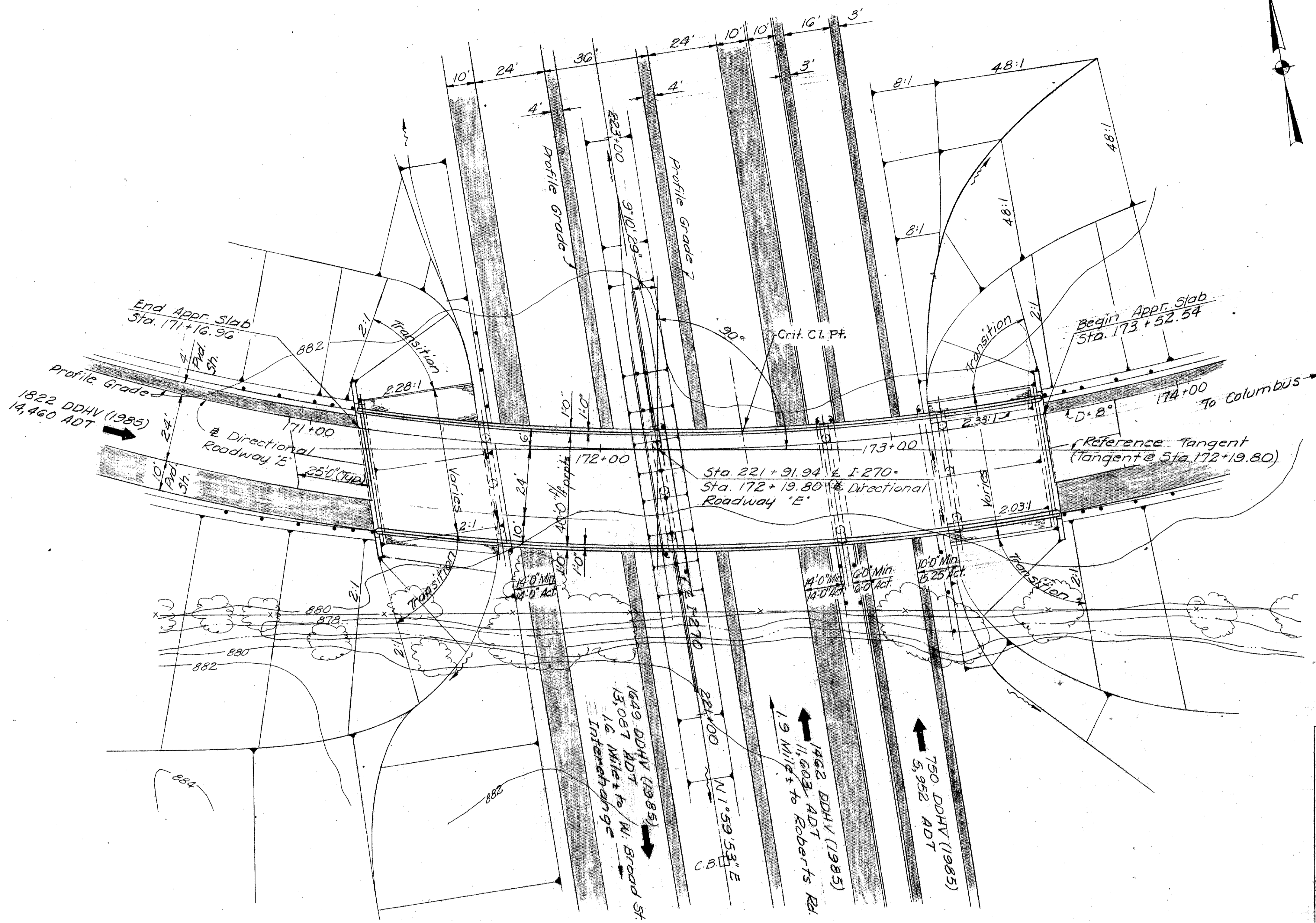


Bench Marks
 I-270 Sta. 221+50 205' Rt.
 RR spike N. side 20" ash
 Elev. 877.896
 I-270 Sta. 232+00 500' Rt.
 RR spike N. root 36" oak
 Elev. 878.529

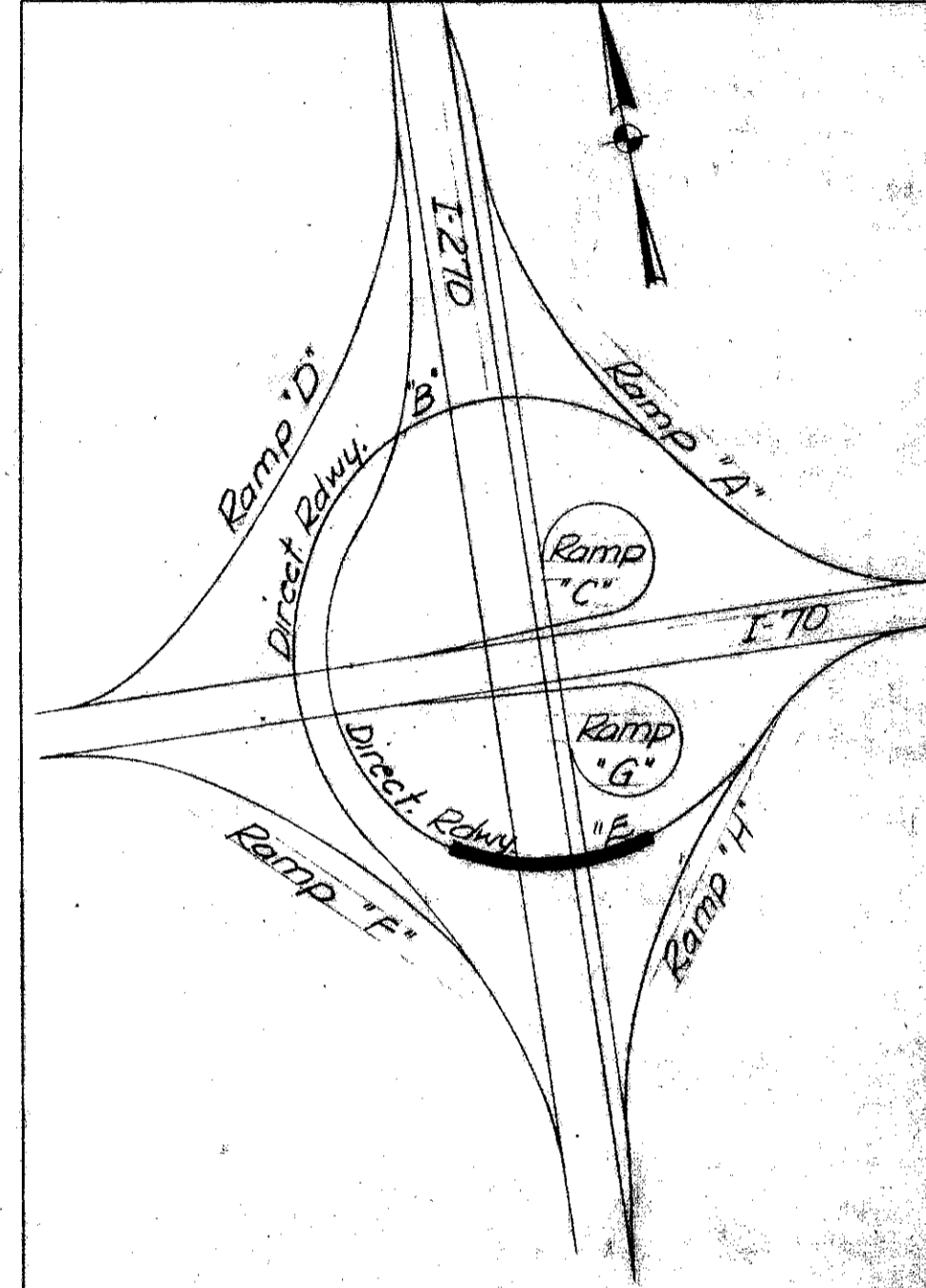
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FED. RD. DIVISION	STATE	PROJECT	397 504
2	OHIO		

FRANKLIN COUNTY FRA-270-0.000 S/N



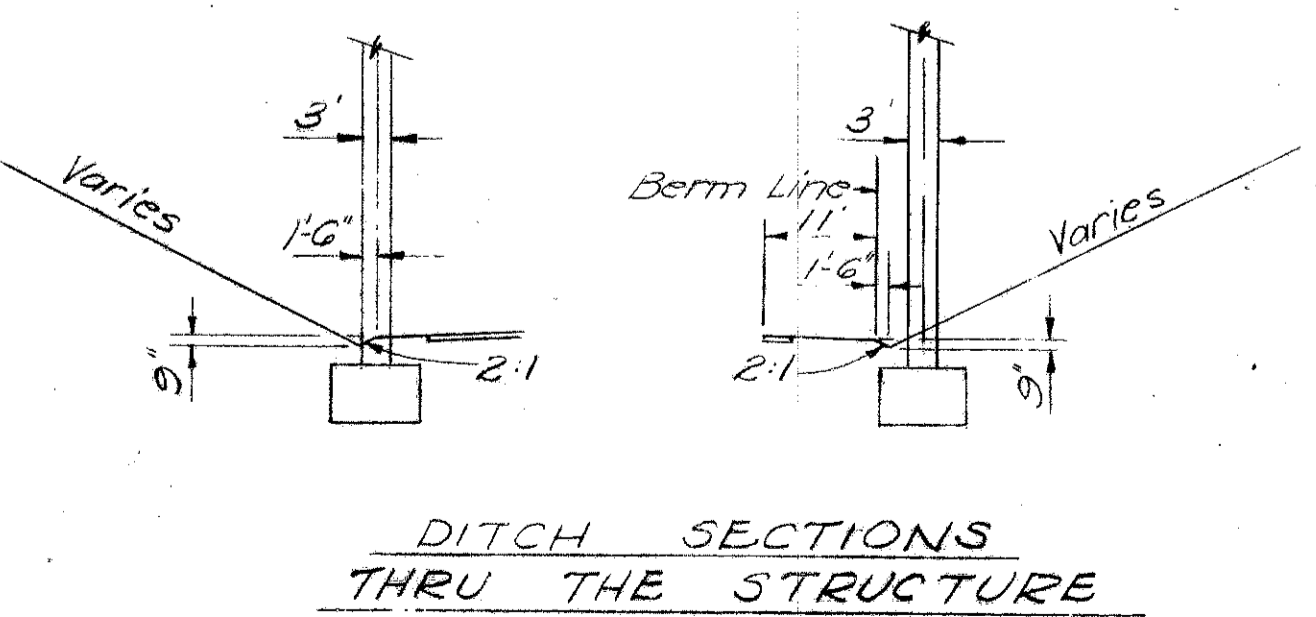
Directional Roadway "E" Curve Data
 $\Delta = 142^\circ 58' 56''$
 $D = 8''$
 $R = 716.197'$
 S.C. Sta. 157+82.60
 C.S. Sta. 175+69.88
 $L = 1787.28'$



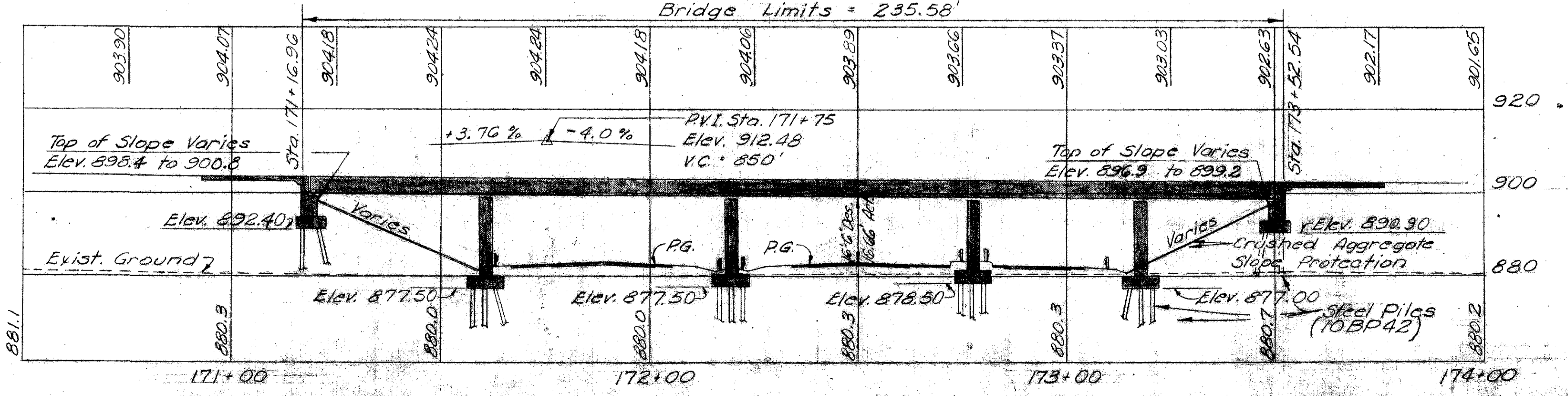
SCHEMATIC PLAN
 I-70 AND I-270 INTERCHANGE

PROPOSED STRUCTURE
 Type: 5 span cont. steel beam with reinf. conc. deck and substructure
 Spans: 40.77', 28.58.25', 40.77', 32.67'
 9% brgs (measured along ref. tangent)
 Roadway: 40'-0" w/ parapets
 Load Frequency: CP-2000(57) Adequate for AASHTO Alternate Loading
 Skew: 9° 10' 29" Rt. Fwd.
 Wearing Surface: 1" mono. conc.
 Approach Slab: A5-1-54 (25' long)
 Alignment: 8° Curve (Lt.)
 Super-elevation: .083 1/1

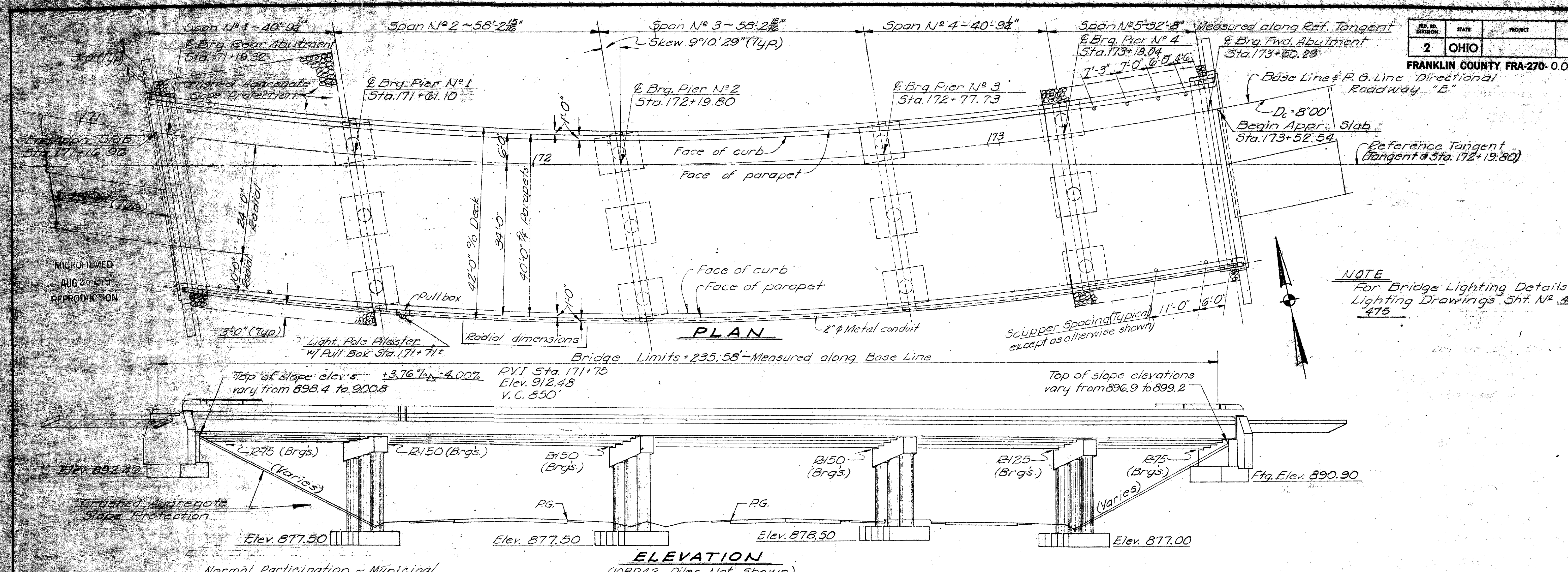
PILING
 Estimated Average Pile Lengths are:
 Abutments = 30'
 Piers = 20'



DITCH SECTIONS
 THRU THE STRUCTURE



DE LEUW, CATHY & BRILL CONSULTING ENGINEERS NEW YORK, N.Y. • COLUMBUS, OHIO • BUFFALO, N.Y.					
SITE PLAN BRIDGE No. FRA-270-0013 S DIRECTIONAL ROADWAY "E" OVER I-270					
FRANKLIN COUNTY			COLUMBUS OUTERBELT STA. 221+91.94		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
6/7	Y.N.		P.L.A.	8/7	1/79



ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS	PIERS	SUPERSTR.	GEN'L
153	456	Cu Yds.	Unclassified excavation	248	208		
303	1	Lump Sum	First test pile				
307	2100	Lin Ft.	Steel piles, 10BP42	660	1440		
323	13,465	Lbs.	Reinforcing steel	10,333	34,847	93,655	
317	301	Cu Yds.	Class "C" concrete, superstructure			301	
311	123	Cu Yds.	Class "C" concrete, piers above footings		123		
341	169	Cu Yds.	Class "E" concrete, abutments	169			
311	100	Cu Yds.	Class "E" concrete, pier footings		100		
313	227,700	Lbs.	Structural steel			227,700	
332	227,700	Lbs.	Field painting of structural steel			227,700	
318	471.32	Sq Ft.	Painting (Type 1)			471.32	
318	82	Lin Ft.	6" perforated helical CMR, including specials, 707.06	82			
318	115	Lin Ft.	6" non-perforated helical CMR, 707.06	115			
318	10	Each	Scuppers (including supports)			10	
318	65	Cu Yds.	Porous backfill	65			
301	471	Sq Yds.	Crushed aggregate slope protection See sheet 413 for Lighting Summary				471
306	301	Units	Water reducing, set retarding admixture			301	
315	1228	Sq Yds.	Concrete surface treatment				1228
315	78	Sq Yds.	Joint sealer	78			

GENERAL NOTES

REFERENCE shall be made to General Notes Sht. N° 387.

PROCEDURE: The embankments shall be placed and compacted up to the finished spill-thru slope and to the level of the subgrade for a distance of 200 feet back of the abutments, after which both end piers may be constructed and the abutment excavations may be made and piles driven.

PILES shall be driven to a minimum bearing capacity of 35 tons per pile for the abutments and the piers.

LIGHTING: Concrete and reinforcing steel for the pilaster are included in the bridge quantities.

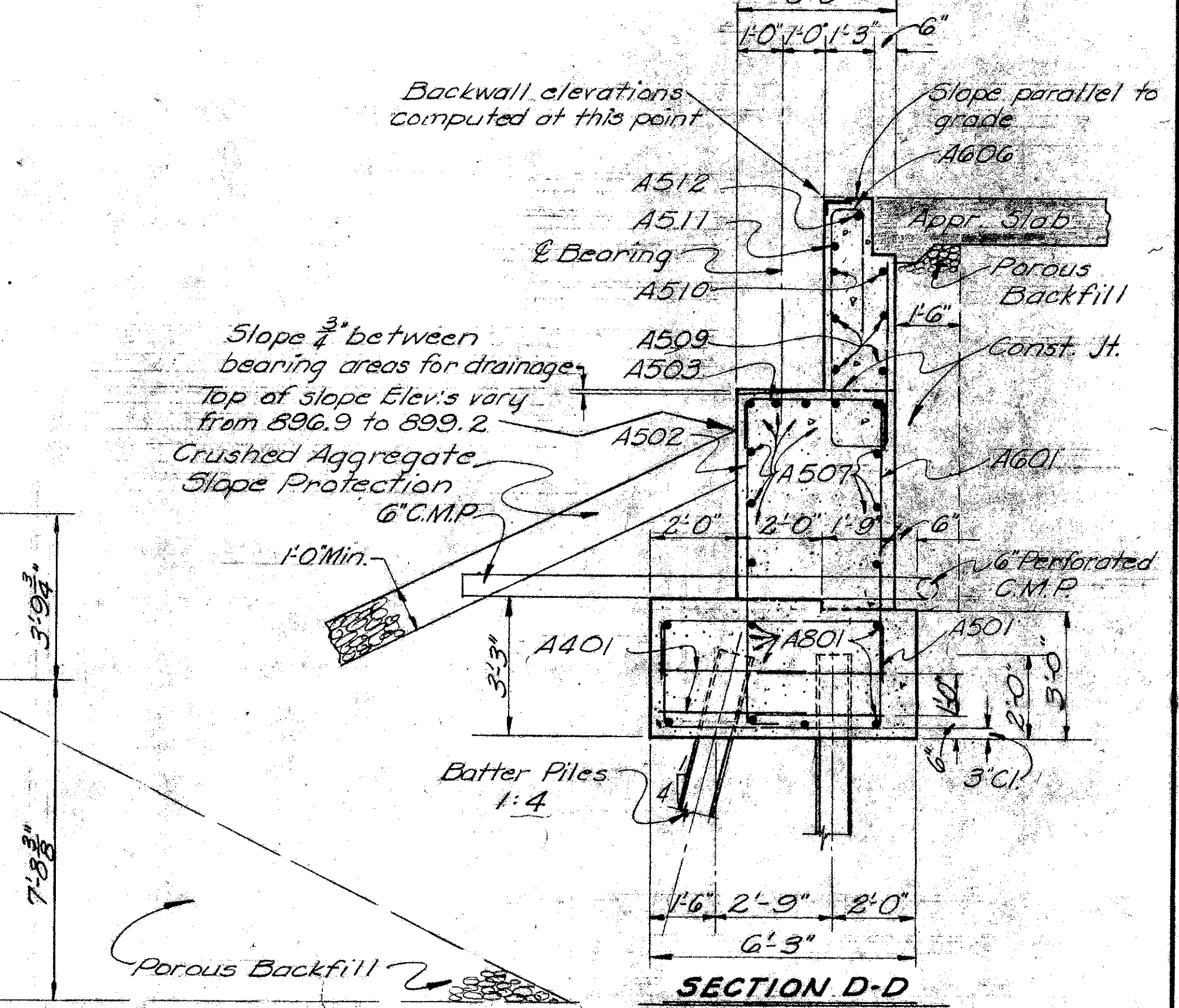
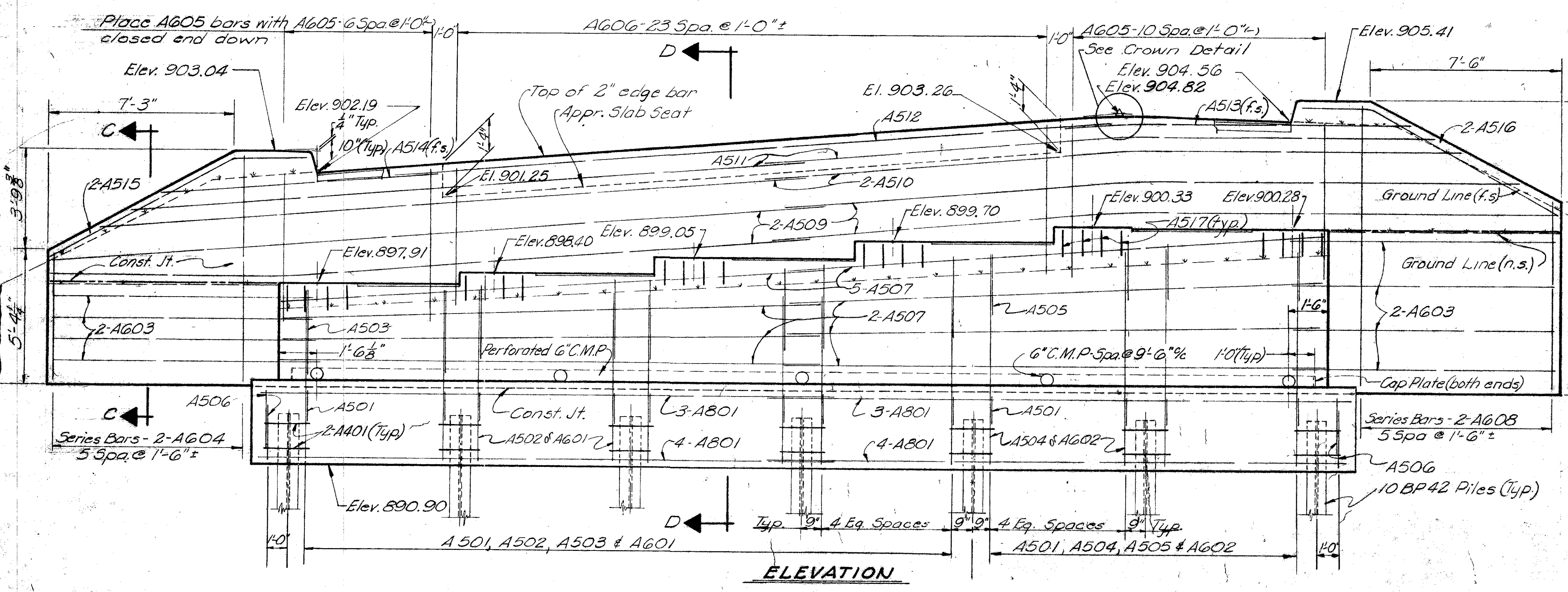
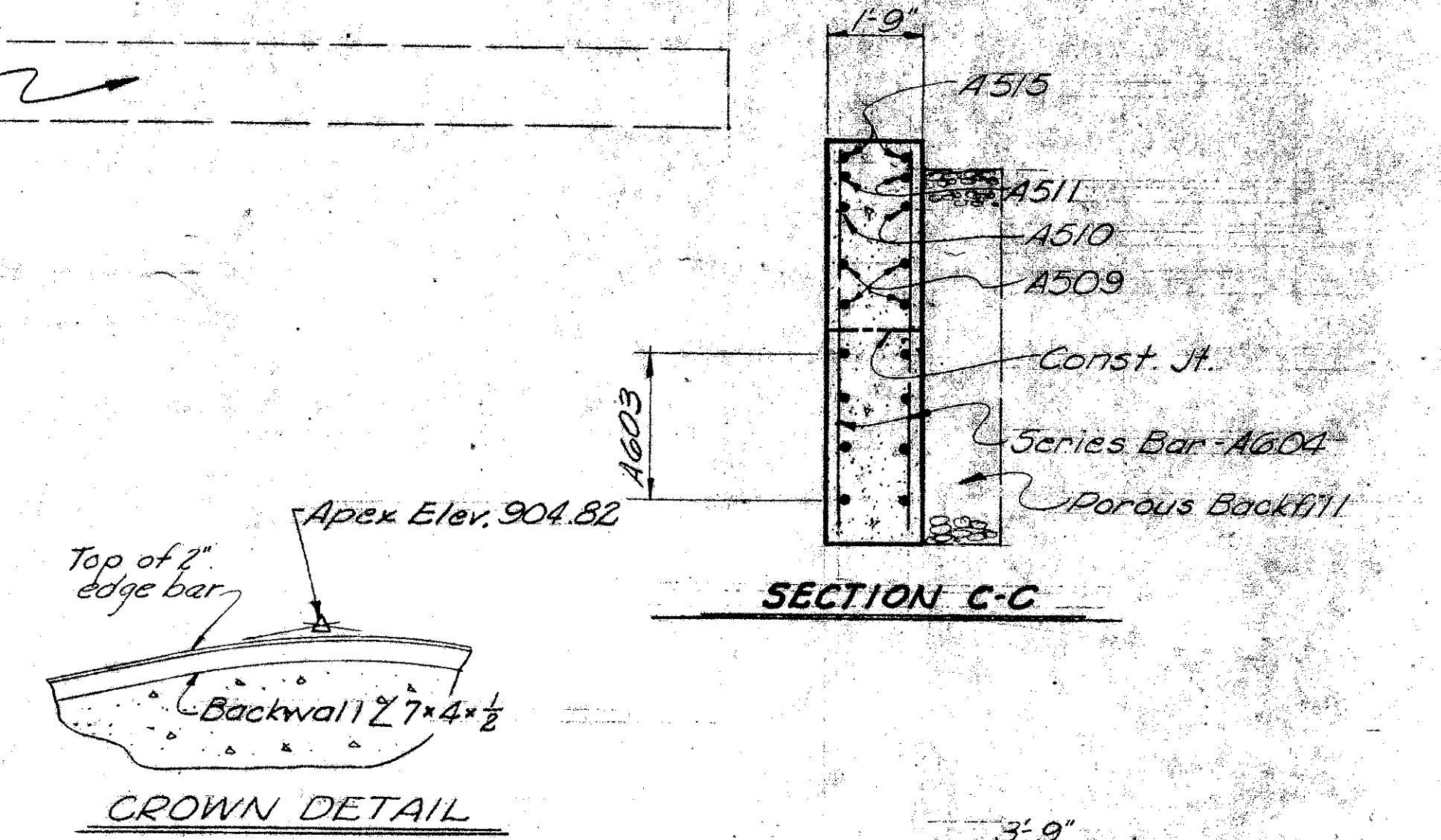
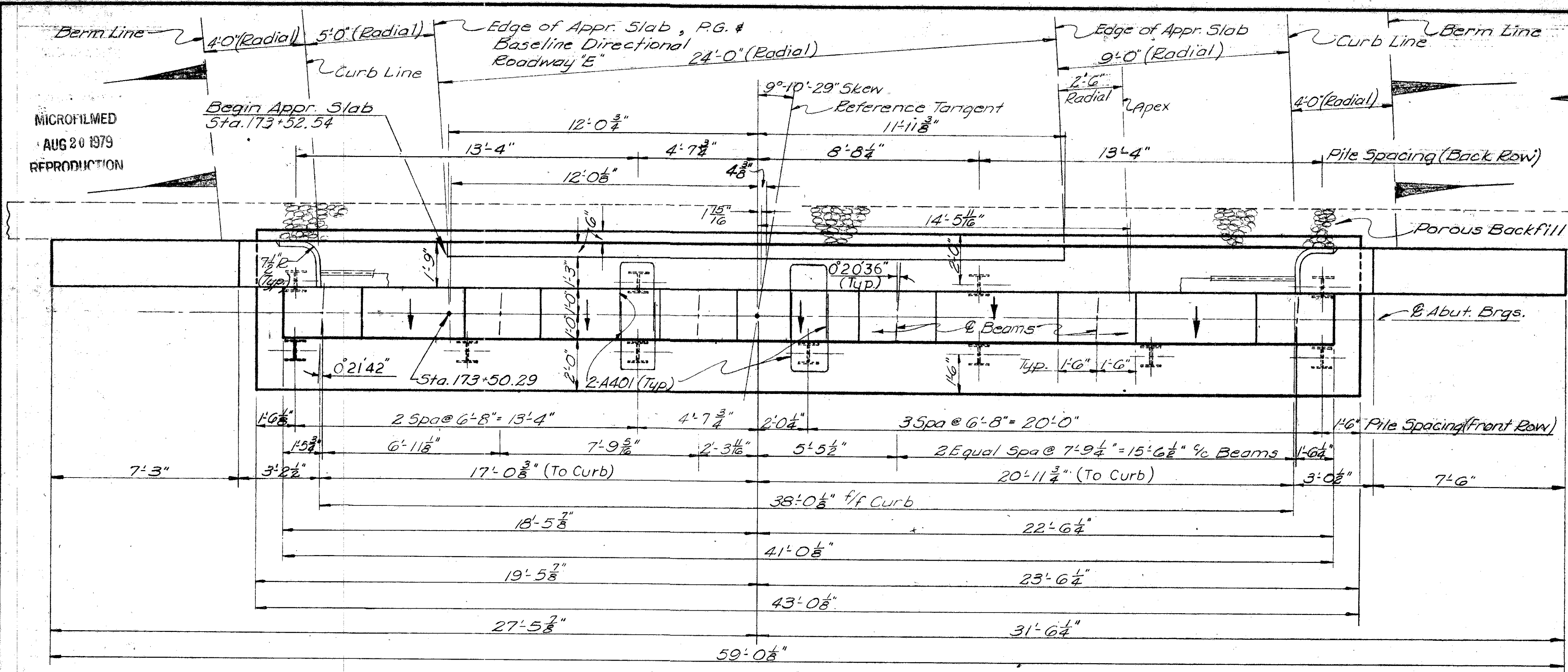
EXCAVATION QUANTITY includes the removal of fill material required for construction of the abutments and piers.

NOTE
 For Bridge Lighting Details see Lighting Drawings Sht. N° 474 and 475

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GENERAL PLAN & ELEVATION
GEN'L NOTES & EST. QUANTITIES
 BRIDGE N° FRA-270-00135
 DIRECTIONAL ROADWAY "E" OVER I-270
 FRANKLIN COUNTY COLUMBUS OUTERBELT
 STA. 221+91.94

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
TRO	JMK	JMK	V.K.	AGL	8-23-66	



For additional notes and details see Sht. 399

LEGEND
 n.s. - near side
 f.s. - far side

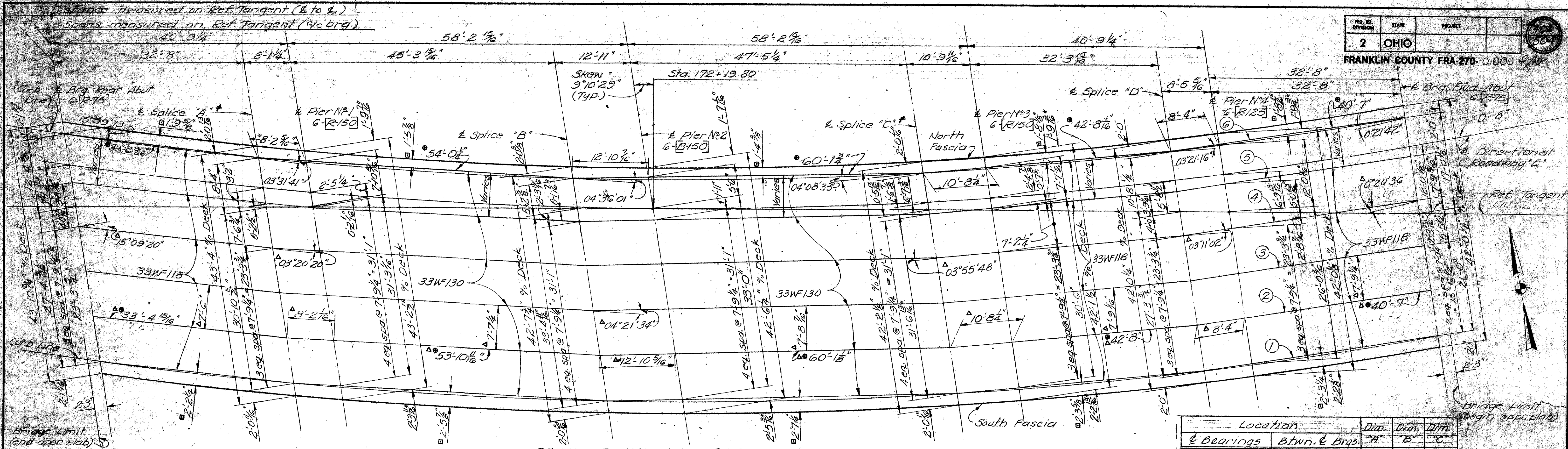
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FORWARD ABUTMENT DETAILS
 BRIDGE NO. FRA-270-0013.5
 DIRECTIONAL ROADWAY "E"
 OVER I-270

FRANKLIN COUNTY COLUMBUS OUTERBELT
 STA. 221+91.94

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
TRO	J.M.K.	J.M.B.	V.K.	A.L.		

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DECK PLAN AND BEAM LAYOUT

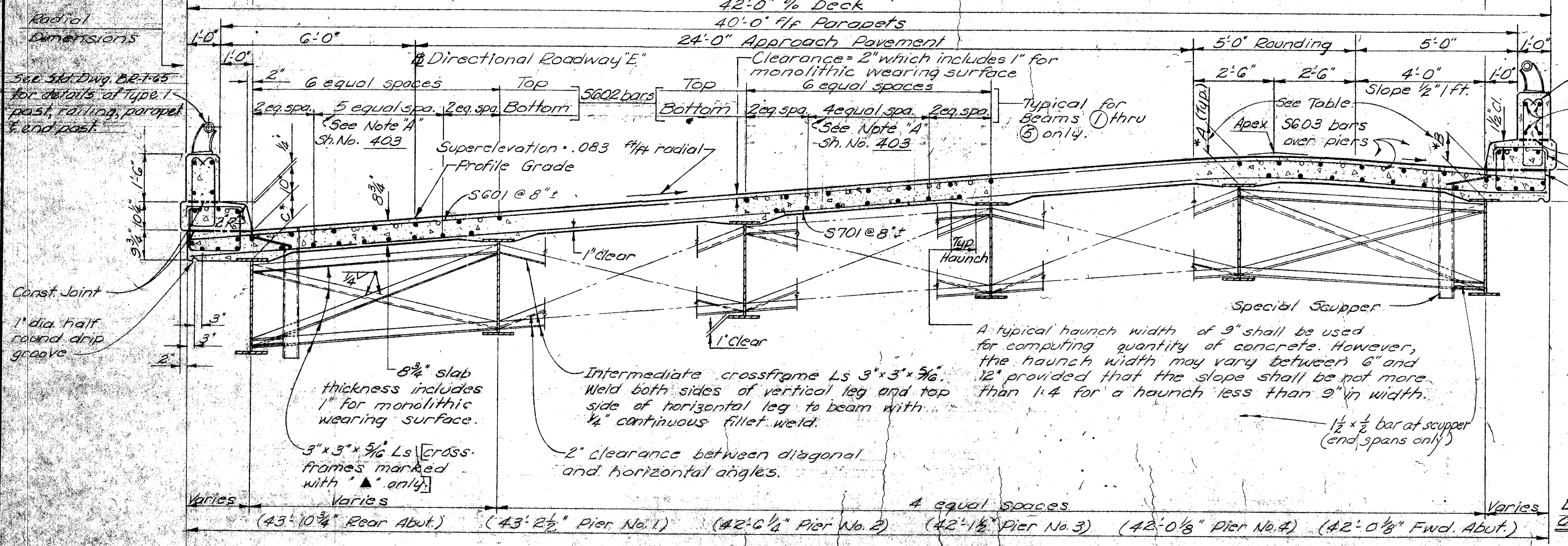
NOTES

- Beams 1 & 6 are placed on curb line at E Abut. Brgs. and at E Splices.
- Beams 2 thru 5 are placed parallel to Beam 1.
- The 1/2" bevel fill plate (shown in Detail 'D' Std. Dwg. 5D-1-65) shall be 1/2" thick at E of beam.
- Dimensions marked thus * are the beam length (E Abut. Brg. to E Splice or E Splice to E Splice).
- Dimensions marked thus □ are from E fascia beam to fascia measured perpendicular to E beam at midpoint of the beam.
- For details of this bolted beam splice see Sh. No. 403.
- For additional details and notes see Sh. No's. 403 & 404.
- Dimensions and angles marked thus ▲ are typical for Beams ① thru ⑤ only.

Location	Dim. A	Dim. B	Dim. C
E Bearings Btwn. E Brgs.			
Rear Abut.	10"	8 1/2"	8 1/2"
Pier No. 1	9 1/2"	9"	9"
Pier No. 2	9 1/2"	9"	9"
Pier No. 3	9 1/2"	9"	9"
Pier No. 4	9 1/2"	9"	9"
Fwd. Abut.	10"	8 1/2"	8 1/2"

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Fascia R-709.20
Curb R-711.20



R501 - End parapet panels - North side - Included with R507 - End parapet panels - South side railing for R502 - Intermediate prot panels - both sides payment.
Class 'C' concrete for parapets above this Const. Joint is included with railing for payment.

NOTES
* This is the nominal dimension over E bearings. The estimated quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it is necessary because the top flange of the beam may not have the exact camber or confirmation required to place it parallel to the finished surface.

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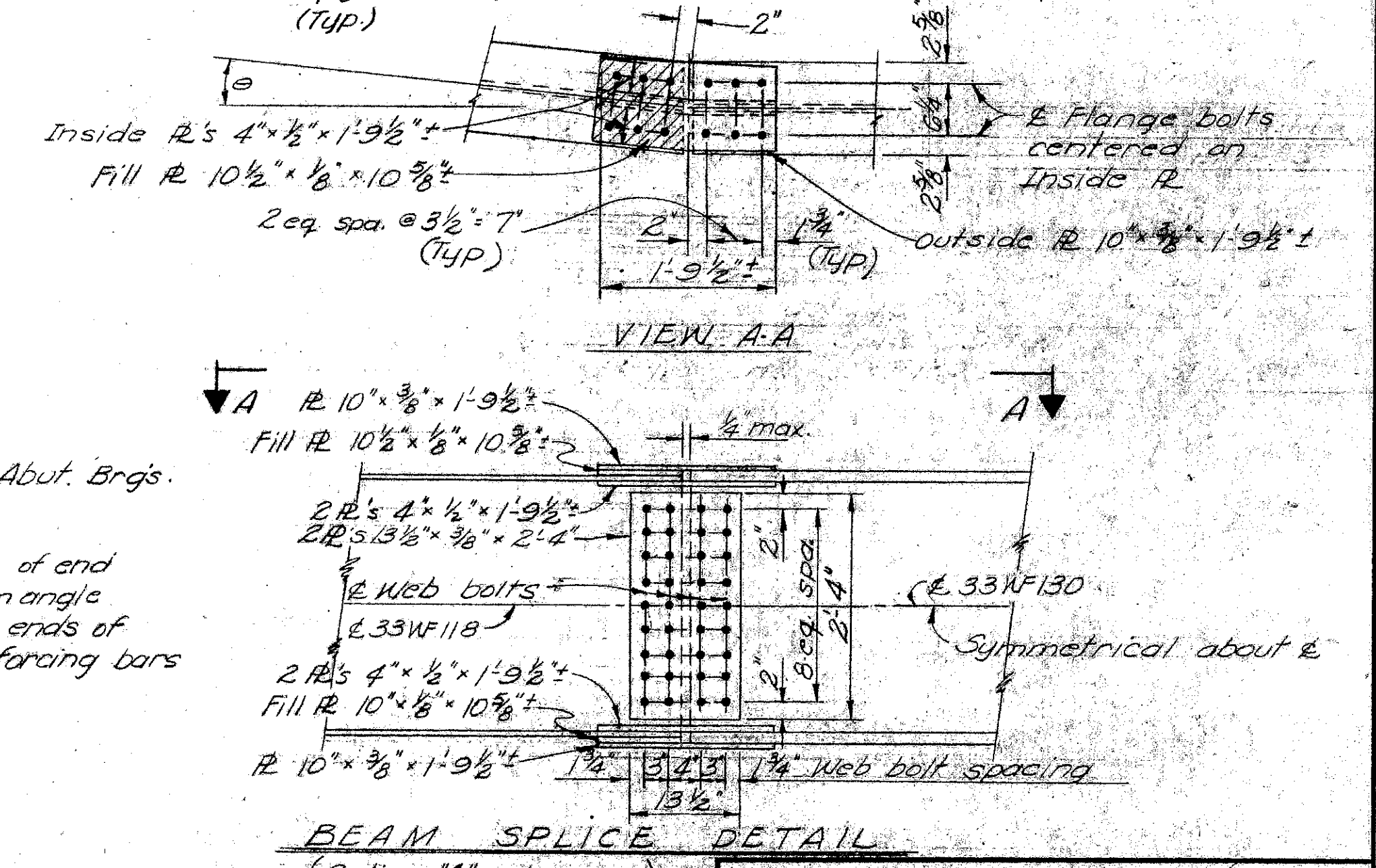
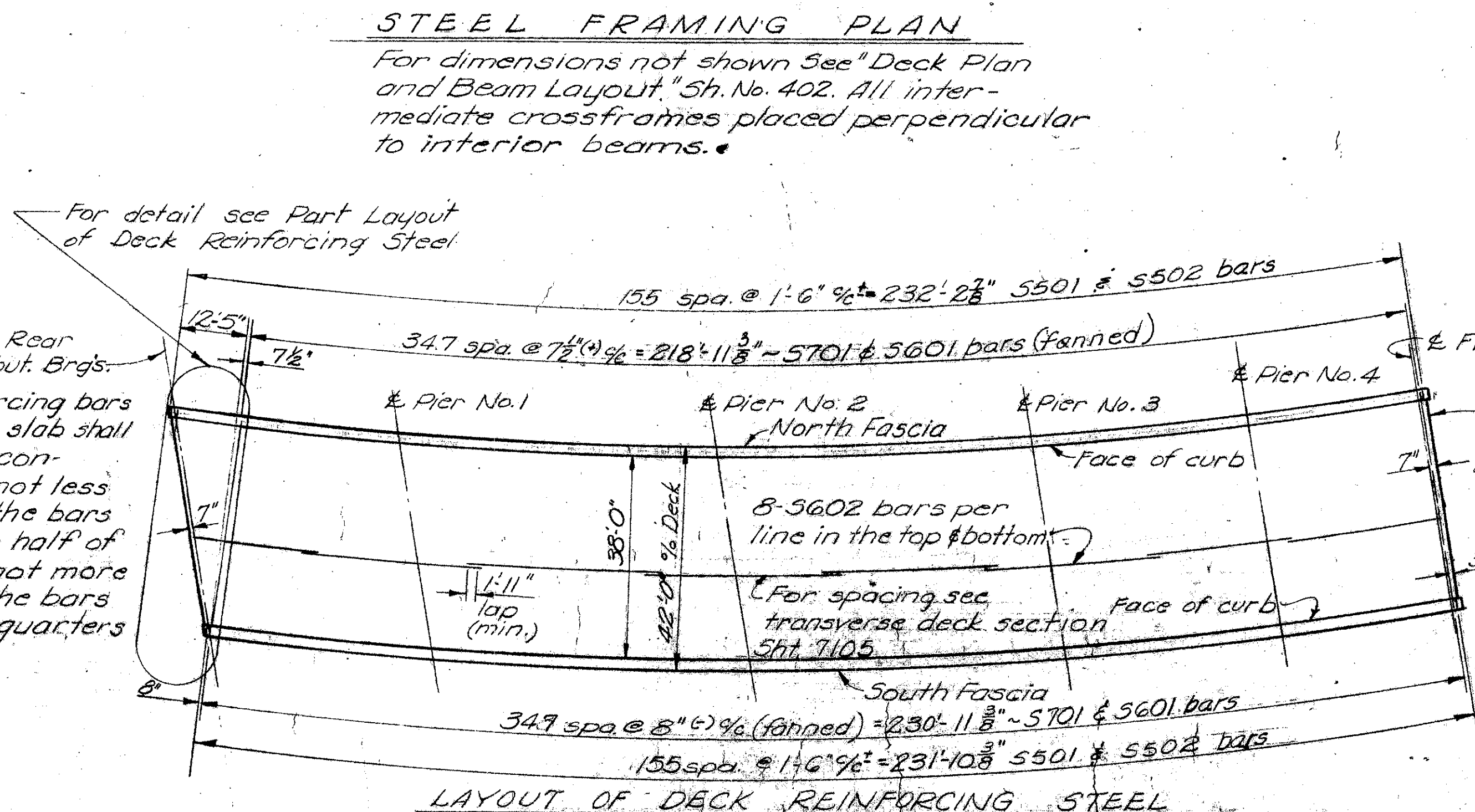
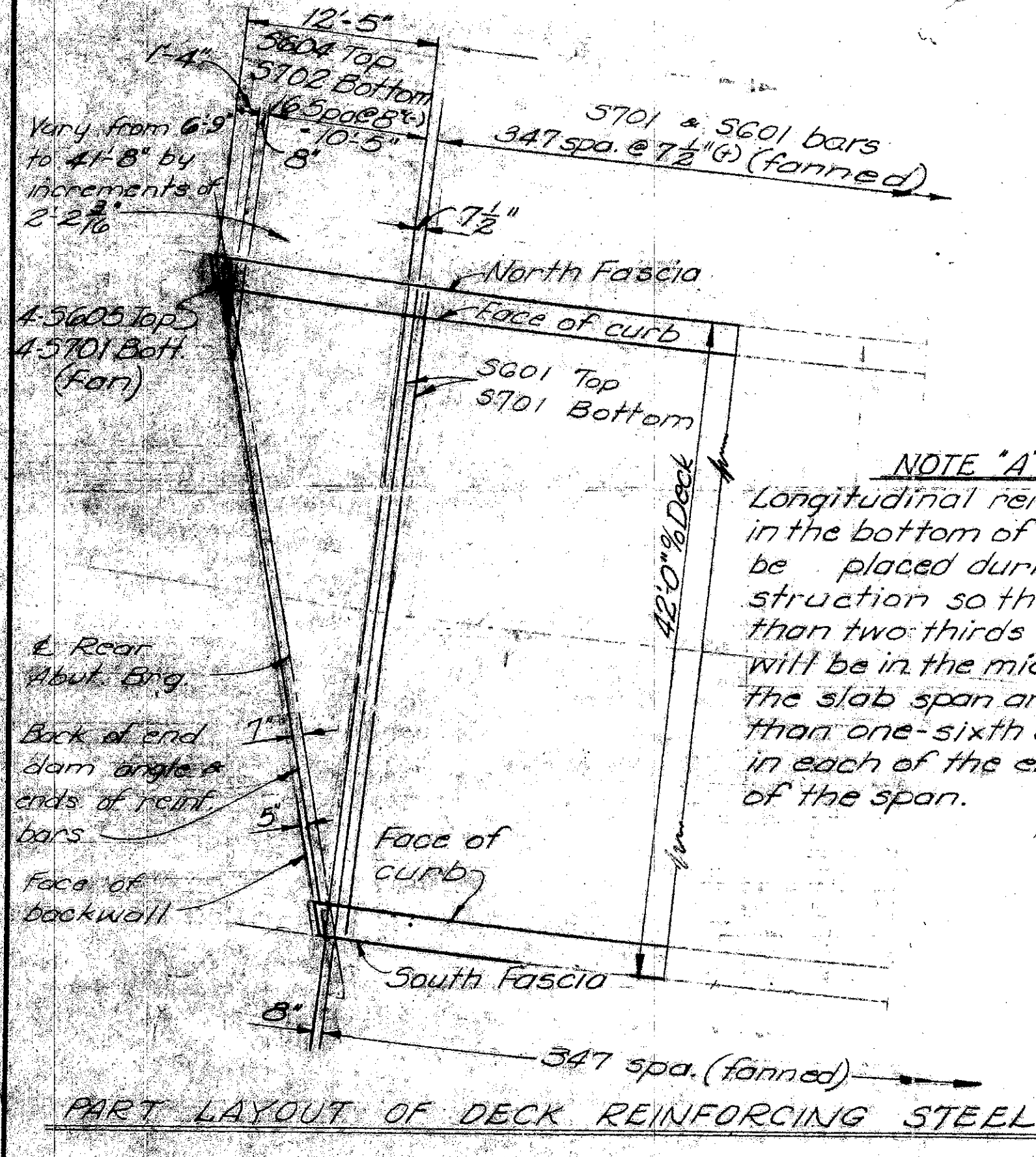
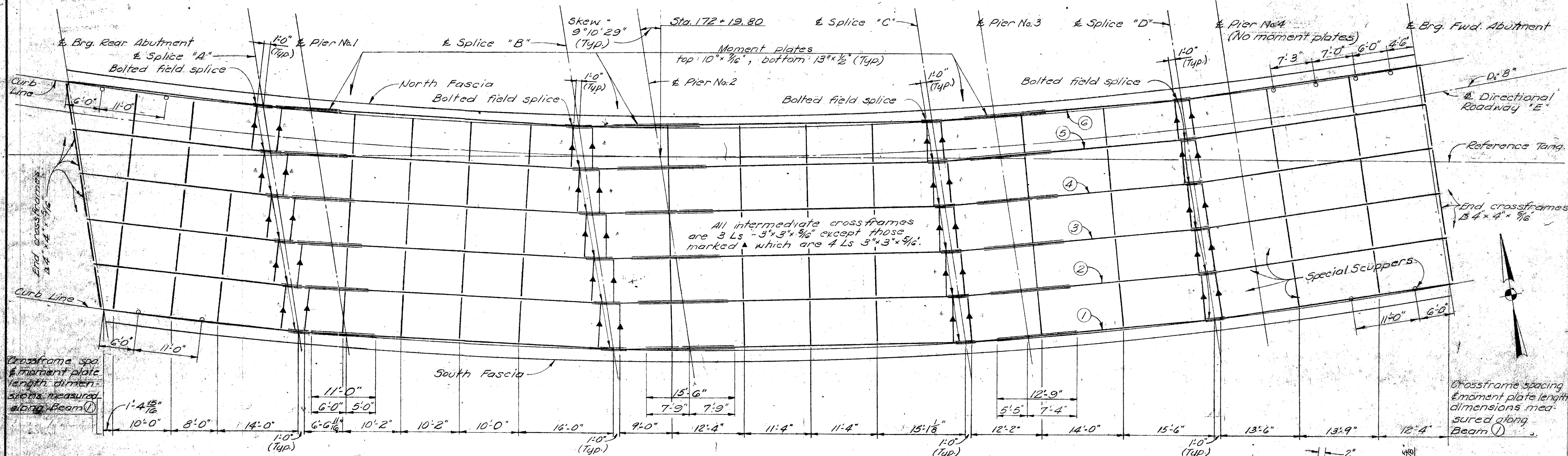
SUPERSTRUCTURE DETAILS
BRIDGE No. FRA-270-0013.5
DIRECTIONAL ROADWAY "E"
OVER I-270

FRANKLIN COUNTY COLUMBUS OUTERBELT
STA. 221+31.94

DESIGNED	DRAWN	TRACED	CHECKED	REVISED	DATE
TRO	YLN		YK		

TYPICAL TRANSVERSE DECK SECTION (Looking East)

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For details of	see Std. Dwg. see Sh. No.
Rockers and Bolsters	RB-1-55
Scuppers except as shown in Special Scupper Detail	SD-1-65
End Crossframe and End Dam Details	SD-1-65
Curb Plate Details	SD-1-65
Bolted Beam Splice Detail - Splice "B" & "D"	SD-1-65

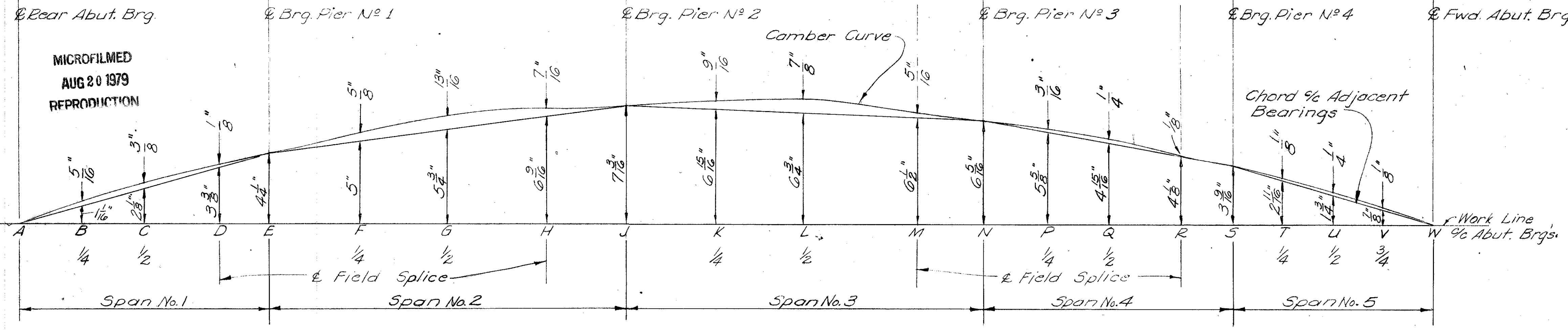
Splice	33WF Beams	Angle @
A	118 & 130	For pertinent angles see Deck Plan & Beam Layout Sh. No. 402
B	130 & 130	
C	130 & 118	
D	118 & 118	

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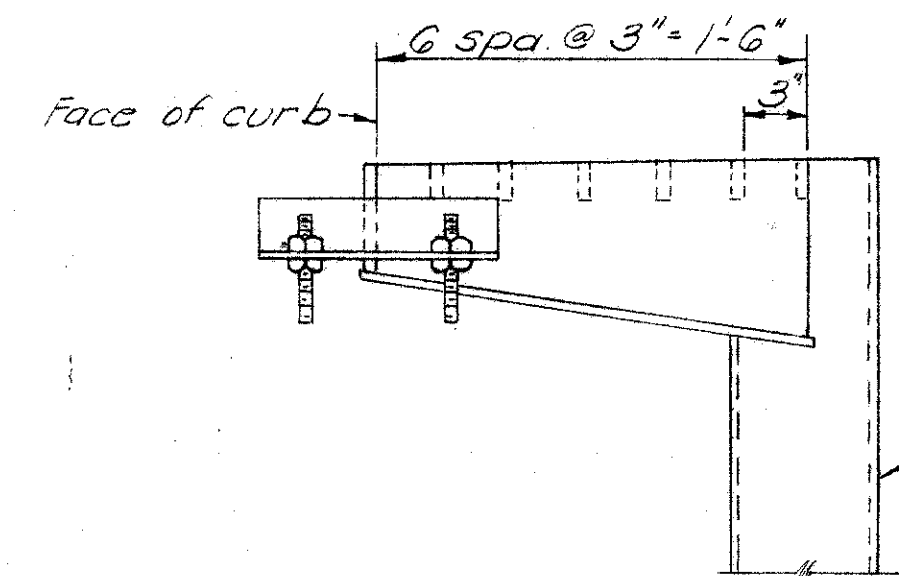
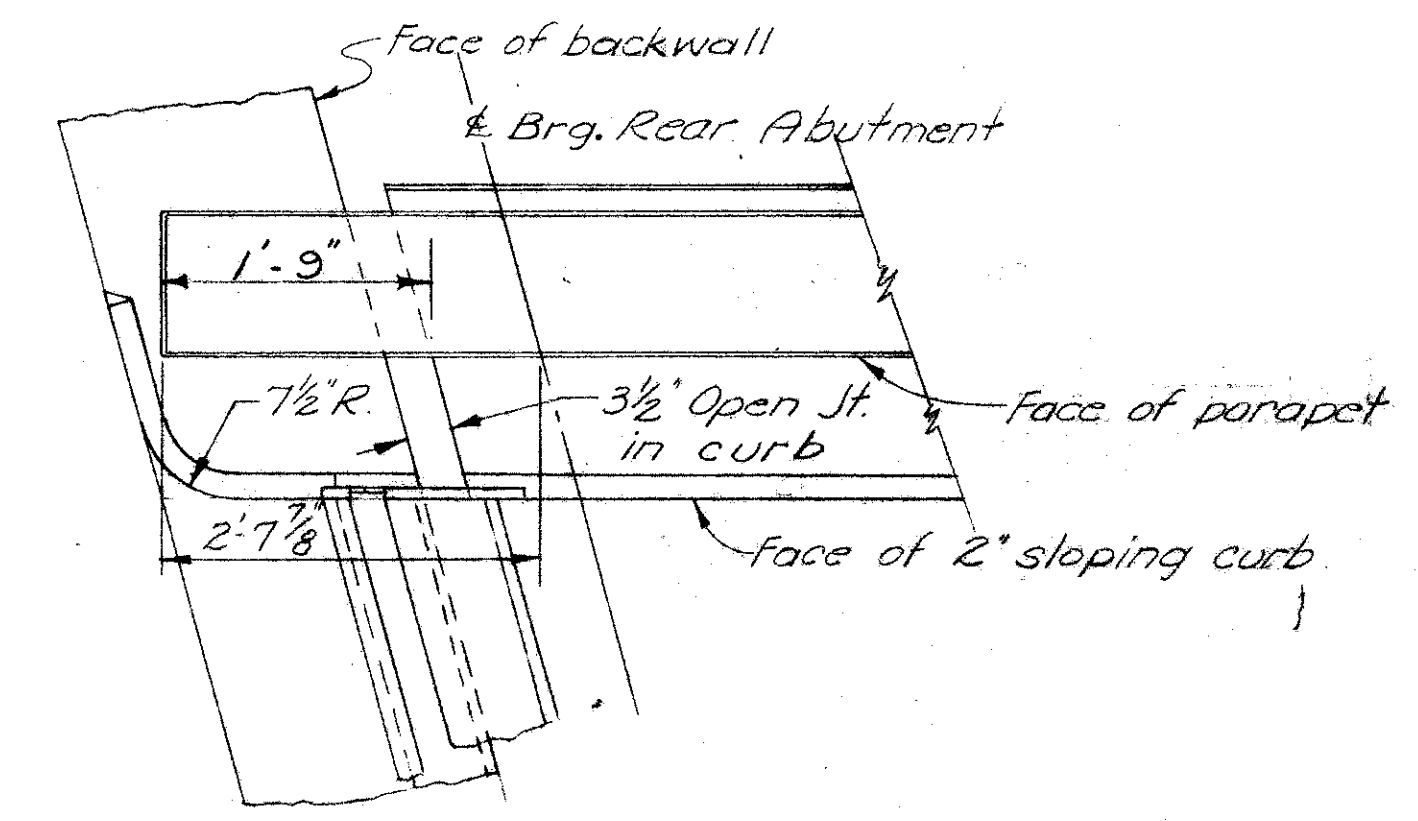
SUPERSTRUCTURE DETAILS
BRIDGE No. FRA-270-00135
DIRECTIONAL ROADWAY "E"
OVER I-270

FRANKLIN COUNTY COLUMBUS OUTERBELT
STA. 221+91.94

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
TRO	KN	VK	VK	EC		

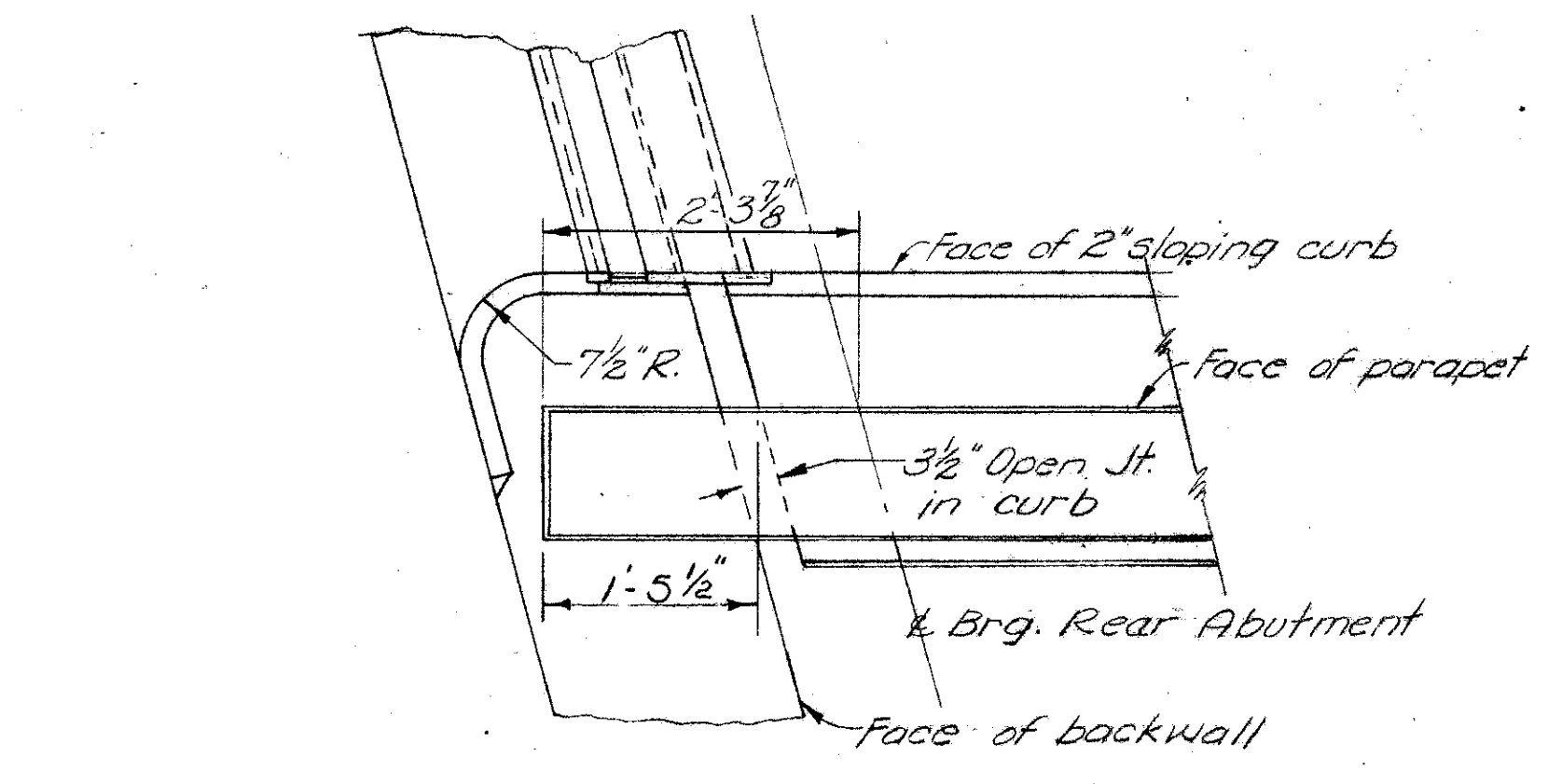
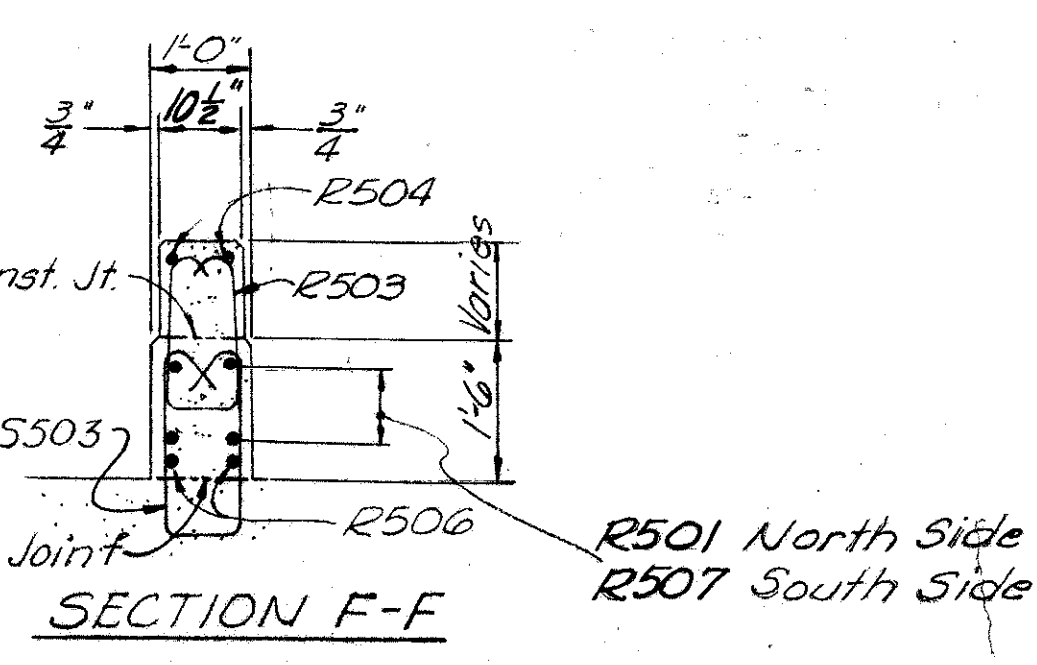
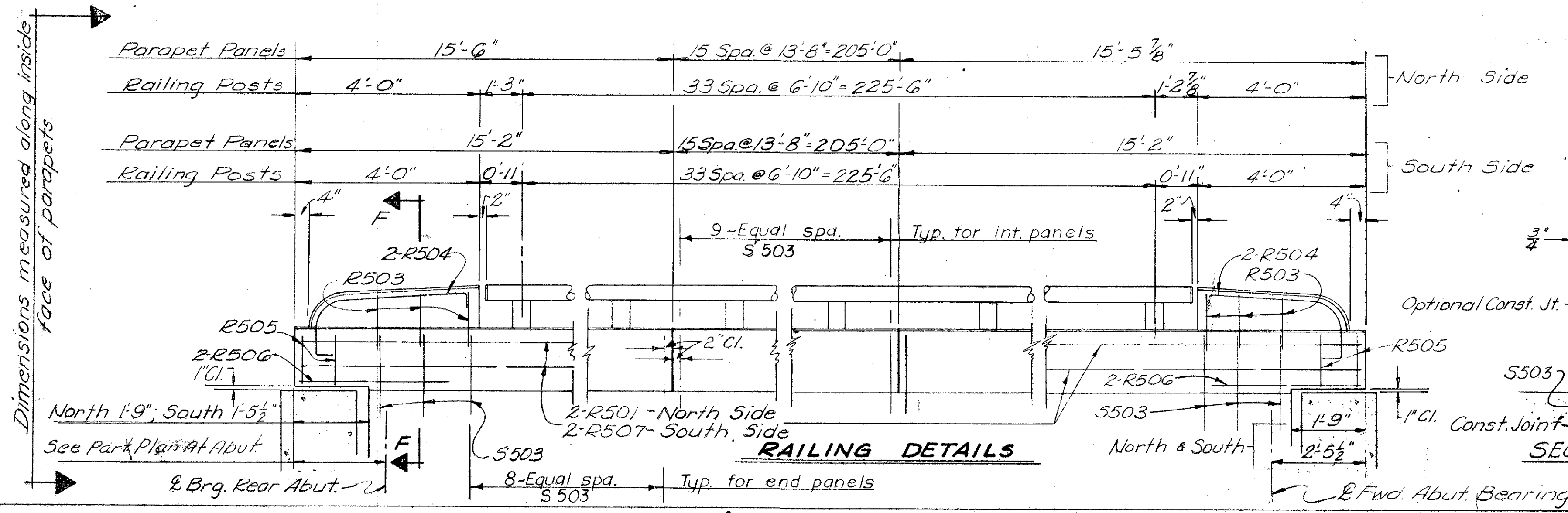


CAMBER DIAGRAM



SPECIAL SCUPPER DETAIL

LOCATION	SPAN No. 1		SPAN No. 2		SPAN No. 3		SPAN No. 4		SPAN No. 5	
	1/4	1/2	1/4	1/2	1/4	1/2	1/4	1/2	1/4	1/2
Deflection due to weight of steel	0	0	0	0	0	0	0	0	0	0
Deflection due to remaining dead load	1/8	1/8	1/4	3/8	1/8	3/16	0	0	0	0
Adjustment required for vertical curve	3/16	1/4	1/8	1/8	5/16	3/8	1/16	1/4	1/8	1/16
Required shop camber	5/16	3/8	3/8	1/2	3/16	7/8	5/16	3/8	1/4	1/8



PART PLAN AT ABUTMENT

Side	Station	171+17.75	171+40	171+51.54	171+59.79	171+75	171+90	172+05.95	172+18.91	172+35	172+50	172+66.54	172+77.31	173+00	173+09.52	173+17.91	173+35	173+50.40
North Side	Deck Elev.'s	903.74	903.81	903.82	903.83	903.84	903.82	903.75	903.68	903.60	903.50	903.33	903.22	902.96	902.83	902.71	902.46	902.20
South Side	Deck Elev.'s	906.13	906.18	906.18	906.18	906.17	906.07	906.00	905.93	905.84	905.65	905.54	905.31	905.17	905.06	904.82	904.57	

NOTE: The elevations shown are those required before the concrete is placed. Allowance is made for dead load deflection caused by the weight of the concrete.

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SUPERSTRUCTURE DETAILS
BRIDGE No. FRA-270-00135
DIRECTIONAL ROADWAY "E"
OVER I-270

FRANKLIN COUNTY COLUMBUS OUTERBELT
STA. 221+91.94

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
TRO	DMK	DMK	V.K.	BCA	2-23-66	

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AUG 20 1979
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REINFORCING STEEL LIST

Mark	N ^o	Length	Weight	Shp.	Bending Diagrams	Mark	N ^o	Length	Weight	Shp.	Bending Diagrams	Mark	N ^o	Length	Weight	Shp.	Bending Diagrams						
ABUTMENTS																							
A801	14	22'-7"	844	S		A601	40	14'-1"	846	B													
A602	21	15'-11"	502	B																			
A603	32	11'-5"	549	S																			
A604 series of 6		5'-0" to 8'-9"	248	S		Vary by 9" increments																	
A605	35	13'-1"	688	B																			
A606	49	15'-3"	622	B																			
A607	2	8'-10"	27	S																			
A608 series of 6		7'-4" to 11'-1"	332	S																			
PIERS (Cont.)																							
P801	35	22'-4"	2,087	S																			
P802	7	21'-8"	405	S																			
P803	14	21'-4"	797	S																			
SUPERSTRUCTURE																							
S701	348	41'-8"	29,638	S																			
S702	series of 17	6'-9" to 41'-8"	841	S								Vary by 2'-2 3/8" increments											
S703	4	4'-6"	37	S																			
RAILING																							
R501	8	15'-2"		S																			
R502	120	13'-4"		S																			
R503	12	4'-2"		B																			
R504	8	5'-4"		B																			
R505	8	3'-5"		B																			
R506	8	3'-0"		S																			
R507	8	14'-10"		S																			
LIGHTING PILASTER																							
L601	3	8'-9"	39	B																			
L602	3	11'-5"	51	B																			
L603	6	2'-9"	25	S																			
REPLACEMENT BARS																							
RE100	1	8'-6"		S																			
RE1000	2	8'-2"		S																			
RE800	1	7'-6"		S																			
RE700	2	7'-2"		S																			
RE600	4	6'-11"		S																			
RE500	1	6'-7"		S																			
RE400	1	6'-3"		S																			
RE401	1	6'-3"		B																			
PIERS																							
P1101	20	33'-7"	3,569	B																			
P1102	5	17'-10"	474	B																			
P1103	5	17'-3"	458	B																			
P1104	10	16'-10"	894	B																			
P1001	124	11'-6"	6,136	B																			
P1002	80	10'-6"	3,615	B																			
P1003	8	17'-5"	600	S																			
P1004	8	17'-2"	591	S																			
P1005	8	15'-9"	542	S																			
P1006	8	16'-10"	579	S																			
P1007	8	18'-7"	640	S																			
P1008	8	18'-4"	631	S																			
P1009	8	16'-11"	582	S																			
P1010	8	18'-1"	622	S																			
P1011	8	19'-8"	677	S																			
P1012	8	19'-6"	671	S																			
P1013	8	18'-1"	622	S																			
P1014	8	19'-3"	663	S																			
P1015	96	7'-1"	2,926	B																			

SPIRAL BARS						
Mark	No.	Core Dia.	Length	Pitch	N ^o of Turns	Weight
SP401	1	32"	14'-10"	4 1/2"	43	278
SP402	1	32"	14'-8"	4 1/2"	42	271
SP403	1	32"	13'-2"	4 1/2"	38	245
SP404	1	32"	14'-4"	4 1/2"	41	265
SP405	1	32"	16'-0"	4 1/2"	46	298
SP406	1	32"	15'-10"	4 1/2"	45	291
SP407	1	32"	14'-4"	4 1/2"	41	265
SP408	1	32"	15'-6"	4 1/2"	44	284
SP409	1	32"	17'-2"	4 1/2"	49	317
SP410	1	32"	17'-0"	4 1/2"	48	311
SP411	1	32"	15'-6"	4 1/2"	44	284
SP412	1	32"	16'-8"	4 1/2"	47	304

SPIRAL REINFORCING BARS: The "Length" shown in the steel list for the spiral bars is the distance to the nearest inch from the top of the footing to the bottom of the pier cap. The "N^o of Turns" shown is the "Length" divided by the pitch, plus 3 turns (total number of closed coils), expressed as the nearest whole number. Spiral reinforcing bars shall not have deformations but shall in other respects conform to Item 509, 1/2 closed coils shall be provided at the ends of each spiral unit. Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lb. per lin. ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

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, A700 is a N^o 7 size bar and A101A is a N^o 10 size.

* To be included with railing for payment.

† To be included with superstructure for payment.

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REINFORCING STEEL LIST
BRIDGE N^o FRA-270-00135
DIRECTIONAL ROADWAY'S
OVER I-270
FRANKLIN COUNTY COLUMBUS OUTERBELT
STA. 221+91.94

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
TRO	T.L.T.		V.K.	6/9		