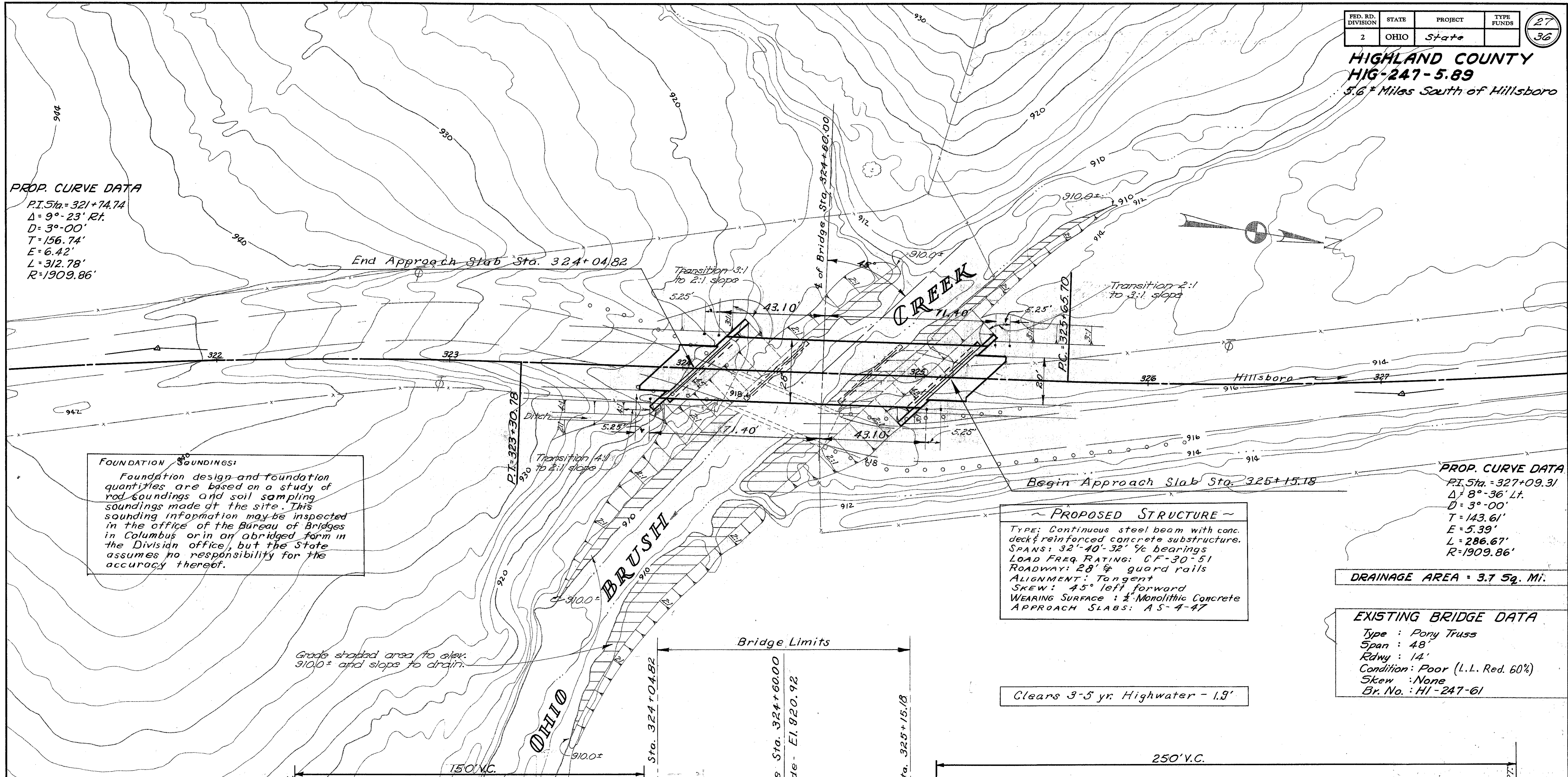


**PROP. CURVE DATA**  
 P.I. Sta. = 321+74.74  
 $\Delta = 9^{\circ}-23' Rt.$   
 $D = 3^{\circ}-00'$   
 $T = 156.74'$   
 $E = 6.42'$   
 $L = 312.78'$   
 $R = 1909.86'$



**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 the Bureau of Bridges in Columbus or in an abridged form in the Division office, but the State assumes no responsibility for the accuracy thereof.

**~ PROPOSED STRUCTURE ~**  
 TYPE: Continuous steel beam with conc. deck & reinforced concrete substructure.  
 SPANS: 32'-40'-32' 1/2 bearings  
 LOAD FREQ. RATING: CF-30-51  
 ROADWAY: 28' 4" guard rails  
 ALIGNMENT: Tangent  
 SKEW: 45° left forward  
 WEARING SURFACE: 3" Monolithic Concrete  
 APPROACH SLABS: AS-4-47

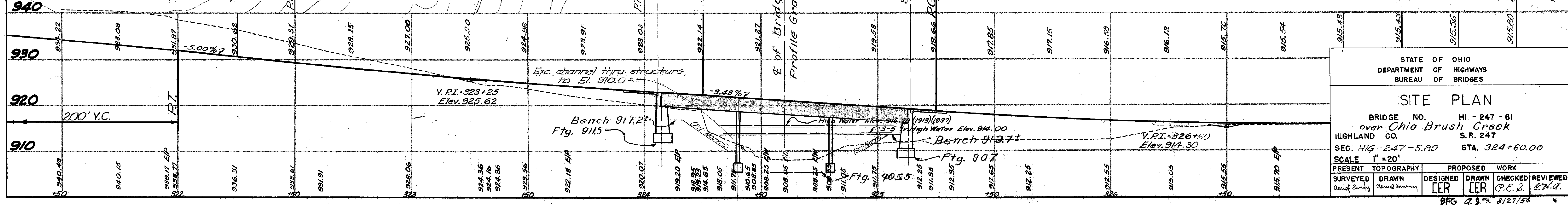
**PROP. CURVE DATA**  
 P.I. Sta. = 327+09.31  
 $\Delta = 8^{\circ}-36' Lt.$   
 $D = 3^{\circ}-00'$   
 $T = 143.61'$   
 $E = 5.39'$   
 $L = 286.67'$   
 $R = 1909.86'$

**DRAINAGE AREA = 3.7 Sq. Mi.**

**EXISTING BRIDGE DATA**  
 Type: Pony Truss  
 Span: 48'  
 Rdwy: 14'  
 Condition: Poor (L.L. Red. 60%)  
 Skew: None  
 Br. No.: HI-247-61

Grade shaded area to elev. 910.0' and slope to drain.

Clears 3-5 yr. Highwater - 1.9'

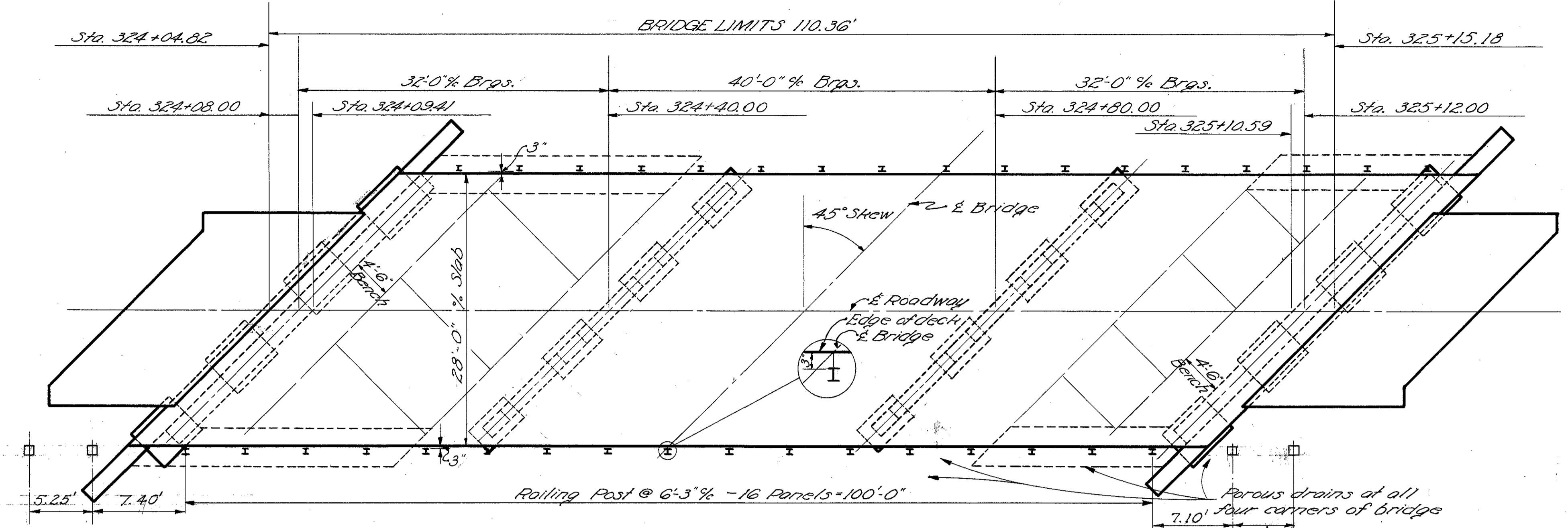


STATE OF OHIO  
 DEPARTMENT OF HIGHWAYS  
 BUREAU OF BRIDGES

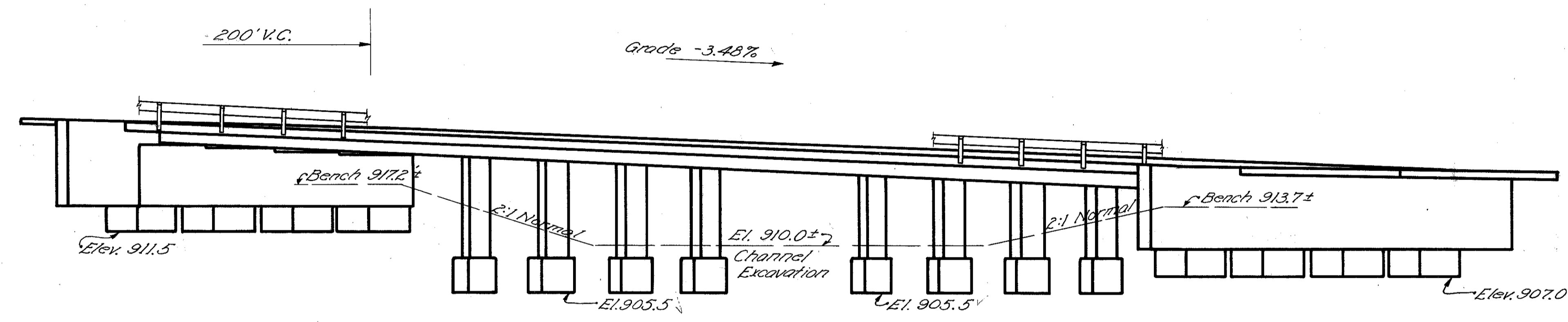
**SITE PLAN**  
 BRIDGE NO. HI-247-61  
 over Ohio Brush Creek  
 HIGHLAND CO. S.R. 247  
 SEC. HI-247-5.89 STA. 324+60.00

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
David Smith	David Summy	LER	LER	P.E.S.	D.W.A.

BFG 8/27/54



PLAN



ELEVATION

ESTIMATED QUANTITIES							
ITEM	TOTAL	UNIT	DESCRIPTION	SUPERS.	ABUTS.	PIERS	GENERAL
E-2	lump	sum	Cofferdams, cribs and sheeting.				lump
E-2	160	Cu Yds.	Unclassified excavation, including shale		135	25	
E-3	347	Cu Yds.	Channel excavation.				347
S-1	69	Cu Yds.	Class "C" concrete, superstructure.	69			
S-1	110	Cu Yds.	Class "C" concrete, piers & abutments above footings		92	18	
S-1	39	Cu Yds.	Class "E" concrete, footings.		20	13	
S-4	32,960	Lbs.	Reinforcing steel.	17,105	7,321	8,329	111
S-7	45,200	Lbs.	Structural steel.	45,200			
S-8	45,200	Lbs.	Field painting of structural steel.	45,200			
S-14	220.72	Lin Ft.	Railing (I-15.13 with galvanized steel posts).				220.72
S-24	lump	sum	Removal of existing structure.				lump
S-29	14	Cu Yds.	Porous drains on embankment slopes.				14

GENERAL NOTES

- EXCAVATION QUANTITY** includes the removal of fill material between top of earth bench and bottom of abutment cross beam.
- FOOTINGS** shall extend a minimum of 3 inches into shale, or to the elevations shown on the plans, whichever is lower.
- WELDING** shall be Class "A". Any welds shown as field welds may, at the option of the Contractor, be made in the shop.
- CAMBER:** No cambering of beams is required but the beams shall be so fabricated that any curved beams will be placed with the convex flange up.
- RAILING:** Transition between guard rail height on bridge and approaches shall be made in a distance of 100 ft. from each end of the bridge. Guardrail shall be painted white in accordance with Sec. I-15.07 of the Construction and Material Specifications. Galvanized posts and anchor bolts shall not be painted. Tabulated railing quantity is for the length of railing between the bridge limits. The price per lineal foot of railing includes payment for guardrail, posts, anchors, connections, galvanizing and painting.
- PAINTING,** both shop and field, shall be according to Item 5-8 except that the paint shall be applied by brushing. Spray application will not be permitted.
- BEARING PLATES:** Cast leaded bronze sliding plates and sheet lead are included with structural steel for payment. At sliding plate bearings; upper plate shall be beveled to fit grade; at fixed bearings plate should be similarly beveled.
- DECK CONSTRUCTION PROCEDURE:** Deck shall be placed in sections, between transverse construction joints, in the numerical order and in the direction indicated on the steel framing plan, in order that the major portion of the dead load deflection may occur prior to placing concrete over each pier.
- SURFACE FINISH OF CONCRETE:** Fascia of deck slab shall receive a rubbed surface finish. All other exposed surfaces shall be governed by the provisions of Item 5-1.
- POROUS DRAINS,** extending from face of abutment to elevation 910.0±, shall be placed on and flush with embankment slopes of all four corners of bridge. The drains shall be 4" wide and one foot thick. They shall be centered under edge of deck. They shall be composed of No. 1 or No. 12 gravel, stone, or slag. Construction procedure shall conform essentially to Item I-9. Trench excavation shall be included for payment with the price per cu. yd. bid for "Porous drains on embankment slopes."
- REMOVAL OF EXISTING STRUCTURE:** Existing superstructure shall be removed and become the property of the Contractor, except the floor beams and stringers which shall be stored along the right-of-way for disposal by the State. The substructure shall be removed to at least 6 inches below proposed ground surface and to whatever extent is necessary to avoid interference with new construction. See note on Sheet No. 4.

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

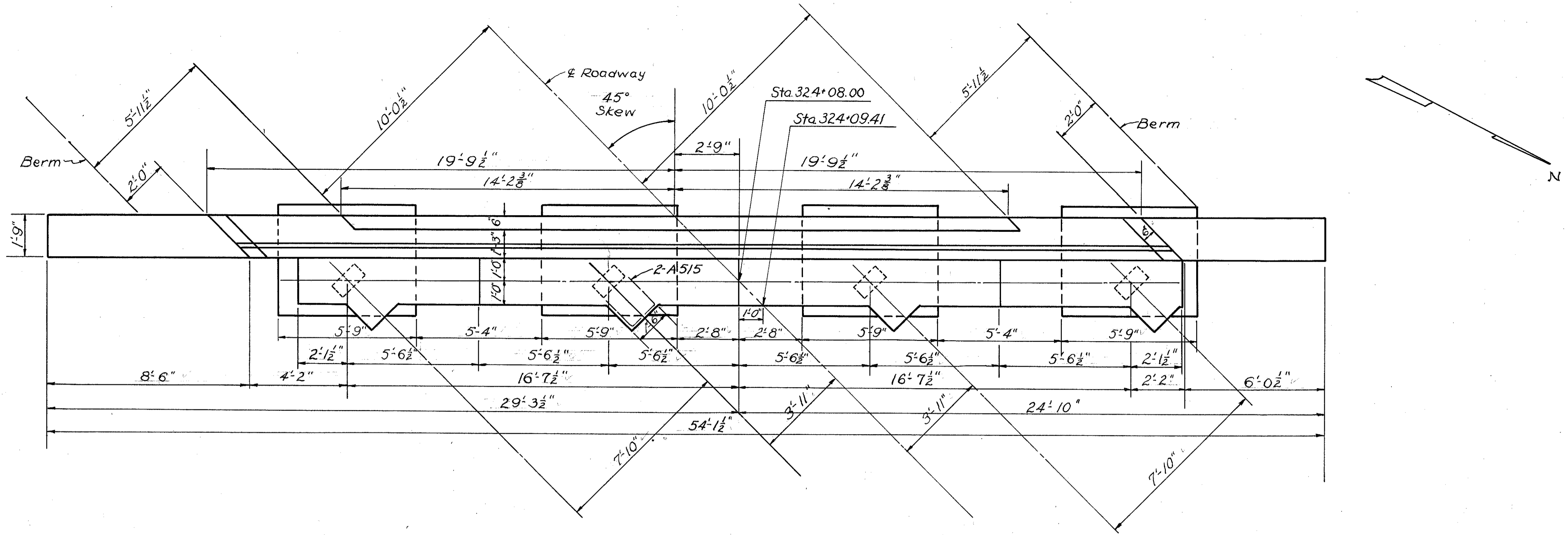
**GENERAL PLAN, ELEVATION,  
NOTES & ESTIMATED QUANTITIES**

BRIDGE NO. H1-247-G1  
OVER OHIO BRUSH CREEK

HIGHLAND COUNTY  
SEC. HIG-247-5.89 STA. 324+60.00

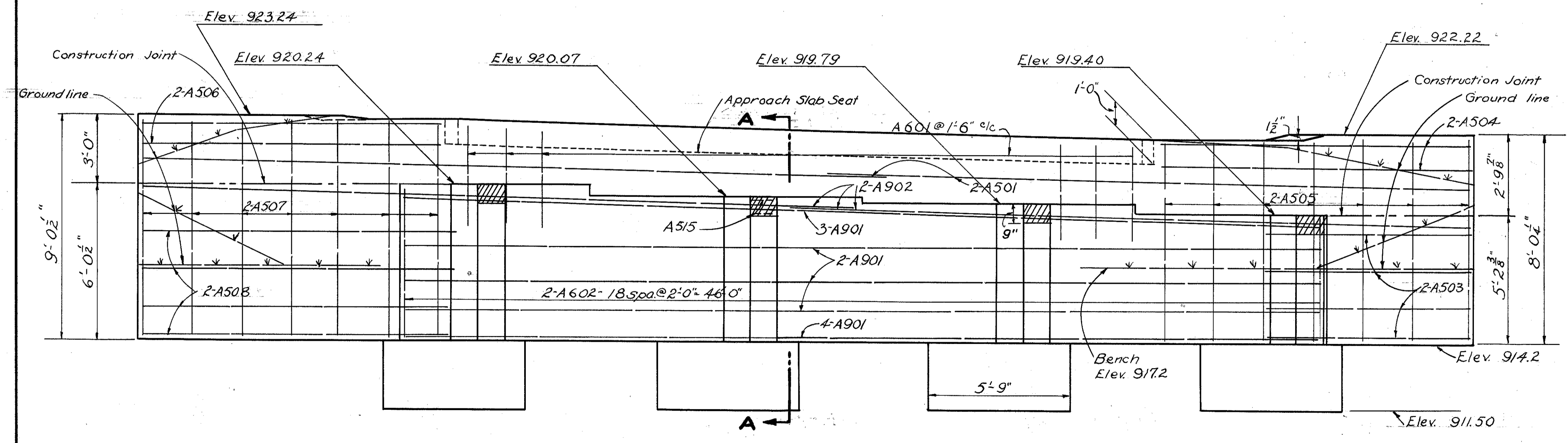
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
G.H.S.	G.H.S.	SA	RAG	BFG	8/27/54	8-27-54

**HIGHLAND COUNTY  
HIG-247-5.89**



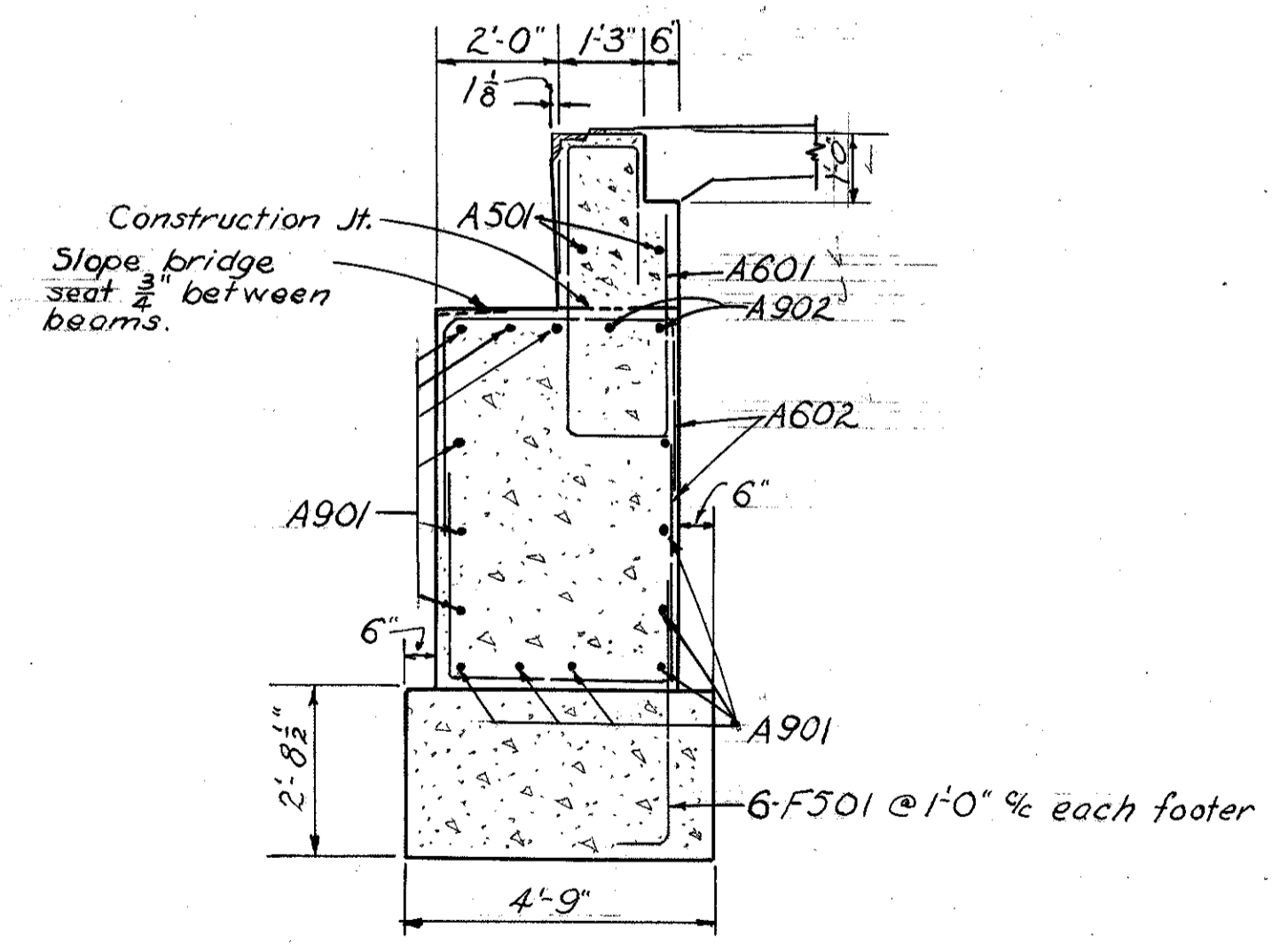
**ABUTMENT PLAN**

**BRIDGE SEAT PROCEDURE:** Concrete above the bridge seat construction joint shall not be placed until after steel work is erected. Steel end finish shall be used as a template for top of back wall.



**ABUTMENT ELEVATION**

See note on Sheet No. 30 regarding shaded areas.



All reinforcing to be 2" clear unless otherwise shown.

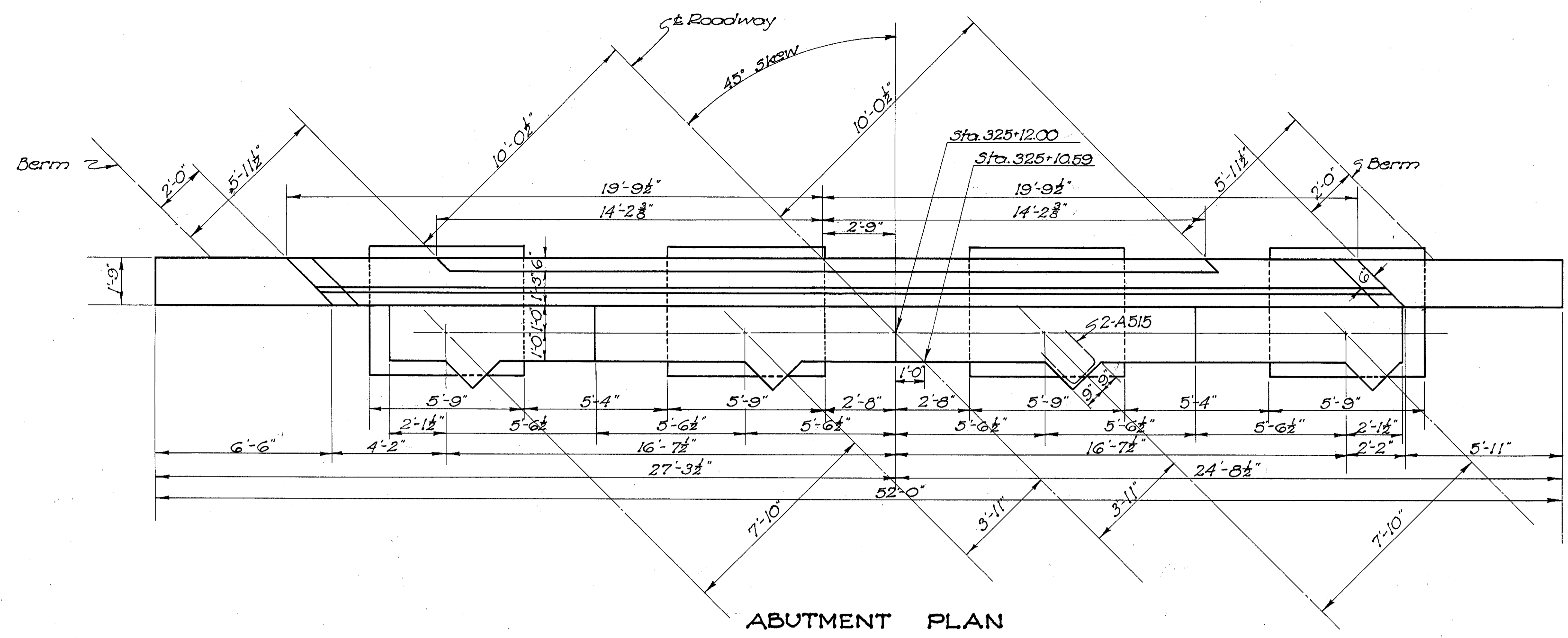
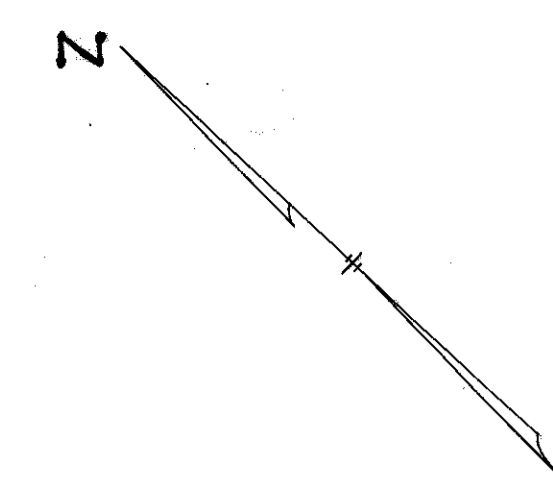
**SECTION A-A**

STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES AND RAILROAD CROSSINGS					
<b>REAR ABUTMENT DETAILS</b>					
<b>BRIDGE NO: HI-247-61</b>					
OVER OHIO BRUSH CREEK					
HIGHLAND COUNTY					
Sec. Hig-247-5.89			Sta. 324+60.00		
DESIGNED	DRAWN	TRAGED	CHECKED	REVIEWED	DATE
C.P.S.	C.P.S.	J.M.	R.A.G.	BFG	8/27/54

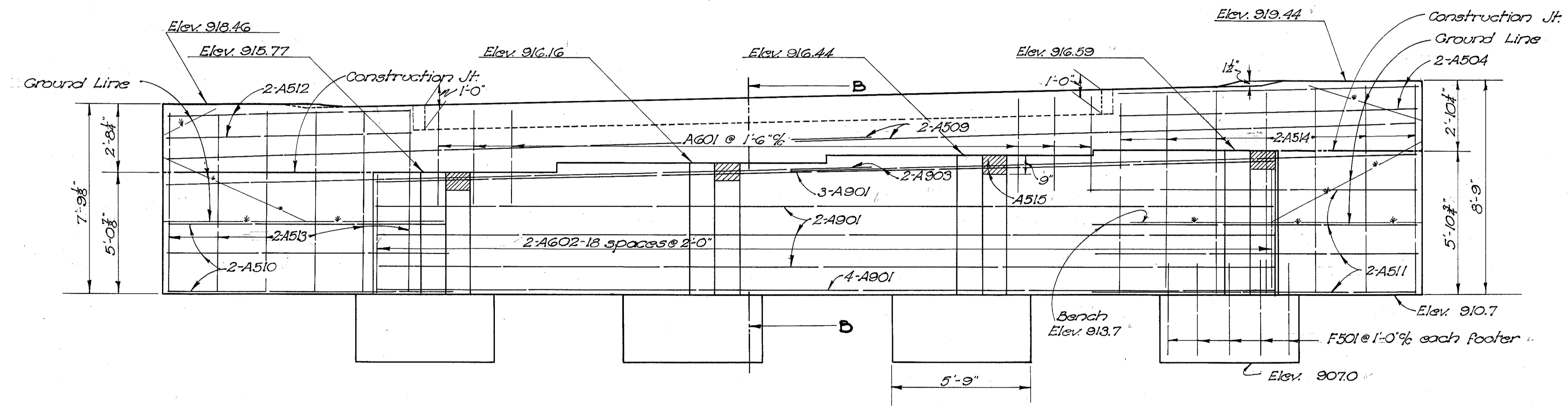
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	State	

30  
36

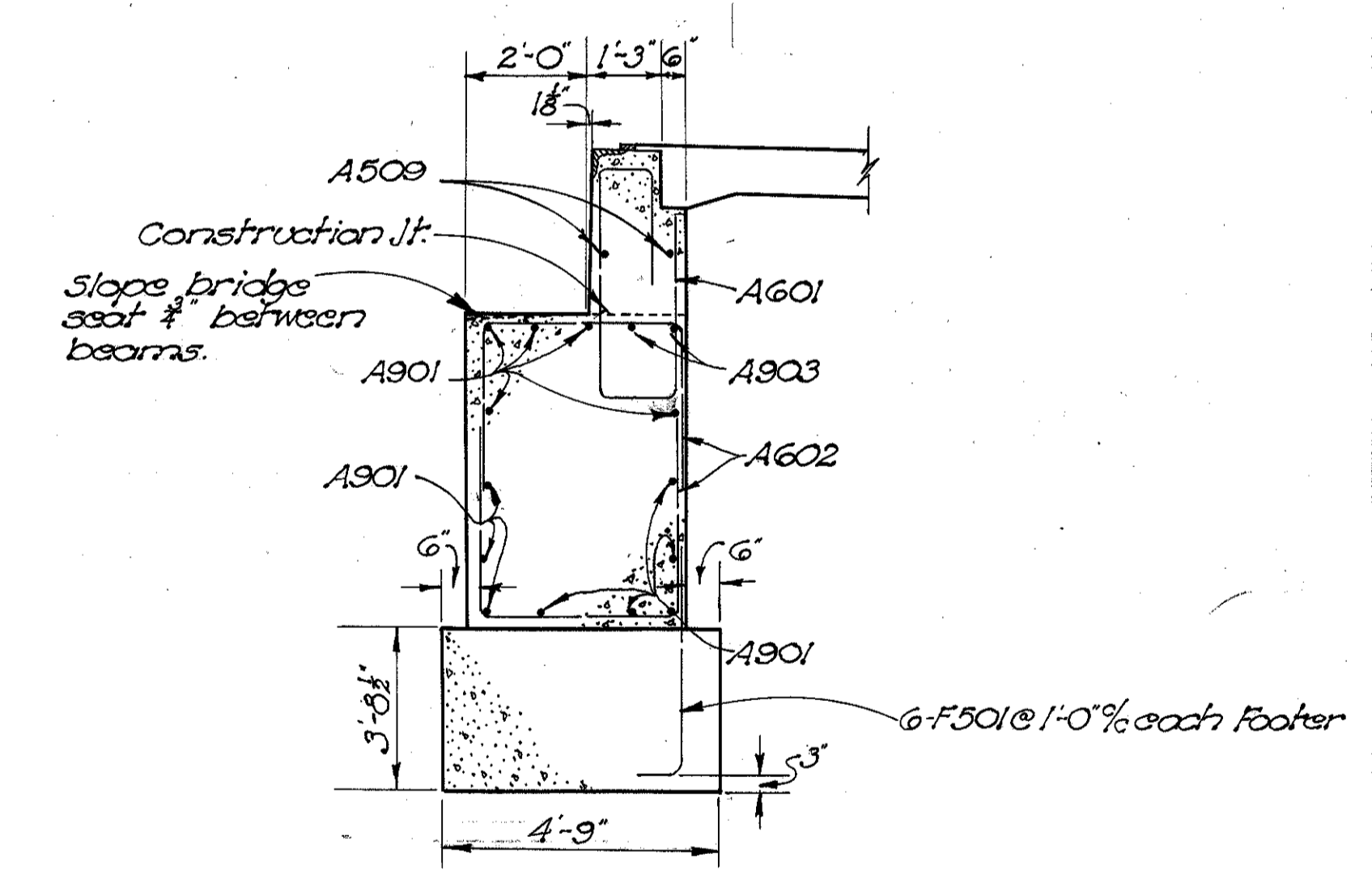
HIGHLAND COUNTY  
HIG-247-5.89



ABUTMENT PLAN



ABUTMENT ELEVATION



SECTION B-B  
(All reinforcing to be 2" clear unless otherwise shown.)

NOTE:  
Shaded areas on abutments (3"x1'-6" centered at each stringer) shall be finished with particular care, to provide plane surfaces at right angles with the grade of the structure, insuring full bearing for bumper angles.  
See Sheet No. 29 for Bridge Seat Procedure.

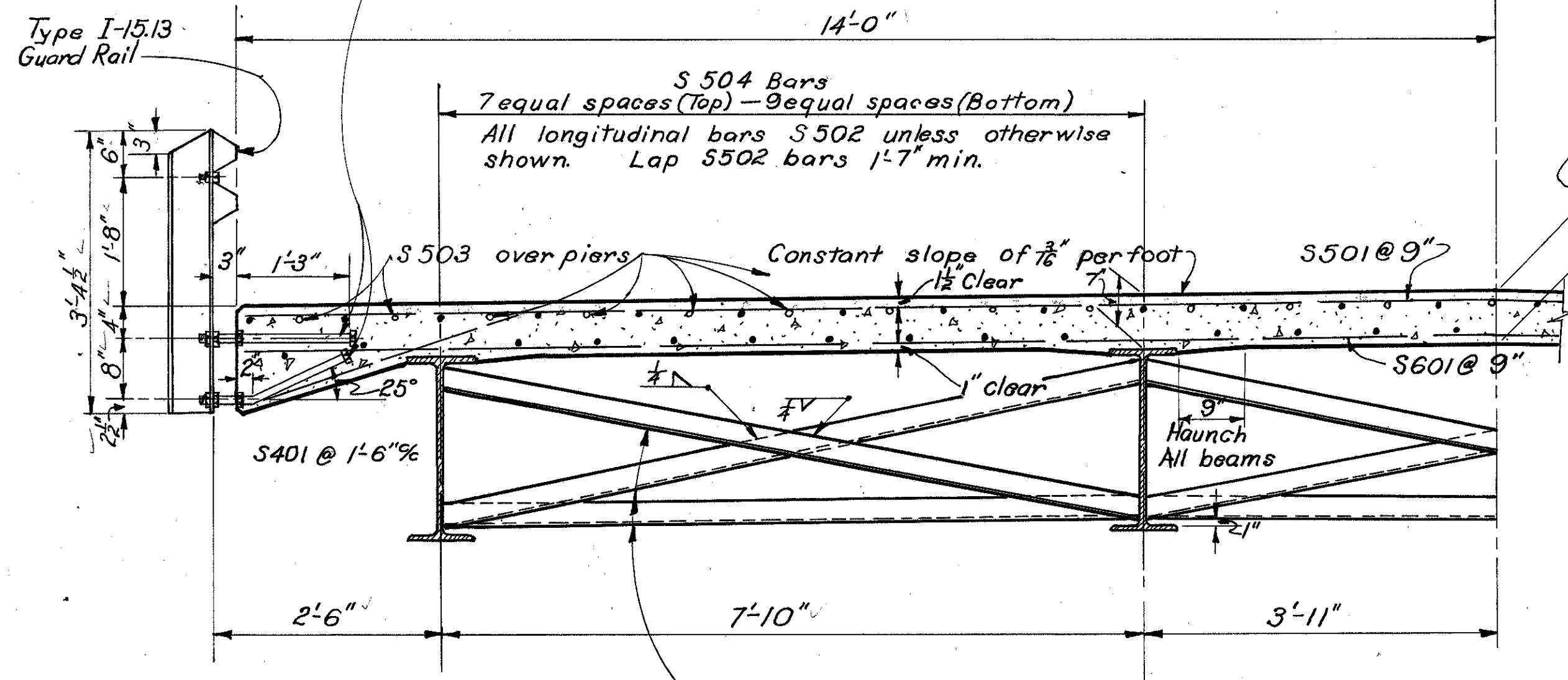
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES AND RAILROAD CROSSINGS						
<b>FORWARD ABUTMENT</b>						
BRIDGE No. HI-247-61 OVER OHIO BRUSH CREEK						
HIGHLAND CO. SEC. HIG-247-5.89 STA. 324+60.00						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.H.S.	E.H.S.	R.G.E.	R.A.G.	B.F.G.	9/27/54	



**HIGHLAND COUNTY  
HIG-247-5.89**

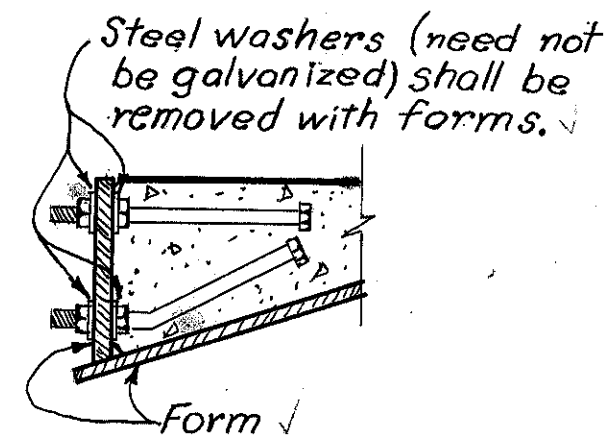
1/4"x20" galvanized machine bolts with square heads. Thread 8" length and provide three galvanized hexagonal nuts per bolt. Fasten bolts rigidly to form before placing concrete. See detail "A".

Symmetrical about  $\epsilon$  Roadway

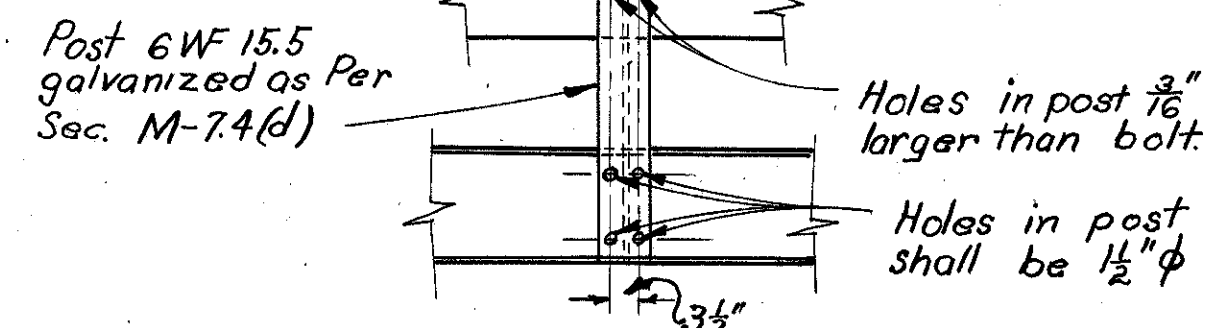


Intermediate crossframe Ls 3"x3"x5/16". Weld both sides of vertical leg, and top side of horizontal leg to beam with 1/4" continuous fillet weld.

**TRANSVERSE HALF SECTION**

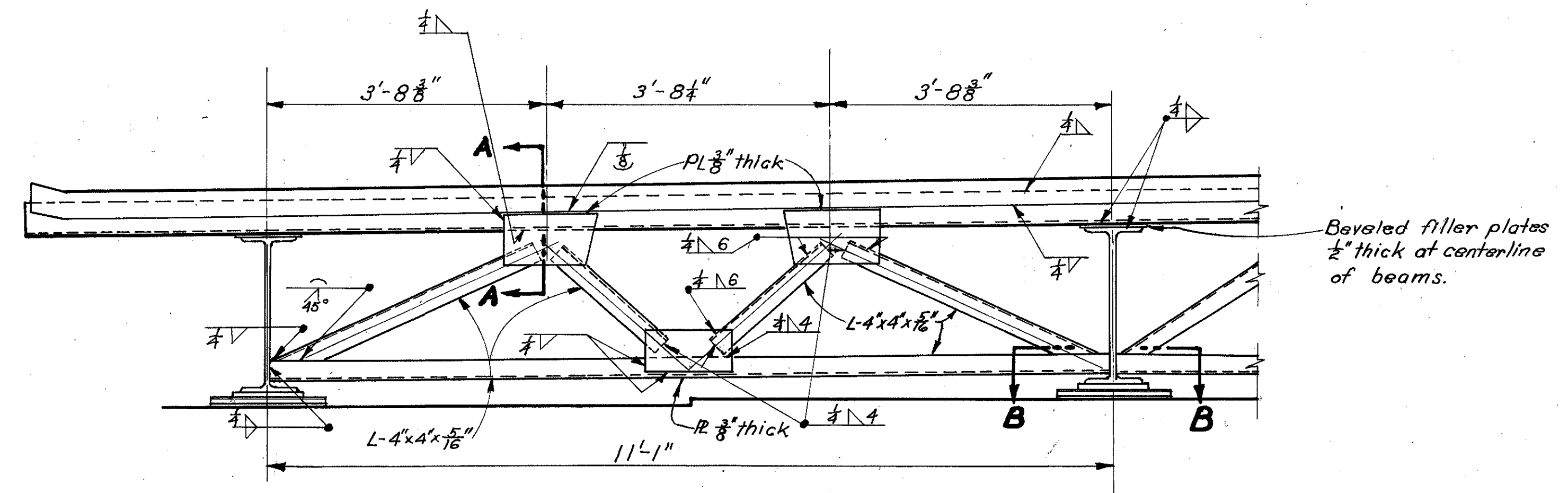


**DETAIL A**

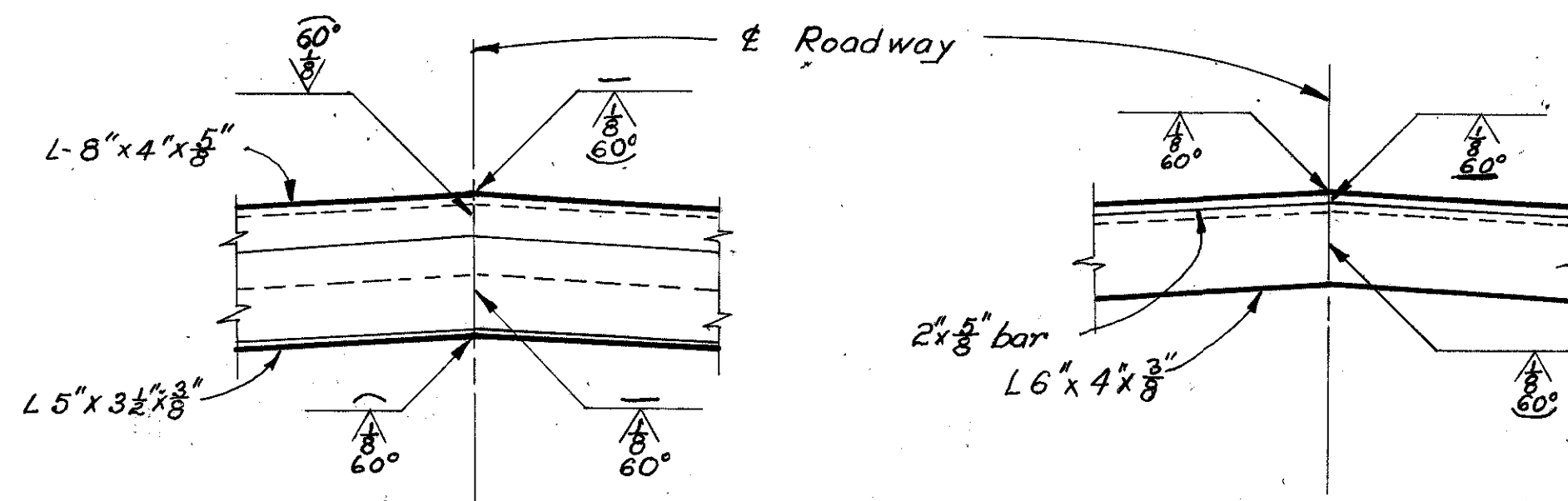


**ELEVATION of RAILING POST**

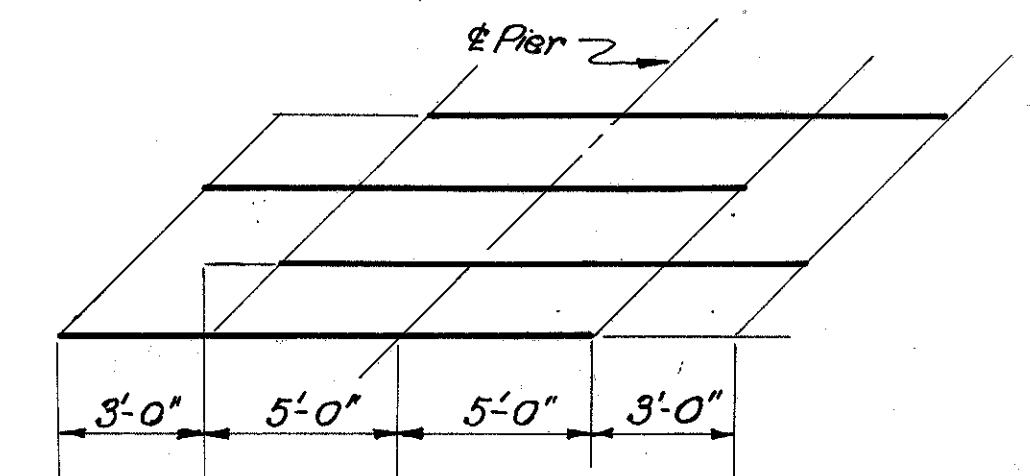
7" Slab Thickness includes 1/2" Monolithic Wearing Surface.



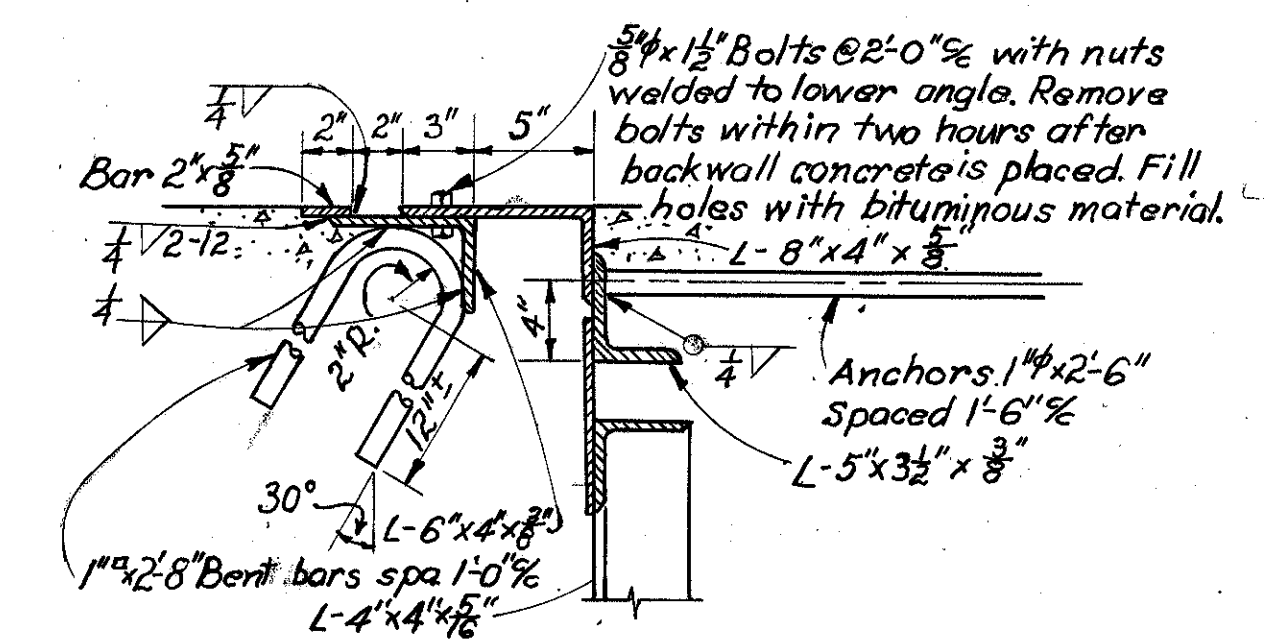
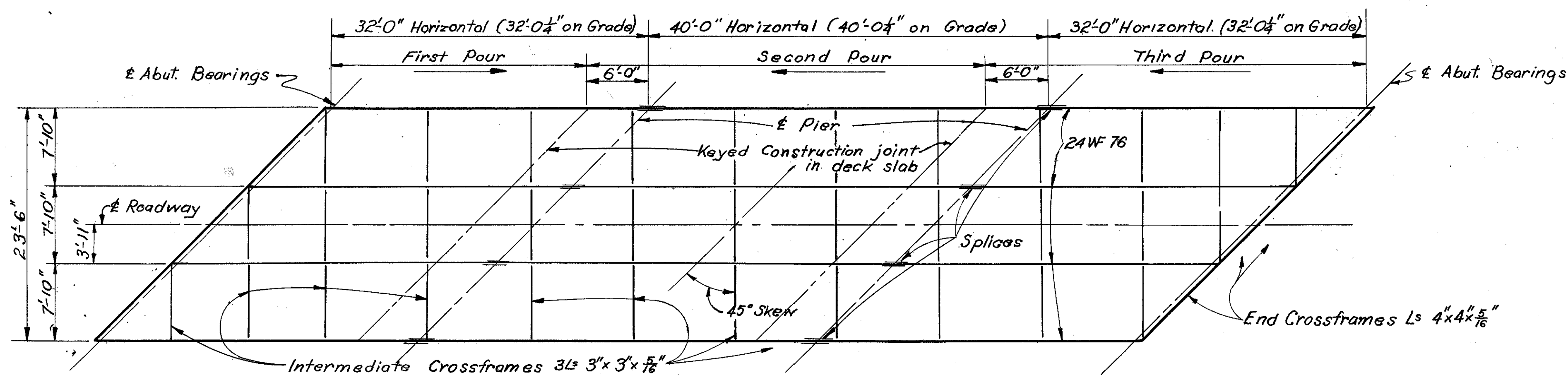
**END CROSSFRAMING**



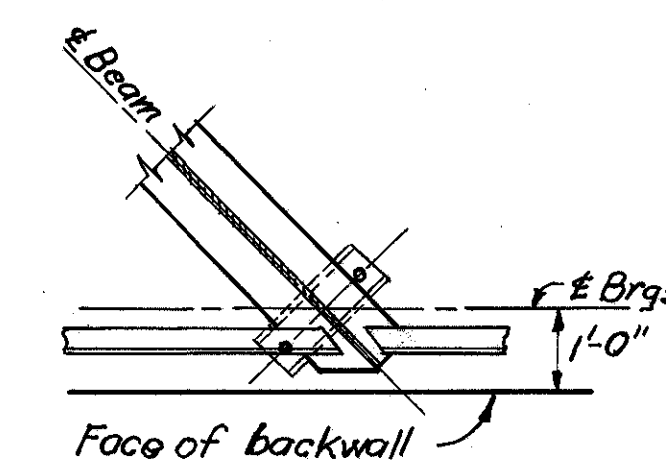
**WELD BUTT JOINT  
IN END FINISH AT  $\epsilon$  ROADWAY**



**DIAGRAM SHOWING STAGGER  
OF S503 BARS OVER PIERS**

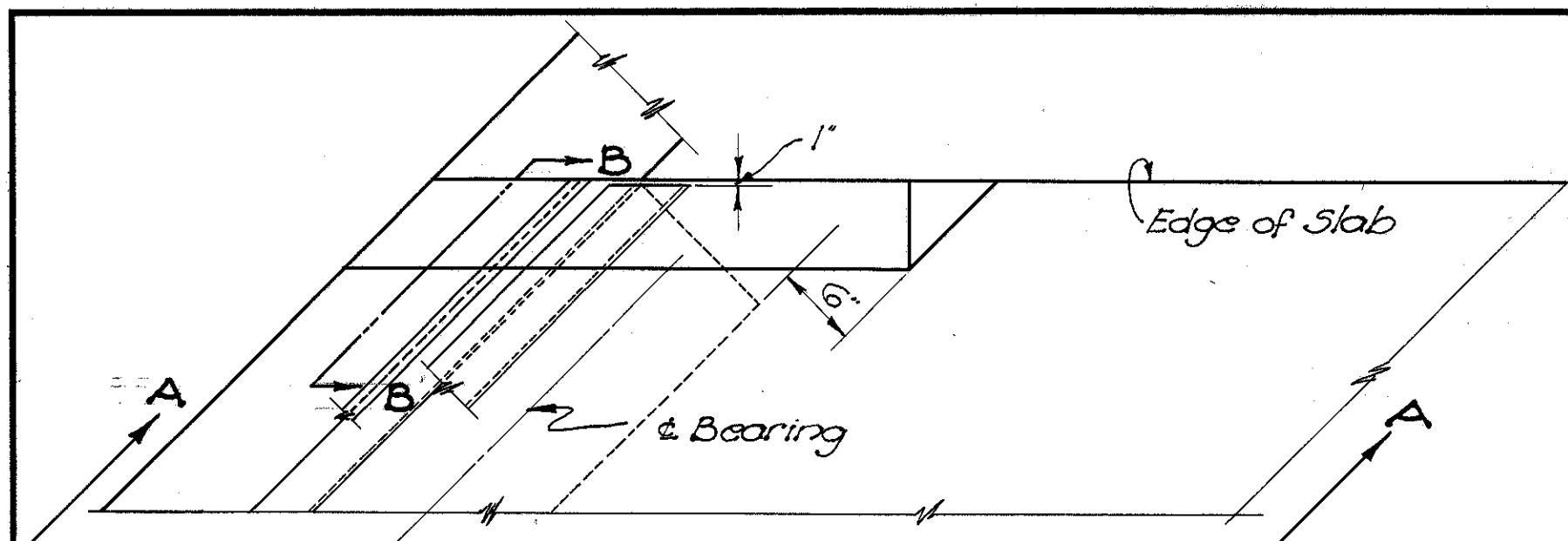


**SECTION A-A**

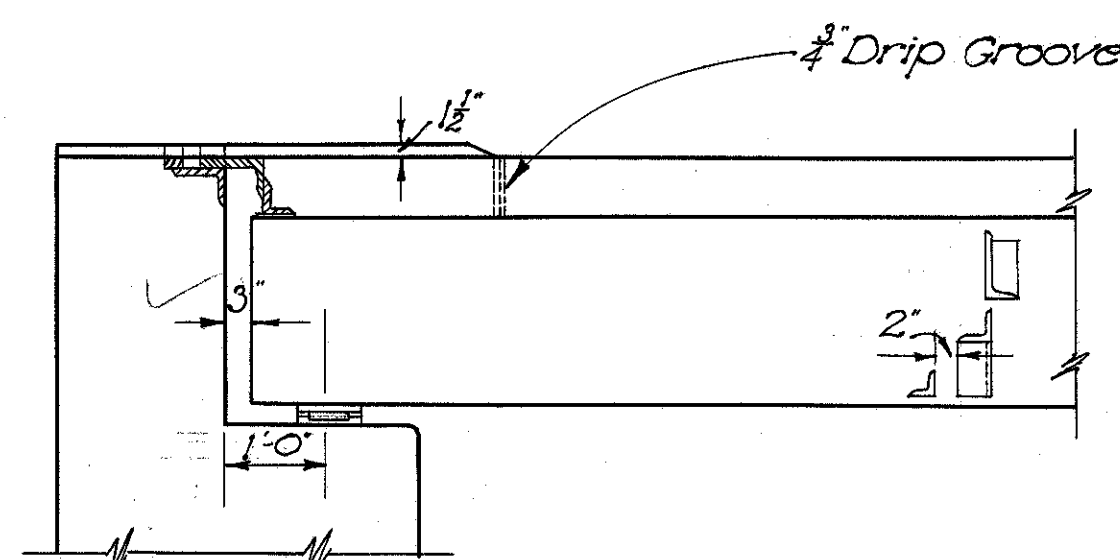


**SECTION B-B**

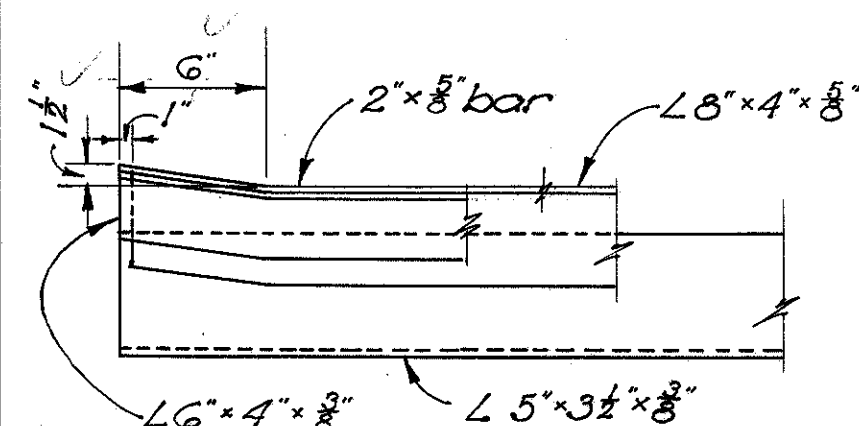
STATE OF OHIO DEPARTMENT OF HIGHWAYS BUREAU OF BRIDGES AND RAILROAD CROSSINGS			
<b>SUPERSTRUCTURE DETAILS BRIDGE No HI-247-6J OVER OHIO BRUSH CREEK</b>			
HIGHLAND COUNTY SEC. HIG-247-5.89		STA 324+60.00	
DESIGNED B.R.S.	DRAWN B.R.S.	TRACED B.D.H.	CHECKED R.A.G.
REVIEWED B.F.G.	DATE 8/27/54	REVISIONS	



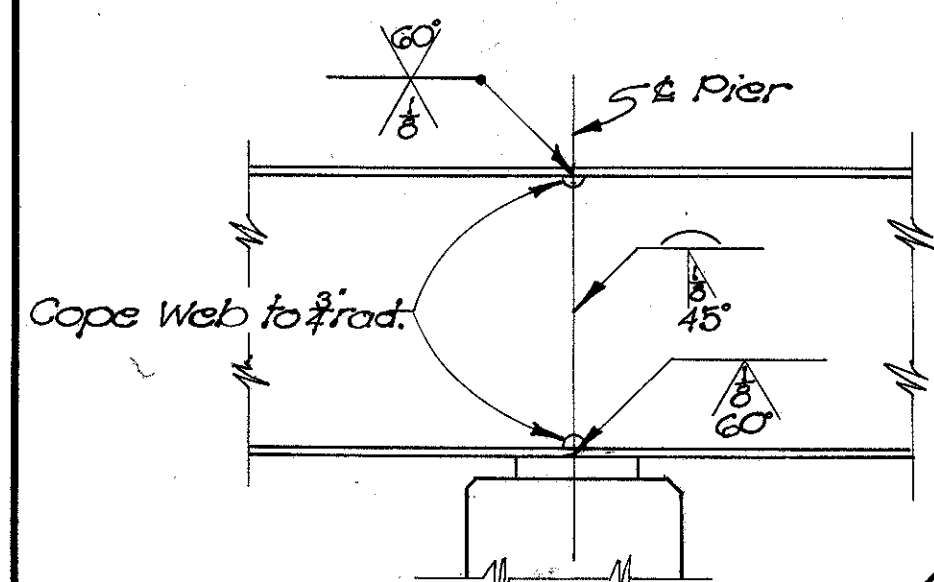
PART ABUTMENT PLAN  
Railing not shown.



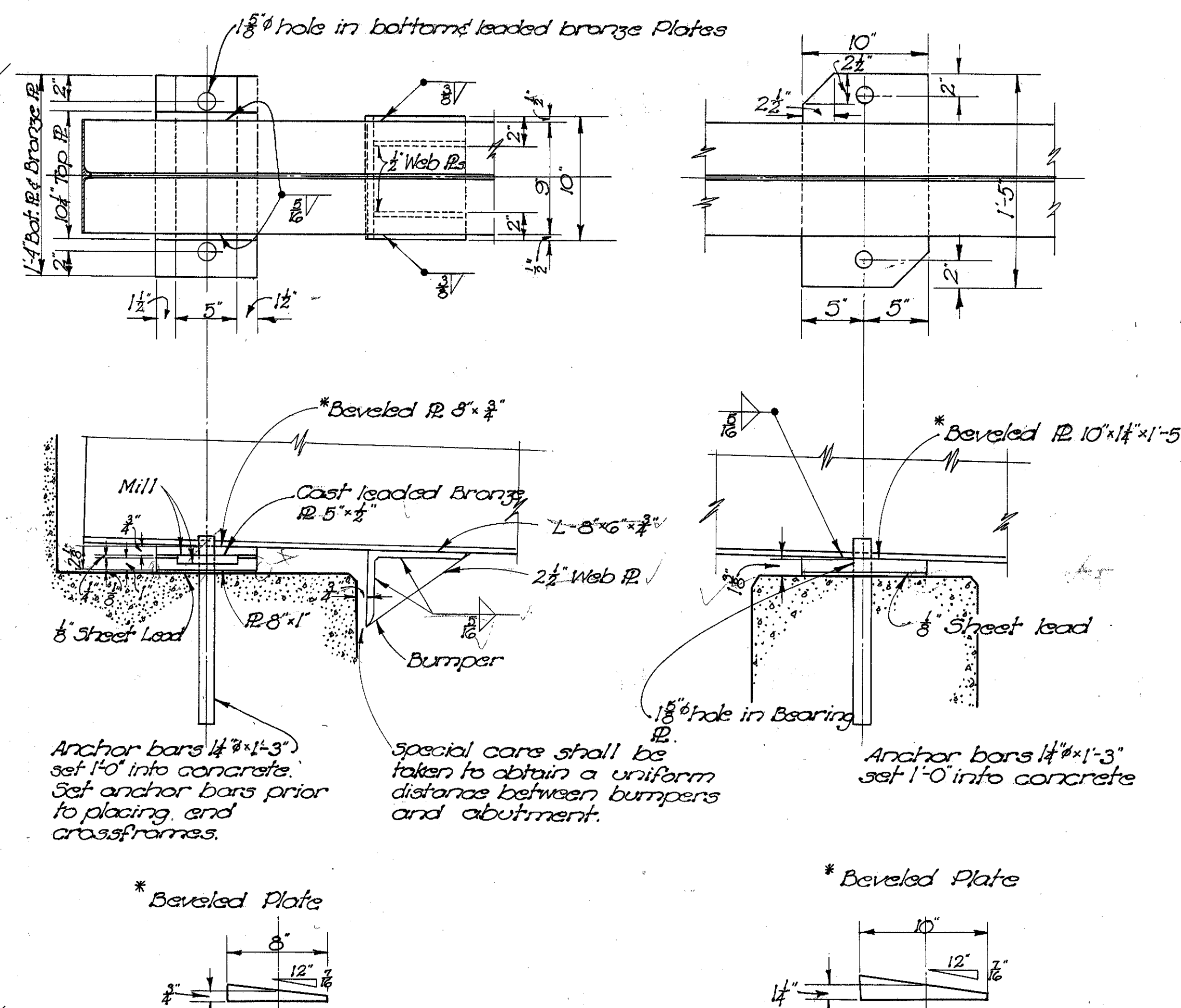
SECTION A-A



SECTION B-B

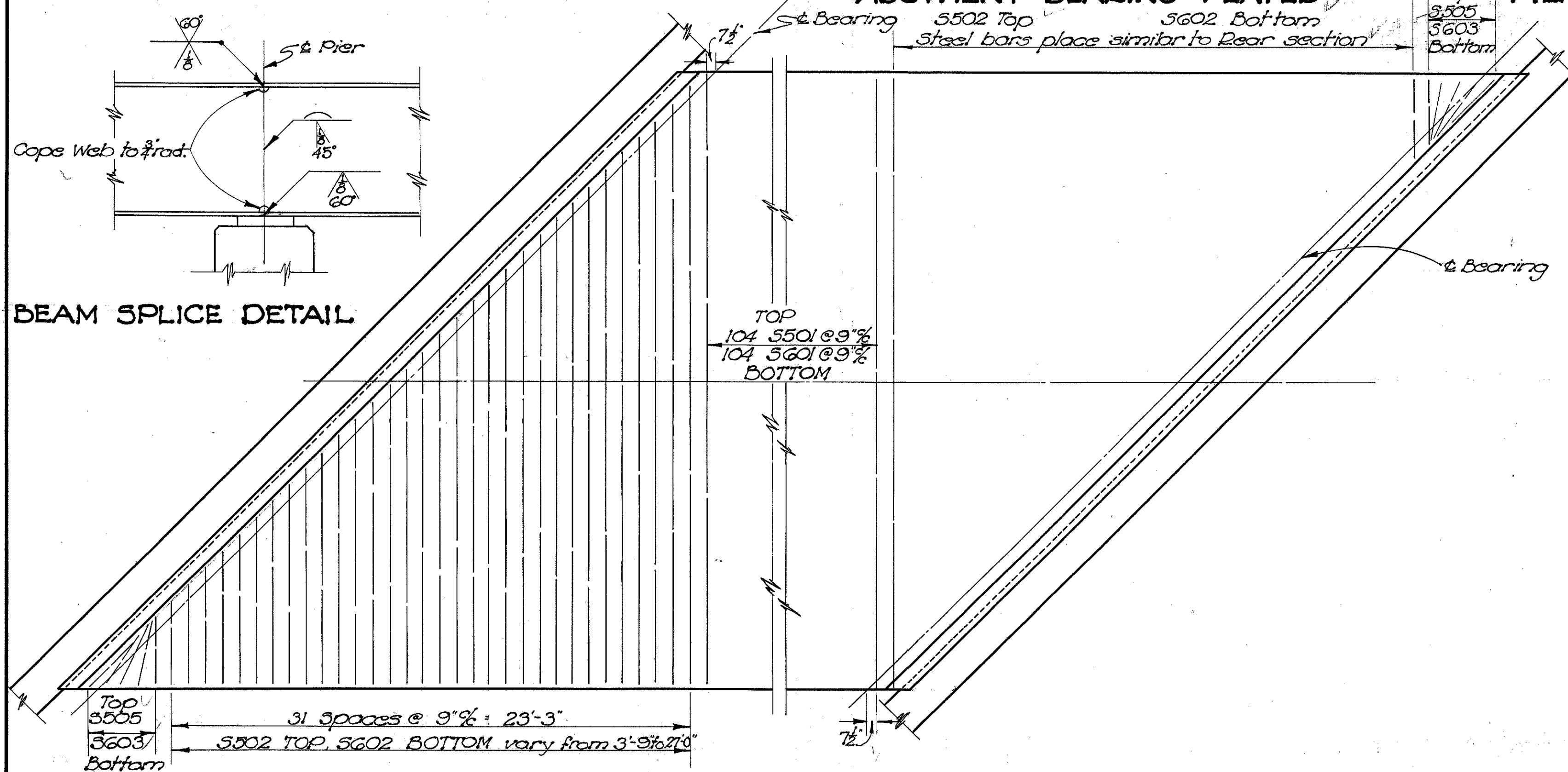


BEAM SPLICE DETAIL



ABUTMENT BEARING PLATES

PIER BEARING PLATES



TRANSVERSE SLAB STEEL

REINFORCING STEEL LIST					BENDING DIAGRAM	
MARK NO.	LENGTH	WEIGHT	SHR.			
<b>ABUTMENTS</b>						
A901	26	37'-2"	3286	S		
A902	4	28'-3"	384	S		
A903	4	27'-2"	368	S		
A601	38	12'-5"	708	B		
A602	76	10'-2"	1159	B		
A501	4	27'-6"	115	S		
A503	6	8'-0"	50	S		
A504	8	12'-6"	104	S		
A505	14	7'-6"	109	S		
A506	4	12'-0"	50	S		
A507	14	8'-6"	124	S		
A508	8	12'-9"	106	S		
A509	4	26'-6"	111	S		
A510	6	10'-0"	63	S		
A511	8	7'-6"	63	S		
A512	4	10'-0"	42	S		
A513	12	7'-4"	92	S		
A514	14	8'-2"	119	S		
A515	16	4'-0"	67	B		
F501	48	6'-0"	300	B		
<b>PIERS</b>						
P1101	8	38'-7"	1682	B		
P1102	8	36'-3"	1562	S		
P1001	8	8'-10"	304	S		
P1002	8	9'-2"	316	S		
P1003	16	9'-6"	654	S		
P1004	8	7'-5"	255	S		
P1005	8	7'-10"	270	S		
P1006	8	8'-2"	281	S		
P1007	8	8'-3"	284	S		
P1008	64	8'-0"	2203	B		
P301	38	4'-4"	518	B		
<b>SUPERSTRUCTURE</b>						
S601	104	27'-8"	4322	S		
S602	2152	Varies from 3'-9" to 27'-0"	1478	S	9' increments	
S603	10	3'-0"	45	S		
S501	104	27'-8"	3001	S		
S502	2152	Varies from 3'-9" to 27'-0"	1026	S	9' increments	
S505	10	3'-0"	31	S		
S504	162	36'-0"	6083	S		
S503	50	16'-0"	894	S		
S401	142	3'-0"	285	S		
<b>REPLACEMENT STEEL</b>						
RE1101	1	7'-7"	40	S		
RE1001	1	7'-3"	31	S		
RE901	1	6'-10"	23	S		
RE601	1	5'-11"	9	S		
RE501	1	5'-8"	6	S		
RE301	1	4'-11"	2	S		

NOTE:  
In the reinforcing steel bar marks the first digit of a three digit numeral or the first two digits of a four digit numeral indicate the bar size number.

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
BUREAU OF BRIDGES AND RAILROAD CROSSINGS

**SUPERSTRUCTURE DETAILS**  
**REINFORCING STEEL LIST**

BRIDGE NO. HI-247-61  
OVER OHIO BRUSH CREEK  
HIGHLAND CO.  
SEC. HIG-247-5.89 STA. 324+60.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
E.P.S.	E.P.S.	R.G.B.	R.A.G.	B.F.G.	8/21/54	