

MICROFILMED
JAN 21 1987

PROJECT NO.	STATE	PROJECT	417 470
2	OHIO		

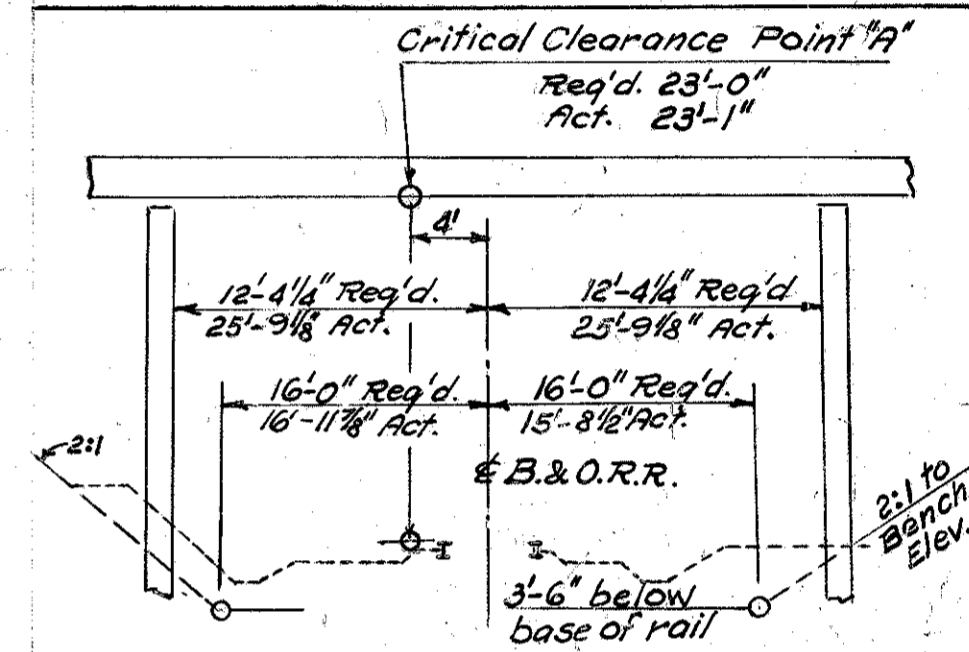
PICKAWAY-FRANKLIN COUNTY
PIC-1-3.06 FRA-1-0.00

FOUNDATION SOUNDINGS

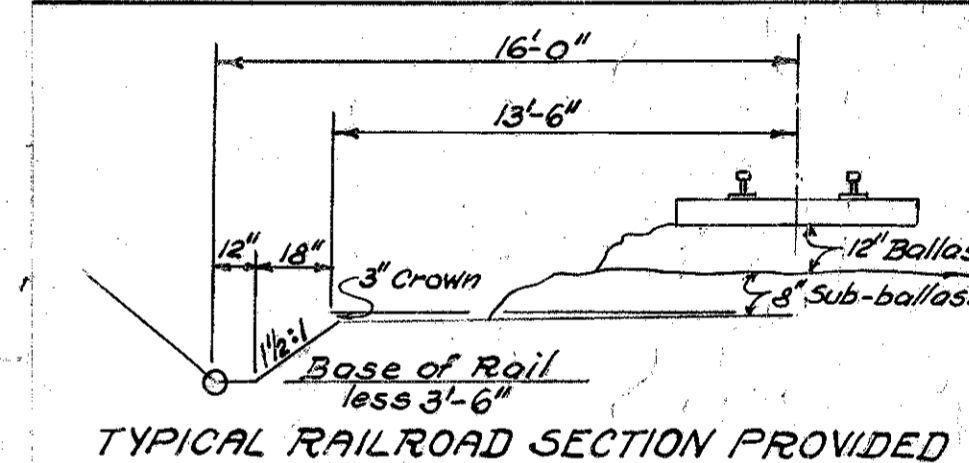
Foundation design and foundation quantities are based on a study of Soil-sampling soundings made at the Site. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in the Division office, but the State does not guarantee the accuracy thereof.

EMBANKMENT PROCEDURE

The embankment shall be placed and compacted to the finished soil-thru slope and to the level of the subgrade for a distance of 200 feet back of the abutments before construction of the piers for a min. period of 60 days prior to const. of the abutments, unless approved settlement hubs indicate settlement has ceased. After settlement has ceased, excavation shall be made for the abutments and piers.



CLEARANCE DIAGRAM SECTION NORMAL TO B.&O.R.R.



TYPICAL RAILROAD SECTION PROVIDED

PROPOSED BRIDGE DATA

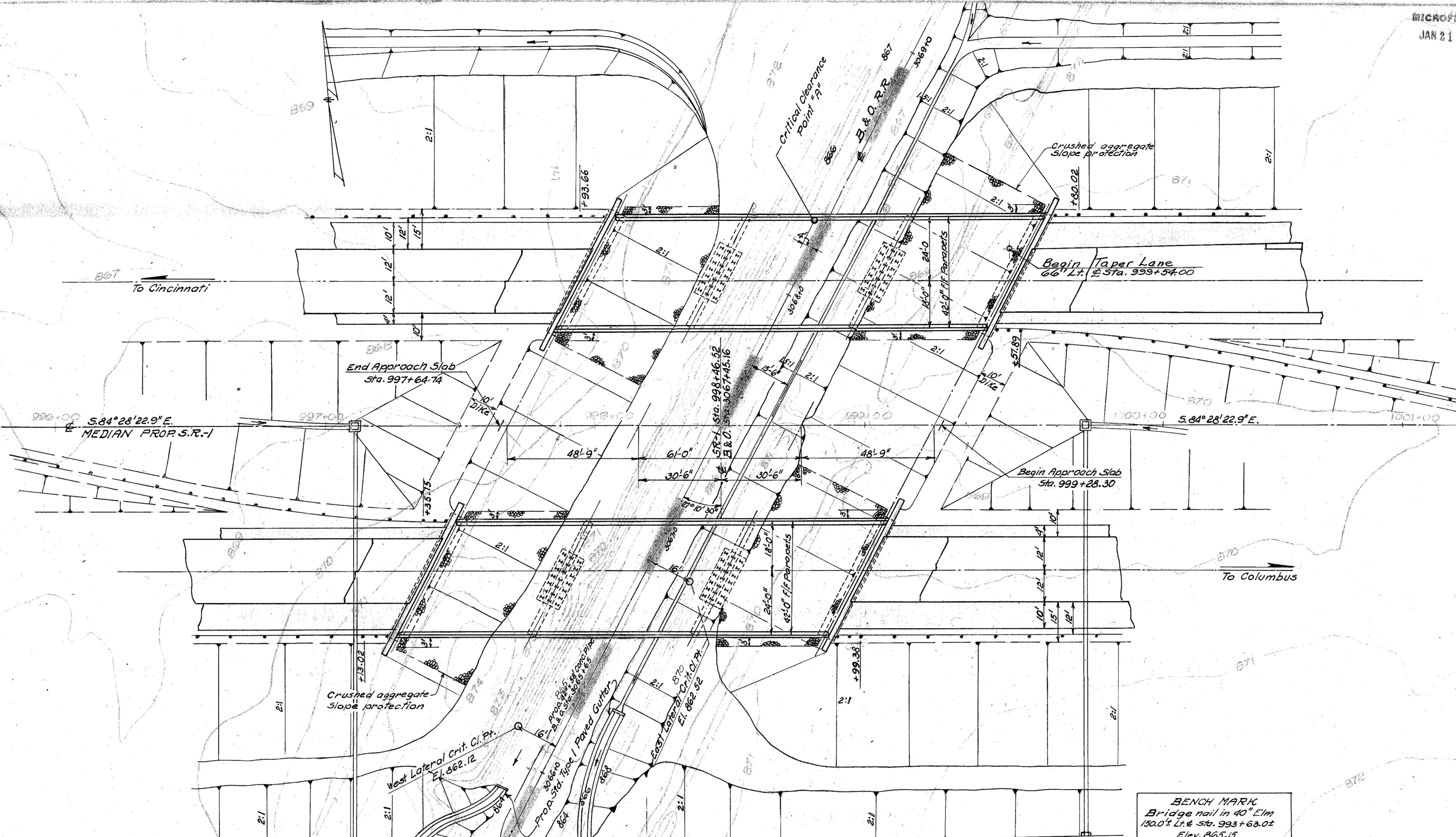
TYPE: Continuous steel beam with concrete deck and substructure
SPANS: 48'-9"-61'-0"-48'-9"
ROADWAY: Two of 42'-0" F.F. of parapets
LOAD FREQUENCY: CF-2000 (57) adequate for AASHTO alternate loading
SKEW: 27° 10' L.F.
APPROACH SLABS: AS-1-54 (25' long)
RAILING: Aluminum rail & supports with concrete parapet
ALIGNMENT: Tangent
WEARING SURFACE: 1" Monolithic concrete

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Consulting Engineers
245-247 S. Pine Street
Chillicothe, Ohio

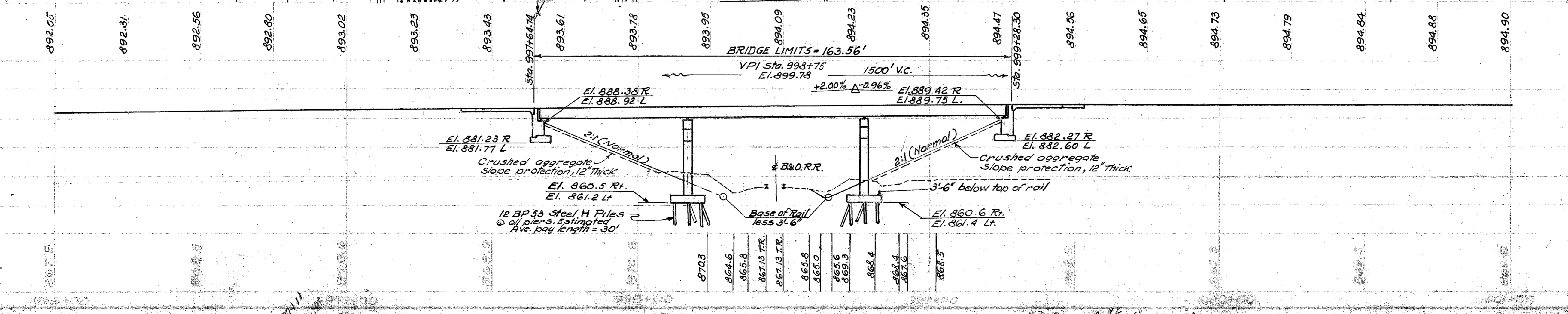
SITE PLAN

BRIDGE No. FRA-1-0298 R.&L.
S.R.-1 over B.&O.R.R.
S.R.-1 [I.R.-71] FRANKLIN COUNTY
STA. 997+64.74 To STA. 999+28.30

W.C. W.C. L.P. R.M.S. N.W. 10/11/62



BENCH MARK
Bridge nail in 40" Elm
180.0' Lt. Sta. 993+63.02
Elev. 865.15



PICKAWAY-FRANKLIN COUNTY
PIC-1-3.06 FRA-1-000

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GENERAL NOTES:

REFERENCE shall be made to Standard Drawings AS-1-54, revised 7-5-62, AR-1-57, revised 4-2-62.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57, together with current revisions thereof.

WELDING of structural steel shall be Class "A" except as otherwise shown. Welds shown as field welds may, at the option of the contractor, be made in the shop.

SHOP PAINTING STEEL: The surface preparation of all steel, requiring shop painting as per the plans and specifications, shall be accomplished by blast cleaning or power tool cleaning, except as noted in the specifications regarding the use of chromate primers.

CONSTRUCTION CLEARANCE of 20' vertically above top of the railroad rails and 8' horizontally from the center of tracks shall be maintained at all times.

SHEETING AND BRACING: Before construction is started, eight sets of prints showing details of the sheeting and bracing to be used for excavation adjacent to the railroad tracks shall be submitted to the Director for approval by the Department of Highways and by the Railroad Company.

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

PILES shall be driven to a minimum bearing capacity of 43 Tons per pile for the piers.

FOUNDATION BEARING PRESSURE: Abutment footings are designed for a minimum bearing pressure of 1.65 Tons per sq. ft.

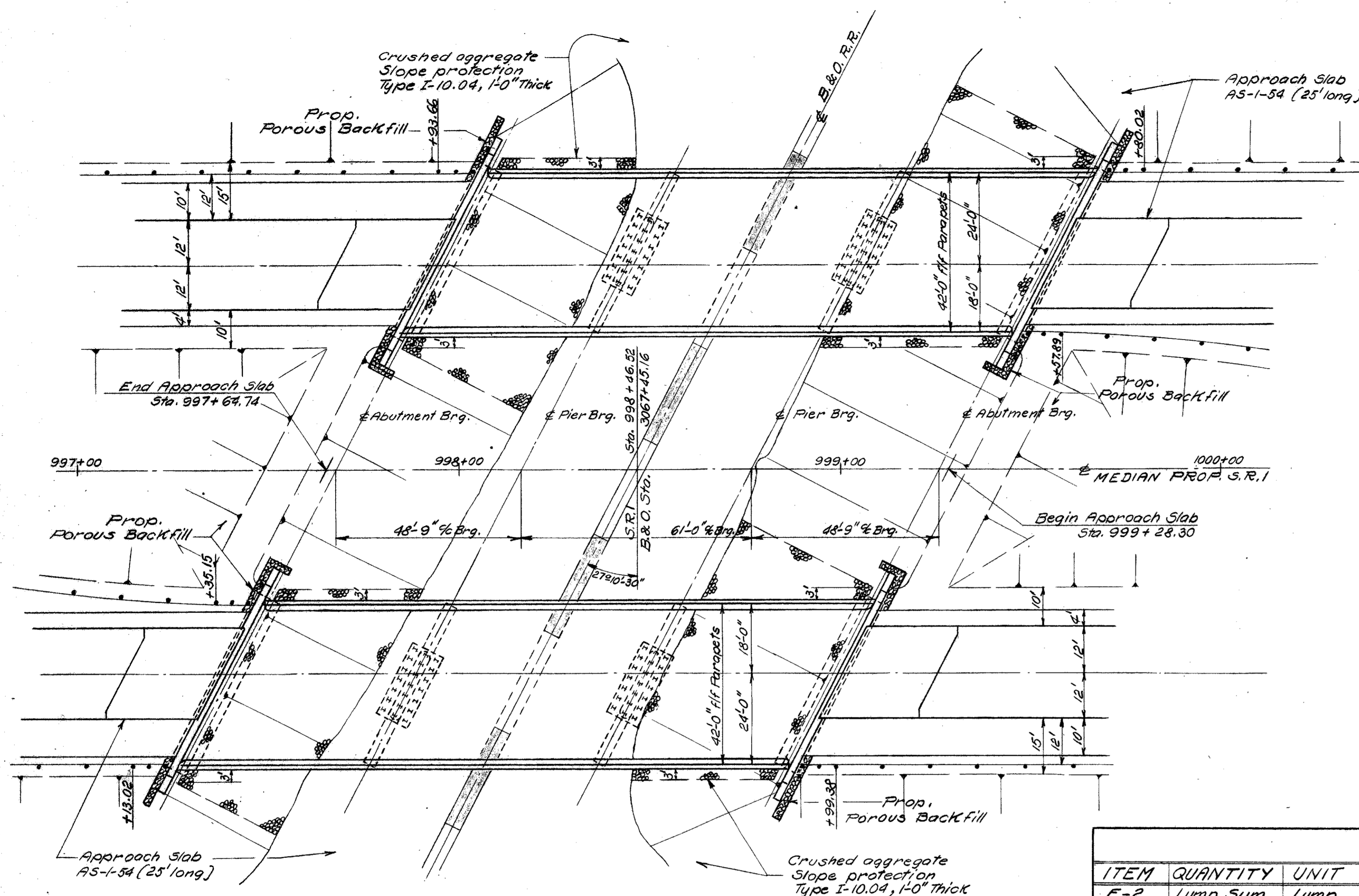
MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.

SHEET LEAD shall conform to the requirements of ASTM Designation B-29 without restriction of the common Desilverized type.

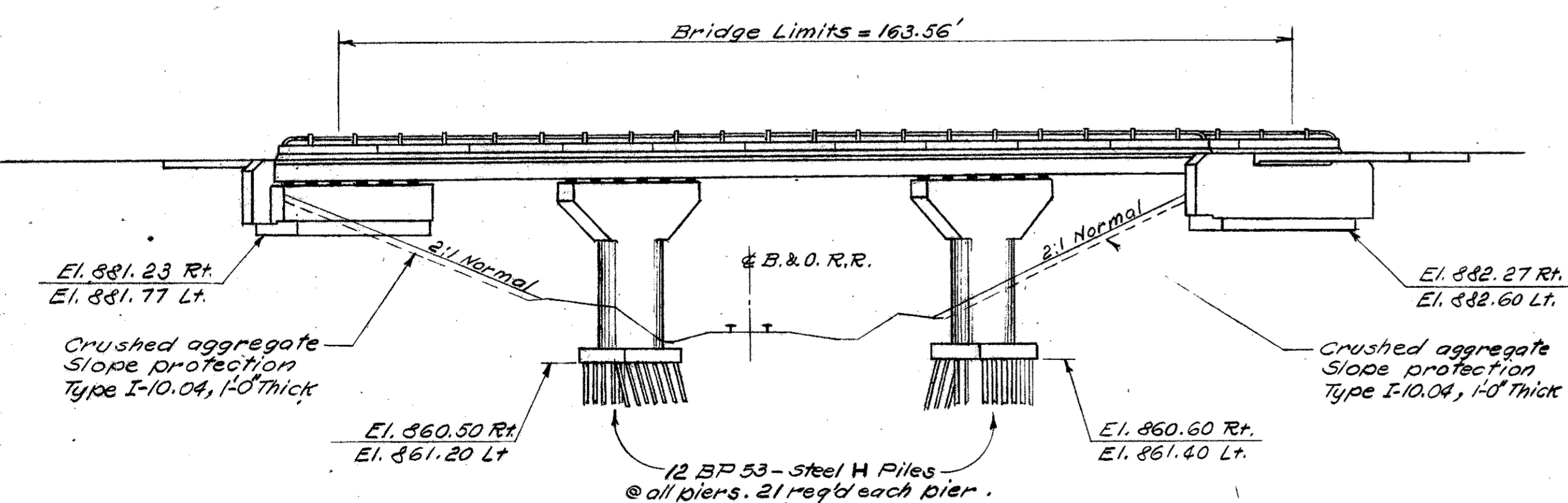
ALIGNING RAILROAD TRACKS: After the Contractor has completed all excavation and backfill adjacent to the railroad tracks in compliance with Sec. E-2.04 and E-2.08 of the Construction and Material Specifications, subject to the Supervision of the Railroad Company, nothing in Sec. E-2.04, E-2.08 or G-8.07 of the Specifications shall be construed to hold the Contractor liable for aligning and resurfacing the railroad tracks.

FORCE ACCOUNT WORK by the Baltimore and Ohio Railroad:

1. Preliminary engineering
2. Engineering and inspection
3. Western Union pole line changes
4. Track work



GENERAL PLAN



GENERAL ELEVATION

ESTIMATED QUANTITIES (TWO STRUCTURES)						
ITEM	QUANTITY	UNIT	DESCRIPTION	ABUT'S	PIERS	SUPER GENERAL AS BUILT
E-2	Lump Sum	Lump	Cofferdams, cribs and sheeting		Lump Sum	
E-2	914	Cu. Yds.	Unclassified Excavation	574	340	
S-1	432	Cu. Yds.	Class "C" Concrete, superstructure			432
S-1	288	Cu. Yds.	Class "E" Concrete, pier walls		288	
S-1	251	Cu. Yds.	Class "E" Concrete, abutments above footing	251		
S-1	173	Cu. Yds.	Class "E" Concrete, footings	103	70	
S-3	35	Lin. Ft.	Waterproofing, premolded sealing strip	35		
S-4	171,208	Lbs.	Reinforcing steel	13,646	30,400	127,162
S-7	366,000	Lbs.	Structural steel			366,000
S-8	366,000	Lbs.	Field painting of structural steel			366,000
S-14	640.08	Lin. Ft.	Railing, aluminum rail and supports and concrete parapet			640.08
S-16	Lump Sum	Lump	First Test Pile **		Lump Sum	
S-18	2,520	Lin. Ft.	12 BP 53, Steel H piles		2,520	
S-29	72	Cu. Yds.	Porous Backfill	72		
S-29	22	Each	Scuppers			22
I-10	1,236	Sq. Yds.	Crushed aggregate slope protection			1,236
Special	432	Each	Water-reducing, set-retarding admixture *			432

* See proposal note

** Payment will be made for only one first test pile. It may be driven for either right or left bridge.

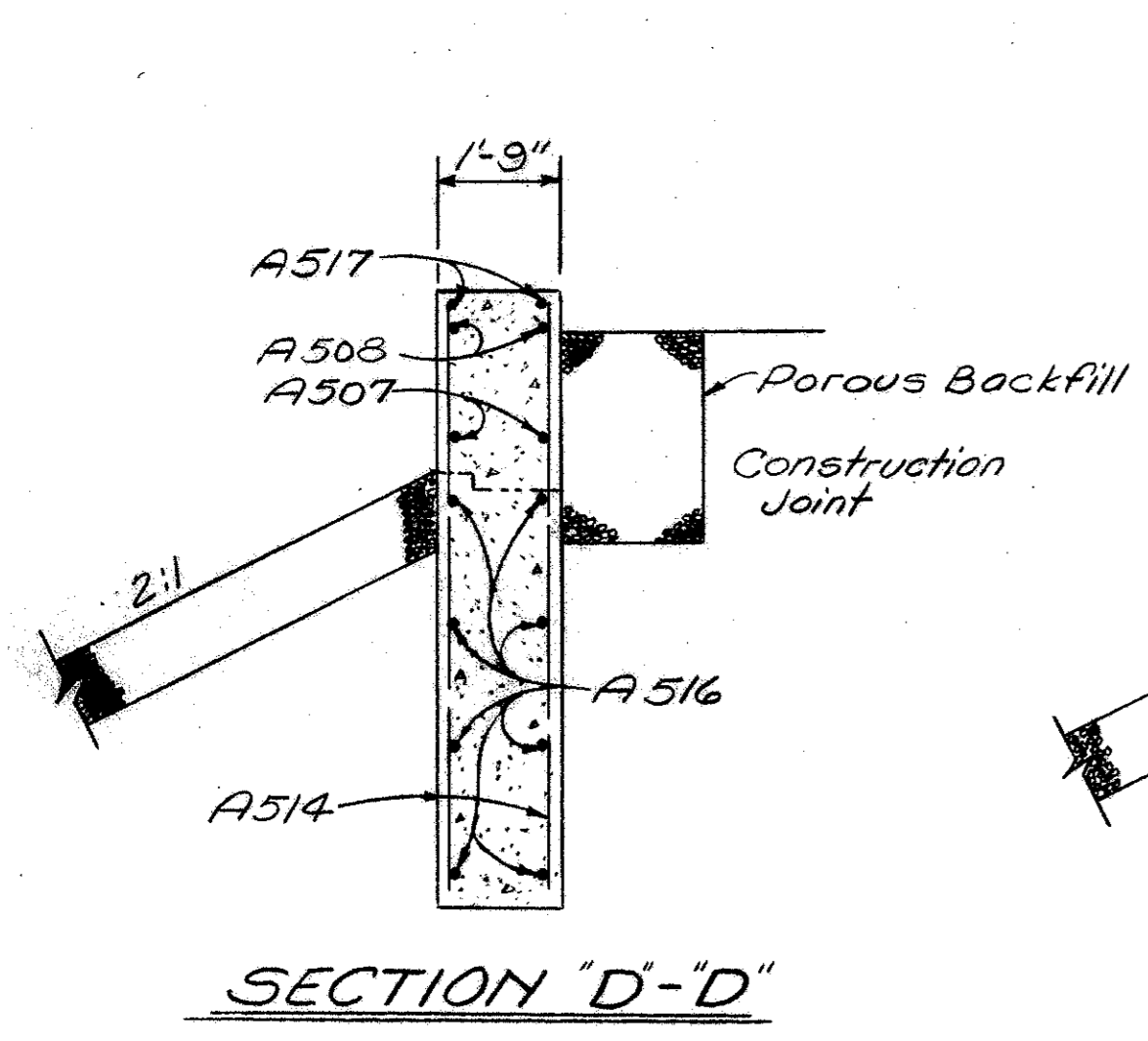
BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD.
Consulting Engineers
245-249 S. Paint Street Chillicothe, Ohio

GENERAL PLAN and ELEVATION
EST. QUANTITIES and GEN. NOTES

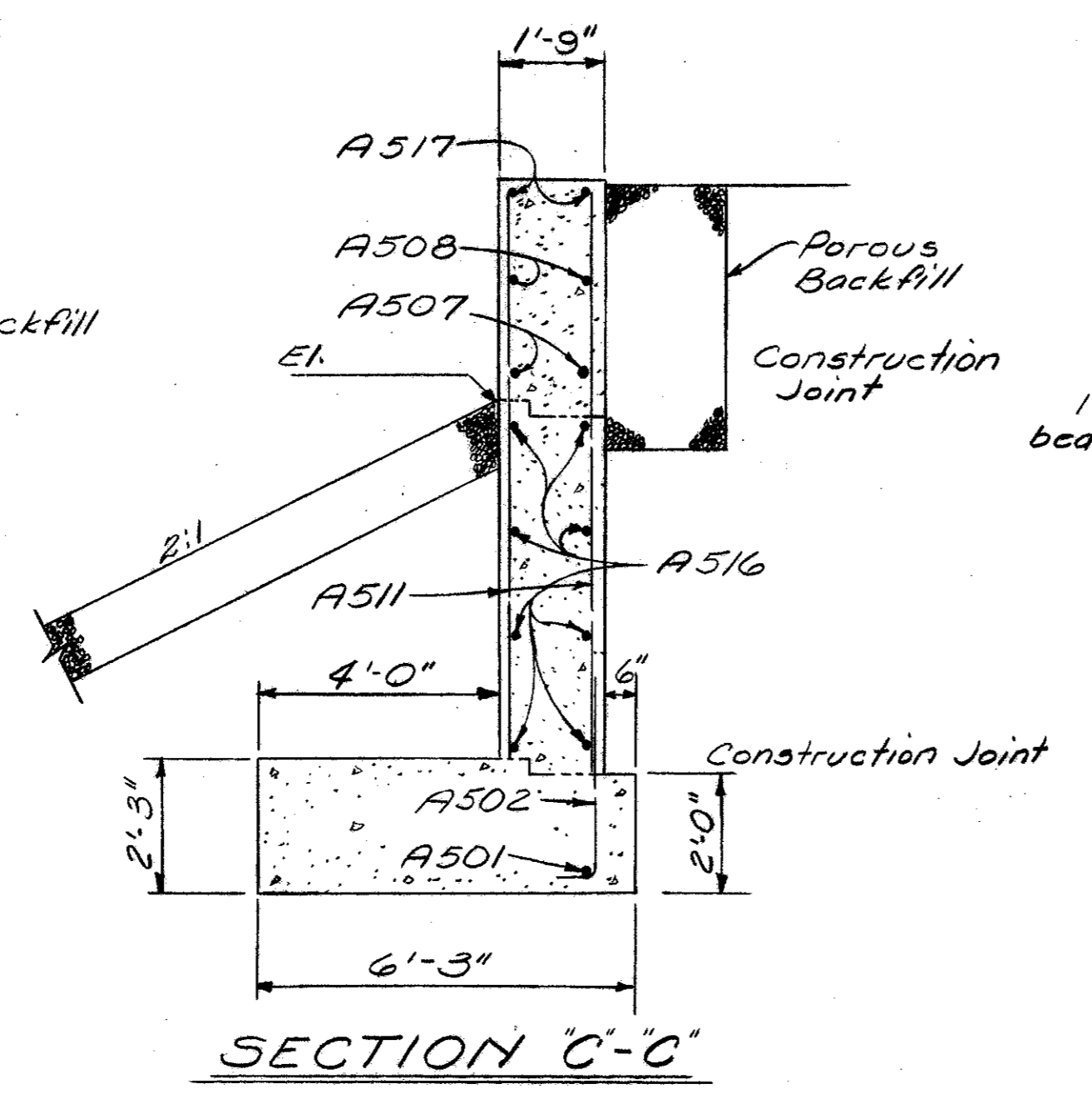
BRIDGE No. FRA-1-0298 R.&L.
S. R.-1 over B. & O. R.R.
S. R.-1 (I. R.-7) FRANKLIN COUNTY
STA. 997+64.74 To STA. 999+28.30
SCALE DATE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.I.C.	L.P.		R.M.S.	WK	10/11/62	

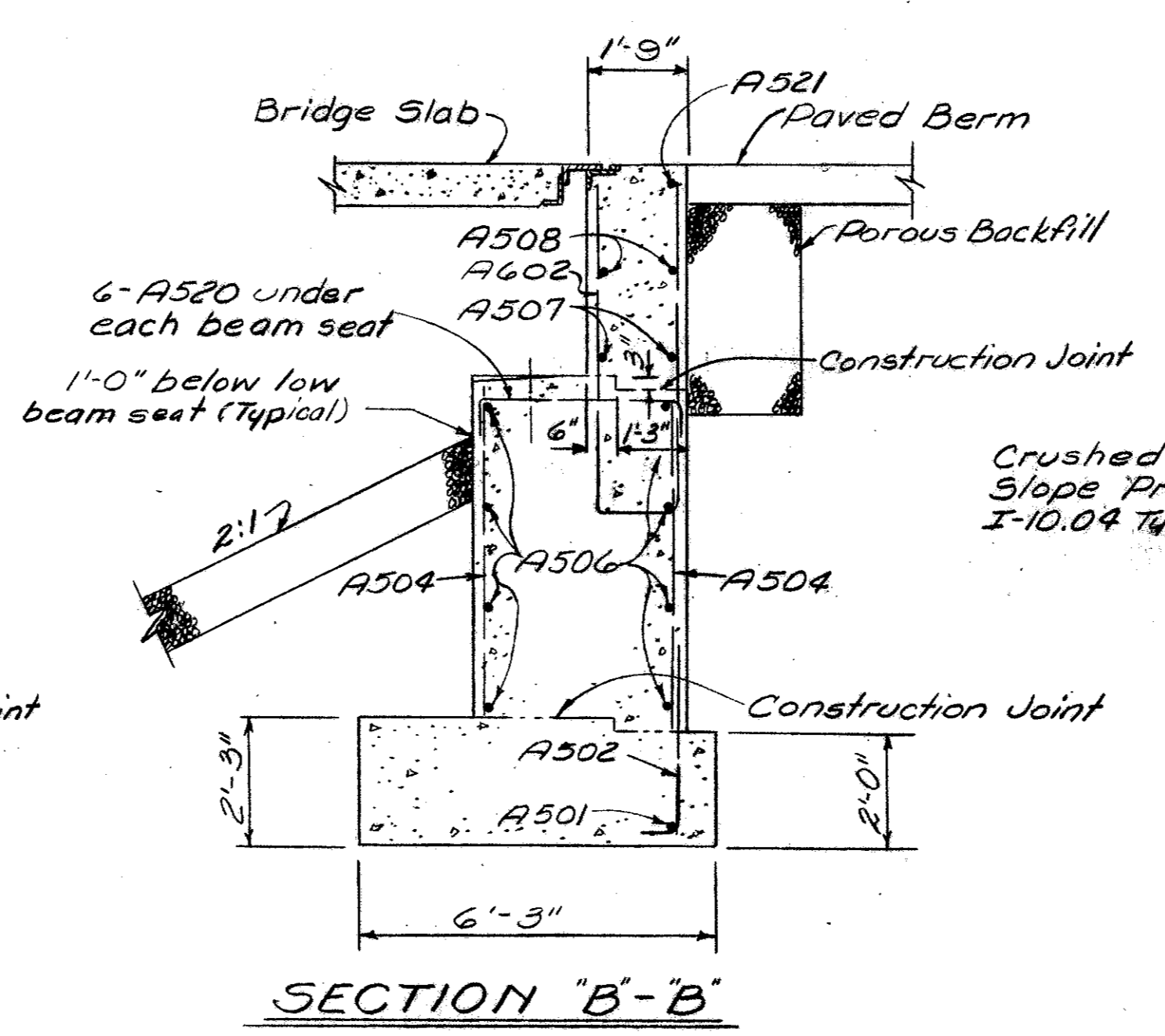
REPRODUCTION
JAN 21 1997



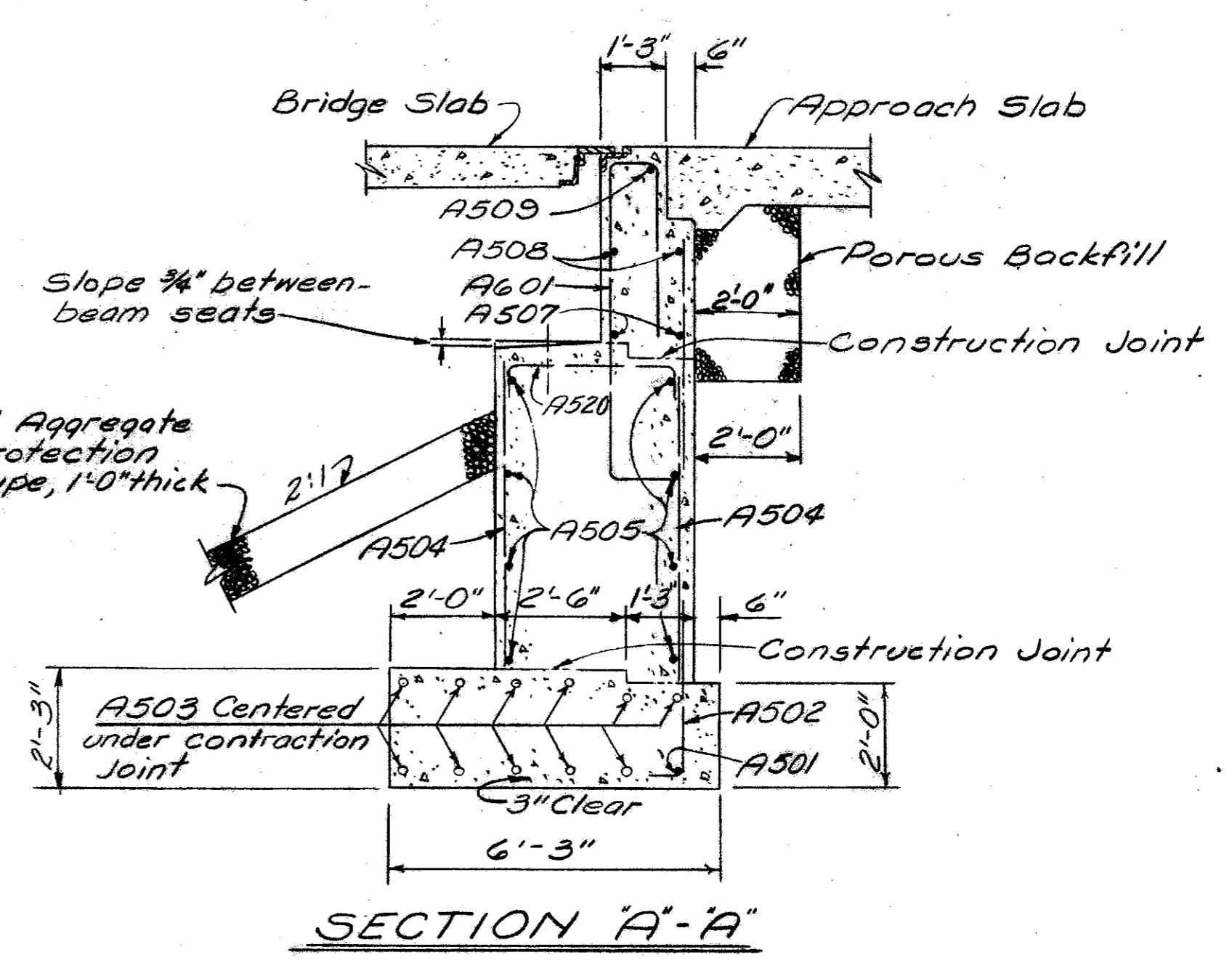
SECTION "D-D"



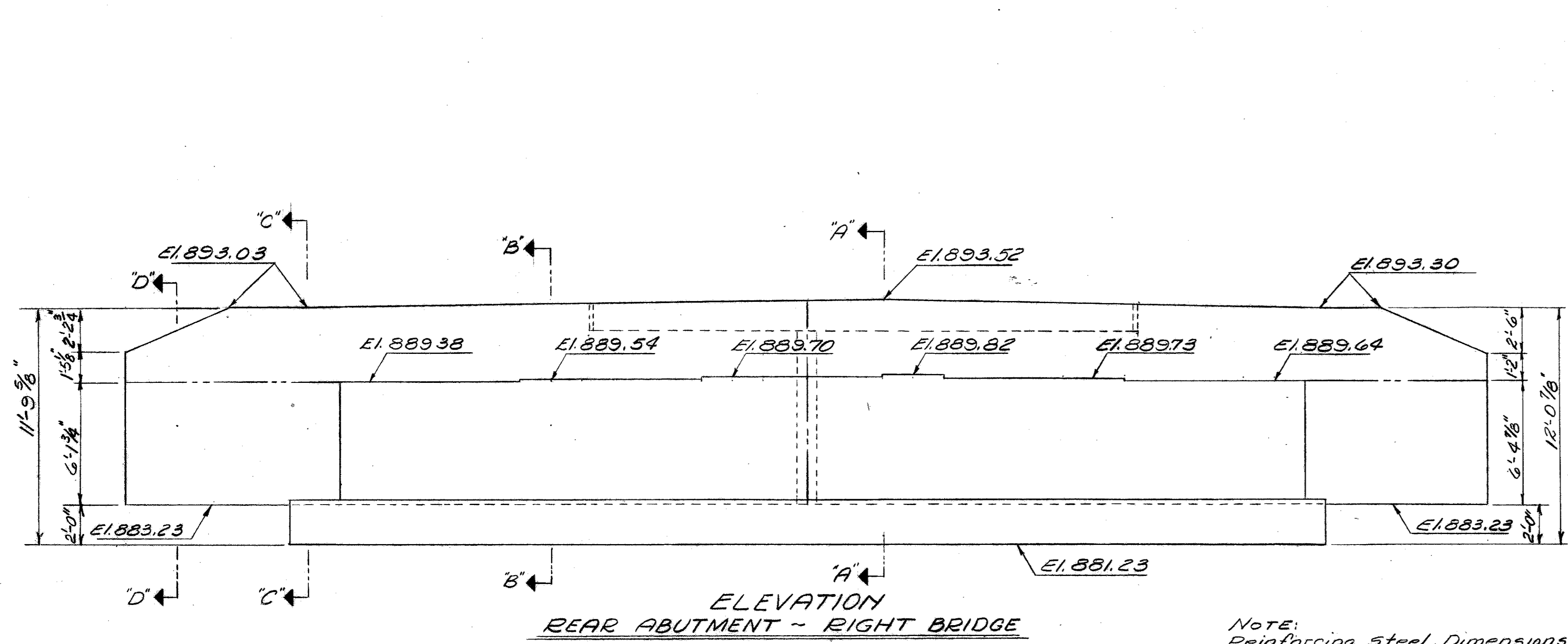
SECTION "C-C"



SECTION "B-B"

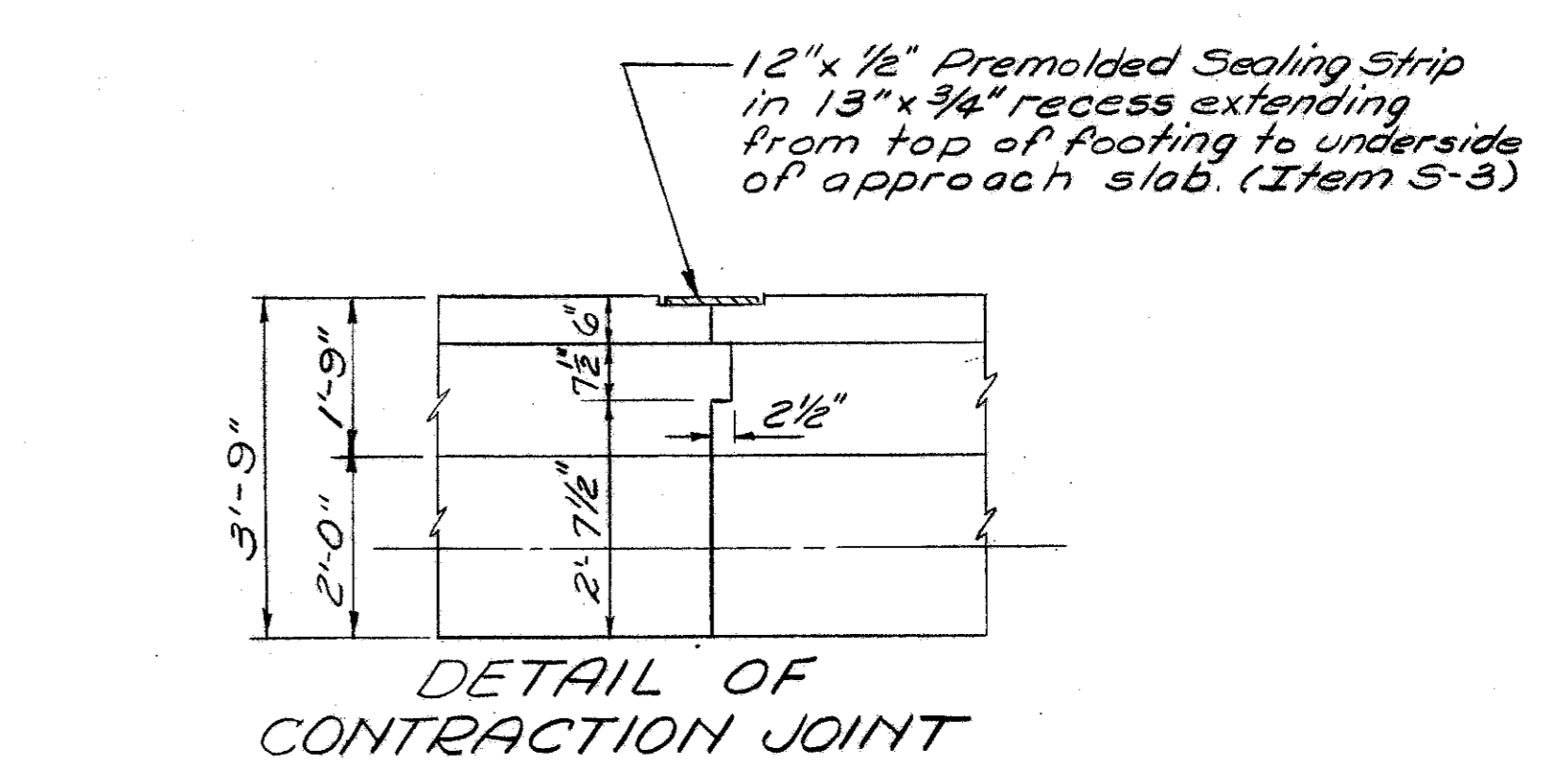


SECTION "A-A"



ELEVATION
REAR ABUTMENT - RIGHT BRIDGE

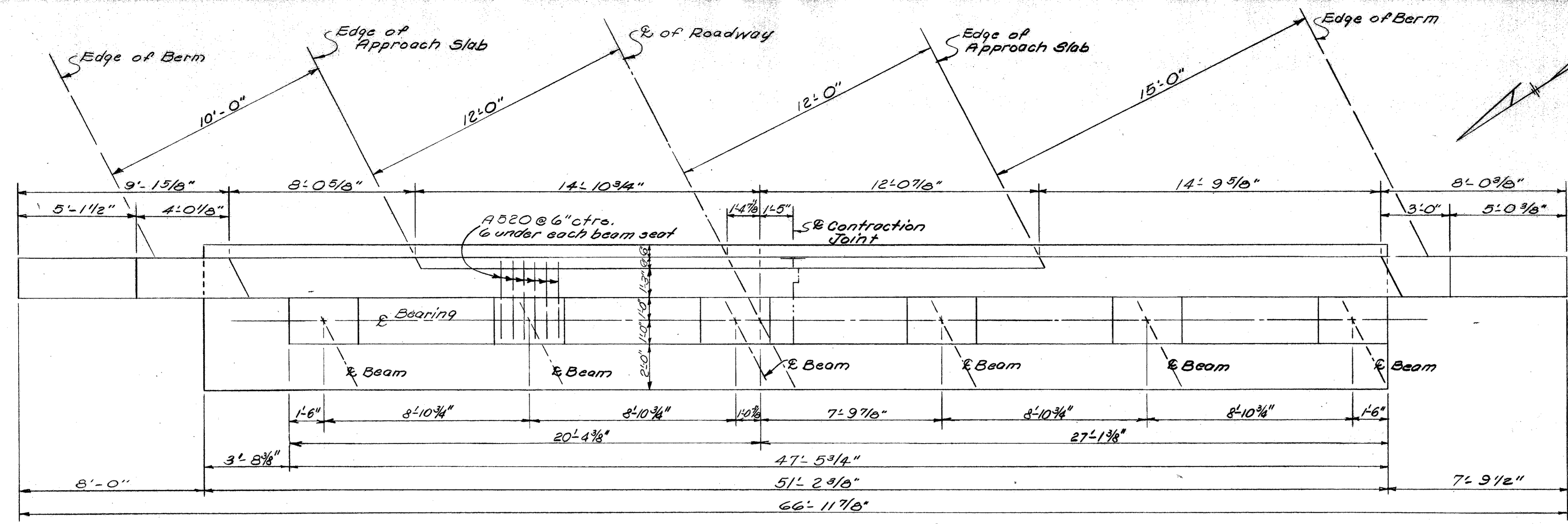
NOTE:
Reinforcing steel, Dimensions and
Details not shown same as
Forward Abutment - Left Bridge



DETAIL OF
CONTRACTION JOINT

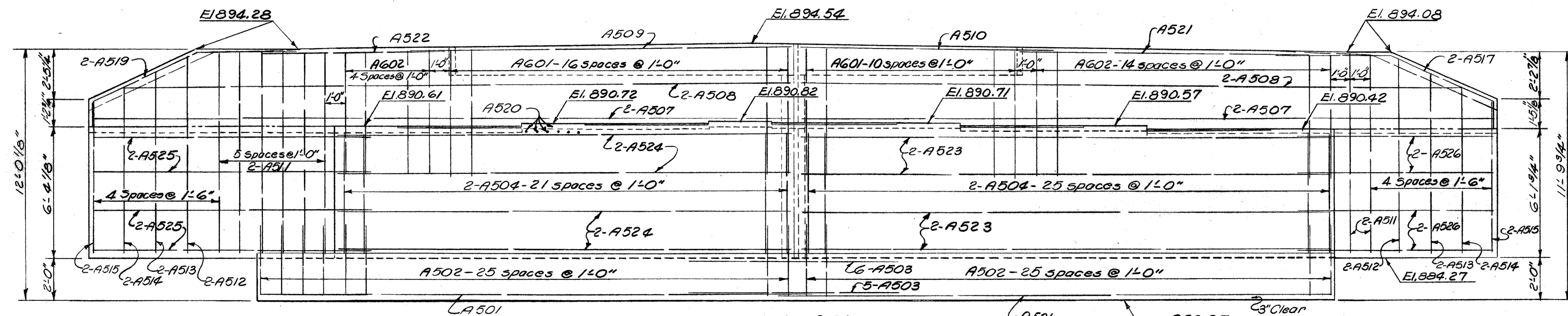
BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD. Consulting Engineers 245-249 S. Paint Street Chillicothe, Ohio					
ABUTMENT DETAILS					
BRIDGE NO. FRA-1-0298 R&L S.R.-1 OVER B.&O. RAILROAD					
S.R.-1 (I.R.-71) FRANKLIN COUNTY STA. 997+64.74 TO STA. 999+20.30					
SCALE DATE					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
FHA	WDS	FHA	E.E.R.	JK	10/11/62

JAN 21 1967

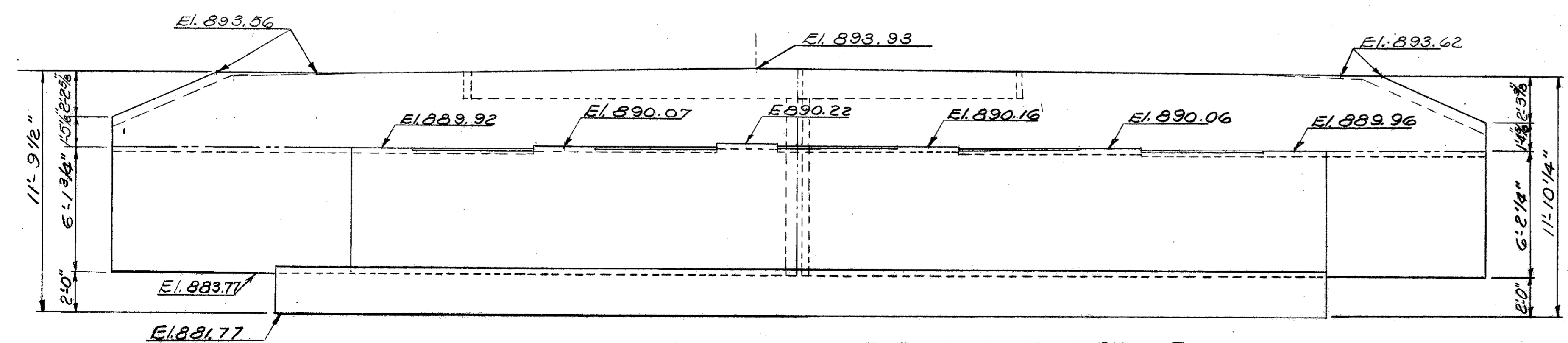


PLAN
 FORWARD ABUTMENT - RIGHT BRIDGE

~ NOTES ~
 Details not shown are similar to Forward Abutment - Left Bridge.
 Concrete for Abutments shall be Class 'E'.
 Porous Backfill shall extend upward to the approach slab, paved berm and to the surface of the earth shoulders and outward to the surface of the embankment slopes. Excavation therefor, in excess of that required for construction of the footing, shall be considered as paid for in the bid price per cu. rd. paid for porous backfill.



ELEVATION
 FORWARD ABUTMENT - RIGHT BRIDGE



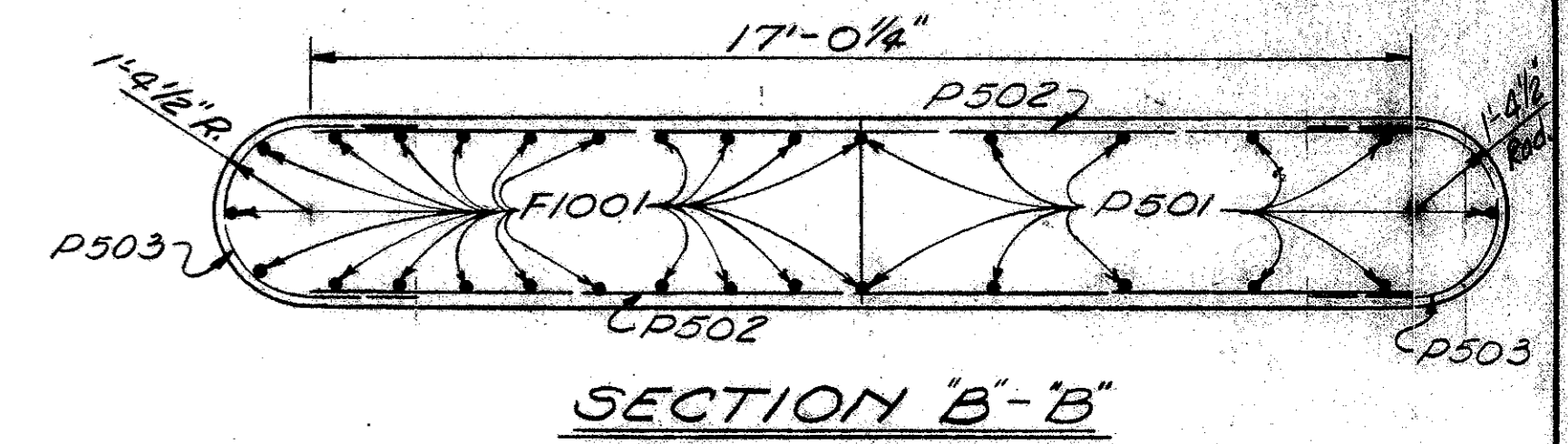
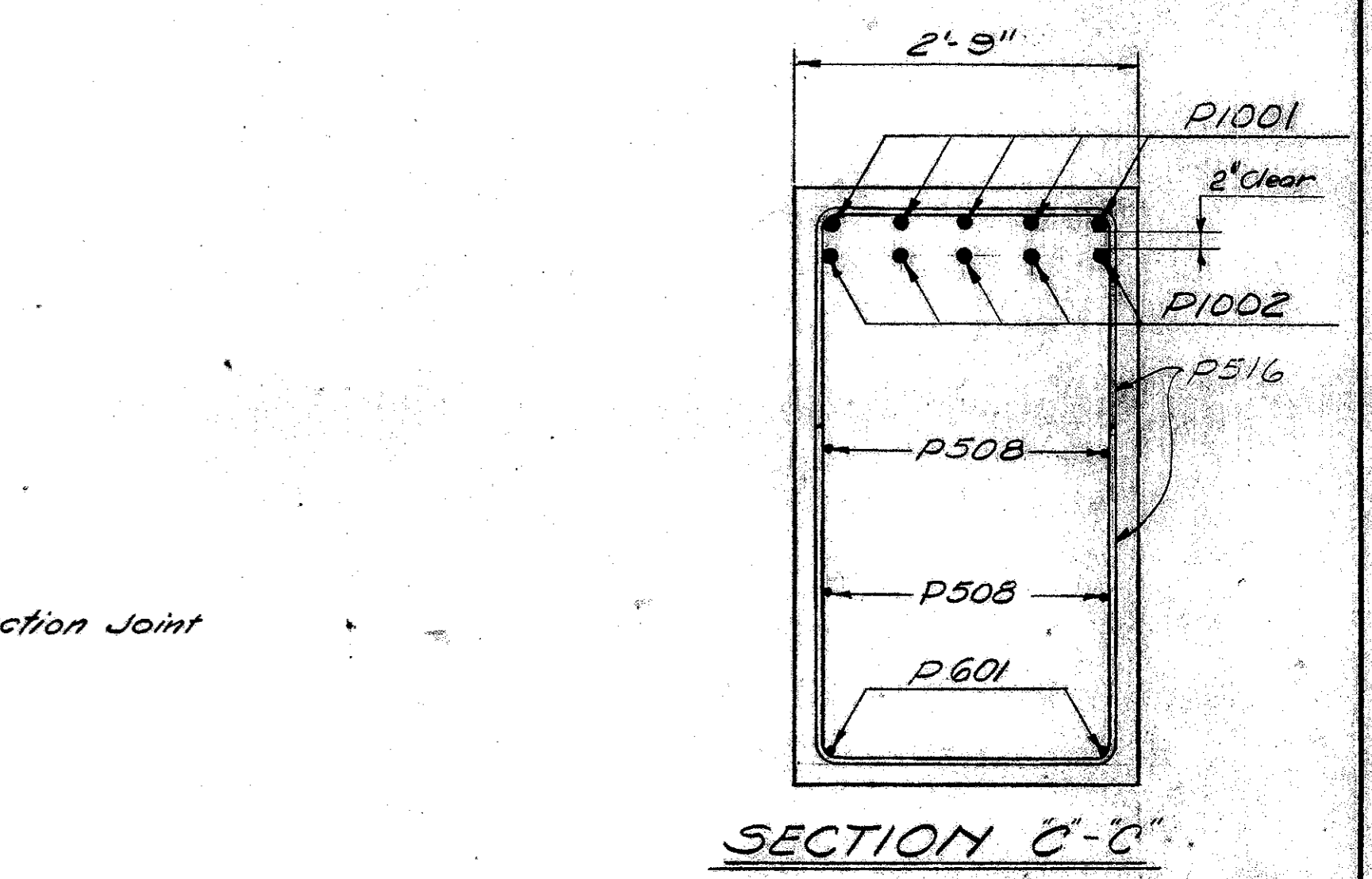
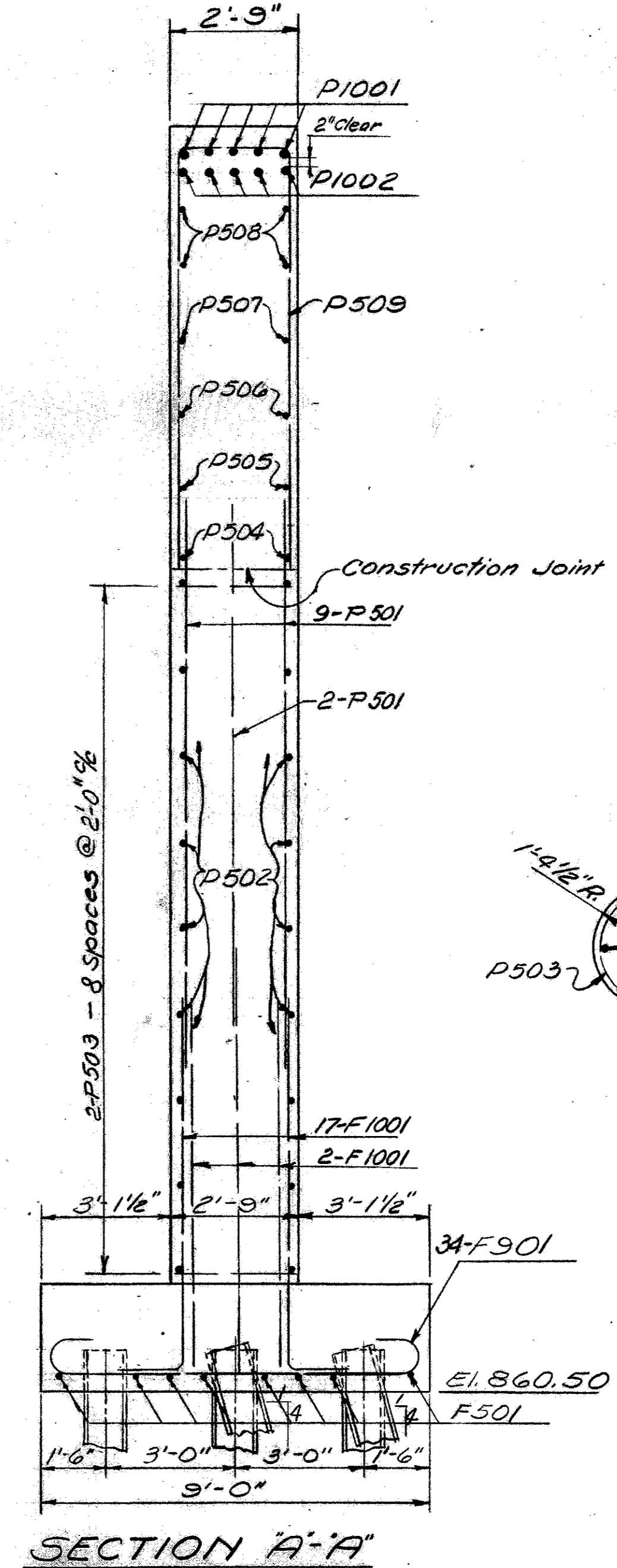
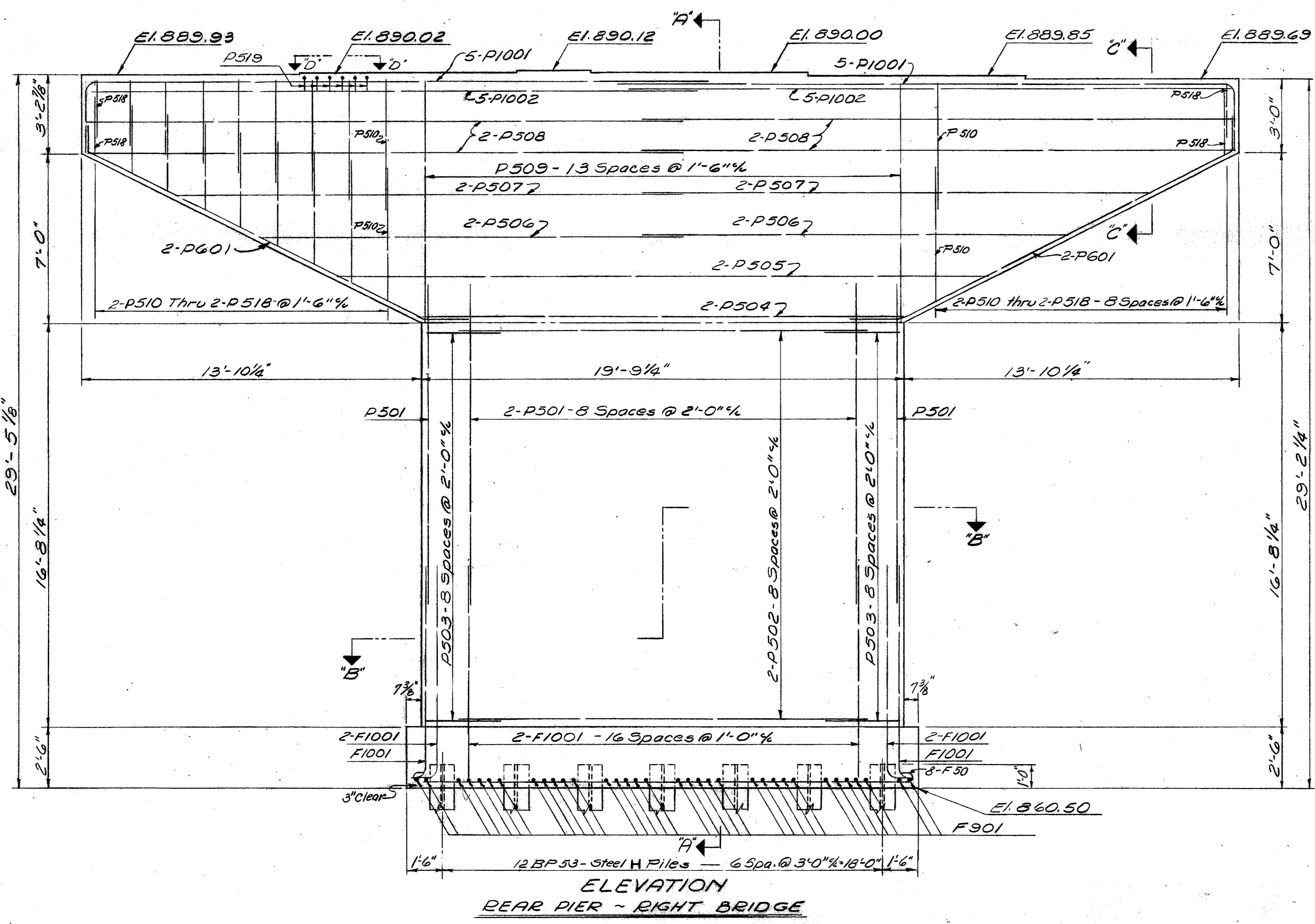
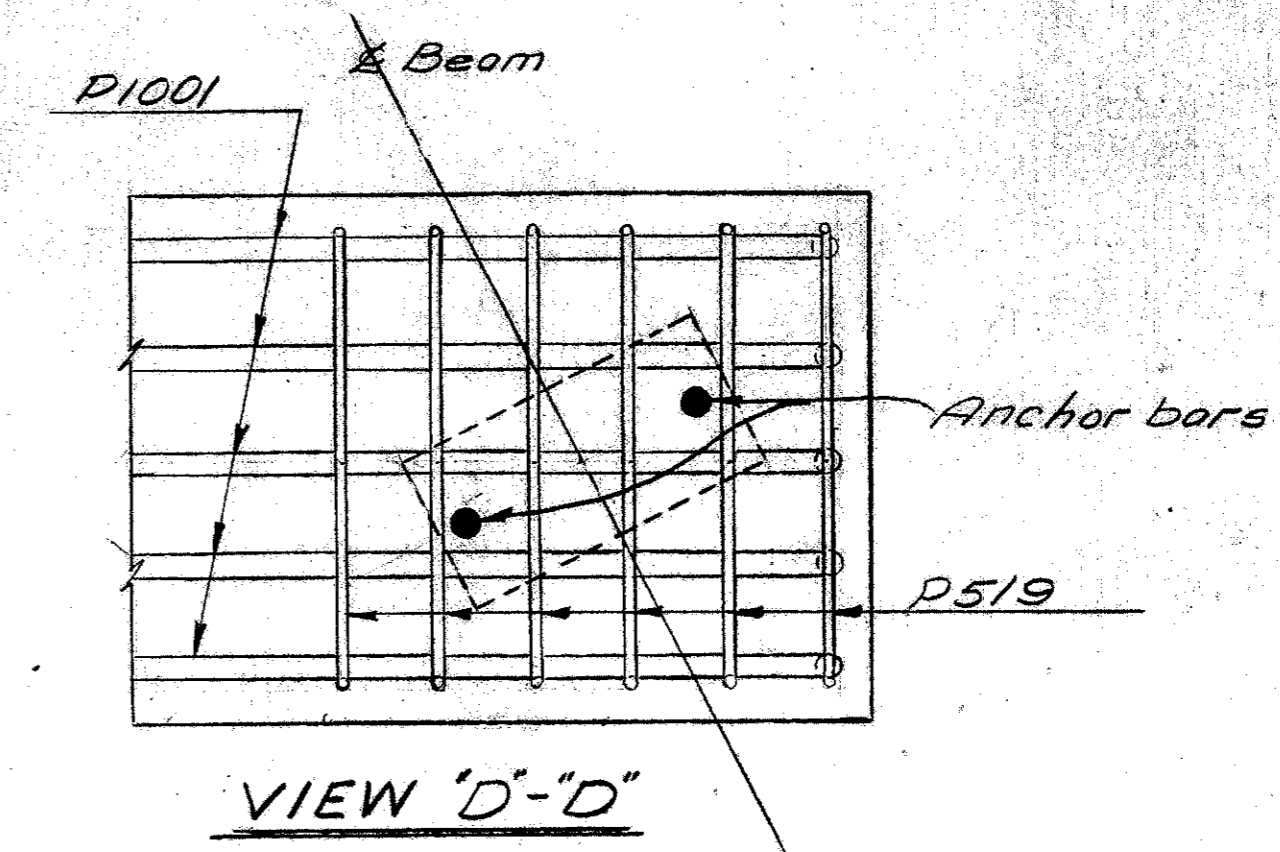
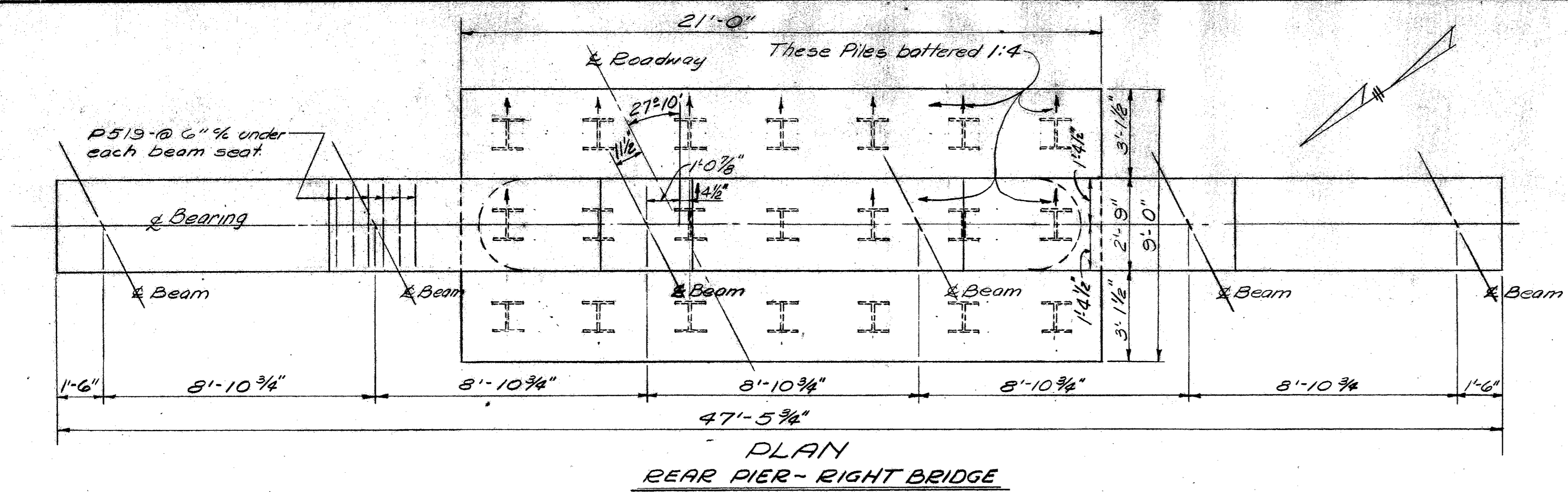
ELEVATION - REAR ABUTMENT LEFT BRIDGE

Note: Reinforcing Steel, details and dimensions not shown are identical to Forward Abutment Right Bridge.

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ABUTMENT DETAILS					
BRIDGE NO. FRA-1-0293 R/L S.R. 1 OVER B. & O. RAILROAD					
S.R. 1 (L.R.T.) FRANKLIN COUNTY STA. 997+64.74 TO STA. 999+28.30					
SCALE	DATE				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
F.H.S.	D.J.M.		E.E.R.	W.K.	10/11/62

PICKAWAY-FRANKLIN COUNTY
 PIC-1-3.06 FRA-1-000

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 JAN 21 1967
 JAN 21 1967

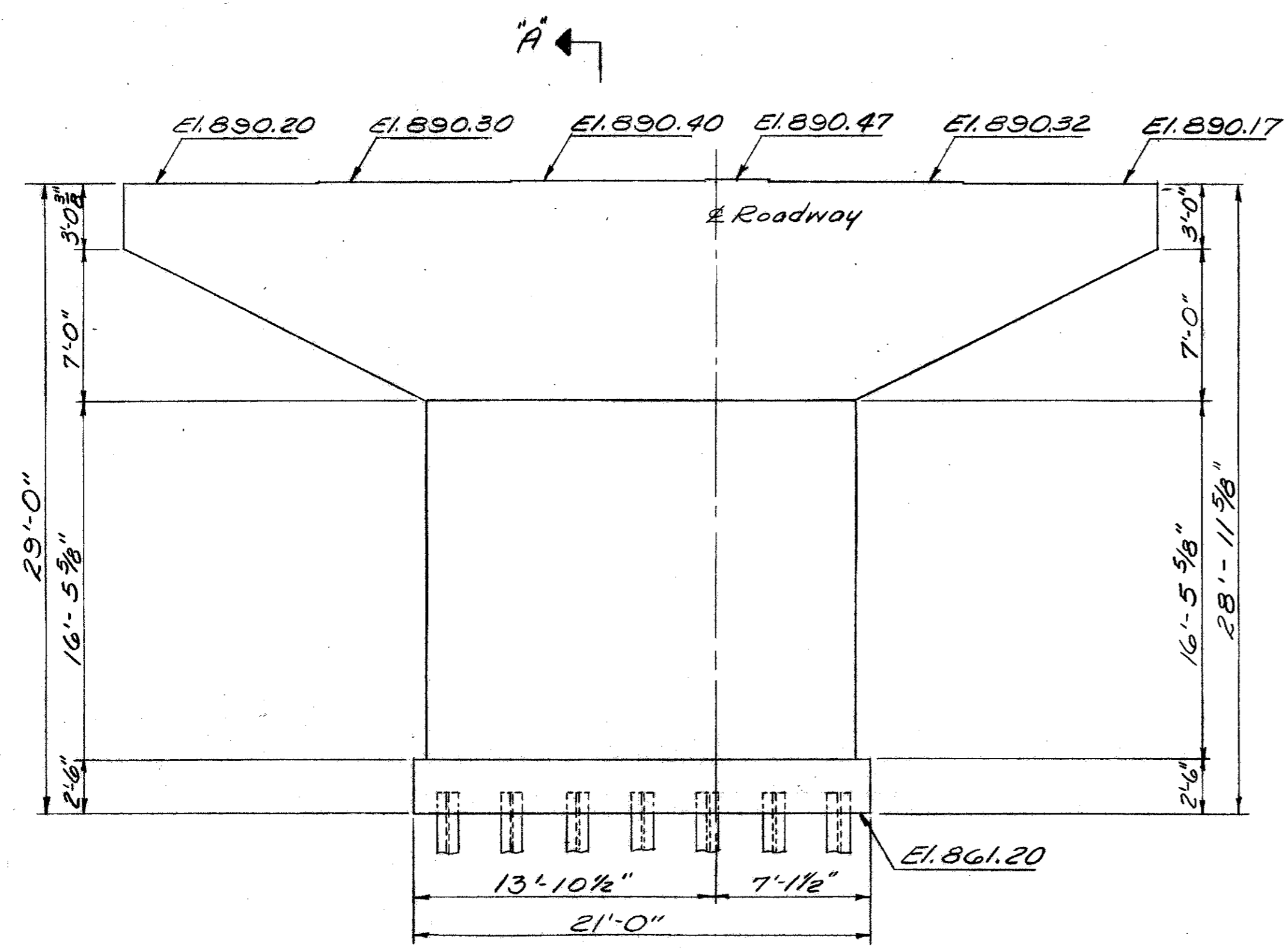


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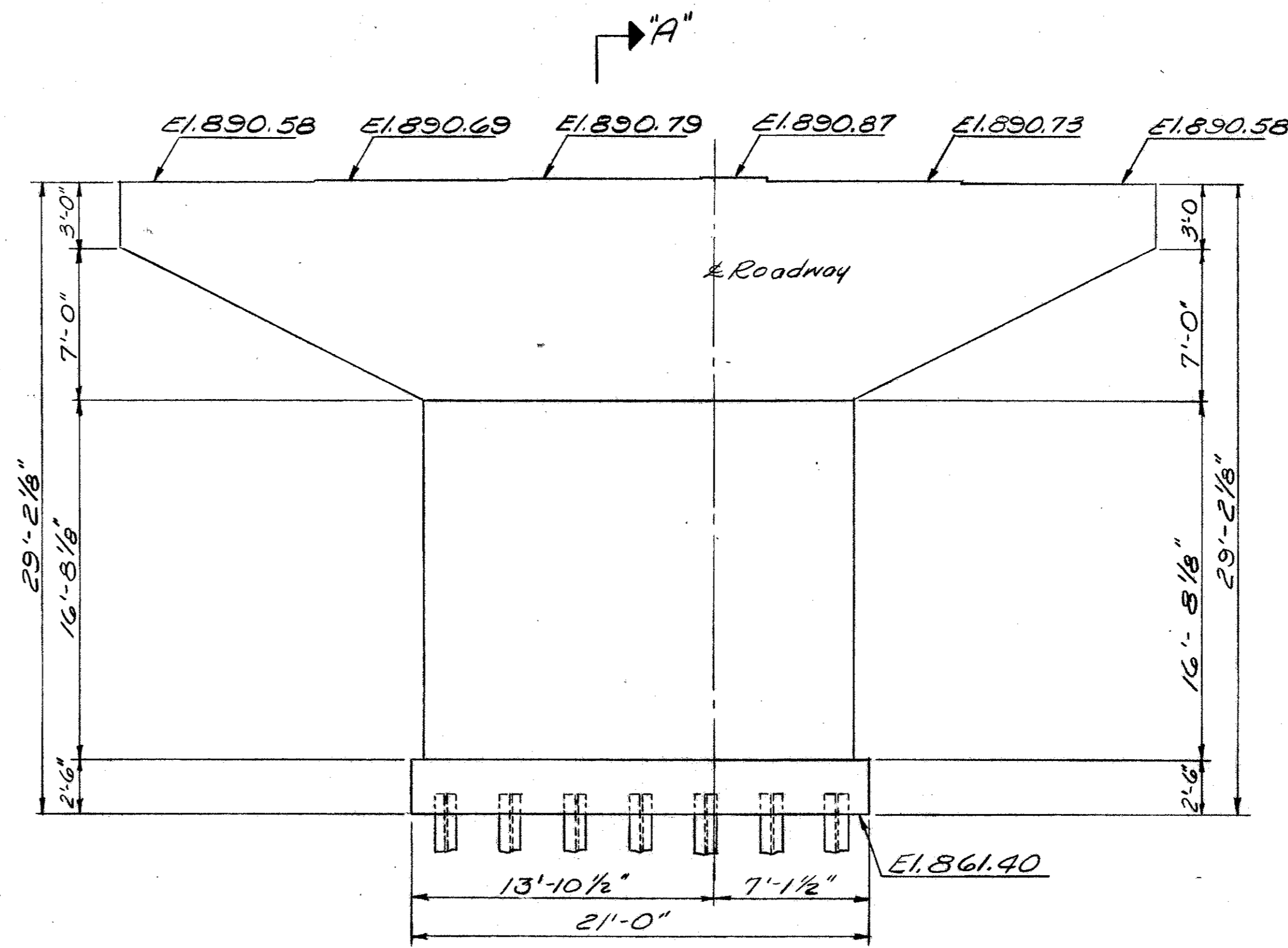
PIER DETAILS
 BRIDGE NO. FRA-1-0298 R/L
 S.P. 1 OVER B. & O. R.R.
 S.R. 1 (I.R. 71) FRANKLIN COUNTY
 STA. 997+64.74 TO STA. 999+28.30

SCALE: _____ DATE: _____

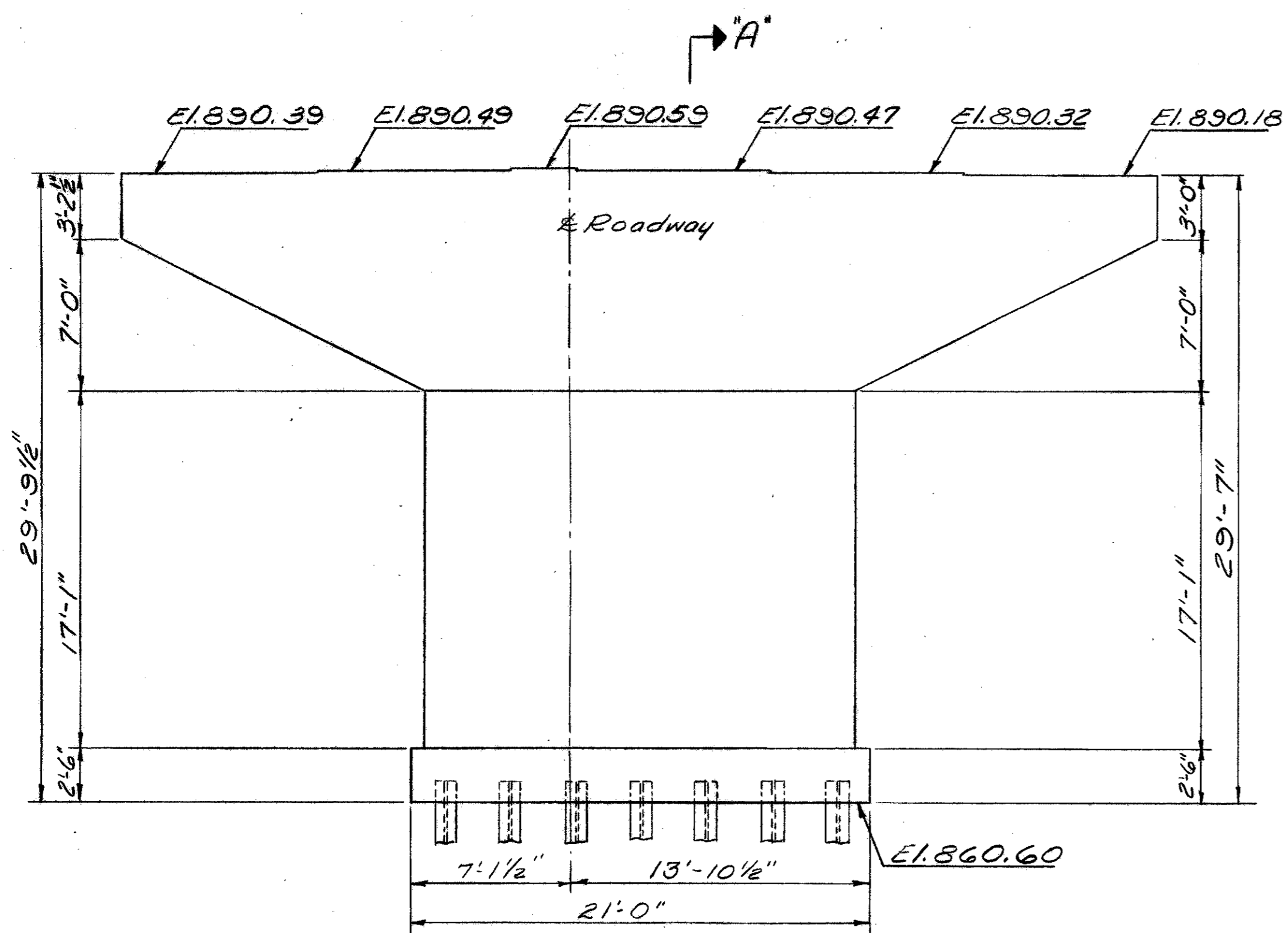
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.E.R.	M.D.J.		R.M.S.	W.K.	10/11/62	



ELEVATION
REAR PIER - LEFT BRIDGE



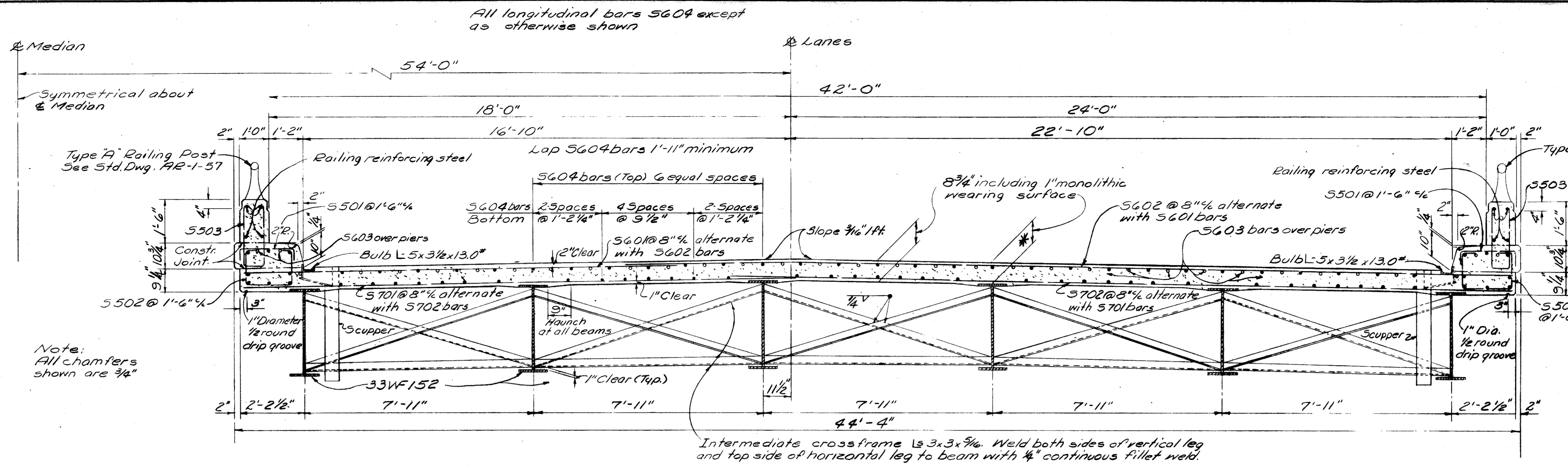
ELEVATION
FORWARD PIER - LEFT BRIDGE



ELEVATION
FORWARD PIER - RIGHT BRIDGE

NOTE:
Reinforcing Steel, dimensions and details not shown are similar to Rear Pier - Right Bridge.

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PIER DETAILS BRIDGE NO. FRA-1-0298 R#L S.B.-1 OVER B.&O. R.R.						
S.B. (I.R. 71) FRANKLIN COUNTY STA. 997+64.74 TO STA. 999+28.30						
SCALE DATE						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.E.R.	W.D.J.		R.M.S.	W.K.	10/11/62	



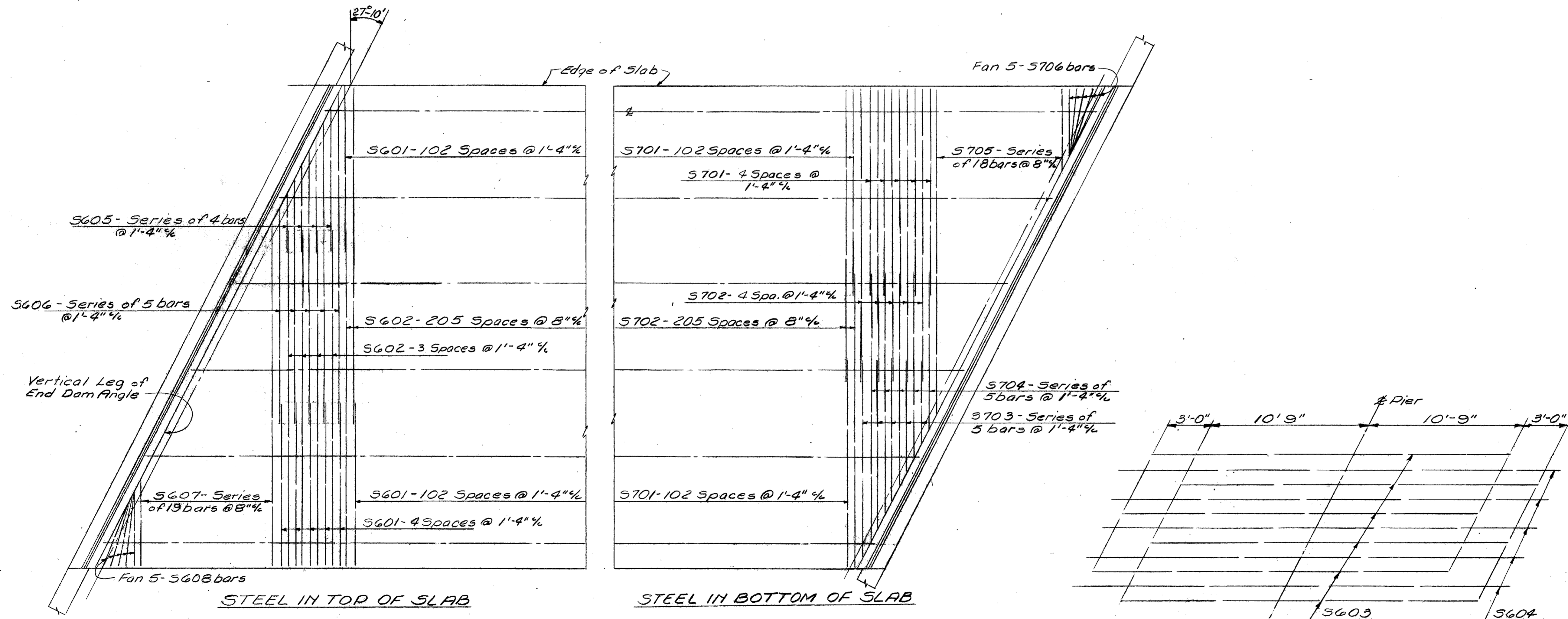
TRANSVERSE SECTION

NOTES

CONCRETE shall be Class "C" for superstructure.

* This is a nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

DECK SLAB HAUNCH: The haunch in the deck slab adjacent to the top of steel beams, which is shown as 5" wide, may vary from this dimension between the limits of 6" and 12", except that the maximum slope shall not exceed 3 inches per foot. Payment for deck slab concrete shall be based on the 5" width.

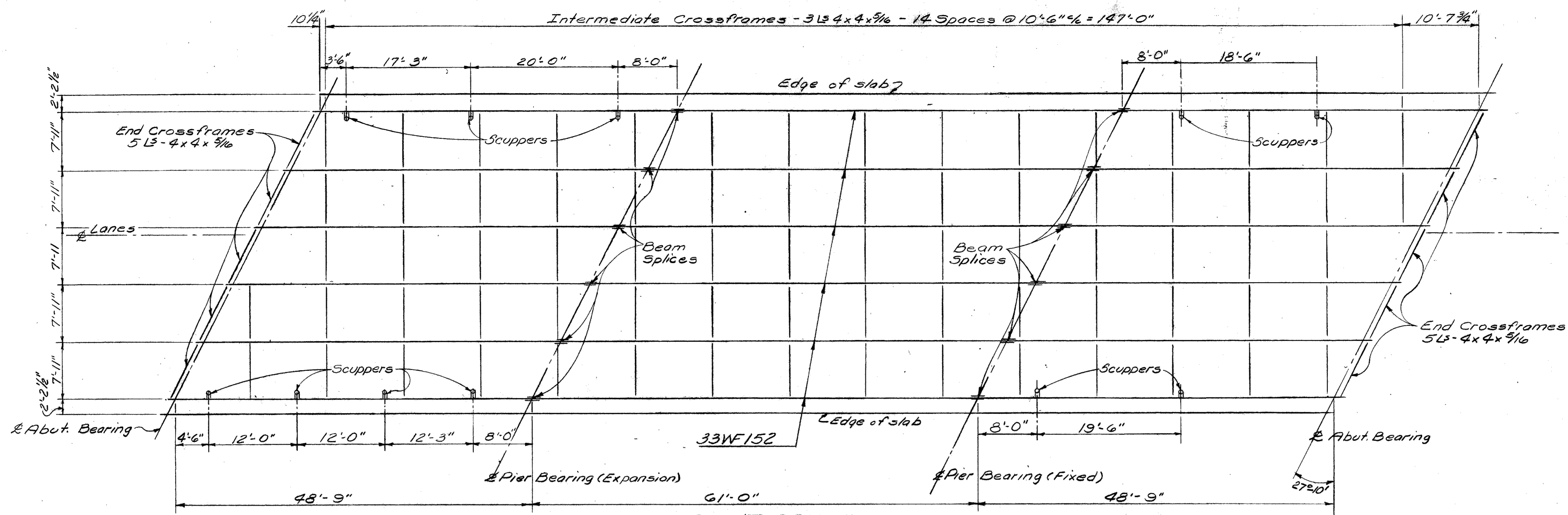


PART SLAB PLAN

DIAGRAM SHOWING STAGGER OF 5603 BARS OVER PIERS

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SLAB REINFORCING DETAILS						
BRIDGE NO. FRA-1-0298 R&L S.R.1 OVER B.&O. R.R.						
S.R.1 (I.R.71) FRANKLIN COUNTY STA. 997+64.74 TO STA. 999+28.30						
SCALE	DATE	DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED
		FAS	M.D.U.		E.E.R.	N.W.
						10/11/62

PICKAWAY-FRANKLIN COUNTY
PIC-1-3.06 FRA-1-000



RIGHT BRIDGE
STEEL FRAMING PLAN

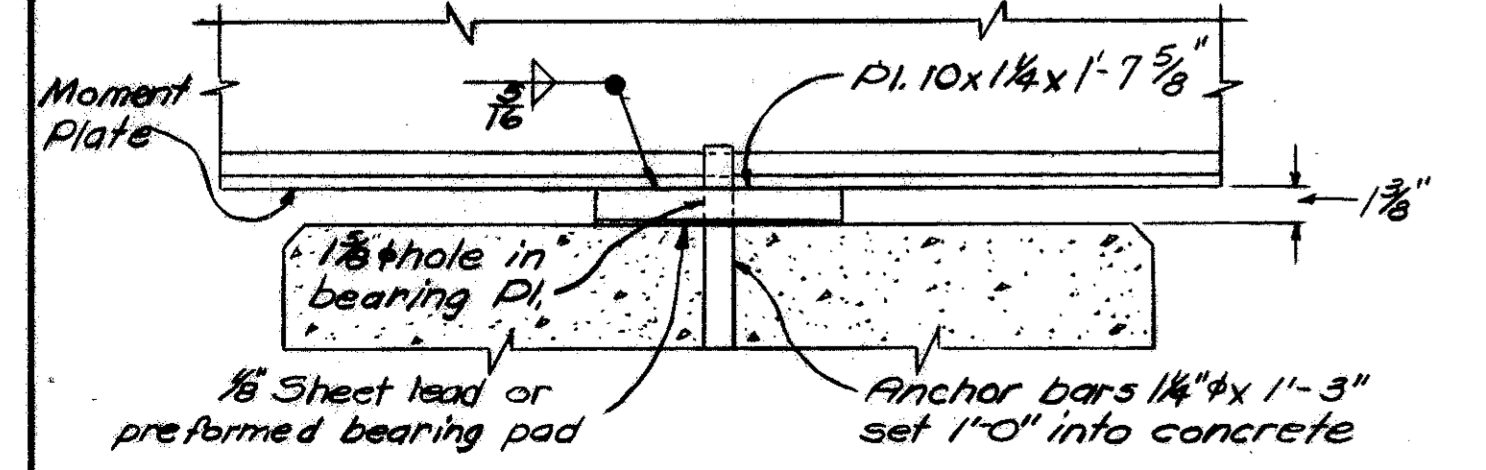
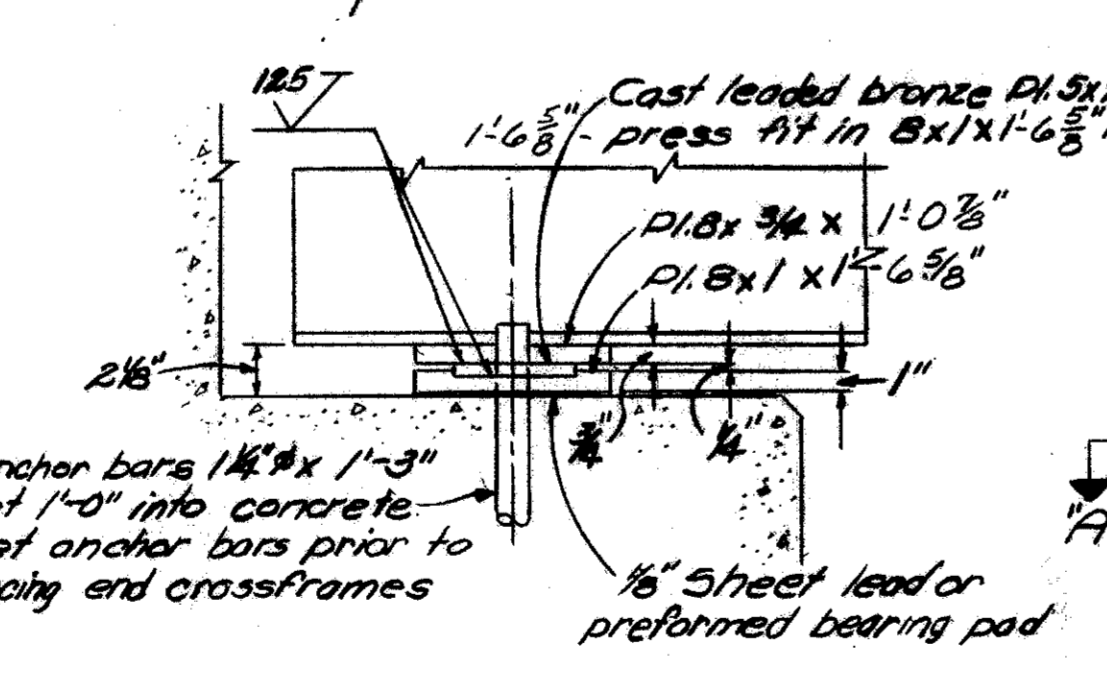
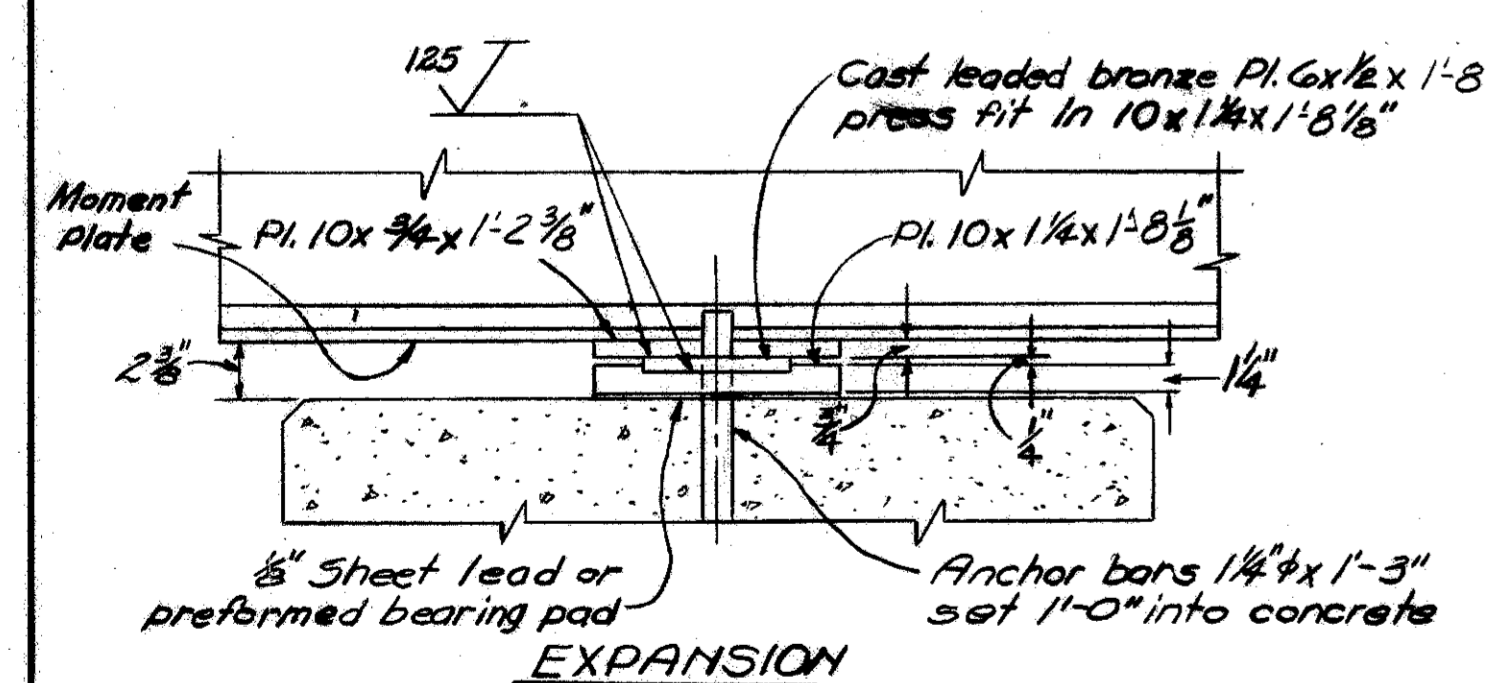
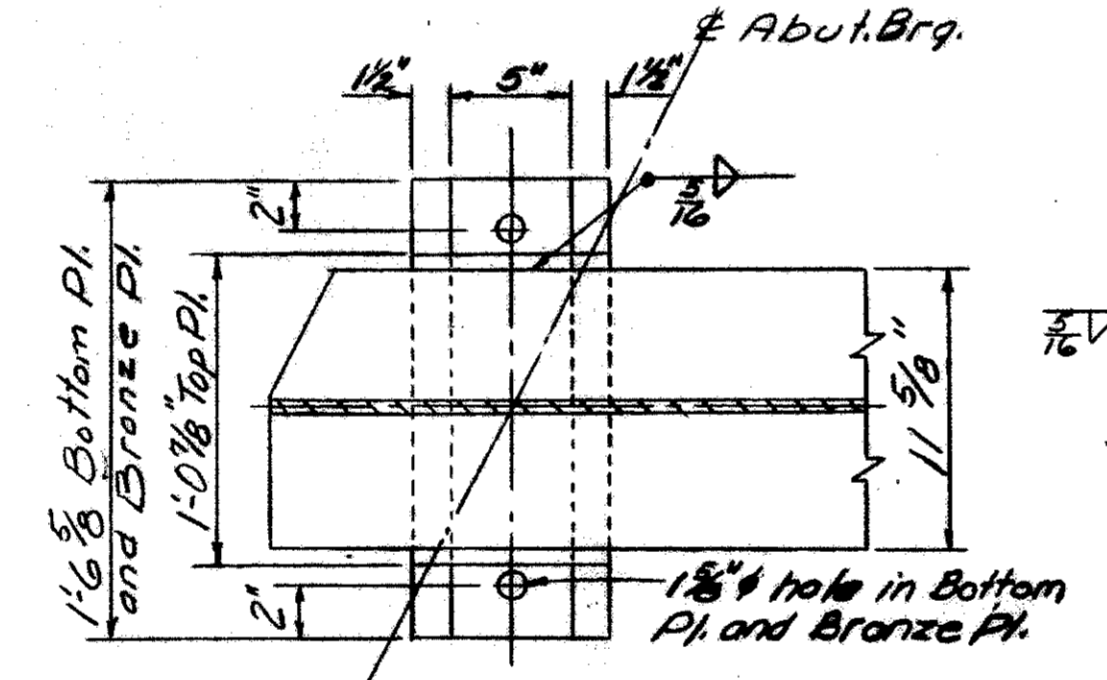
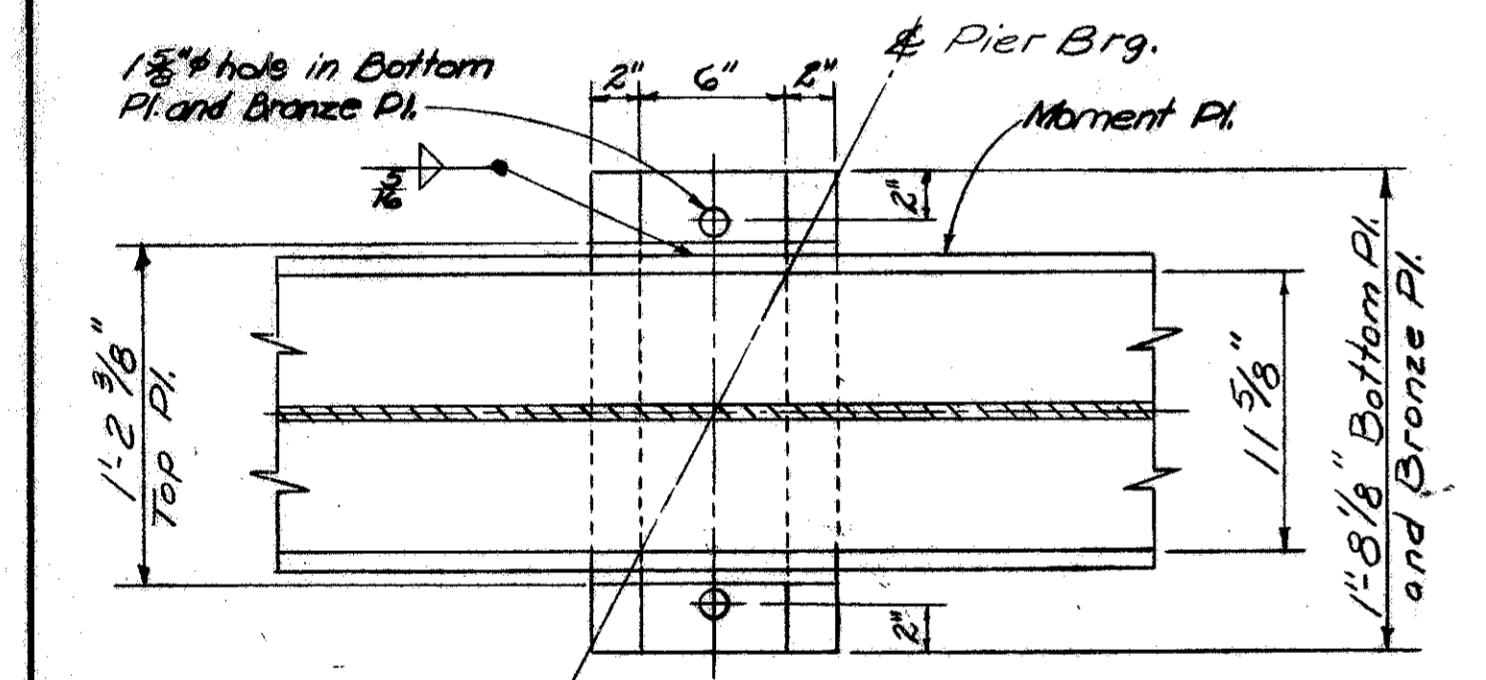
CONTINUOUS BEAM SPLICES: If beams having depths differing by more than 1/8" are to be spliced by butt welding, the depth of the smaller-depth beam shall be increased by splitting the web longitudinal at a distance of 1/2" below the bottom of the top flange and for a distance sufficient to allow the flange to be bent up at a slope of not more than 3/8" per foot, after which the split in the web shall be completely welded with full depth penetration and ground flush.

BEAM SPLICE WELDING PROCEDURE:

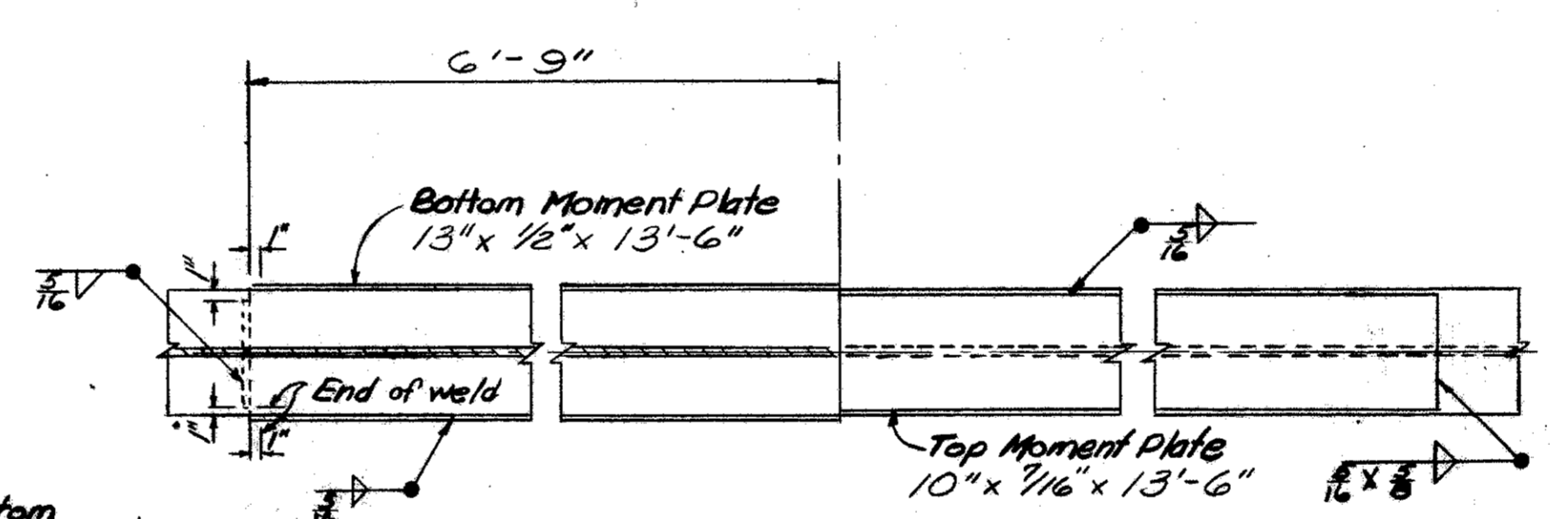
1. Raise the abutment ends of the beams 3/4".
2. Butt-weld the beam flanges and web, using the following sequence: make one pass on each flange, then two on the web; repeat, using one pass at each location, until welds are completed.
3. Weld the bottom and top Moment plates.
4. Lower the beam ends to final position.

CONCRETE DECK PLACING:
In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress up-grade. The slab may be placed in sections, between transverse construction joints which are parallel to transverse reinforcing steel and are located near the center of any span.

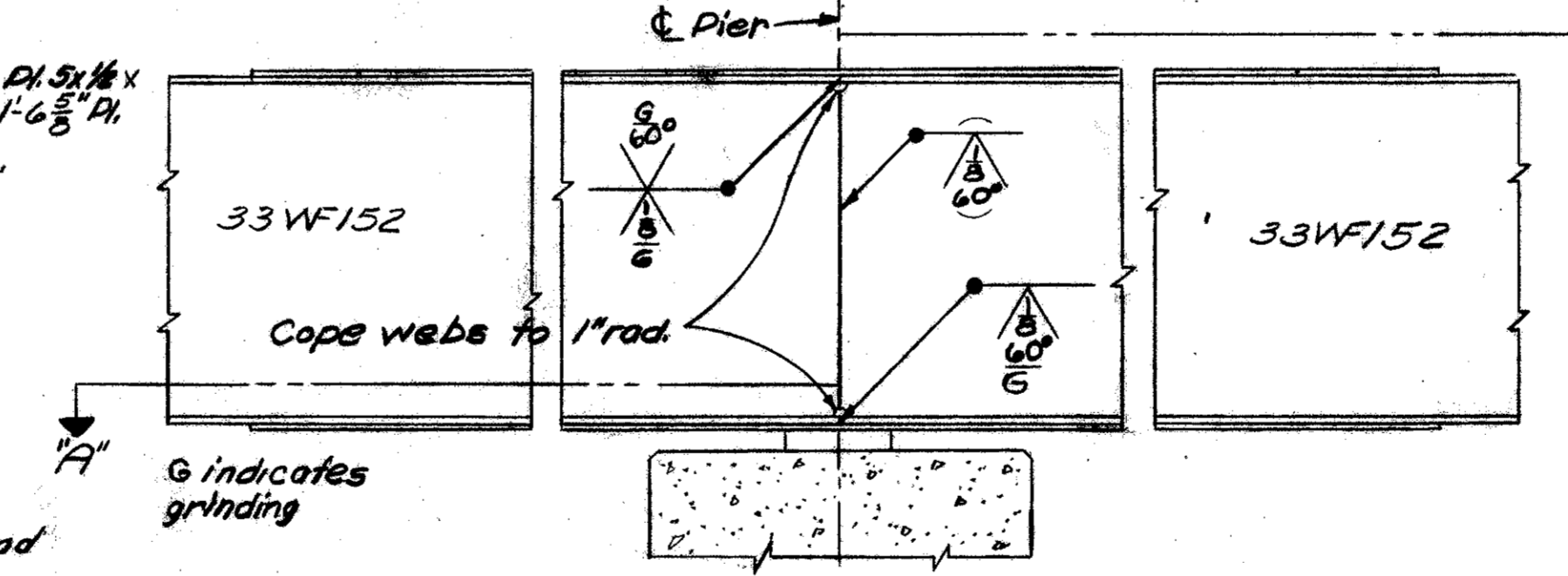
CAMBER: No camber required, however beams shall be so fabricated that any curved beams shall be placed convex flange up.



PIER BEARING PLATES



SECTION A-A



BEAM SPLICE DETAILS

Location	Outside Beams		Inside Beams	
	End Span	Middle Span	End Span	Middle Span
Deflection due to weight of steel	0.03"	0.04"	0.03"	0.05"
Deflection due to remaining dead load	0.17"	0.23"	0.18"	0.24"
Convexity required for vertical curve	0.08"	0.12"	0.08"	0.12"
Sum of Deflection and Convexity	0.28"	0.39"	0.29"	0.41"

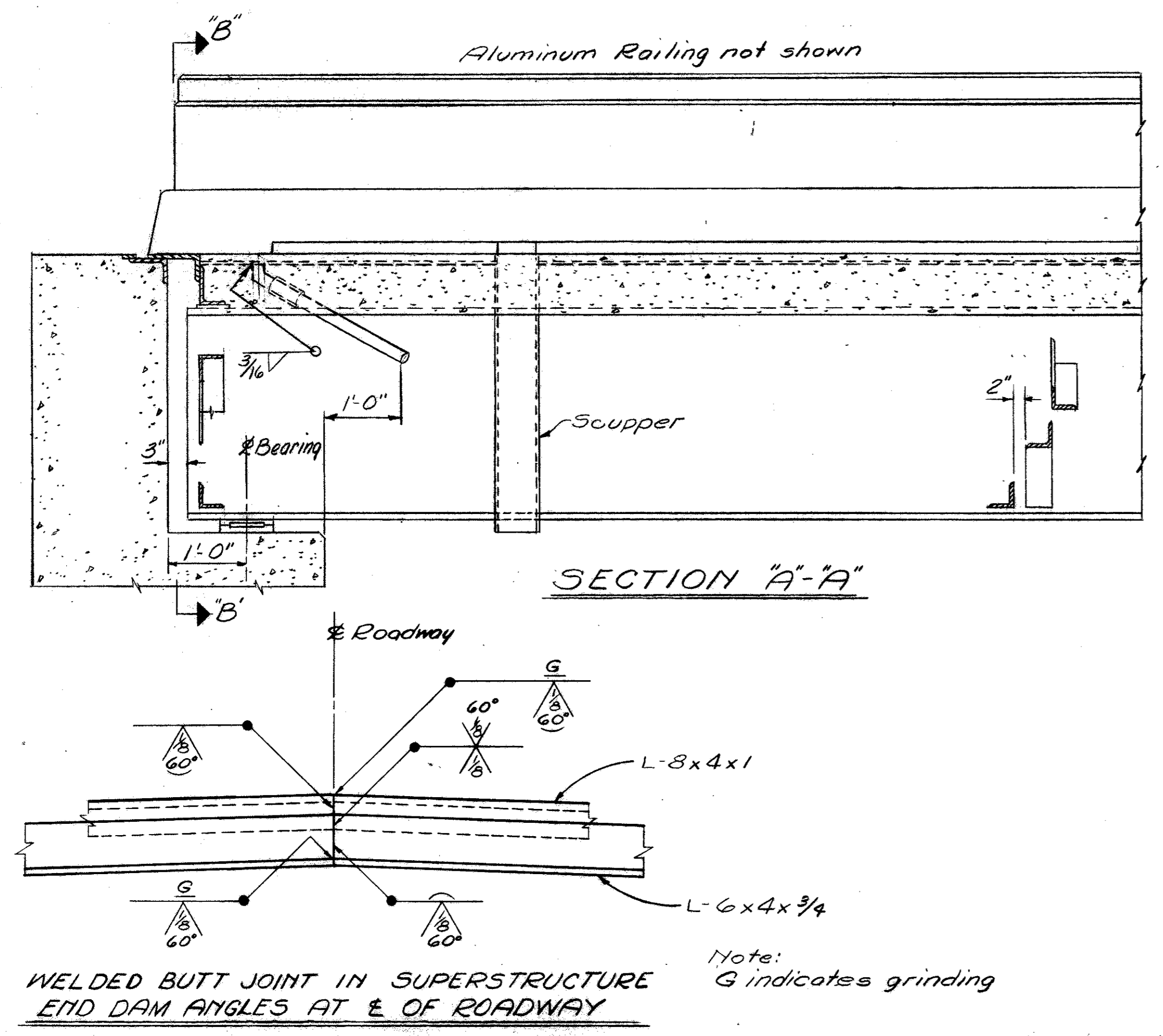
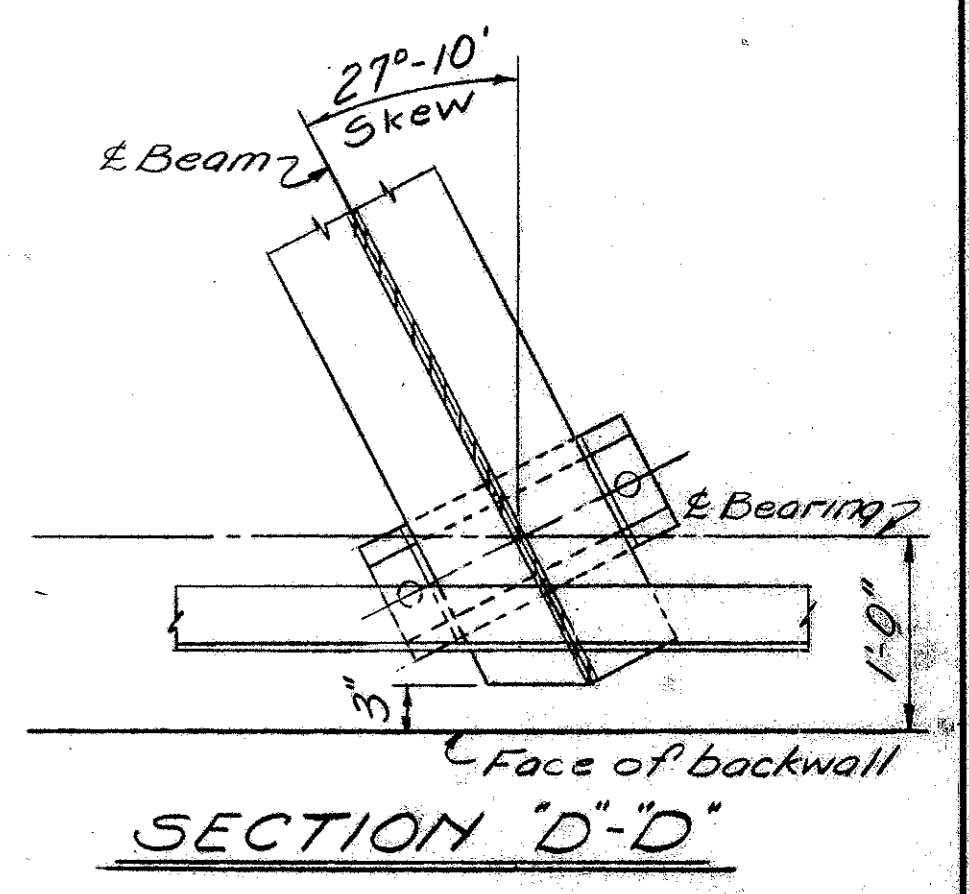
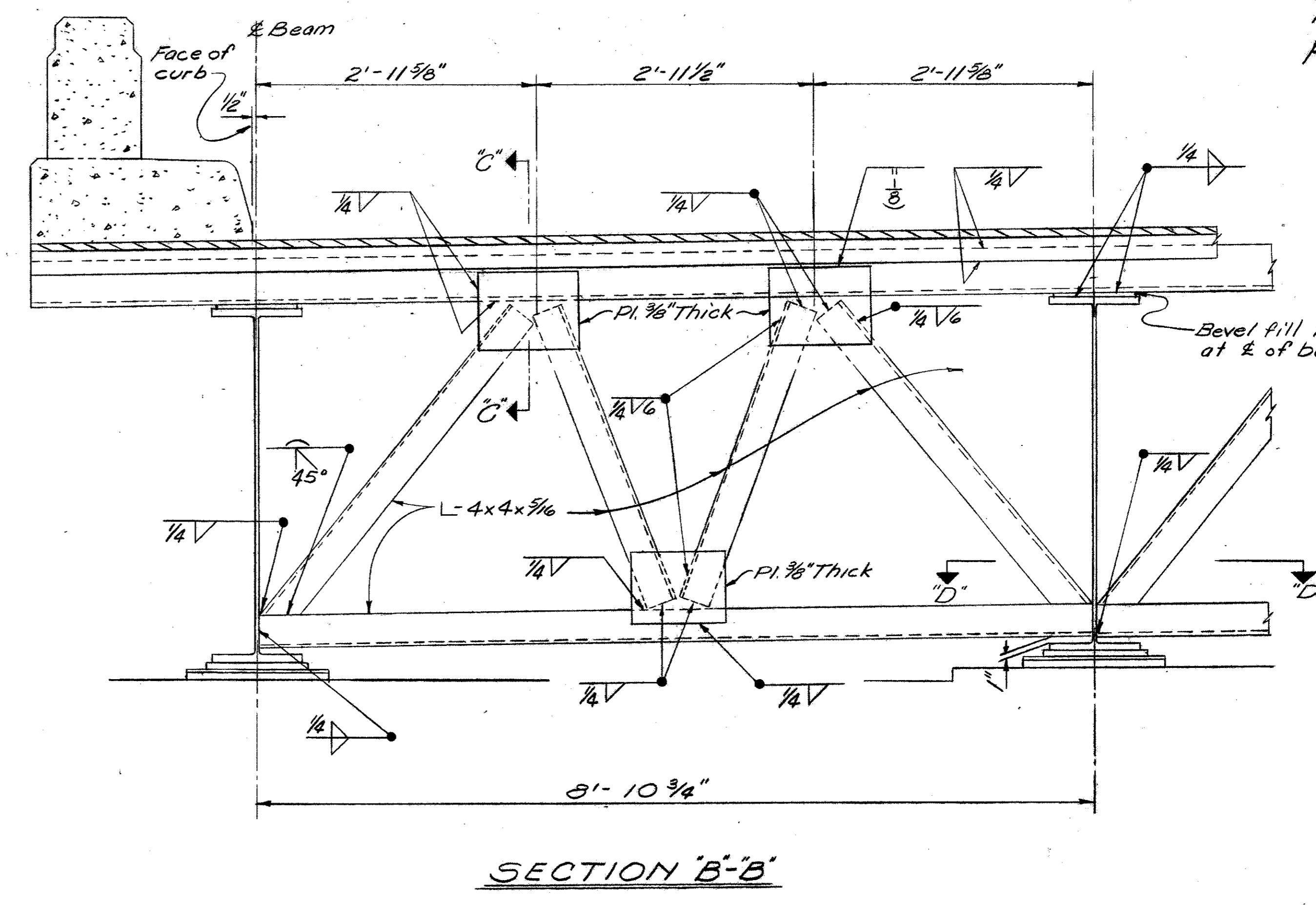
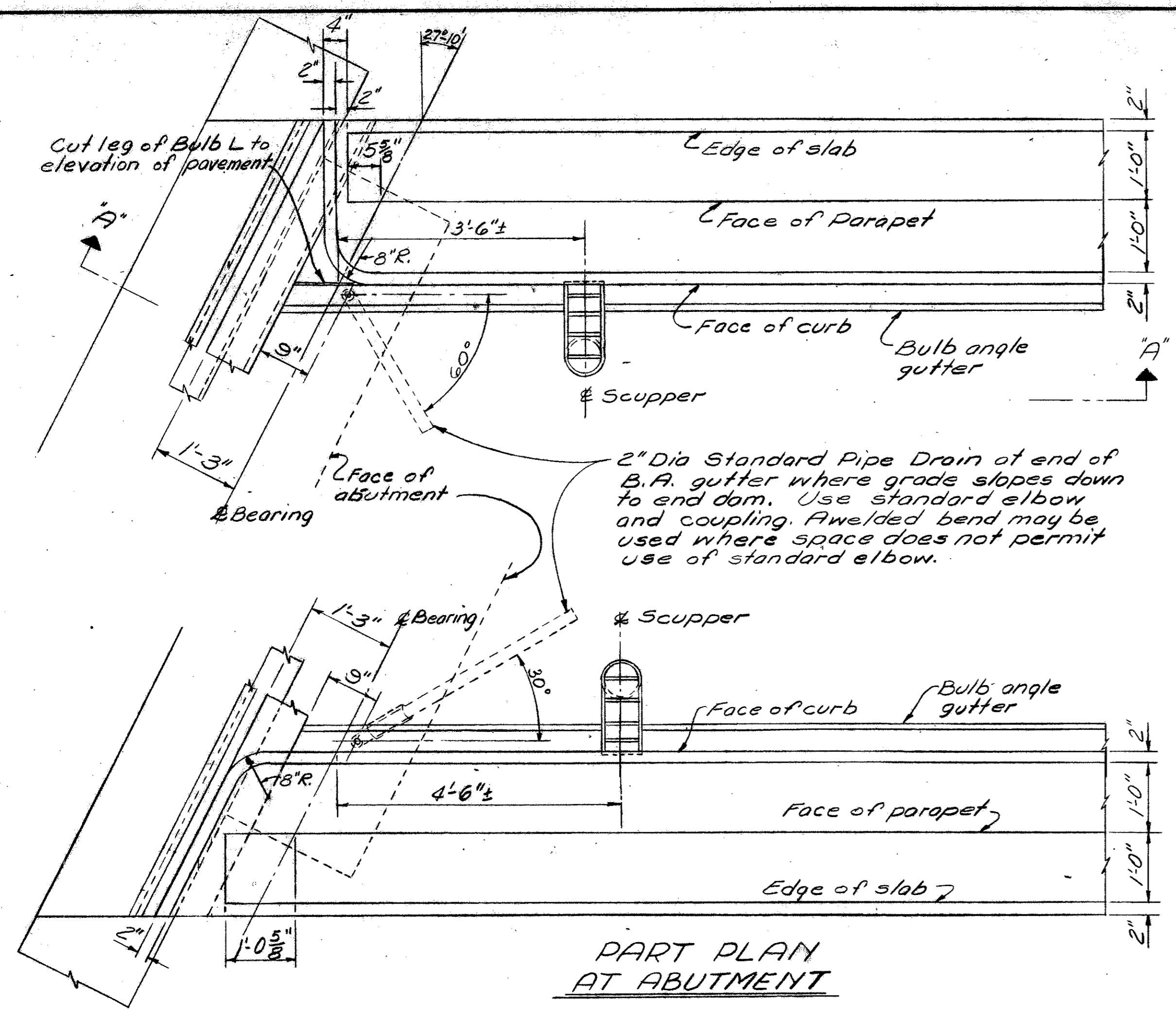
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245-249 S. Paint Street
Chillicothe, Ohio.

SUPERSTRUCTURE DETAILS
BRIDGE NO. FRA-1-0298 R.&L.
S.R.1 OVER B.#0. R.R.

S.R.1 (I.R.71) FRANKLIN COUNTY
STA. 997+64.74 TO STA. 999 + 28.30

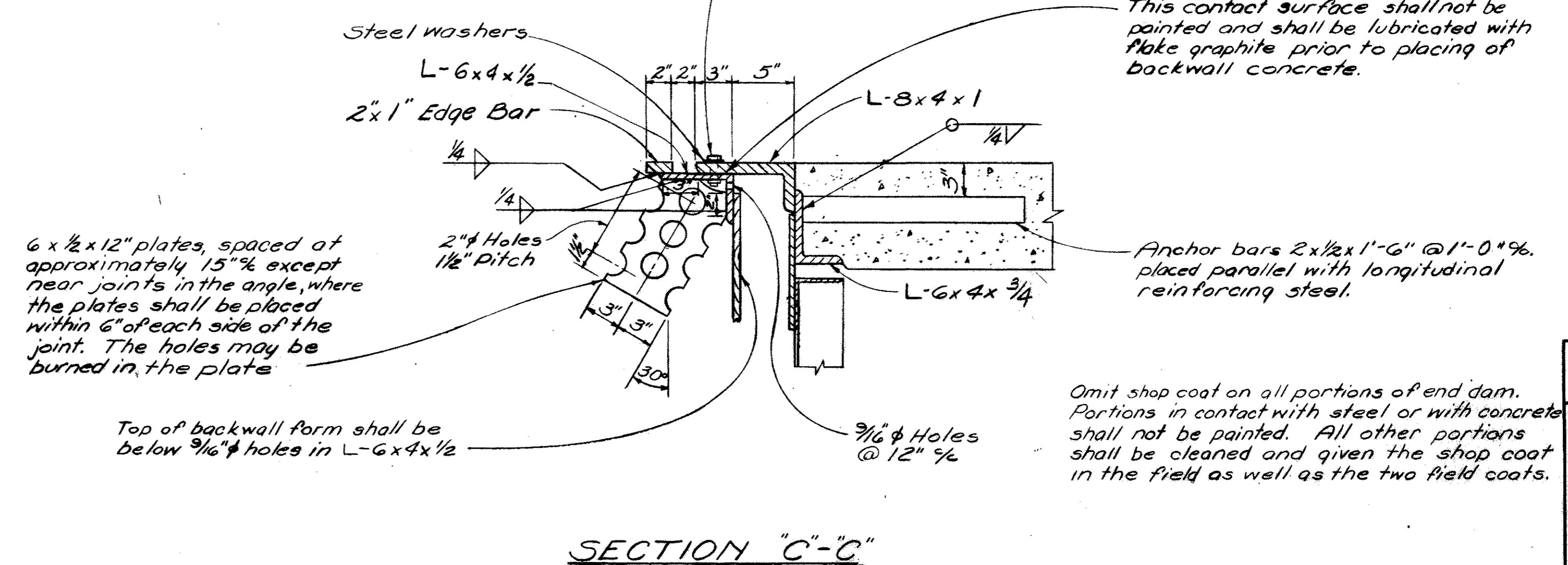
SCALE DATE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
FNS	M.D.U.		E.E.R.	TK	10/11/62	



A welded butt joint in the end dam along the centerline of roadway, will be required for that portion of the end dam attached to the superstructure. The portion attached to the backwall shall be placed in segments not less than 6'-0" in length, with one of the joints at the apex of the crown and one at the contraction joint. These shall be closely butted but shall not be welded.

3/8" x 2" bolts at not more than 2'-0" with nuts tack-welded to under side of lower angle. 1 1/16" holes in upper angle. Center 3/8" bolts in 1 1/16" holes. Apply flake graphite between washer and angle. Turn bolts tight and release one-half turn. Remove bolts as soon as concrete has set, preferably within two hours after placing, to avoid damage due to temperature expansion or contraction of superstructure. Fill holes with bituminous material.



6 x 1/2 x 12" plates, spaced at approximately 15" except near joints in the angle, where the plates shall be placed within 6" of each side of the joint. The holes may be burned in the plate.

This contact surface shall not be painted and shall be lubricated with flake graphite prior to placing of backwall concrete.

Omit shop coat on all portions of end dam. Portions in contact with steel or with concrete shall not be painted. All other portions shall be cleaned and given the shop coat in the field as well as the two field coats.

BARRETT, CARGO, WITHERS AND ASSOCIATES, LTD. Consulting Engineers 245-249 S. Paint Street Chillicothe, Ohio						
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S.R. 1 (I.R. 71)			FRANKLIN COUNTY			
STA. 997+64.74 To STA. 999+28.30						
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FRA	M.D.U.		E.E.R.	WR	10/11/62	

