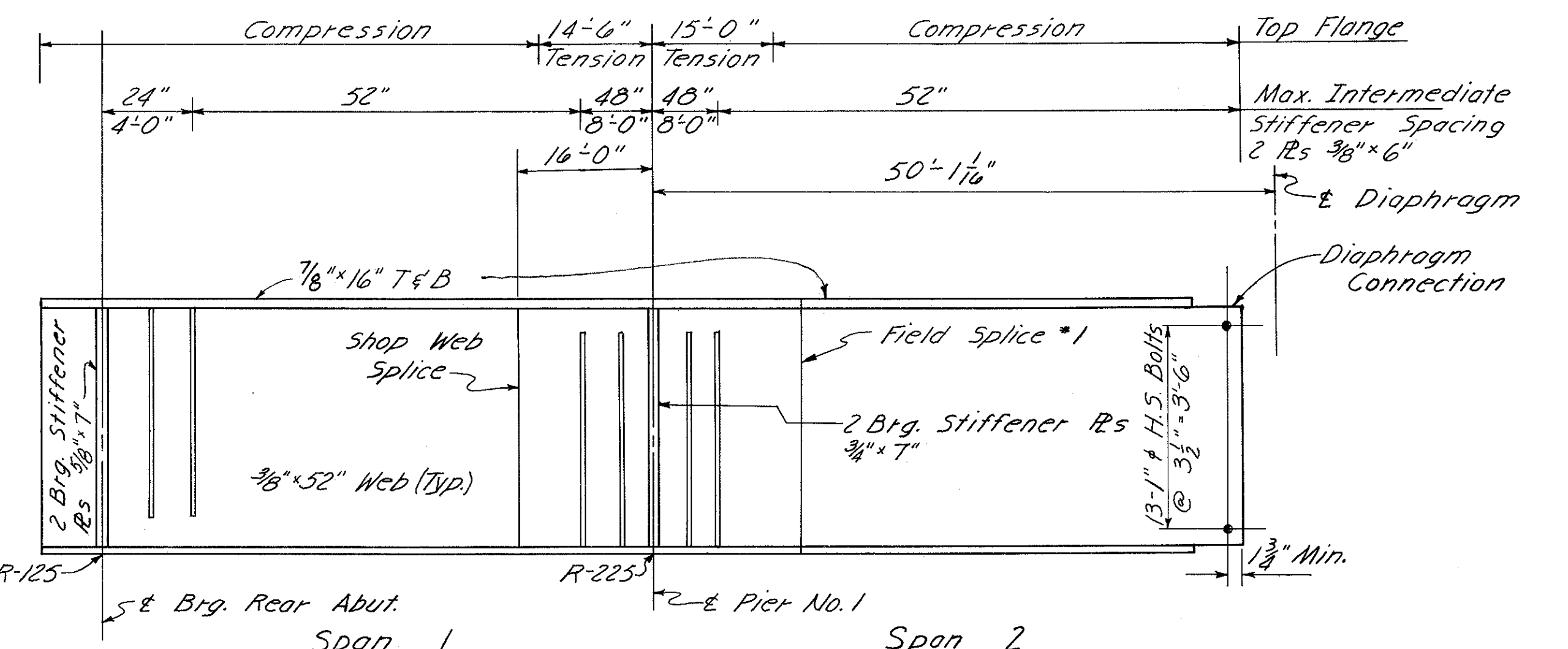


**FRAMING PLAN**



**GIRDER E ELEVATION**

NOTE: Girder E is not curved

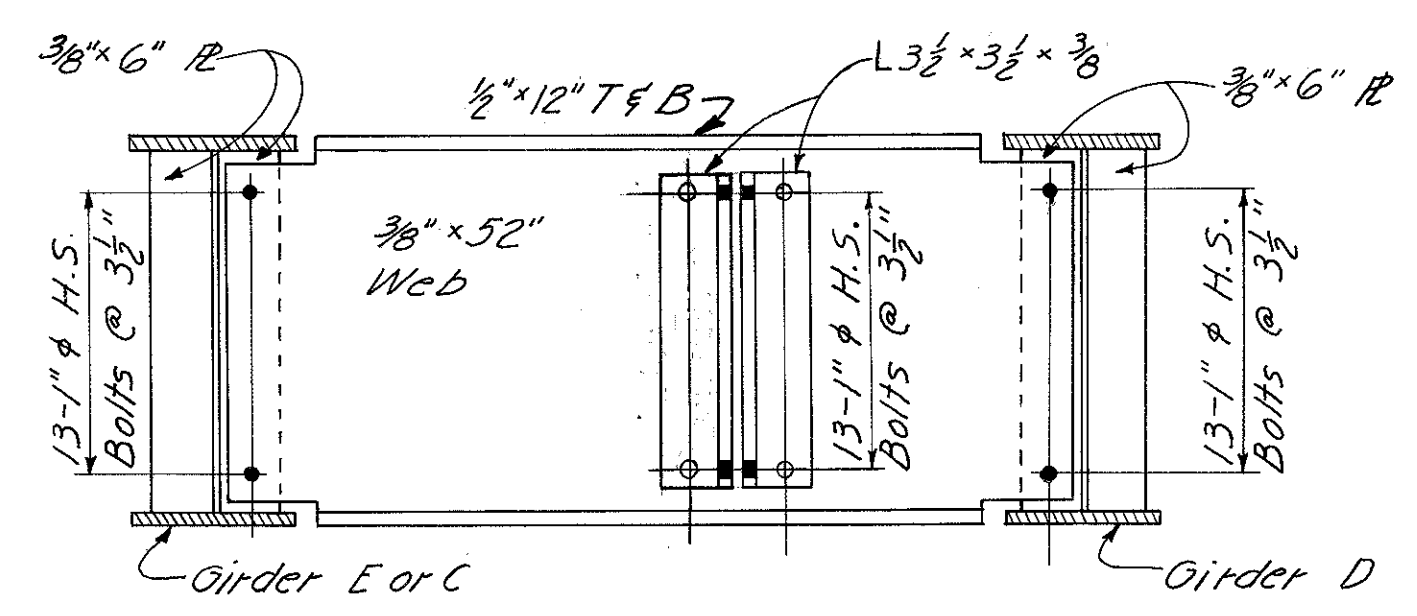


**GIRDER F ELEVATION**

NOTE: Girder F is not curved

	Rear Abut.	Pier No. 1	Pier No. 2	Pier No. 3	Pier No. 4	Pier No. 5	Pier No. 6	Pier No. 7	Pier No. 8	Pier No. 9	Forward Abut.
Girder A	79°04'48"	79°04'48"	85°15'28"	87°11'20"	78°15'37"	69°22'06"	55°16'47"	42°44'06"	37°52'27"	35°02'53"	73°01'11"
Girder B	79°04'48"	79°04'48"	85°15'28"	87°07'44"	78°00'22"	68°54'28"	54°25'44"	41°23'46"	36°16'30"	33°16'02"	72°38'47"
Girder C	79°04'48"	79°04'48"	85°15'28"	87°03'59"	77°44'28"	68°25'32"	53°31'53"	39°57'36"	34°32'19"	31°18'51"	72°15'22"
Girder D	78°13'37"	78°13'37"	75°17'49"	87°00'03"	77°27'49"	67°55'13"	52°34'58"	38°24'45"	32°38'21"	29°08'58"	71°50'51"
Girder E	79°04'48"	79°04'48"	85°15'28"								
Girder F	79°04'48"	79°04'48"									

**TABLE OF GIRDER ANGLES**



**DIAPHRAGM**

HAZELT & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**STRUCTURAL STEEL DETAILS**  
BRIDGE NO. HAM-71-0184  
RAMP GG

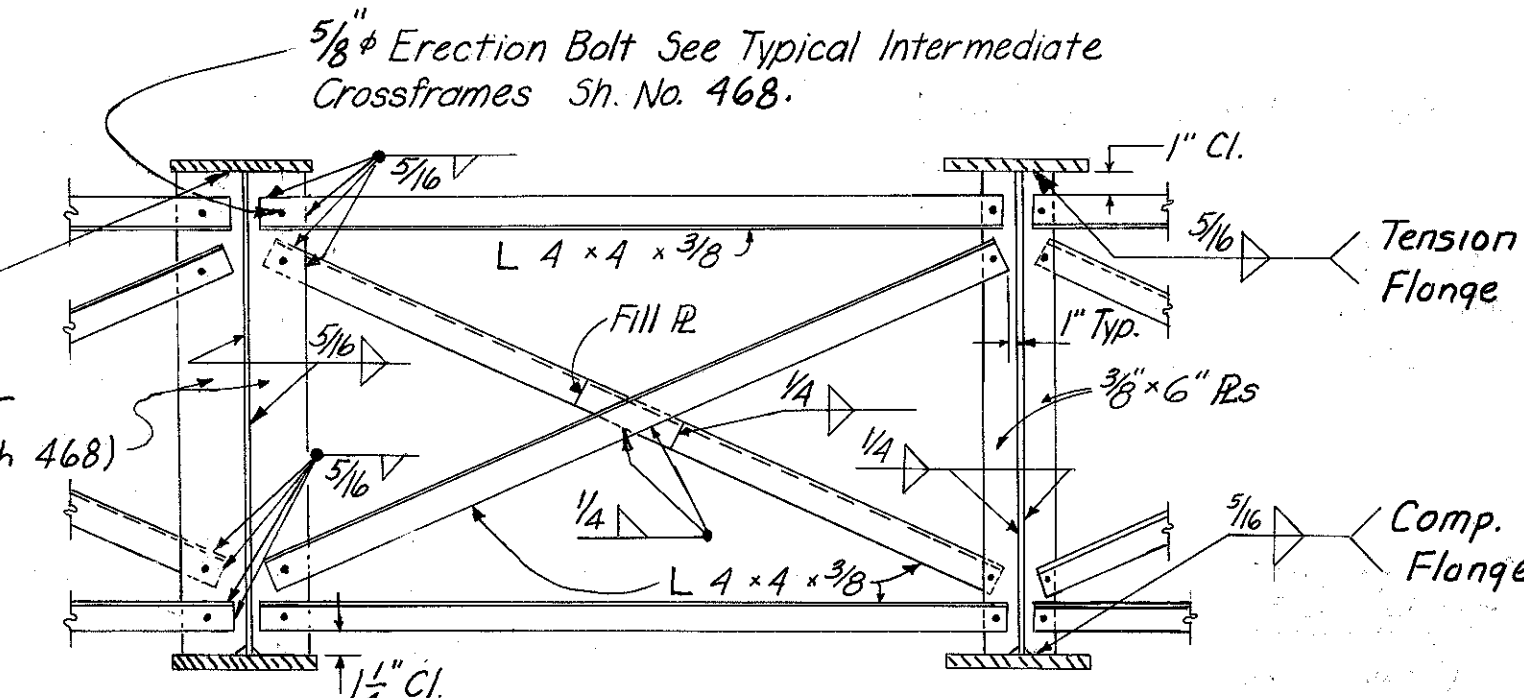
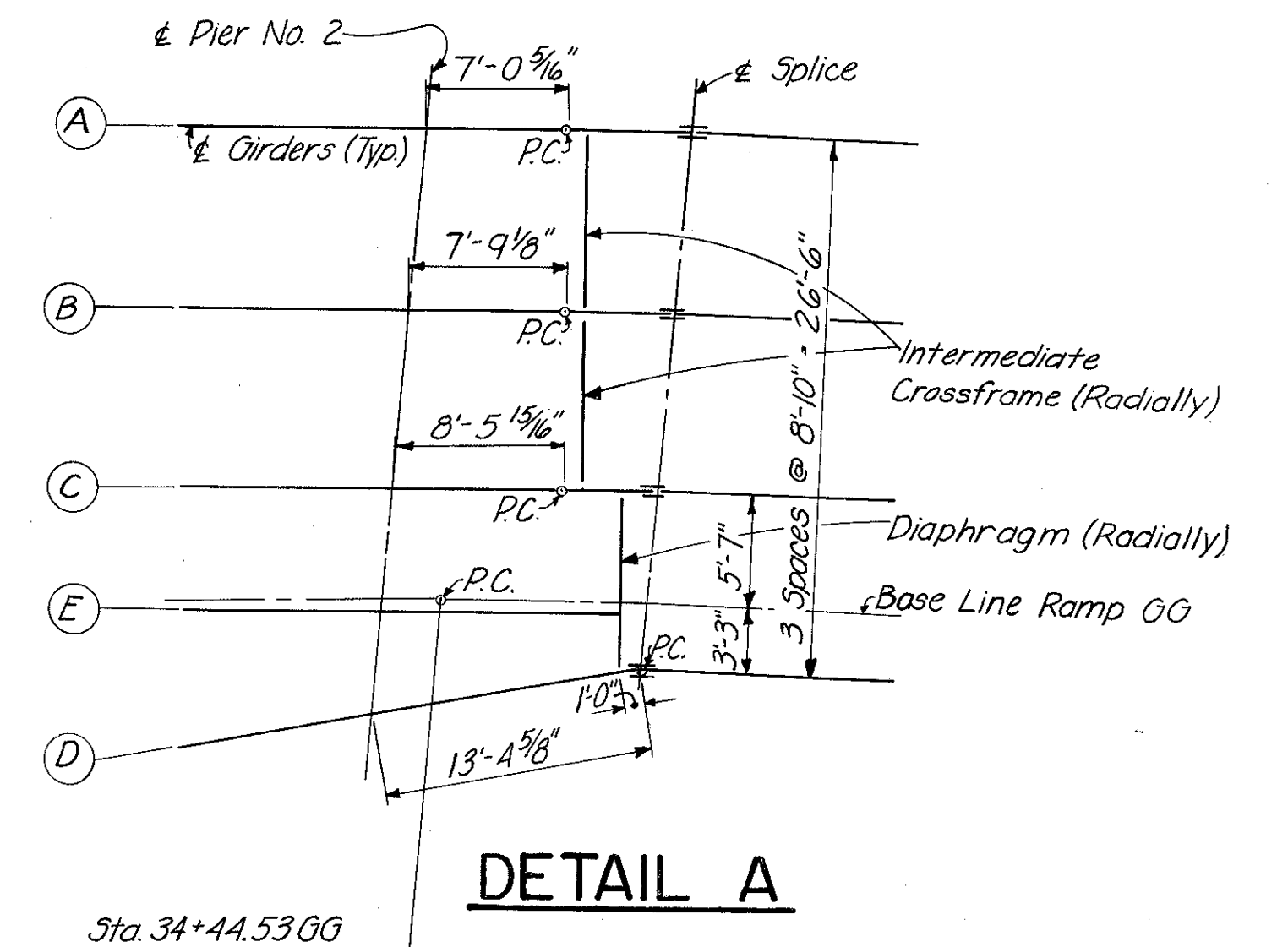
H&E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
W.L.	C.Y.W.	D.B.S.	W.L.	J.H.S. 11-7-72	

16/33

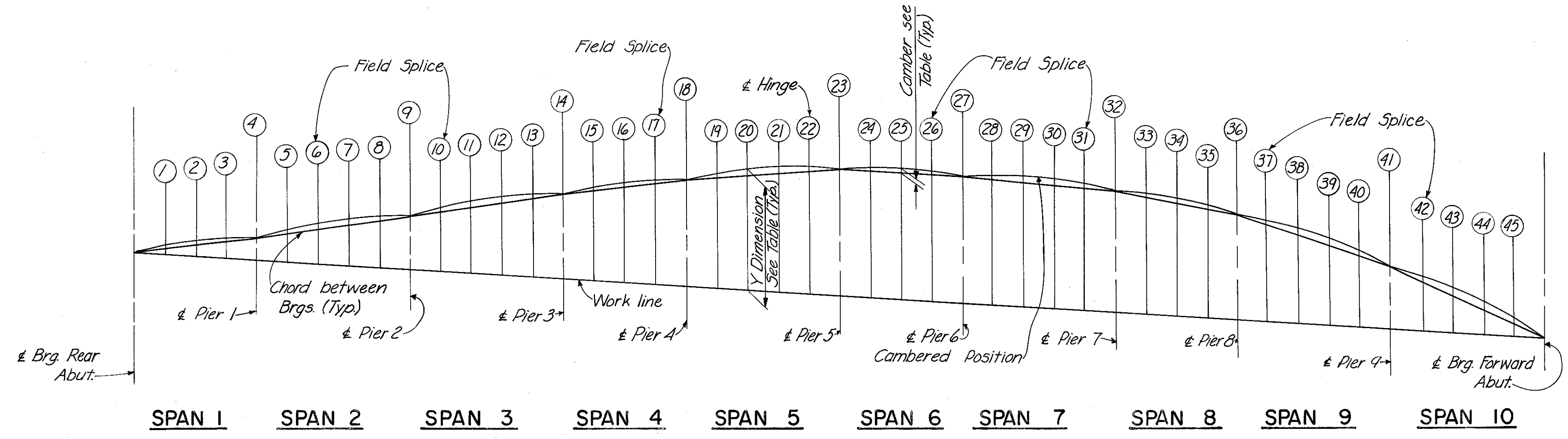
	DEFLECTION and CAMBER (inches)																																																
	SPAN 1					SPAN 2					SPAN 3					SPAN 4					SPAN 5					SPAN 6					SPAN 7					SPAN 8					SPAN 9					SPAN 10			
	1/4 (1)	Center (2)	3/4 (3)	1/2 (4)	Splice (5)	Center (6)	3/4 (7)**	Splice (8)	1/2 (9)	Center (10)	3/4 (11)	Splice (12)	1/2 (13)	Center (14)	3/4 (15)	Splice (16)	1/2 (17)	Center (18)	3/4 (19)	Hinge (20)	1/2 (21)	Center (22)	3/4 (23)	Splice (24)	1/2 (25)	Center (26)	3/4 (27)	Splice (28)	1/2 (29)	Center (30)	3/4 (31)	Splice (32)	1/2 (33)	Center (34)	3/4 (35)	Splice (36)	1/2 (37)	Center (38)	3/4 (39)	Splice (40)	1/2 (41)	Center (42)	3/4 (43)	Splice (44)	1/2 (45)				
Girder A	Def. due to weight of steel	1/16	1/16	1/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Girder B	Def. due to weight of Steel	1/16	1/16	1/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Girder C	Def. due to weight of Steel	1/16	1/16	1/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder D	Def. due to weight of Steel	1/16	1/16	1/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder E	Def. due to weight of Steel	1/16	1/16	1/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Girder F	Def. due to weight of Steel	1/16	1/16	1/16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Negative Values (-) are measured downward.  
 \* denotes a point 33.393' from Pier 1 for Girder F only.  
 \*\* denotes Diaphragm for Girder F.  
 ⊕ denotes Diaphragm for Girder E.  
 Horizontal & Vertical Curves and Superelevation Transition.

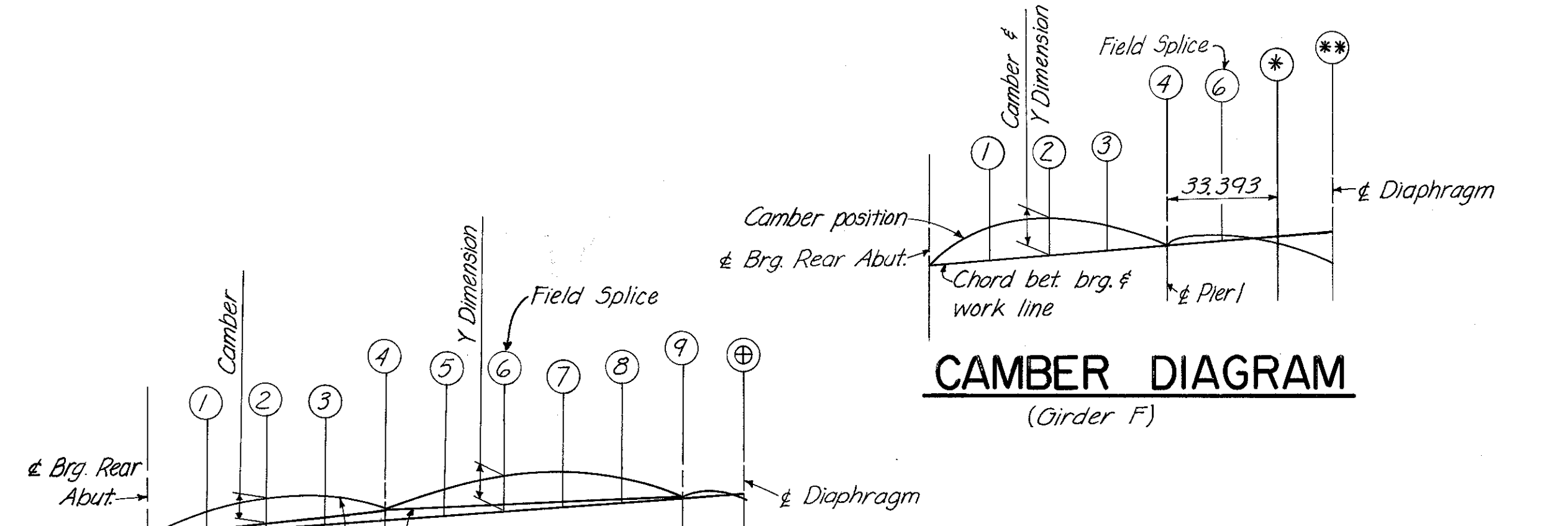


**INTERMEDIATE CROSSFRAMES TYPE A**  
 Note: Treatment of 3/8" x 6" pl's only at intermediate crossframe type A connection. For connection of 3/8" x 6" intermediate stiffener pl's to girders see typical drawing 468.

GIRDER	Y DIMENSIONS																																																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41										
A				2'-5 1/8"					4'-0 1/8"									8'-9"																												4'-3 3/8"					
B				2'-4 1/8"					4'-8 1/8"									8'-6 1/2"																															3'-10 3/8"		
C				2'-3 3/4"					4'-6 3/4"									8'-4"																															3'-5 5/8"		
D				2'-0 1/2"					4'-5 3/8"									8'-2 1/2"																																2'-11 1/8"	
E				3'-1/8"					0"																																										
F				0"																																															



**CAMBER DIAGRAM**  
 (Girders A thru D)



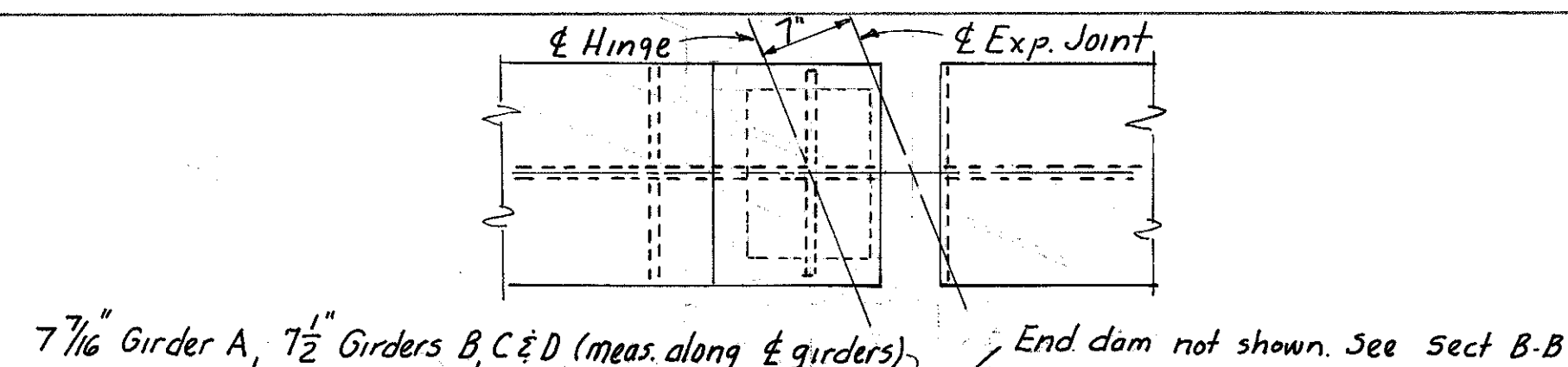
**CAMBER DIAGRAM**  
 (Girder F)

HAZLET & ERDAL  
 CONSULTING ENGINEERS  
 CINCINNATI, OHIO

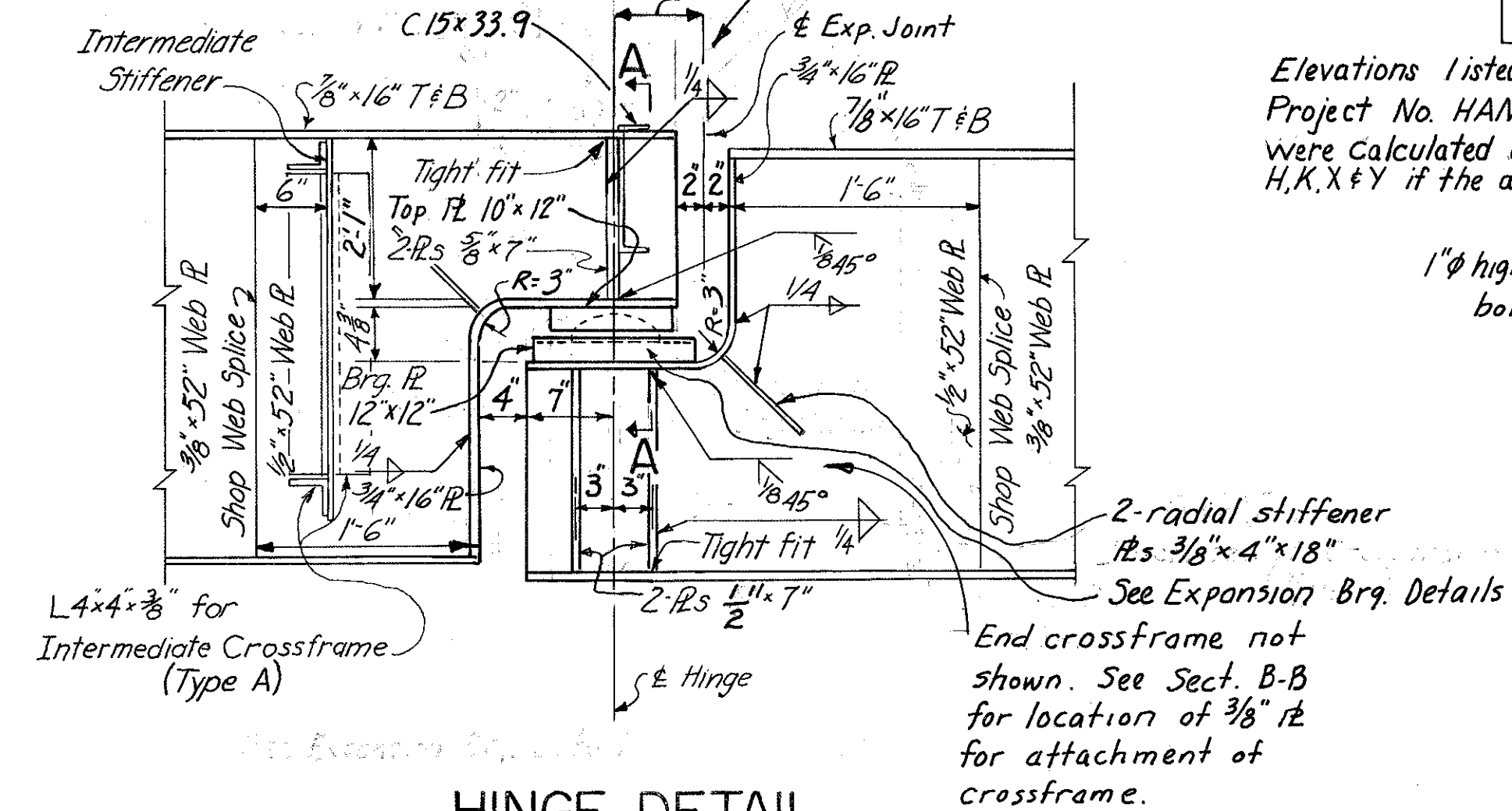
**STRUCTURAL STEEL DETAILS**  
 BRIDGE NO. HAM-71-0184  
 RAMP GG

H&E BRIDGE NO. 15

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
WL	CYW	NRK	W.L.	11-7-72	



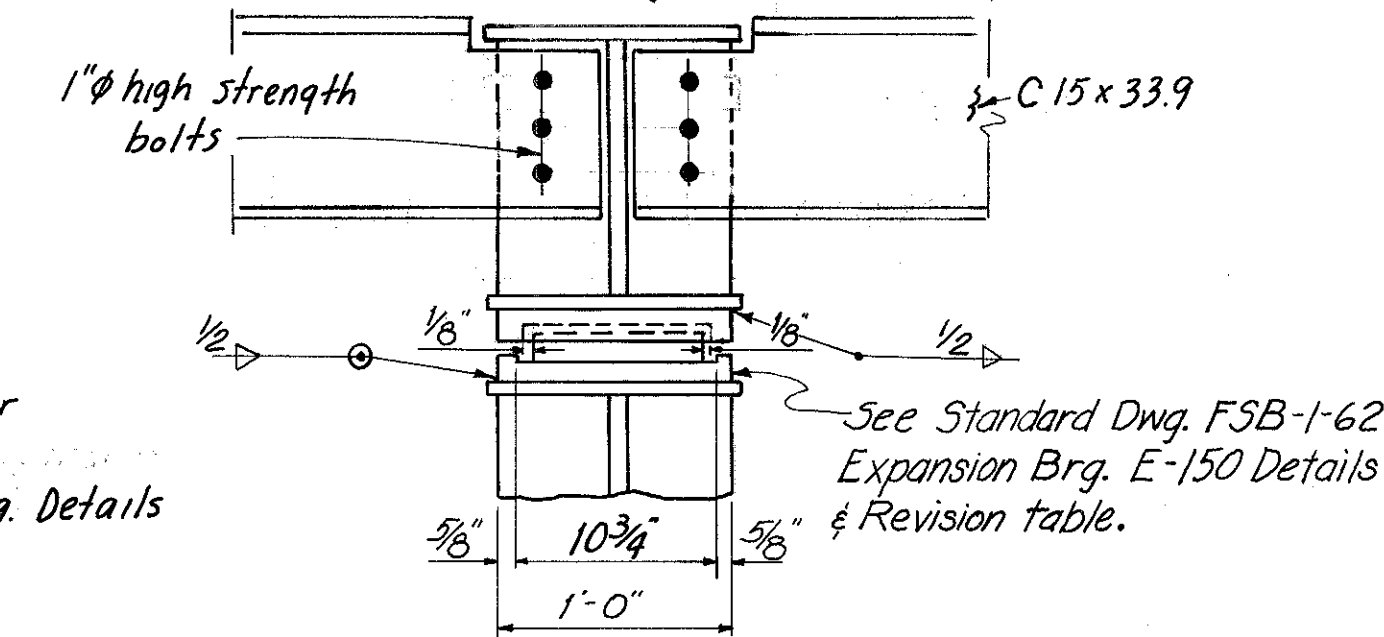
7 7/16" Girder A, 7 1/2" Girders B, C & D (meas. along & girders)



HINGE DETAIL

PIER	GIRDER			
	A	B	C	D
No 6	603.13	604.49	603.83	603.17
No 7	603.20	602.41	601.62	600.76
No 8	601.98	601.07	600.14	599.12
No 9	597.93	596.82	595.68	594.40

Elevations listed above were Proposed Elevations for construction of Piers 6, 7, 8, & 9 of Project No. HAM-71-(1.56)(2.51). Dimensions H, K, X & Y listed below for Bearing Detail FSB-1-62 were calculated using these above Elevations. However, the Contractor may have to revise dimensions H, K, X & Y if the as built elevations do not agree with the Proposed Elevations.



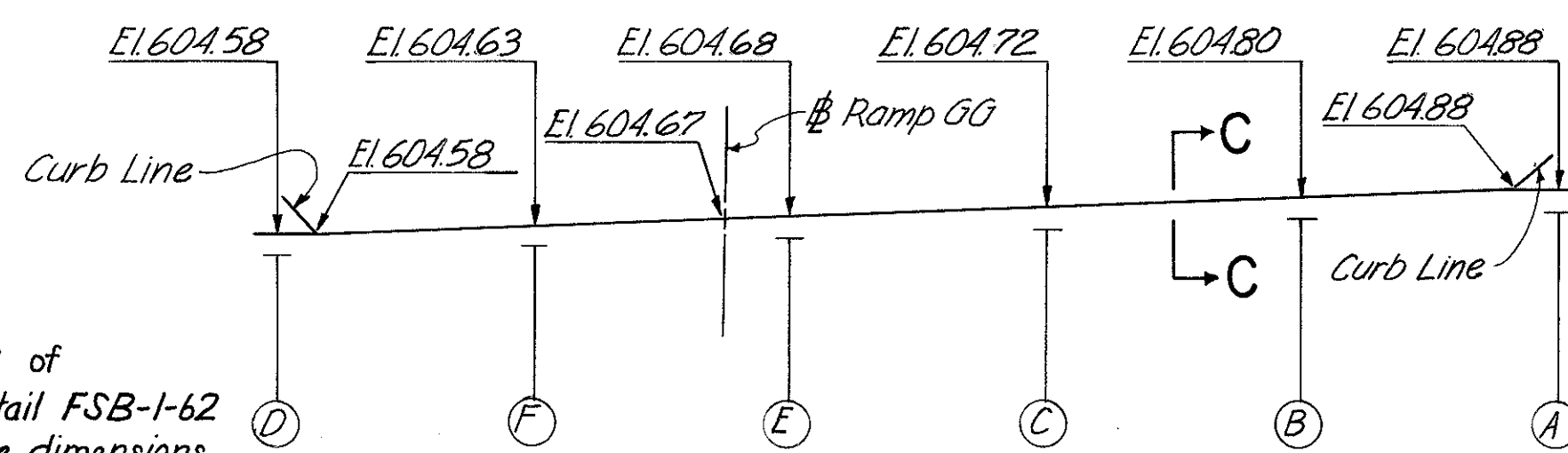
SECTION A-A

FIXED AND SLIDING BEARINGS REVISIONS

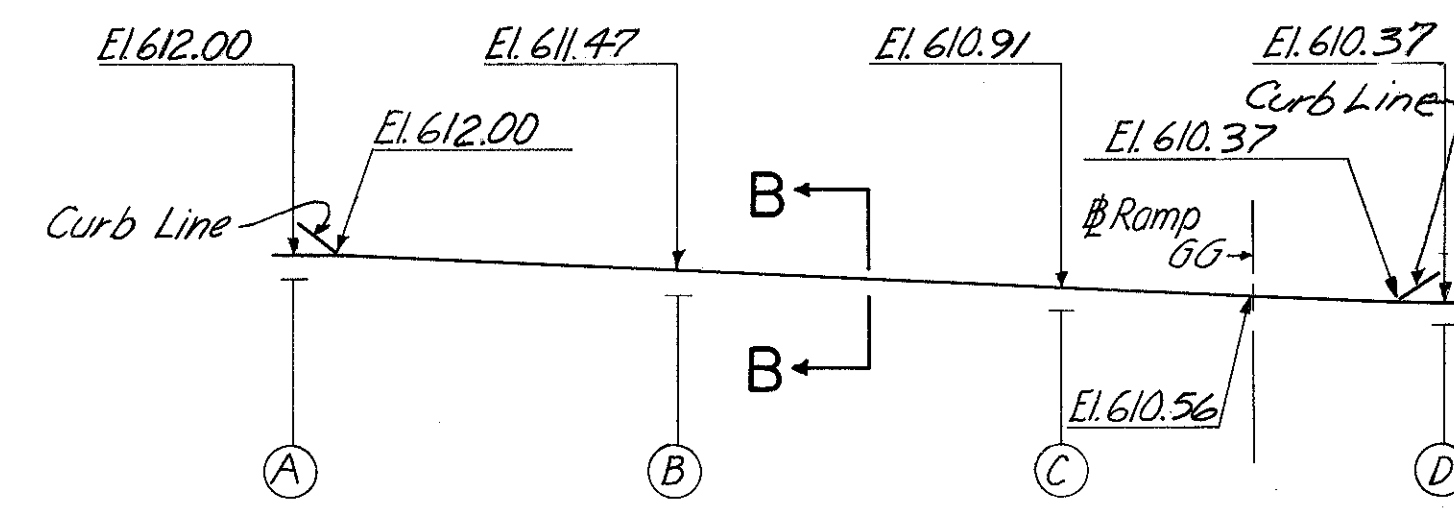
LOCATION	SIZE	DIMENSIONS					REMARKS
		H	K	U	X	Y	
HINGE	E-150						Omit Anchor Rods & Sheet Lead. Revise RS as shown.
PIER 6	E-300				4 3/4"	7 5/8"	Girder A
					5"	7 1/8"	Girder B & C
					5 1/4"	8 1/8"	Girder D
PIER 7	F-250	4 7/8"	11 1/4"				Girder A & D
		5 1/8"	11 1/2"				Girder B
		4 3/4"	11 1/8"				Girder C
PIER 8	E-250				4 3/8"	7 1/4"	Girder A & D
					4 5/8"	7 1/2"	Girder B
					4 1/4"	7 1/8"	Girder C
PIER 9	E-350				4 5/8"	7 1/2"	Girder A
					4 7/8"	7 3/4"	Girder B
					4 1/2"	7 3/8"	Girder C

For Location of Dimensions, and dimensions not shown, see Standard Dwg. FSB-1-62. Note: Before fabrication of Fixed and Sliding Bearings, the contractor shall first determine the bridge seat elevations of the existing piers No. 6, 7, 8, and 9 built under a previous contract. Size of anchor rods 1/2" phi x 1'-10" for all FSB-1-62 bearings at Piers 6, 7, 8 & 9.

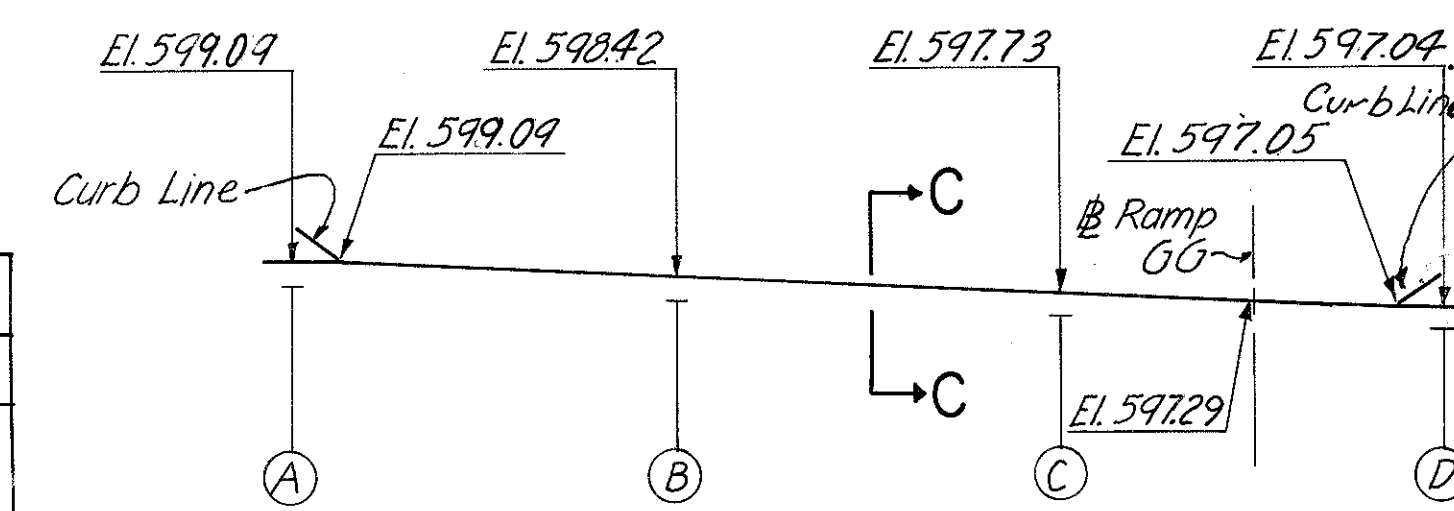
LOCATION	R "A"	R "B"	"N" Spaces
Field Splices #1, 2 & 3	3/8" x 16" x 19 1/2"	3/8" x 7" x 19 1/2"	2 Spaces
Field Splice # 4	3/4" x 16" x 31 1/2"	3/8" x 7" x 31 1/2"	4 Spaces
Field Splice # 5	3/8" x 16" x 25 1/2"	3/4" x 7" x 25 1/2"	3 Spaces
Field Splice # 6	3/8" x 16" x 31 1/2"	1" x 7" x 31 1/2"	4 Spaces
Field Splice # 7	1" x 16" x 31 1/2"	1 1/8" x 7" x 31 1/2"	4 Spaces



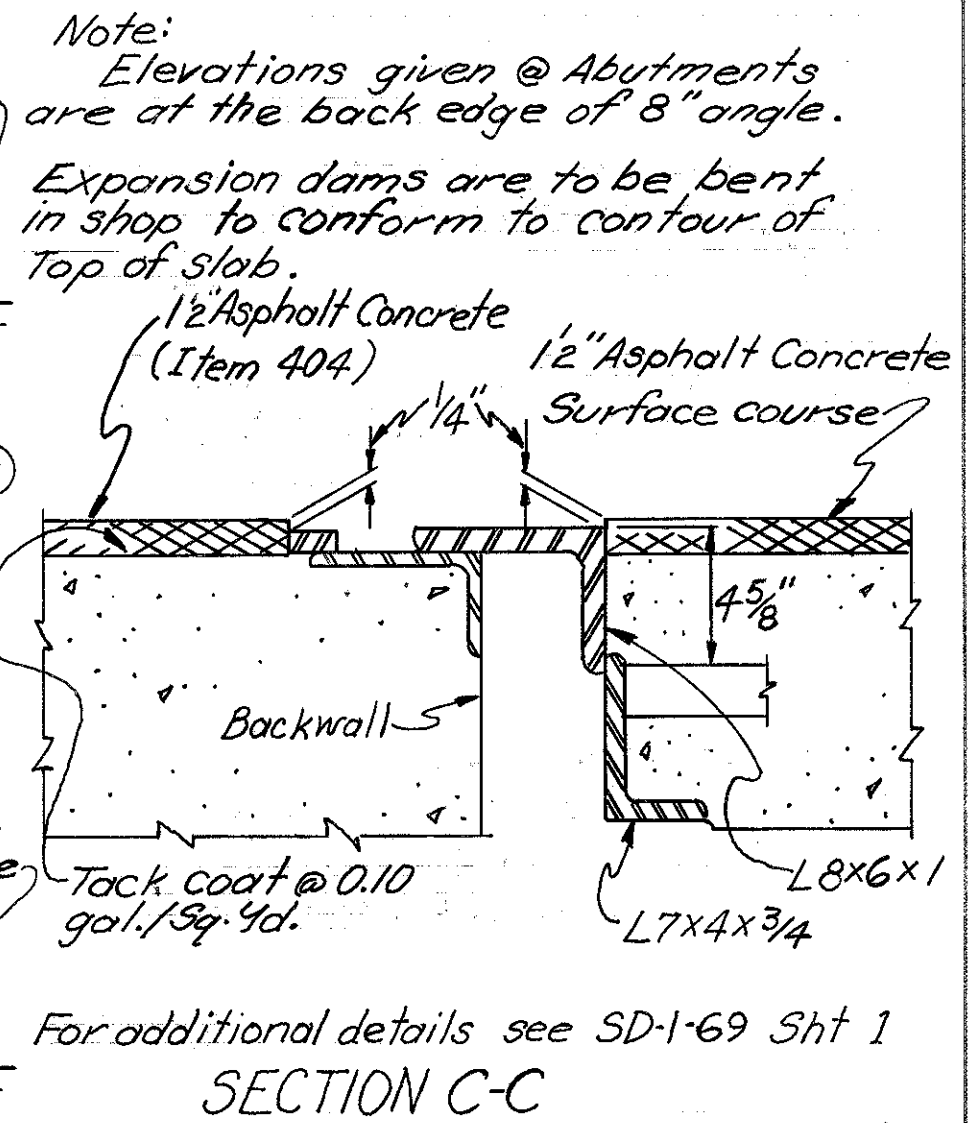
REAR ABUTMENT EXPANSION DAM  
(Provide curb plates)



ROADWAY EXPANSION DAM  
(Provide curb plates)

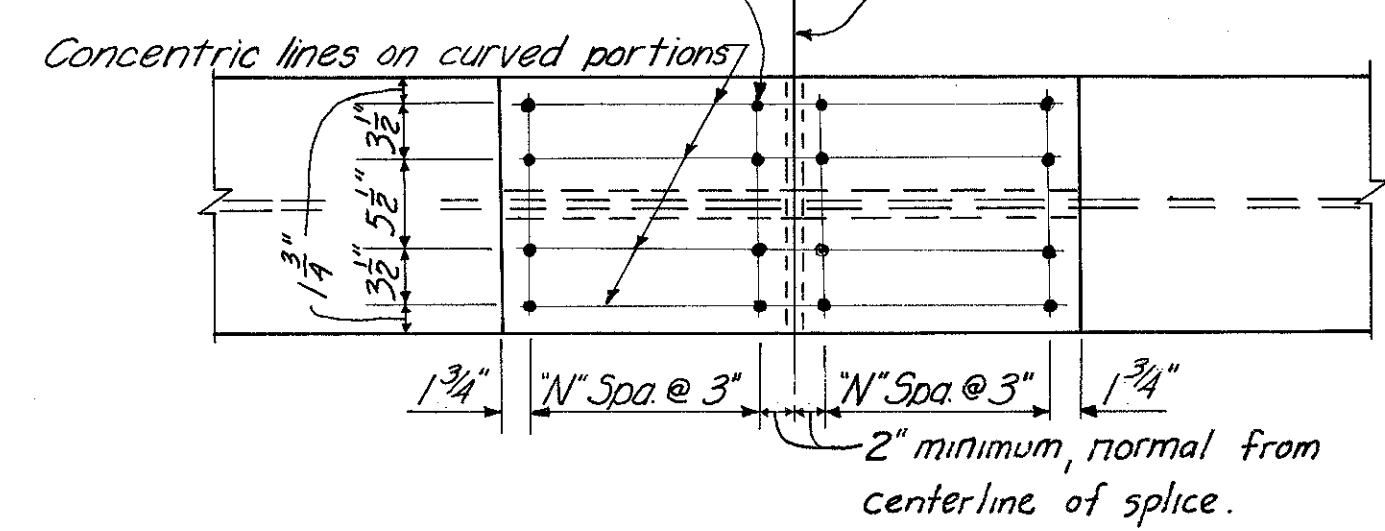
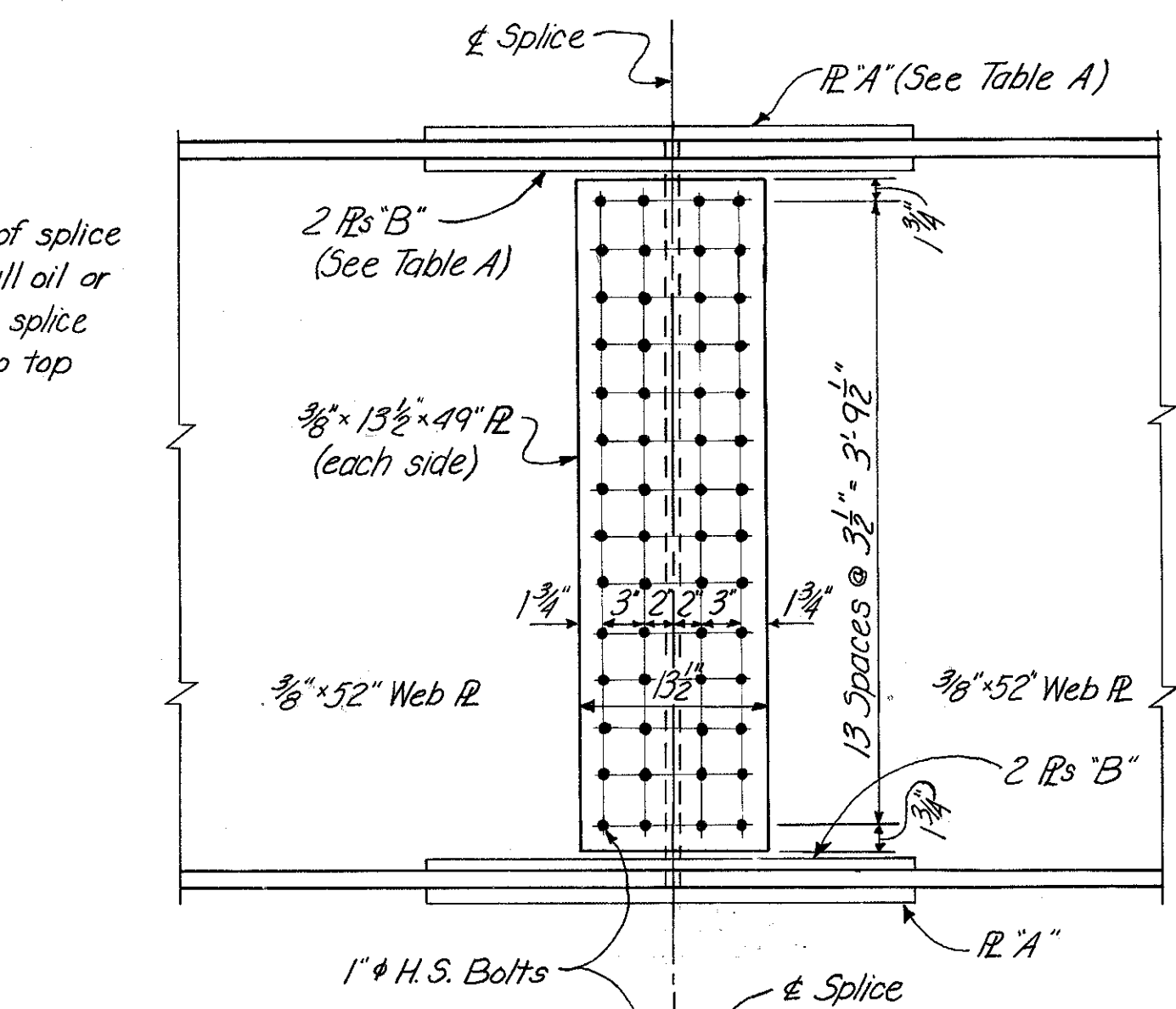


FORWARD ABUTMENT EXPANSION DAM  
(Provide curb plates)

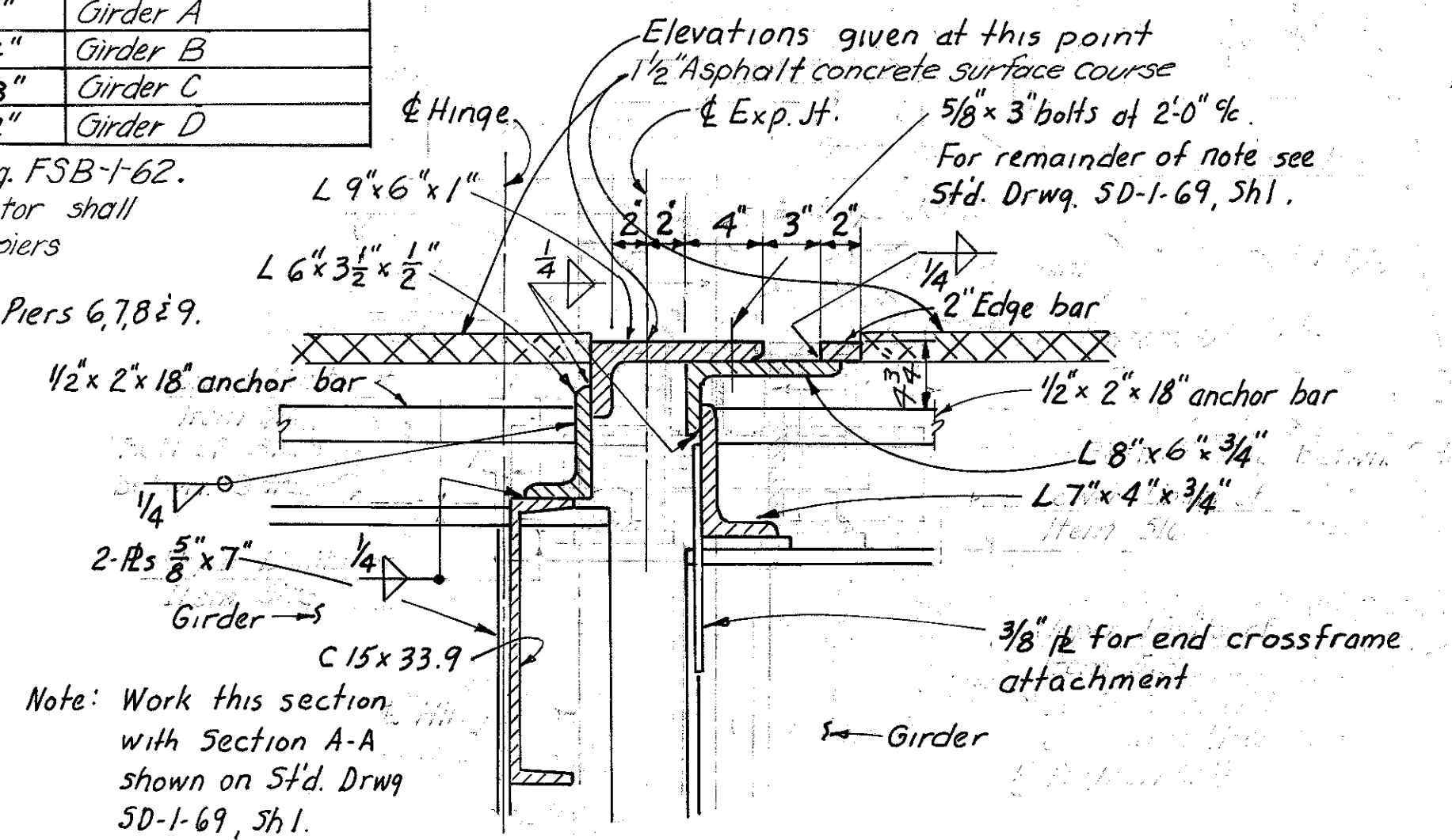


For additional details see SD-1-69 Sht 1 SECTION C-C

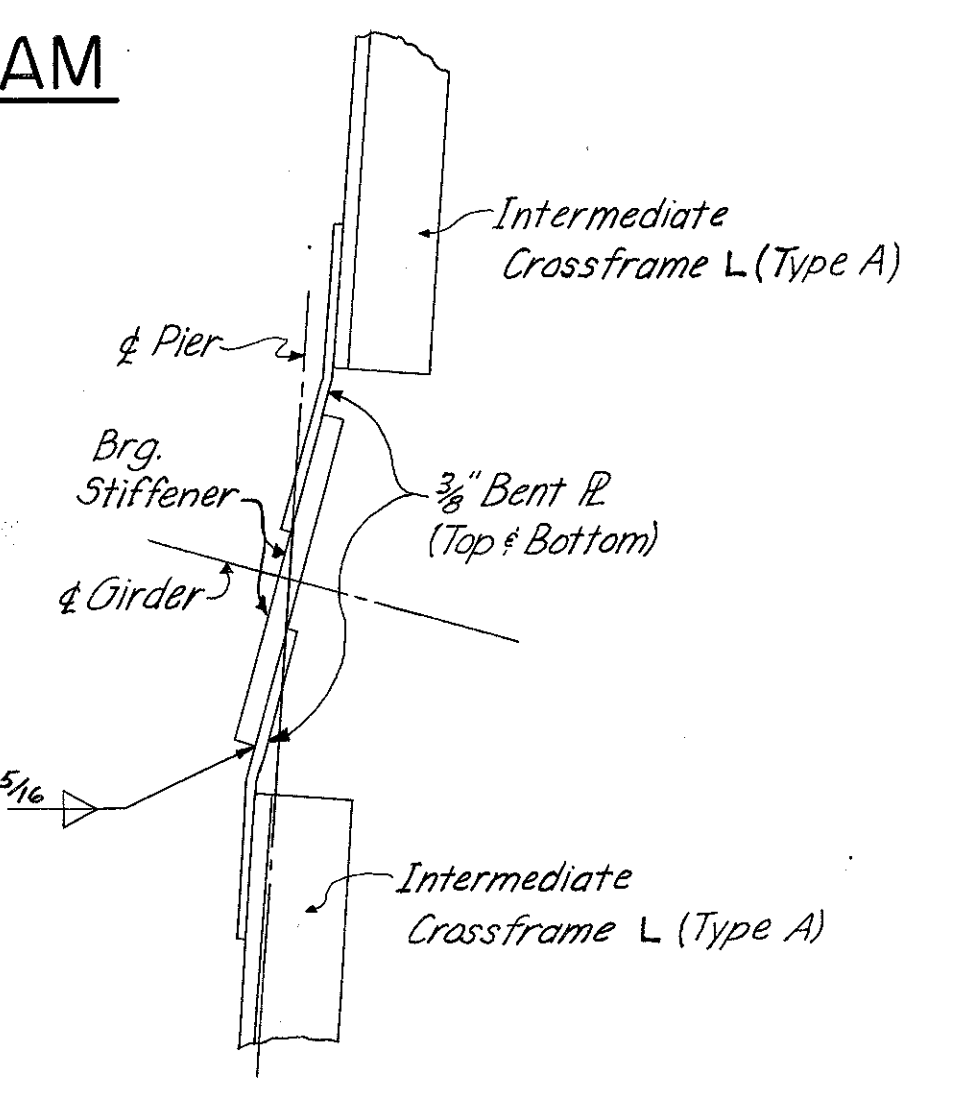
Note: Contact surface of splice shall be free from all oil or paint. Bottom flange splice material is identical to top flange material.



FIELD SPLICE



SECTION B-B



DETAIL B

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				18/33
STRUCTURAL STEEL DETAILS				
BRIDGE NO. HAM-71-0184				
RAMP GG				
H&E BRIDGE NO. 15				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
W.L.	CYW	NRK	W.L.	JH D 11-9-72

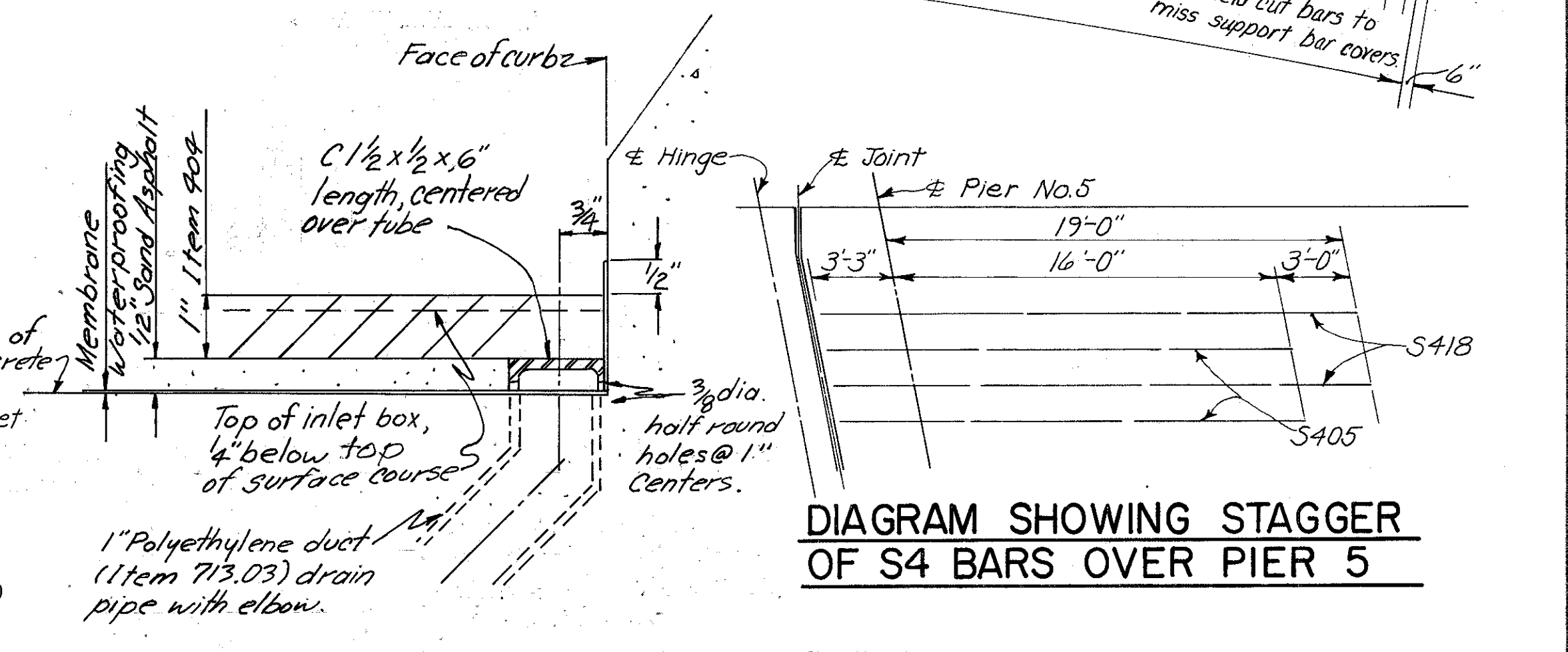
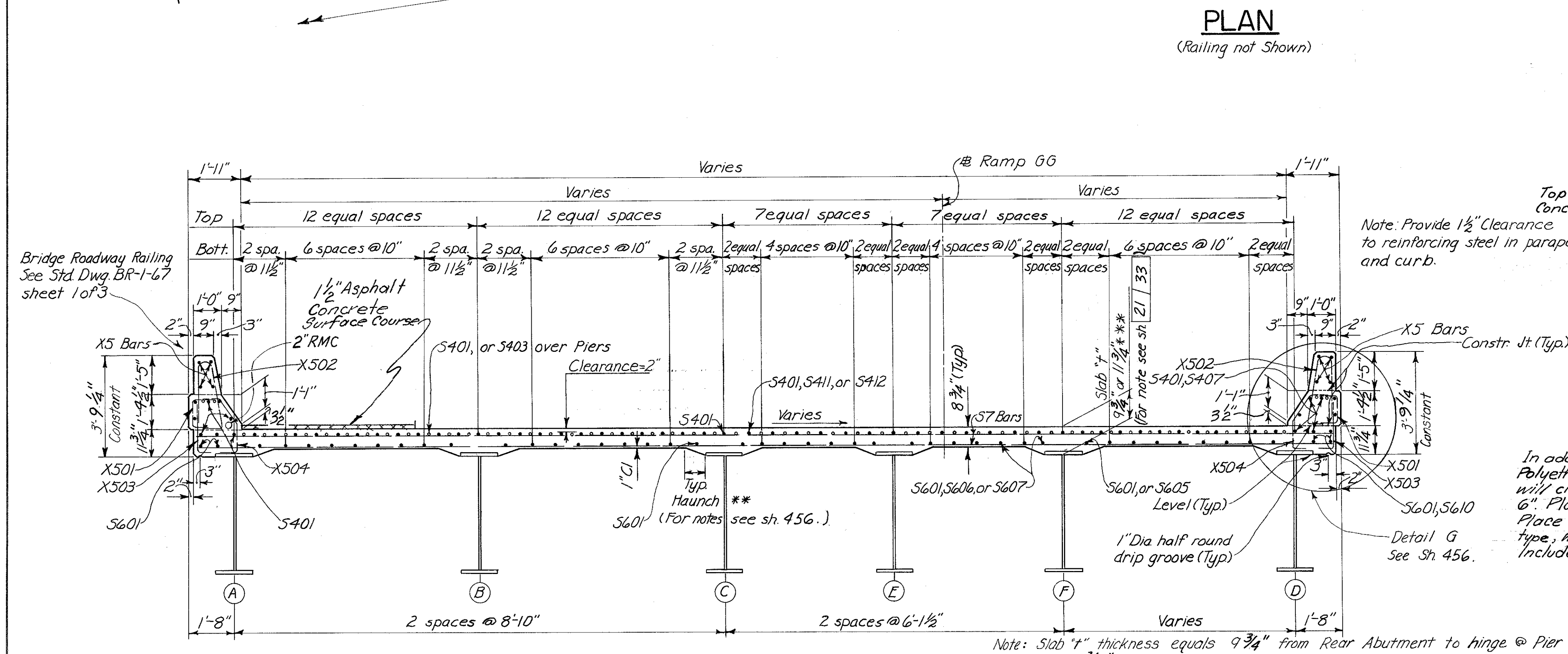
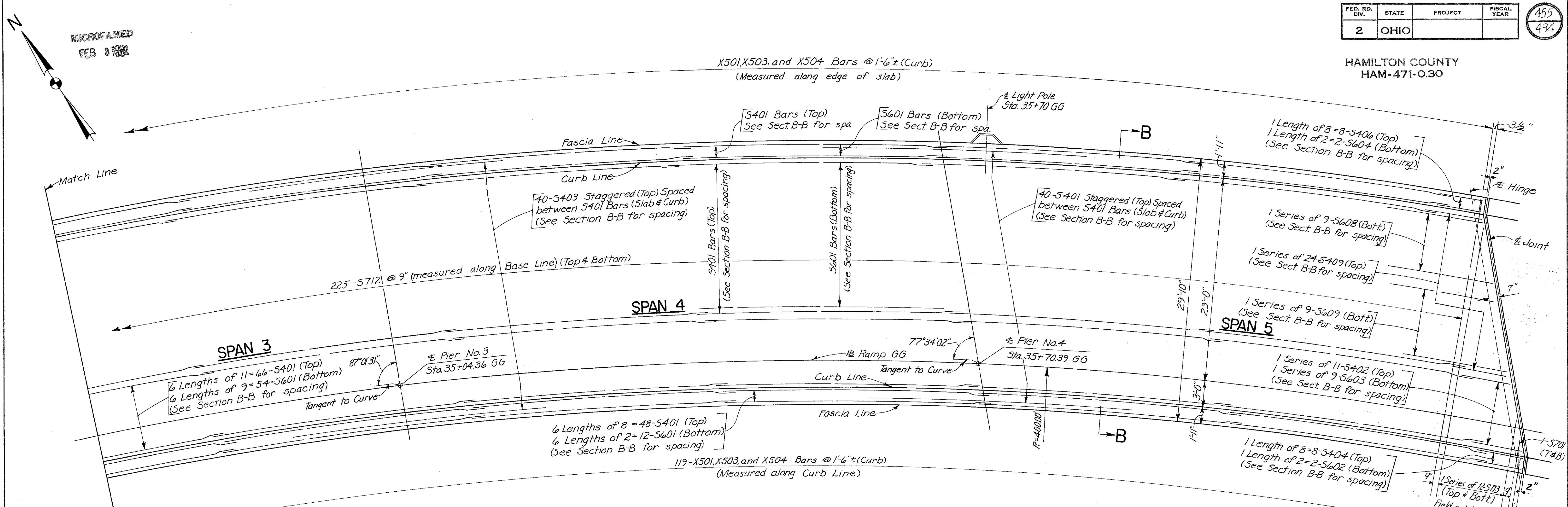




FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

455  
494

HAMILTON COUNTY  
HAM-471-0.30



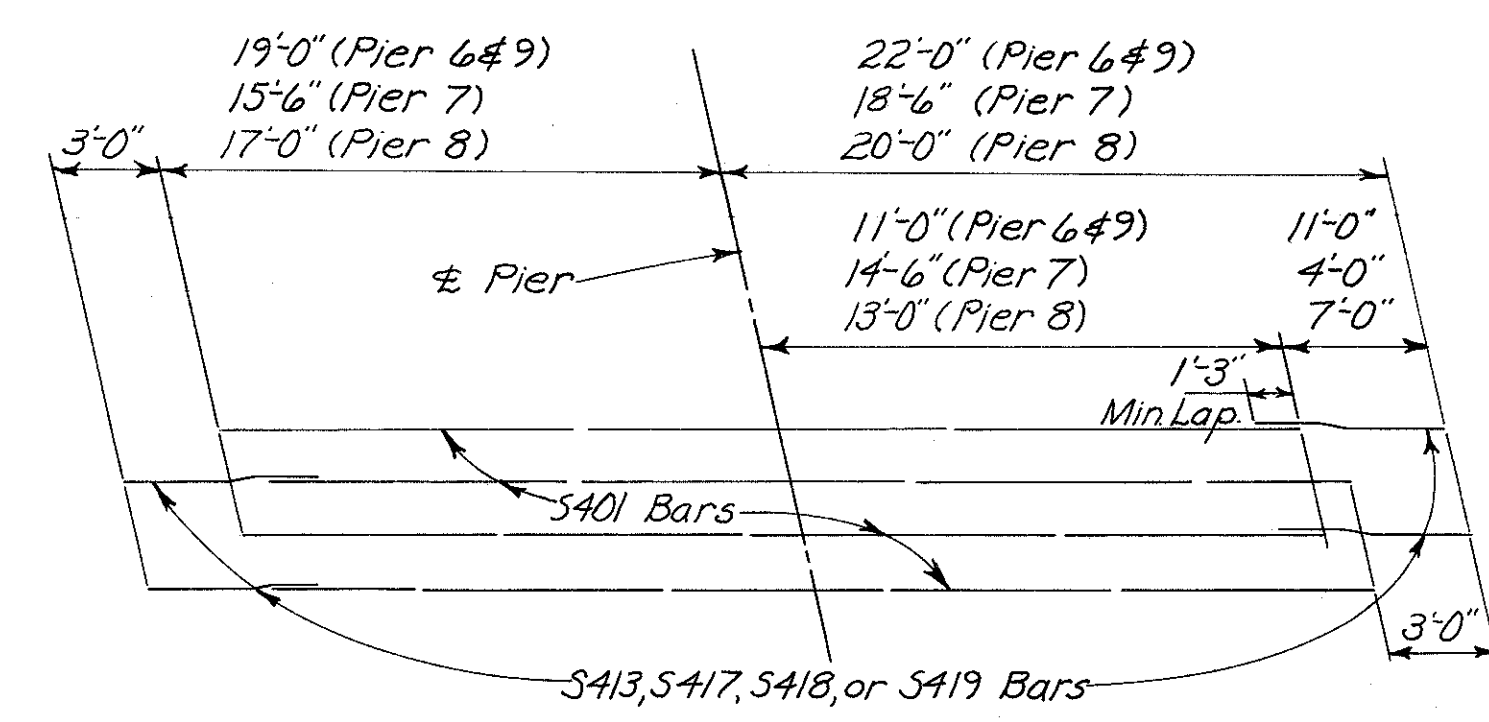
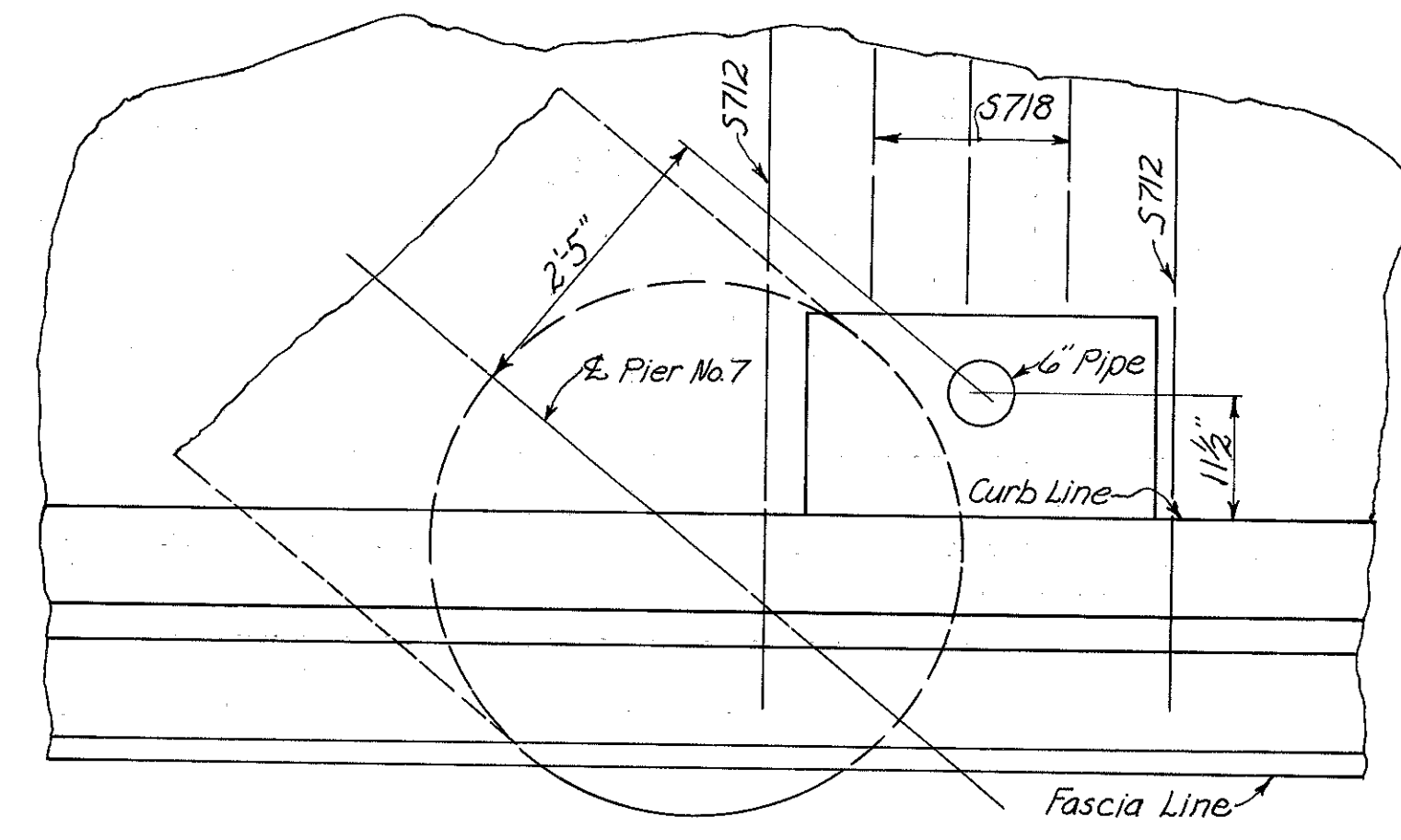
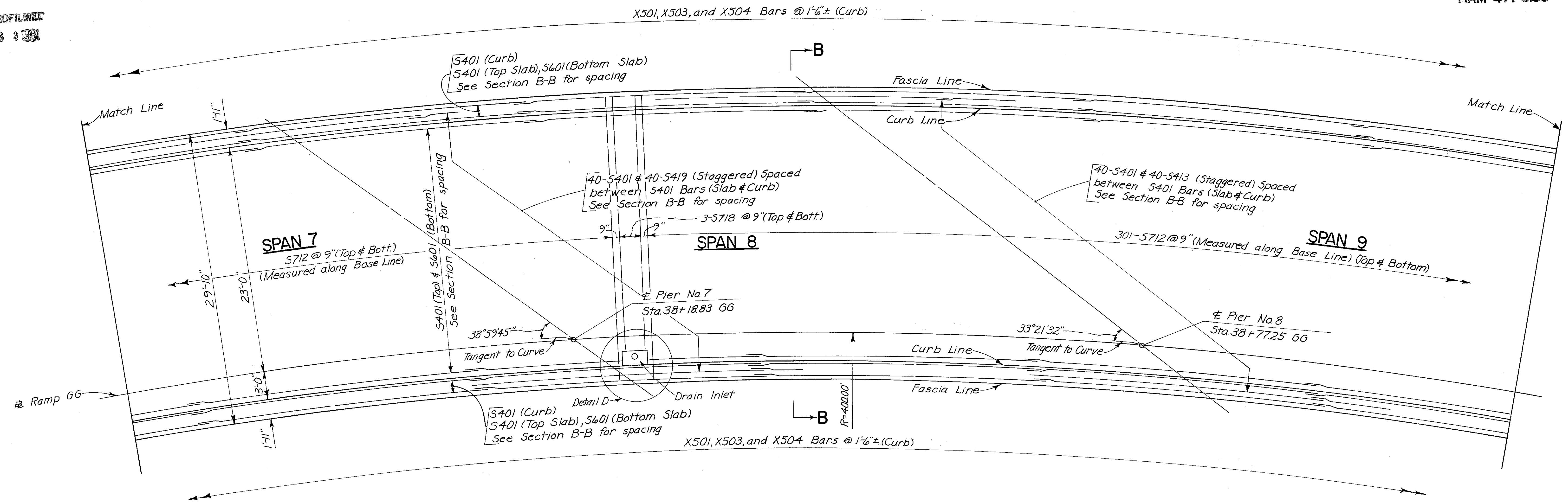
**SUB DRAINAGE AND WEARING COURSE DETAILS**

In addition to the location and spacing provision of 518.07, the Polyethylene tubes shall be located so that discharge from them will clear all structural members, including crossbracing, by at least 6". Place the top of the tube flush with the concrete surface. Place membrane over pipe, puncturing if membrane is a sheet type, with the hole sealed around the lip of the pipe. Include subdrainage with Item 404, Asphalt Concrete, for payment.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO		20/33
<b>SUPERSTRUCTURE DETAILS</b>		
BRIDGE No. HAM-71-0184		
RAMP GG		
H & E BRIDGE No. 15		
DESIGNED	DRAWN	TRACED
	CES	
CHECKED	W. L.	REVIEWED DATE
	1-11-77	JHG 11-8-72
REVISED		



MICROFILMED  
FEB 3 1981



*[Faint handwritten notes and bleed-through from the reverse side of the page.]*

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				22/33
<b>SUPERSTRUCTURE DETAILS</b>				
BRIDGE No. HAM-71-0184				
RAMP GG				
H & E BRIDGE No. 15				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	CES		W.A.	JH
			1-11-71	11-8-72

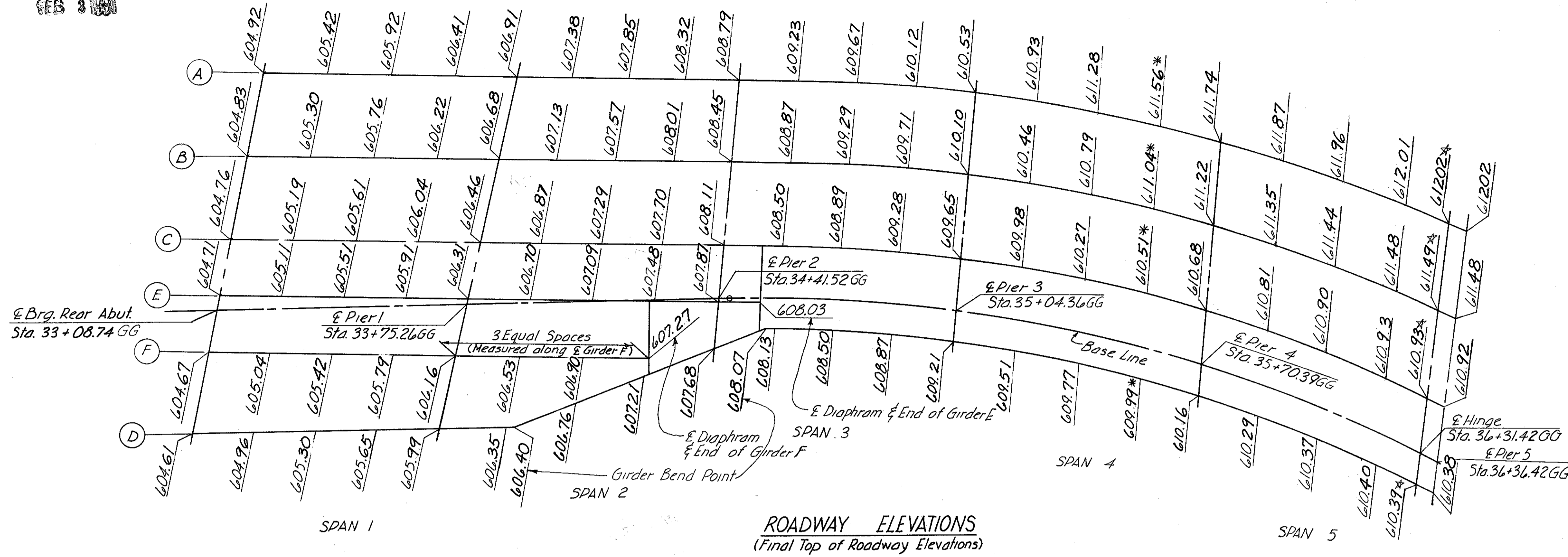


MICROFILMED  
FEB 3 1980

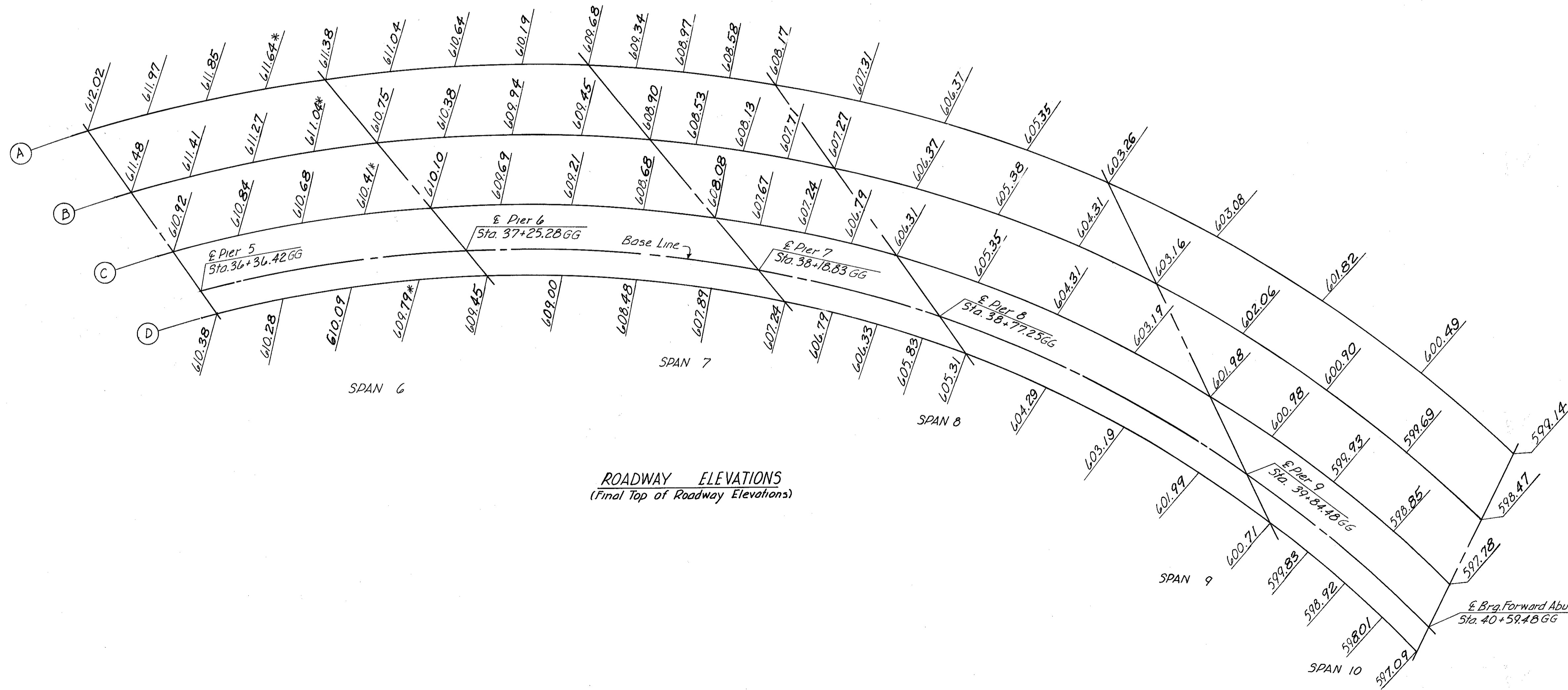
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

459  
494

HAMILTON COUNTY  
HAM-471-0.30



Notes: All elevations shown are of 1/4 points of span (measured along their own Girder E) and of E of Brg. unless otherwise noted. Elevations marked with an asterisk (\*) are located at a field splice. Elevations marked with a (X) are located at the E of a girder hinge.



ROADWAY ELEVATIONS  
(Final Top of Roadway Elevations)

ROADWAY ELEVATIONS  
(Final Top of Roadway Elevations)

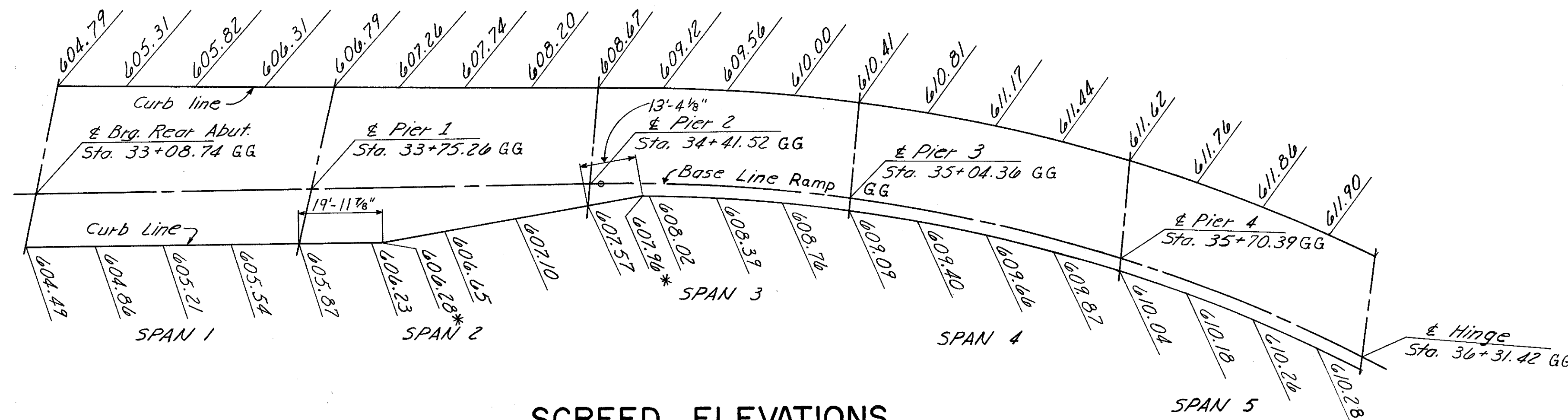
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				24/33
<b>ROADWAY ELEVATIONS</b> BRIDGE NO. HAM-71-0184 RAMP GG				
<b>H &amp; E BRIDGE NO. 15</b>				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	DEV.		W.L.	J.H.
			12-7-70	11-8-72

MICROFILMED  
FEB 3 1981

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

460  
494

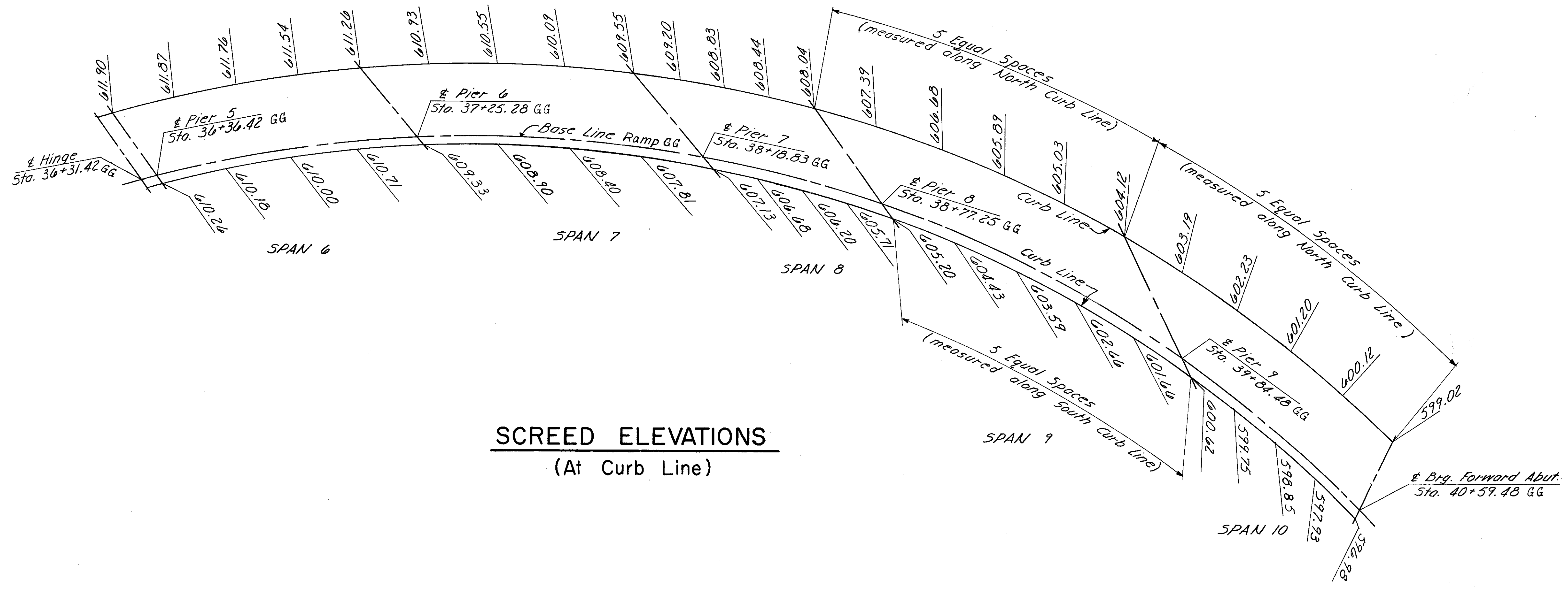
HAMILTON COUNTY  
HAM-471-0.30



Notes: Screed elevations shown equal final grade elevations plus anticipated dead load deflection due to weight of deck concrete. All elevations shown are at 1/4 points of span (measured along their own curb lines) and at 1/2 of Brg. unless otherwise noted.

\* Denotes Bend Point

**SCREED ELEVATIONS**  
(At Curb Line)



**SCREED ELEVATIONS**  
(At Curb Line)

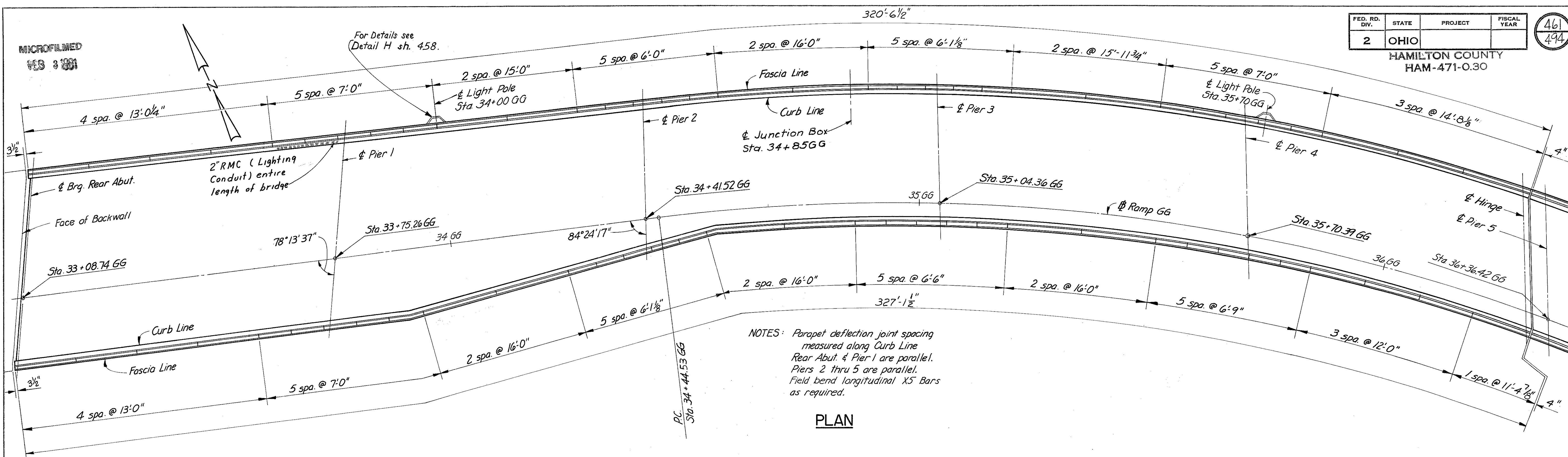
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					25/33
<b>SCREED ELEVATIONS</b>					
BRIDGE No. HAM-71-0184					
RAMP GG					
H&E BRIDGE No. 15					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	GCK	GCK	W.L. 1-14-71	JLB 11-8-72	

MICROFILMED  
VLS 1181

FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

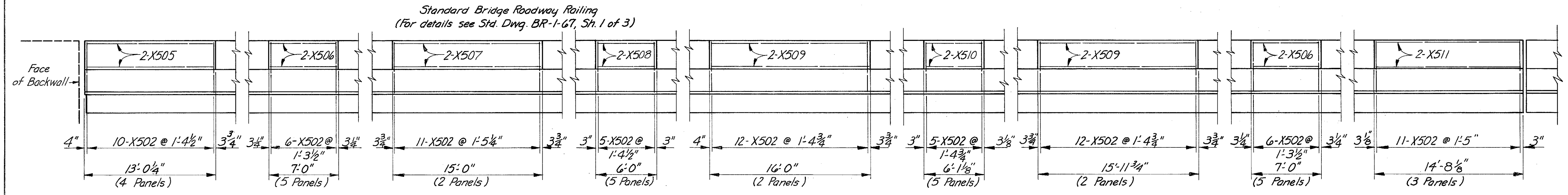
HAMILTON COUNTY  
HAM-471-0.30

461  
494



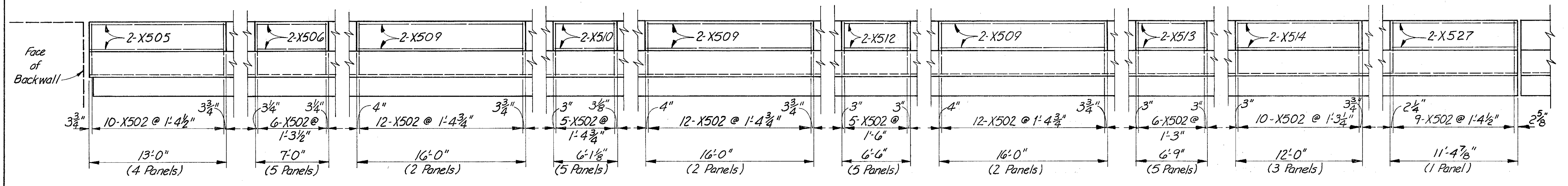
NOTES: Parapet deflection joint spacing measured along Curb Line  
Rear Abut. & Pier 1 are parallel.  
Piers 2 thru 5 are parallel.  
Field bend longitudinal X5 Bars as required.

PLAN



NORTH ELEVATION  
(Light Poles Not Shown)

NOTES:  
For conduit expansion at abutments and hinge near Pier 5 see sheet 155 E.  
Work this sheet with Light Plan, Sh. No. 147 and with Sh. Nos. 154.



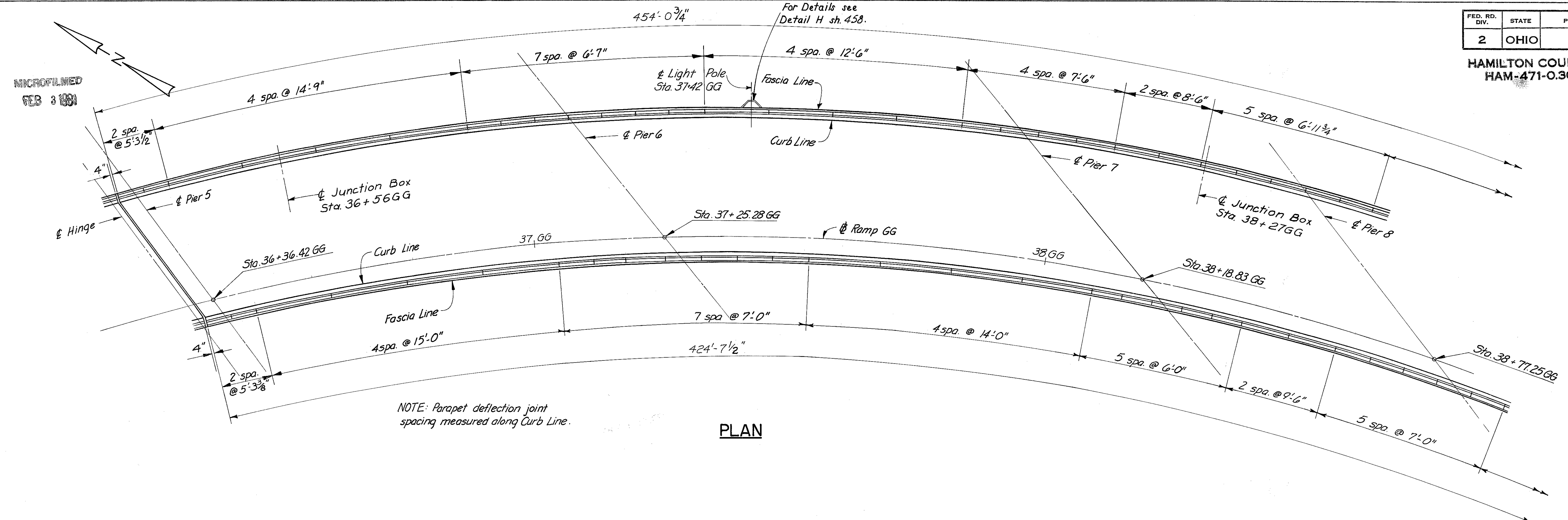
SOUTH ELEVATION

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					26/33
<b>RAILING &amp; LIGHTING DETAILS</b>					
BRIDGE No. HAM-71-0184					
RAMP GG					
H & E BRIDGE No. 15					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	JAG		W.L. 1-14-71	JH0 11-8-72	

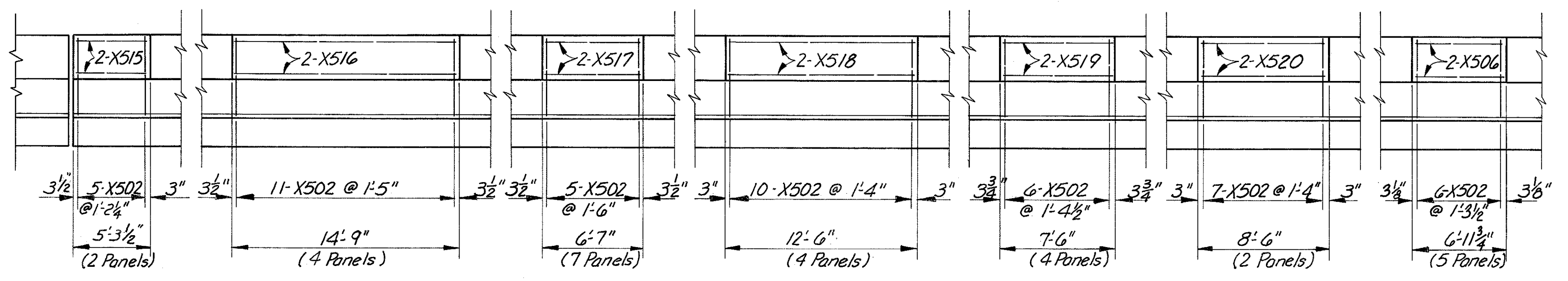
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

462  
494

HAMILTON COUNTY  
HAM-471-0.30



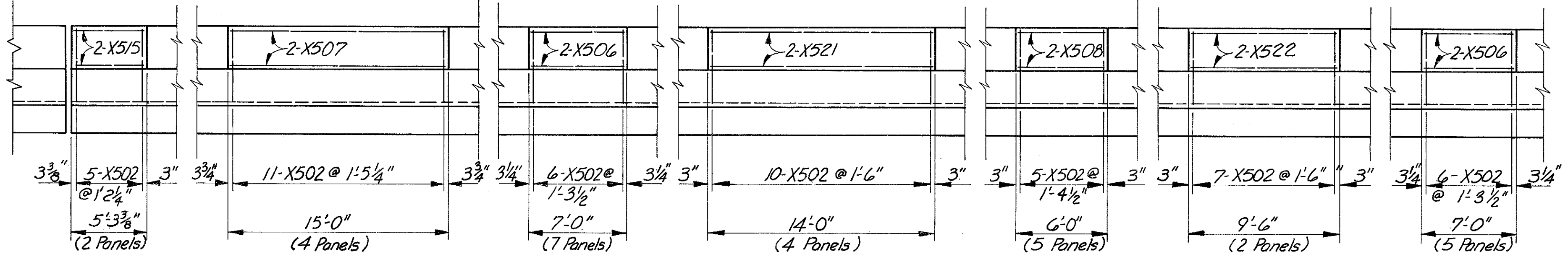
PLAN



NORTH ELEVATION

(Light Poles Not Shown)

Standard Bridge Roadway Railing  
(For details see Std. Drwg. BR-1-67, Sh. 1 of 3)



SOUTH ELEVATION

Note:  
For notes See Sh. 461.  
Work with Sh. 461 & 463.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				27/33
<b>RAILING &amp; LIGHTING DETAILS</b>				
BRIDGE No. HAM-71-0184				
RAMP GG				
<b>H &amp; E BRIDGE No. 15</b>				
DESIGNED	DRAWN	CHECKED	REVIEWED DATE	REVISED
JAG	JAG	W.L. 1-14-71	JHc 11-8-72	

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FEB 3 1981



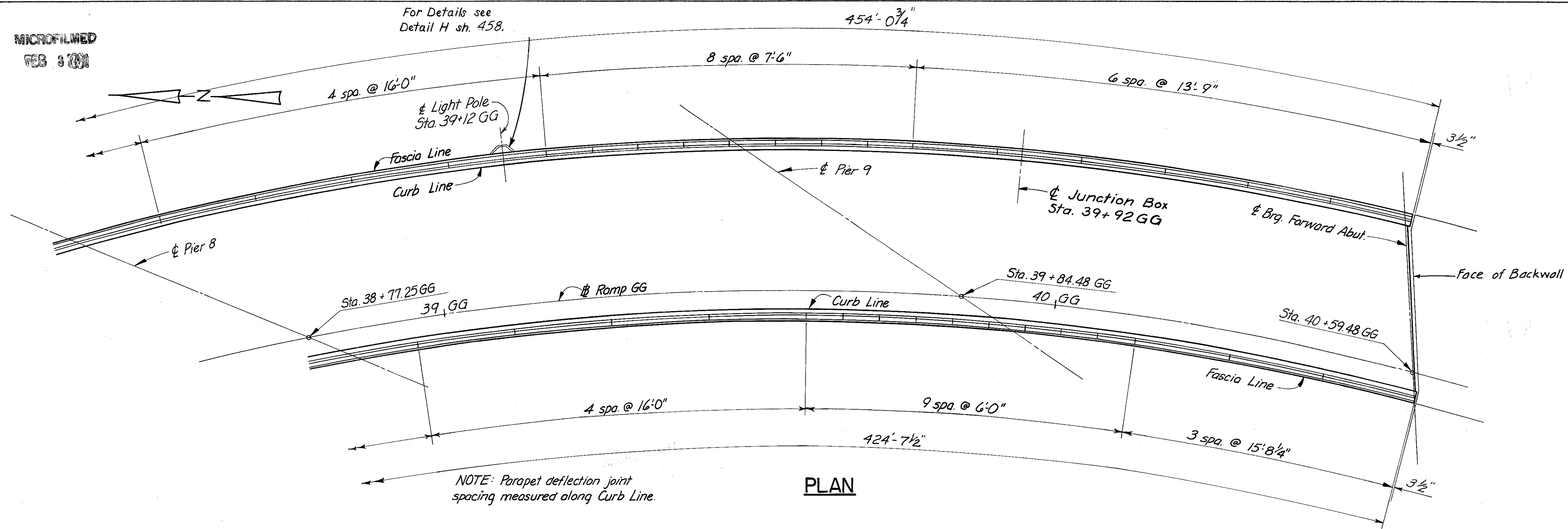
MICROFILMED  
FEB 3 1991

For Details see  
Detail H sh. 458.

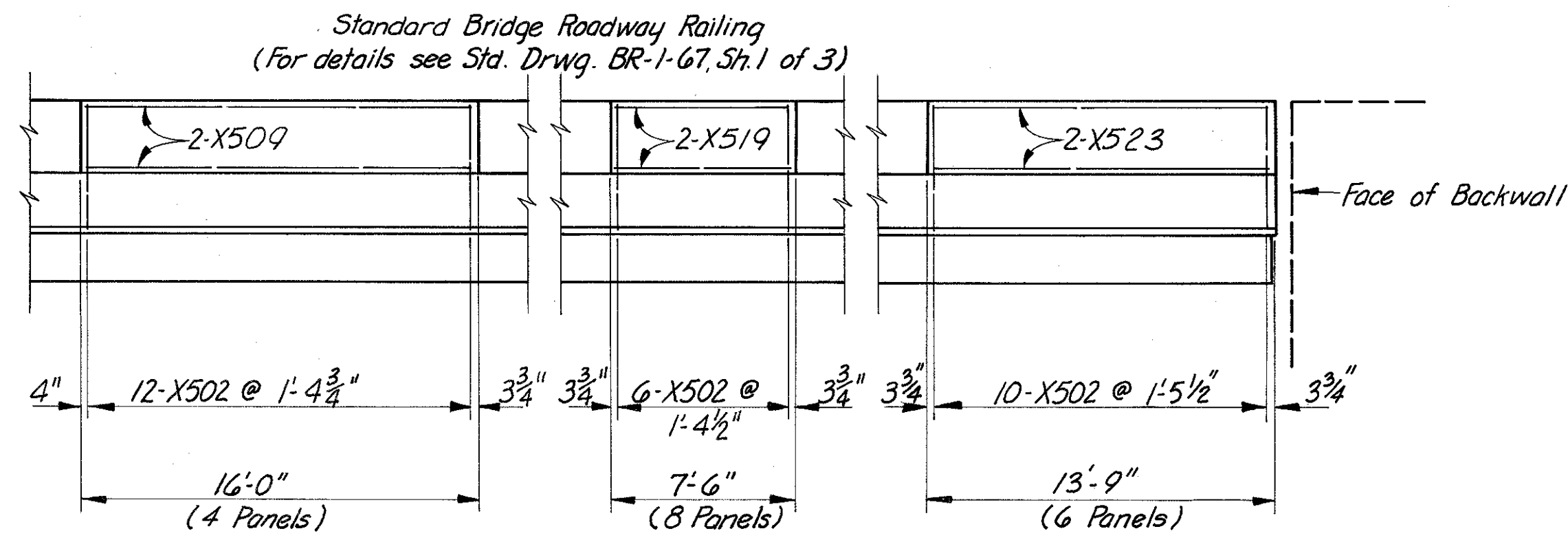
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

463  
494

HAMILTON COUNTY  
HAM-471-0.30

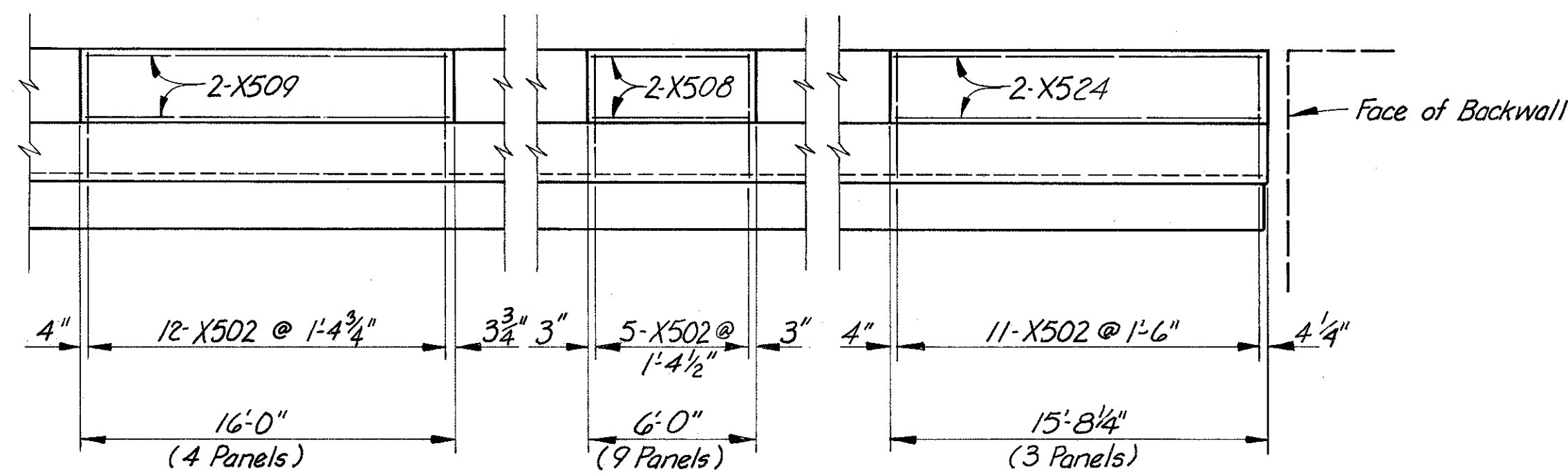


**PLAN**



**NORTH ELEVATION**

(Light Poles Not Shown)



**SOUTH ELEVATION**

Note:  
For notes See Sh. 461.  
Work with Sh. 461 & 462.

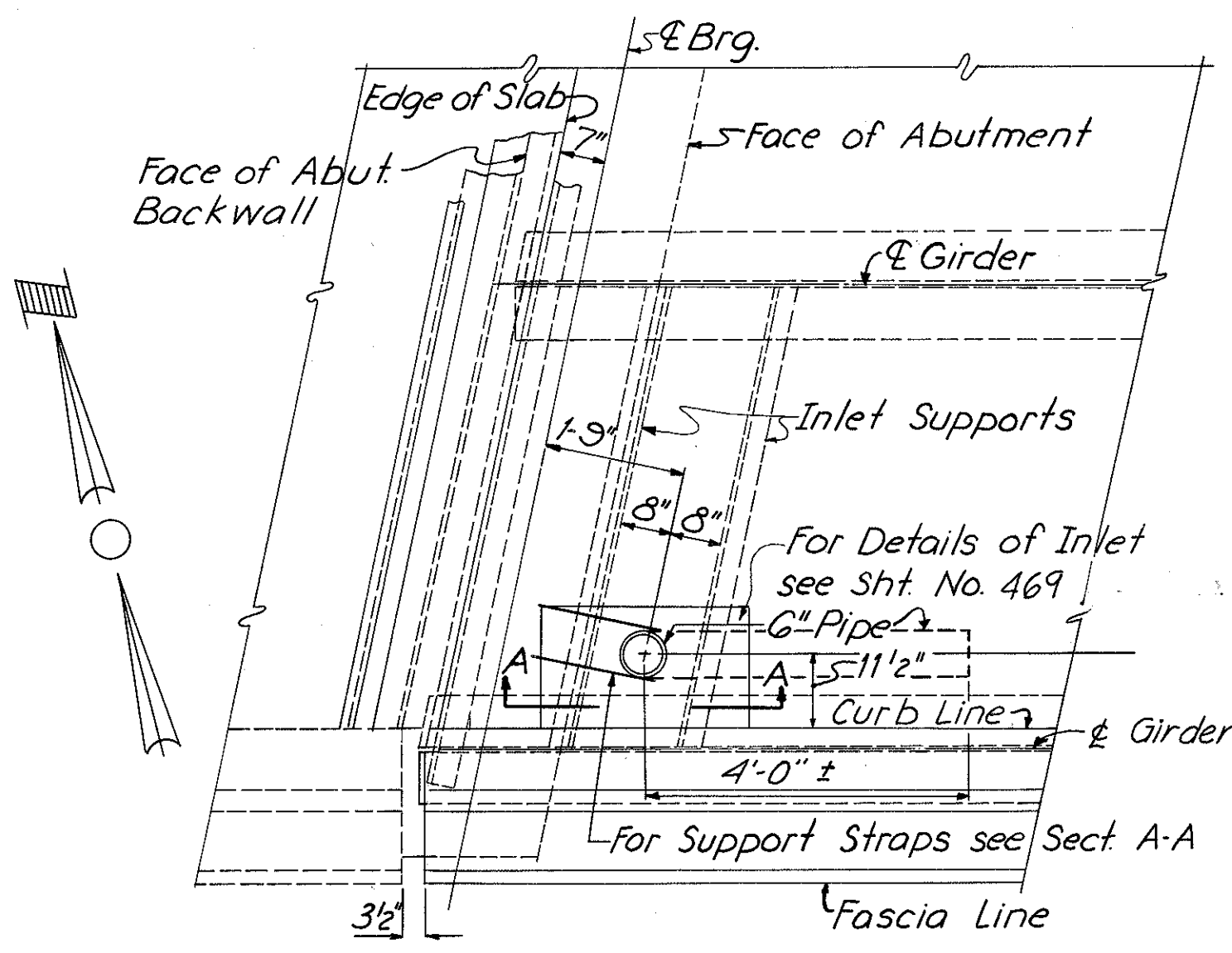
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO			28/33
<b>RAILING &amp; LIGHTING DETAILS</b>			
BRIDGE No. HAM-71-0184			
RAMP GG			
<b>H &amp; E BRIDGE No. 15</b>			
DESIGNED	DRAWN	TRACED	CHECKED
	JAG		W.L.
			1-14-71
		REVIEWED DATE	REVISOR
		JH	JH
		11-8-72	

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FEB 3 1980

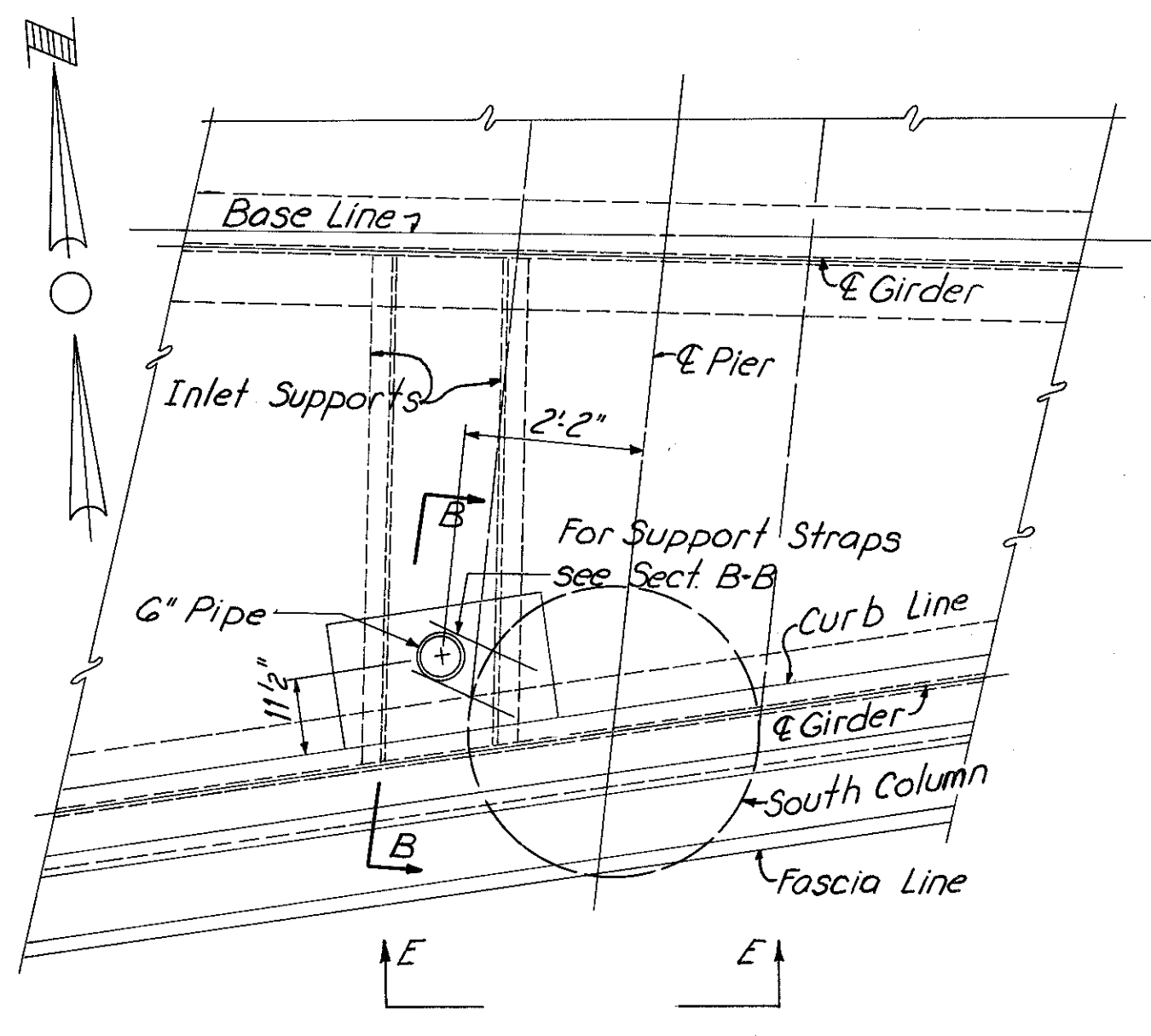
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

464  
494

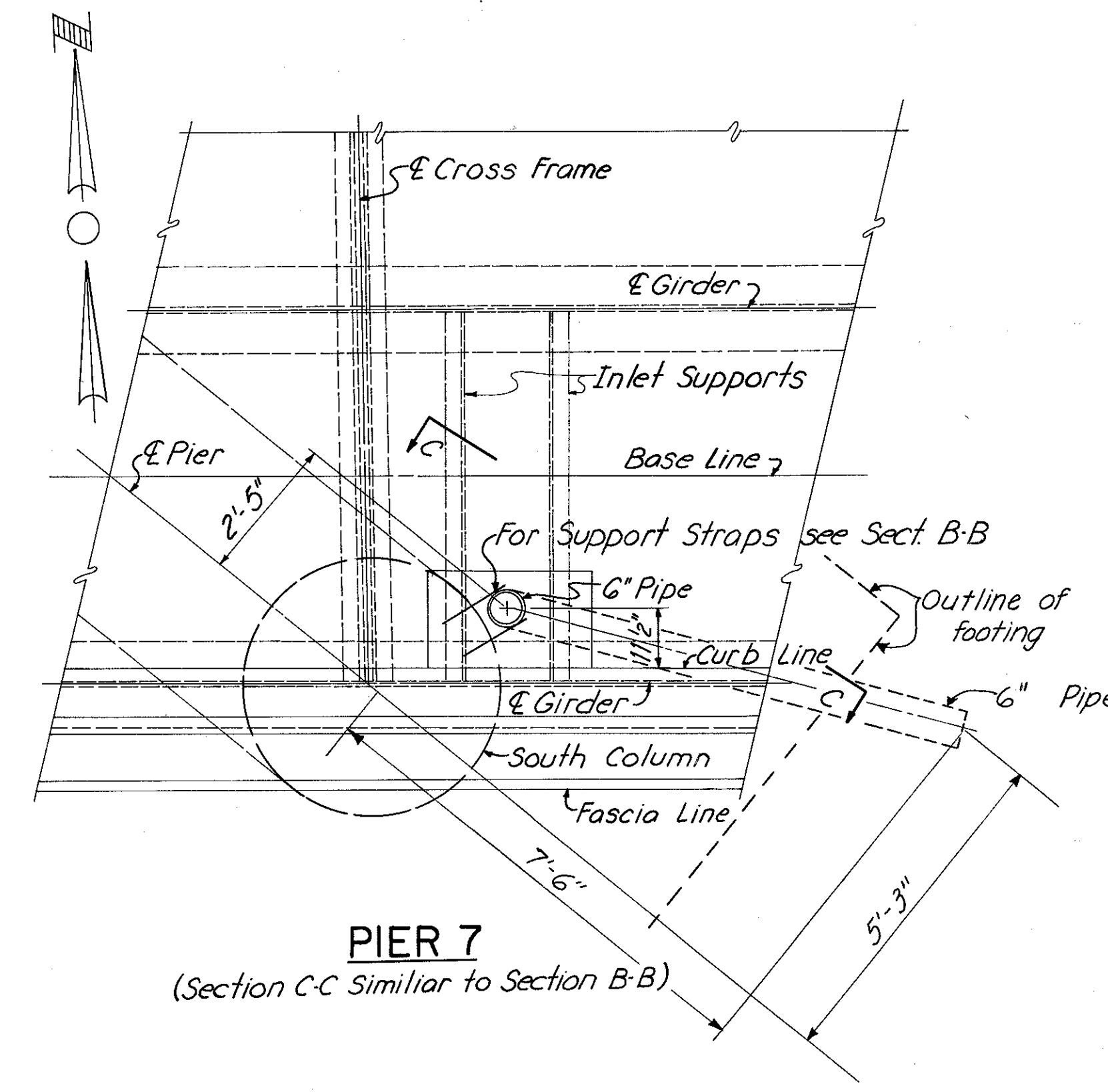
HAMILTON COUNTY  
HAM-471-0.30



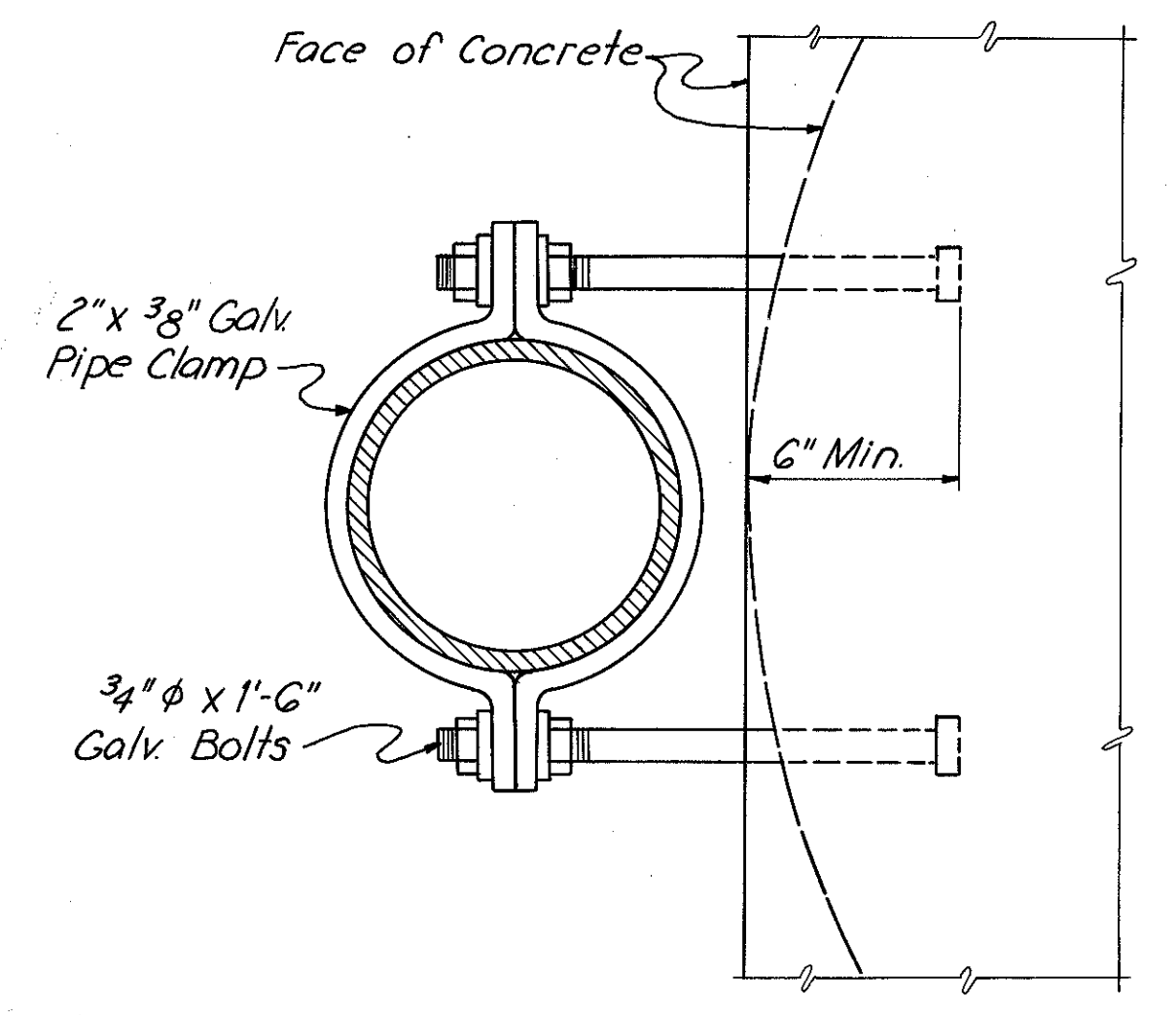
**REAR ABUTMENT**  
(Curb Plates not shown)



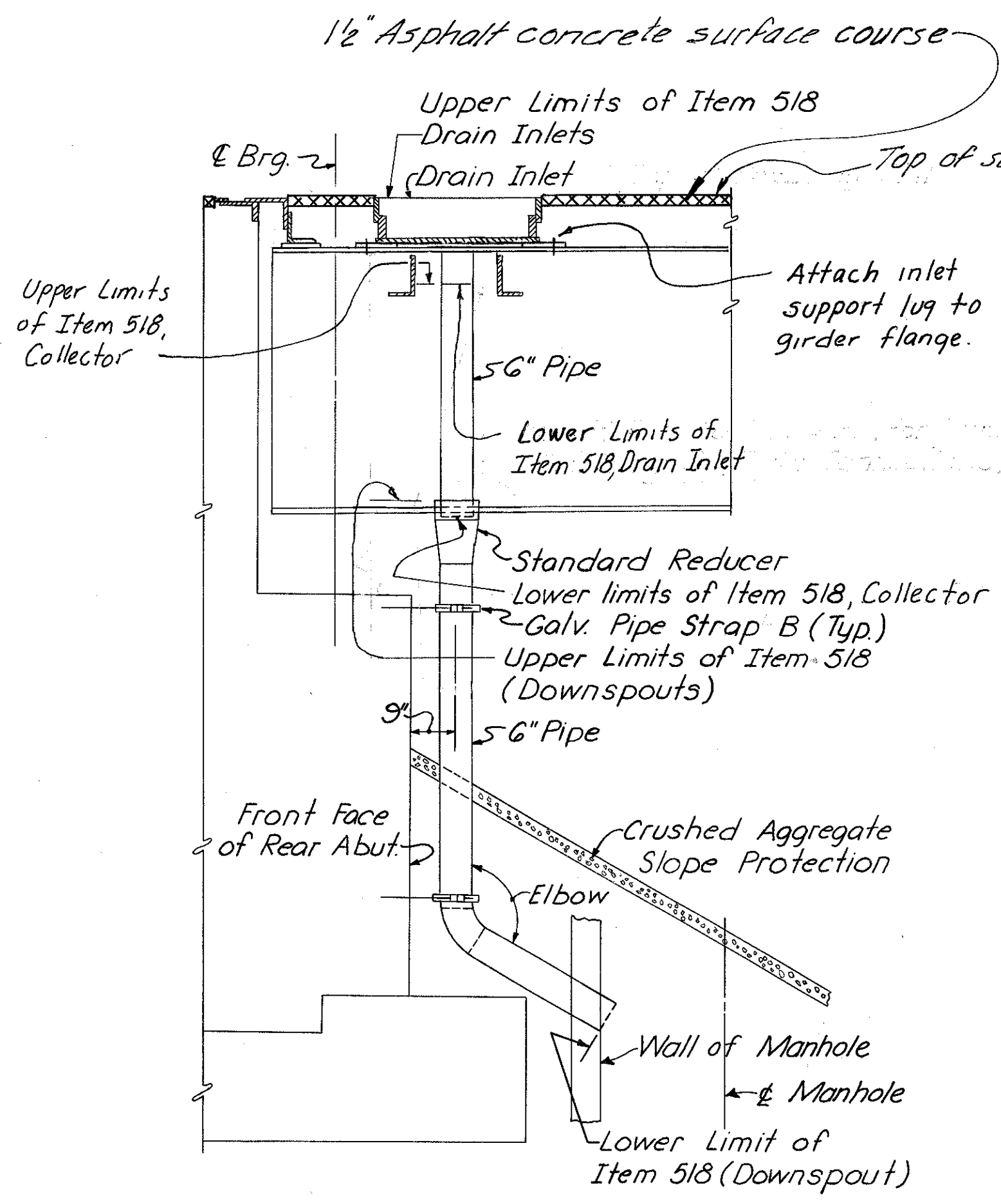
**PIER 2**



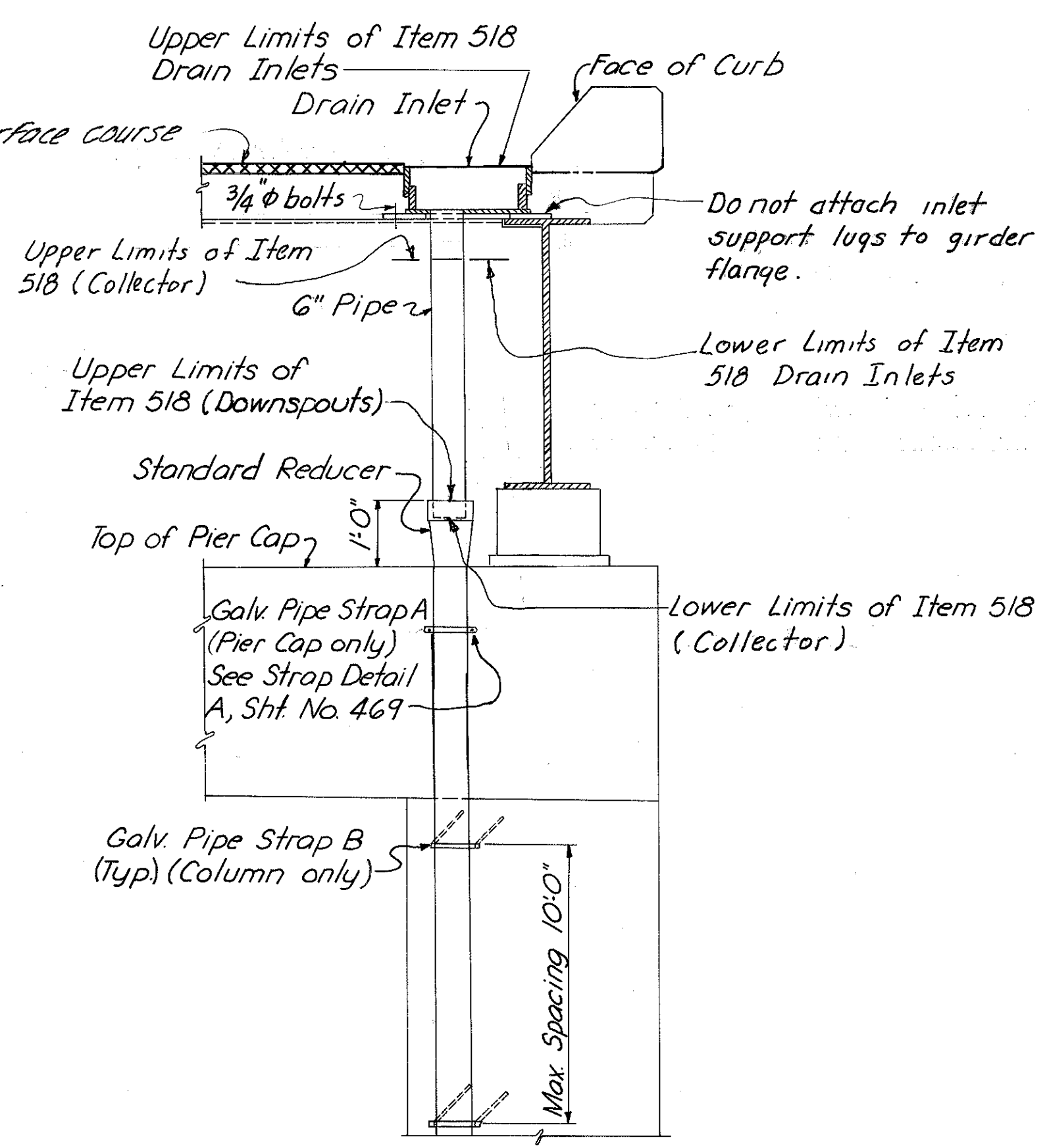
**PIER 7**  
(Section C-C Similar to Section B-B)



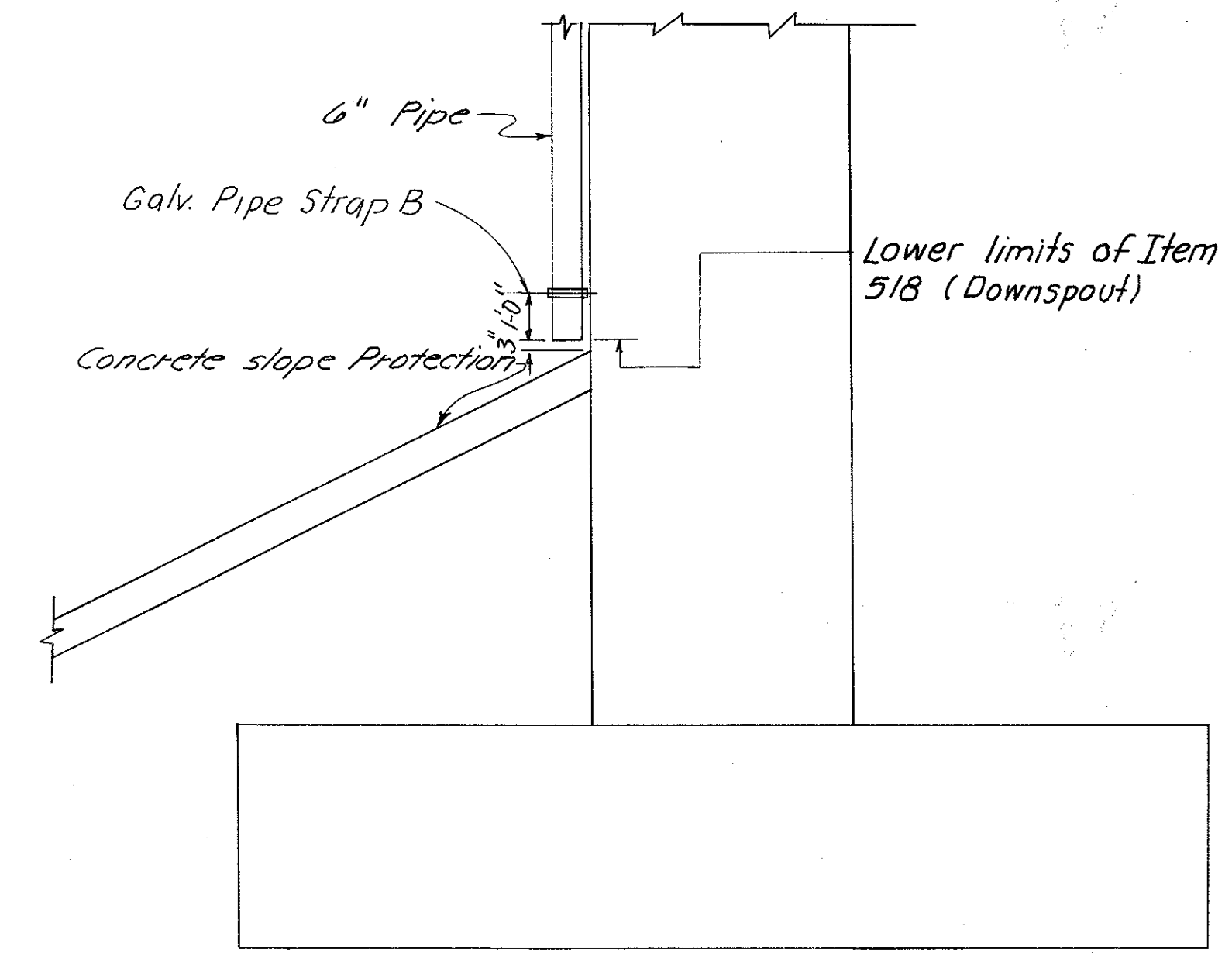
**STRAP DETAIL "B"**



**SECTION A-A**



**SECTION B-B**



**VIEW E-E**

Notes: Drain inlets shall be galvanized in accordance with 711.02. Work this sheet with Typical Drainage Details sht. 469 & 465. Total depth of inlet frame box equals 8 3/4". Drain inlets shall be placed 1/4" below top of surface course.

For Completion of Downspout at Pier 7 see Typical Section (For Piers) Sht. 469.

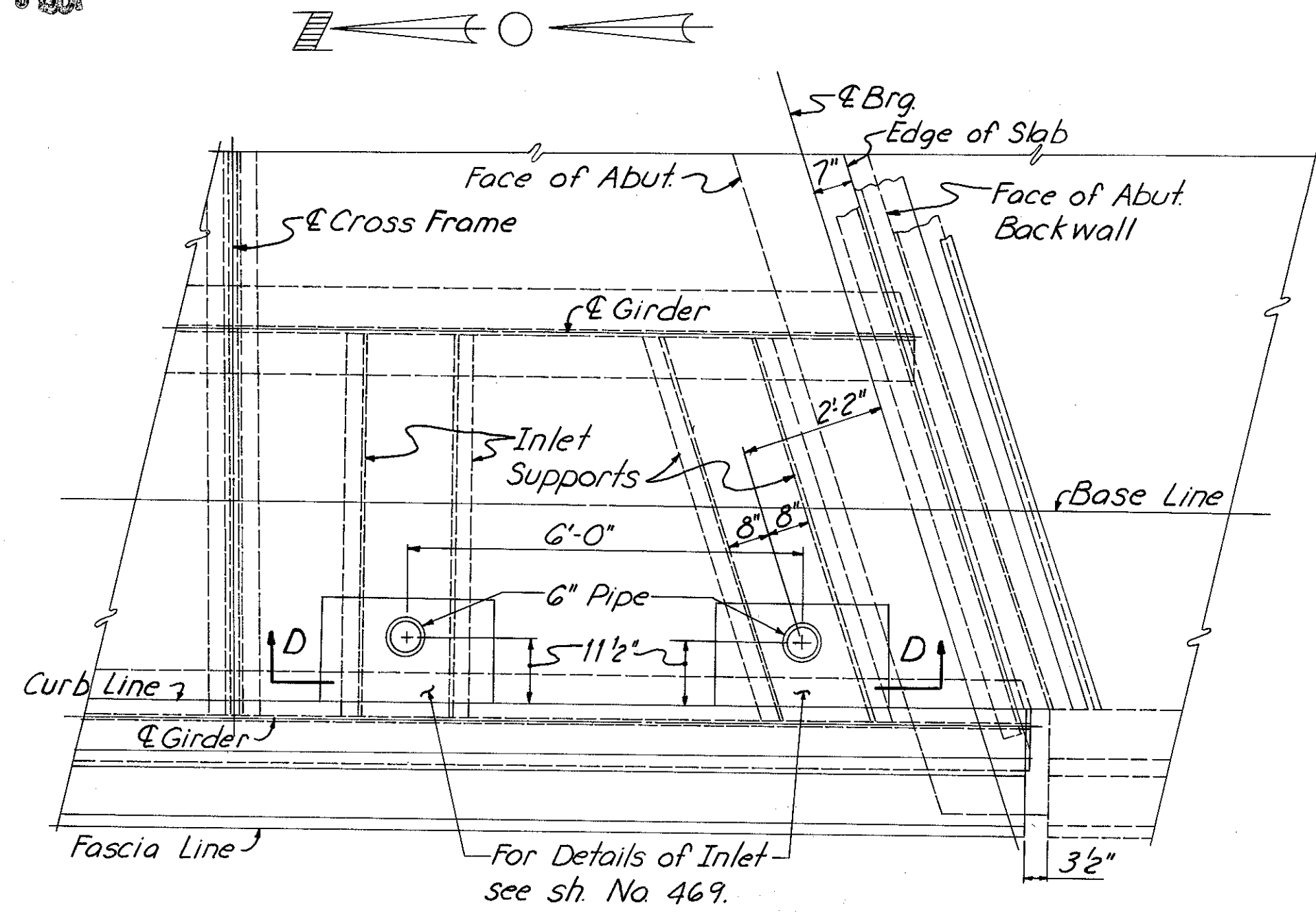
HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO						29/33
<b>DRAINAGE DETAILS</b>						
BRIDGE NO HAM-71-0184						
RAMP GG						
H&E BRIDGE NO. 15						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED	
GCK	JHD	W.L.	JH6	11-8-72		

MICROFILMED  
FEB 2 1981

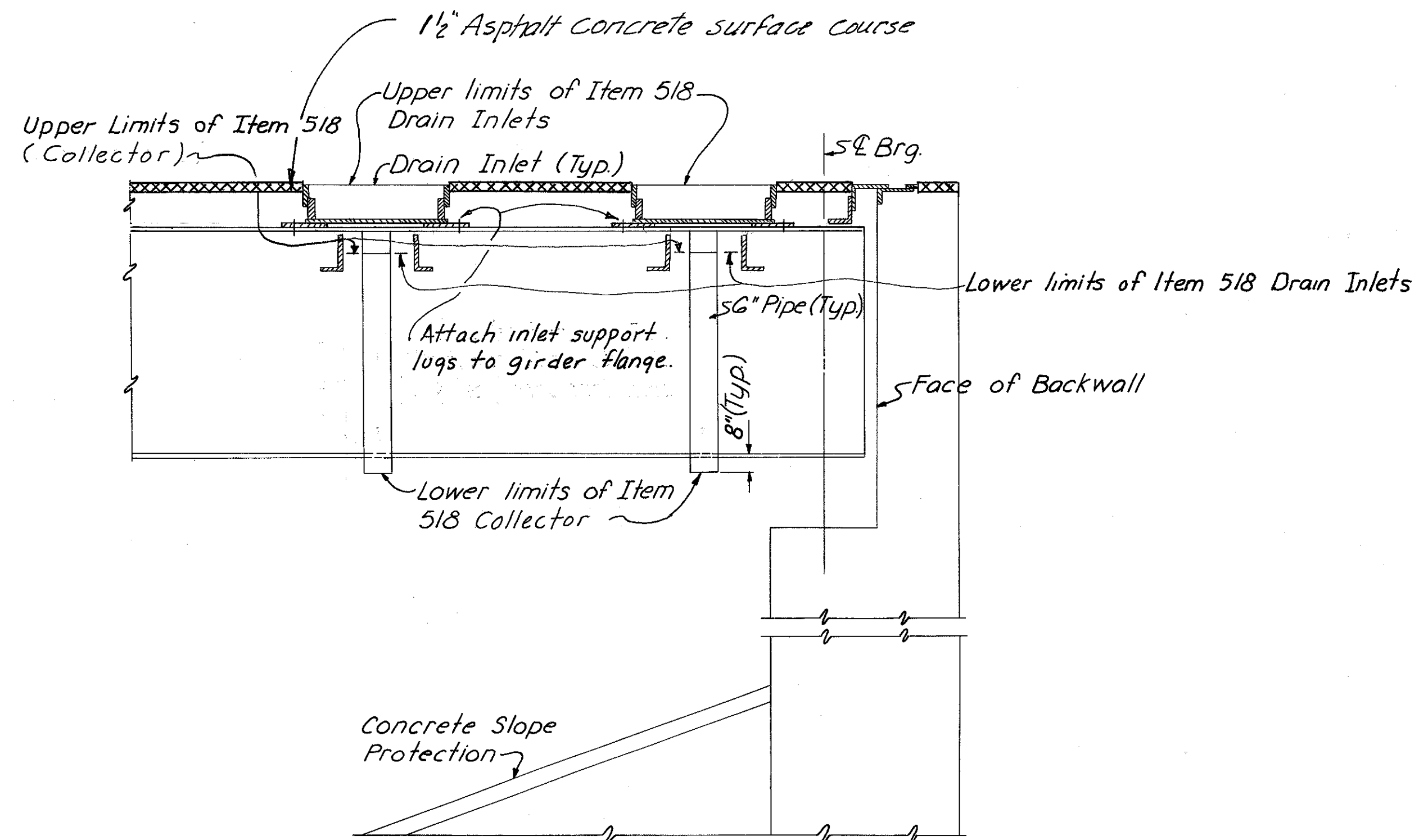
FED. RD. DIV.	STATE	PROJECT	FISCAL YEAR
2	OHIO		

465  
494

HAMILTON COUNTY  
HAM-471-0.30



**FORWARD ABUTMENT**  
(Curb Plates not shown)



**SECTION D-D**

Note: Work this sheet with sh. no. 464.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					30/33
<b>DRAINAGE DETAILS</b>					
BRIDGE NO HAM-71-0184					
RAMP GG					
<b>H&amp;E BRIDGE NO.15</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISION
	GCK	JHD	YV.L. 1-12-71	J.H.S. 11-8-72	

HAMILTON COUNTY  
HAM-471-0.30

MICROFILMED  
JES 3 1981

SUPERSTRUCTURE					DIMENSIONS						
MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	A	B	C	D	E	F	Radius
S401	Str.	30'-0"	1586	31783.							
S402	Str.	4'-5" to 4'-11"	1 Series of 11	34.							
S403	Str.	29'-0"	79	1530.							
S404	Str.	4'-10"	8	26.							
S405	Str.	19'-3"	20	257.							
S406	Str.	4'-5"	8	24.							
S407	Str.	18'-1"	16	193.							
S408	Str.	9'-6" to 40'-0"	1 Series of 11	182.							
S409	Str.	4'-1" to 6'-7"	1 Series of 24	85.							
S410	Str.	24'-7"	8	131.							
S411	Str.	33'-0"	11	242.							
S412	Str.	27'-0" to 15'-9"	1 Series of 3	43.							
S413	Str.	8'-3"	40	220.							
S414	Str.	22'-2"	8	118.							
S415	Str.	2'-11" to 22'-11"	1 Series of 23	199.							
S416	Str.	22'-3" to 31'-10"	1 Series of 12	217.							
S417	Str.	12'-3"	80	655.							
S418	Str.	22'-3"	20	297.							
S419	Str.	5'-3"	40	140.							
S601	Str.	30'-0"	840	37850.							
S602	Str.	8'-10"	2	27.							
S603	Str.	7'-9" to 8'-0"	1 Series of 9	106.							
S604	Str.	11'-1"	2	33.							
S605	Str.	10'-0" to 40'-0"	1 Series of 9	338.							
S606	Str.	36'-0"	12	649.							
S607	Str.	17'-9"	2	53.							
S608	Str.	10'-10" to 11'-10"	1 Series of 9	153.							
S609	Str.	12'-1" to 13'-1"	1 Series of 9	170.							
S610	Str.	19'-1"	4	114.							
S611	Str.	4'-2" to 13'-7"	1 Series of 9	120.							
S612	Str.	34'-5"	2	103.							
S613	Str.	31'-6"	2	95.							
S614	Str.	33'-5" to 24'-4"	1 Series of 9	390.							
S615	Str.	14'-3" to 23'-6"	1 Series of 9	254.							
S701	Str.	3'-0"	6	37.							
S702	Str.	5'-11"	2	24.							
S703	Str.	6'-4"	2	26.							
S704	Str.	10'-1"	2	41.							
S705	Str.	13'-11"	2	57.							
S706	Str.	2'-0" to 40'-0"	2 Series of 6	748.							
S707	Str.	41'-2" to 40'-0"	2 Series of 99	16424.							
S708	Str.	40'-0" to 32'-2"	2 Series of 57	8408.							
S709	Str.	28'-11" to 28'-8"	2 Series of 3	353.							
S710	Str.	31'-7" to 30'-11"	2 Series of 6	766.							
S711	Str.	30'-9" to 29'-3"	2 Series of 13	1594.							
S712	Str.	29'-2"	1556	92763.							
S713	Str.	26'-10" to 4'-6"	2 Series of 12	749.							
S714	Str.	5'-1" to 27'-2"	2 Series of 12	791.							
S715	Str.	5'-3"	2	13.							
S716	44	11'-5"	8	187.	1'-5"	2'-11 1/2"	4'-2"	2'-11 1/2"	1'-0"		
S717	21	6'-7"	8	108.	2'-4"	2'-4"	1'-4"	1'-11"	1'-0"	1'-3"	
S718	Str.	26'-0"	10	531.							
S719	Str.	25'-2" to 15'-4"	2 Series of 5	414.							
S720	Str.	9'-9" to 5'-2"	2 Series of 3	91.							
S721	Str.	3'-8"	2	15.							
S722	Str.	24'-6"	2	100.							
S723	Str.	6'-0"	2	24.							

SUPERSTRUCTURE					DIMENSIONS						
MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	A	B	C	D	E	F	RADIUS
X501	1	2'-0"	1020	2128.	7 1/2"	1'-0"					
X502	46	5'-4"	1198	6664.	2'-2"	2'-5"	7 1/2"				2 1/4"
X503	17	2'-4"	1020	2483.	7 1/2"	1'-10"					
X504	45	3'-4"	1020	3546.	7 1/2"	11"	11 1/2"	8"	9"	1'-2"	
X505	Str.	12'-9"	32	426.							
X506	Str.	6'-9"	128	901.							
X507	Str.	14'-9"	24	369.							
X508	Str.	5'-9"	76	456.							
X509	Str.	15'-9"	72	1183.							
X510	Str.	5'-10"	40	243.							
X511	Str.	14'-5"	12	180.							
X512	Str.	6'-3"	20	130.							
X513	Str.	6'-6"	20	136.							
X514	Str.	11'-9"	12	147.							
X515	Str.	5'-0"	16	83.							
X516	Str.	14'-6"	16	242.							
X517	Str.	6'-4"	28	185.							
X518	Str.	12'-3"	16	204.							
X519	Str.	7'-3"	48	363.							
X520	Str.	8'-3"	8	69.							
X521	Str.	13'-9"	16	229.							
X522	Str.	9'-3"	8	77.							
X523	Str.	13'-6"	24	338.							
X524	Str.	15'-5"	12	193.							
X525	44	7'-1"	16	118.	1'-4"	1'-5"	2'-0"	1'-5"	1'-0"		
X526	37	8'-11"	8	74.	2'-4"	1'-11"					
X527	Str.	11'-1"	4	47.							
X701	45	6'-11"	8	113.	2'-10"	10 1/2"	11 1/2"	8	2'-4"	1'-2"	
X702	1	3'-10"	8	63.	1'-2"	1'-10"					

Total Weight (Superstructure) = 222,505 lbs.

PIERS					DIMENSIONS						
MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	A	B	C	D	E	F	RADIUS
P501	1	6'-1"	108	685.	1'-7"	3'-2"					
P502	1	6'-0"	10	63.	1'-7"	3'-1"					
P503	1	5'-8"	10	59.	1'-7"	2'-9"					
P504	Str.	38'-3"	4	160.							
P505	1	9'-11"	202	2089.	3'-6"	3'-2"					
P506	Str.	29'-0"	4	121.							
P507	37	13'-9"	120	1721.	3'-6"	3'-2"					
P508	Str.	26'-7"	4	111.							
P509	Str.	27'-0"	4	113.							
P510	Str.	28'-6"	4	119.							
P601	26	7'-10"	96	1129.	6'-6"						
P602	26	10'-10"	78	1269.	9'-6"						
P701	Str.	40'-8"	4	332.							
P801	17	26'-1"	4	279.	4'-2"	22'-2"					
P802	Str.	39'-6"	2	211.							
P803	Str.	22'-9"	3	182.							
Not used											
P805	33	9'-4"	2	50.	4'-6"	2'-6"					1'-4 1/4"
P806	17	25'-5"	4	271.	3'-6"	22'-2"					
P807	26	14'-8"	140	5482.	12'-6"						
P808	Str.	22'-1"	28	1651.							
P809	Str.	21'-6"	28	1607.							
P810	Str.	20'-11"	28	1564.							

For notes see sh. 467.

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					31/33
<b>REINFORCING STEEL LIST</b>					
BRIDGE No. HAM-71-0184					
RAMP GG					
H&E BRIDGE NO.15					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
JBM.			W.L. A.L.T.	J.H.O. 11-8-72	

HAMILTON COUNTY  
HAM-471-0.30

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FEB 3 1981

PIERS											
MARK	TYPE	LENGTH	NO. of BARS	WEIGHT	DIMENSIONS						RADIUS
					A	B	C	D	E	F	
P901	17	14'-6"	4	197.	4'-4"	10'-5"					
P902	17	28'-3"	4	384.	3'-6"	25'-0"					
P903	Str.	12'-0"	8	326.							
P904	17	13'-4"	4	181.	3'-9"	9'-10"					
P905	17	26'-4"	4	358.	3'-5"	23'-2"					
P906	Str.	10'-0"	7	238.							
P907	Str.	27'-10"	5	473.							
P908	33	10'-1"	2	69.	4'-5"	2'-10"				1'-4 1/2"	
P909	17	13'-5"	4	183.	3'-9"	9'-11"					
P910	17	26'-8"	4	363.	3'-5"	23'-6"					
P911	Str.	30'-11"	4	420.							
P912	Str.	29'-5"	6	600.							
P913	17	13'-10"	4	188.	3'-9"	10'-4"					
P914	17	27'-9"	4	377.	3'-5"	24'-7"					
P915	33	9'-9"	2	66.	4'-1"	2'-10"				1'-4"	
P1001	Str.	33'-11"	48	7006.							
P1002	17	6'-11"	180	5357.	1'-4 1/2"	5'-10"					
P1003	33	10'-8"	4	183.	4'-6"	3'-2"				1'-4"	
P1004	Str.	30'-4"	5	653.							
Not used											
P1006	Str.	29'-9"	2	256.							
P1007	Str.	22'-8"	42	4096.							
P1008	Str.	26'-7"	16	1830.							
P1009	Str.	25'-11"	12	1338.							
P1010	Str.	25'-3"	16	1738.							
P1011	Str.	23'-10"	18	1846.							
P1012	Str.	23'-1"	12	1192.							
P1013	Str.	22'-4"	18	1730.							

PIERS					
MARK	LENGTH	NO. of BARS	WEIGHT	SHAPE	BENDING DIAGRAM
SP 401	30'-9"	4	2625.	Bent	Type 39 Sheet No. 470
SP 402	19'-6"	3	1270.	Bent	Type 39 Sheet No. 470
SP 403	19'-7"	1	425.	Bent	Type 39 Sheet No. 470
SP 404	18'-5"	1	401.	Bent	Type 39 Sheet No. 470
SP 405	19'-0"	1	413.	Bent	Type 39 Sheet No. 470
SP 406	23'-5"	1	504.	Bent	Type 39 Sheet No. 470
SP 407	22'-9"	1	491.	Bent	Type 39 Sheet No. 470
SP 408	22'-1"	1	477.	Bent	Type 39 Sheet No. 470
SP 409	20'-8"	1	447.	Bent	Type 39 Sheet No. 470
SP 410	19'-11"	1	432.	Bent	Type 39 Sheet No. 470
SP 411	19'-2"	1	416.	Bent	Type 39 Sheet No. 470

SPIRALS - Core Diameter 38%  
- Pitch 4 1/2" c/c  
- Other Details in Accordance With  
C.R.S.I. Standard Practice

Total Weight (Piers) = 58,817 lbs.

REAR ABUTMENT											
MARK	TYPE	LENGTH	No. of BARS	WEIGHT	DIMENSIONS						RADIUS
					A	B	C	D	E	F	
A501	1	9'-8"	35	353.	1'-7"	6'-9"					
A502	17	10'-10"	30	339.	7 1/2"	10'-4"					
A503	Str.	30'-0"	23	720.							
A504	Str.	13'-2"	23	316.							
A505	1	7'-0"	66	482.	1'-11"	3'-5"					
A506	Str.	9'-11"	12	124.							
A507	Str.	17'-4"	10	180.							
A508	Str.	17'-8"	10	184.							
A509	Str.	7'-4"	2	15.							
A510	Str.	7'-8"	2	16.							
A511	Str.	5'-9"	12	72.							
A512	Str.	4'-10"	2	10.							
A513	Str.	4'-1"	2	8.							
A514	Str.	3'-3"	6	20.							
A515	Str.	15'-10"	4	66.							
A516	Str.	19'-0"	4	79.							
A517	Str.	23'-8"	8	197.							
A518	16	8'-5"	2	17.	2'-0 1/2"	3'-10"	4'-6"	4'-0"			
A519	16	8'-4"	2	17.	2'-3 1/2"	3'-4"	5'-1"	4'-6 1/2"			
A601	1	11'-5"	35	600.	2'-6"	6'-9"					
A602	17	11'-0"	30	496.	10"	10'-4"					
A603	1	11'-1"	39	649.	5'-0"	1'-5"					
A604	1	7'-9"	39	454.	3'-4"	1'-5"					
A605	1	6'-11"	39	405.	3'-2"	11"					
A606	24	8'-2"	25	307.	7'-6"						
A607	Str.	5'-3"	20	158.							
A608	17	8'-2"	20	245.	1'-11"	6'-5"					
A609	17	14'-8"	22	485.	1'-11"	12'-11"					
A610	Str.	5'-7"	22	184.							
A611	Str.	4'-8"	2	14.							
A612	Str.	3'-9"	2	11.							
A613	Str.	3'-3"	6	29.							
A614	Str.	10'-0"	26	390.							
A615	Str.	12'-6"	1	19.							
A616	Str.	12'-9"	1	19.							
A617	10	10'-10"	13	211.	1'-2 1/2"	1'-6"	7'-0"	1'-11"			
A618	10	9'-7"	13	187.	1'-6"	1'-2 1/2"	5'-9"	1'-11"			
A801	Str.	30'-0"	9	721.							
A802	Str.	20'-0"	9	481.							
A803	Str.	19'-7"	1	52.							
A804	Str.	16'-9"	16	715.							
A805	Str.	21'-2"	1	56.							
A806	10	6'-9"	2	36.	1'-7"	1'-11 1/2"	1'-9"	2'-6"			
A807	10	6'-7"	2	35.	1'-11 1/2"	1'-7"	1'-7"	2'-6"			
Y501	1	2'-0"	34	71.	7 1/2"	1'-0"					
Y502	Str.	2'-10"	54	160.							
Y503	47	6'-4"	24	158.	2'-5"	3'-2"	7 1/2"			2 1/4"	
Y504	Str.	23'-8"	16	395.							
Y505	Str.	7'-3"	4	30.							
Y506	Str.	18'-0"	4	75.							
Y601	28	4'-11"	34	251.	11 1/2"	3'-2"	1'-2"	7 1/2"	8"		

Total Weight (Rear Abutment) = 11,314 lbs.

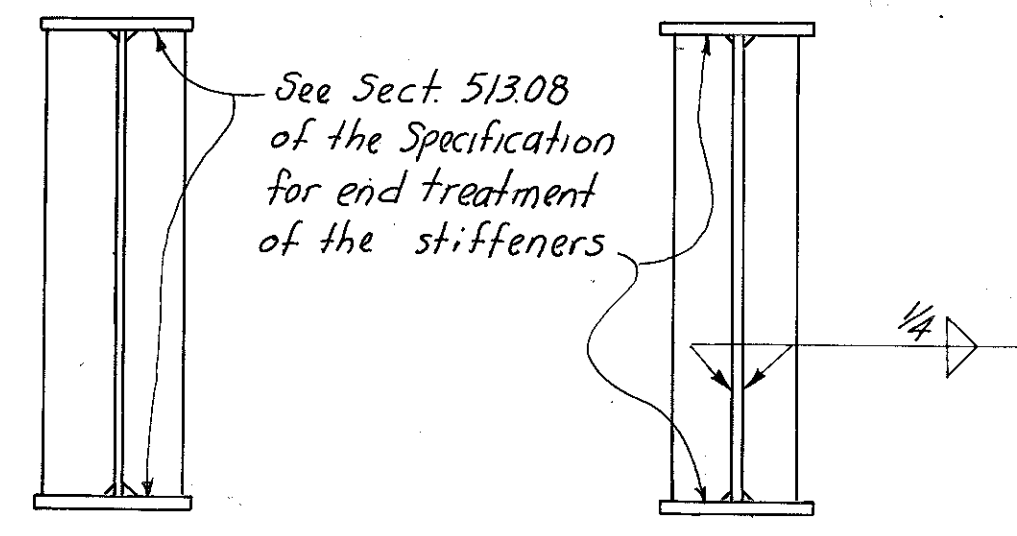
For notes see sh. 467.

HAZLET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO				32/33
<b>REINFORCING STEEL LIST</b>				
BRIDGE No. HAM-71-0184				
RAMP GG				
<b>H&amp;E BRIDGE NO.15</b>				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE
	J.B.M.		A.L.T.	J.H.D. 11-6-72



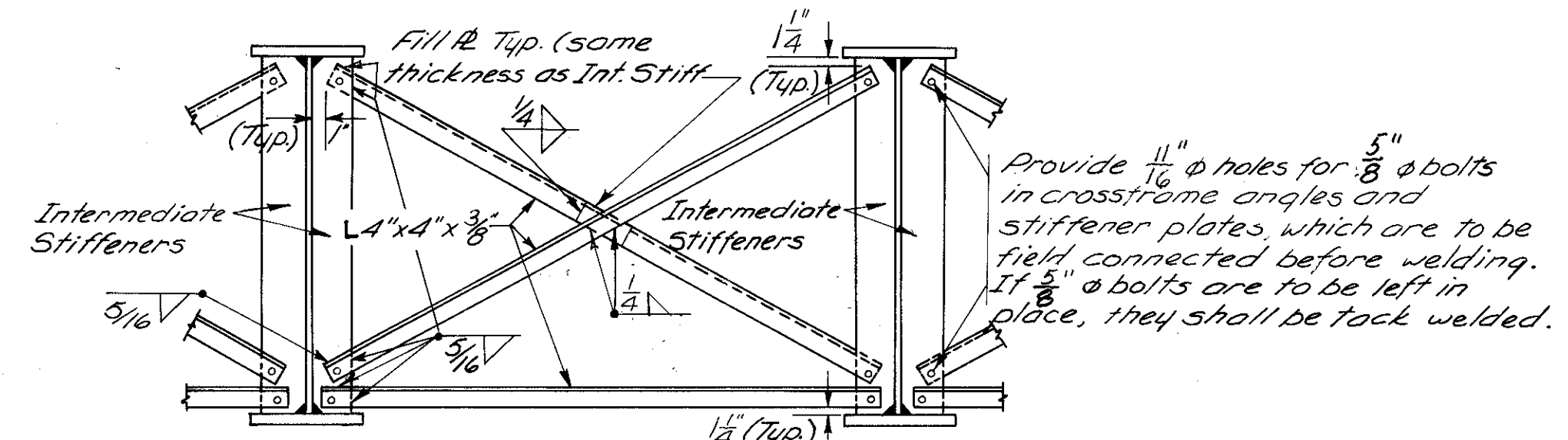
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HAM-471-0.30

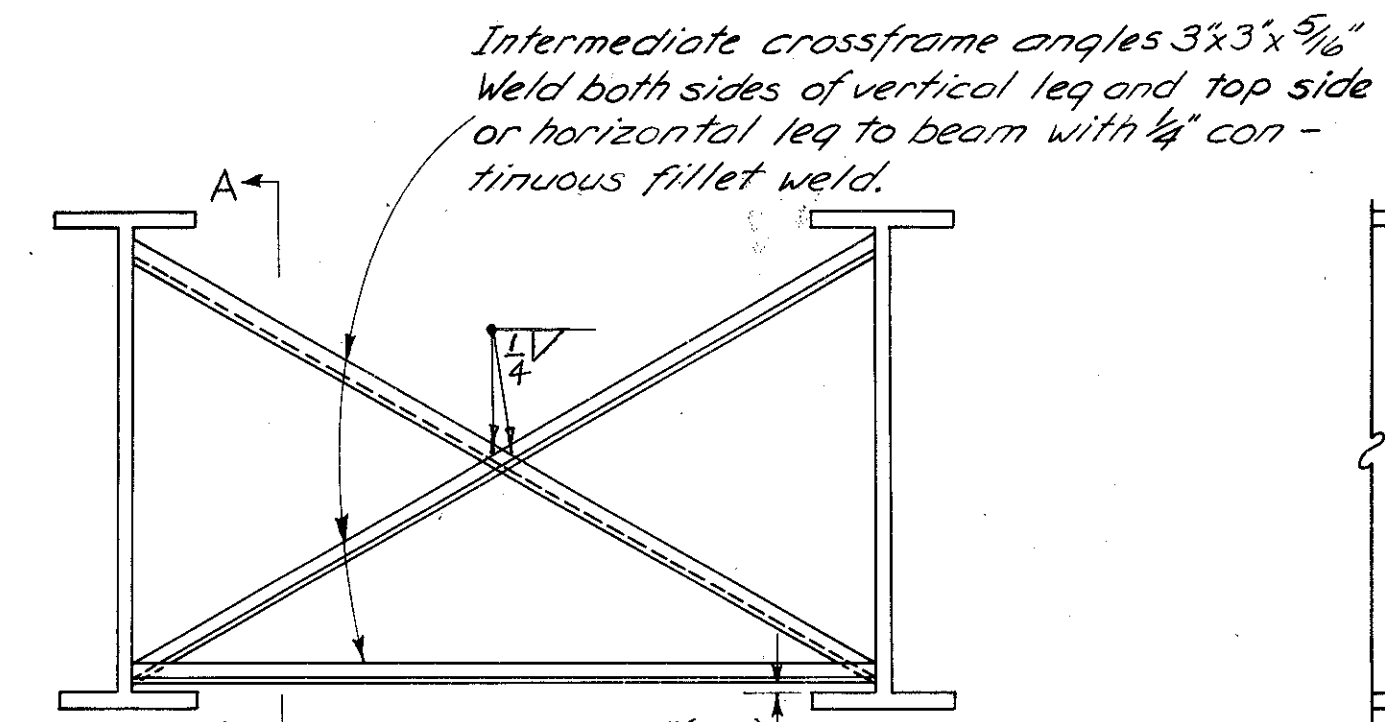


BEARING STIFFENERS

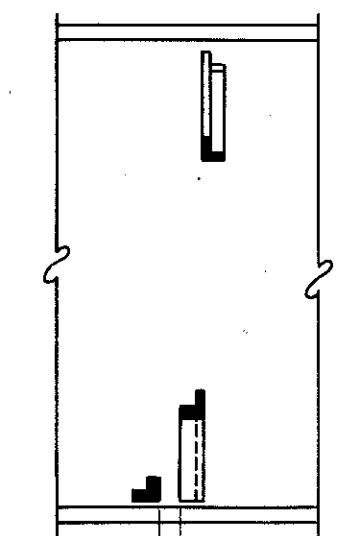
INTERMEDIATE STIFFENERS



TYPICAL INTERMEDIATE CROSSFRAME  
(For Plate Girders)



TYPICAL INTERMEDIATE CROSSFRAME  
(For Rolled Beams)



SECTION A-A

TABLE OF FILLET WELD SIZES

Plate Thickness	Fillet Weld Size
Up to 3/4"	1/4"
Over 3/4" to 1 1/2"	5/16"
Over 1 1/2" to 2 1/4"	3/8"
Over 2 1/4" to 6"	1/2"

Plate Thickness refers to the thickness of the thicker part joined. However, weld size need not exceed the thickness of the thinner part joined.

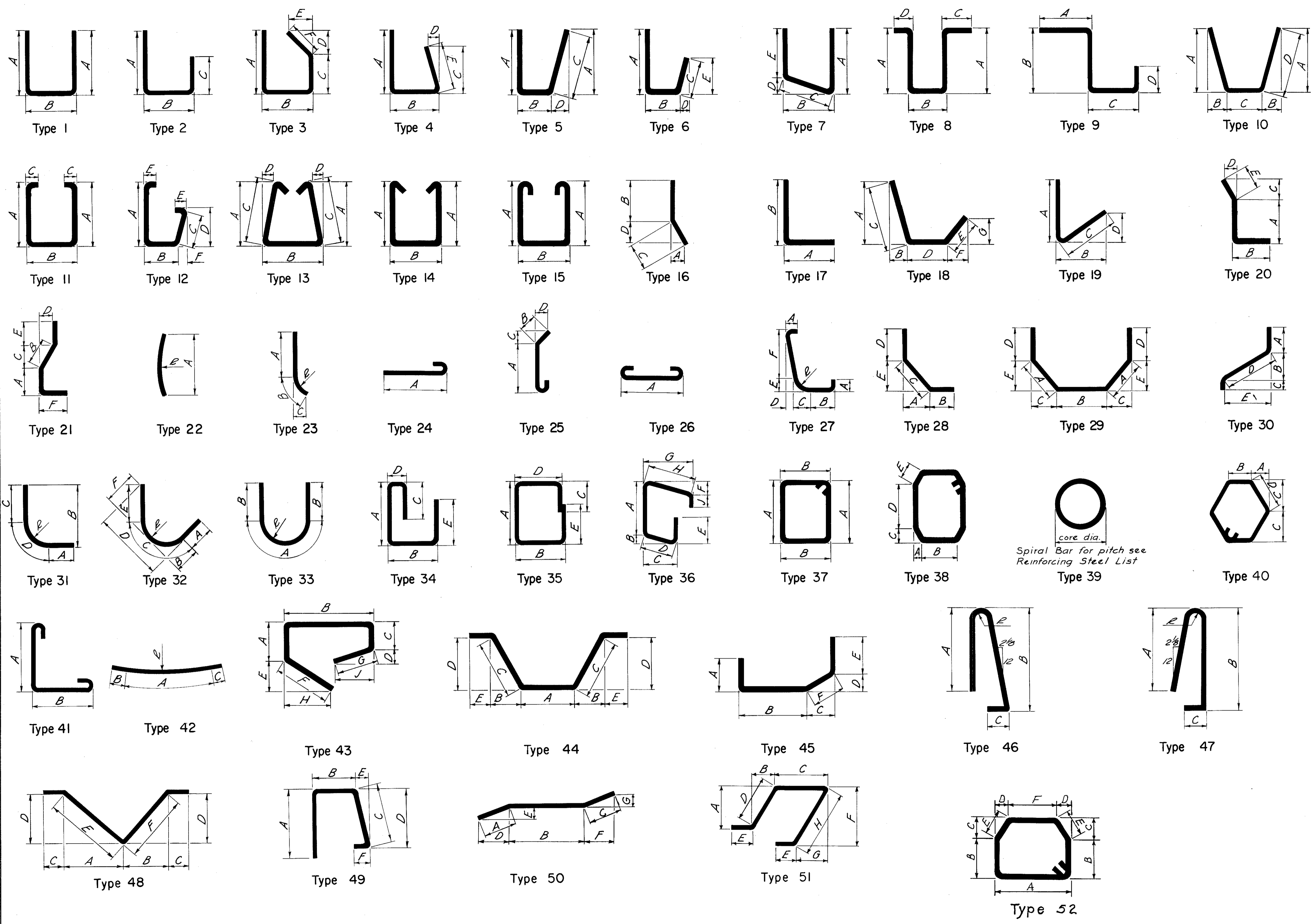
HAZELET & ERDAL  
CONSULTING ENGINEERS  
CINCINNATI, OHIO

**TYPICAL STRUCTURAL  
STEEL DETAILS**

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	RJR		RJF	JH0 11-13-72	







Bars shall be carefully shaped to the pertinent dimensions shown in the table of Standard Bends, Sheet 157 of the State of Ohio Construction and Material Specifications unless otherwise indicated above.

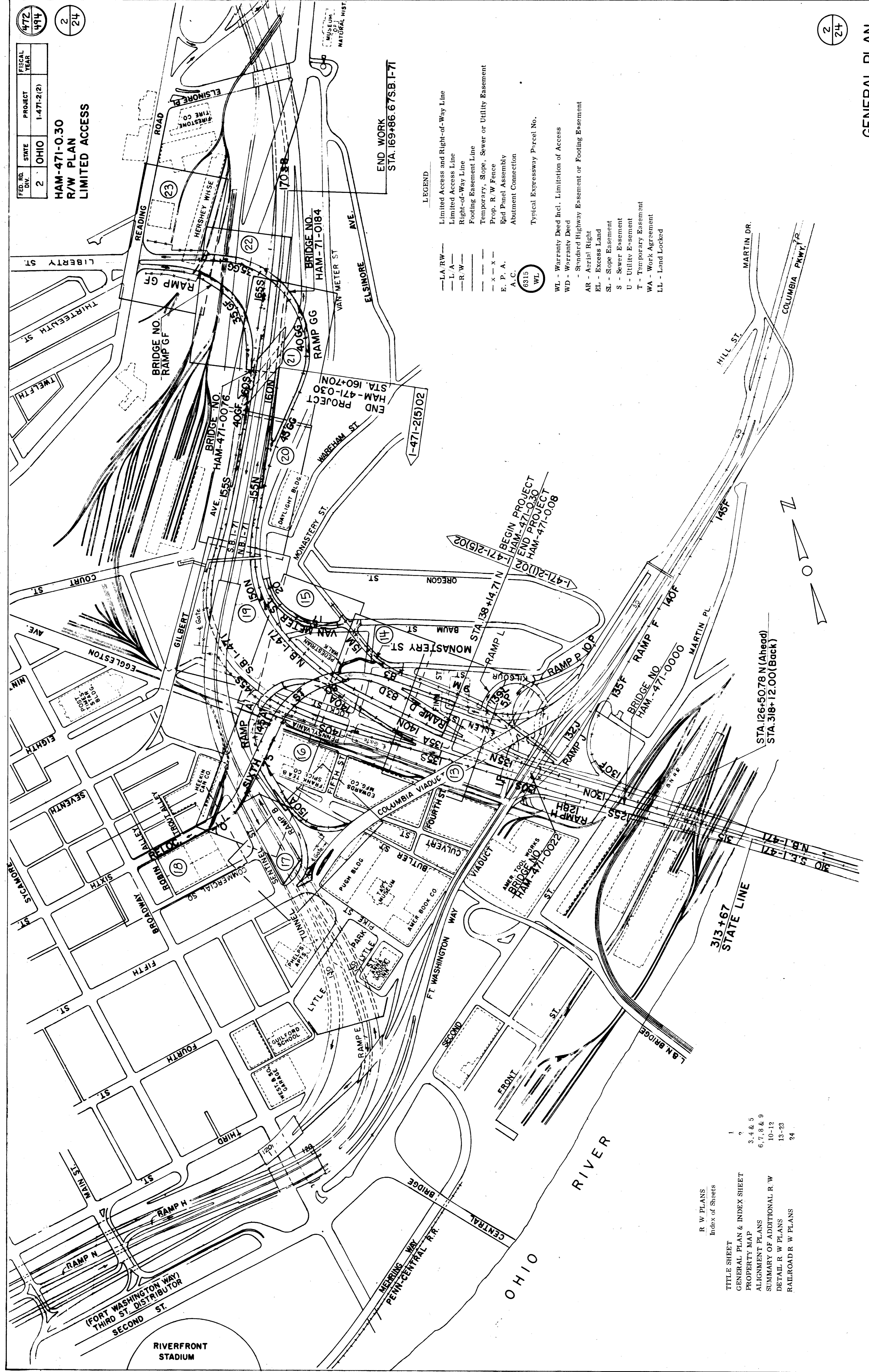
core dia.  
Spiral Bar for pitch see  
Reinforcing Steel List

HAZELET & ERDAL CONSULTING ENGINEERS CINCINNATI, OHIO					
<b>BAR BENDING SCHEDULE</b>					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	RJR		ALT	J14 0 11-13-72	

FED. RD. DIV. 2 STATE OHIO PROJECT 1-471-2(2) FISCAL YEAR 494

HAM-471-030  
R/W PLAN  
LIMITED ACCESS

2/24



LEGEND

- LA - RW — Limited Access and Right-of-Way Line
- L/A — Limited Access Line
- R/W — Right-of-Way Line
- Footing Easement Line
- x - x - x - Temporary, Slope, Sewer or Utility Easement
- E. P. A. — Erid Panel Assembly
- A.C. — Abutment Connection
- WL — Typical Expressway Parcel No.

- WL - Warranty Deed Incl. Limitation of Access
- WD - Warranty Deed
- Standard Highway Easement or Footing Easement
- AR - Aerial Right
- EL - Excess Land
- SL - Slope Easement
- S - Sewer Easement
- U - Utility Easement
- T - Temporary Easement
- WA - Work Agreement
- LL - Land Locked

R/W PLANS  
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