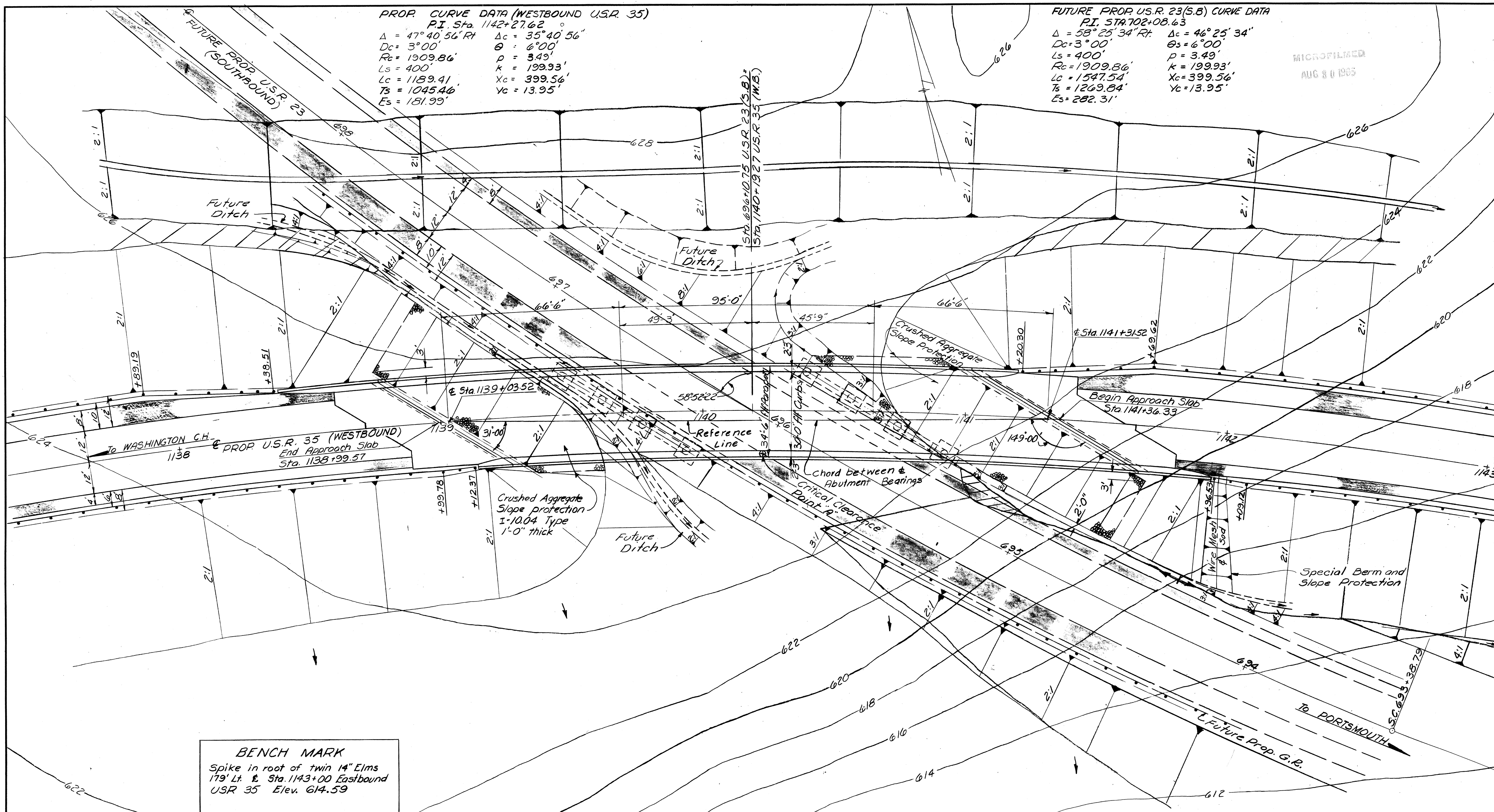


ROSS COUNTY
ROS-35-21.23

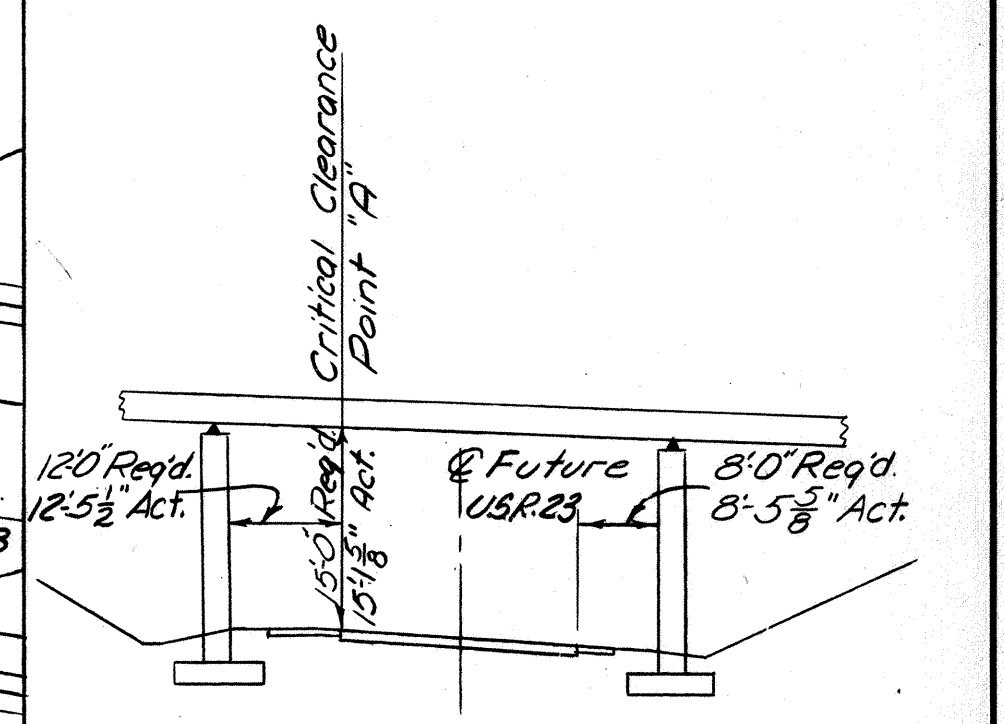
MICROFILMED
AUG 8 1985

PROP. CURVE DATA (WESTBOUND U.S.R. 35)
P.I. Sta. 1142+27.62
 $\Delta = 47^\circ 40' 56''$ Rt. $\Delta c = 35^\circ 40' 56''$
 $Dc = 3^\circ 00'$ $\theta = 6^\circ 00'$
 $Rc = 1909.86'$ $p = 3.49'$
 $Ls = 400'$ $k = 199.93'$
 $Lc = 1189.41'$ $Xc = 399.56'$
 $Ts = 1045.46'$ $Yc = 13.95'$
 $Es = 151.99'$

FUTURE PROP. U.S.R. 23 (S.B.) CURVE DATA
P.I. STA 102+08.63
 $\Delta = 58^\circ 25' 34''$ Rt. $\Delta c = 46^\circ 25' 34''$
 $Dc = 3^\circ 00'$ $\theta_s = 6^\circ 00'$
 $Ls = 400'$ $p = 3.49'$
 $Rc = 1909.86'$ $k = 199.93'$
 $Lc = 1547.54'$ $Xc = 399.56'$
 $Ts = 1269.84'$ $Yc = 13.95'$
 $Es = 282.31'$



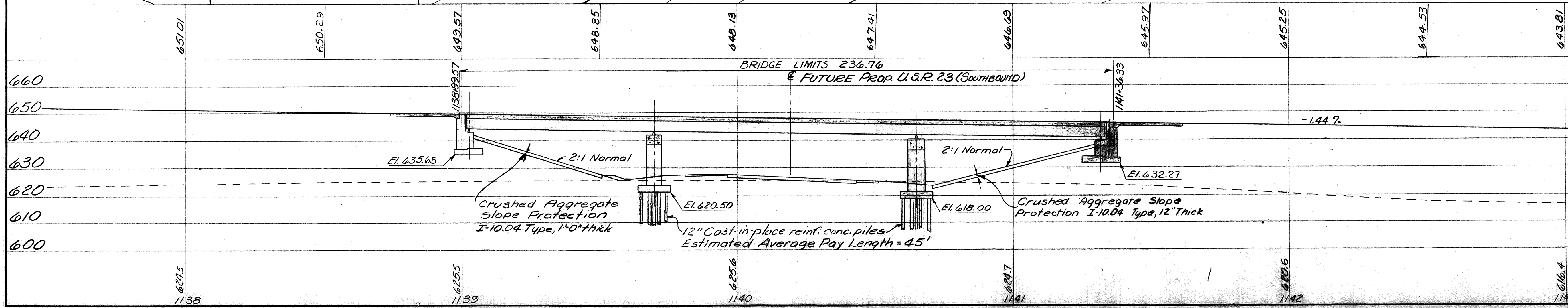
PROPOSED BRIDGE DATA
 TYPE: Continuous Welded Girder with Concrete Deck and Substructure.
 SPANS: 66'-6" - 95'-0" - 66'-6"
 ROADWAY: 30'-0" Af 2'-3" Safety Curbs.
 LOAD FREQUENCY: CF-400 (57)
 SKEW: 59'-00' R.F.
 APPROACH SLAB: AS-1-54 (25' Long)
 RAILING: Aluminum Rail and Supports and Concrete Parapet.
 ALIGNMENT: 3'00" Curve.
 SUPERELEVATION: 0.083 Ft. per Ft.
 WEARING SURFACE: 1" Monolithic Concrete



CLEARANCE DIAGRAM SECTION NORMAL TO U.S.R. 23 (S.B.)

FOUNDATION SOUNDINGS
 Foundation design and foundation quantities are based on a study of rod soundings and soil sampling soundings made at the site. This sounding information may be inspected in the office of Bureau of Bridges in Columbus or in the division office but the State does not guarantee the accuracy thereof.

BENCH MARK
 Spike in root of twin 14" Elms
 179' Lt. E. Sta. 1143+00 Eastbound
 USR 35 Elev. 614.59

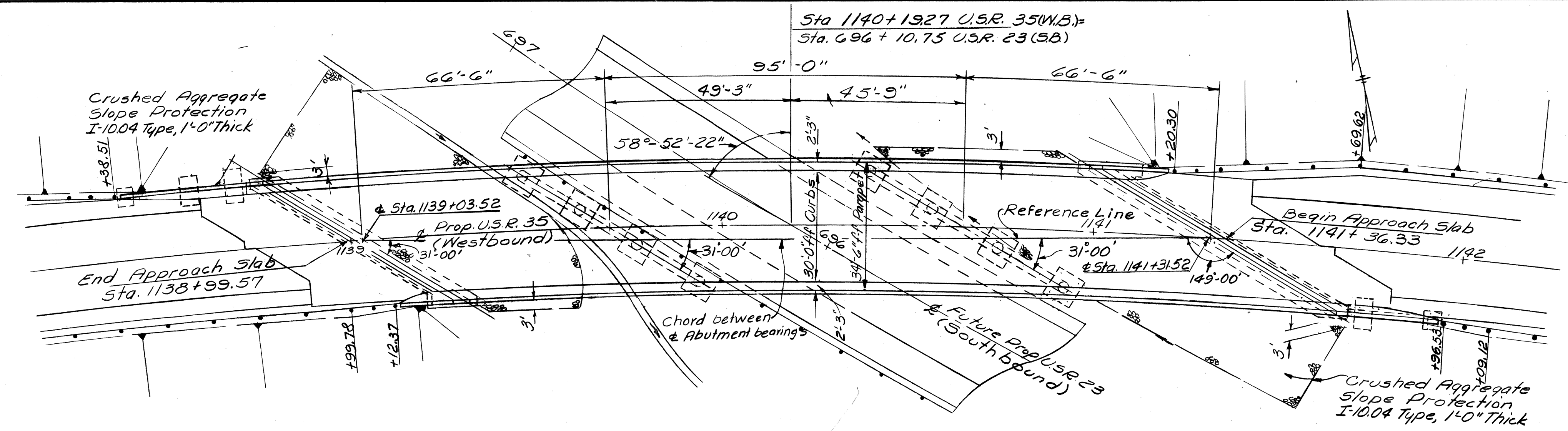


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 Consulting Engineers
 245-249 S. Paint Street Chillicothe, Ohio

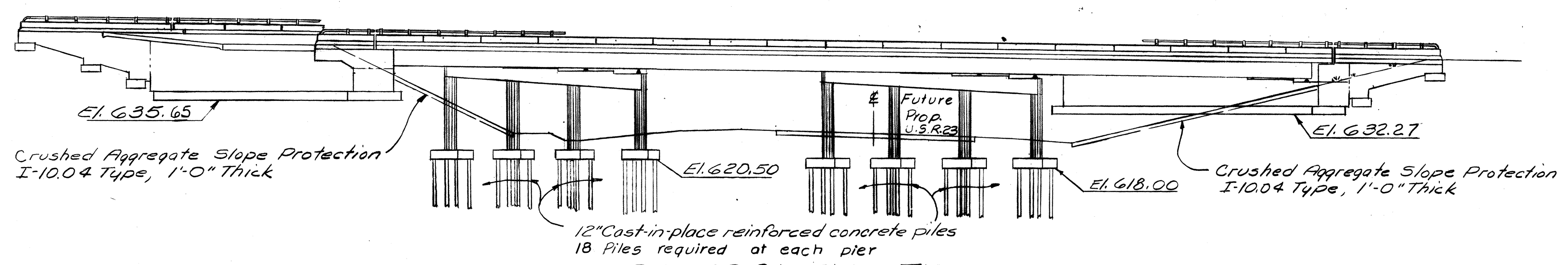
SITE PLAN
 BRIDGE NO. ROS-35-2157L
 USR 35 W.B. OVER U.S.R. 23 S.B. FUTURE PROP.
 ROSS COUNTY U.S.R. 35
 STA. 1138+99.57 TO STA. 1141+36.33
 SCALE DATE
 DESIGNED DRAWN TRACED CHECKED REVIEWED DATE REVISED
 MK LLF D.S. NK 3/14/63

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AUG 30 1965

ROSS COUNTY
ROS-35-21.23



GENERAL PLAN



GENERAL ELEVATION

GENERAL NOTES

REFERENCE: shall be made to standard drawing FSB-1-62, dated 1-15-63, AS-1-54, revised 7-5-62, AR-1-57 revised 4-2-62 and Supplemental Specifications 5-101 dated 7-12-62 and 5-307 dated 10-1-64.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 3-1-57 together with current revisions thereof.

FOUNDATION BEARING PRESSURE: Abutment footings are designed for a maximum bearing pressure of 1.5 tons per square foot.

PILES shall be driven to a minimum bearing capacity of 44 tons per pile for the piers.

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

EMBANKMENT PROCEDURE: The embankment 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 excavation shall be made for the abutments.

For **HIGH STRENGTH STEEL BOLT** note, see Sheet 222

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. Class "B" welds are shown Thus: $\overline{\text{B}}$

SURFACE FINISH OF CONCRETE: The requirements of Sec. 5-122, Rubbed Finish, shall apply to the following exposed concrete surfaces:

(a) The entire superstructure except the top and bottom surfaces of safety curbs and roadway.

(b) The entire surface of piers and abutments except bridge seats, backwalls and the face of spill-through abutments between outside girders.

GIRDER ERECTION: The contractor shall submit to the Director for approval 3 prints showing his proposed erection procedure for the plate girders.

MACHINE FINISH: At the Contractor's option, the concrete deck may be finished by the use of a finishing machine.

ESTIMATED QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION	ABUT'S.	PIERS	SUPER	GENERAL	AS BUILT
E-2	745	Cu.Yds.	Unclassified Excavation	570	175			
I-10	798	Sq.Yds.	Crushed Aggregate Slope Protection				798	
S-1	283	Cu.Yds.	Class "C" Concrete, Superstructure			283		
S-1	92	Cu.Yds.	Class "C" Concrete, Pier Caps and Columns		92			
S-1	244	Cu.Yds.	Class "E" Concrete, Abutments above Footings	244				
S-1	137	Cu.Yds.	Class "E" Concrete, Footings	90	47			
S-3	49	Lin. Ft.	Waterproofing, premolded Sealing Strip	49				
S-4	113,009	Pounds	Reinforcing Steel	14,880	23,909	74,220		
S-7	269,900	Pounds	Structural Steel			269,900		
S-8	269,900	Pounds	Field Painting of Structural Steel			269,900		
S-9	55	Sq. Ft.	1" Preformed Expansion Joint Filler	55				
S-14	561.13	Lin. Ft.	Bailing, Aluminum Railroad Supports and Concrete Parapet	97.42		463.71		
S-16	Lump Sum	Lump	First Test Pile		Lump			
S-18	1620	Lin. Ft.	12" Cast-in-place reinforced concrete piles		1620			
S-29	13	Each	Scuppers, including supports			13		
S-29	76	Cu.Yds.	Porous Backfill	76				
S-101	283	Each	Water Reducing, Set-Retarding, Admixture			283		

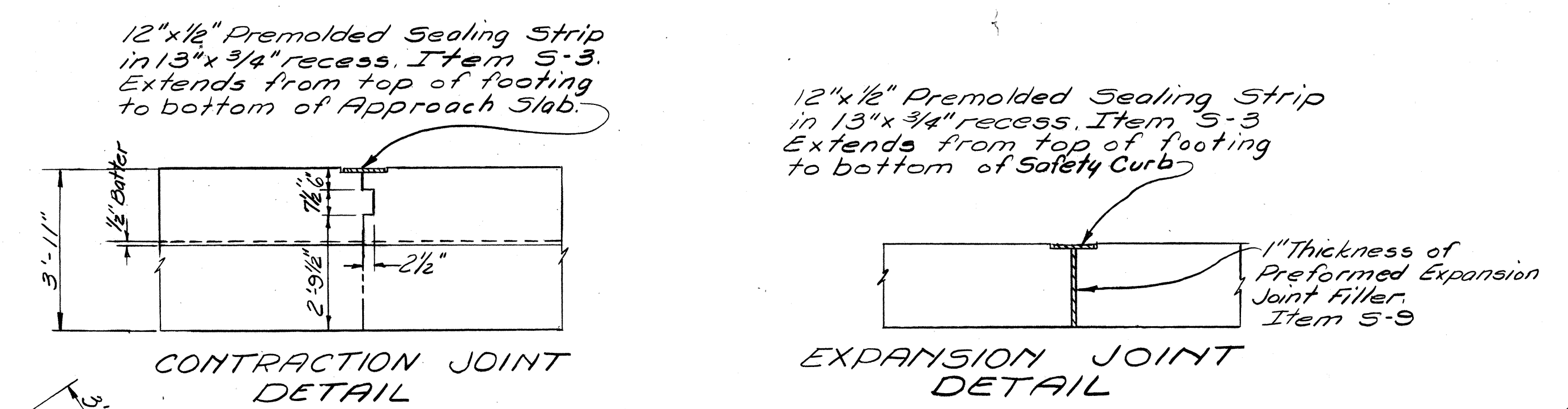
SUPERELEVATION TABLE

15' Lt. &	STATION	ELEVATION	15' Rt. &
655.42	1336+50	654.17	652.92
655.06	+75	653.81	652.56
654.70	1337+00	653.45	652.20
654.34	+25	653.09	651.84
653.98	+50	652.73	651.48
653.62	+75	652.37	651.12
653.26	1338+00	652.01	650.76
652.90	+25	651.65	650.40
652.54	+50	651.29	650.04
652.18	+75	650.93	649.68
651.82	1339+00	650.57	649.32
651.46	+25	650.21	648.96
651.10	+50	649.85	648.60
650.74	+75	649.49	648.24
650.38	1340+00	649.13	647.88
650.02	+25	648.77	647.52
649.66	+50	648.41	647.16
649.30	+75	648.05	646.80
648.94	1341+00	647.69	646.44
648.58	+25	647.33	646.08
648.22	+50	646.97	645.72
647.86	+75	646.61	645.36
647.50	1342+00	646.25	645.00

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Consulting Engineers
245-249 S. Paint Street Chillicothe, Ohio

GENERAL PLAN AND ELEVATION & EST. QUANTITIES AND GEN. NOTES
BRIDGE NO. ROS-35-2157 L
U.S.R. 35 W.B. OVER U.S.R. 23 & B. FUTURE PROP.
ROSS COUNTY U.S.R. 35
STA. 1138+99.57 TO STA. 1141+36.33
SCALE DATE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DJP	MDU		D.S. R.M.S.	TK	3/14/63	



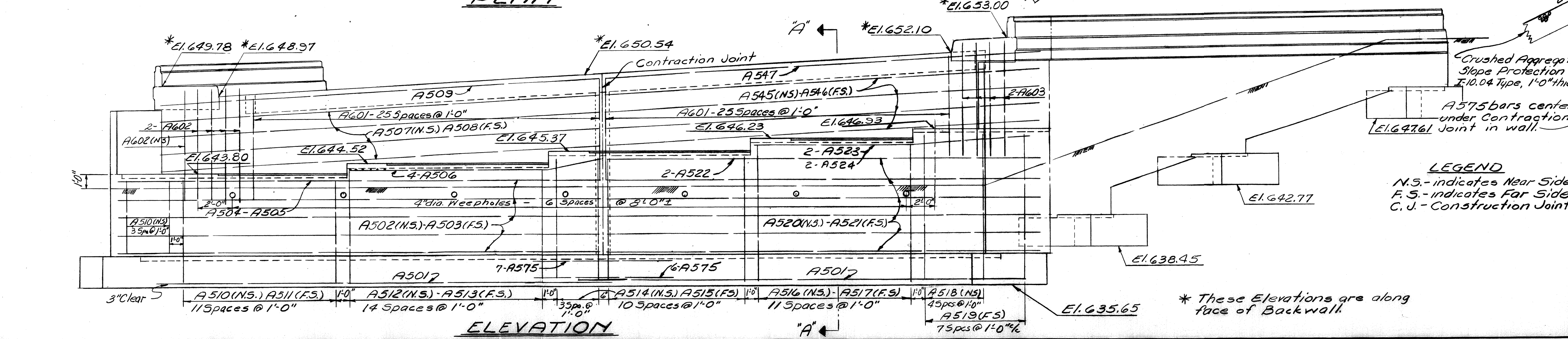
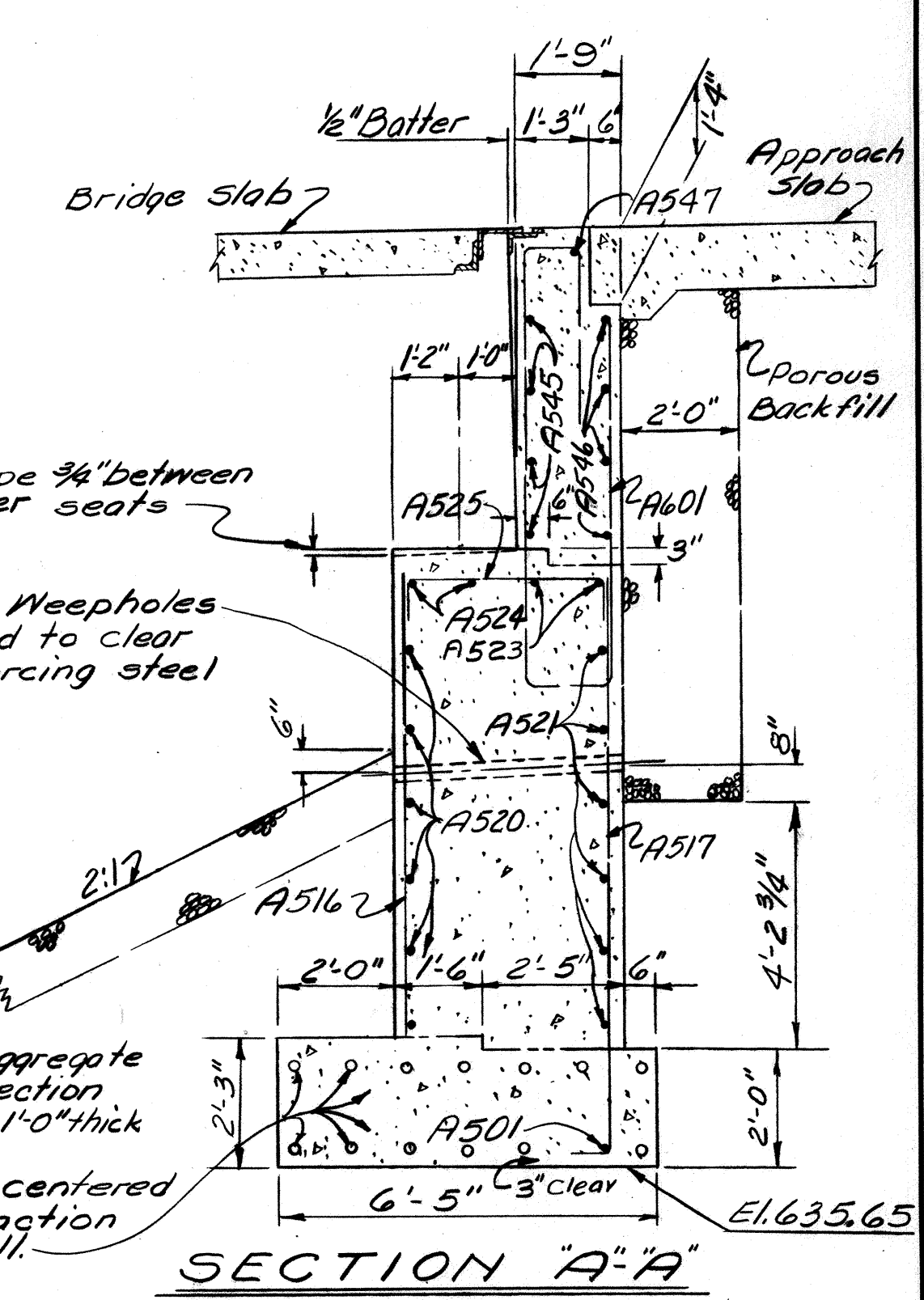
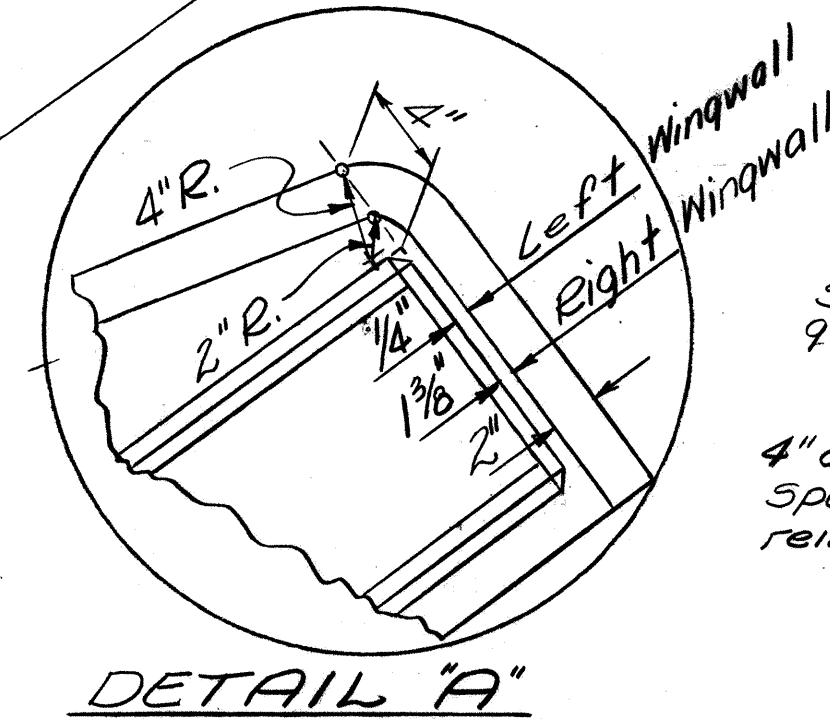
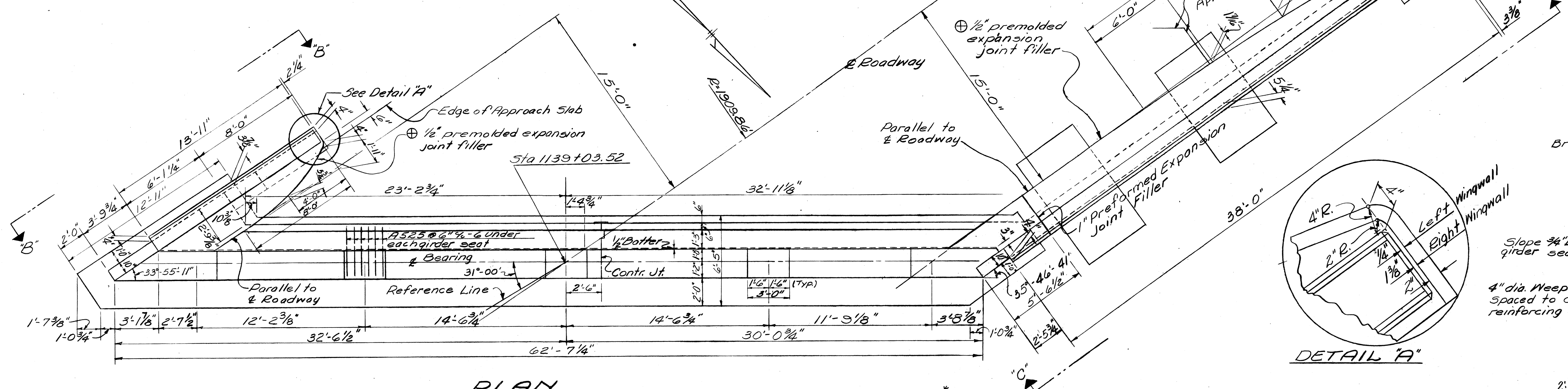
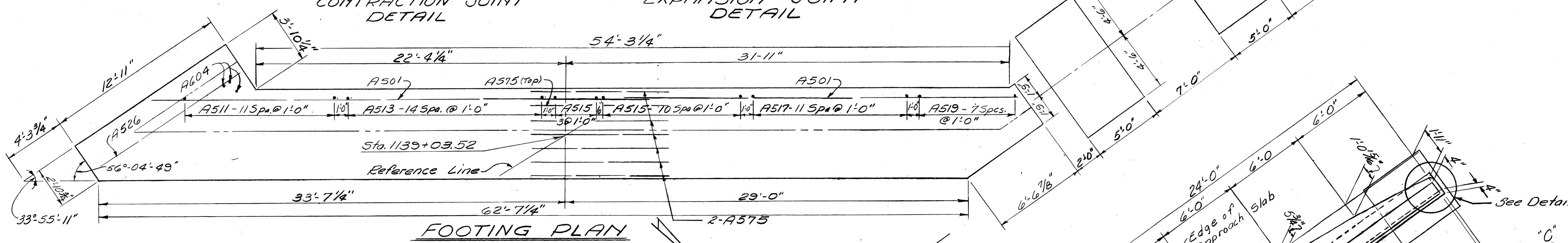
NOTES

CONCRETE for Abutments shall be Class "E"

For VIEW "B-B" see Sheet No. 176
For VIEW "C-C" see Sheet No. 175

POROUS BACKFILL shall extend upward to the approach slab and outward to the wingwalls. Excavation therefor, in excess of that required for construction of the abutments, shall be considered as paid for in the bid price per cu. yd. paid for porous backfill.

⊕ 1/2" Premolded expansion joint filler is included with approach slab for payment.



LEGEND

N.S. - indicates Near Side
F.S. - indicates Far Side
C.J. - Construction Joint

* These Elevations are along face of Backwall.

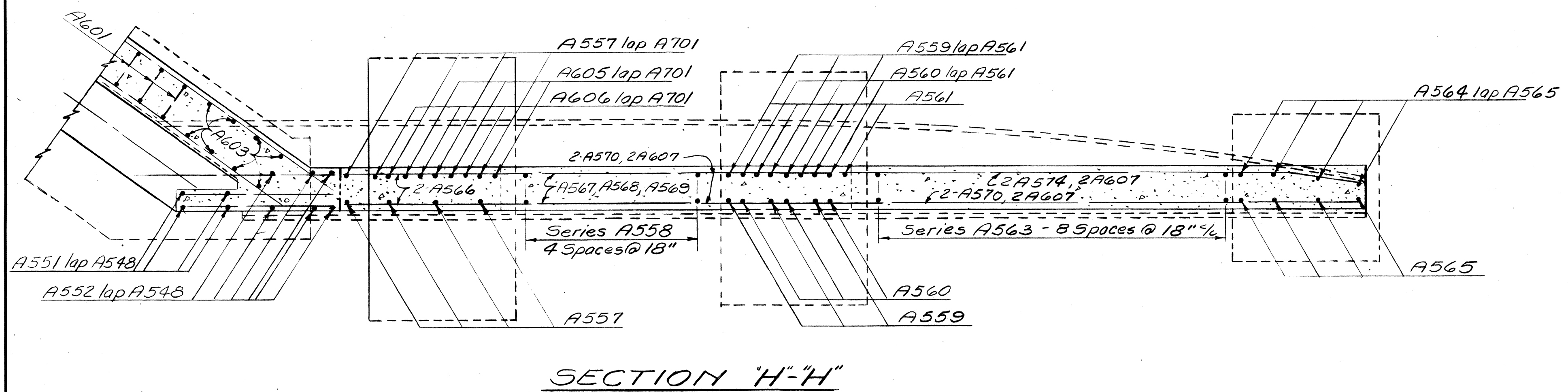
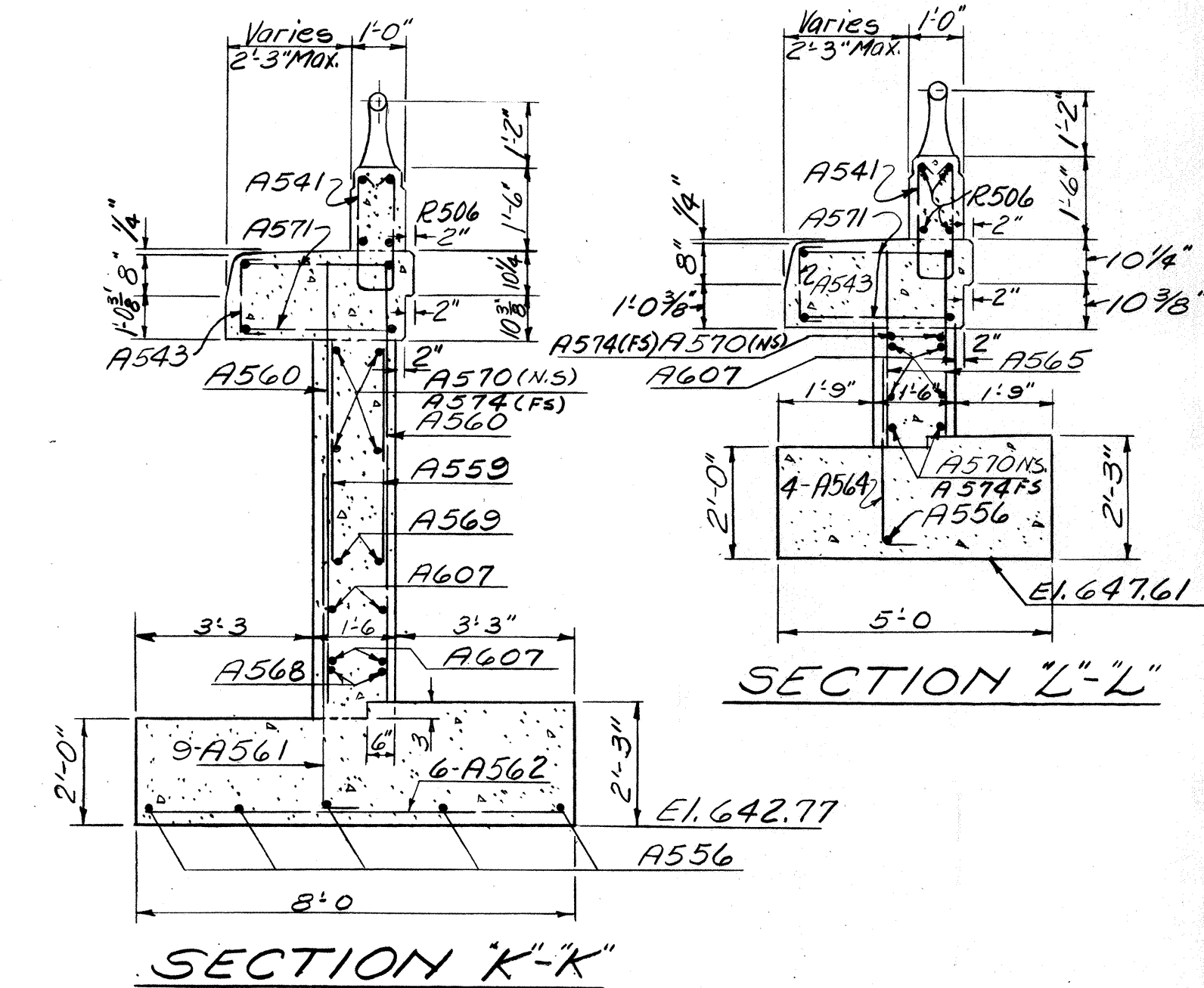
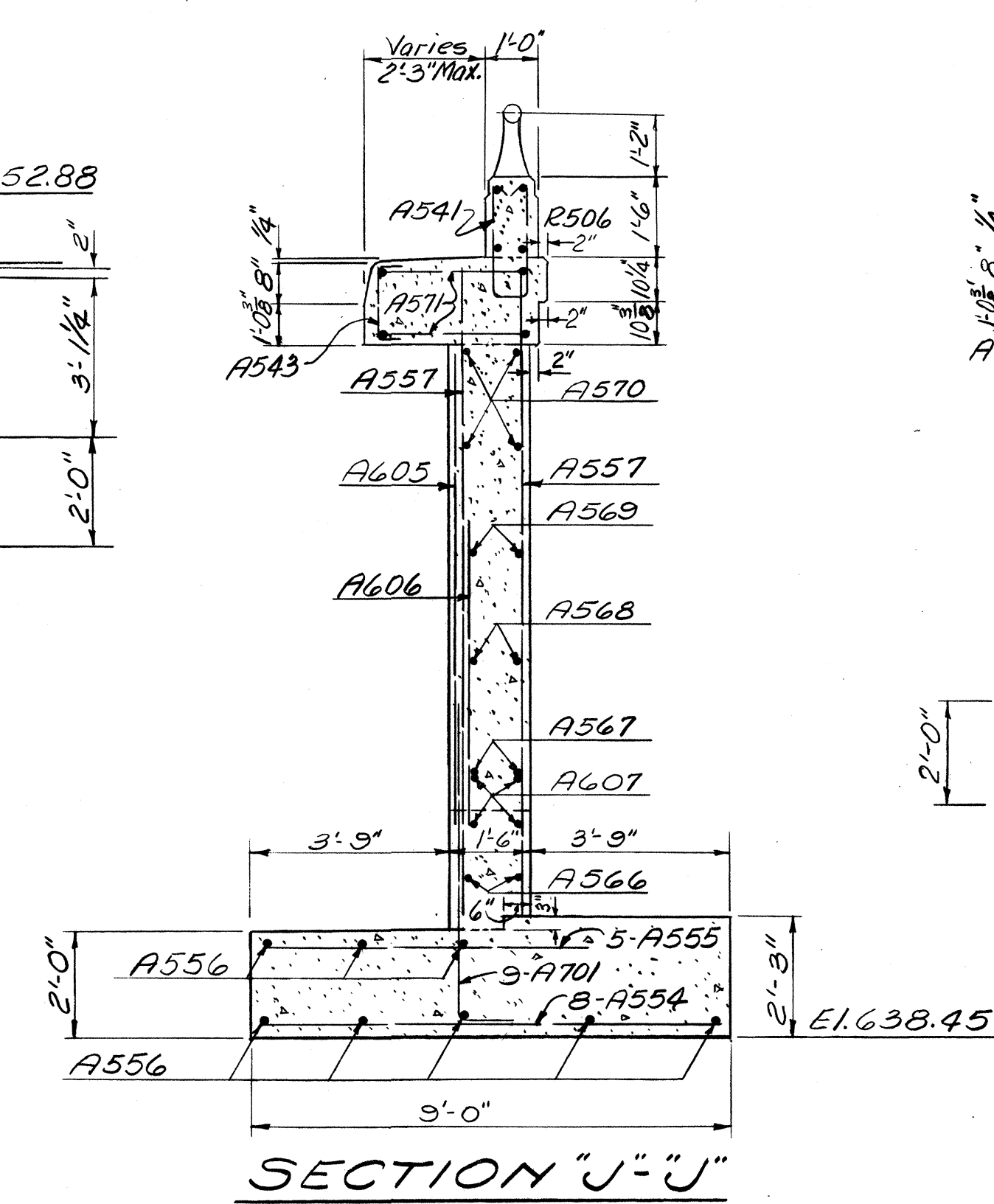
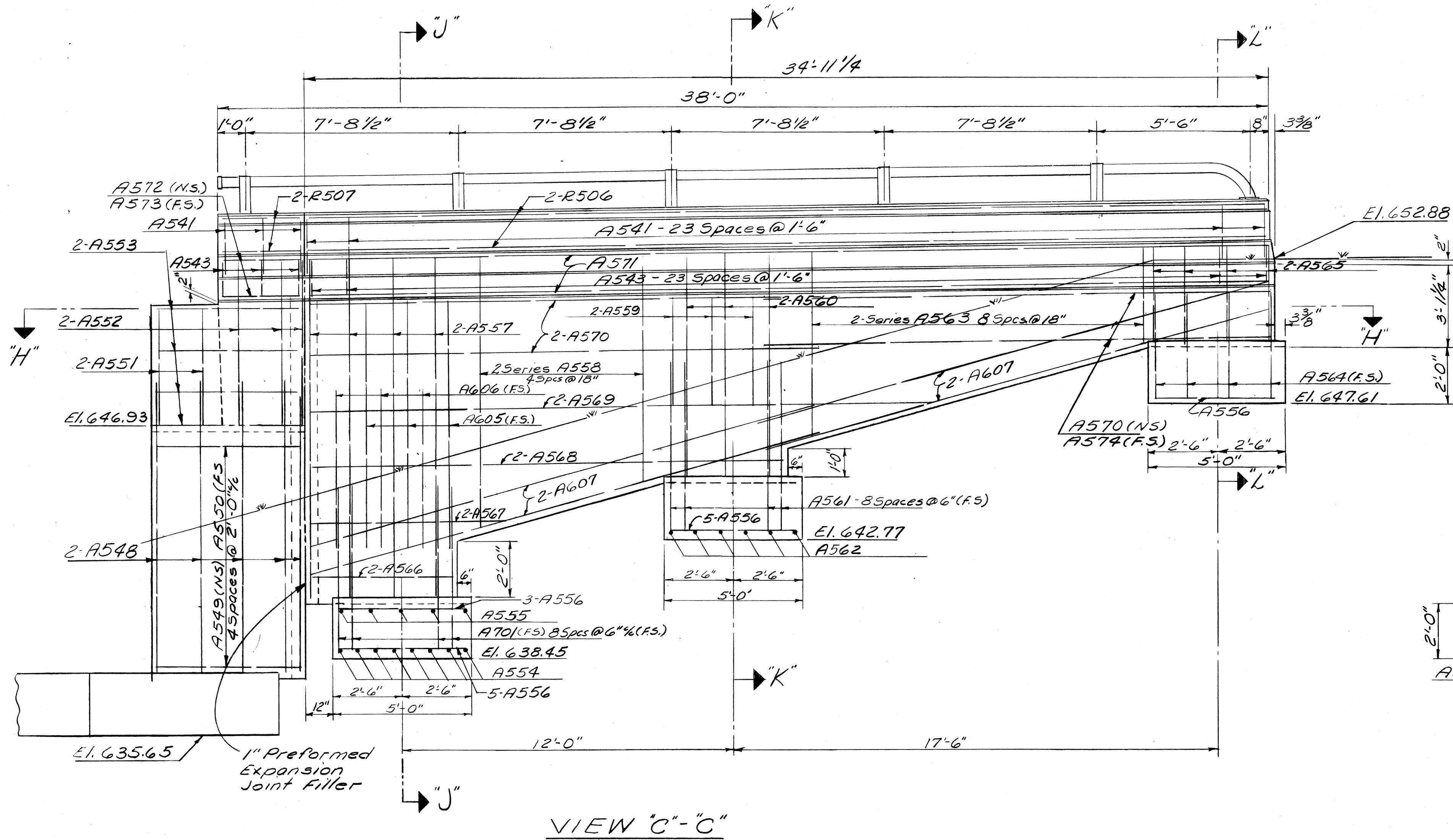
ELMER S. BARRETT ASSOCIATES
Consulting Engineers
245-249 S. Paint Street Chillicothe, Ohio

REAR ABUTMENT DETAILS

BRIDGE NO. ROS-35-2157L
U.S.R. 35 IWB. OVER U.S.R. 23 S.B. FUTURE PROP.
ROSS COUNTY U.S.R. 35
STA. 1138+93.57 TO STA. 1141+36.33

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DJP	WDJ		R.M.S.	WK	3/14/63	

ROSS COUNTY
R05-35-21.23



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Consulting Engineers
245-249 S. Paint Street Chillicothe, Ohio

REAR ABUTMENT DETAILS
BRIDGE NO. R05-35-2157 L
U.S.R. 35 W.B. OVER U.S.R. 23 S.B. FUTURE PROJ.

ROSS COUNTY U.S.R. 35
STA. 1138+99.57 TO STA. 1141+36.33

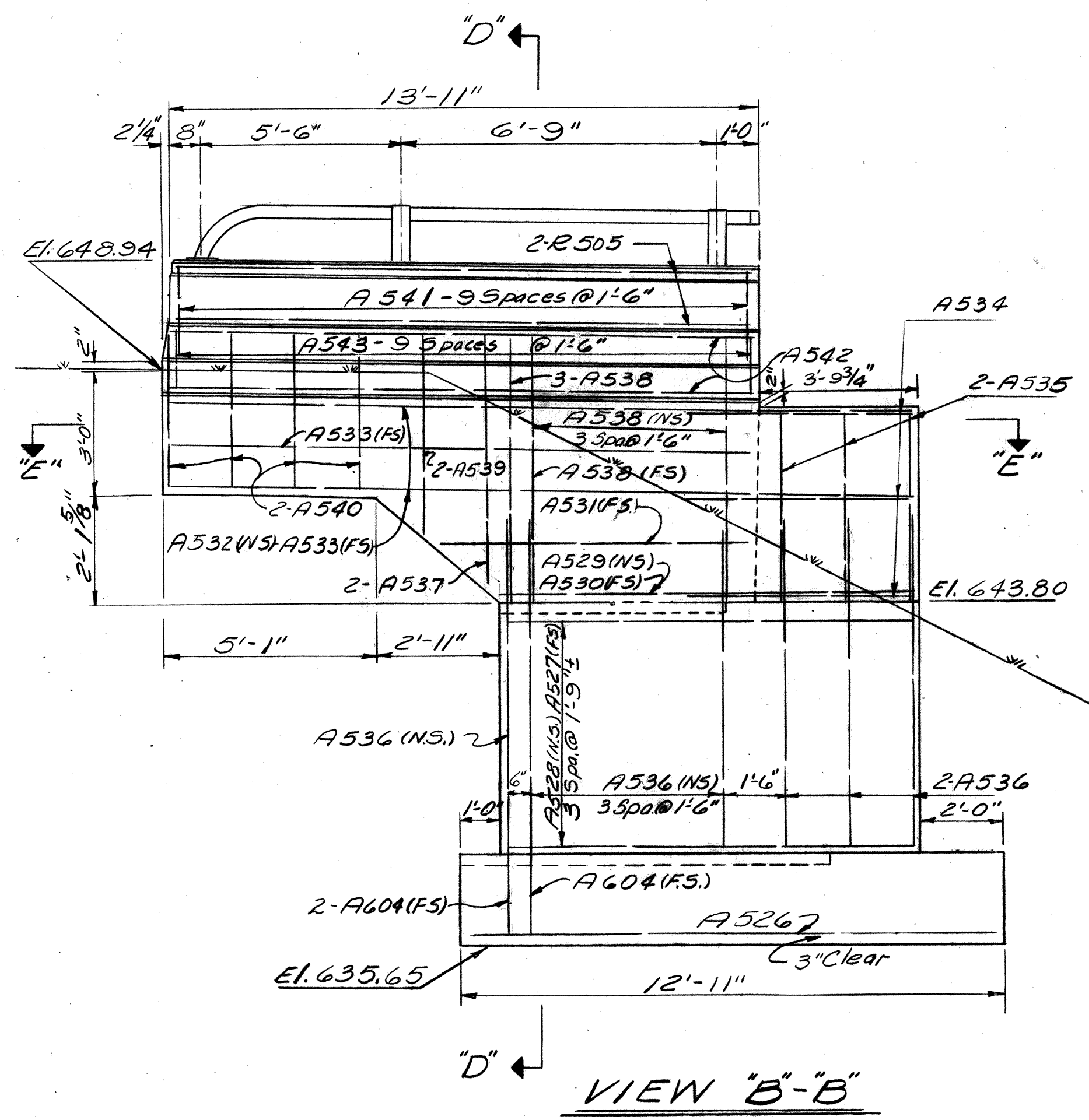
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DJP	WDJ		Kay	Wk	3/14/63	

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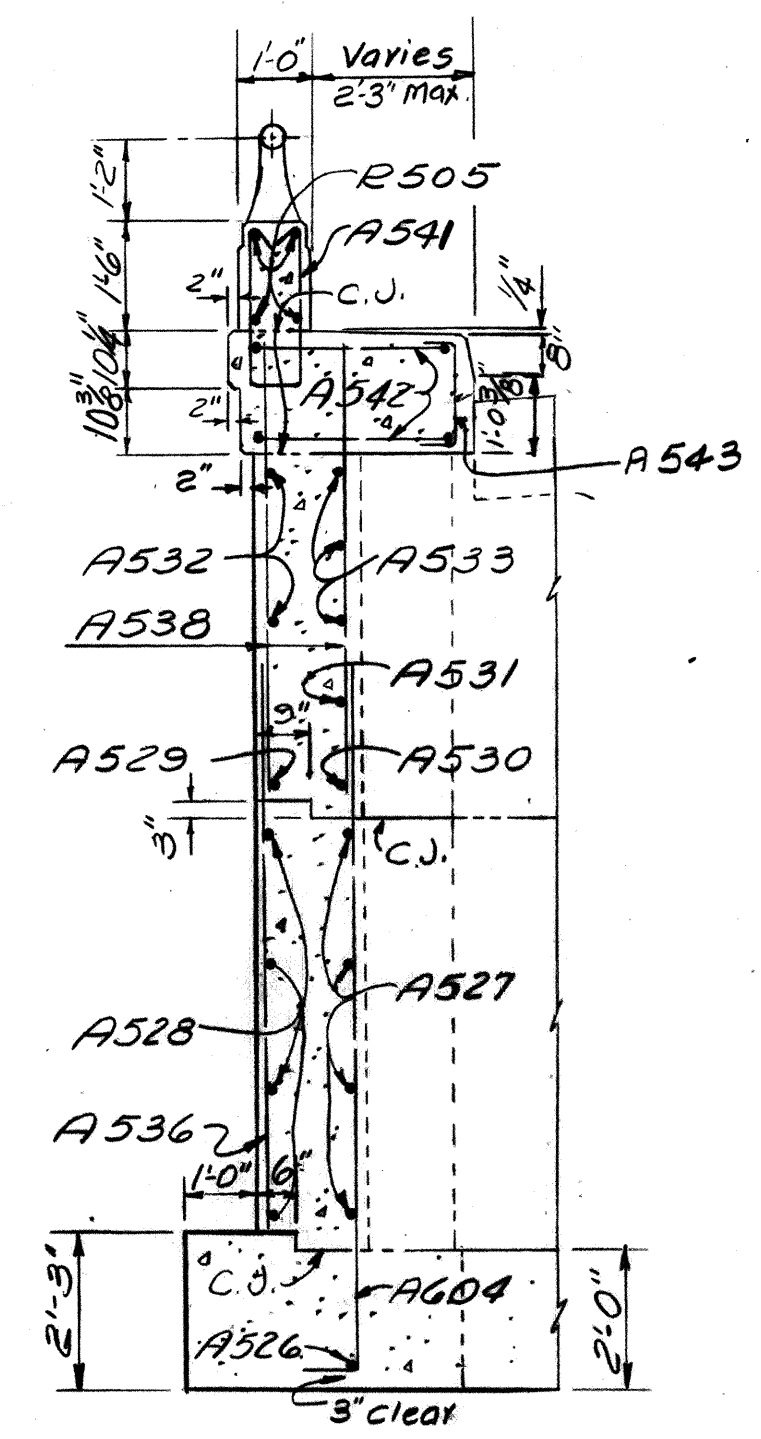
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

176
240

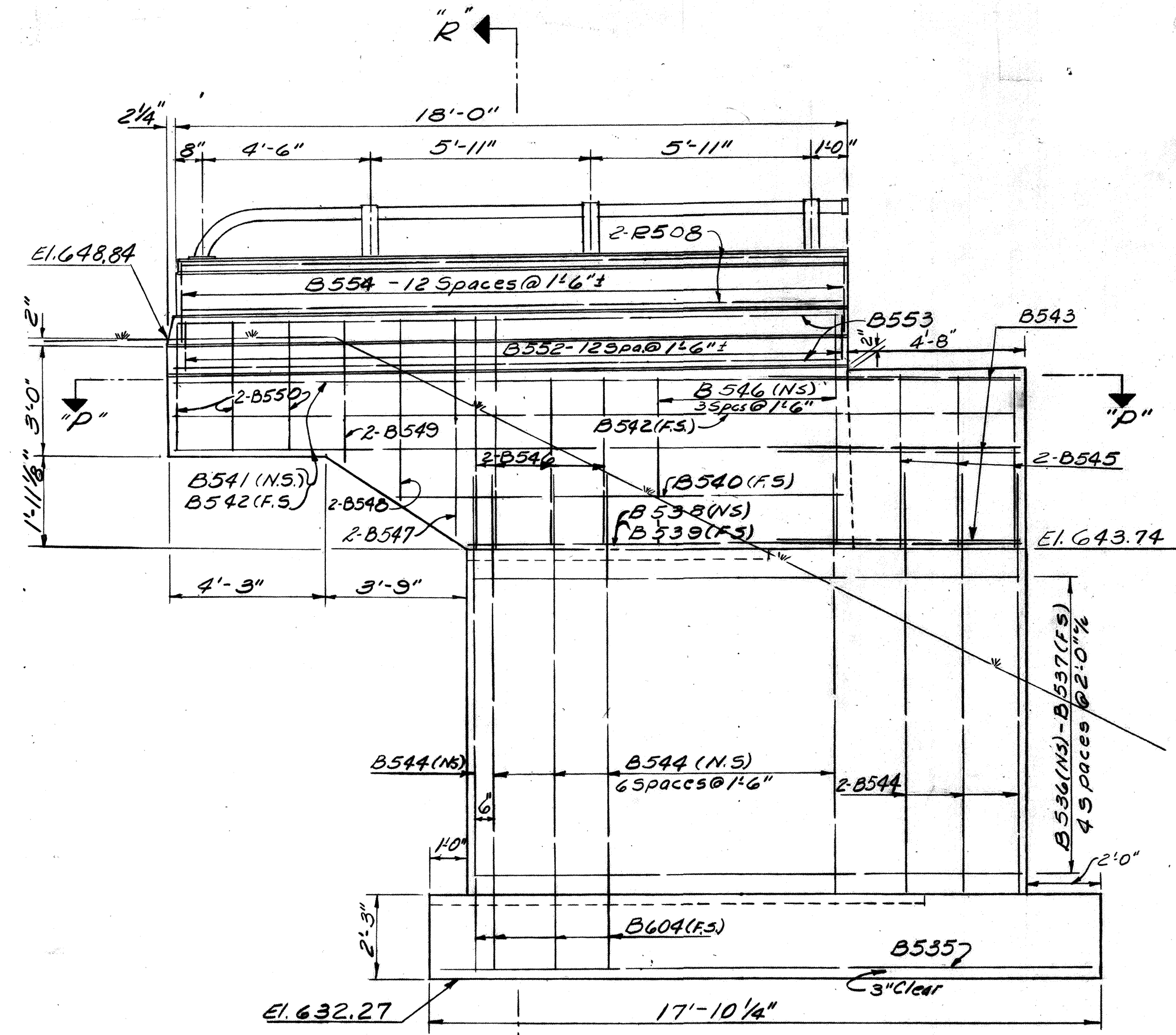
ROSS COUNTY
R05-35-21.23



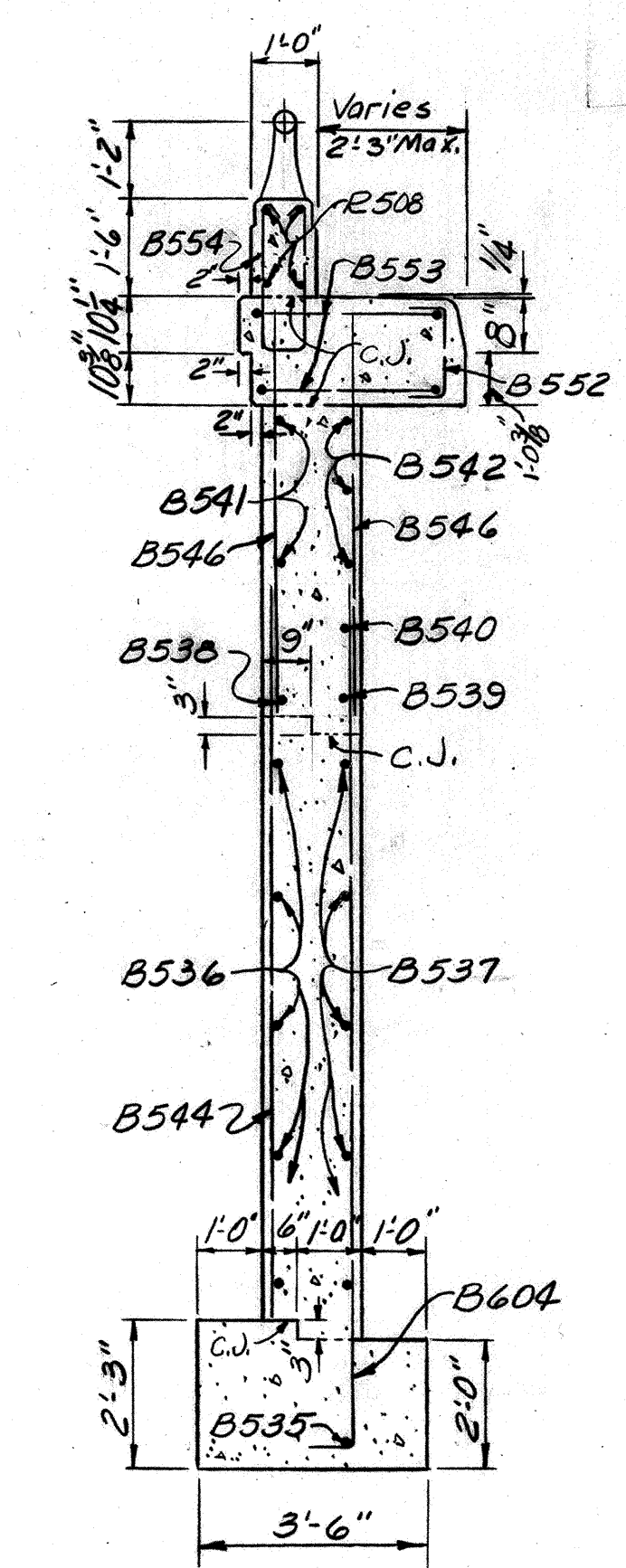
VIEW "B-B"



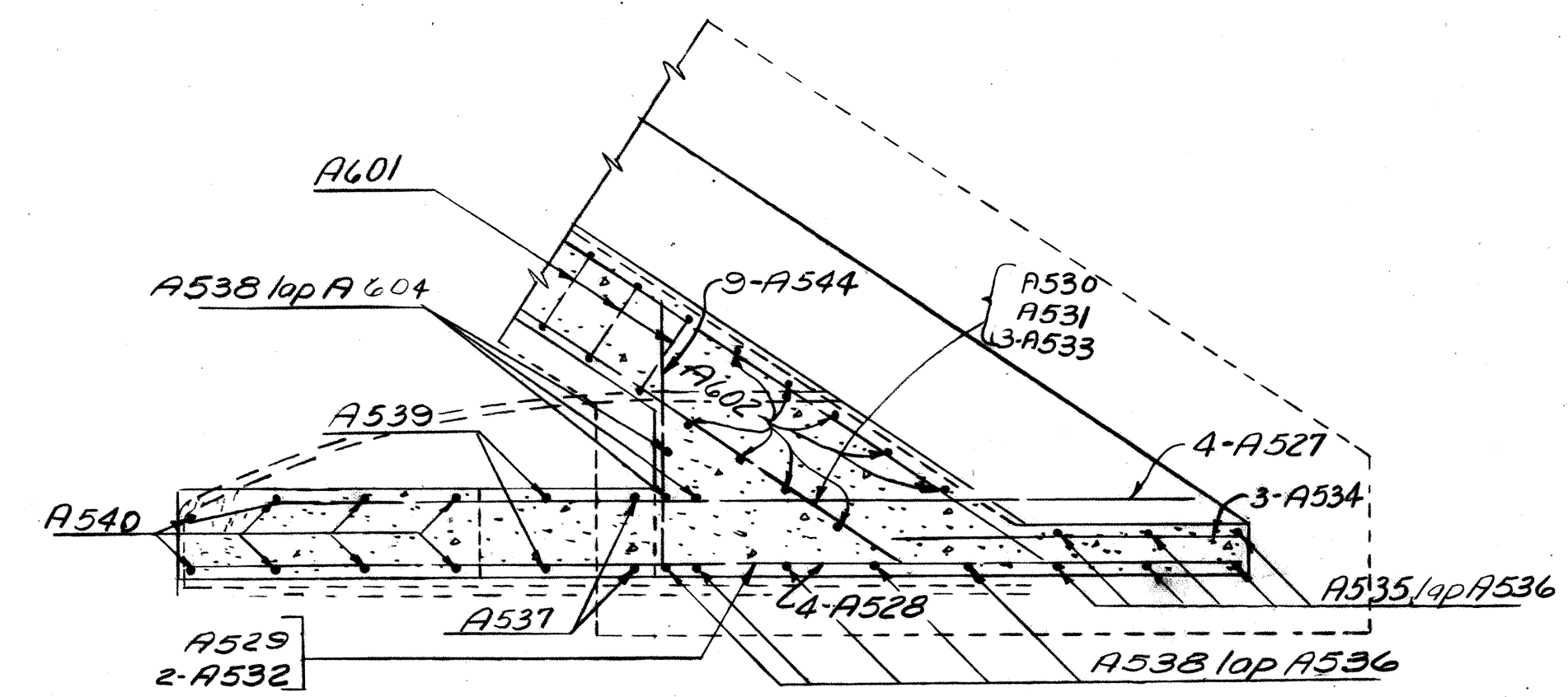
SECTION "D-D"



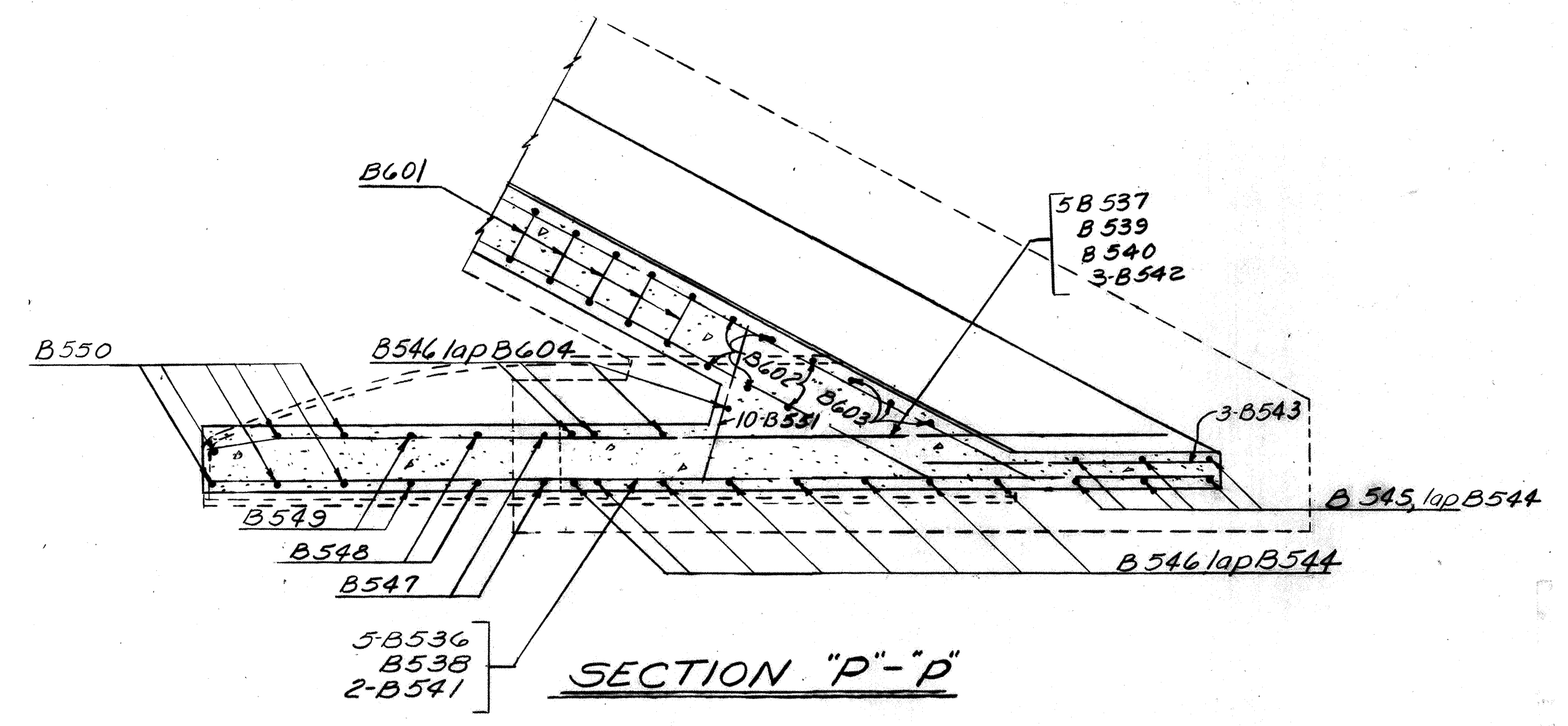
VIEW "N-N"



SECTION "R-R"



SECTION "E-E"



SECTION "P-P"

NOTES
ALUMINUM RAILING, concrete parapet and reinforcing steel, (Railing Steel) in parapet are included with Item 5-14 for payment.
ALUMINUM RAILING on wingwall shall be in lengths of not less than two panels.

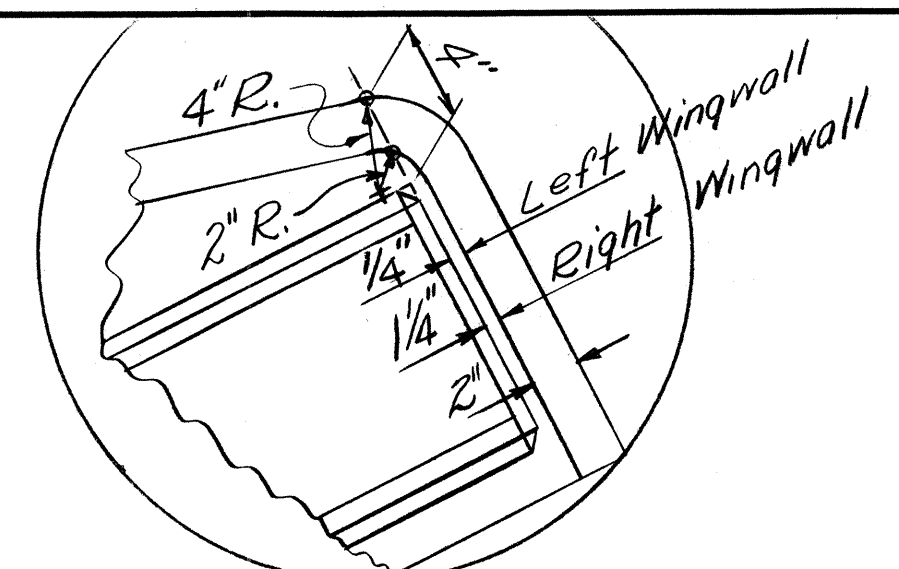
LEGEND
N.S. - Near Side
F.S. - Far Side
C.J. - Construction Joint

REAR ABUTMENT

FORWARD ABUTMENT

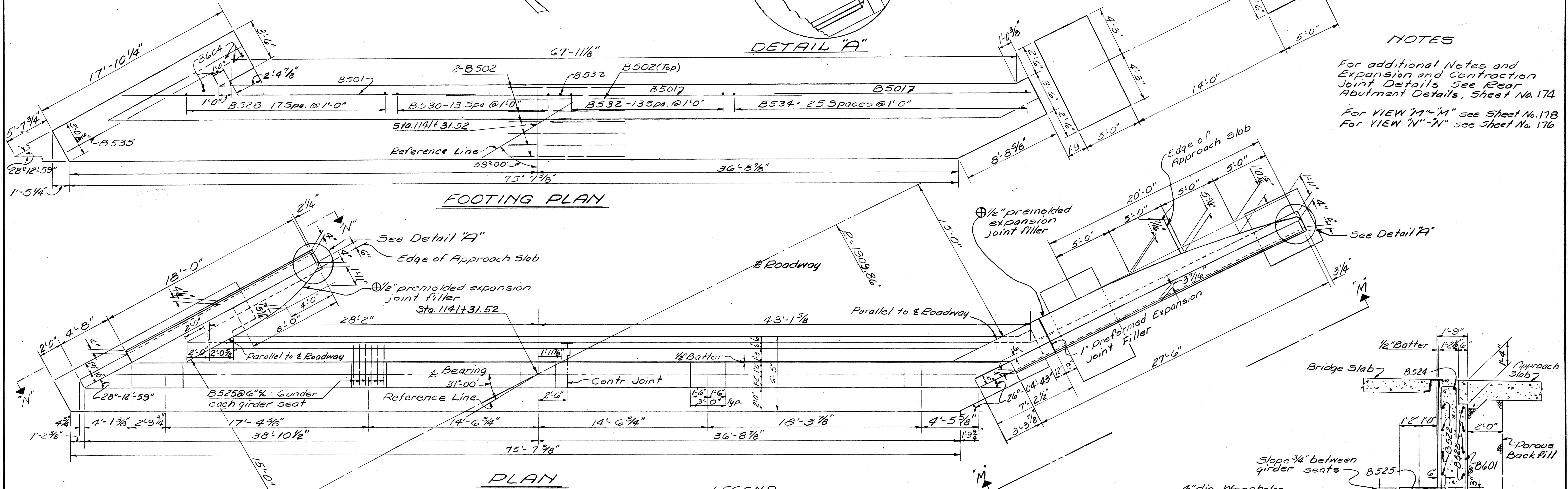
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ABUTMENT DETAILS						
BRIDGE NO. R05-35-2157 L USR 35 W.B. OVER USR 23 S.B. FUTURE PROP.						
ROSS COUNTY USR 35 STA. 1138+99.57 TO STA. 1141+36.33						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DJP	WDJ.		RouGus	WK	3/14/63	

ROSS COUNTY
R05-35-21.23



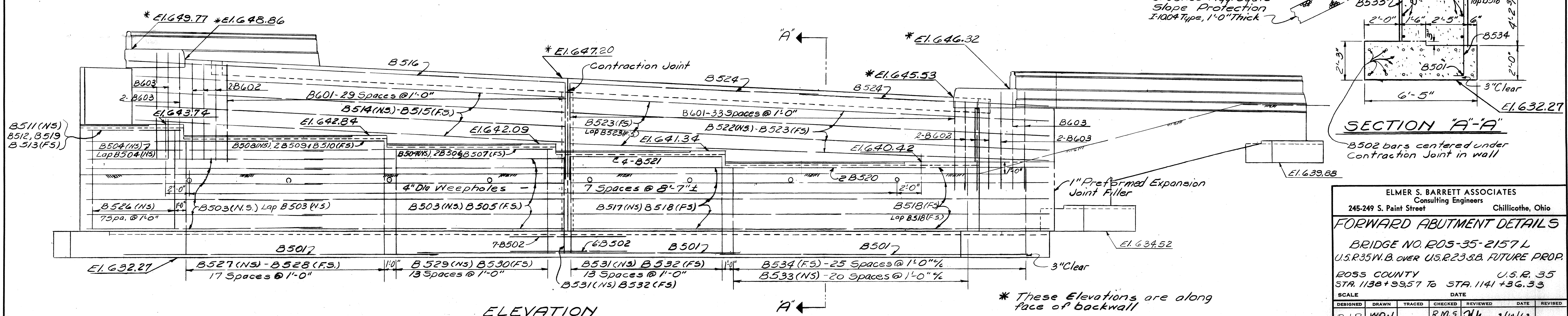
NOTES

For additional Notes and Expansion and Contraction Joint Details See Rear Abutment Details, Sheet No. 174
For VIEW "M"-M see Sheet No. 178
For VIEW "N"-N see Sheet No. 176



LEGEND

N.S. indicates near side
F.S. indicates far side



SECTION "A"-A

B502 bars centered under contraction joint in wall
3" Clear

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Consulting Engineers
245-249 S. Paint Street Chillicothe, Ohio

FORWARD ABUTMENT DETAILS

BRIDGE NO. R05-35-2157 L
U.S.R.35 N.B. OVER U.S.R.23 S.B. FUTURE PROP.

ROSS COUNTY
STA. 1138+39.57 TO STA. 1141+36.33

SCALE: DATE: 3/14/63

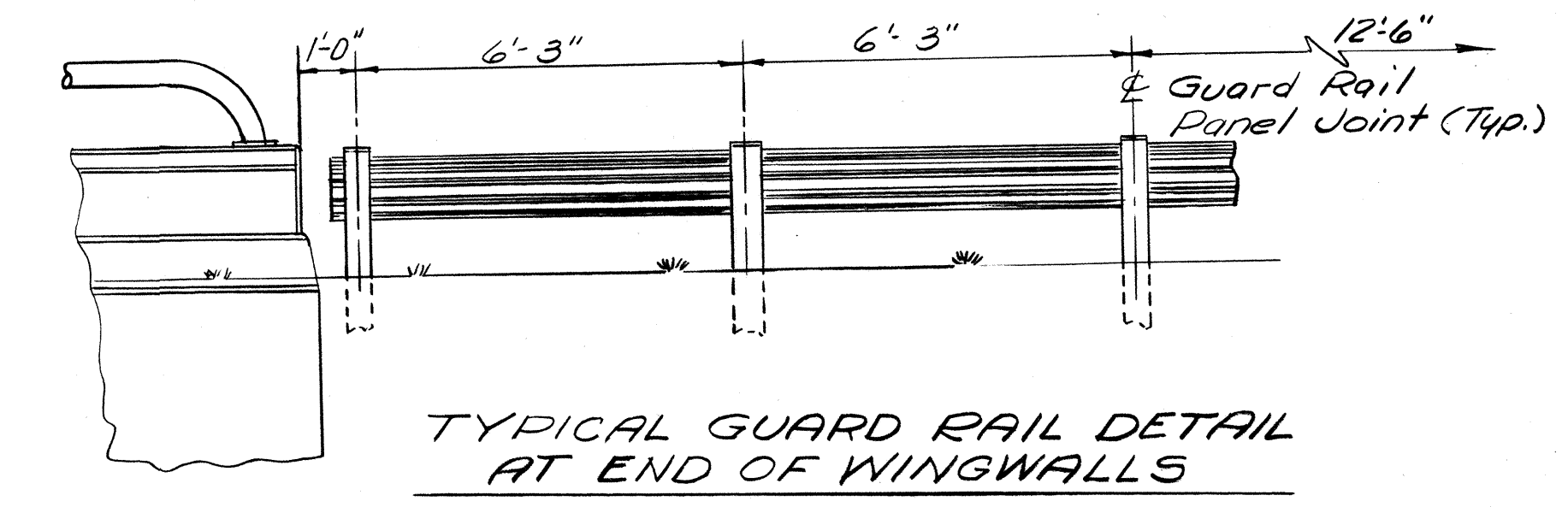
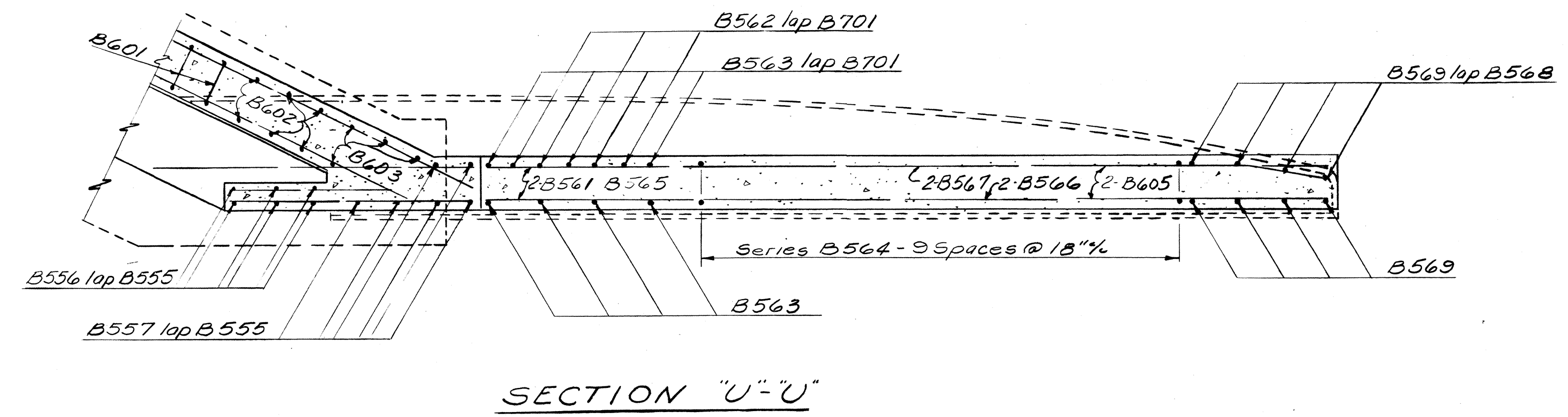
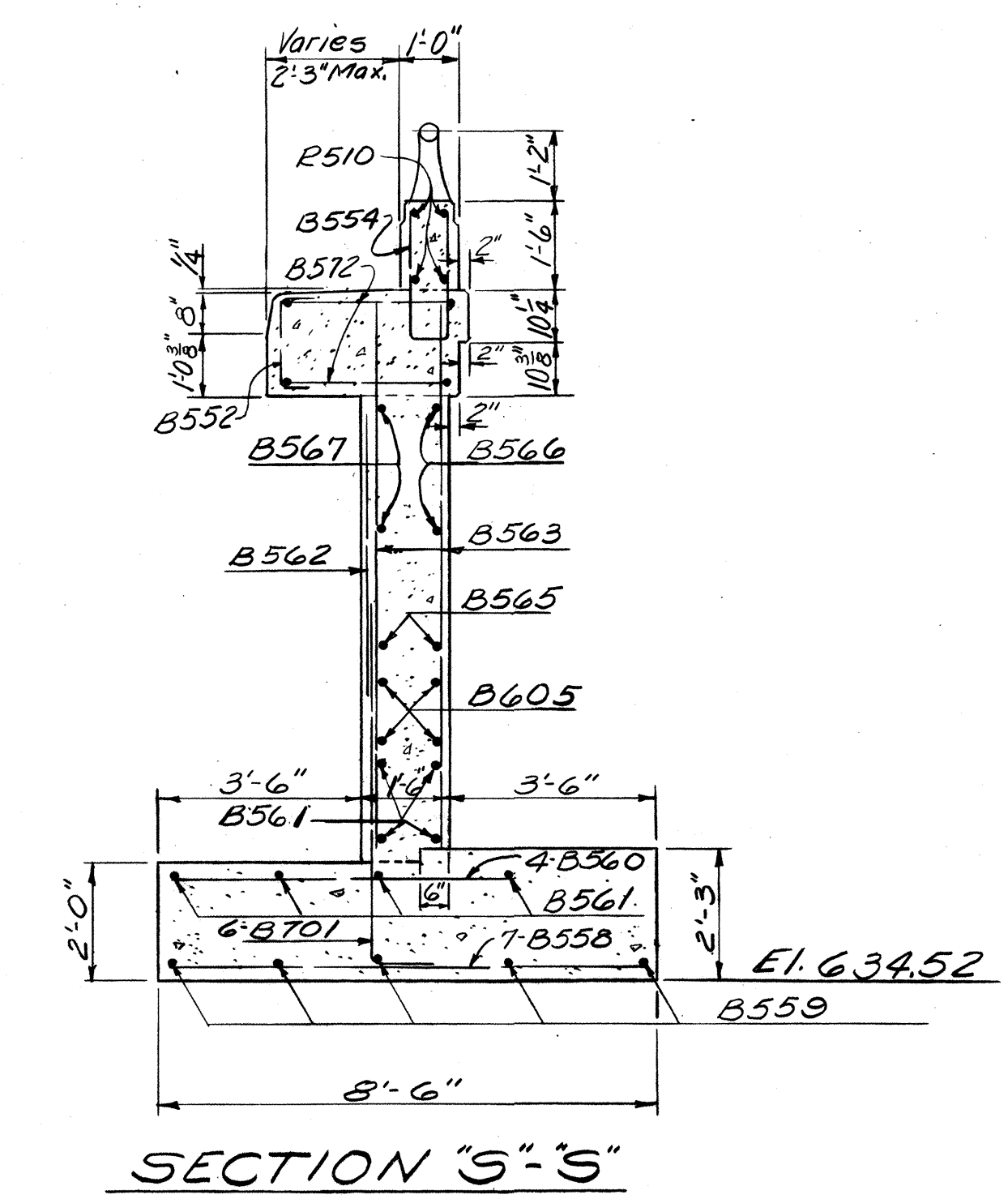
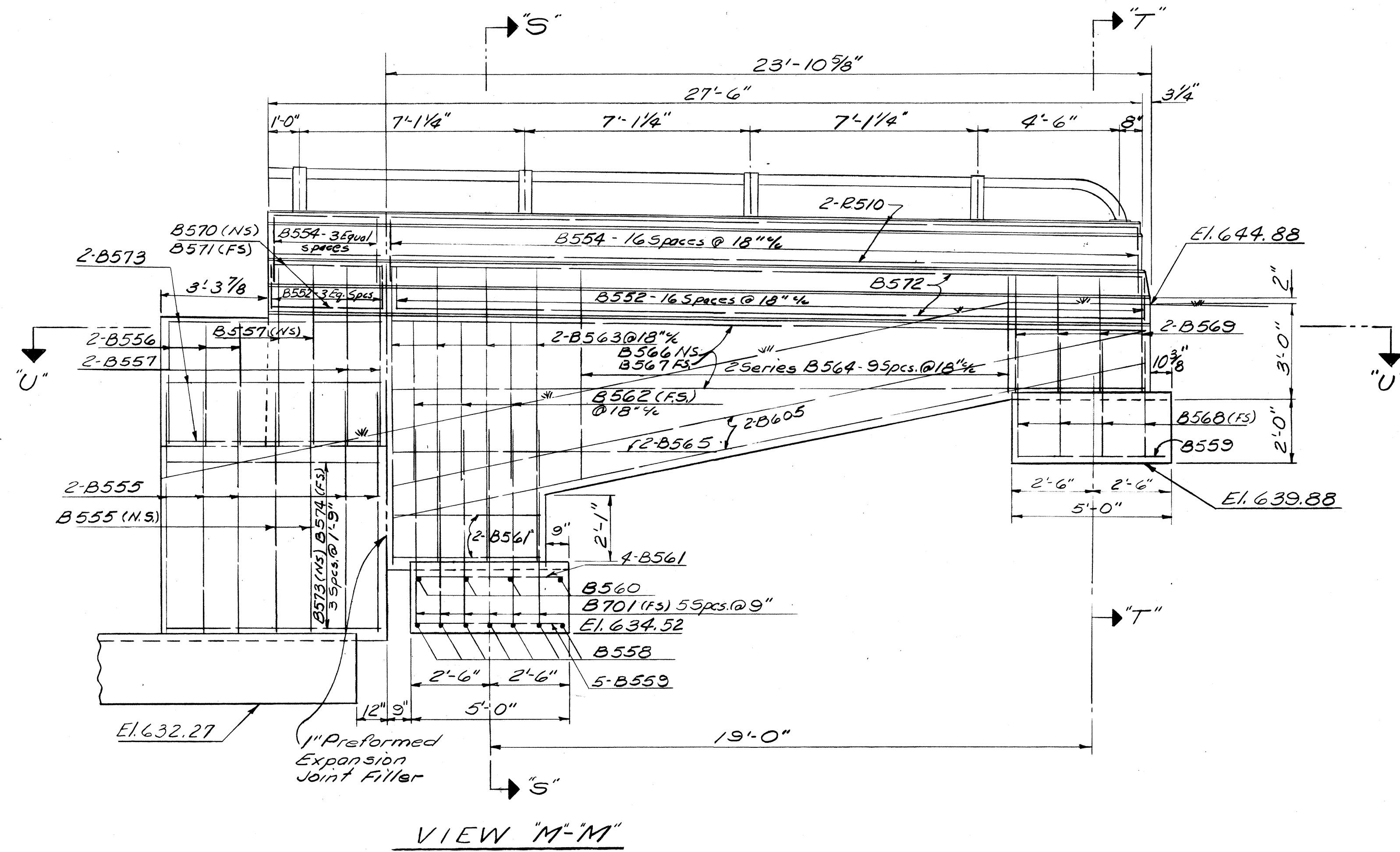
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DJP	WJW		R.M.S.	HK	3/14/63	

* These Elevations are along face of backwall

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FED. RD. DIVISION	STATE	PROJECT	178 240
2	OHIO		

ROSS COUNTY
ROS-35-21.23



ELMER S. BARRETT ASSOCIATES
Consulting Engineers
245-249 S. Paint Street Chillicothe, Ohio

FORWARD ABUTMENT DETAILS
BRIDGE NO. ROS-35-2157L
USR 35 WB. OVER USR 23 SB. FUTURE PROP.

ROSS COUNTY U.S.R. 35
STA. 1138+39.57 TO STA. 1141+36.33

SCALE DATE

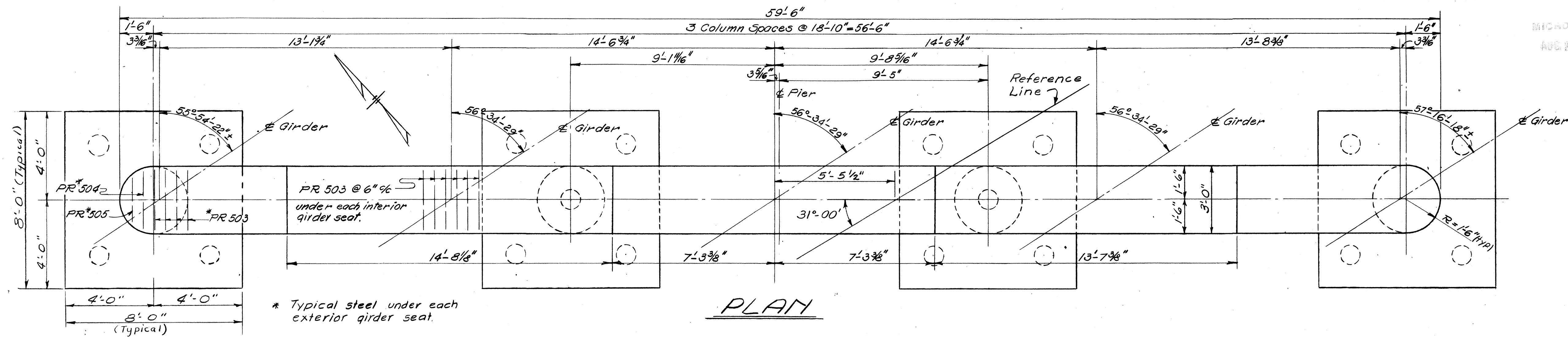
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DJP	WDJ		Ran	WK	3/14/63	

MICROFILMED
AUG 20 1965

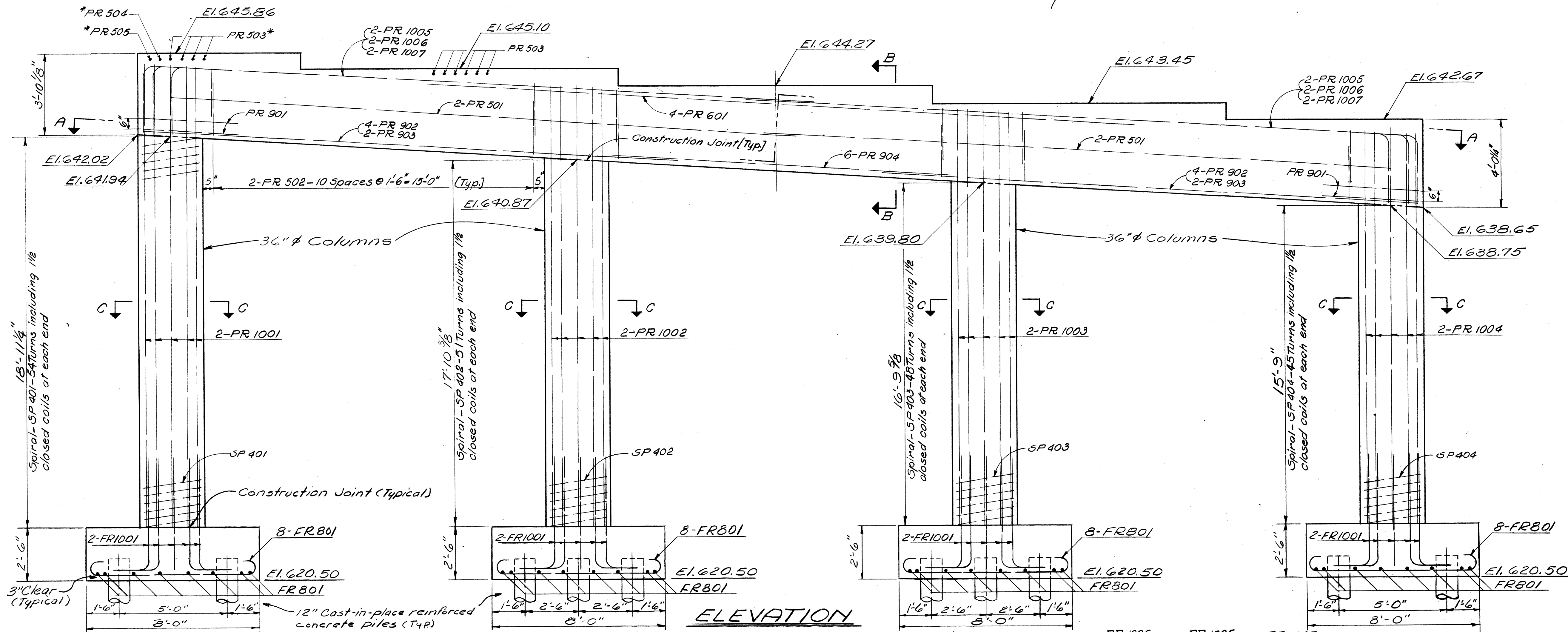
FED. RD. DIVISION	STATE	PROJECT	179 240
2	OHIO		

ROSS COUNTY
ROS-35-21.23

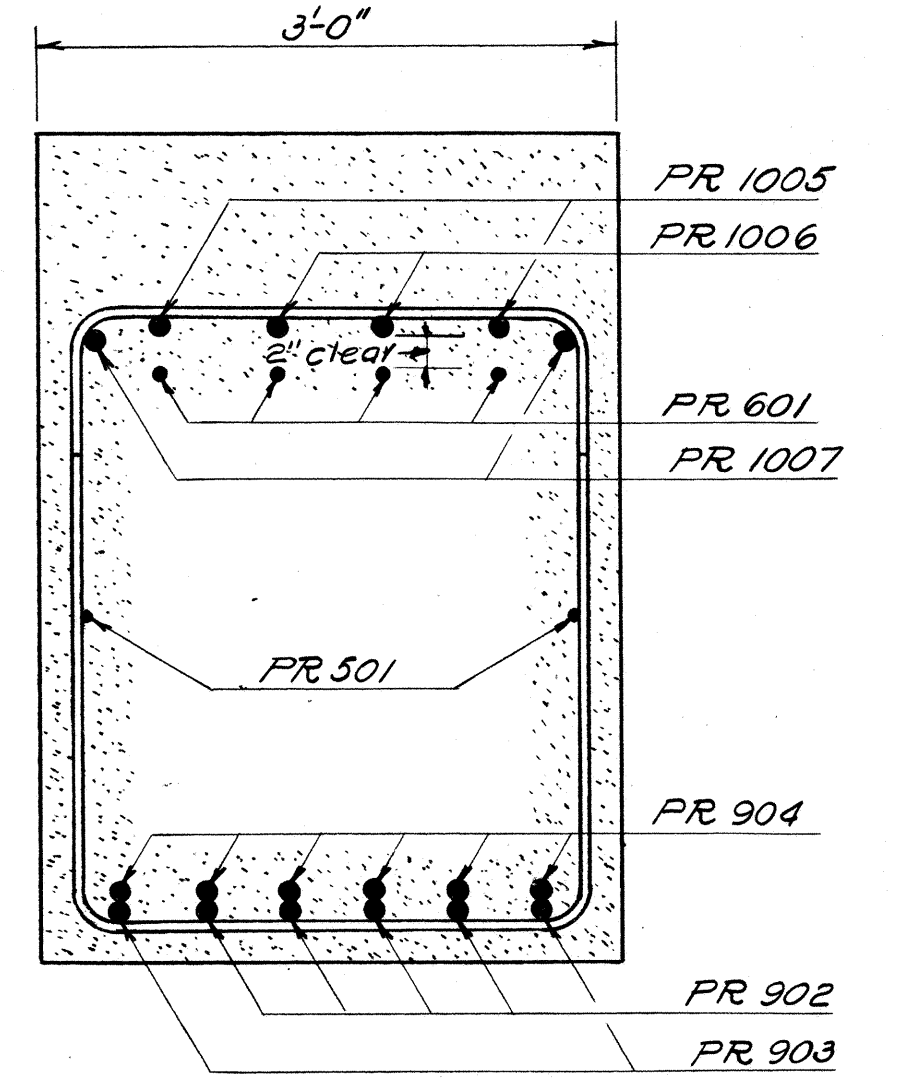
NOTE
CONCRETE shall be Class "C" for Pier Caps and Columns and Class "E" for Footings.
PILES shall be 12" cast-in-place reinforced concrete



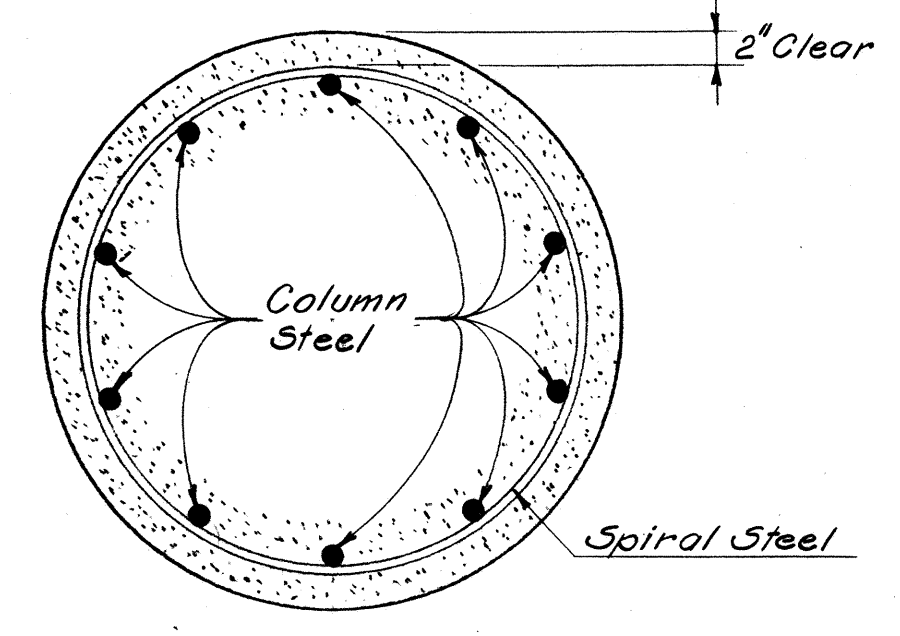
PLAN



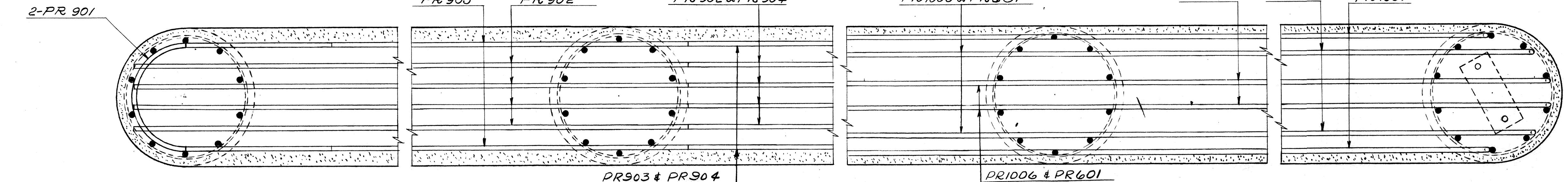
ELEVATION



SECTION B-B



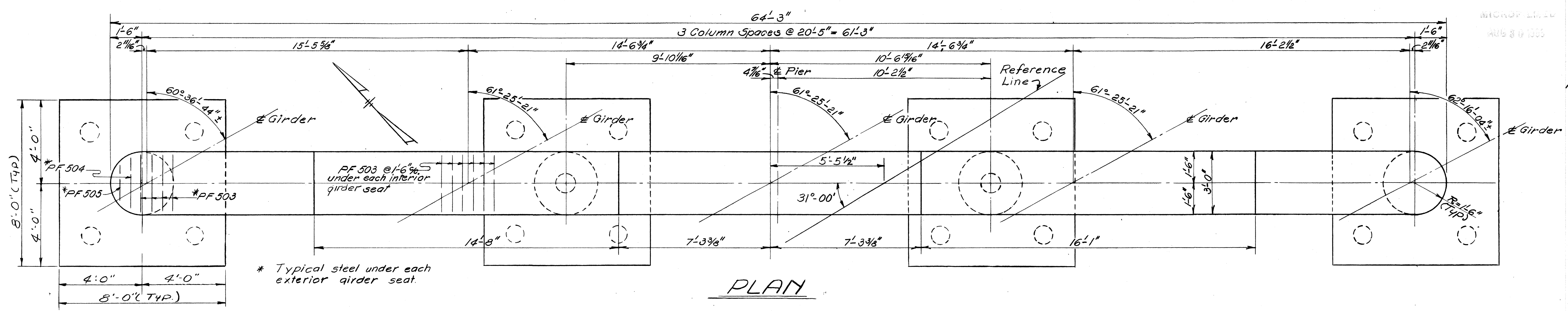
SECTION C-C



SECTION A-A

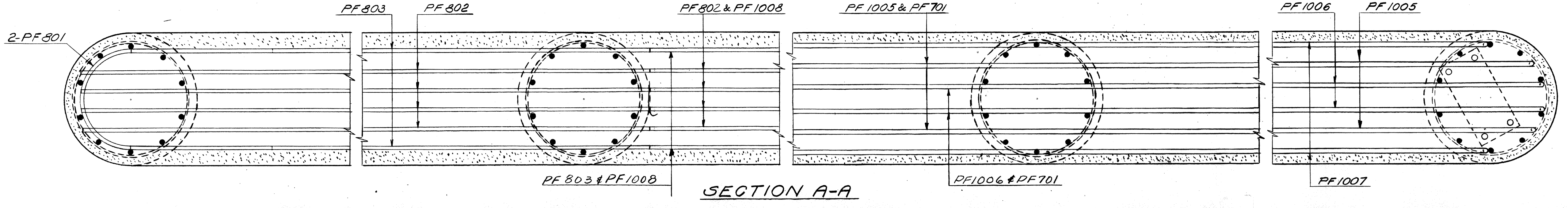
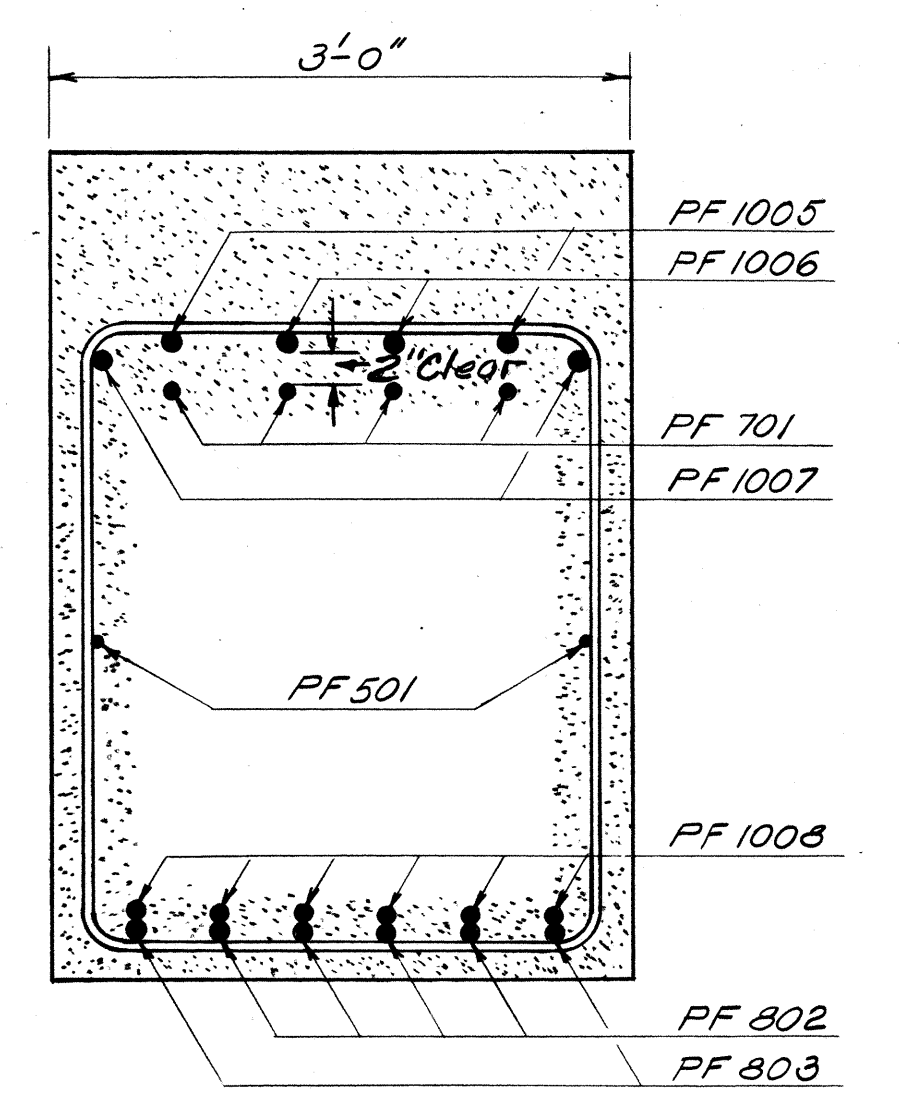
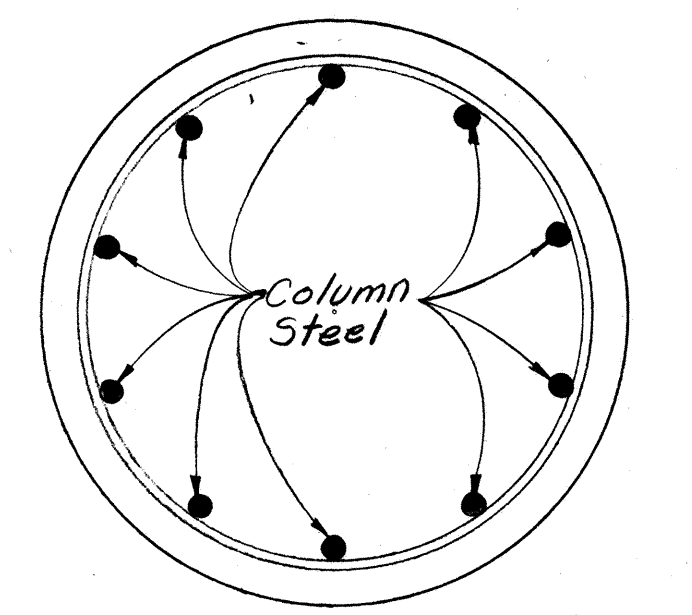
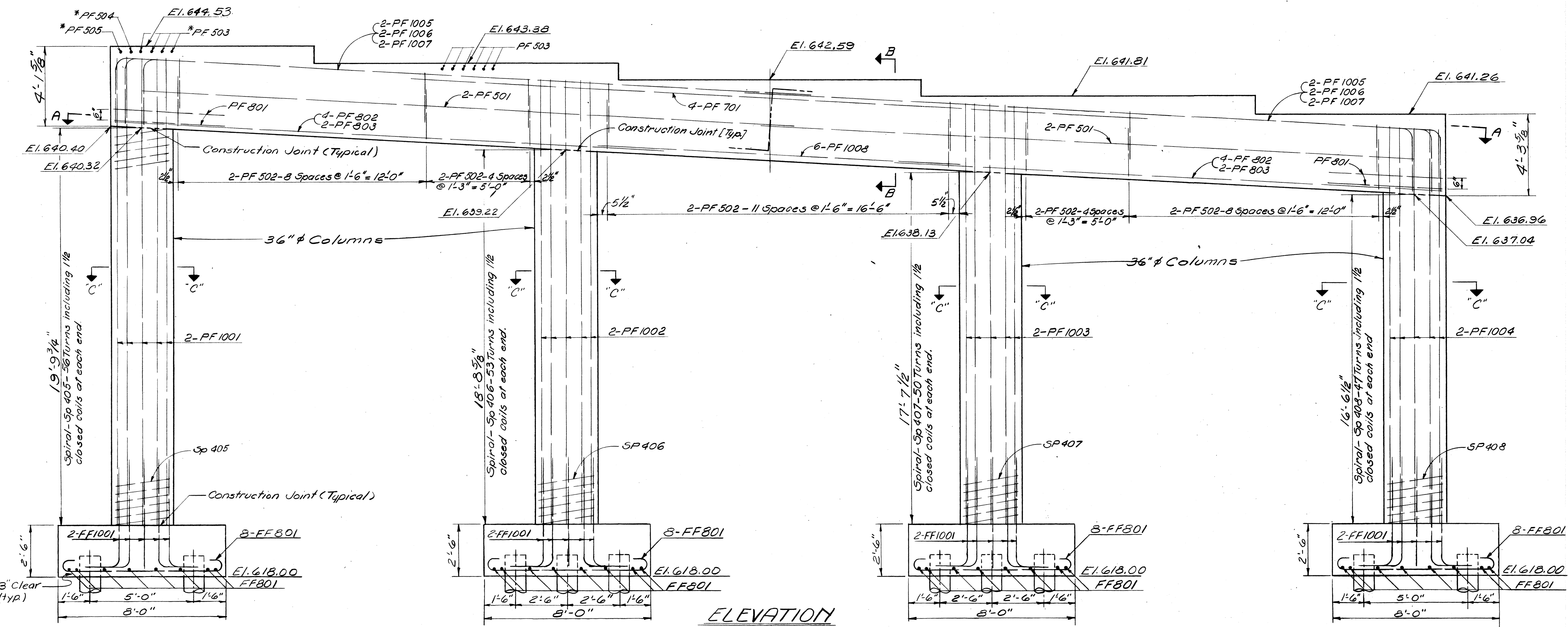
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REAR PIER DETAILS						
BRIDGE No. ROS-35-2157 L						
U.S.R. 35 W.B. over U.S.R. 23 S.B. FUTURE PROP.						
ROSS COUNTY U.S.R. 35						
STA. 1138+99.57 To STA. 1141+36.33						
SCALE	DATE					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.D.D.	K.D.D.	L.P.	R.M.S.	W.L.	3/14/63	

ROSS COUNTY
ROS-35-21.23



NOTE:
BRIDGE SEAT REINFORCING:
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 bar holes.

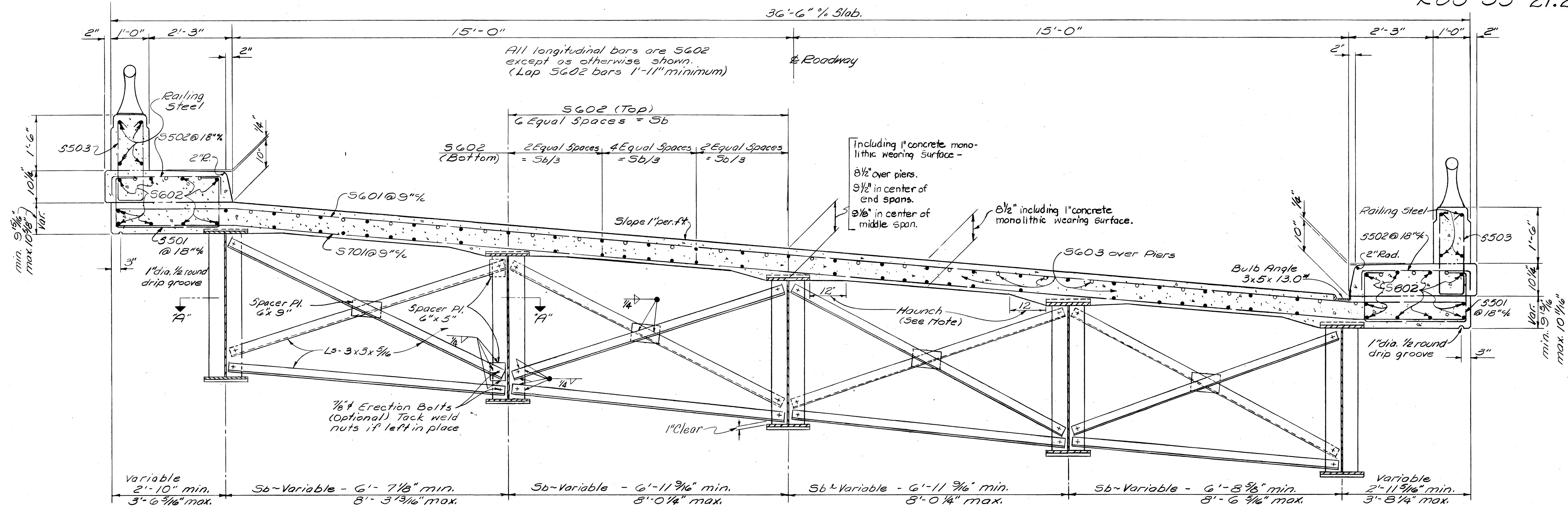
PILES shall be 12" cast-in-place reinforced concrete



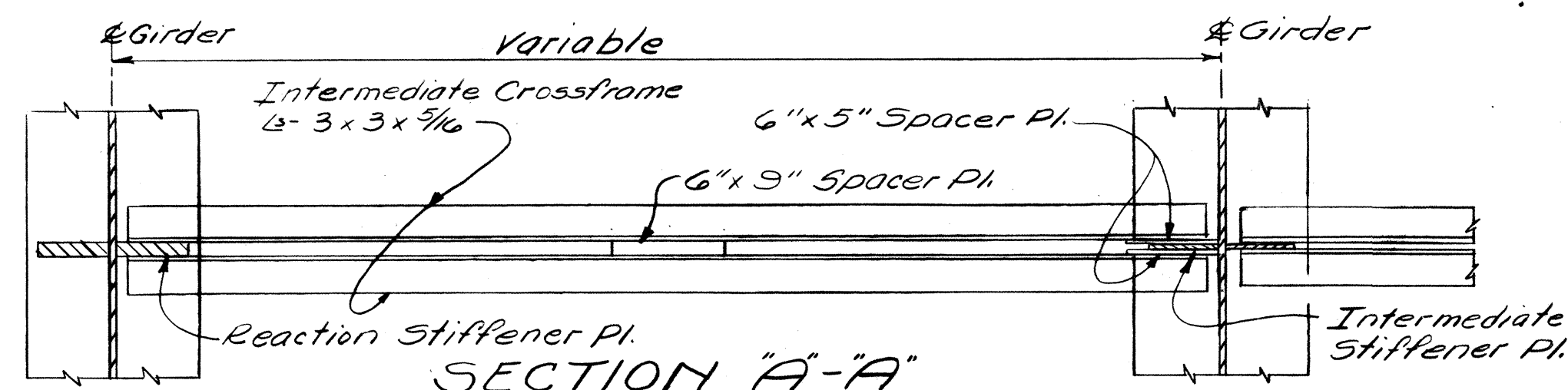
ELMER S. BARRETT ASSOCIATES
Consulting Engineers
245-249 S. Paint Street Chillicothe, Ohio

FORWARD PIER DETAILS
BRIDGE No. ROS-35-2157 L.
U.S.R. 35 W.B. over U.S.R. 23 S.B. FUTURE PROP.
ROSS COUNTY U.S.R. 35
STA. 1138 + 99.57 To STA. 1141 + 36.33

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
K.D.D.	K.D.D.	L.P.	R.M.S.	W.K.	3/14/63	



TYPICAL TRANSVERSE SECTION



(Applies where intermediate crossframe is welded to a pier reaction stiffener plate. At abutment reaction stiffeners, one 1/4" fill plate welded to intermediate stiffener shall be used.)

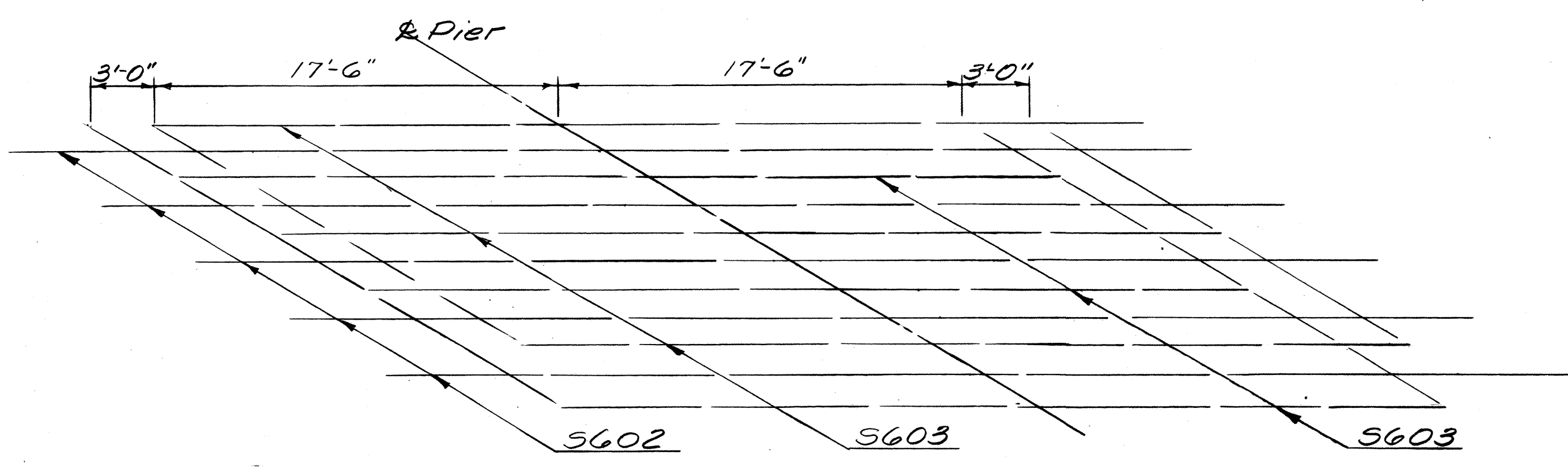


DIAGRAM SHOWING STAGGER OF S603 BARS OVER PIERS

NOTES

CONCRETE shall be Class "C"

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.

DECK SLAB HAUNCH: The haunch in the super-elevated deck slab adjacent to the top of steel girders, which is shown as 12" wide, may vary from this dimension between the limits of 9" and 12" on low side and between 12" and 15" on high side. Except on the high side, the maximum slope shall not exceed 3" per foot. Payment for deck slab concrete shall be based on the 12" width.

SLAB THICKNESS shown includes 1" for monolithic wearing surface. The slab thickness shown over the girders is the 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 girder may not have the exact camber or conformation required to place it parallel to the finished grade.

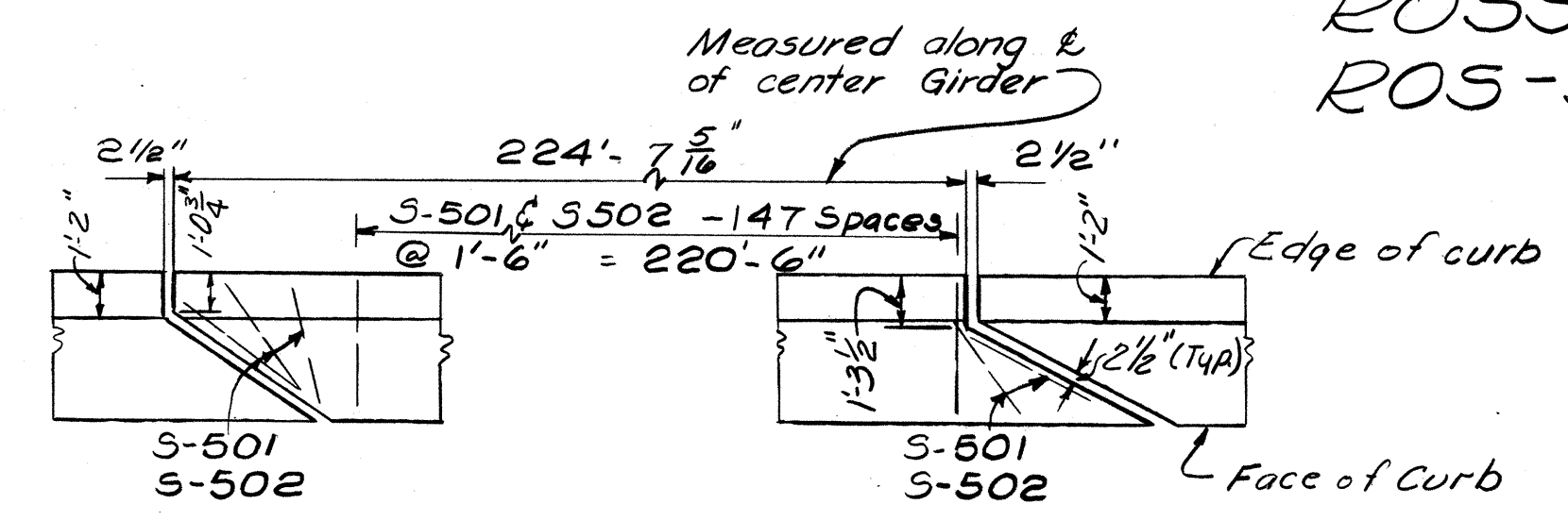
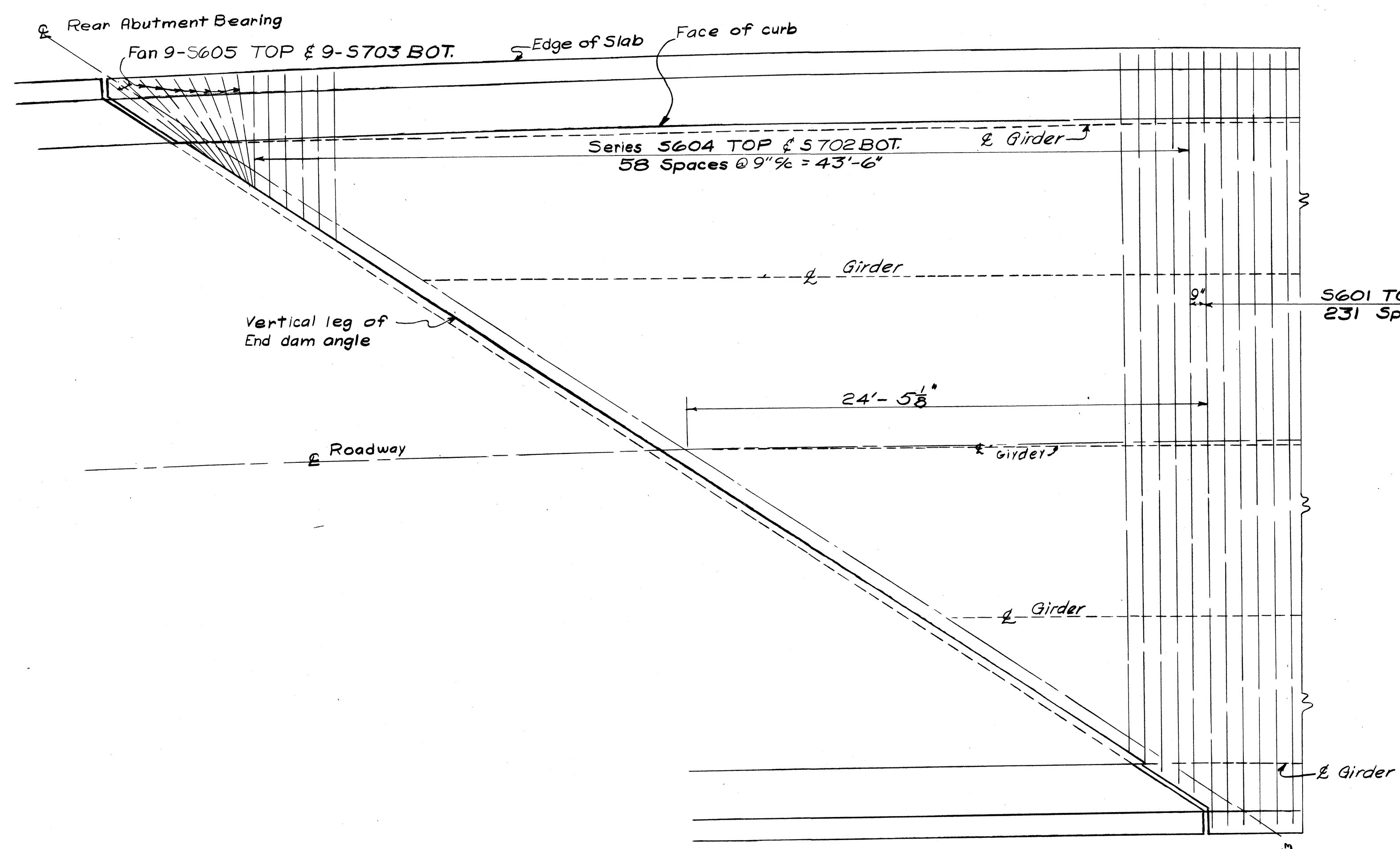
ELMER S. BARRETT ASSOCIATES Consulting Engineers 245-249 S. Paint Street Chillicothe, Ohio						
SLAB REINFORCING DETAILS						
BRIDGE NO. R05-35-2157 L						
U.S.R. 35 WB. OVER U.S.R. 23 S.B. FUTURE PROJ.						
ROSS COUNTY U.S.R. 35						
STA. 1138+99.57 TO STA. 1141+36.33						
SCALE DATE						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.M.S.	W.D.J.		D.S.	W.K.	3/14/63	
K.D.D.						

MICROFILMED
AUG 30 1965

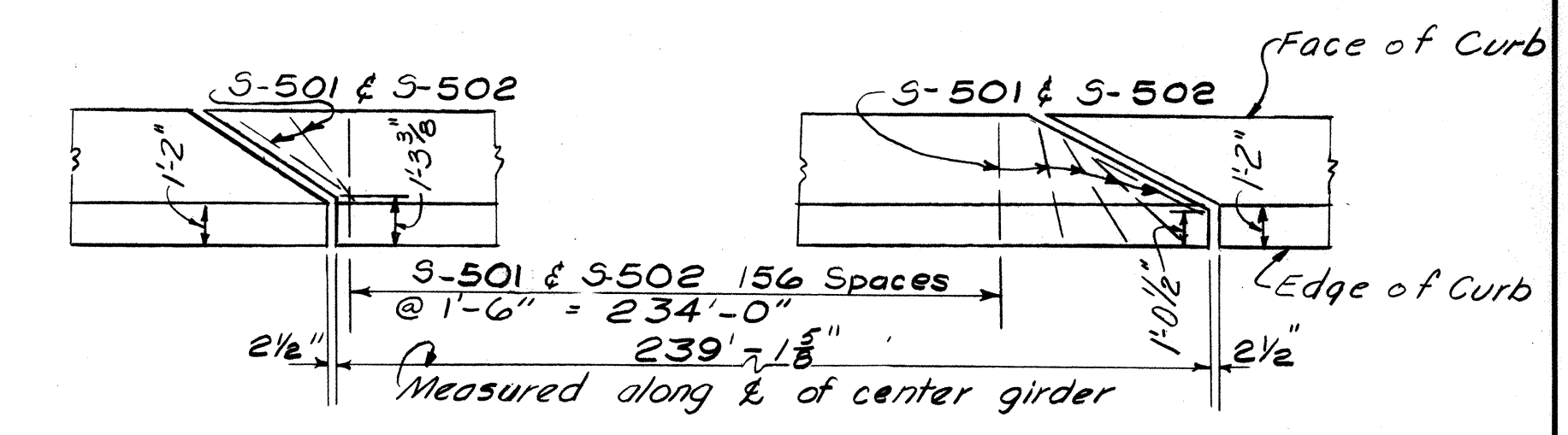
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

182
240

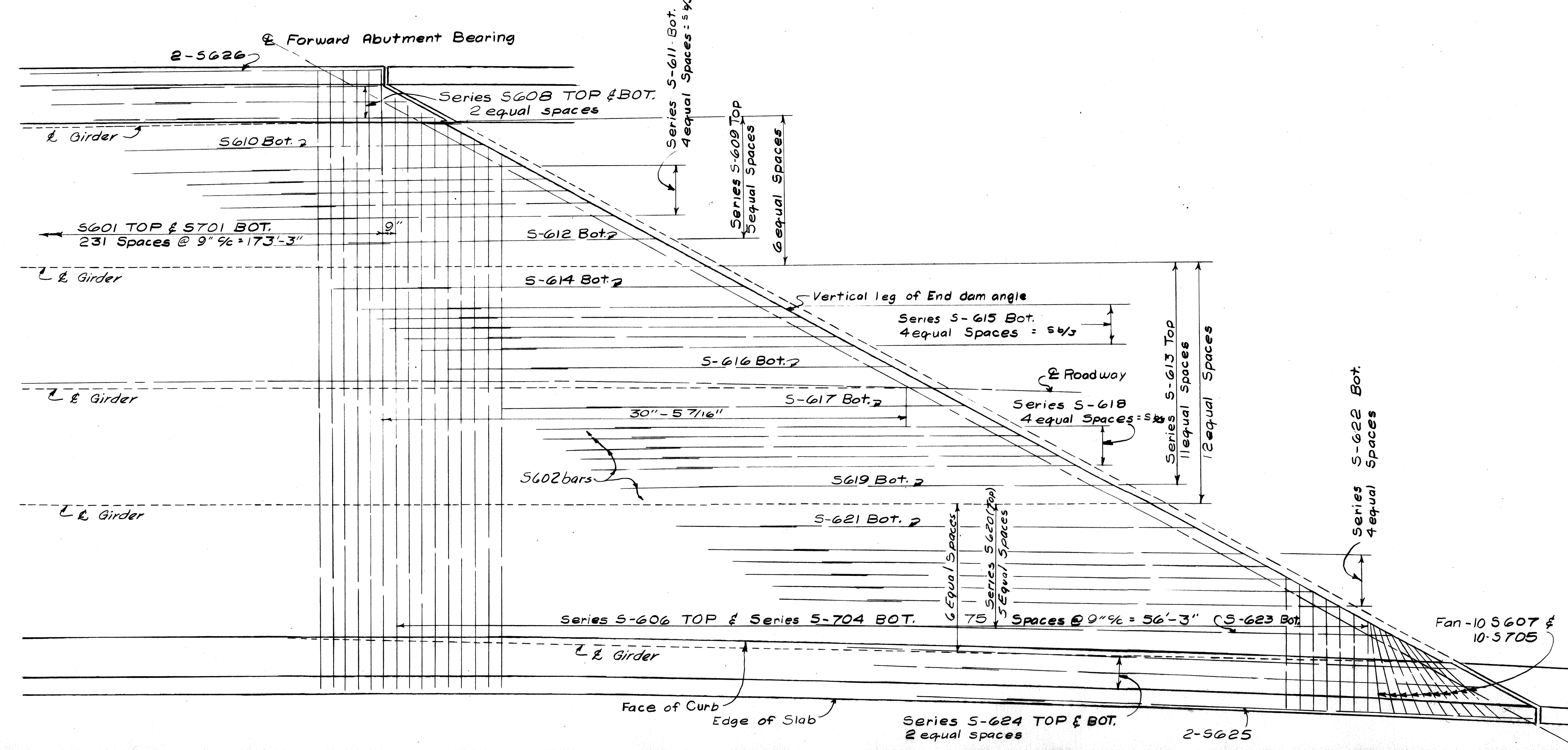
ROSS COUNTY
ROS-35-21.23



LEFT CURB



RIGHT CURB



NOTE:
Reinforcing bar spacing is measured along the ℓ of the center girder.

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Consulting Engineers
245-249 S. Paint Street Chillicothe, Ohio

SLAB REINFORCING PLAN
BRIDGE NO. ROS-35-2157L
U.S.R.35WB. over U.S.R.23 S.B. FUTURE PROP

ROSS COUNTY
STA. 1138+99.57 TO STA 1141+36.33
SCALE DATE

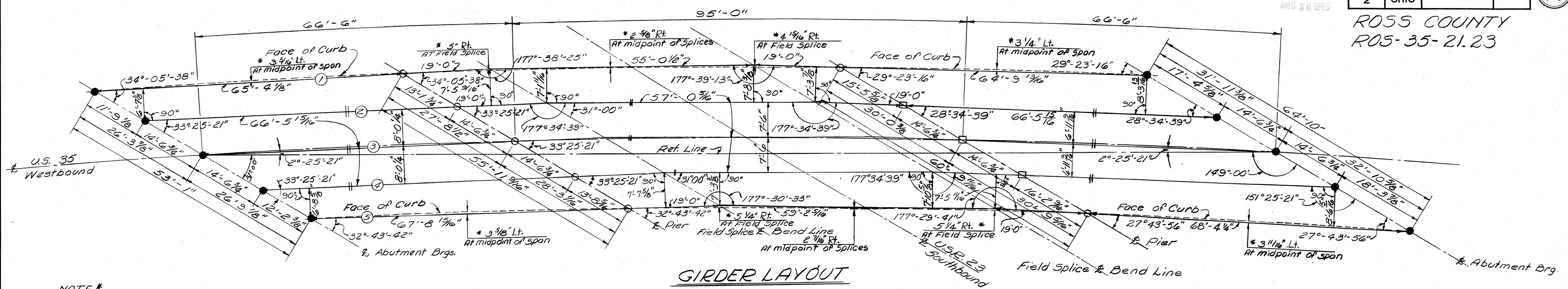
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.M.S.	RS	L.B.	D.S.	W.K.	3/14/63	

MICROFILMED
AUG 20 1965

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

183
240

ROSS COUNTY
R05-35-21.23

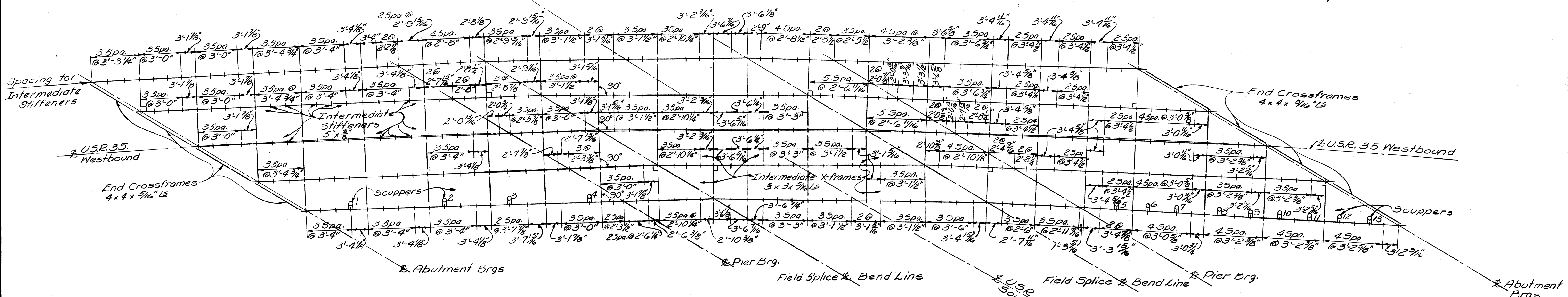


GIRDER LAYOUT

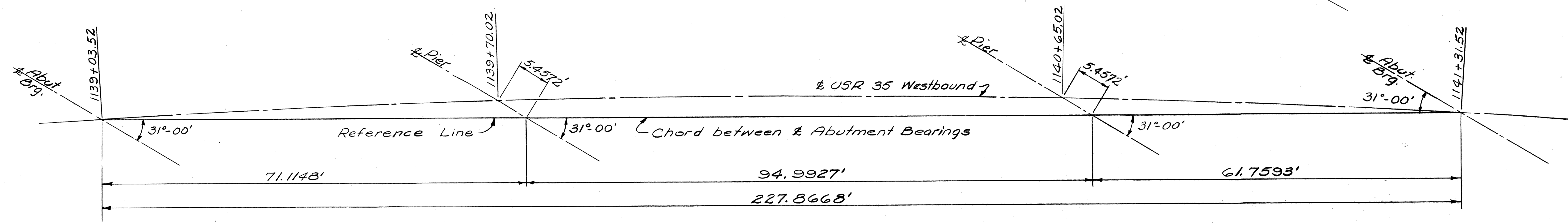
NOTE *
The dimensions shown are measured from the center of girder to the face of curb. The center of fascia girders at abutments and pier bearings coincides with the face of curbs.

LEGEND

- - E-250 Sliding Bearing.
- - F-250 Fixed Bearing.
- - E-100 Sliding Bearing.
- || - Girders parallel



STEEL FRAMING PLAN



LAYOUT INFORMATION DETAIL

ELMER S. BARRETT ASSOCIATES
Consulting Engineers
245-249 S. Paint Street Chillicothe, Ohio

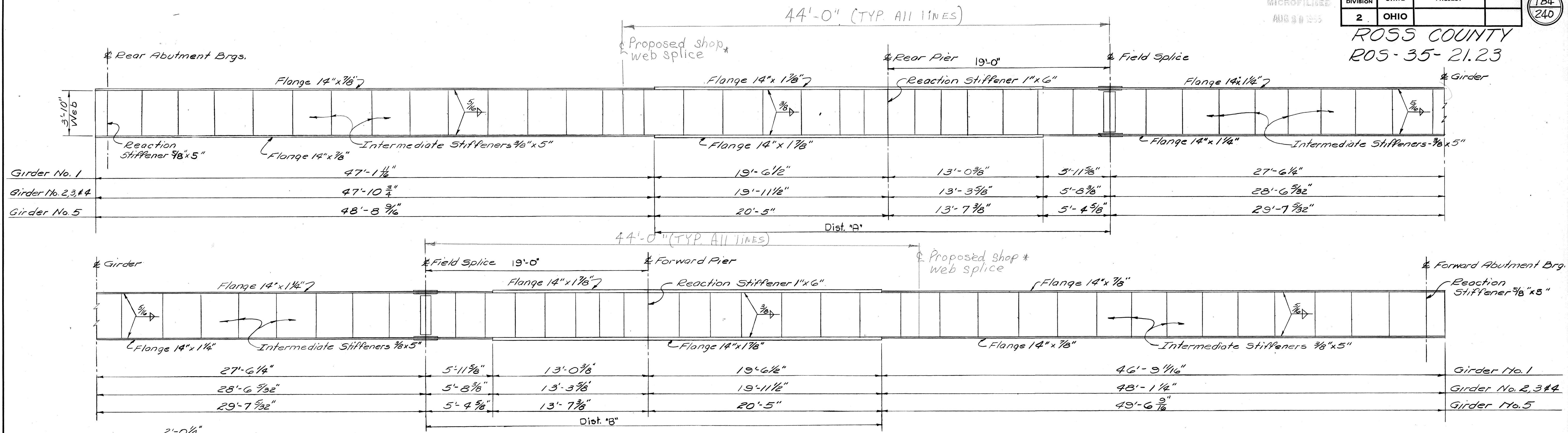
STEEL FRAMING PLAN

BRIDGE NO. R05-35-2157L
U.S.R. 35 WB, OVER U.S.R. 23 S.B. FUTURE PROJ.

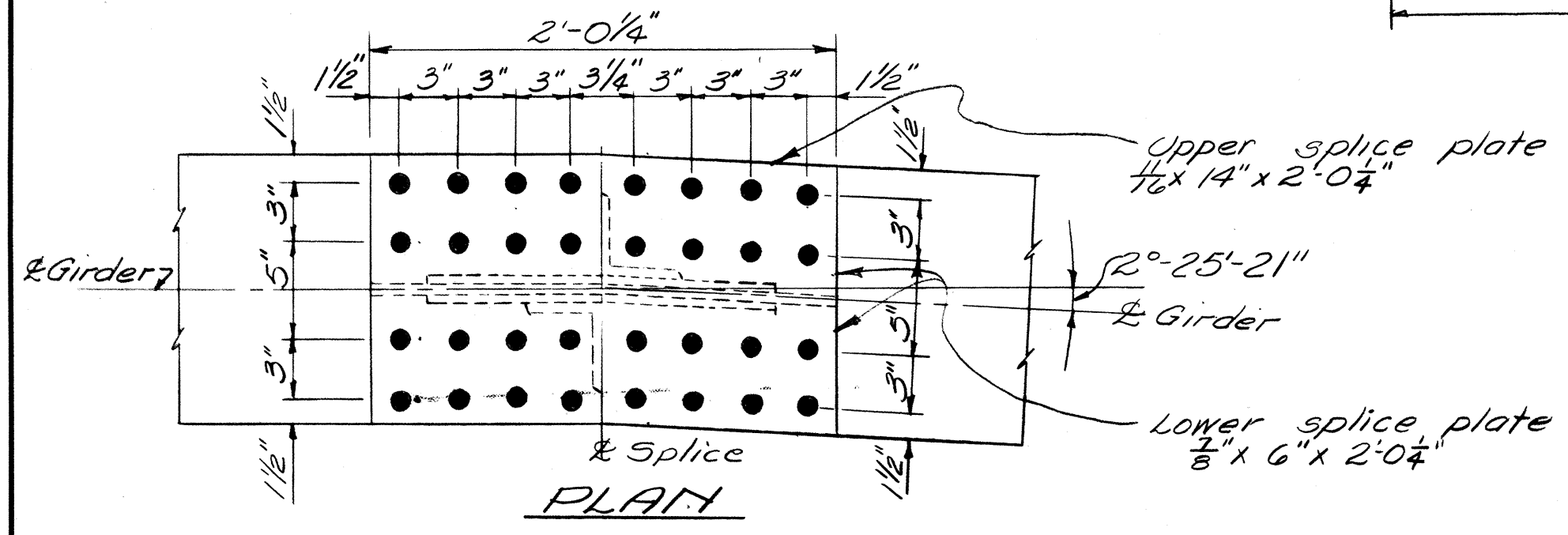
ROSS COUNTY U.S.R. 35
STA. 1138+99.57 TO STA. 1141+36.33
SCALE DATE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.M.S.	W.D.U.		D.S.	Wk	3/14/69	

ROSS COUNTY
R05-35-21.23



GIRDER ELEVATION



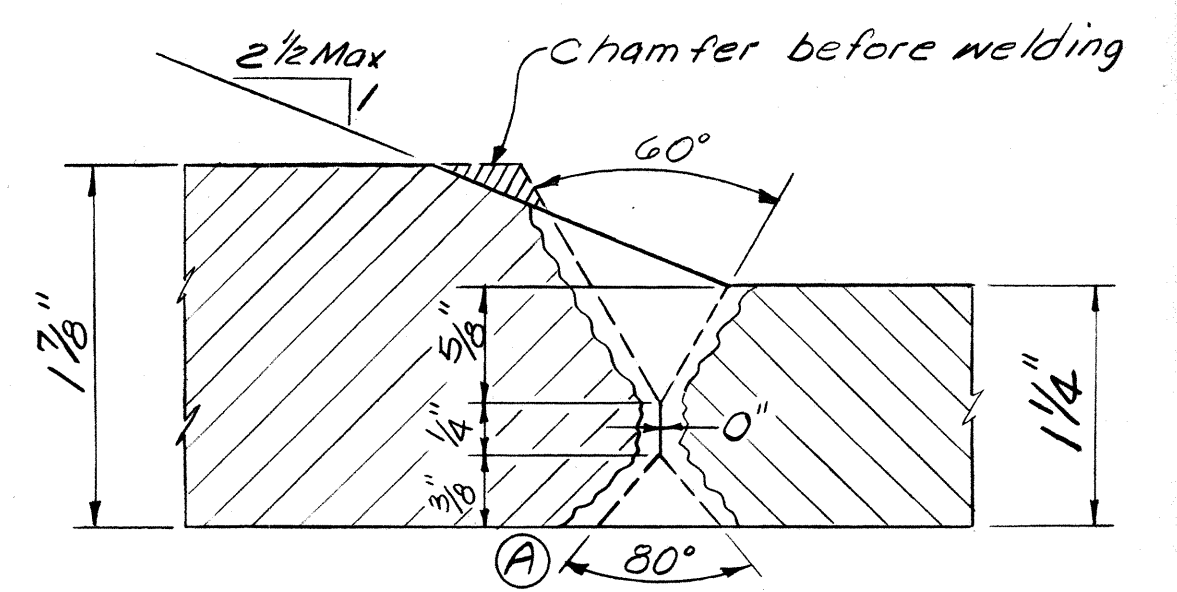
PLAN

Supplementary to Sec. S-7.14, these stiffeners shall have contact bearing with the compression flange, but may have a clearance of not more than 1/8 inch from the tension flange. The top flange shall be considered the tension flange thru Dist. 'A' and Dist. 'B' indicated above. At all other locations, the bottom flange shall be considered the tension flange. In shop painting care shall be taken to make certain that point is forced through from one side to the other of the 1/8" opening.

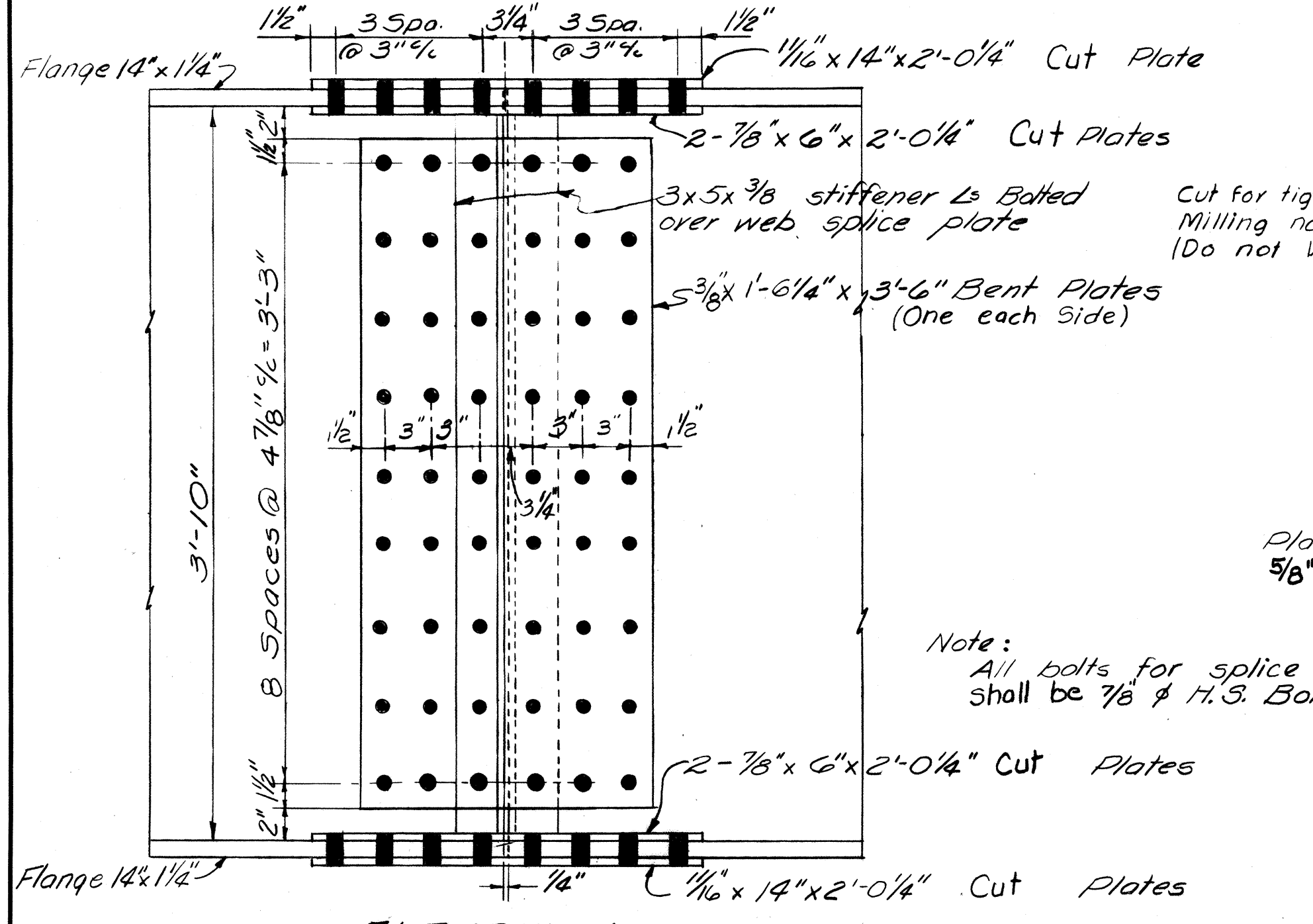
Corners of the stiffeners against the web should be clipped to clear web to flange (typical) weld.

NOTES

- All flange butt-welds shall be ground flush.
- Weld after placing at least one pass on other side
- Optional shop splices will be permitted in the Webs and flanges of girders but their location shall be submitted to the Director for approval.

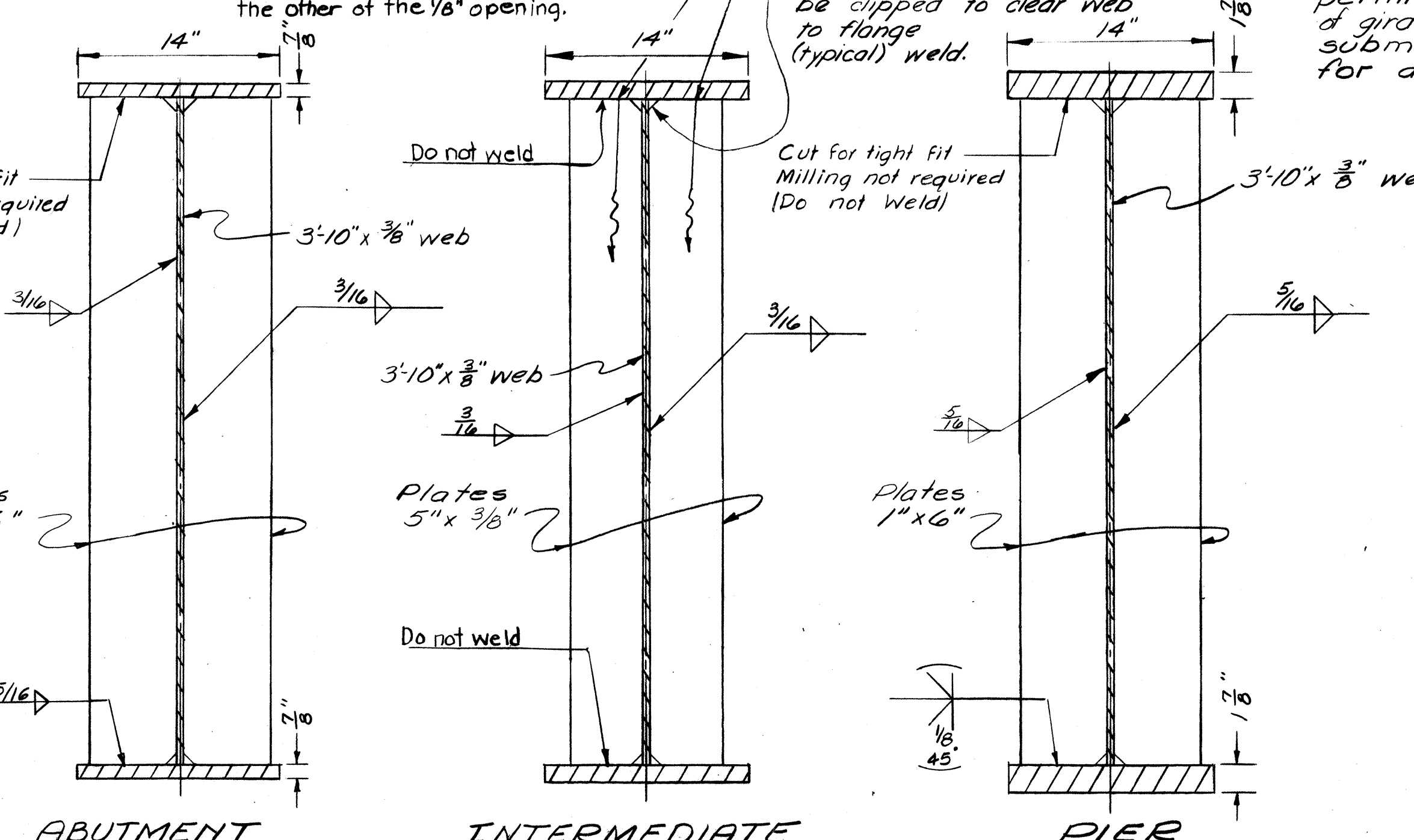


FLANGES

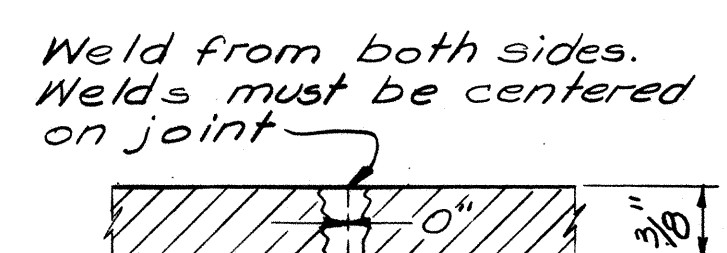


ELEVATION

TYPICAL FIELD SPLICE



STIFFENER DETAILS



WEB

TYPICAL SHOP SPLICE WELDS

Note: All bolts for splice shall be 7/8" A.S. Bolts

* Approved 10/20/65

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Consulting Engineers
245-249 S. Paint Street Chillicothe, Ohio

GIRDER DETAILS

BRIDGE NO. R05-35-2157L
U.S.R. 35 W.B. OVER U.S.R. 23 S.B. FUTURE PROP.

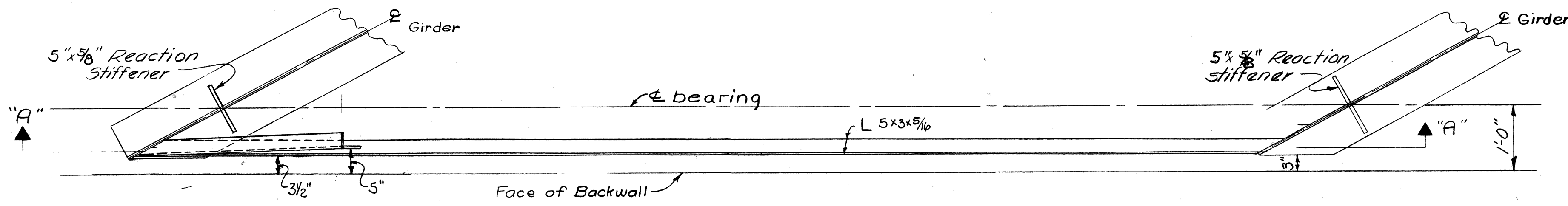
ROSS COUNTY U.S.R. 35
STA. 1138+99.57 TO STA. 1141+36.33

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RM.S.	WDJ		D.S.	JK	3/14/63	

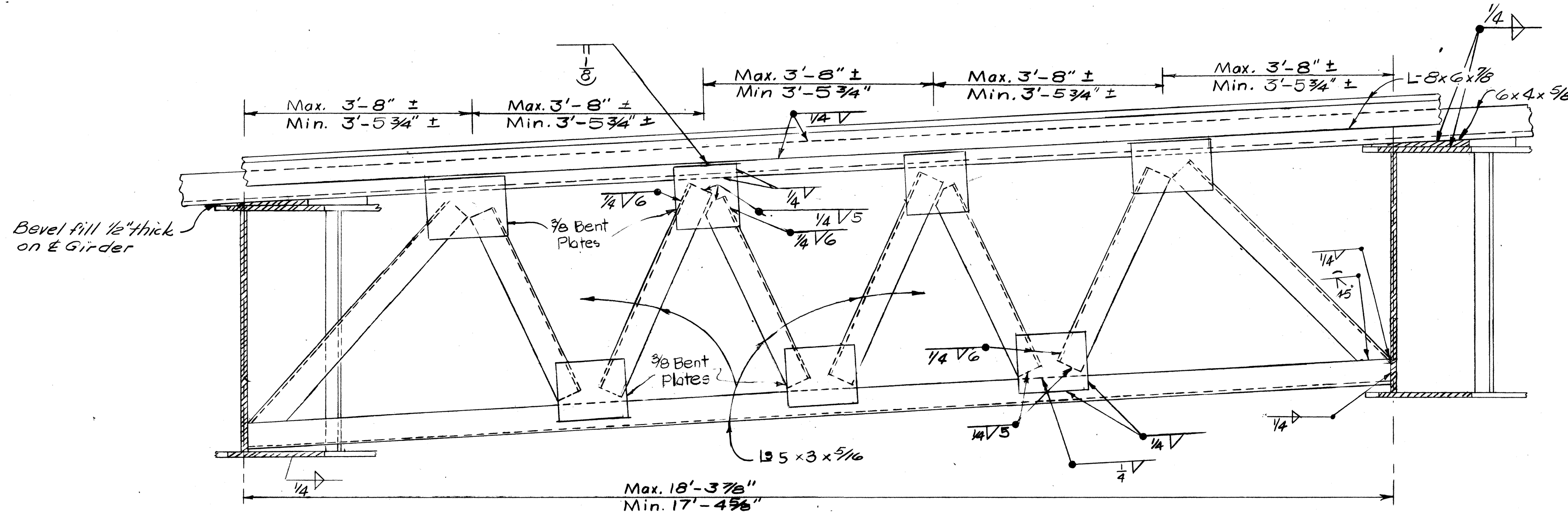
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

185
240

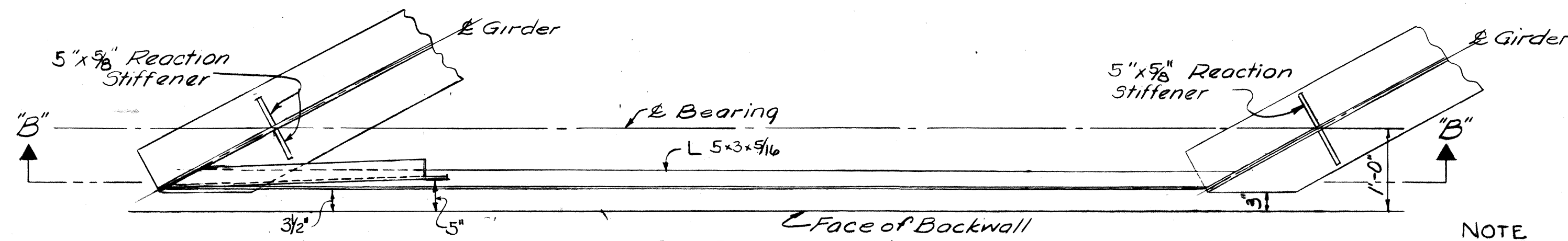
ROSS COUNTY
R05-35-21.23



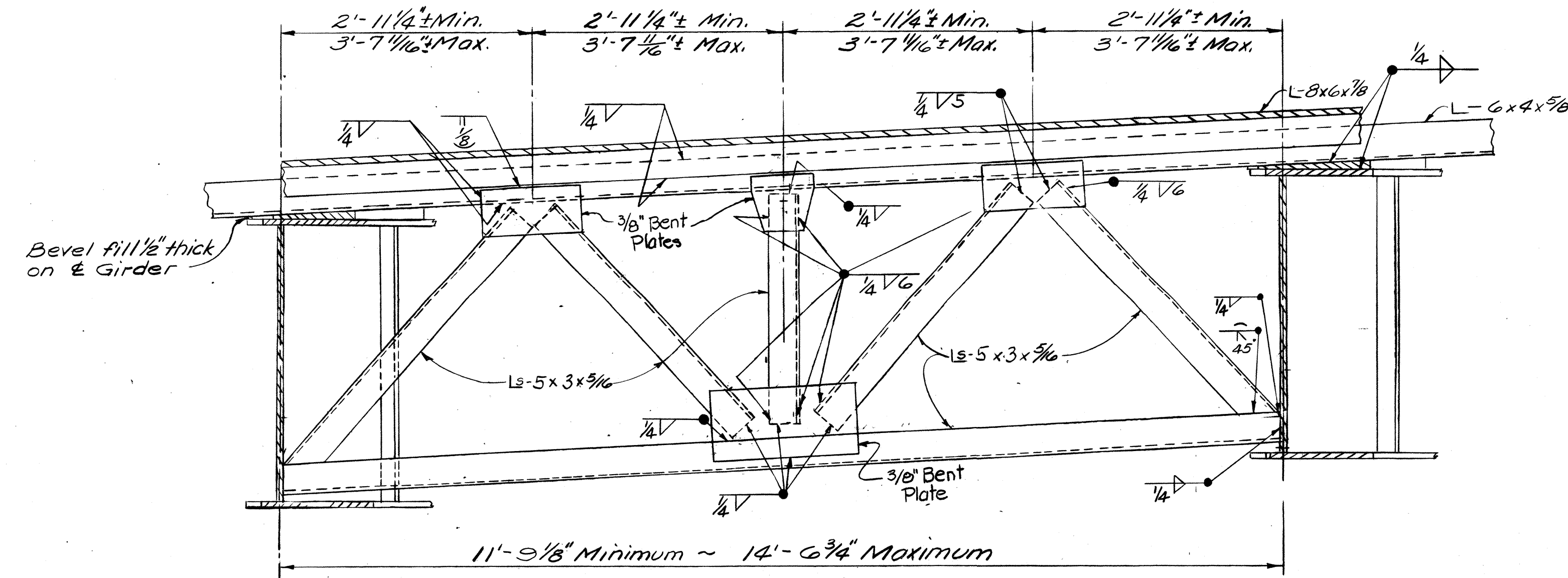
PART PLAN
END CROSSFRAME



SECTION "A"-A

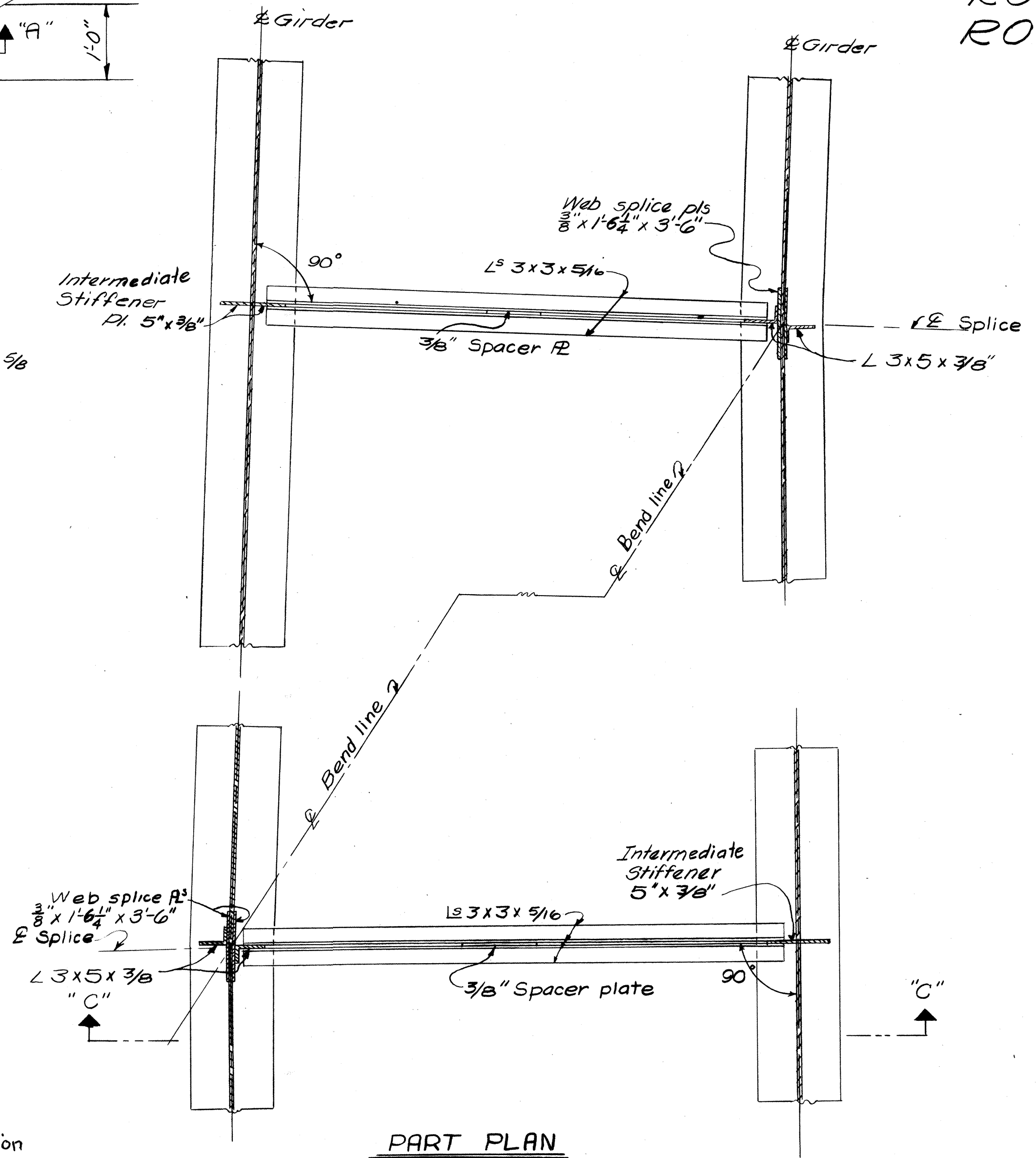


PART PLAN
END CROSSFRAME

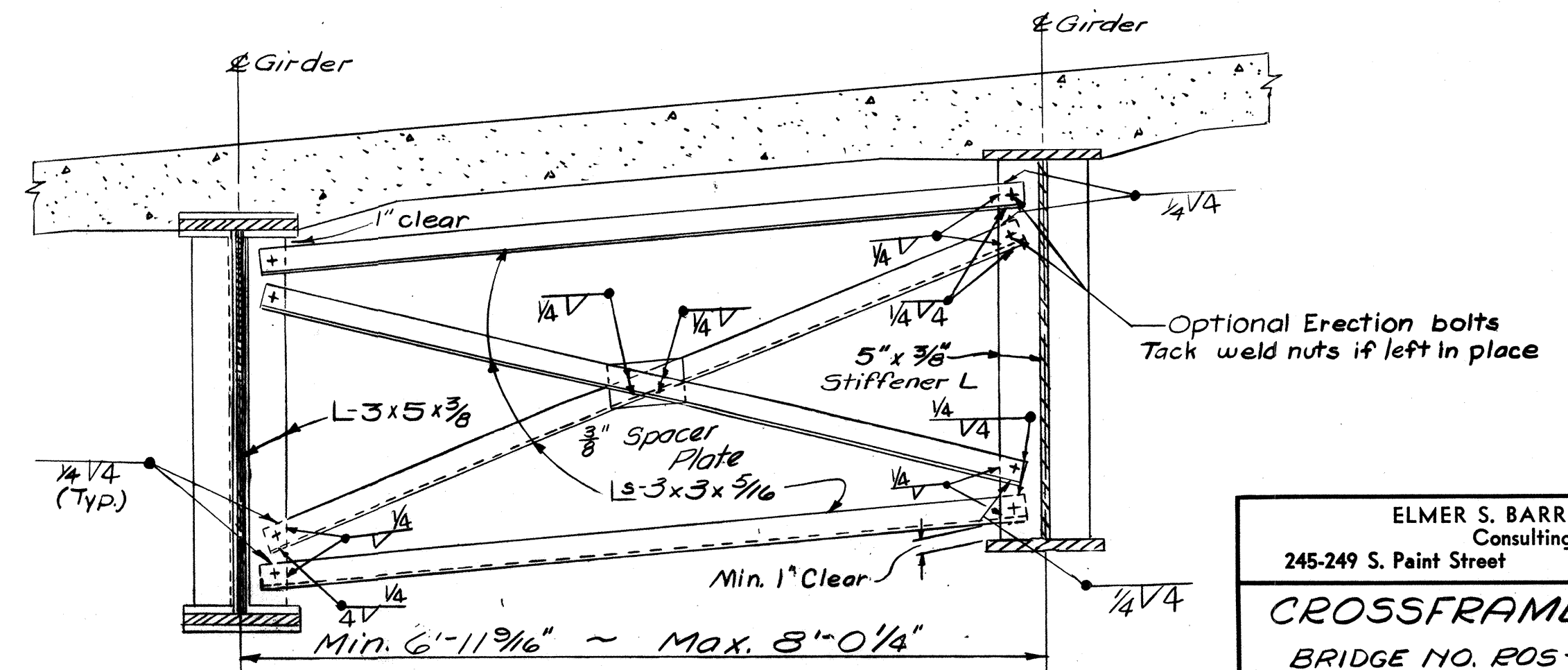


SECTION "B"-B

NOTE
See Section A-A and Section
"B"-B Sheet No 186 for vertical
alignment of end crossframes.



PART PLAN



SECTION "C"-C
CROSSFRAME AT FIELD SPLICE - BEND LINE

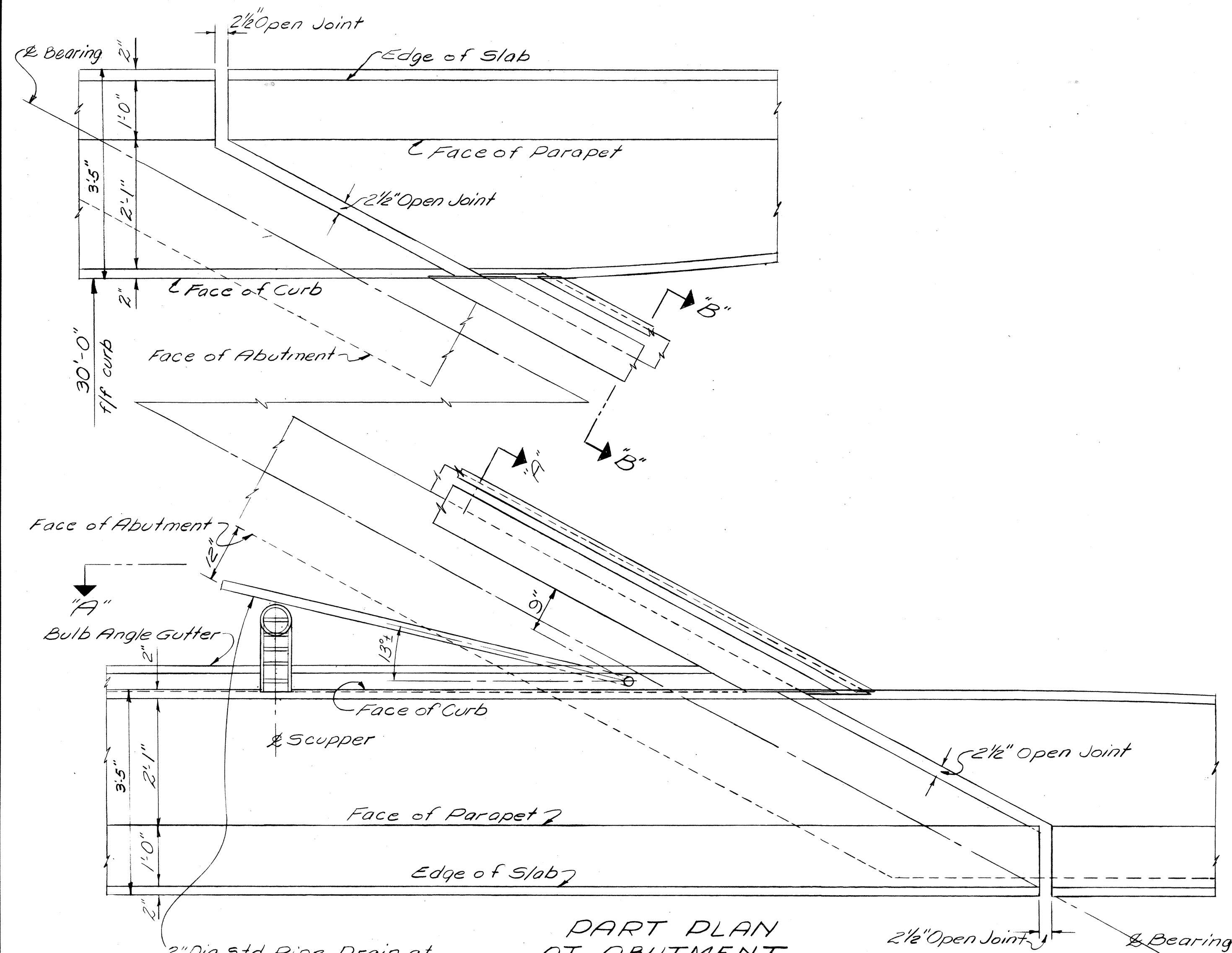
ELMER S. BARRETT ASSOCIATES Consulting Engineers Chillicothe, Ohio					
245-249 S. Paint Street					
CROSSFRAME DETAILS					
BRIDGE NO. R05-35-2157L					
U.S.R. 35WB. OVER U.S.R. 23 S. B. FUTURE PROJ.					
ROSS COUNTY U.S.R. 35					
STA. 1138+99.57 TO STA. 1141+36.33					
SCALE DATE					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
R.M.S.	W.D.U.		D.S.	ML	3/14/63

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

186
240

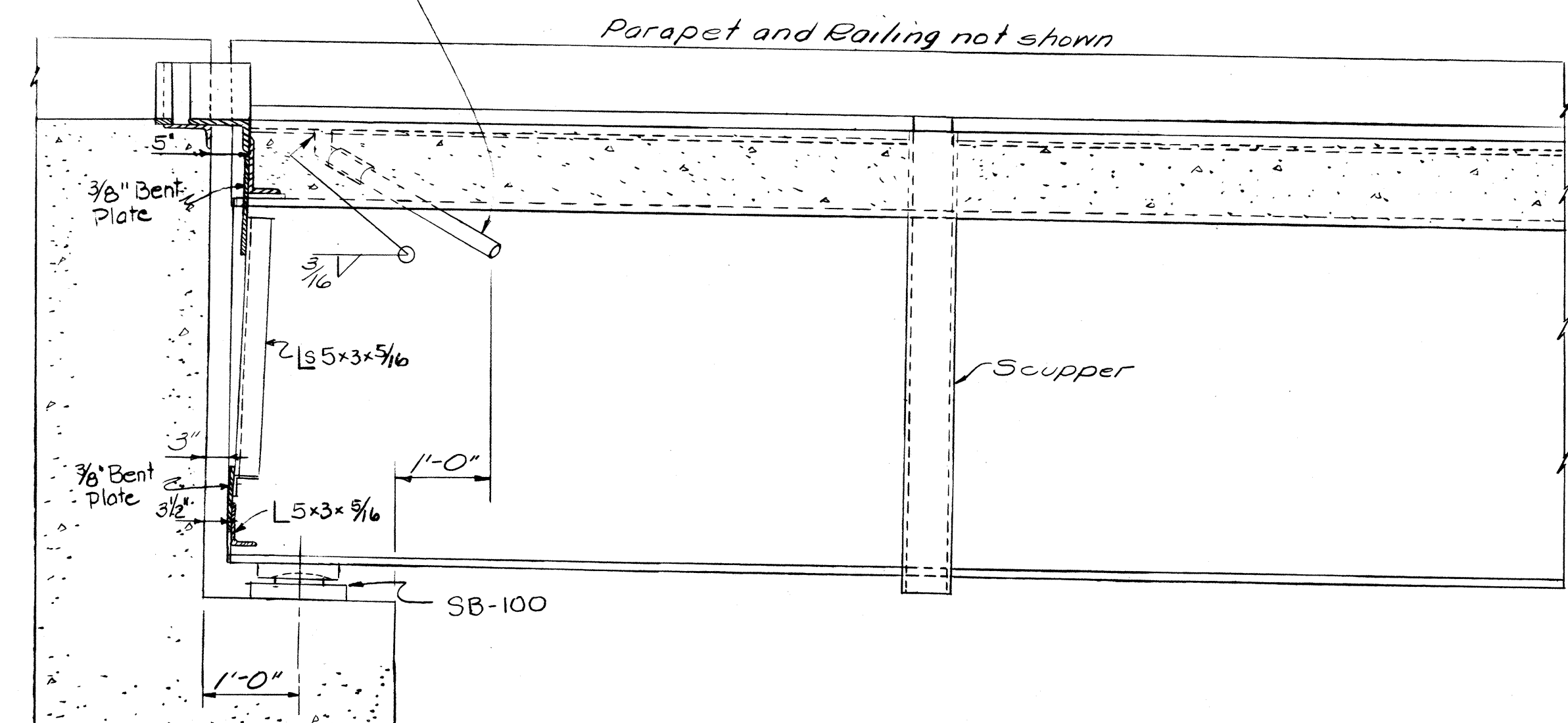
RECORDED
AUG 30 1955

ROSS COUNTY
ROS-35 21.23



PART PLAN AT ABUTMENT

2" Dia Std Pipe Drain at end of B.A. gutter where grade slopes down to end dam. Use standard elbow and coupling. A welded bend may be used where space does not permit use of standard elbow.



SECTION A-A

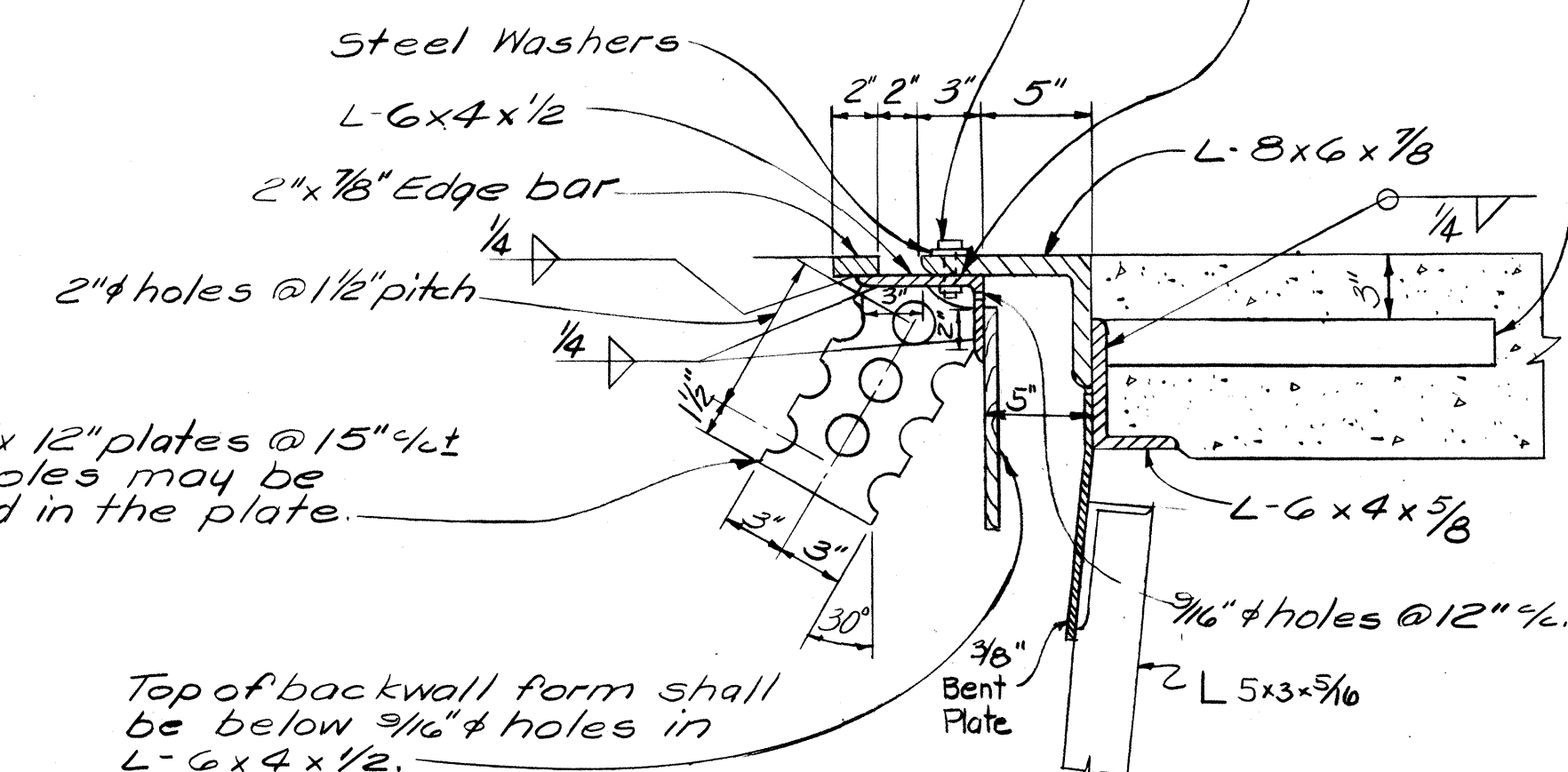
No joints will be permitted in end dam angles attached to the superstructure. The portion attached to the backwall shall be placed in segments not less than 6'-0" in length with a joint at the contraction joint in the backwall. These shall be closely butted but shall not be welded.

5/8" x 2" bolts at not more than 2'-0" c/c 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 washers and angle. Turn bolt 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.

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

Anchor bars 2x1/2 x 1'-6" @ 1'-3" c/c placed parallel with longitudinal reinforcing steel

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.



SECTION B-B

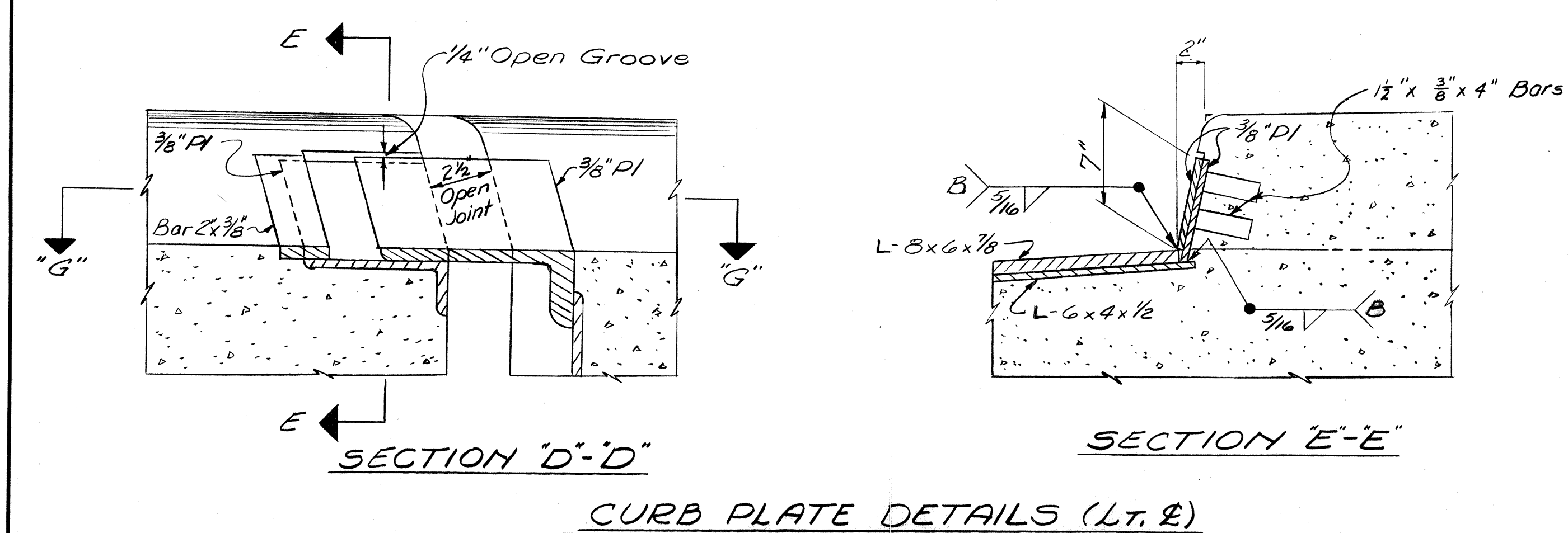
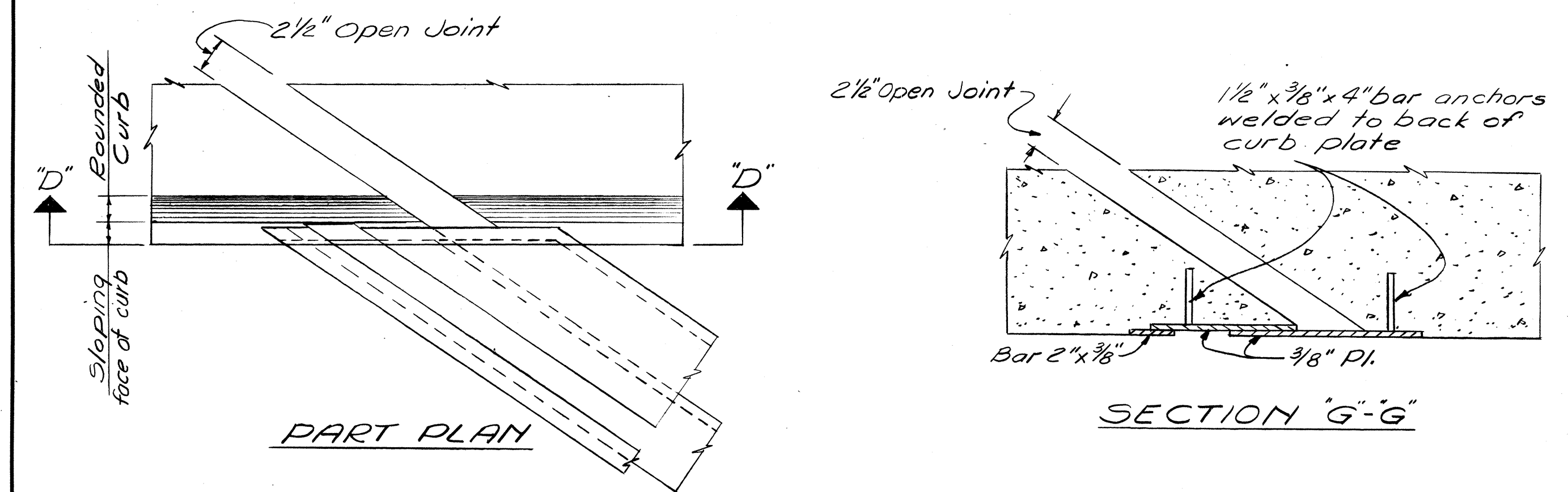
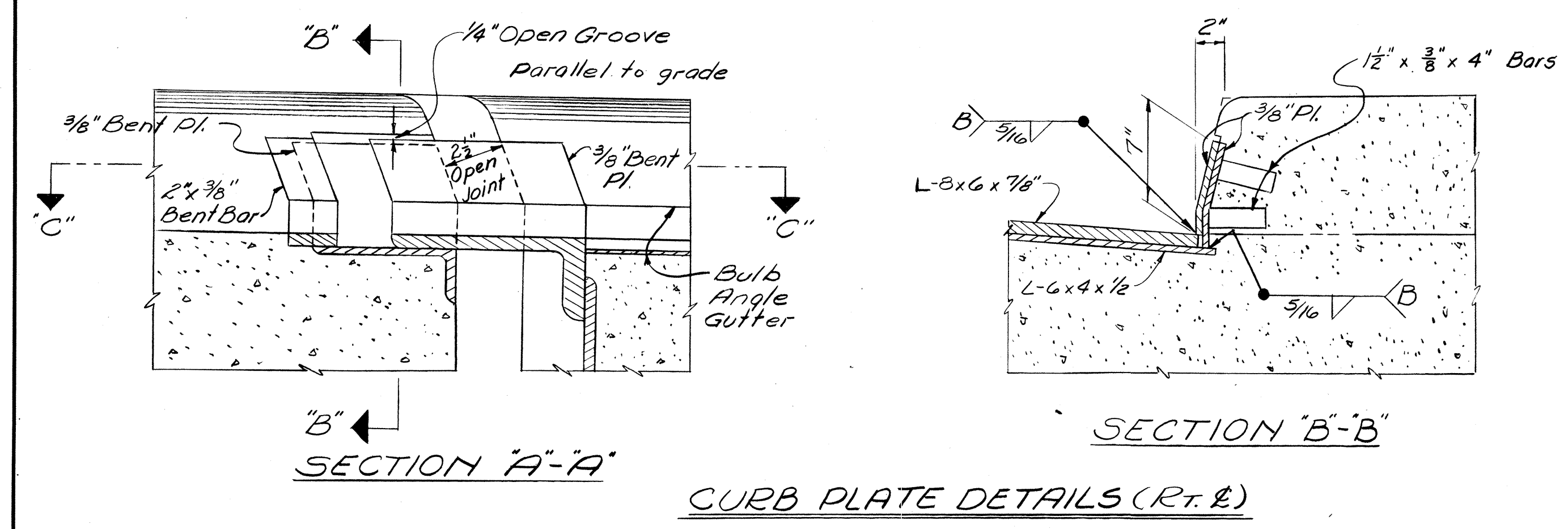
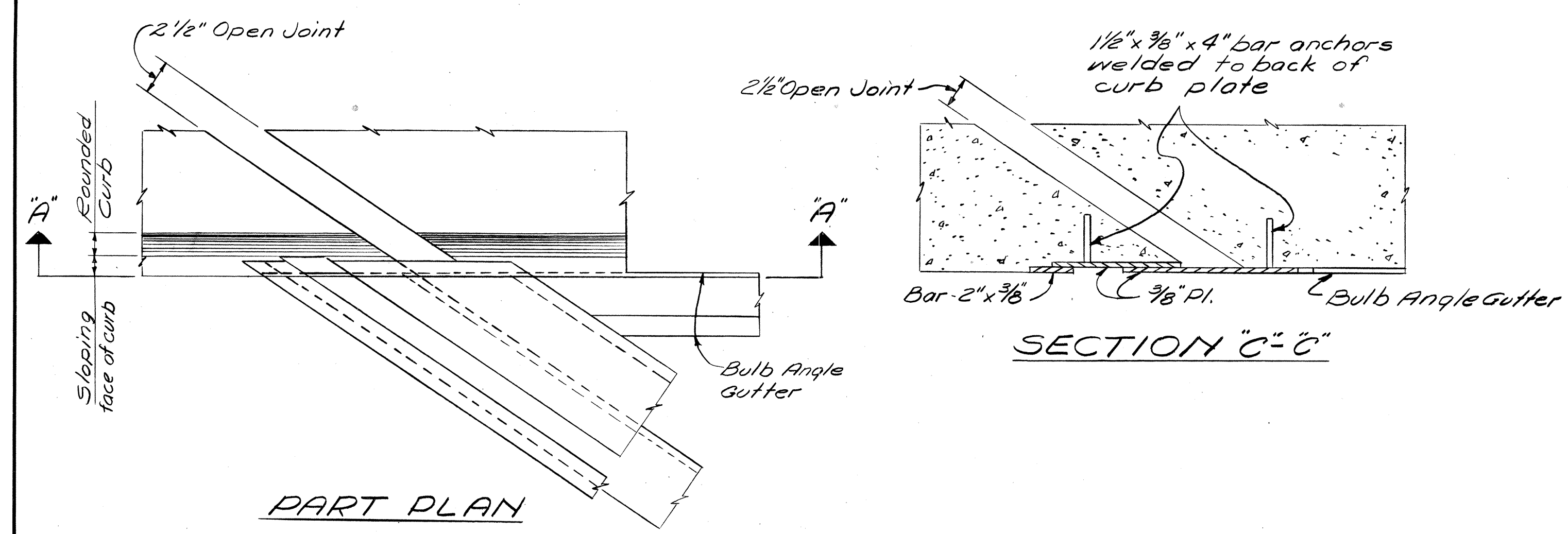
6" x 1/2" x 12" plates @ 15" c/c. The holes may be burned in the plate.

Top of backwall form shall be below 3/16" holes in L-6x4x1/2.

ELMER S. BARRETT ASSOCIATES Consulting Engineers 245-249 S. Paint Street Chillicothe, Ohio						
END DAM DETAILS						
BRIDGE NO. ROS-35-2157L U.S.R. 35MB. OVER U.S.R. 235.B. FUTURE PROP.						
ROSS COUNTY U.S.R. 35 STA. 1138+99.57 TO STA. 1141+36.33						
SCALE DATE						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.M.S.	W.D.J.		D.S.	WVC	3/14/63	

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AUG 30 1965

ROSS COUNTY
ROS-35-21.23



DEFLECTION AND CAMBER											
SPAN	GIRDER NUMBER	LENGTH OF GIRDER	POINT IN SPAN	DEFLECTION DUE TO WEIGHT OF STEEL	DEFLECTION DUE TO REMAINING DEAD LOAD	CONVEXITY OR CONCAVITY DUE TO SUPERELEVATION	TOTAL DEFLECTION	CAMBER REQUIRED	CONVEXITY OR CONCAVITY DUE TO SUPERELEVATION	TOTAL	CAMBER REQUIRED
REAR	1	65.3410'	16.3352' 32.6705' 49.0057'	+0.04" +0.04" +0.01"	+0.20" +0.21" +0.03"	-0.02" -0.02" -0.02"	+0.22" +0.23" +0.02"	+1/4" +1/4" 0	-0.21" -0.28" -0.21"	+0.03" -0.03" -0.17"	0" 1/16" 1/16"
	2	66.4965'	16.6241' 33.2482' 49.8724'	+0.04" +0.04" +0.01"	+0.17" +0.17" +0.03"	-0.02" -0.08" -0.02"	+0.19" +0.19" +0.02"	+3/16" +3/16" 0	-0.21" -0.29" -0.22"	-0.03" -0.03" -0.13"	0" 1/16" 1/16"
	3	66.4965'	16.6241' 33.2482' 49.8724'	+0.04" +0.04" +0.01"	+0.17" +0.17" +0.03"	-0.02" -0.02" -0.02"	+0.20" +0.20" +0.02"	+3/16" +3/16" 0	-0.22" -0.29" -0.22"	-0.03" -0.03" -0.13"	0" 1/16" 1/16"
	4	66.4965'	16.6241' 33.2482' 49.8724'	+0.04" +0.04" +0.01"	+0.17" +0.17" +0.03"	-0.10" -0.02" -0.02"	+0.11" +0.19" +0.02"	+1/8" +3/16" 0	-0.22" -0.29" -0.22"	-0.01" -0.03" -0.13"	0" 1/16" 1/16"
	5	67.7454'	16.9363' 33.8727' 50.8090'	+0.04" +0.04" +0.01"	+0.20" +0.21" +0.03"	-0.02" -0.03" -0.02"	+0.22" +0.22" +0.02"	+1/4" +1/4" 0	-0.23" -0.30" -0.23"	+0.01" -0.05" -0.13"	0" 1/16" 1/16"
CENTER	1	93.0395'	19' 46.5197' 74.0395'	+0.04" +0.09" +0.04"	+0.17" +0.02" +0.17"	+0.03" +0.02" +0.03"	+0.24" +0.53" +0.24"	+1/4" +1/2" +1/4"	+0.42" +0.22" +0.41"	+0.63" +0.73" +0.62"	+3/8" +7/8" +5/8"
	2	95.0243'	19' 47.5121' 76.0243'	+0.04" +0.09" +0.04"	+0.15" +0.35" +0.15"	+0.04" +0.02" +0.04"	+0.23" +0.46" +0.23"	+1/4" +7/16" +1/4"	+0.44" +0.21" +0.42"	+0.65" +0.65" +0.61"	+5/8" +7/8" +5/8"
	3	95.0243'	19' 47.5121' 76.0243'	+0.04" +0.09" +0.04"	+0.15" +0.35" +0.15"	+0.04" +0.02" +0.04"	+0.23" +0.46" +0.23"	+1/4" +7/16" +1/4"	+0.43" +0.21" +0.42"	+0.62" +0.65" +0.61"	+5/8" +7/8" +5/8"
	4	95.0243'	19' 47.5121' 76.0243'	+0.04" +0.09" +0.04"	+0.15" +0.35" +0.15"	+0.04" +0.02" +0.04"	+0.23" +0.46" +0.23"	+1/4" +7/16" +1/4"	+0.43" +0.21" +0.42"	+0.62" +0.65" +0.61"	+5/8" +7/8" +5/8"
	5	97.1951'	19.00' 48.5975' 78.1951'	+0.04" +0.09" +0.04"	+0.17" +0.42" +0.17"	+0.04" +0.02" +0.04"	+0.25" +0.53" +0.25"	+1/4" +1/2" +1/4"	+0.44" +0.21" +0.44"	+0.65" +0.72" +0.65"	+5/8" +7/8" +5/8"
FORWARD	1	64.8202'	16.2050' 32.4101' 48.6151'	+0.01" +0.04" +0.04"	+0.03" +0.21" +0.20"	-0.02" -0.02" -0.02"	+0.02" +0.23" +0.22"	0 +1/4" +1/4"	-0.21" -0.27" -0.21"	-0.17" -0.02" +0.03"	0" 0" 0"
	2	66.4965'	16.6241' 33.2482' 49.8724'	+0.01" +0.04" +0.04"	+0.03" +0.17" +0.17"	-0.02" -0.02" -0.02"	+0.02" +0.19" +0.20"	0 +3/16" +3/16"	-0.22" -0.29" -0.21"	-0.13" -0.13" 0.00"	-3/16" -1/16" 0"
	3	66.4965'	16.6241' 33.2482' 49.8724'	+0.01" +0.04" +0.04"	+0.03" +0.17" +0.17"	-0.02" -0.02" -0.02"	+0.02" +0.19" +0.19"	0 +3/16" +3/16"	-0.22" -0.29" -0.22"	-0.13" -0.03" -0.01"	-3/16" -1/16" 0"
	4	66.4965'	16.6241' 33.2482' 49.8724'	+0.01" +0.04" +0.04"	+0.03" +0.17" +0.17"	-0.02" -0.03" -0.02"	+0.02" +0.18" +0.20"	0 +3/16" +3/16"	-0.22" -0.30" -0.22"	-0.13" -0.03" -0.01"	-3/16" -1/16" 0"
	5	68.3552'	17.0888' 34.1776' 51.2664'	+0.01" +0.04" +0.04"	+0.03" +0.21" +0.20"	-0.02" -0.03" -0.02"	+0.02" +0.22" +0.22"	0 +1/4" +1/4"	-0.23" -0.31" -0.23"	-0.13" -0.06" +0.01"	-3/16" -1/16" 0"

NOTE: (+) Convexity
(-) Concaivity

ELMER S. BARRETT ASSOCIATES
Consulting Engineers
245-249 S. Paint Street Chillicothe, Ohio

CURB PLATE DETAILS AND DEFLECTION AND CAMBER

BRIDGE NO. ROS-35-2157L
U.S.R.35 W.B. OVER U.S.R.23 S.B. FUTURE PROP.

ROSS COUNTY U.S.R.35
STA. 1138+99.57 TO STA. 1141+36.33

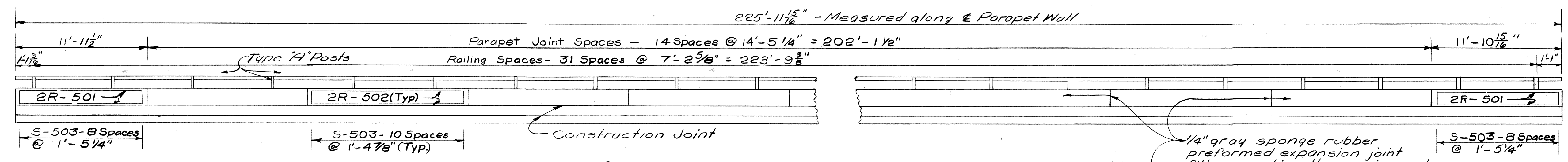
SCALE DATE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.M.S.	W.D.J.		D.S.	W.K.	3/14/63	-21/6

ROSS COUNTY
ROS-35-21.23

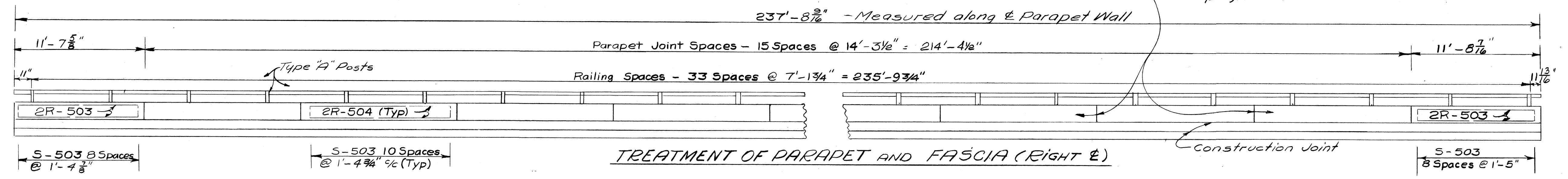
MICROFILMED
AUG 30 1985

* Dimension "A" is normal to G Girder. (See Scupper Location Table, this sheet)

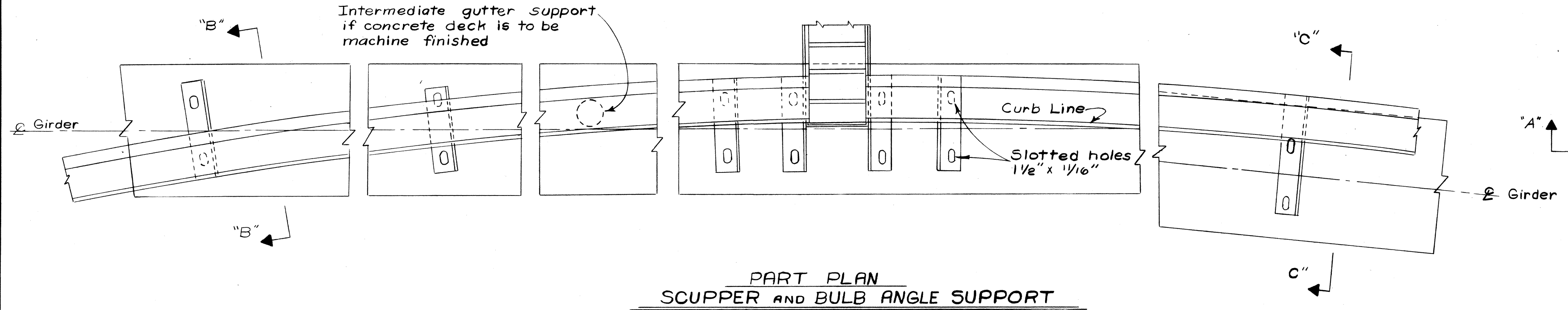


TREATMENT OF PARAPET AND FASCIA (LEFT E)

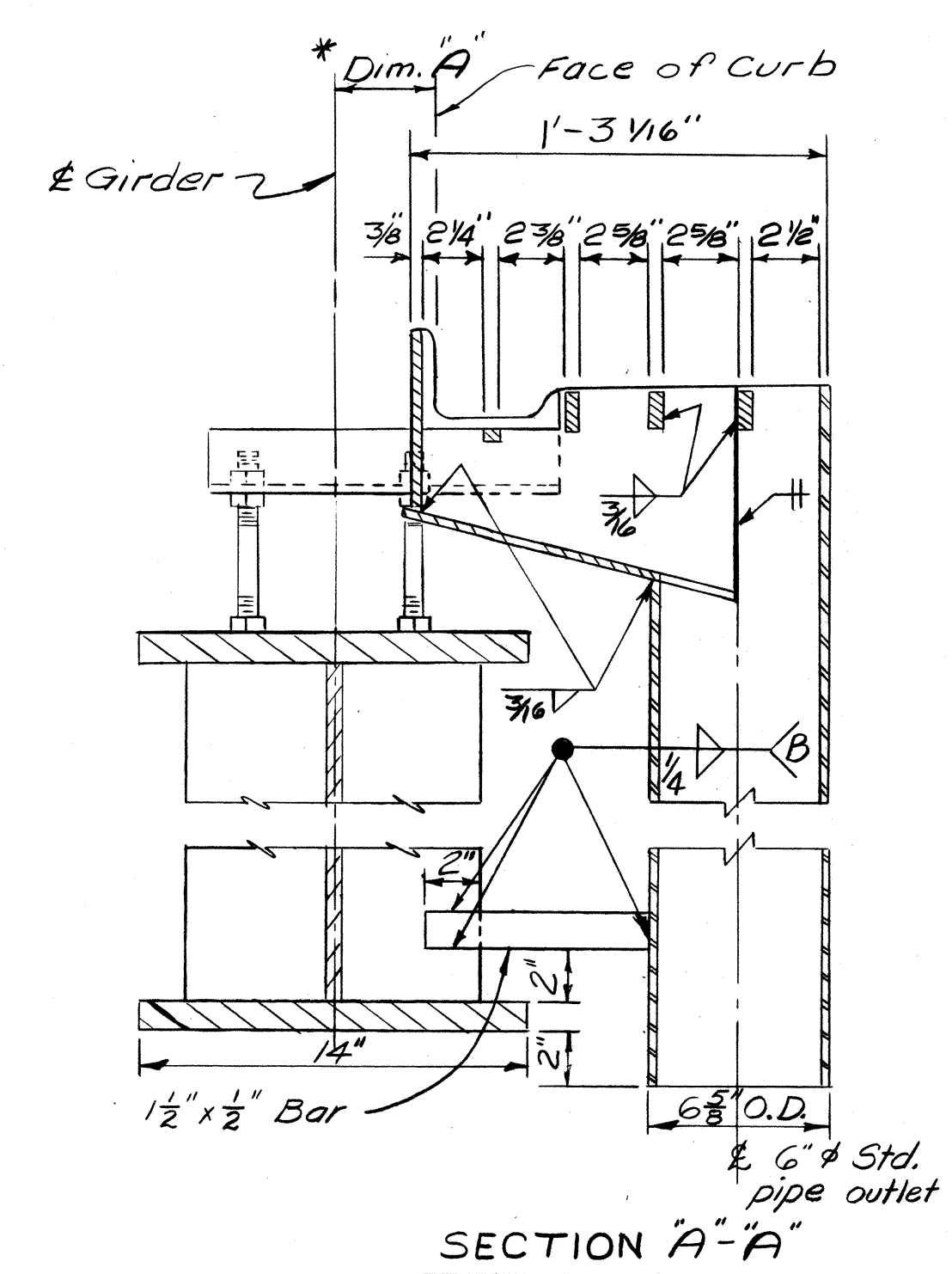
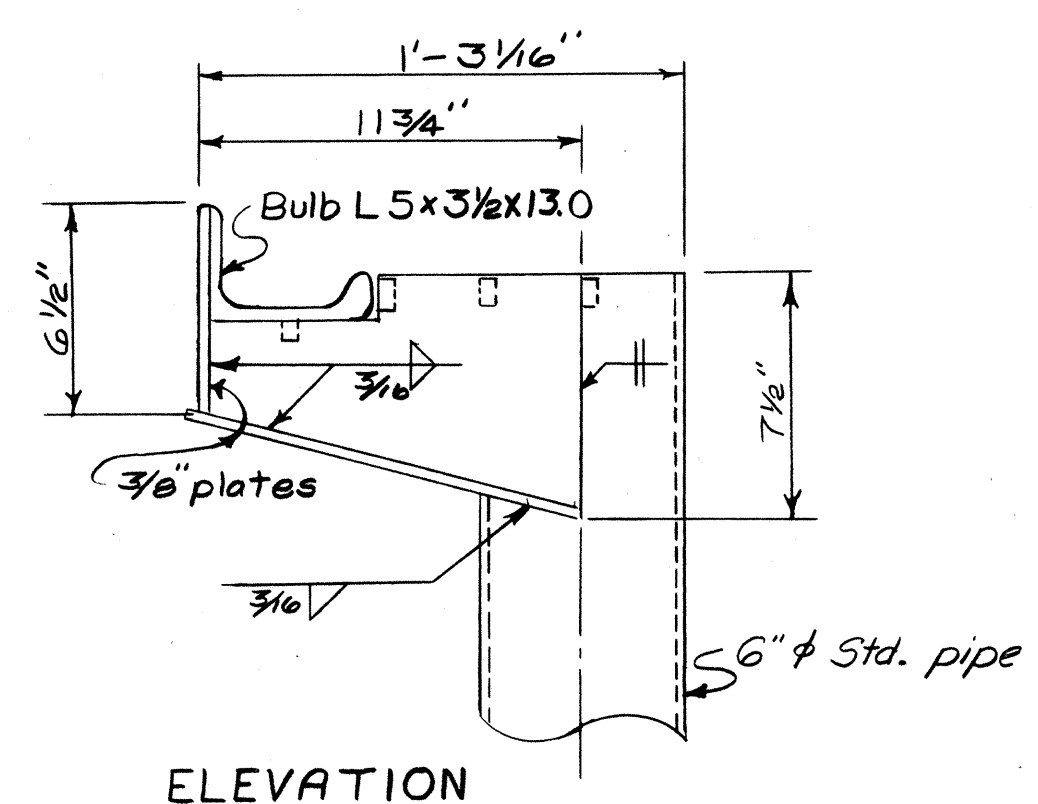
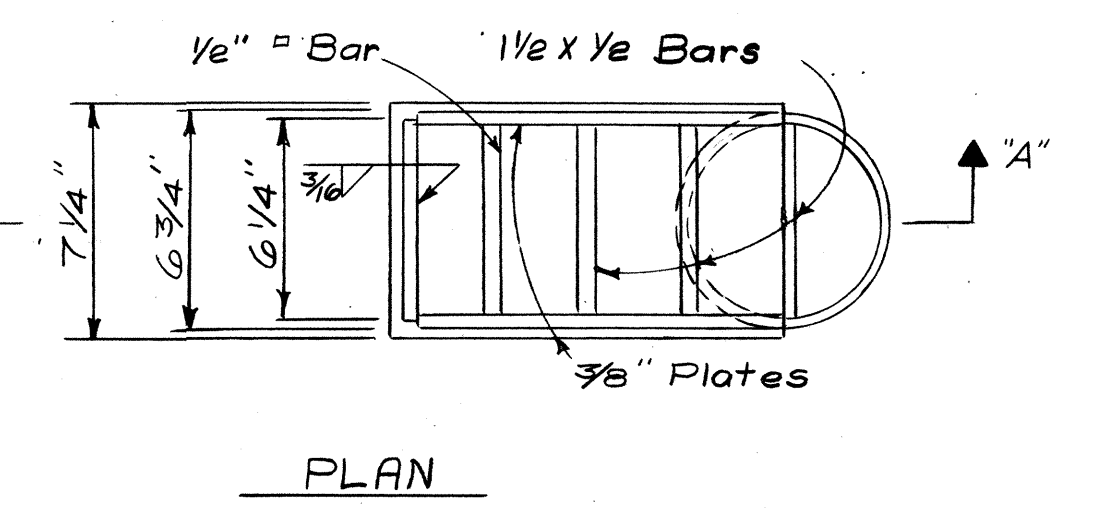
1/4" gray sponge rubber preformed expansion joint filler meeting the requirements of Section M-10.02, Type 1. (Included with Item S-14 for payment)



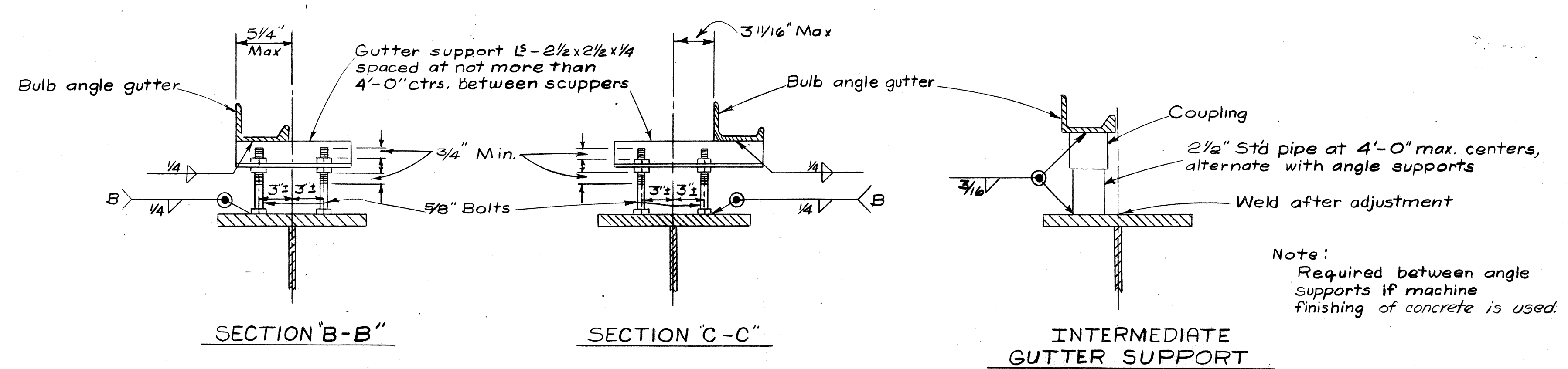
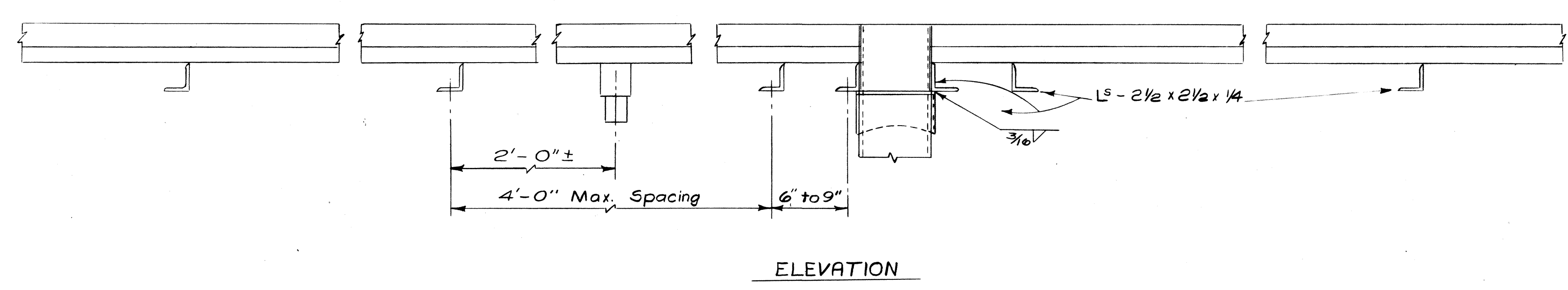
TREATMENT OF PARAPET AND FASCIA (RIGHT E)



PART PLAN SCUPPER AND BULB ANGLE SUPPORT



SCUPPER DETAILS



SCUPPER LOCATION	
SCUPPER NO.	DIM. "A"
1	1 ³ / ₁₆ "
2	3 ⁹ / ₁₆ "
3	3 ⁵ / ₁₆ "
4	1 ⁷ / ₁₆ "
5	1 ⁹ / ₁₆ "
6	2 ¹ / ₂ "
7	3 ¹ / ₂ "
8	3 ⁵ / ₈ "
9	3 ¹ / ₁₆ "
10	3 ¹ / ₂ "
11	3"
12	2 ¹ / ₄ "
13	1 ¹ / ₄ "

NOTE: For location of scuppers by scupper number see Steel Framing Plan.

ELMER S. BARRETT ASSOCIATES
Consulting Engineers
245-249 S. Paint Street Chillicothe, Ohio

DECK DRAINAGE AND RAILING DETAILS
BRIDGE NO. ROS-35-2157 L
U.S.R. 35 NB OVER U.S.R. 23 S.B. FUTURE PROP.
ROSS COUNTY U.S.R. 35
STA. 1138+99.57 TO STA. 1141+36.33

SCALE DATE
DESIGNED DRAWN TRACED CHECKED REVIEWED DATE REVISED
R.M.S. W.D.J. L.B. D.S. J/K 3/14/63

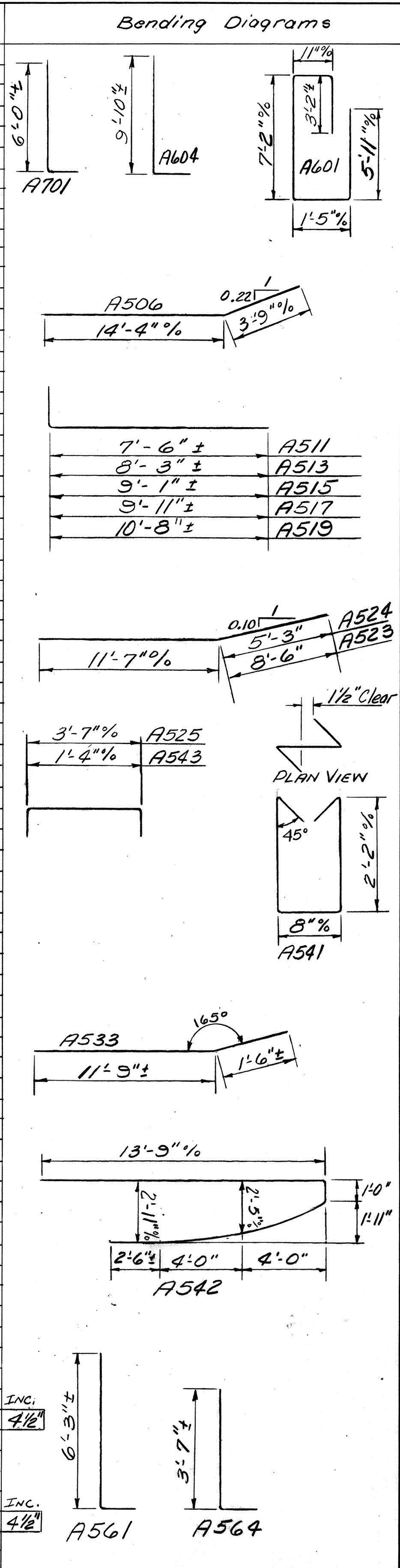
REINFORCING STEEL LIST

ROSS COUNTY
R05-35-21.23

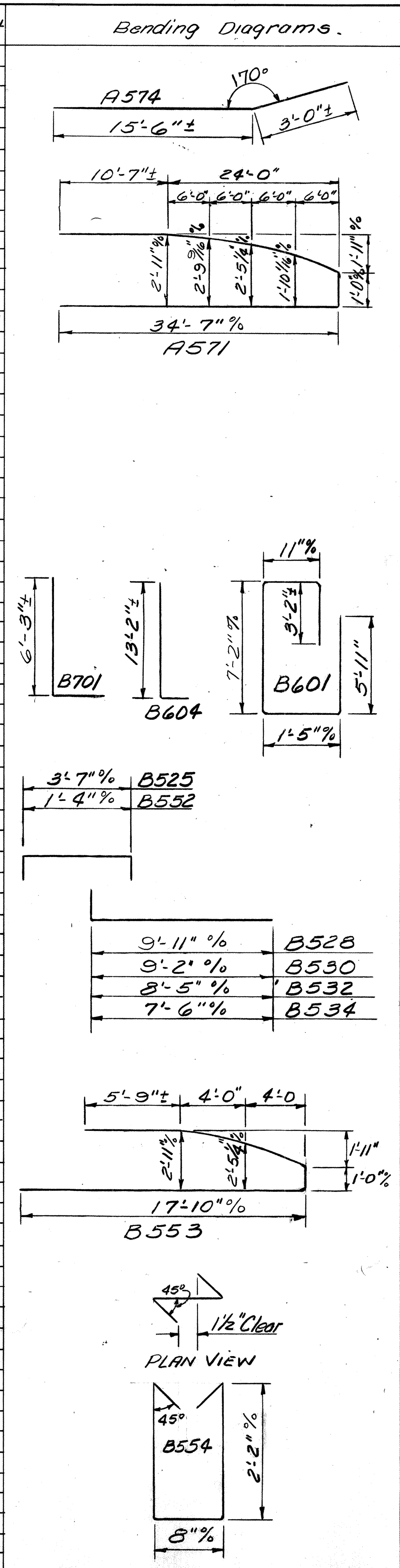
MICROFILMED
AUG 30 1985

For Notes see
Sheet No. 130

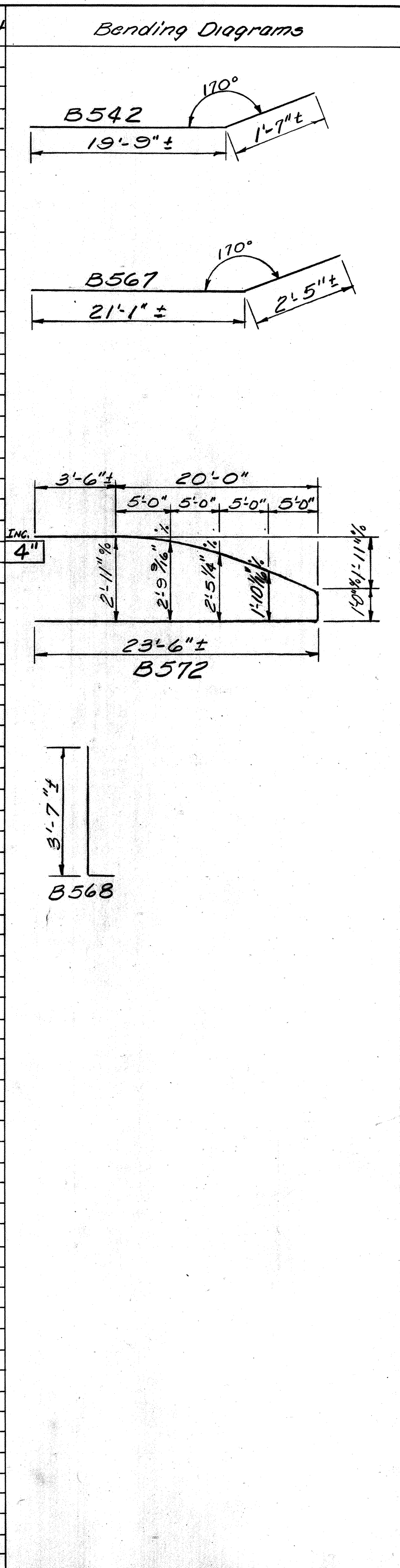
Bar Number	Number Required	Length	Shape	Weight
REAR ABUTMENT				
A701	9	7'-1"	L	130
A601	52	18'-0"	U	1406
A602	9	8'-1"	L	109
A603	8	8'-0"	L	96
A604	3	10'-6"	L	47
A605	3	9'-0"	L	41
A606	3	5'-9"	L	26
A607	8	19'-0"	L	228
A501	2	32'-4"	L	67
A502	5	35'-0"	L	183
A503	5	30'-4"	L	158
A504	1	16'-7"	L	17
A505	1	17'-8"	L	18
A506	4	18'-1"	L	75
A507	4	31'-9"	L	132
A508	4	30'-4"	L	127
A509	1	30'-8"	L	32
A510	16	5'-6"	L	92
A511	12	8'-0"	L	100
A512	15	6'-3"	L	98
A513	15	8'-9"	L	137
A514	15	7'-1"	L	111
A515	15	9'-7"	L	150
A516	12	7'-11"	L	99
A517	12	10'-5"	L	130
A518	5	8'-8"	L	45
A519	8	11'-2"	L	58
A520	6	27'-6"	L	172
A521	6	31'-6"	L	197
A522	2	12'-2"	L	25
A523	2	20'-1"	L	42
A524	2	16'-10"	L	35
A525	30	4'-7"	L	143
A526	1	12'-7"	L	13
A527	4	9'-0"	L	38
A528	4	9'-7"	L	40
A529	1	9'-2"	L	10
A530	1	5'-3"	L	5
A531	1	6'-9"	L	7
A532	2	17'-7"	L	37
A533	3	13'-3"	L	41
A534	3	6'-0"	L	19
A535	6	4'-0"	L	25
A536	11	7'-6"	L	86
A537	2	5'-6"	L	11
A538	8	5'-9"	L	48
A539	2	4'-6"	L	9
A540	8	3'-8"	L	31
A541	37	5'-7"	M	215
A542	2	25'-0"	L	52
A543	37	2'-4"	L	90
A544	9	4'-7"	L	43
A545	4	30'-6"	L	127
A546	4	31'-6"	L	131
A547	1	31'-8"	L	33
A548	10	10'-7"	L	110
A549	5	5'-2"	L	26
A550	5	6'-10"	L	36
A551	4	4'-1"	L	17
A552	6	5'-10"	L	37
A553	8	5'-2"	L	43
A554	8	8'-8"	L	72
A555	5	6'-2"	L	32
A556	14	4'-8"	L	68
A557	8	12'-3"	L	102
A558	2 Series 5 bars	8'-3"	L	169
A559	6	4'-0"	L	25
A560	6	8'-1"	L	51
A561	9	6'-8"	L	63
A562	6	7'-8"	L	48
A563	2 Series 9 bars	3'-6"	L	94
A564	4	4'-0"	L	17
A565	8	3'-8"	L	31



Bar Number	Number Required	Length	Shape	Weight
REAR ABUTMENT CONT.				
A566	2	5'-2"	L	11
A567	2	7'-3"	L	15
A568	2	17'-2"	L	36
A569	2	22'-10"	L	48
A570	6	18'-6"	L	116
A571	2	69'-11"	L	146
A572	2	2'-9"	L	6
A573	2	3'-4"	L	7
A574	2	18'-6"	L	39
A575	13	10'-0"	L	136
TOTAL REAR ABUTMENT 7,238				
FORWARD ABUTMENT				
B701	6	7'-4"	L	90
B601	64	18'-0"	U	1730
B602	12	7'-6"	L	135
B603	8	8'-0"	L	96
B604	4	13'-10"	L	83
B605	4	24'-3"	L	146
B501	3	26'-10"	L	84
B502	13	10'-0"	L	136
B503	12	21'-5"	L	268
B504	2	20'-11"	L	44
B505	6	35'-8"	L	223
B506	2	16'-7"	L	34
B507	1	34'-8"	L	36
B508	1	25'-8"	L	27
B509	2	19'-0"	L	40
B510	1	20'-2"	L	21
B511	1	8'-3"	L	9
B512	1	7'-2"	L	7
B513	1	2'-6"	L	3
B514	4	37'-0"	L	154
B515	4	35'-8"	L	149
B516	1	36'-7"	L	38
B517	5	34'-10"	L	182
B518	10	21'-2"	L	221
B519	1	5'-0"	L	5
B520	2	27'-3"	L	57
B521	4	13'-2"	L	55
B522	4	39'-3"	L	164
B523	8	21'-2"	L	177
B524	2	21'-4"	L	45
B525	30	4'-7"	L	143
B526	8	8'-10"	L	74
B527	18	7'-11"	L	149
B528	18	10'-5"	L	196
B529	14	7'-2"	L	105
B530	14	9'-8"	L	141
B531	15	6'-5"	L	100
B532	15	8'-11"	L	140
B533	21	5'-6"	L	120
B534	26	8'-0"	L	217
B535	1	17'-6"	L	18
B536	5	14'-6"	L	76
B537	5	13'-7"	L	71
B538	1	14'-8"	L	15
B539	1	10'-0"	L	10
B540	1	11'-10"	L	12
B541	2	22'-6"	L	47



Bar Number	Number Required	Length	Shape	Weight
FORWARD ABUTMENT CONT.				
B542	3	21'-4"	L	67
B543	3	6'-3"	L	20
B544	14	10'-10"	L	158
B545	6	4'-0"	L	25
B546	12	5'-10"	L	73
B547	2	5'-4"	L	11
B548	2	4'-4"	L	9
B549	2	3'-4"	L	7
B550	6	3'-0"	L	19
B551	10	3'-8"	L	38
B552	34	2'-4"	L	83
B553	2	32'-7"	L	68
B554	34	5'-7"	M	75
B555	12	7'-6"	L	94
B556	6	3'-9"	L	23
B557	6	5'-5"	L	34
B558	7	8'-2"	L	60
B559	6	4'-8"	L	29
B560	4	5'-11"	L	25
B561	8	4'-8"	L	39
B562	3	5'-0"	L	16
B563	8	9'-3"	L	77
B564	2 Series 10 bars	6'-8"	L	108
B565	2	10'-3"	L	21
B566	2	23'-6"	L	49
B567	2	23'-6"	L	49
B568	4	4'-7"	L	17
B569	8	3'-8"	L	31
B570	2	3'-6"	L	7
B571	2	4'-0"	L	8
B572	2	47'-9"	L	100
B573	10	6'-10"	L	71
B574	4	9'-0"	L	38
TOTAL FORWARD ABUT. 7,642				
TOTAL TWO ABUT'S. 14,880				



ELMER S. BARRETT ASSOCIATES
Consulting Engineers
245-249 S. Paint Street Chillicothe, Ohio

REINFORCING STEEL LIST
BRIDGE NO. R05-35-2157L
USR 35WB OVER USR 23 S.B. FUTURE PROP.
ROSS COUNTY USR 35
STA. 1138+99.57 TO STA. 1141+36.33

SCALE DATE

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DWP	NDU		R.M.S.	WL	3/14/63	

REINFORCING STEEL LIST

ROSS COUNTY
ROS-35-21.23

MICROFILMED
AUG 10 1965

~NOTES~

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four digits are used, indicates the bar size. For example, A501 is a number 5 size bar and P1001 is a number 10 size bar.

RAILING STEEL in the parapet wall is included with Item 5-14 Railing for payment.

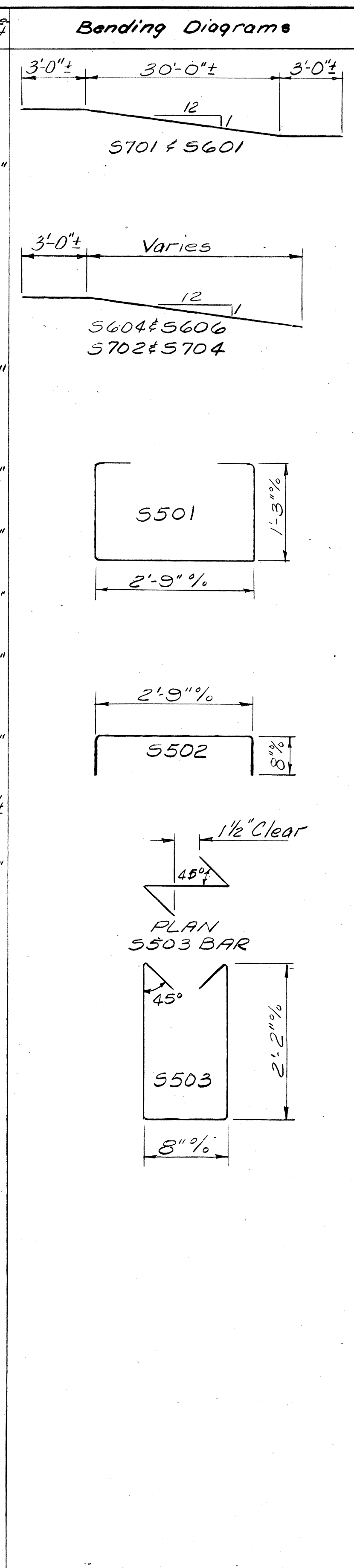
SPIRAL REINFORCING BARS:
The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap. The "Number of Turns" shown is the "Length" divided by the pitch plus three turns (total number of closed coils) expressed as the nearest whole number.

Spiral reinforcing bars shall not have deformations but shall in all other respects conform to Item 5-4.

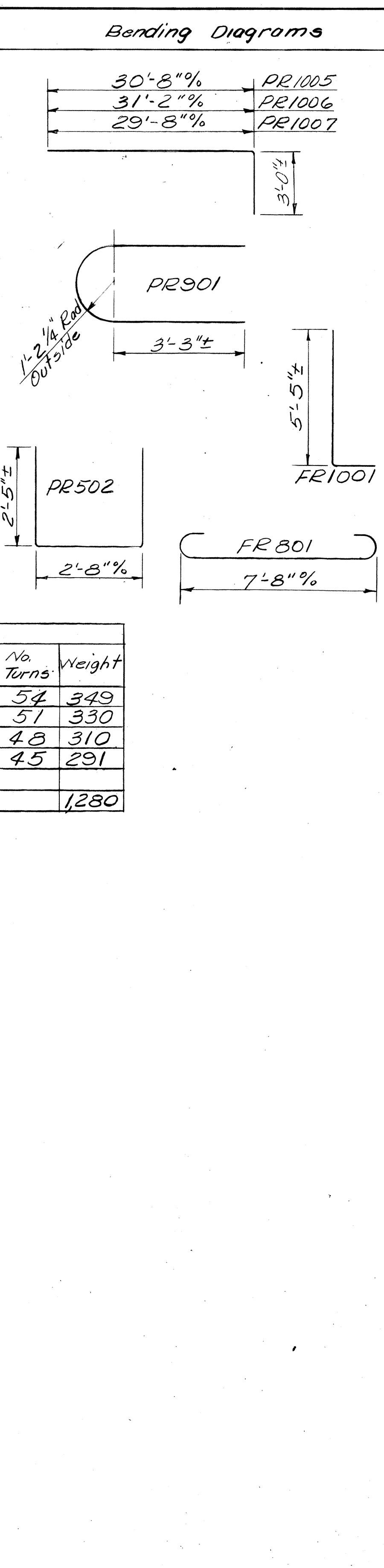
1/2 closed coils shall be provided at the ends of each spiral unit.

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.

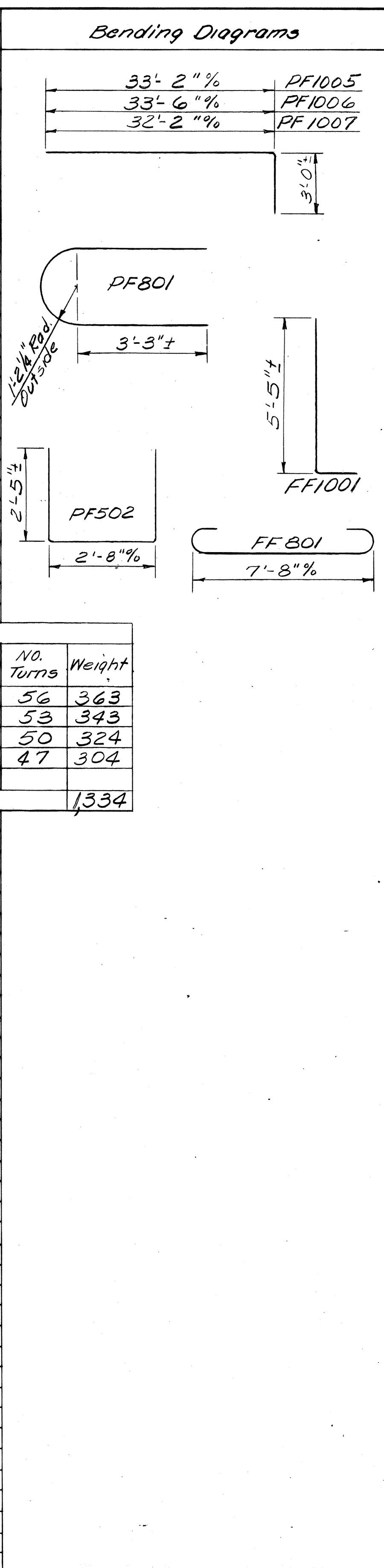
Bar Number	Number Required	Length	Shape	Weight	Increment
SUPERSTRUCTURE					
5701	232	36'-11"		17,111	
5702	1 Series of 59 bars	5'-2" to 34'-6"		2,392	6"
5703	9	5'-2"		95	
5704	1 Series of 76 bars	5'-3" to 34'-6"		3,087	4 5/8"
5705	10	5'-3"		107	
5601	232	36'-11"		12,574	
5602	426	36'-11"		23,621	
5603	62	38'-0"		3,539	
5604	1 Series of 59 bars	5'-2" to 34'-6"		1,758	6"
5605	9	5'-2"		70	
5606	1 Series of 76 bars	5'-3" to 34'-6"		2,269	4 5/8"
5607	10	5'-3"		79	
5608	2 Series of 3 bars	14'-2" to 15'-0"		131	5"
5609	1 Series of 6 bars	15'-0" to 17'-8"		147	6 3/8"
5610	1	15'-6"		23	
5611	1 Series of 5 bars	16'-1" to 17'-2"		125	3 1/4"
5612	1	17'-8"		27	
5613	1 Series of 12 bars	18'-7" to 23'-9"		382	5 5/8"
5614	1	19'-1"		29	
5615	1 Series of 5 bars	19'-6" to 20'-5"		150	2 3/4"
5616	1	20'-11"		31	
5617	1	21'-10"		33	
5618	1 Series of 5 bars	22'-4" to 23'-3"		171	2 3/4"
5619	1	23'-9"		36	
5620	1 Series of 6 bars	24'-4" to 28'-3"		237	9 3/8"
5621	1	25'-1"		38	
5622	1 Series of 5 bars	25'-10" to 27'-5"		200	4 3/4"
5623	1	28'-3"		42	
5624	2 Series of 3 bars	29'-6" to 30'-6"		270	6"
5625	2	30'-4"		91	
5626	2	15'-6"		47	
5501	316	6'-0"		1,978	
5502	316	3'-10"		1,263	
5503	355	5'-7"		2,067	
TOTAL SUPERSTRUCTURE				74,220	



Bar Number	Number Required	Length	Shape	Weight		
REAR PIER						
PR1001	10	22'-6"		968		
PR1002	10	21'-5"		922		
PR1003	10	20'-4"		875		
PR1004	10	19'-3"		828		
PR1005	4	33'-4"		574		
PR1006	4	33'-10"		582		
PR1007	4	32'-4"		557		
PR901	4	10'-3"		139		
PR902	8	24'-6"		666		
PR903	4	23'-2"		315		
PR904	6	15'-10"		323		
PR601	4	32'-9"		197		
PR501	4	29'-0"		121		
PR502	66	7'-3"		499		
DR503	26	2'-8"		72		
PR504	2	2'-4"		5		
PR505	2	1'-10"		4		
FR1001	40	6'-6"		1,119		
FR801	64	9'-10"		1,680		
SUB-TOTAL				10,446		
SPIRAL						
Bar No.	No. Req'd.	Core Dia. % Spiral	Length	Pitch	No. Turns	Weight
SP401	1	32"	18'-11 1/2"	4 1/2"	54	349
SP402	1	32"	17'-10 3/4"	4 1/2"	51	330
SP403	1	32"	16'-9 3/4"	4 1/2"	48	310
SP404	1	32"	15'-9"	4 1/2"	45	291
SPIRAL TOTAL						1,280
TOTAL REAR PIER				11,726		



Bar Number	Number Required	Length	Shape	Weight		
FORWARD PIER						
PF1001	10	23'-4"		1,004		
PF1002	10	22'-3"		957		
PF1003	10	21'-2"		911		
PF1004	10	20'-1"		864		
PF1005	4	35'-10"		617		
PF1006	4	36'-2"		623		
PF1007	4	34'-10"		600		
PF1008	6	17'-5"		450		
PF801	4	10'-3"		109		
PF802	8	26'-7"		568		
PF803	4	25'-3"		270		
PF701	4	35'-6"		290		
PF501	4	31'-5"		131		
PF502	76	7'-3"		575		
PF503	26	2'-8"		72		
PF504	2	2'-4"		5		
PF505	2	1'-10"		4		
FF1001	40	6'-6"		1,119		
FF801	64	9'-10"		1,680		
FF502	2	2'-8"		5		
FF503	2	1'-10"		4		
SUB-TOTAL				10,849		
SPIRAL						
Bar No.	No. Req'd.	Core Dia. % Spiral	Length	Pitch	No. Turns	Weight
SP405	1	32"	19'-9 3/4"	4 1/2"	56	363
SP406	1	32"	18'-8 3/4"	4 1/2"	53	343
SP407	1	32"	17'-7 1/2"	4 1/2"	50	324
SP408	1	32"	16'-6 1/2"	4 1/2"	47	304
SPIRAL TOTAL						1,334
TOTAL FORWARD PIER				12,183		
RAILING						
Bar No.	No. Req'd.	Length	Shape	Weight		
R501	8	11'-7"				
R502	56	14'-1"				
R503	8	11'-3"				
R504	60	13'-11"				
R505	4	13'-7"				
R506	4	34'-7"				
R507	4	2'-9"				
R508	4	17'-8"				
R509	4	3'-6"				
R510	4	23'-3"				
REPLACEMENT						
RE1001	1	7'-3"				
RE901	1	6'-10"				
RE801	1	6'-6"				
RE701	2	6'-3"				
RE601	3	5'-11"				
RE501	1	5'-7"				
RE401	1	5'-3"				



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REINFORCING STEEL LIST
BRIDGE NO. ROS-35-2157 L
U.S.R. 35WB, OVER U.S.R. 23SB, FUTURE PROP.
ROSS COUNTY U.S.R. 35
STA. 1138+99.57 TO STA. 1141+36.33

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.M.S.	WQU		D.S.	WIC	3/14/63	
K.D.D.			R.M.S.			