

Approx 9.7 Miles North of Chillicothe

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.D.D.	P.J.M. K.D.D.	P.J.M.	NAC	ESB	8/1/55	K.D.D. 7-30-55

[illegible]

33 Spaces @ 6'-0" = 198'-0" (Post Spacing Both Sides)

-1.97% -4.8%

V.P.I. Sta 10+0
Elev. 699.12
250' V.C.

10+0 698.24

10+25 697.40

10+50 696.43

10+75 695.39

11+00 694.29

12"

2" Open Joint

Berm Line

4' Earth Bench Elev. 694.29

Elev. 692.30

1'-0"

2:1 Slope (Normal)

Porous Drain

8-12" Cast-in-place Concrete Piles

Elev. 676.55

Elev. 677.50

Porous Drain (6" x 6" x 1" Thick)

Elev. 671.60

8-12" Cast-in-place Concrete Piles

1/4" grey sponge rubber preformed expansion joint filler meeting the requirements of Sec. 11-10.02 Type I.

16" x 2 1/4" Min. Clear.

1'-0"

Porous Drain (6" x 6" x 1" Thick)

Elev. 671.00

8-12" Cast-in-place Concrete Piles

Elev. 677.52

Elev. 675.61

4' Earth Bench Elev. 689.55

1'-0"

2:1 Slope (Normal)

Porous Drain

Elev. 685.57

8-12" Cast-in-place Concrete Piles

2" Open Joint

Berm Line

ELMER S. BARRETT ASSOCIATES
CONSULTING ENGINEERS
249 S. PAINT ST. CHILLICOTHE, OHIO

GENERAL PLAN & ELEVATION

For BRIDGE NO. R0-23-228

US 23 Under COUNTY LINE ROAD

ROSS-PICKAWAY COUNTY US 23

SEC. R0S-23-19.14 STA 1202+84.75

PIC-23-0.00

SCALE 1" = 4' 1" = 0'

DATE **JULY 30, 1955**

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
WIC	DP	WOL	RAH	EQB	8/1/55	7.30.55

ROSS-PICKAWAY COUNTY
ROS-23-19.14
PIC-23-0.00

GENERAL NOTES

- SURFACE FINISH OF CONCRETE:** Abutment railing posts, curb faces, parapet walls, deck fascia and exposed surfaces of piers, abutments, and wingwalls shall receive a rubbed surface finish. All other exposed surfaces shall be finished in accordance with the provisions of Item 5-1.
- POROUS BACKFILL:** Porous backfill shall extend upward to the approach slab 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 cubic yard paid for porous backfill.
- EXCAVATION:** The excavation under the proposed bridge is classified as Roadway Excavation and shall be paid for at the unit price bid for Item E-1 Roadway Excavation.
- EXISTING RAILROAD OVERHEAD:** The contractors attention is directed to the proximity of the railroad overhead, west of the proposed structure. Any damage to this structure by the contractors forces during construction shall be repaired by and at the expense of the contractor.
- WELDING:** Welding shall be Class "A" except as otherwise shown. Any welds shown as field welds may, at the option of the contractor, be made in the shop. Class "B" welds are shown thus: B
- BRIDGE SEATS:** Care shall be taken in placing the reinforcing at bridge seats to clear anchor bolt holes.
- GALVANIZING:** Galvanizing shall be done in accordance with Sec. M-7.4 (d).
- CONCRETE AGGREGATE:** Gravel, if used as coarse aggregate shall be according to Sec. M-3.93 instead of M-3.91 for Class "C" concrete in the superstructure. Gravel meeting the requirements of M-3.93 may also be used for other concrete in this structure.
- REFERENCE** shall be made to Supplemental Specification No. S-114, dated August 30, 1955.

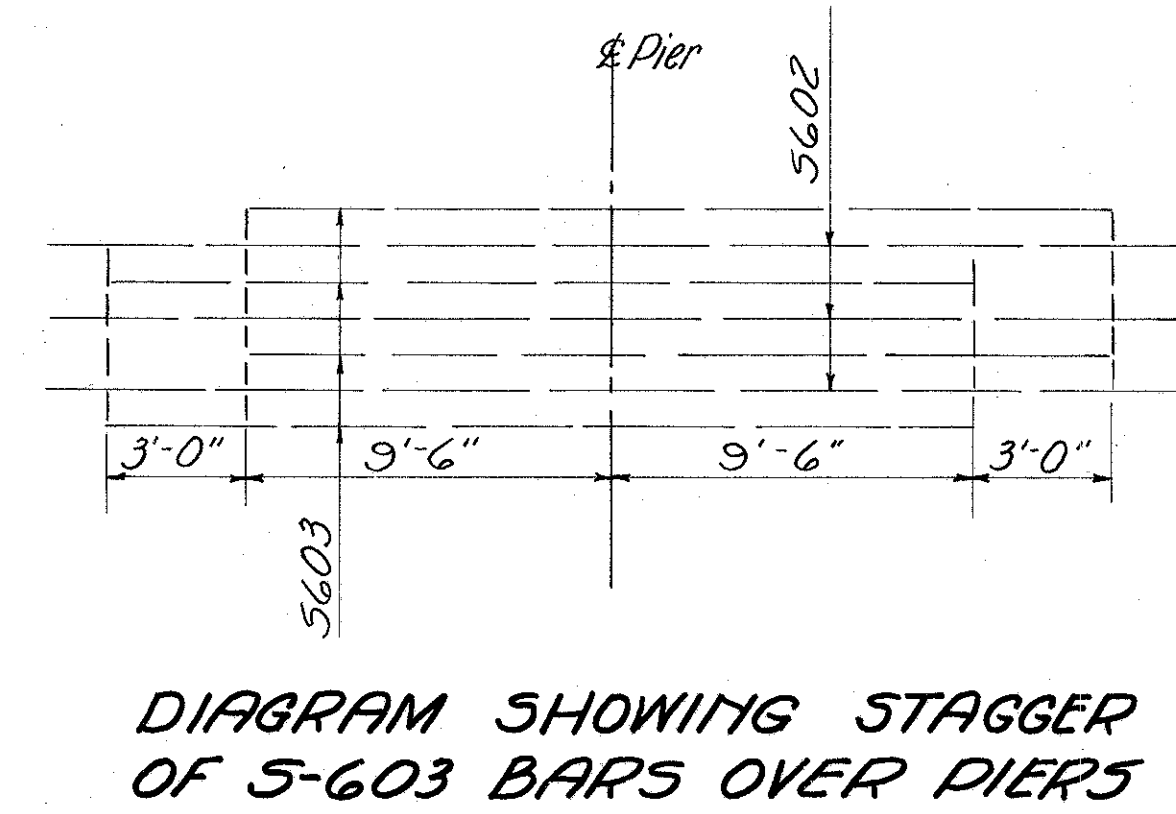
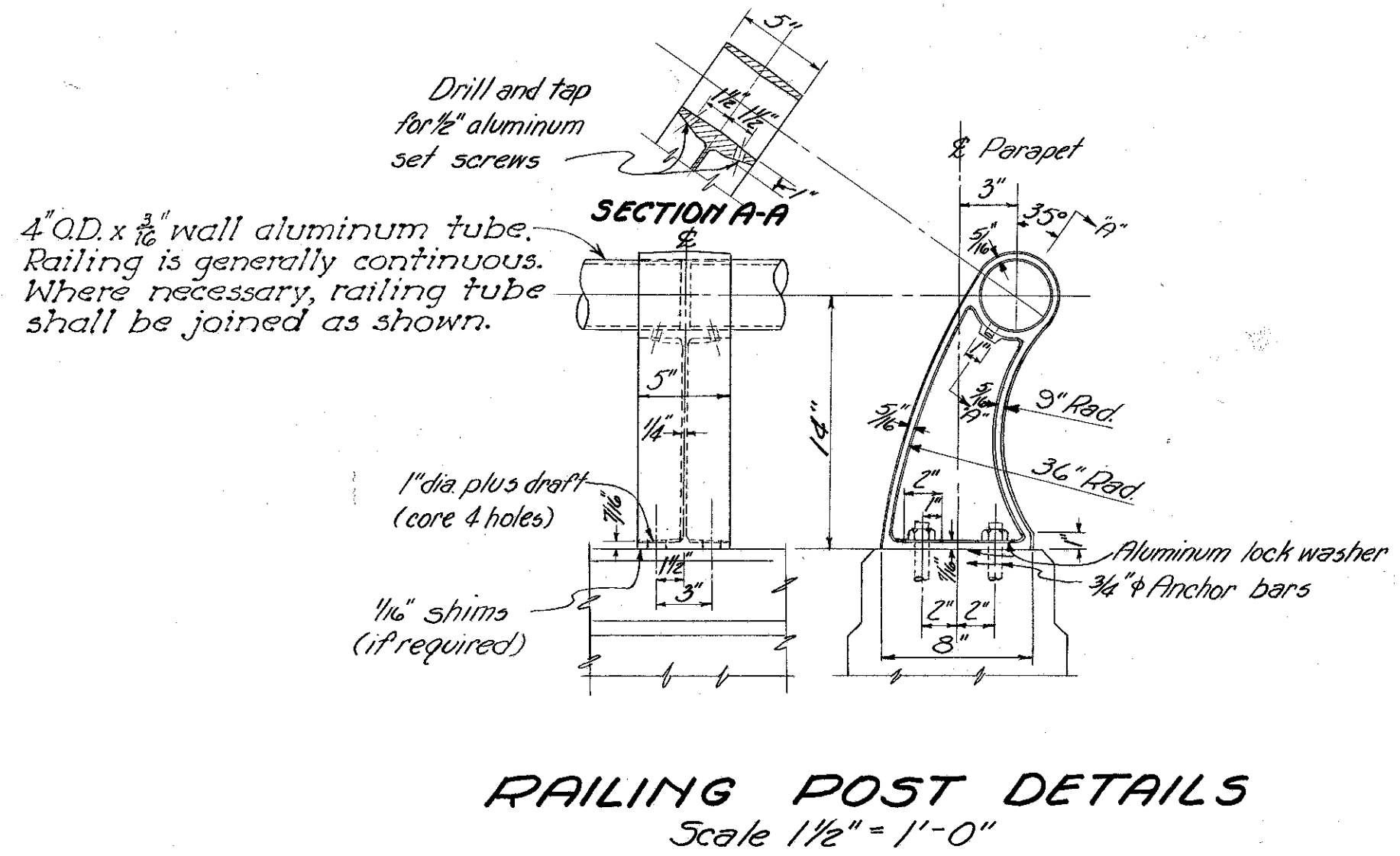
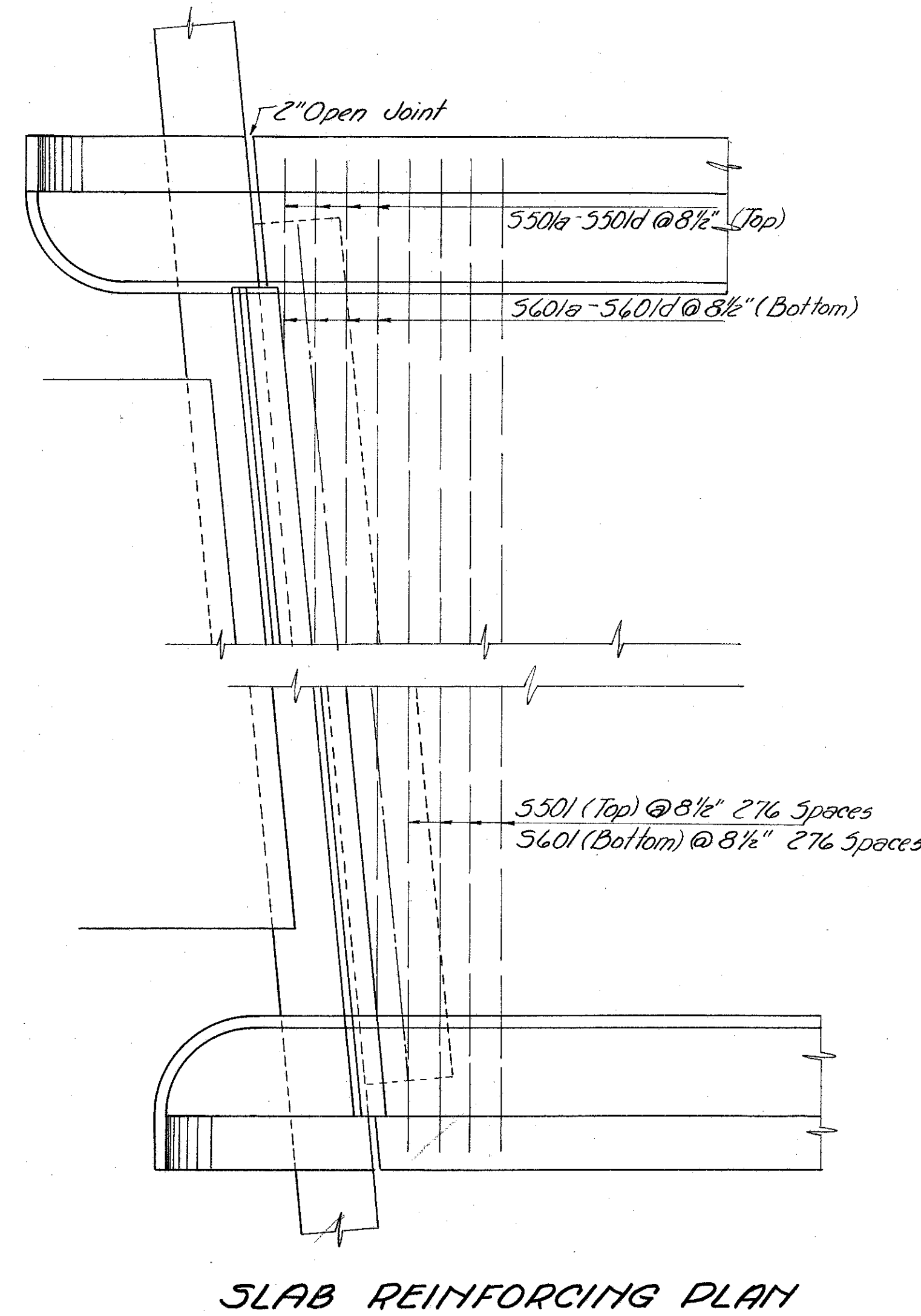
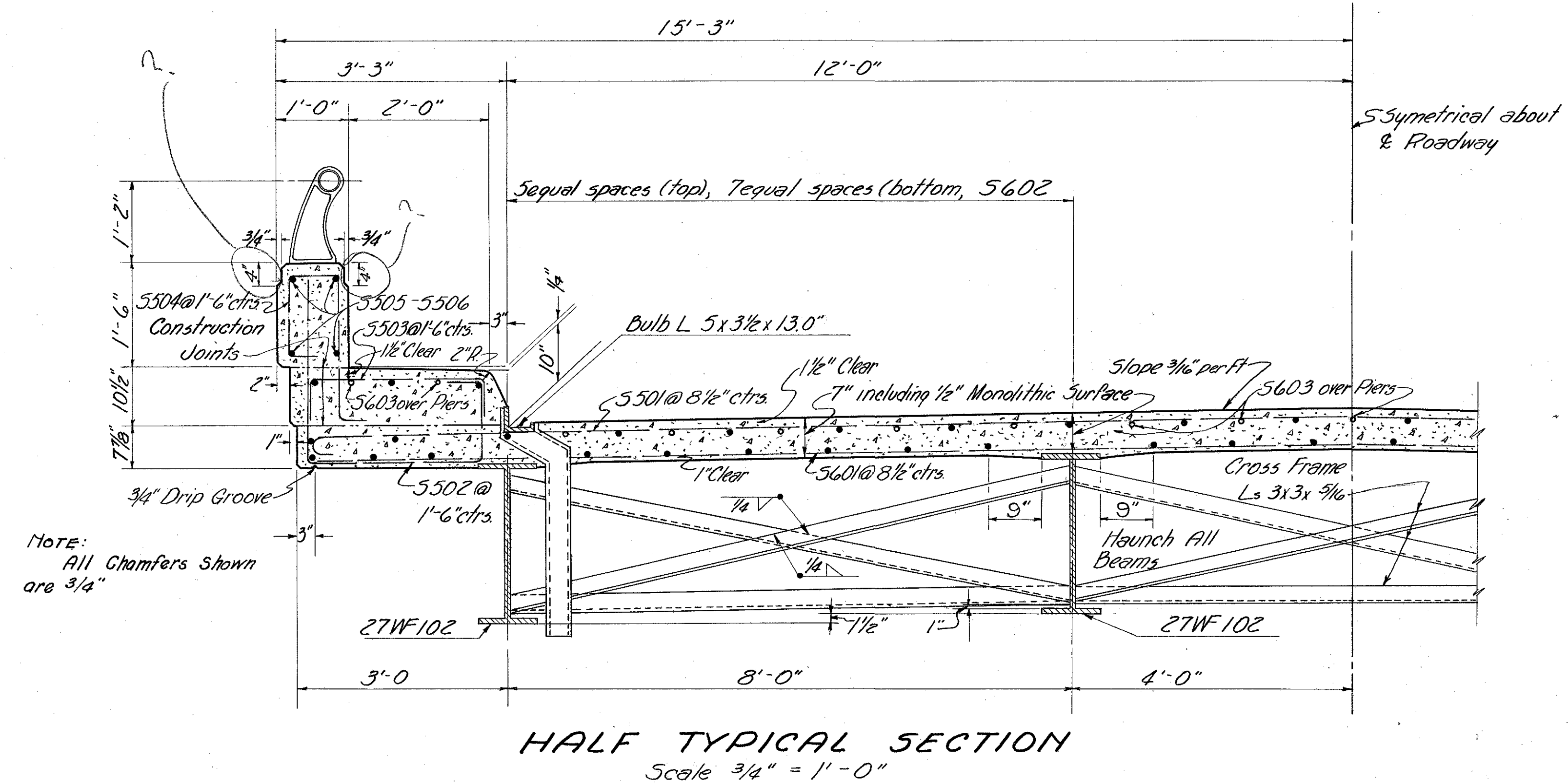
ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION	ABUTMENT	PIERS	SUPER	GENERAL	AS BUILT
E-2	Lump	Sum	Cofferdams, Cribbs, and Sheeting				Lump	
E-2	258	Cu Yds.	Excavation for Structure, Unclassified	176	82			
5-1	189.3	Cu Yds.	Class "C" Concrete for Superstructure including end posts			189.3		
5-1	31.5	Cu Yds.	Class "C" Concrete for Pier Caps and Columns		31.5			
5-1	96.6	Cu Yds.	Class "C" Concrete for Abutments and Pier Footings	61.0	35.6			
5-4	64,206	Pounds	Reinforcing Steel	44,649	14,648	44,972	117	
5-7	103,911	Pounds	Structural Steel			103,066		
5-8	103,911	Pounds	Field Painting of Structural Steel			103,066		
5-14	399	Lin. Ft.	Railing (Aluminum rail and supports and concrete parapet)			399		
5-16	Lump	Sum	First Test Pile				Lump	
5-18	2,016	Lin. Ft.	Reinforced Concrete Piling, 12" Cast in place, abutments & piers	752	1264			
5-29	126	Lin. Ft.	Standard 6" steel pipe, galvanized, including fasteners & reducers			Lump		
5-29	39	Cu Yds.	Porous Drains				39	
5-29	18	Cu Yds.	Porous Backfill				18	

ELMER S. BARRETT ASSOCIATES CONSULTING ENGINEERS 249 S. PAINT ST. CHILLICOTHE, OHIO					
REINFORCING STEEL, GENERAL NOTES & EST. QUANTITIES					
For BRIDGE NO. RO-23-228 US 23 Under COUNTY LINE ROAD ROSS-PICKAWAY COUNTY US-23 SEC. ROS-23-19.14 STA 1202+84.75 PIC-23-0.00					
SCALE DATE JULY 30, 1955					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
K.D.D.	P.M.	W.P.G.	M.C.	E.B.	8/1/55
					10.0 4-30-55

Bar No	No. Reqd.	Length	Shape	Weight	Bending Diagrams
TWO ABUTMENTS					
A601	42	26'-10"	Str.	1693	
A602	40	6'-4"	Str.	380	
A501	44	10'-9"	Bent.	493	
A502	44	8'-11"	Bent.	409	
A503	32	4'-6"	Bent.	150	
A504	38	10'-9"	Bent.	426	
A505	24	6'-6"	Str.	163	
A506	8	4'-7"	Str.	38	
A507	8	10'-6"	Bent.	88	
A508	24	6'-6"	Str.	163	
A509	16	4'-10"	Bent.	81	
A510	16	10'-6"	Bent.	175	
A511	12	3'-6"	Str.	44	
A401	32	7'-9"	Bent.	166	
TOTAL TWO ABUTMENTS				4469	
THREE PIERS					
F1001	48	6'-6"	Bent.	1343	
F801	108	9'-8"	Bent.	2788	
P1101	30	12'-11"	Bent.	1925	
P1102	15	26'-10"	Str.	2138	
P1001	16	22'-5"	Bent.	1544	
P1002	16	23'-4"	Bent.	1606	
P1003	16	18'-8"	Bent.	1285	
P601	9	10'-6"	Str.	142	
P501	360	5'-0"	Bent.	1877	
TOTAL THREE PIERS				14,648	
SUPERSTRUCTURE					
S601	277	29'-8"	Str.	12,344	
S601a	2	26'-8"	Str.	79	
S601b	2	19'-0"	Str.	57	
S601c	2	11'-9"	Str.	35	
S601d	2	4'-6"	Str.	14	
S602	300	34'-9"	Str.	15,658	
S603	57	22'-0"	Str.	1,884	
S501	277	30'-10"	Bent.	8,907	
S501a	2	27'-0"	Bent.	56	
S501b	2	19'-7"	Bent.	41	
S501c	2	12'-4"	Bent.	26	
S501d	2	5'-1"	Bent.	11	
S502	268	6'-6"	Bent.	1,817	
S503	268	3'-8"	Bent.	1,026	
S504	268	5'-0"	Bent.	1,398	
S505	120	11'-8"	Str.	1,461	
S506	16	9'-6"	Str.	159	
TOTAL SUPERSTRUCTURE				44,972	
REPLACEMENT STEEL					
X1101	1	7'-6"	Str.	40	
X1001	1	7'-2"	Str.	31	
X801	1	6'-6"	Str.	17	
X601	2	5'-11"	Str.	18	
X501	1	5'-7"	Str.	6	
X401	1	7'-9"	Bent.	5	
TOTAL REPLACEMENT STEEL				117	
TOTAL REINFORCING STEEL				97,971	

ROSS-PICKAWAY COUNTY
ROS-23-19.14
PIC-23-0.00



LOCATION	OUTSIDE BEAMS				INSIDE BEAMS			
	1st Span	2nd Span	3rd Span	4th Span	1st Span	2nd Span	3rd Span	4th Span
Deflection due to weight of steel	0.04"	0.05"	0.05"	0.04"	0.04"	0.05"	0.05"	0.04"
Deflection due to remaining dead load	0.35"	0.45"	0.45"	0.35"	0.23"	0.30"	0.30"	0.23"
Camber required for vertical curve	0.33"	0.50"	0.50"	0.33"	0.33"	0.50"	0.50"	0.33"
Sum of deflection and Camber	0.73"	1.00"	1.00"	0.73"	0.60"	0.85"	0.85"	0.60"
Required shop camber	3/4"	1"	1"	3/4"	3/4"	7/8"	7/8"	3/4"

* Spans Numbered consecutively from West to East.

ELMER S. BARRETT ASSOCIATES
CONSULTING ENGINEERS

249 S. PAINT ST. CHILLICOTHE, OHIO

SUPERSTRUCTURE DETAILS

For BRIDGE NO. RO 23-228

US 23 Under COUNTY LINE ROAD

ROSS-PICKAWAY COUNTY US 23

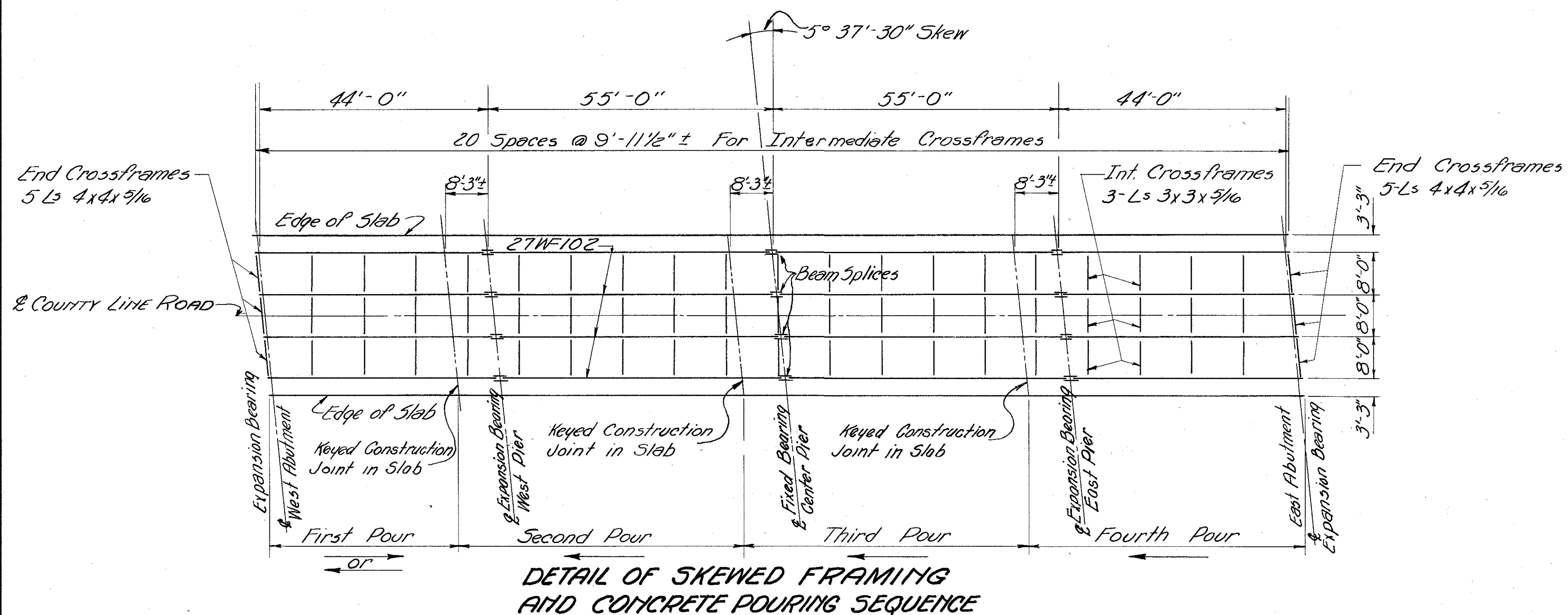
SEC. ROS-23-19.14 STA. 1202+84.75

PIC-23-0.00

SCALE As Shown DATE JULY 30, 1955

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVIS	DATE
K.D.D.	P.J.M.	W.D.J.	M.A.C.	E.S.B.	8/1/55	K.D.D.	7-30-55

ROSS-PICKAWAY COUNTY
ROS-23-19.14
PIC-23-0.00



NOTES

BEAM SPLICE WELDING PROCEDURE:

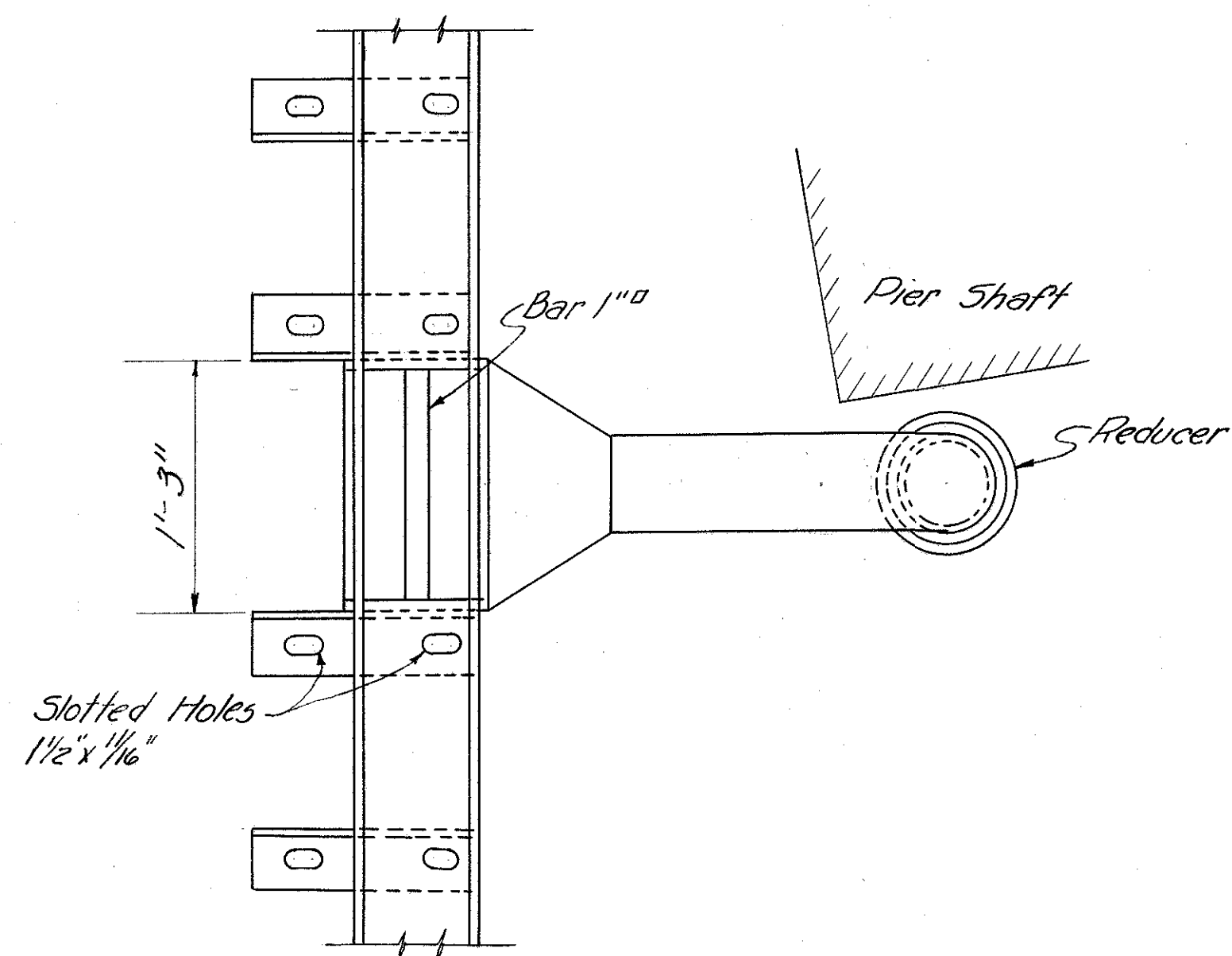
1. Raise end of beam at second pier 1"
2. Butt-weld the beam flanges and web at first pier.
3. Weld the top and bottom splice plates at first pier.
4. Lower end of beam at second pier.
5. Make splices at second and third piers in the same manner raising the end of the beams $1\frac{1}{8}$ " at the piers and $\frac{3}{8}$ " at the abutment.

DECK CONSTRUCTION PROCEDURE: The deck slab shall be placed in sections, between transverse construction joints, in the numerical order and in the direction indicated on the "Illustration of Framing and Concrete Pouring Sequence," in order that the major portion of the dead load deflection will occur prior to placing concrete over each pier.

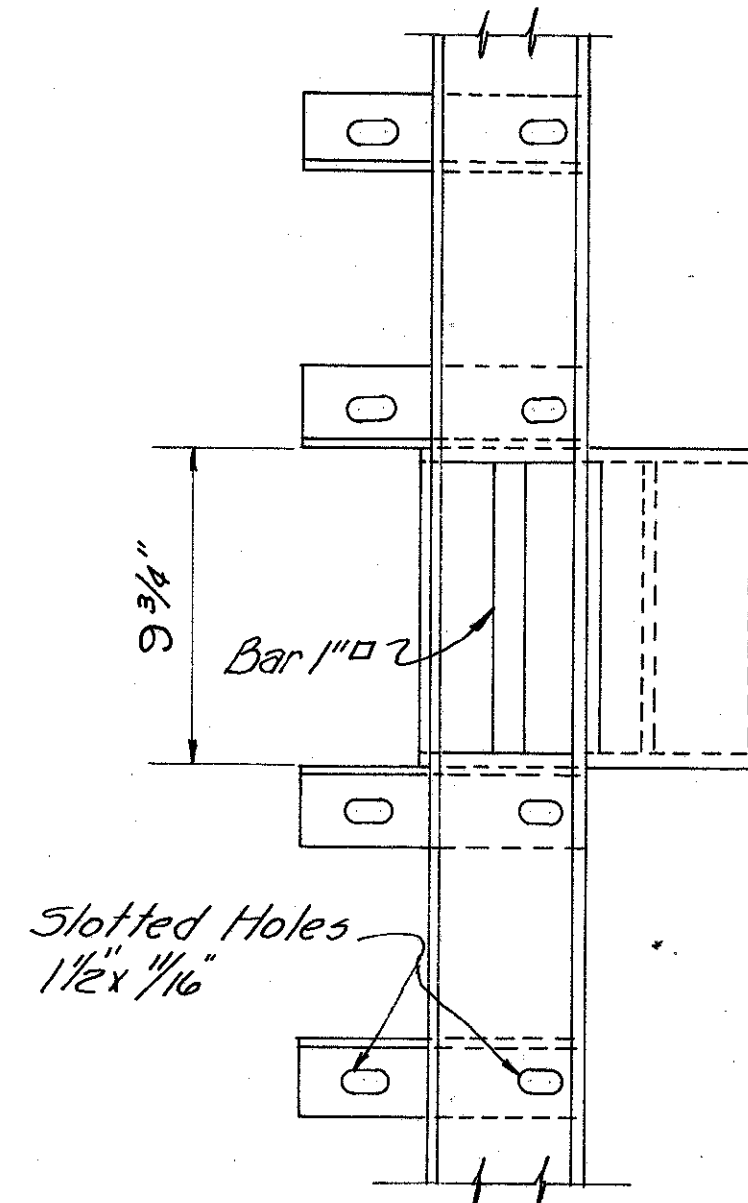
END FINISH AND DECK DRAINAGE: End finish, gutters, scuppers, and drain pipe shall be galvanized steel. A welded butt joint in the end finish, at the centerline of roadway, will be required for that portion of the end finish attached to the superstructure. The portion attached to the backwall shall be placed in segments which shall be closely butted, with one of the joints at the apex of the crown, but shall not be welded.

SCUPPERS: Scuppers must be spaced to clear Cross frames. Milled joints will be permitted in Bulb angles, but individual lengths shall be as long as practicable. Gutters shall be accurately adjusted for alignment and grade, with allowance for dead load deflection, before concrete is placed. Welding of scuppers shall be continuous fillet weld.

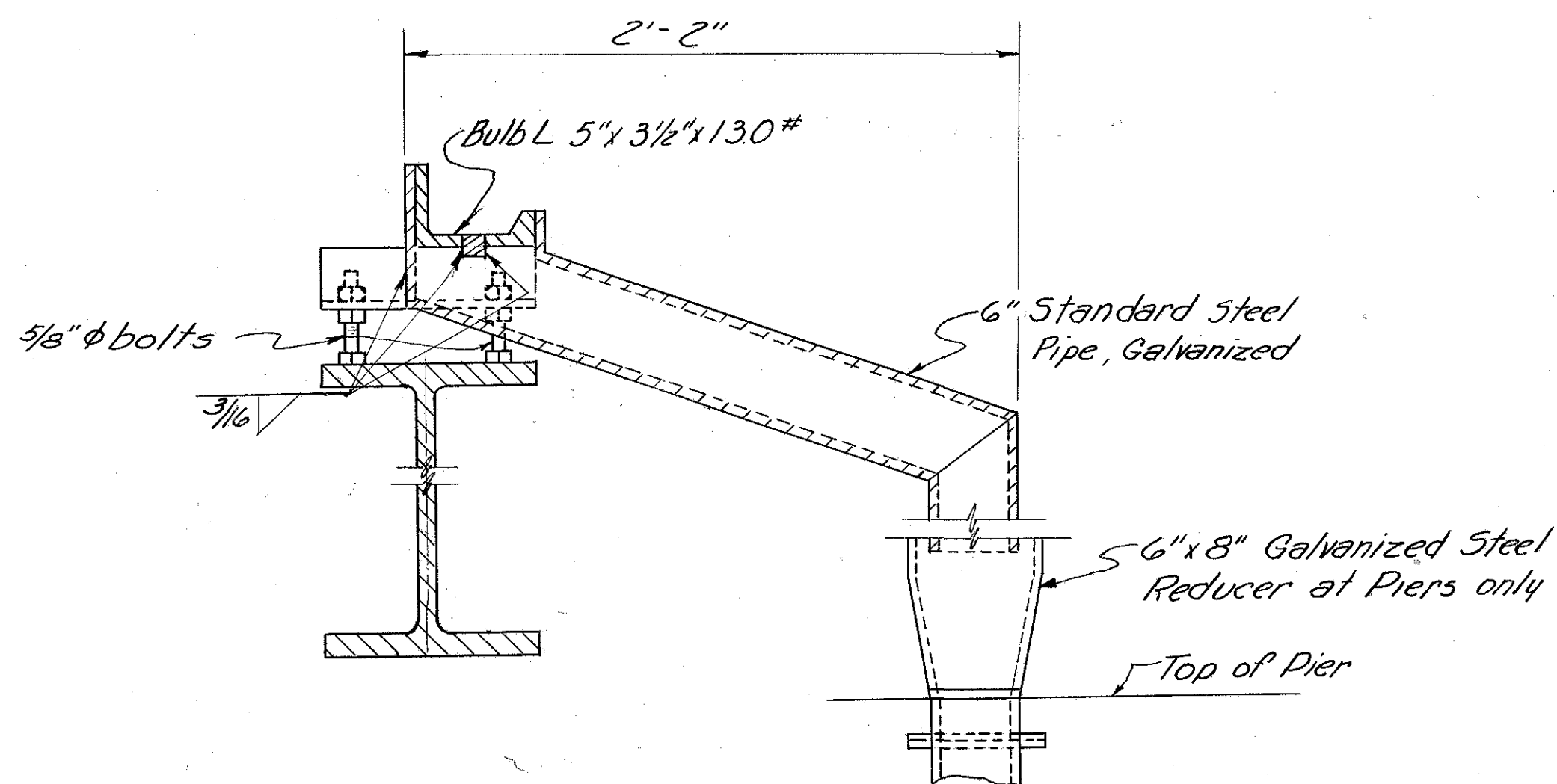
GUTTERS & SCUPPERS: Steel Gutters and Scuppers are included in the weight of the Structural Steel, Item S-7, for Payment.



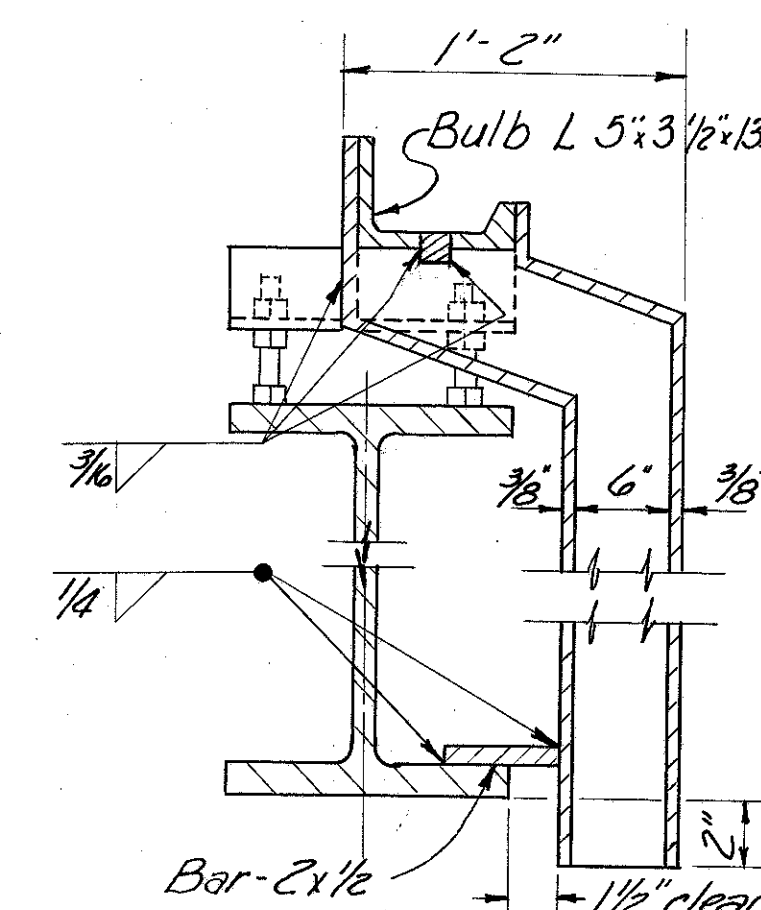
PART PLAN



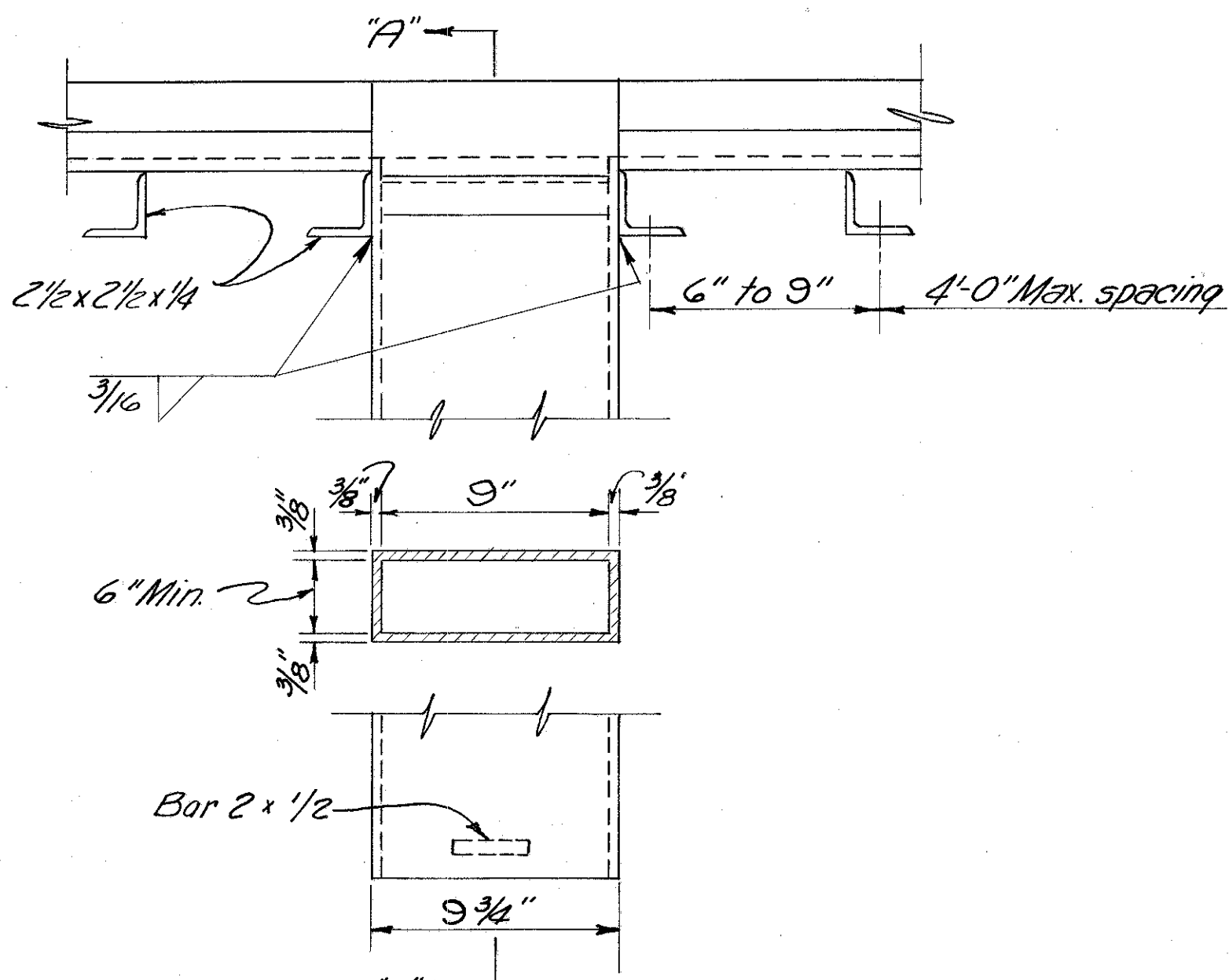
PART PLAN



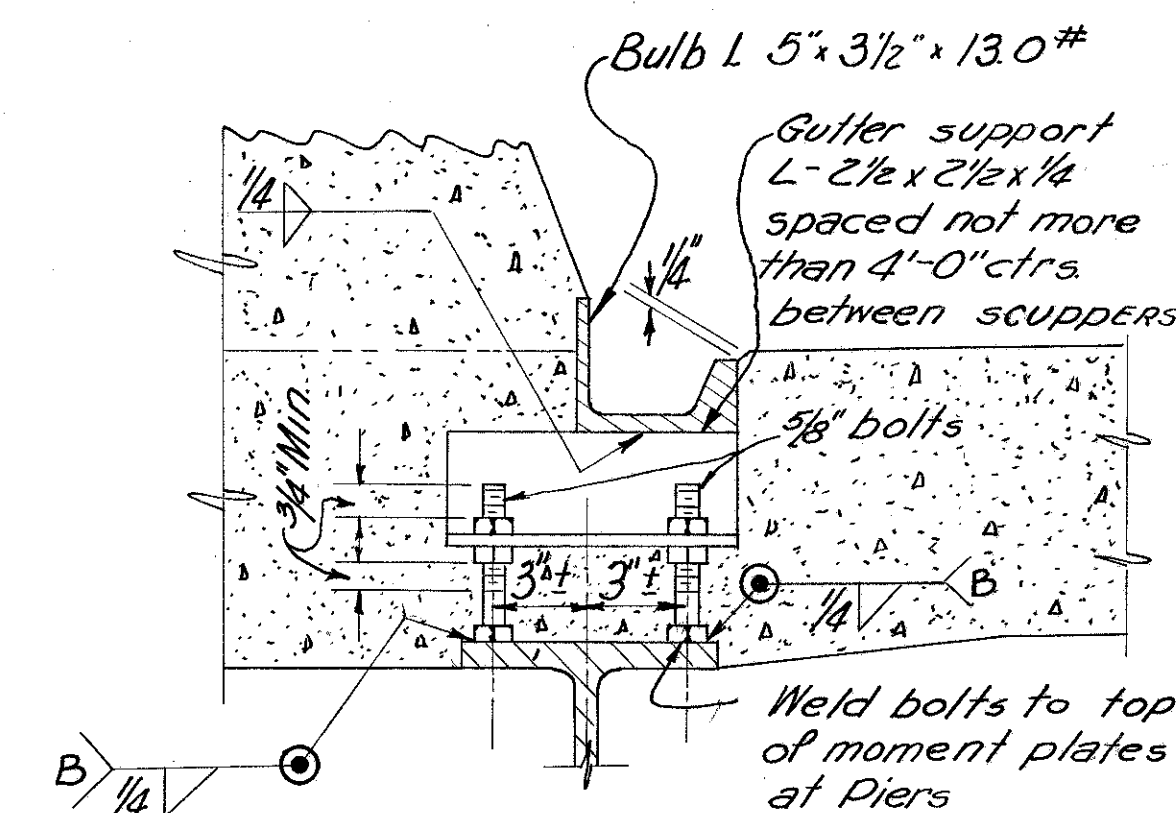
ELEVATION
GUTTER & SCUPPER DETAILS AT PIERS



SECTION "A-A"
GUTTER & SCUPPER DETAILS
AT THE END SPANS



ELEVATION



GUTTER SUPPORT

ELMER S. BARRETT ASSOCIATES
CONSULTING ENGINEERS
249 S. PAINT ST. CHILLICOTHE, OHIO

SUPERSTRUCTURE DETAILS

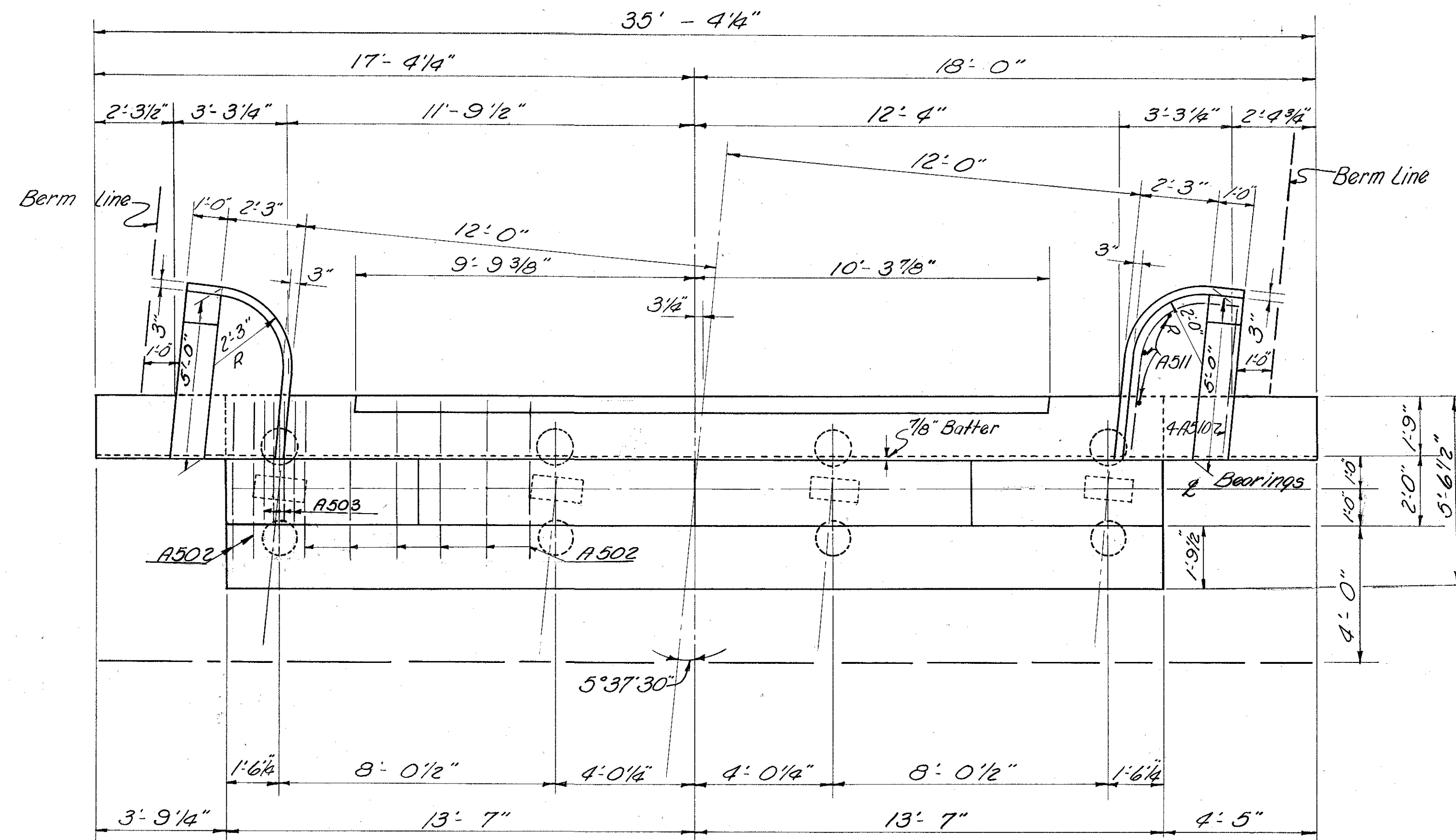
For BRIDGE NO. R0-23-228
US 23 Under **COUNTY LINE ROAD**
 ROSS-PICKAWAY COUNTY US 23
 SEC. ROS-23-19.14 STA. 1202+84.75
 PIC-23-0.00

SCALE			DATE JULY 30, 1955			
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
W.I.C.	F.S.	W.D.J.	R. H.	E.S.B.	8/1/55	K.D.D. 7-30-55

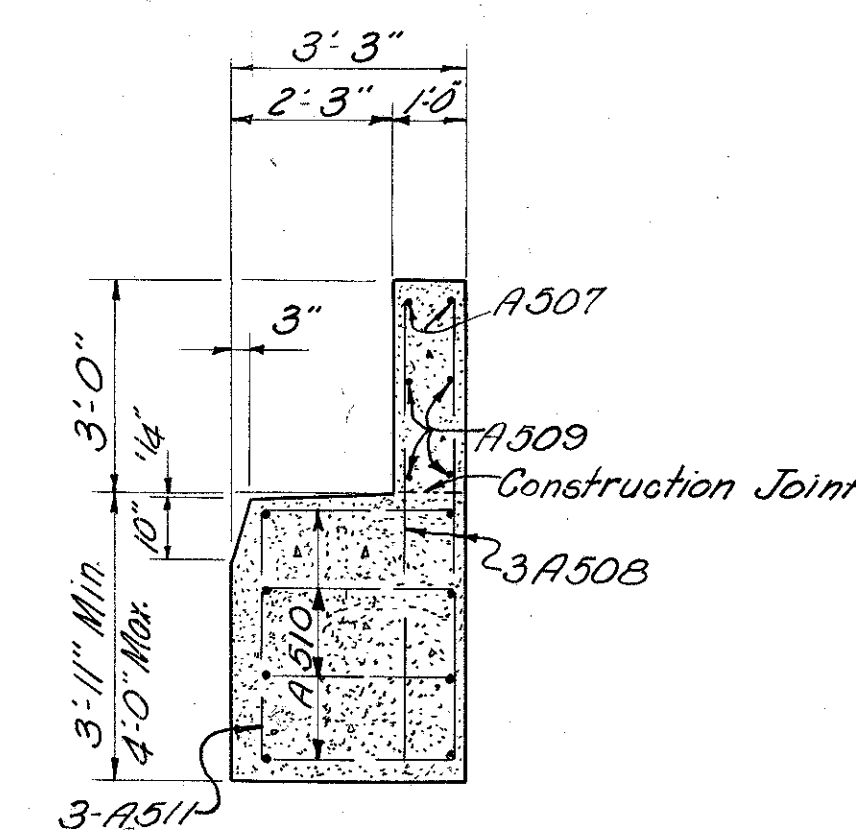
ROSS-PICKAWAY COUNTY
 ROS-23-19.14
 PIC-23-0.00

NOTES

- REINFORCING STEEL shall be 2" clear except where otherwise shown.
- PILING shall be driven to a minimum bearing capacity of 24 tons as determined by the pile formula in Section 518.05.
- EXCAVATION: In order to facilitate pile driving, and in order that the pile driving rig need not be located on the existing railroad bridge during the pile driving operations, the excavation for the spillthrough slopes shall not be performed prior to the completion of the pile driving at the west abutment.
- CONCRETE for end posts above curb height is included in superstructure quantities for payment.

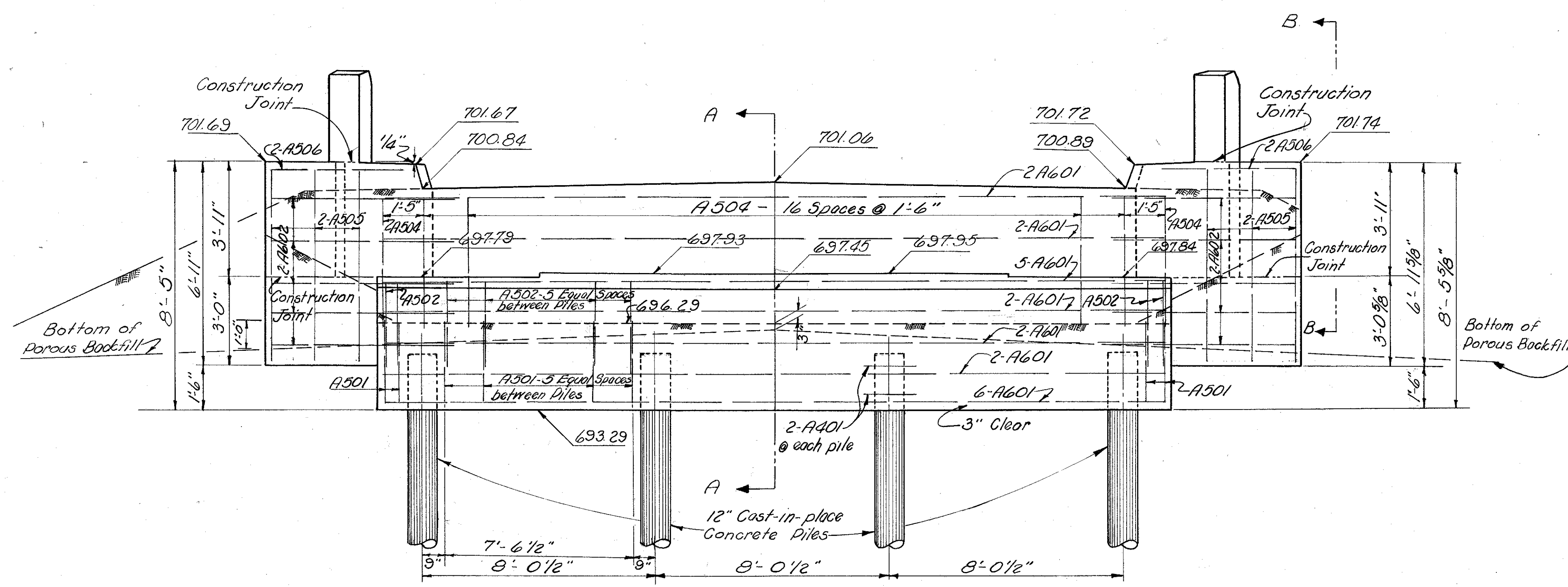


WEST ABUTMENT PLAN
 Scale 3/8" = 1'-0"

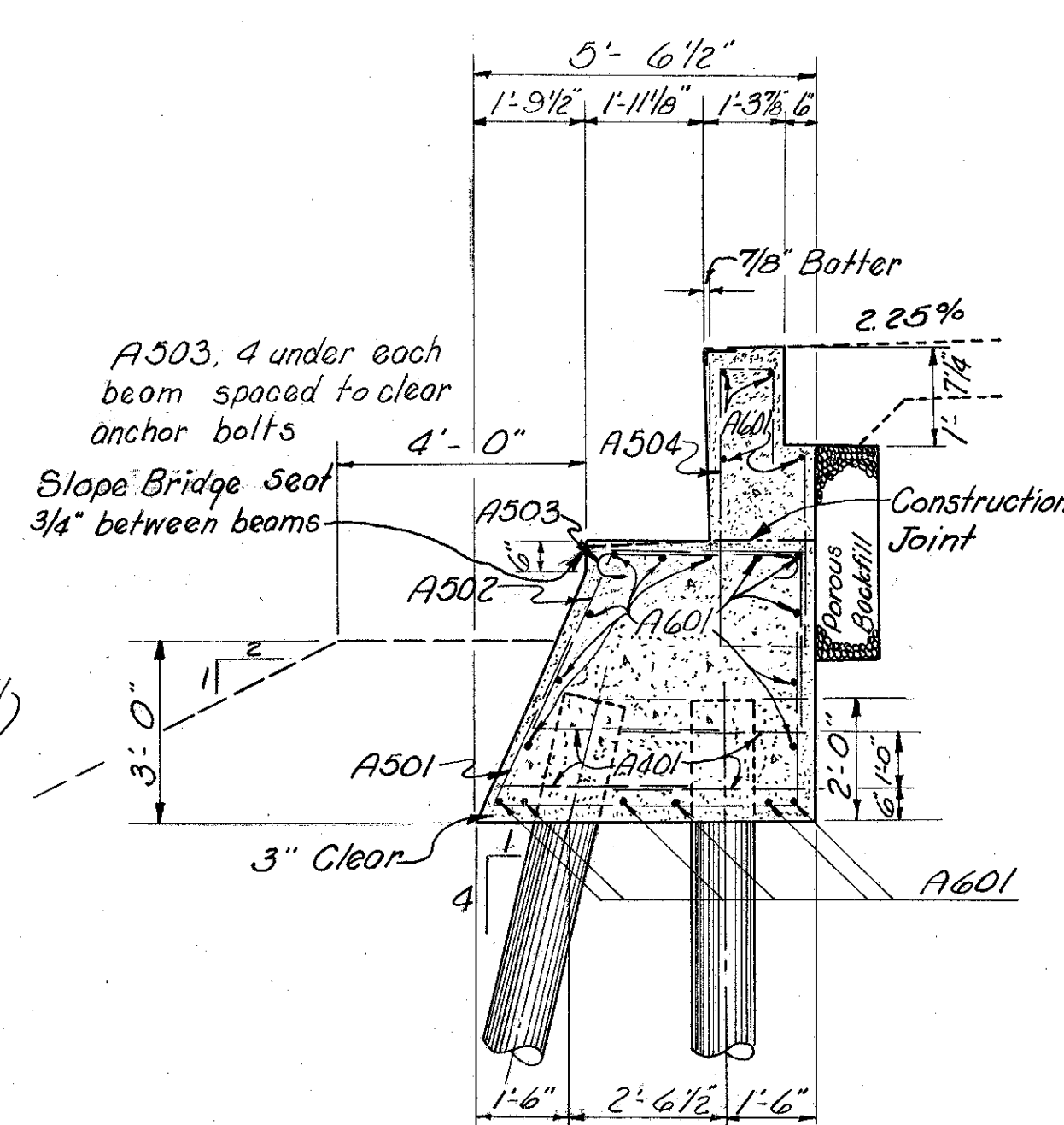


SECTION C-C

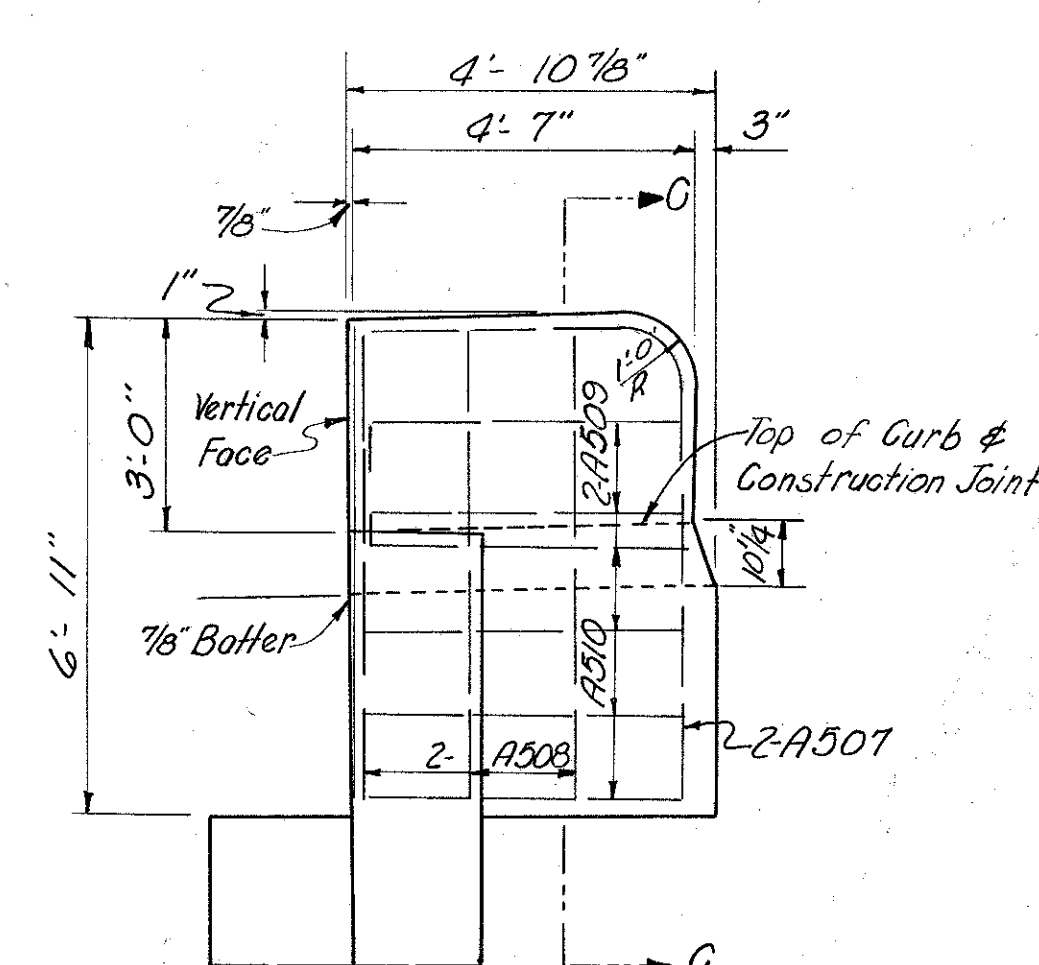
$$u = \frac{V}{j d \Sigma u}$$



ELEVATION
 Scale 3/8" = 1'-0"



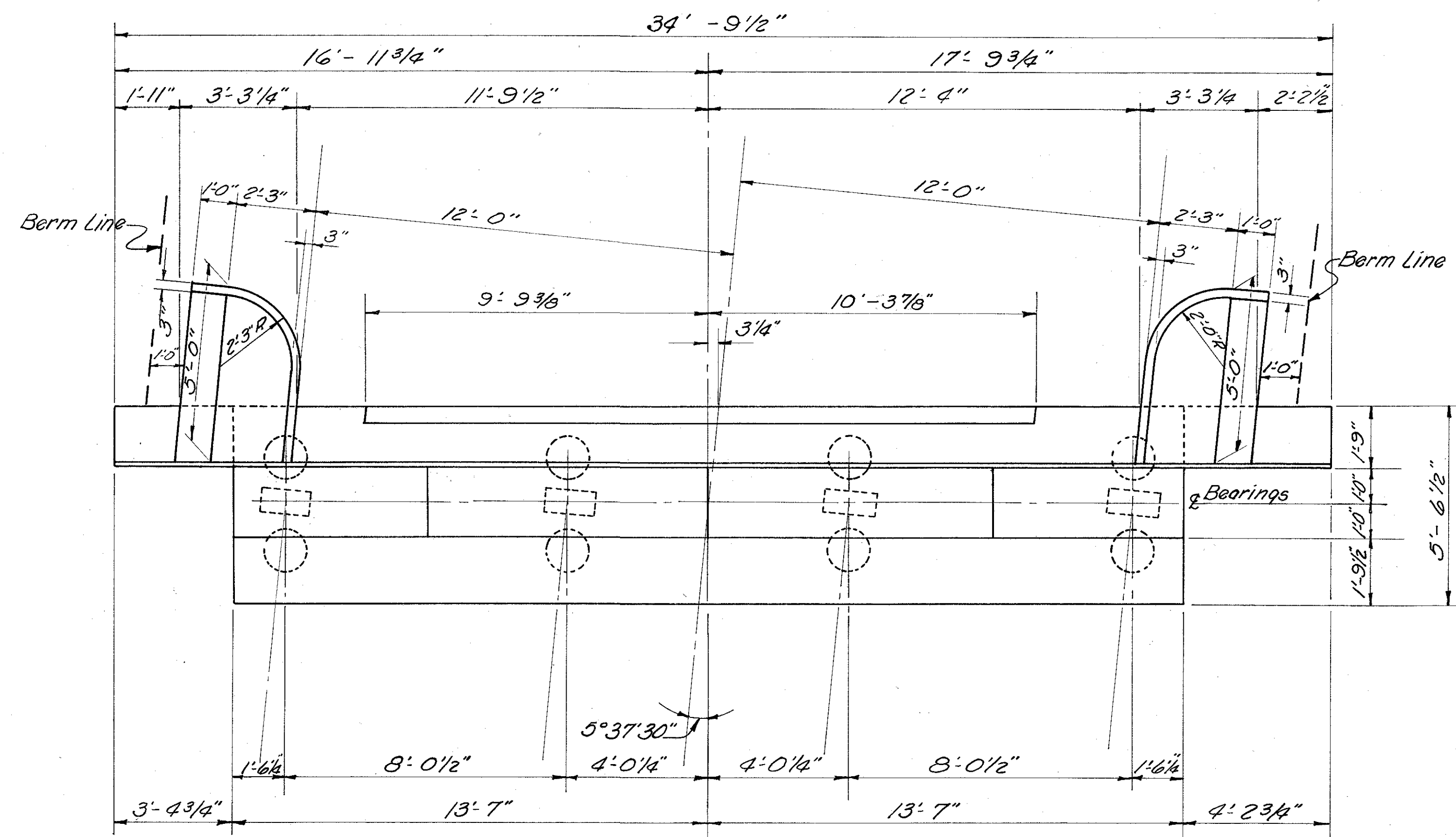
SECTION A-A



VIEW B-B

ELMER S. BARRETT ASSOCIATES CONSULTING ENGINEERS 249 S. PAINT ST. CHILLICOTHE, OHIO					
WEST ABUTMENT DETAILS					
For BRIDGE NO. RO-23-228					
US 23 Under COUNTY LINE ROAD					
ROSS-PICKAWAY COUNTY US 23					
SEC. ROS-23-19.14 STA. 1202+84.75					
PIC-23-0.00					
SCALE 3/8" = 1'-0" DATE JULY 30, 1955					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
W.I.C.	P.J.M.	P.J.M.	W.I.C.	E.S.B.	8/1/55

ROSS-PICKAWAY COUNTY
ROS-23-19.14
PIC-23-0.00

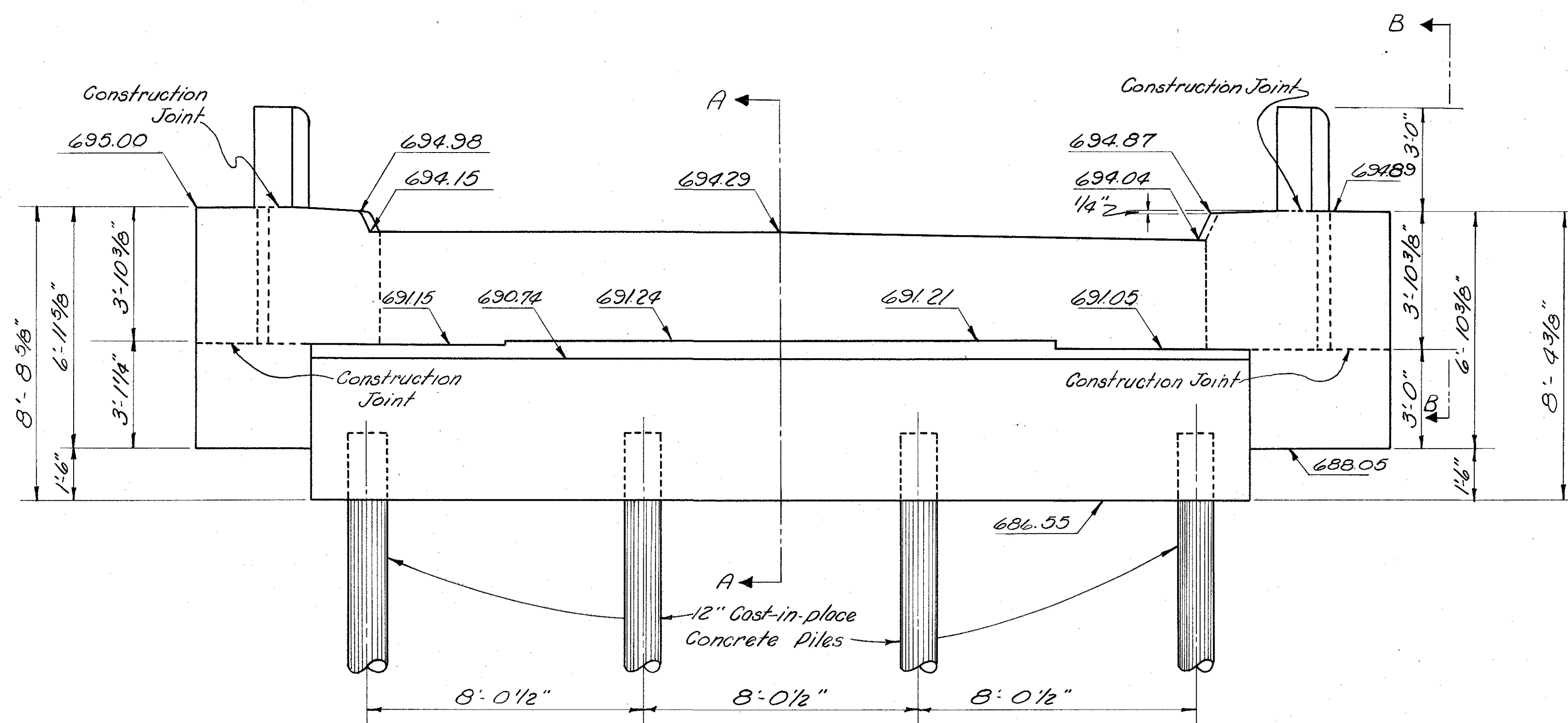


EAST ABUTMENT PLAN

Scale 3/8" = 1'-0"

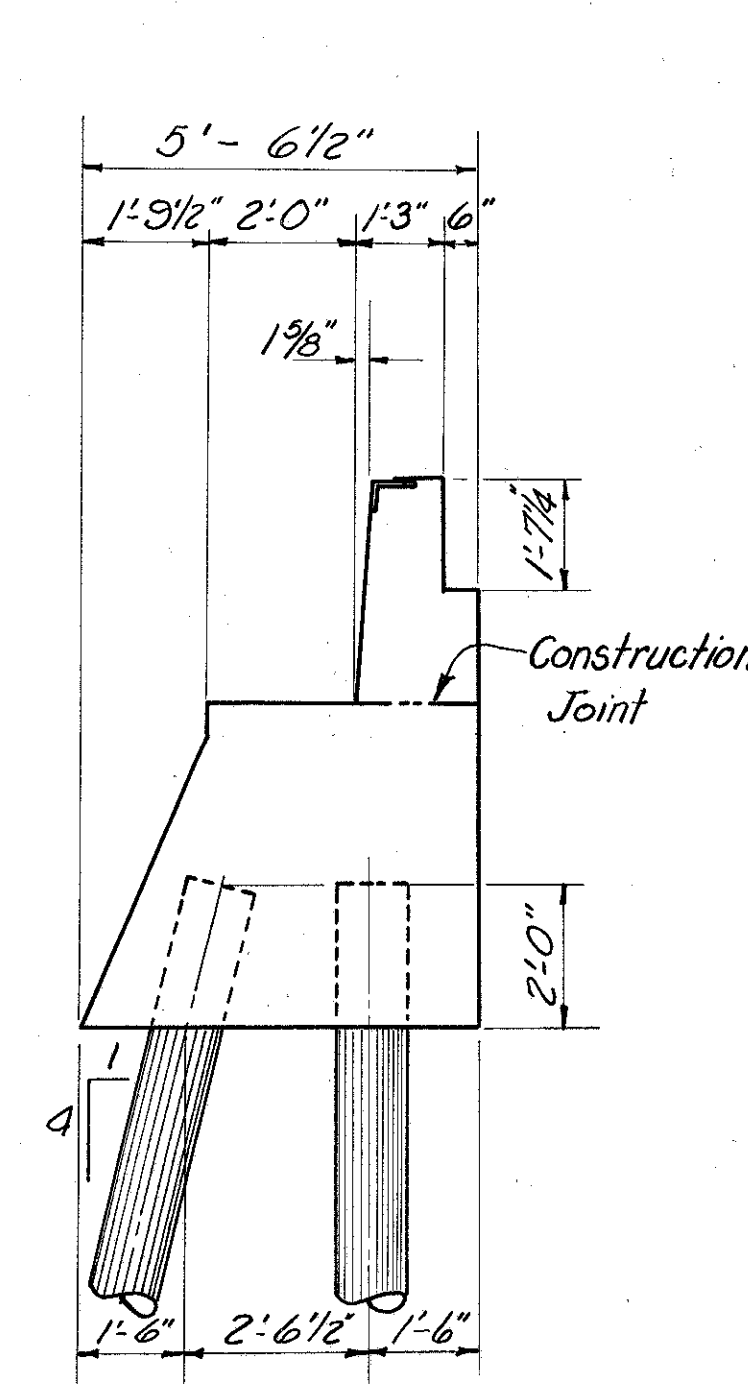
NOTES

All Details and Reinforcing Steel not shown are same as shown on West Abutment Details.

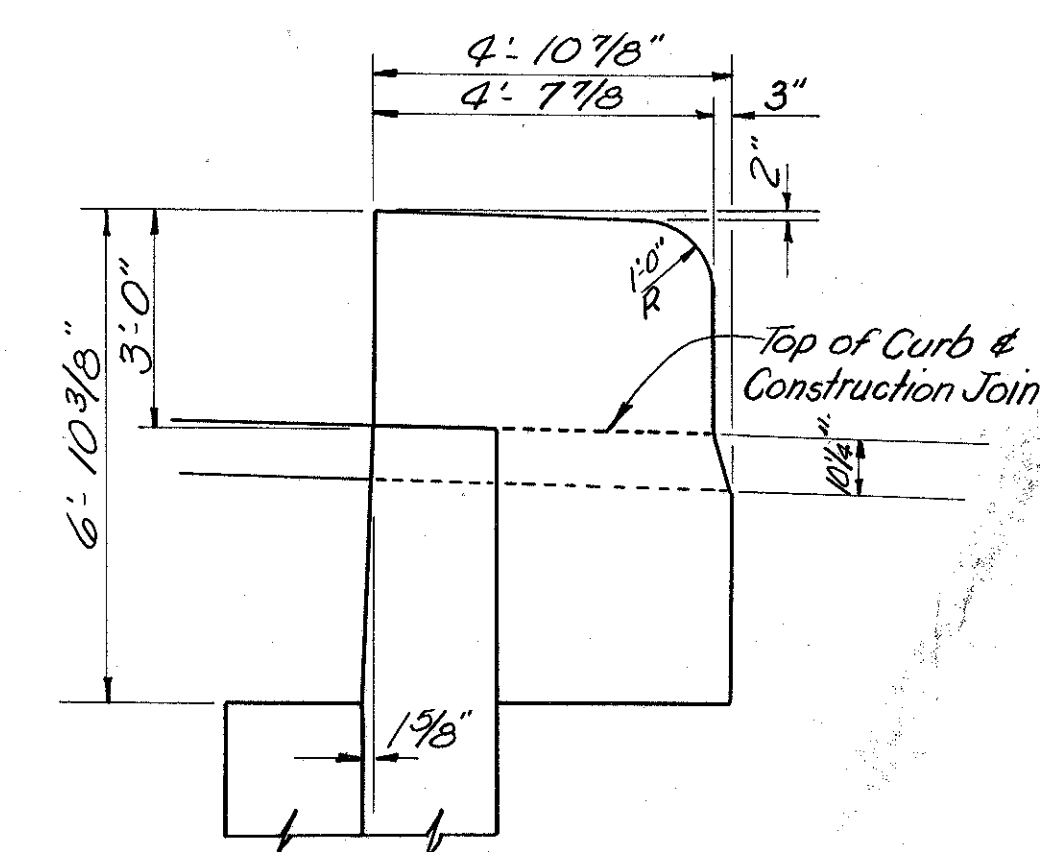


ELEVATION

Scale 3/8" = 1'-0"



SECTION A-A



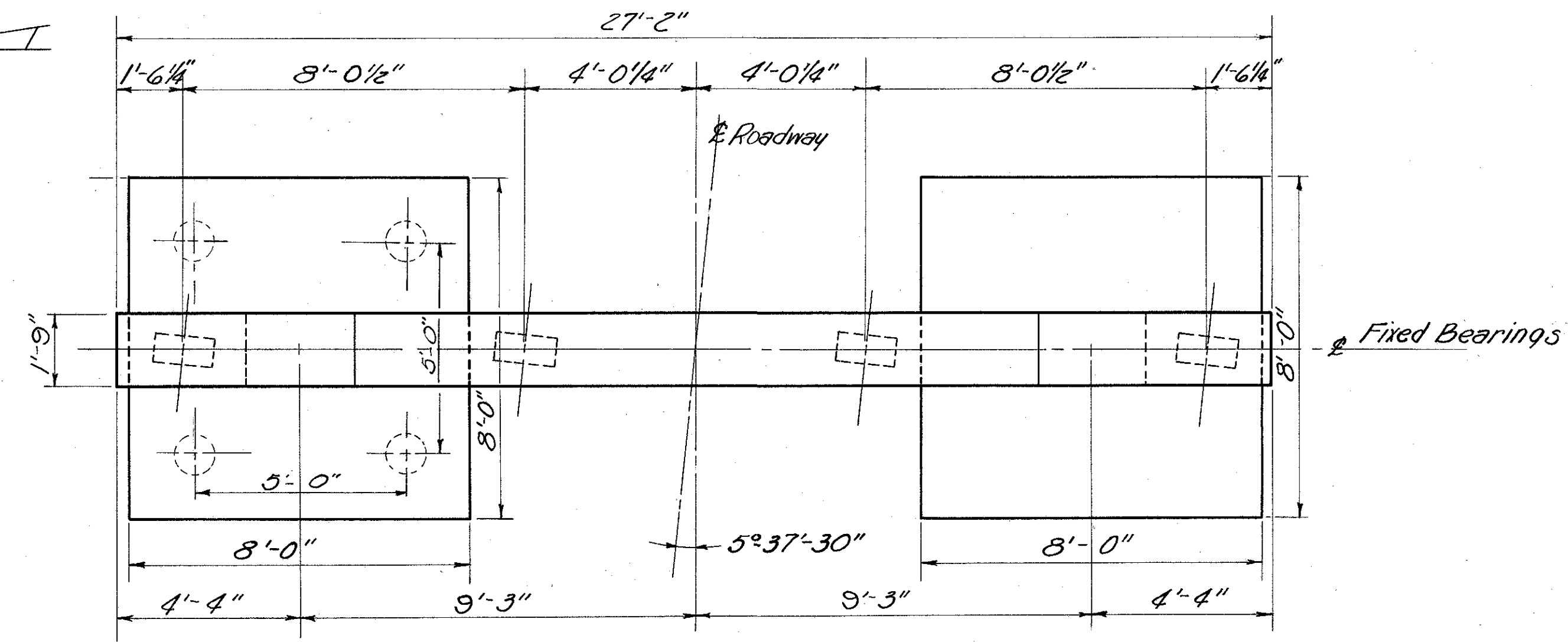
VIEW B-B

ELMER S. BARRETT ASSOCIATES					
CONSULTING ENGINEERS				CHILLICOTHE, OHIO	
249 S. PAINT ST.					
EAST ABUTMENT DETAILS					
For BRIDGE NO. R0- 23- 228					
US 23 Under COUNTY LINE ROAD					
ROSS-PICKAWAY COUNTY				US 23	
SEC. ROS-23- 19.14				STA. 1202+ 84.75	
PIC-23-0.00					
SCALE 3/8" = 1'-0"					
DATE JULY 30, 1955					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
W.C.	W.C.	P.J.M.	R.D.D.	E.S.B.	8/1/55
					7.30.55

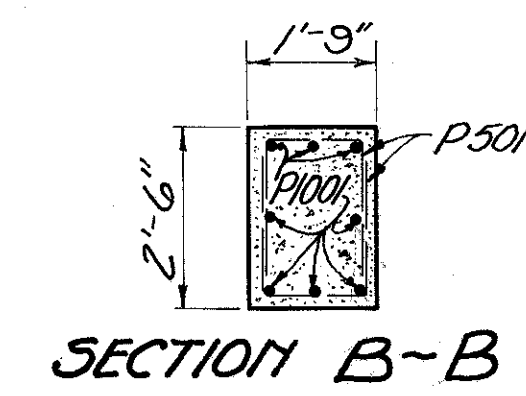
ROSS-PICKAWAY COUNTY
ROS-23-19.14
PIC-23-0.00

NOTES

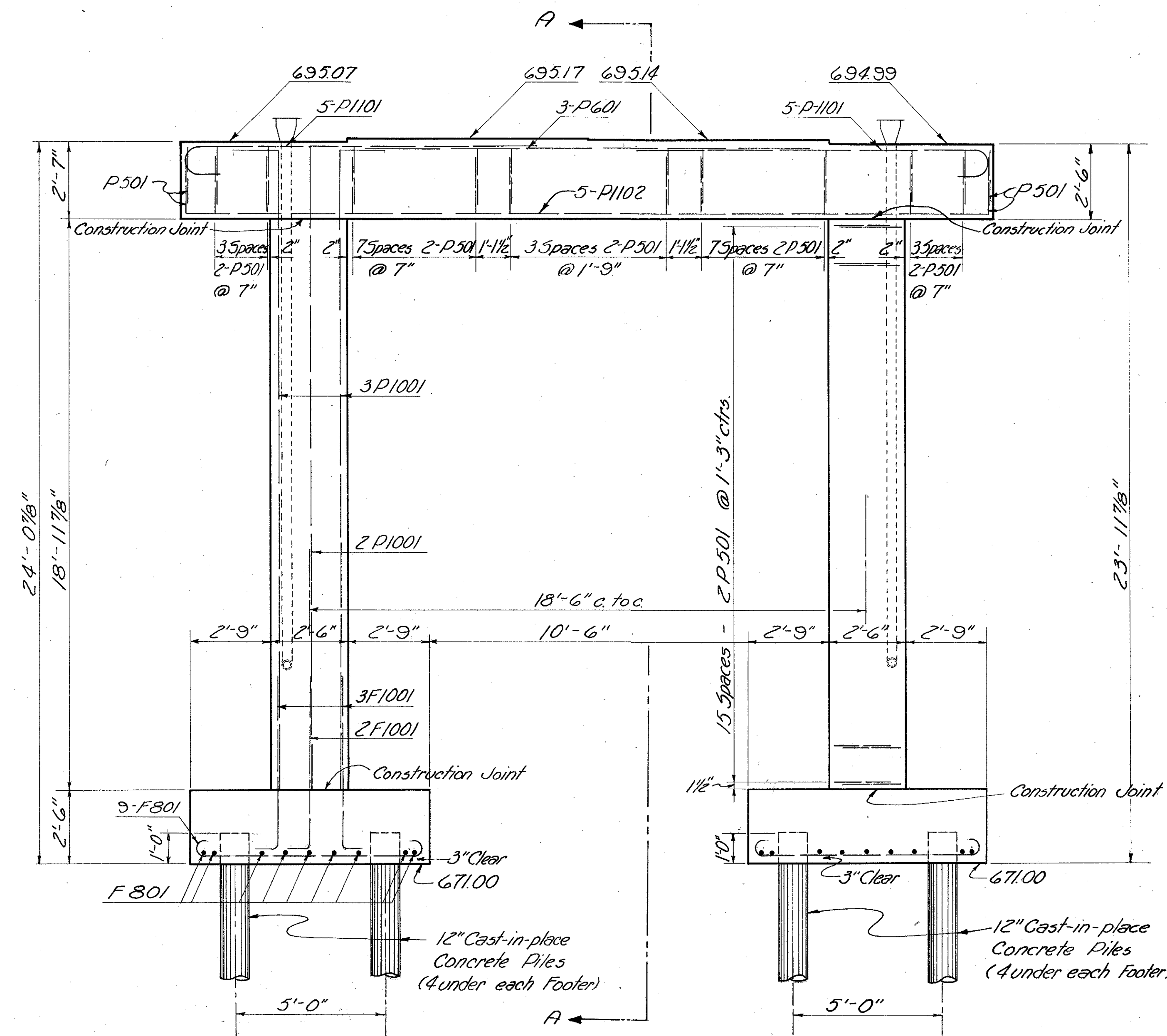
Reinforcing Steel shall be 2" clear except where otherwise shown.
Piling shall be driven to a minimum bearing capacity of 34 tons as determined by the pile formula in Section 5-18.05.



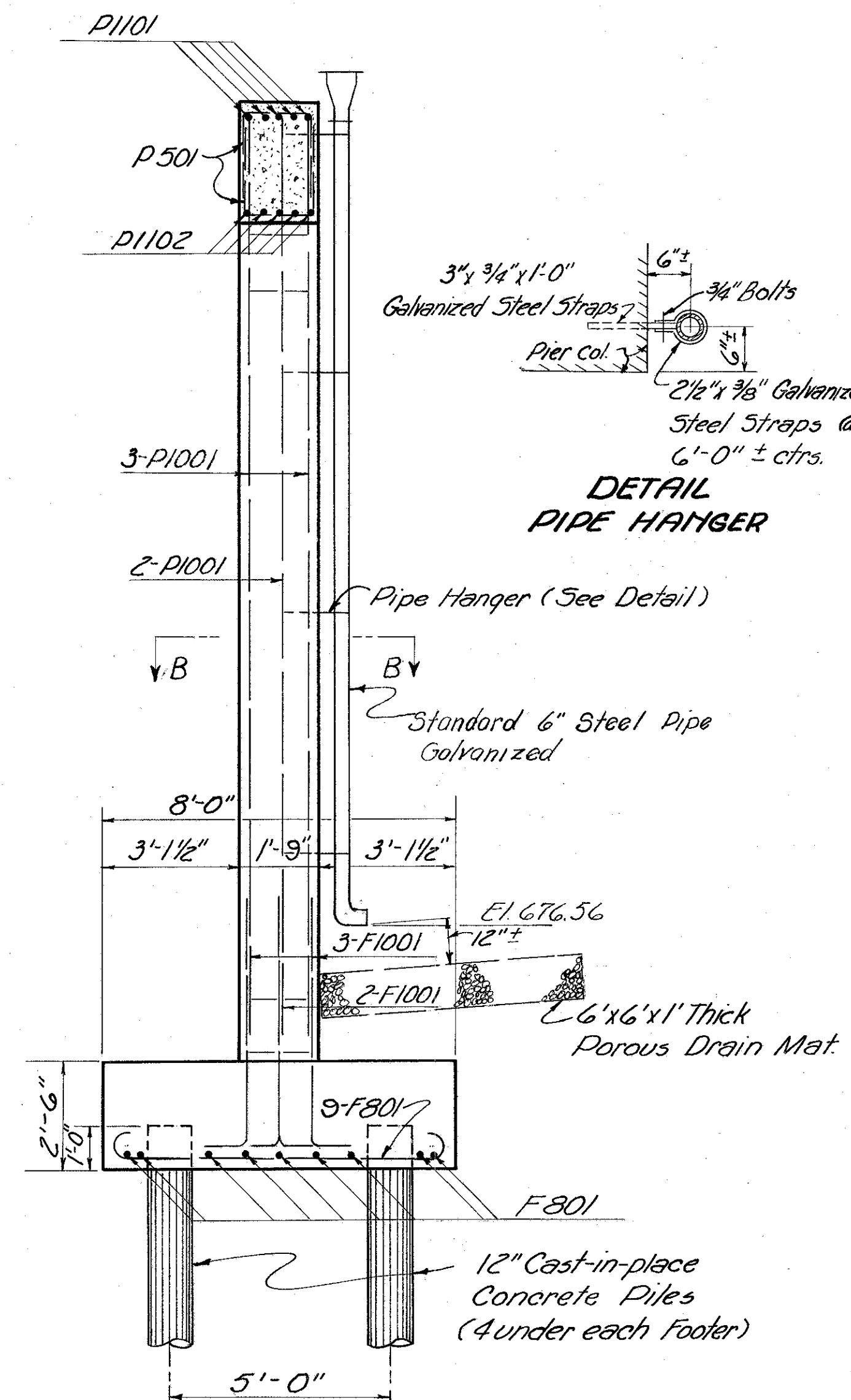
CENTER PIER PLAN
Scale 3/8" = 1'-0"



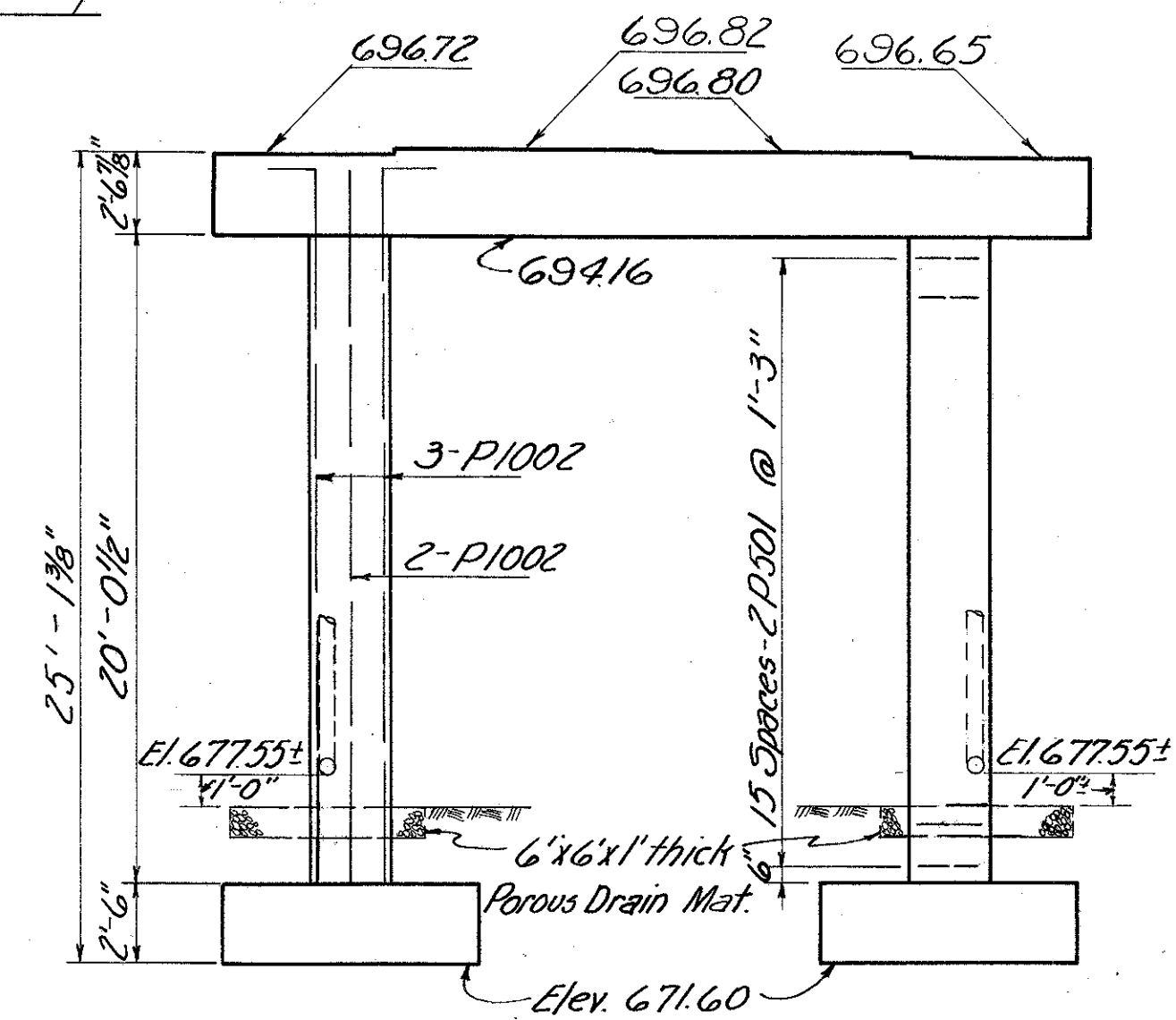
SECTION B-B



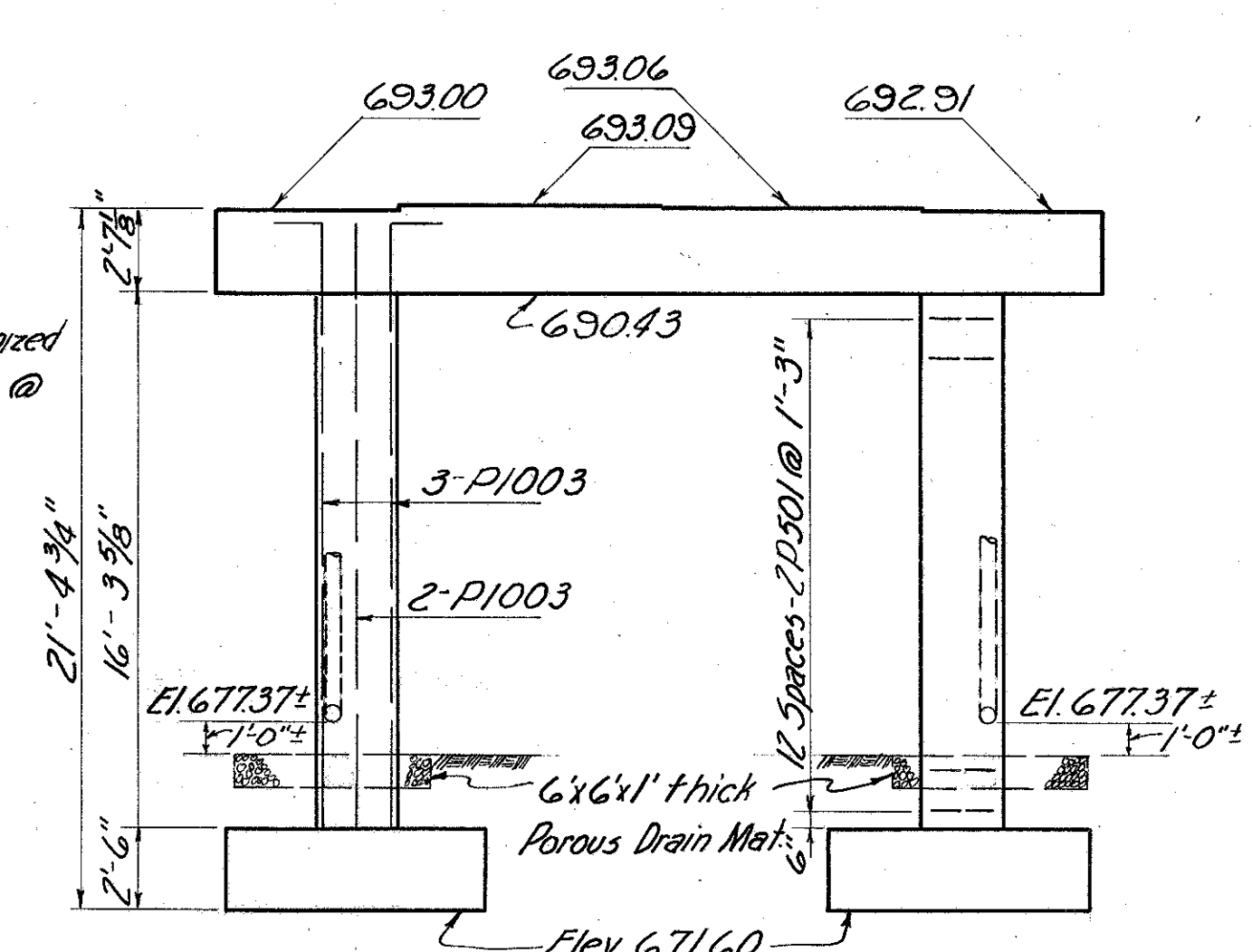
FRONT ELEVATION
Scale 3/8" = 1'-0"



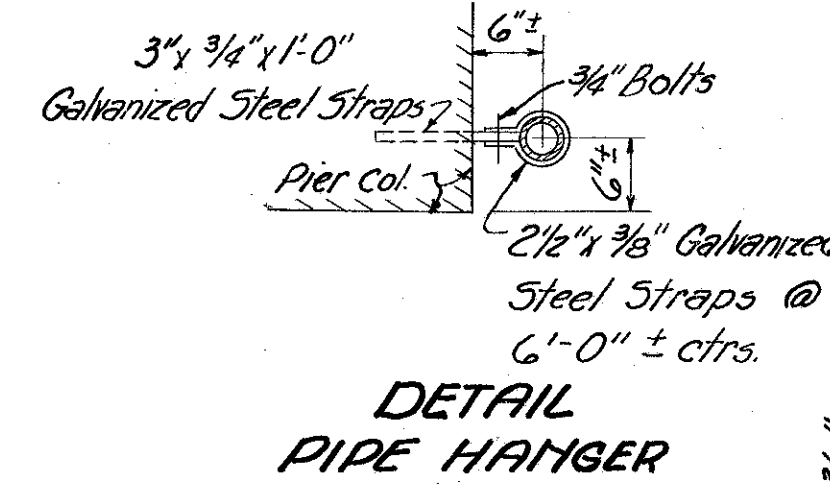
SECTION A-A



WEST PIER



EAST PIER



DETAIL
PIPE HANGER

ELMER S. BARRETT ASSOCIATES CONSULTING ENGINEERS 249 S. PAINT ST. CHILLICOTHE, OHIO									
PIER DETAILS									
For BRIDGE NO. RO-23-228									
US 23 Under COUNTY LINE ROAD									
ROSS-PICKAWAY COUNTY US 23									
SEC. ROS-23-19.14 STA. 1202+84.75									
PIC-23-0.00									
SCALE 3/8" = 1'-0" DATE JULY 30, 1955									
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED			
W.C.	W.C.	W.D.	ADD	ESB	8/1/55	K.O.D.	7-30-55		