

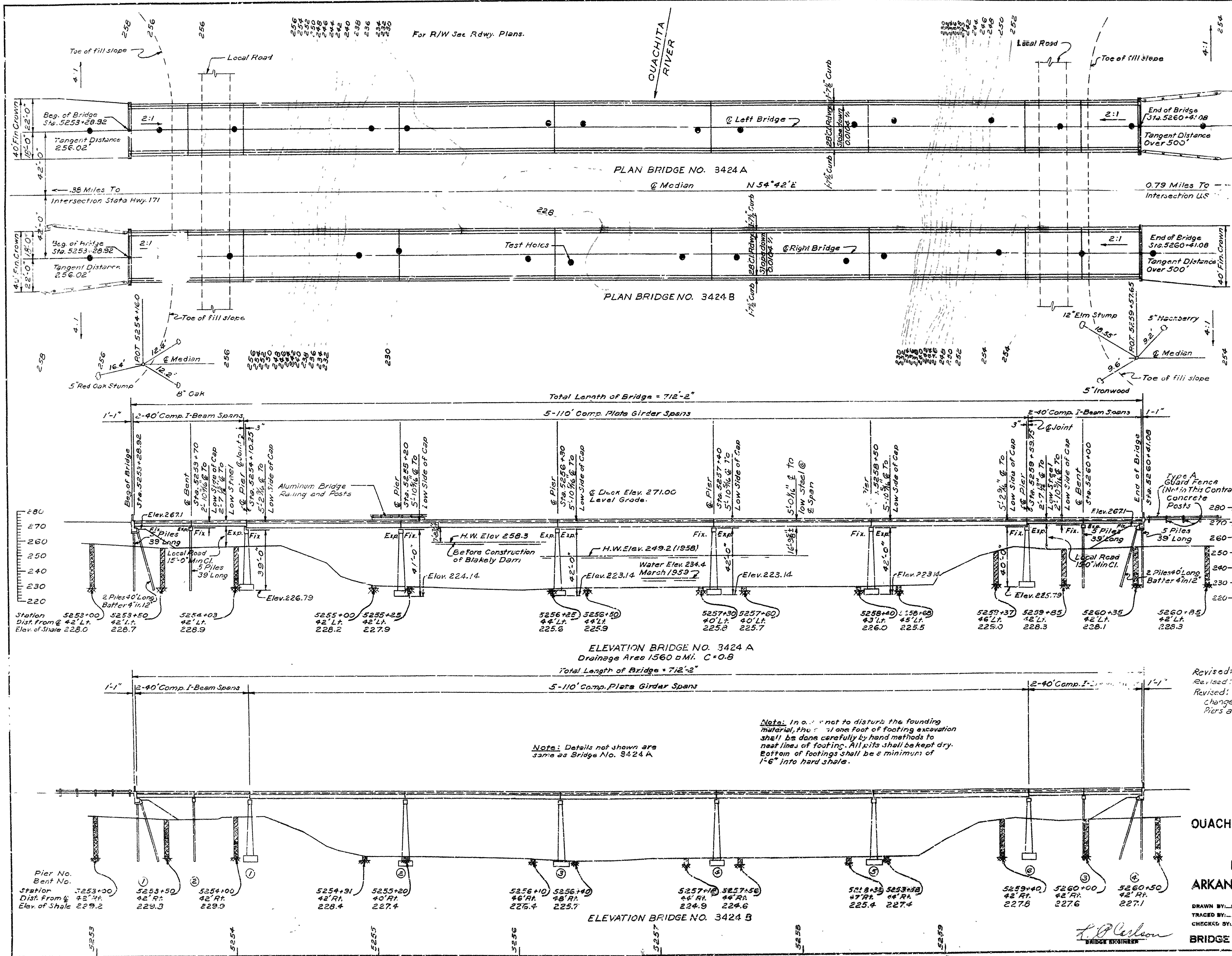
SUMMARY OF QUANTITIES - JOB NUMBER 6721

BRIDGE NAME PLATE TITLE	BRIDGE No.	CODE NO.	ITEM No.	801	801	SP & 802	SP & 802	803	804	SP & 805	SP & 806	SP & 806	SP & 806	812
			UNIT OF BRIDGE	Common Excavation for Structures	Rock Excavation for Structures	Class A Concrete	Class S Concrete	Reinforcing Steel	Steel Bearing Piling 12 BP53	Aluminum Bridge Railing	Structural Steel in Beam Spans	Structural Steel in Plate Girder Spans (Carbon Steel)	Structural Steel in Plate Girder Spans (Low Alloy)	Bridge Nails Plates (Type C)
			UNIT	Cu. Yd.	Cu. Yd.	Cu. Yd.	Cu. Yd.	Lb.	Lin. Ft.	Lin. Ft.	Lb.	Lb.	Lb.	Plate
OUACHITA RIVER	3424A	X031	End Bents 1 & 4	66			26.02	3,550	550		1,464			1
			Bents 2 & 3				12.28	2,350	390					
			Piers 1 & 6	598	34	160.70		11,718						
			Piers 2, 3, 4, & 5	145	85	414.70		27,636						
			Spans 1, 2, 8, & 9				129.20	26,132		320	91,906			
			Spans 3, 4, 5, 6, & 7				459.90	97,454		1,100		79,880	395,160	
			Total Bridge No. 3424A	809	119	575.40	627.40	168,540	940	1,420	93,370	79,880	395,160	1
			End Bents 1 & 4	66			26.02	3,550	550		1,464			1
	3424B	X031	Bents 2 & 3				12.28	2,050	390					
			Piers 1 & 6	598	34	160.70		11,718						
			Piers 2, 3, 4, & 5	145	85	414.70		27,636						
			Spans 1, 2, 8, & 9				129.20	26,132		320	91,906			
			Spans 3, 4, 5, 6, & 7				459.90	97,454		1,100		79,880	395,160	
			Total Bridge No. 3424B	809	119	575.40	627.40	168,540	940	1,420	93,370	79,880	395,160	1
			Total Job 6721	1,618	238	1,150.80	1,254.80	337,080	1,880	2,840	186,740	159,760	790,320	2

Revised due to change in pier height.
11-17-61. FAH. Chk. GNR

SUMMARY OF BRIDGE QUANTITIES
OUACHITA RIVER BRIDGE AND APPROACHES
HOT SPRING COUNTY
INT. ROUTE 30 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: C.E.V. DATE: 6-5-61
TRACED BY: DATE: SCALE:
CHECKED BY: E.R.P. DATE: 2-26-61
BRIDGE NO. 3424 A & B DRAWING NO. 11203 A

BRIDGE ENGINEER



GENERAL NOTES

8M-RR Spike in 8" Stump 30' Lt. Sta. 5254+00 Elev. 258.67.

For Details of Superstructure See Drwg. Nos. 5462, 5477, & 11215.

For Details of Substructure See Drwg. Nos. 5411A & 11214.

All piling shall be 12 BP 53 steel bearing pile, driven to refusal or to a minimum depth of two feet into the material designated as hard shale on the boring logs with a minimum bearing capacity of 36 tons per pile.

Lengths of piling shown are assumed for estimating quantities only. Actual lengths to be determined in the field. Order lengths shown. Cut-off or build-up, if necessary, to be paid for in accordance with Sect. 204 of the Specifications. All piling to be driven with a steam hammer after submergence is in place.

Loading: H20-S16 AASHO 1951 and Special Interstate Loading of 2-24,000*Axles 4' on Centers.

Stresses: Class A Concrete (f_c=15) 840 psi
Class B Concrete (f_c=10) 1200 psi
Reinforcing Steel 20,000 psi
Structural Steel (ASTM-A7) 18,000 psi
(ASTM-A242) 3/4" & under 27,000 psi
over 3/4" to 1 1/2" incl. 24,000 psi
over 1 1/2" to 1 1/2" incl. 22,000 psi

Foundation Pressure: 6500 p.s.f. D.L. + L.L.
Specifications: Arkansas State Highway Commission Standard Specifications for Highway Construction, Adopted Dec. 9, 1959.

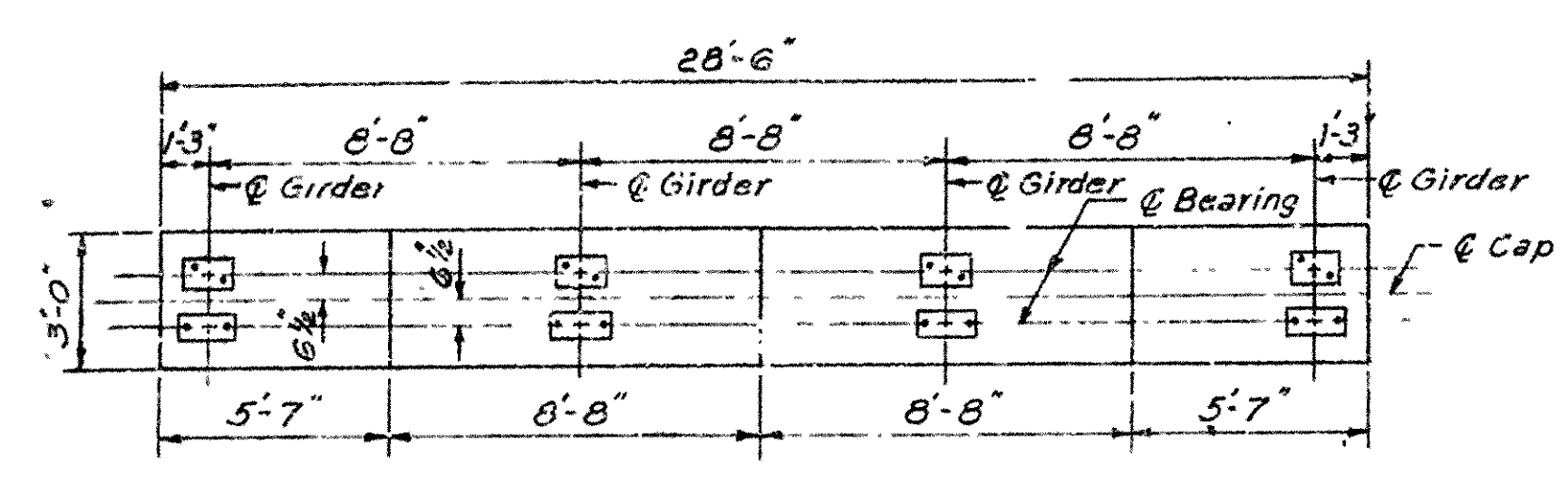
SOIL LEGEND

- Sandy Clay and Gravel with Boulders or Thin Layers of Rock
- Gravel and Boulders
- Sandy Clay
- Hard Shale

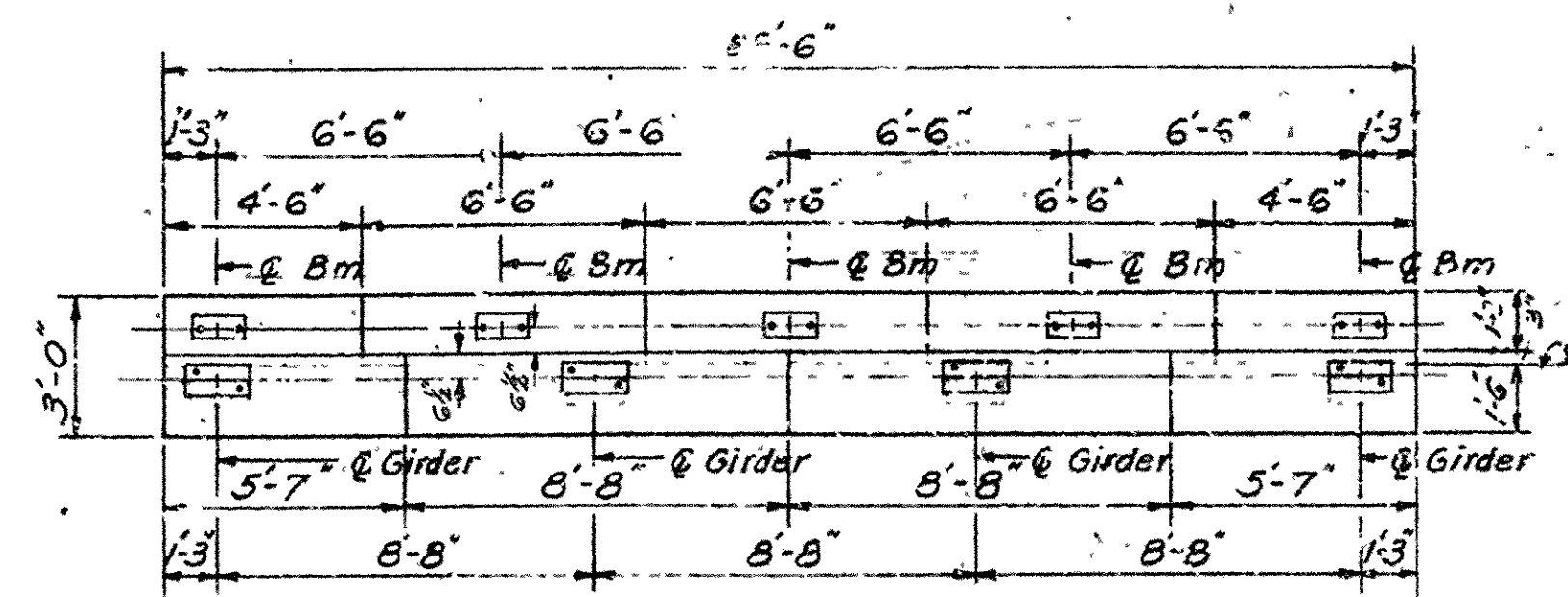
Revised: Guard Fence. W.E.W. 4-20-60
Revised: Bridge Railing C.S.V. 10-8-60
Revised: Dimension E to low side of cap changed to agree with details. Height of Piers and elevation of footing altered. F.M.H. 11-16-61, J.H.C. 11-16-61

**LAYOUT OF BRIDGE
OVER OUACHITA RIVER
OUACHITA RIVER BRIDGE & APPROACHES
HOT SPRING COUNTY
INT. ROUTE 30 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: L.H.T. DATE: 4-30-59
CHECKED BY: J.M. DATE: 6 MAY 60
BRIDGE NO. 3424 A&B DRAWING NO. 11205**

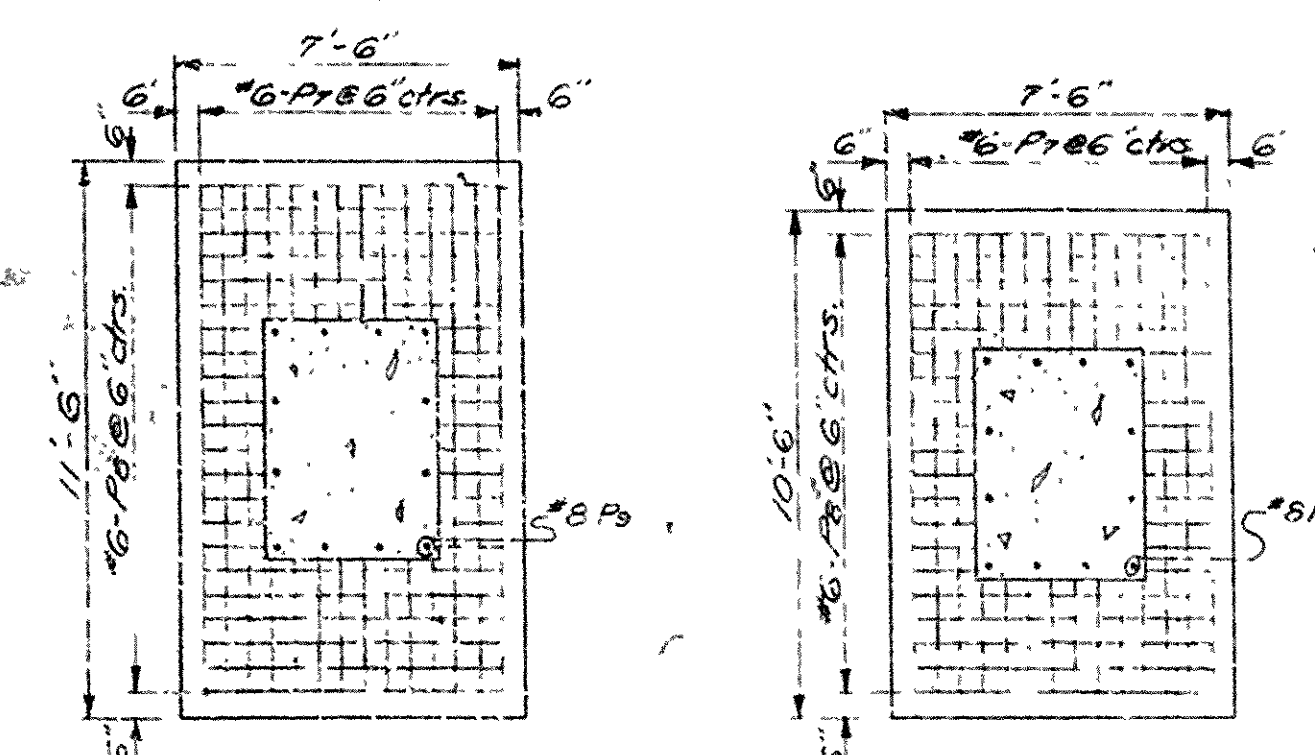
FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS
6	ARK.	330-2(56)B6	6	44
JOB NO.	6721			



PLAN OF CAP-PIERS 2-5



PLAN OF CAP-PIERS 1&6



PIERS No. 2-5

PIERS No. 1&6

PLAN OF FOOTINGS

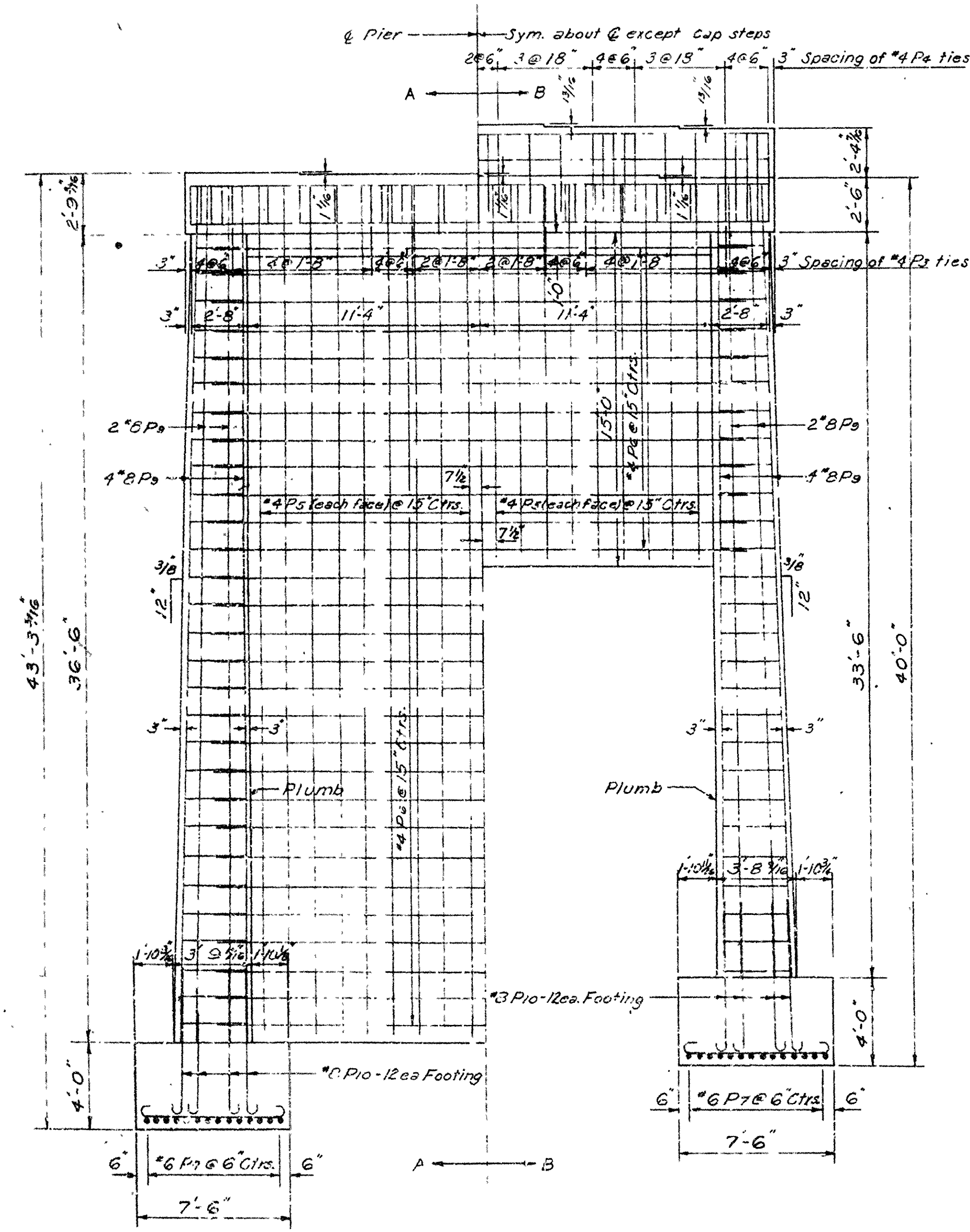
BAR LIST-ONE PIER

MARK	SIZE	NUMBER	LENGTH	A	B	PIN DIA.
CT-29	#4	2	12'-11"	11'-0"	6'-0"	1 1/2"
CT-29	#4	2	16'-2"	4'-5"	3'-4"	1 1/2"
CT-29	#4	2	16'-5"	4'-6"	3'-5"	1 1/2"
P1	#6	8	28'-2"	-	-	Str.
P2	#4	4	28'-2"	-	-	Str.
P3	#4	29	10'-1"	2'-7 1/2"	2'-1 1/2"	1 1/2"
P4	#4	33	8'-6"	3'-10"	10'-6"	1 1/2"
P5	#4	36	38'-7"	-	-	Str.
P6	#4	36	17'-1"	-	-	Str.
P7	#4	24	26'-0"	-	-	Str.
P8	#6	28	12'-5"	11'-0"	6'-0"	4 1/2"
P9	#6	28	11'-5"	10'-0"	6'-0"	4 1/2"
P10	#6	44	8'-5"	7'-0"	6'-0"	4 1/2"
P11	#6	40	8'-5"	7'-0"	6'-0"	4 1/2"
P12	#8	24	38'-9"	-	-	Str.
P13	#8	24	35'-9"	-	-	Str.
P14	#8	24	8'-1"	6'-1 1/2"	9'-8"	8"

BENDING DIAGRAM

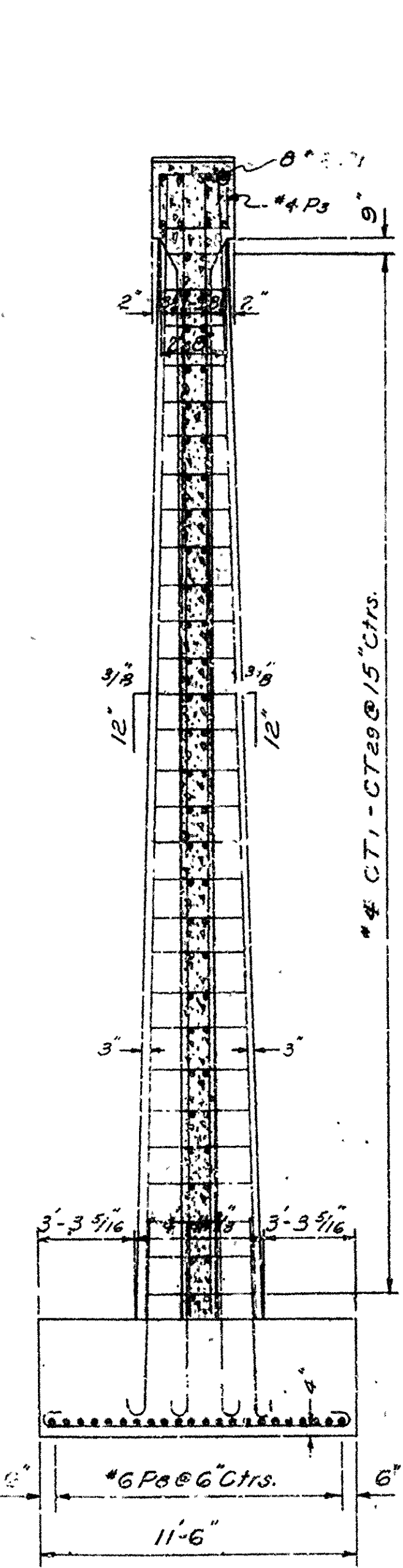
All dimensions are C to C of bars.

110' SPAN - FIXED SHOE - PIERS 1&6
Scale: 1/2" = 1'-0"

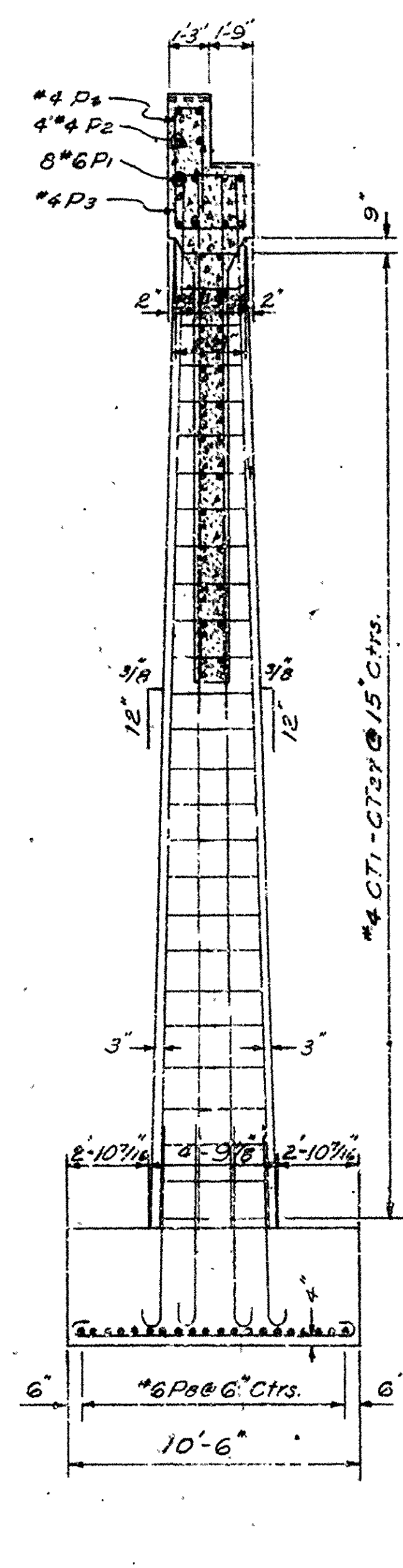


HALF ELEVATION PIERS 2-5

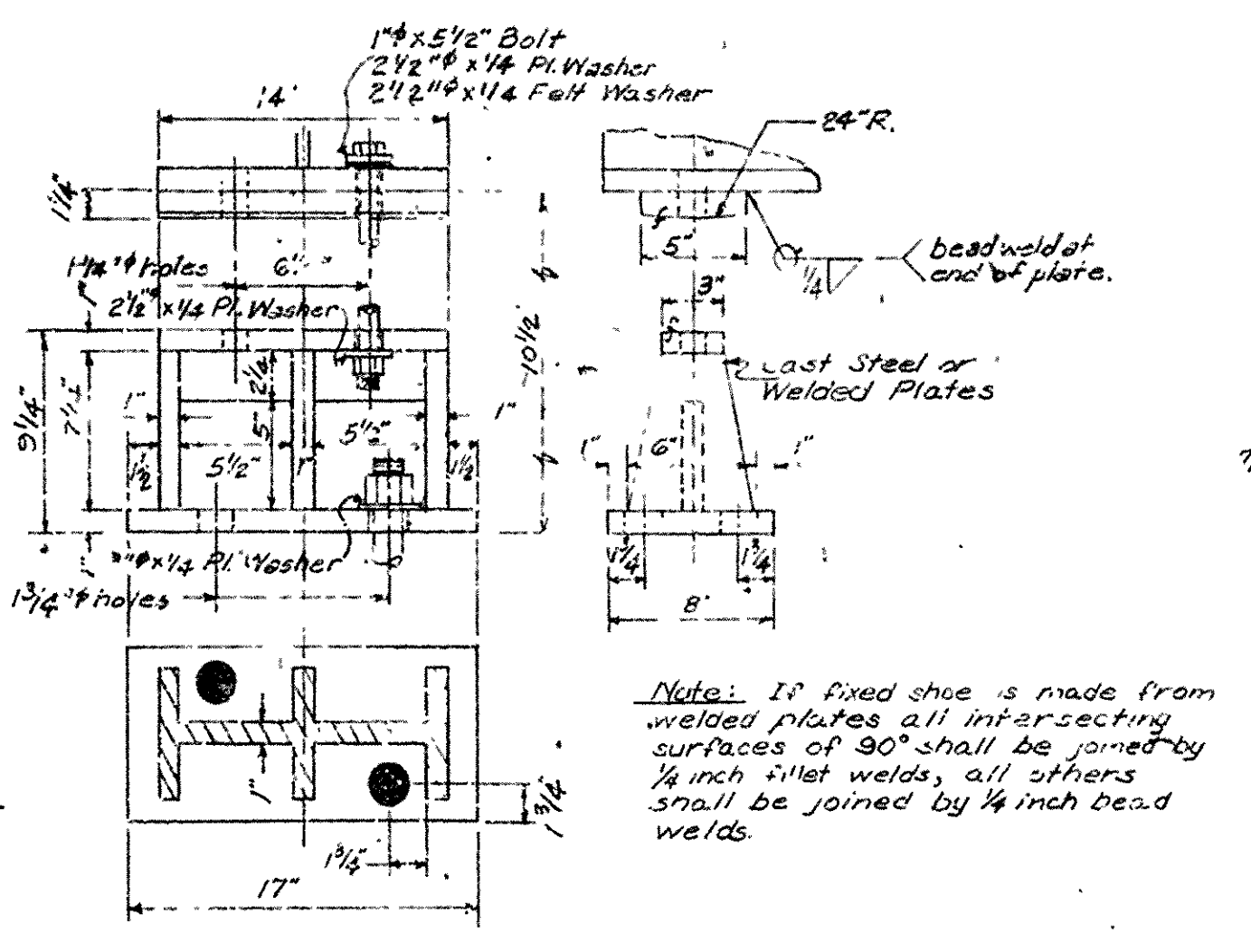
HALF ELEVATION PIERS 1&6



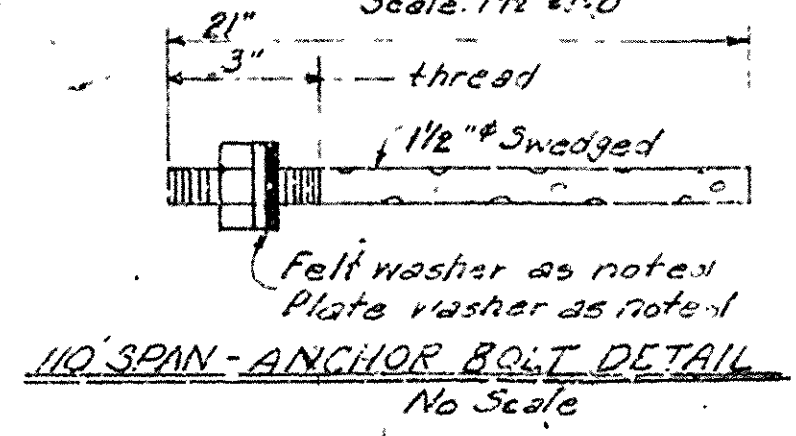
SECTION A-A



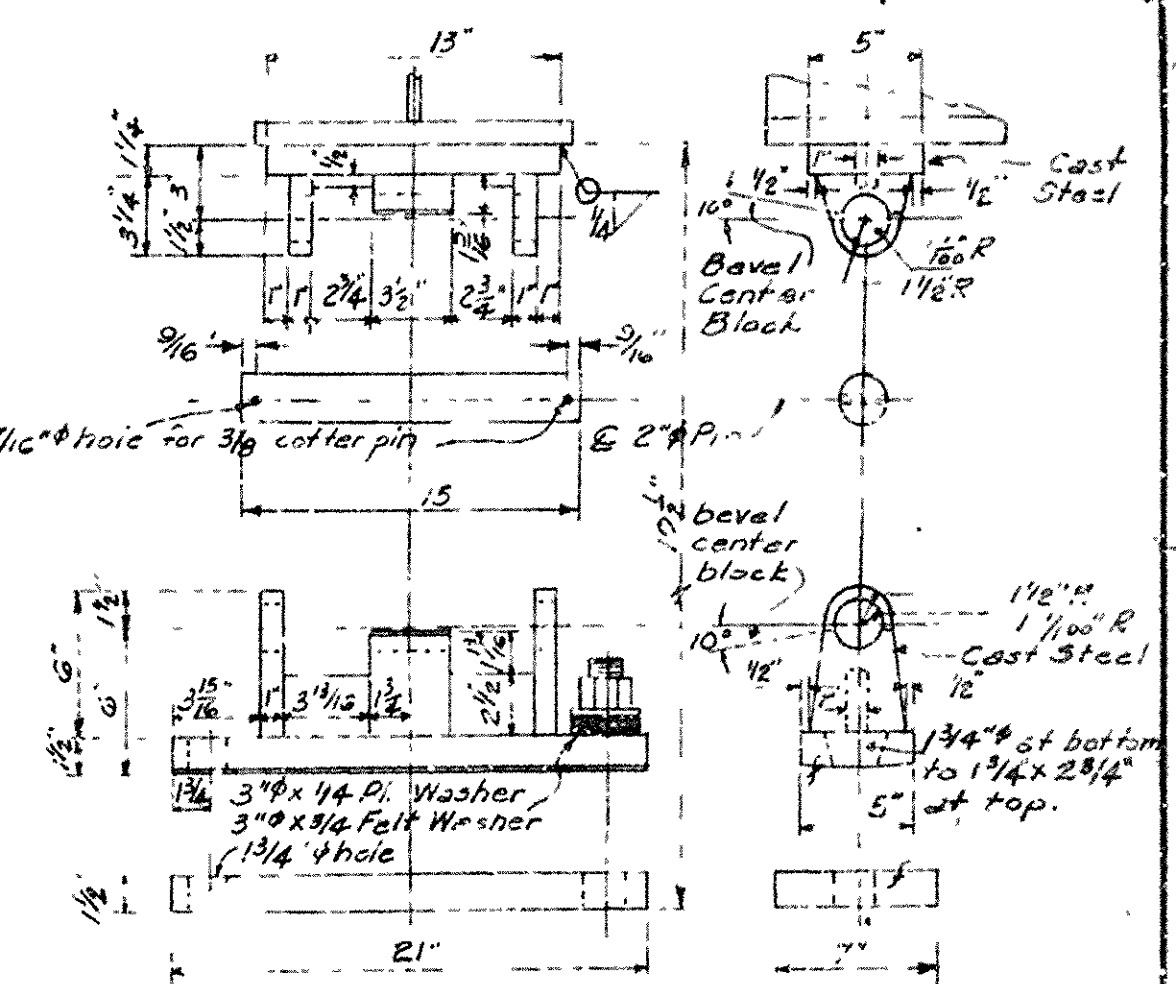
SECTION B-B



110' SPAN - FIXED SHOE - PIERS 2-5
Scale: 1/2" = 1'-0"



110' SPAN - ANCHOR BOLT DETAIL
No Scale



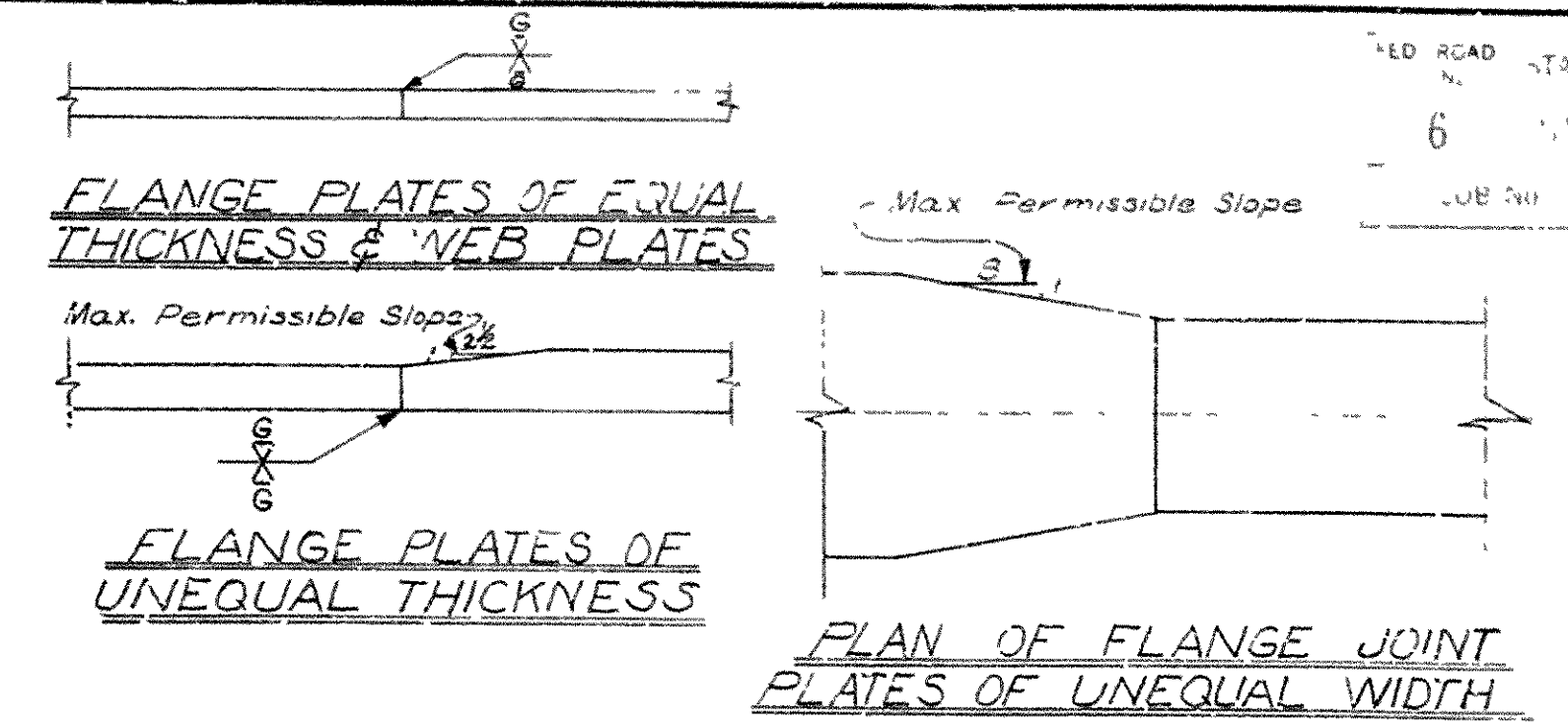
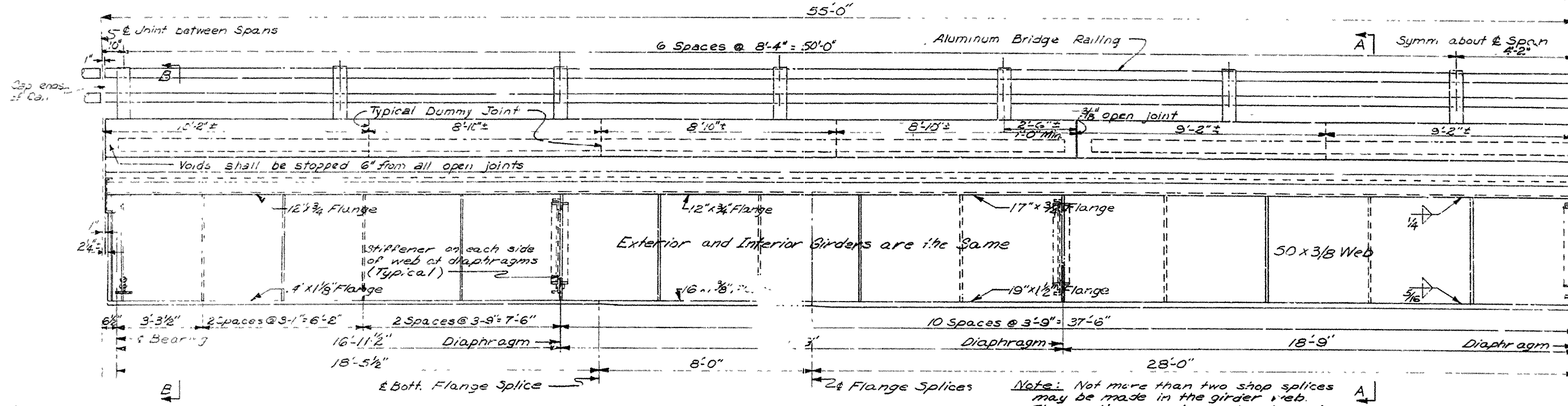
110' SPAN - EXPANSION SHOE

DETAILS OF PIERS
BRIDGE OVER OUACHITA RIVER
OUACHITA RIVER BRIDGE & APPROACHES
HOT SPRING COUNTY
INT. ROUTE 30 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.

DRAWN BY: L.H.T. DATE: 7-6-59
TRACED BY: DATE: 7-24-59
CHECKED BY: E.R.B. DATE: 7-24-59
BRIDGE NO. 3424 A&B DRAWING NO. 11214

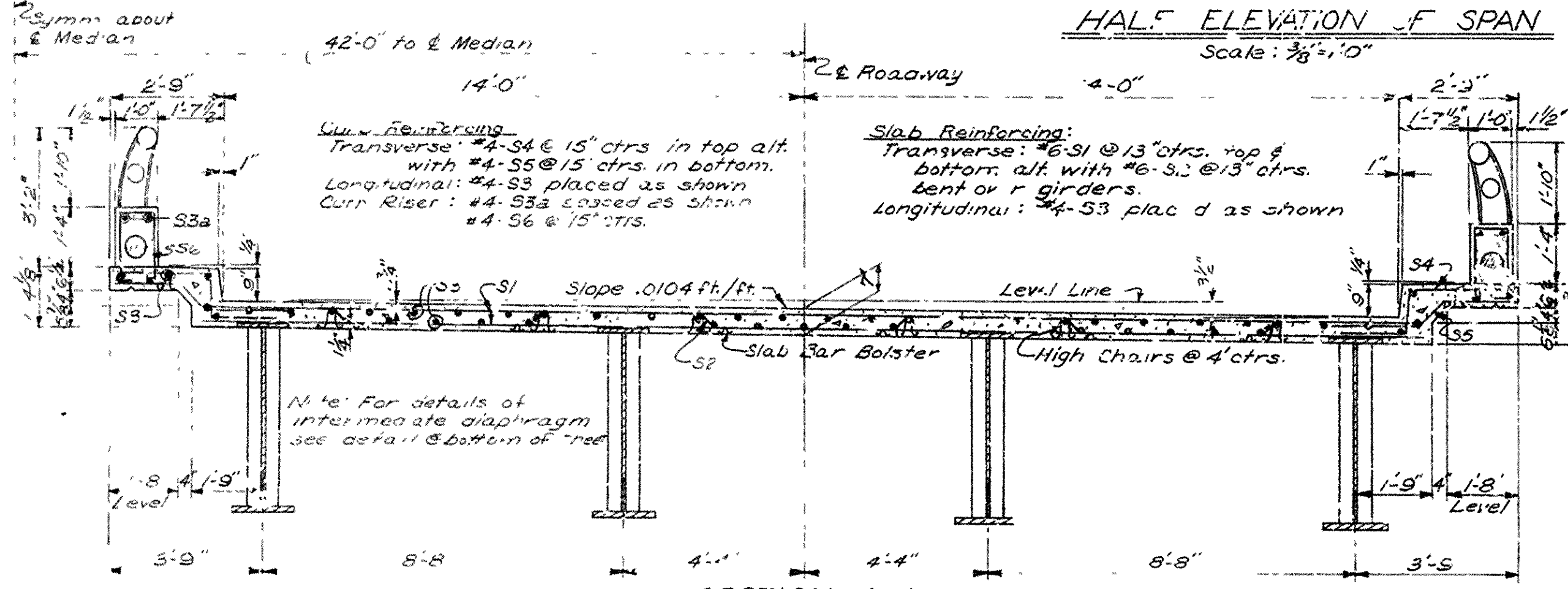
L.P. Carlson
BRIDGE DESIGN ENGINEER

Do NOT DESTROY



BUTT WELD DETAILS

Note: The contractor shall submit a report to the Construction Engineer covering radiographic inspection of all butt welds in the tension flange of each girder. This inspection and report, which will not be paid for directly, shall be made by an independent testing laboratory approved by the Arkansas Highway Department.



SHEAR CONNECTOR DETAILS

Note: Stud shear connectors, granular fill, or solid filled, or equal may be used in place of the channels shown at the following ratios: 3/4" diameter stud in place of 1.62 inches of channel; 7/8" diameter stud in place of 2.52 inches of channel. The studs shall be 4" long and automatically end welded to the top plate in accordance with recommendations of the manufacturer. Channel sections will be used as the basis for measurement of structural steel in shear connectors.

Mark	Size	Length	No.	Pin Dia.
S1	#6	29'-2"	204 Str.	
S2	#6	29'-10"	101 Str.	
S3	#4	37'-8"	159 Str.	
S4	#4	5'-3"	176 1/2"	
S5	#4	4'-3"	174 1/2"	
S3a	#4	36'-1"	12 Str.	
S6	#4	5'-4"	176 1/2"	

BENDING DIAGRAM

Dimensions are to centers of bars.

GENERAL NOTES

All bearing plates and roadway expansion devices to be paid for as "Structural Steel in Plate Girder Spans (Carbon Steel)". Bearings shall be finally sealed in a manner set forth in the Specifications. This work and material are to be considered as subsidiary to the item "Structural Steel in Plate Girder Spans (Carbon Steel)", and will not be paid for directly.

The Webs and Flanges of the plate girders shall be High-Strength Low-Alloy Structural Steel, ASTM Designation A-572, and shall be paid for at the contract unit price per pound bid for "Structural Steel in Plate Girder Spans (Low-Alloy Steel)". All other structural steel shall be Structural Carbon Steel, A.S.T.M. Designation A-7, and shall be paid for at the contract unit price per pound bid for "Structural Steel in Plate Girder Spans (Carbon Steel)".

SPECIFICATIONS: Kansas State Highway Commission Standard Specifications for Highway Construction, edition of 1959.

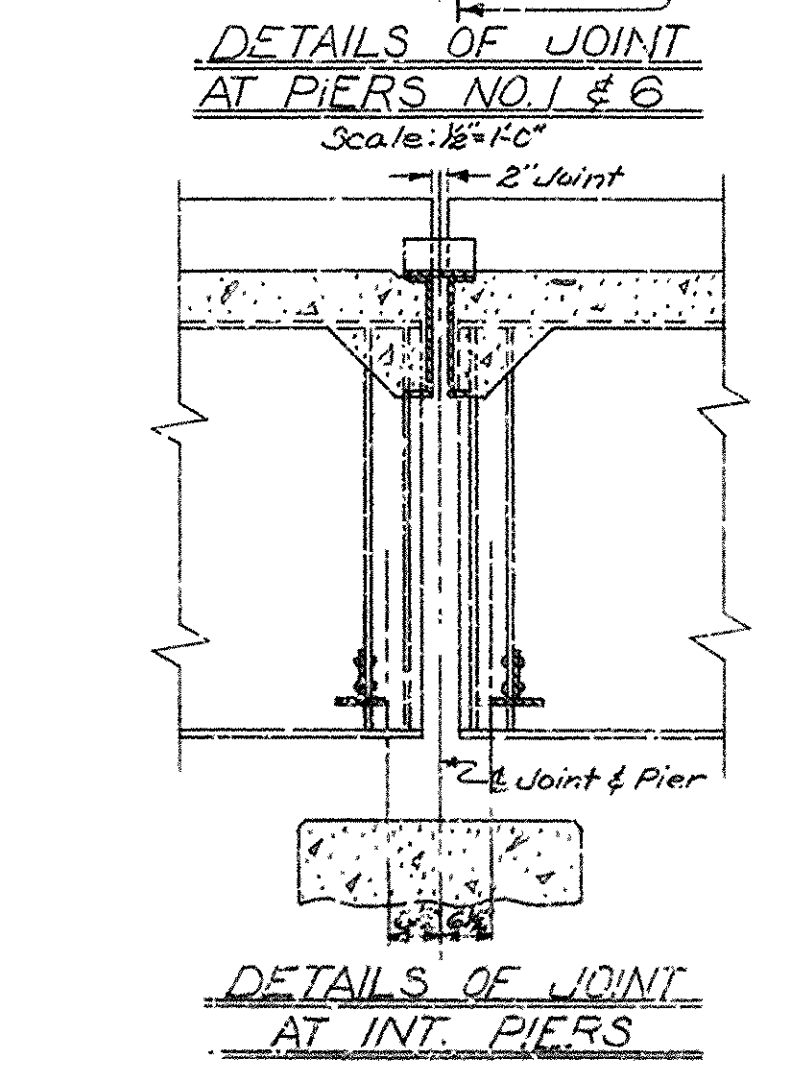
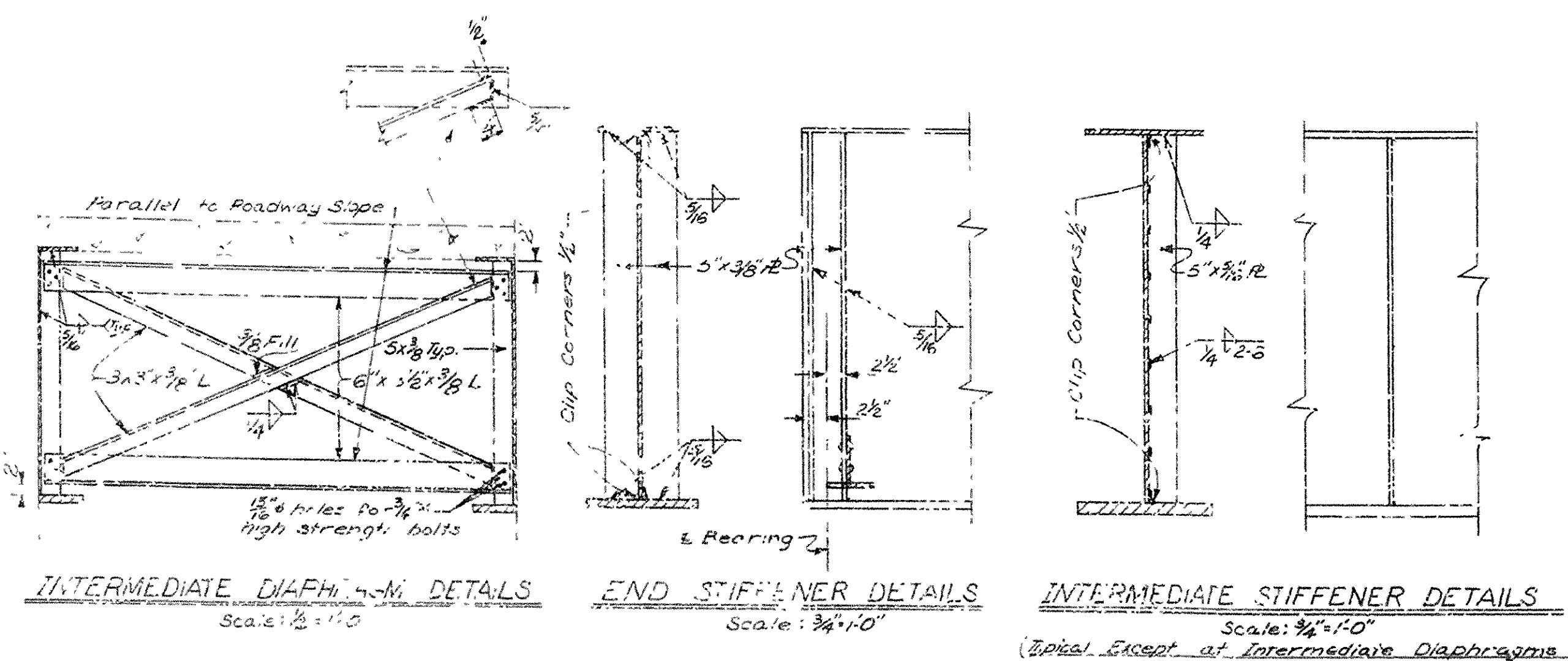
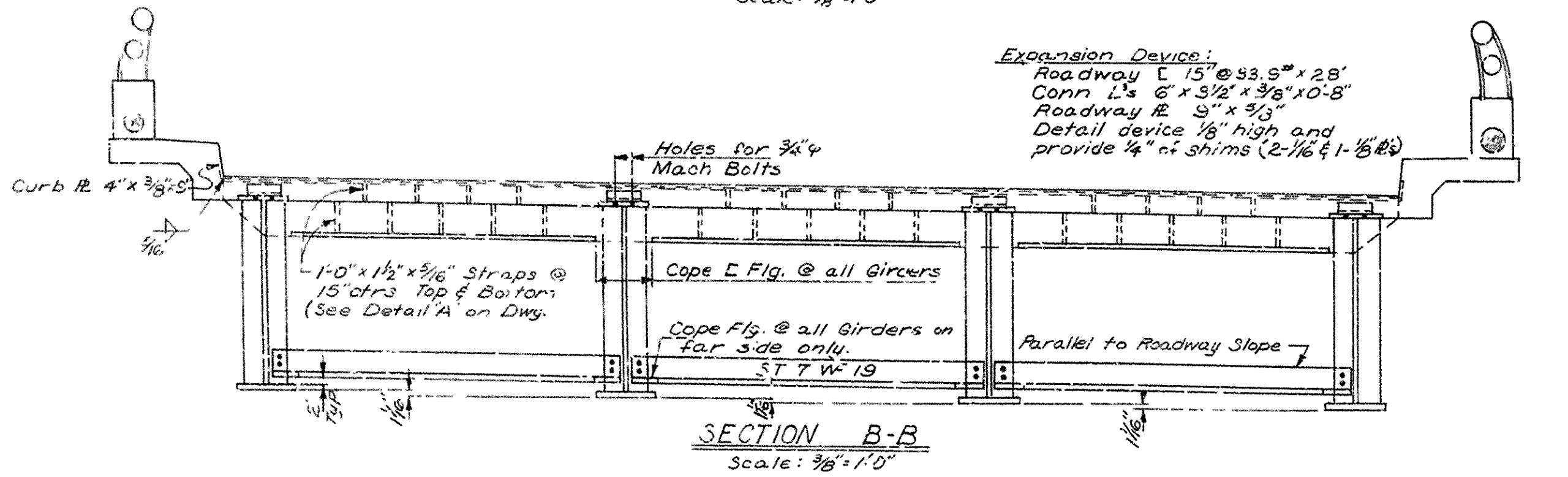
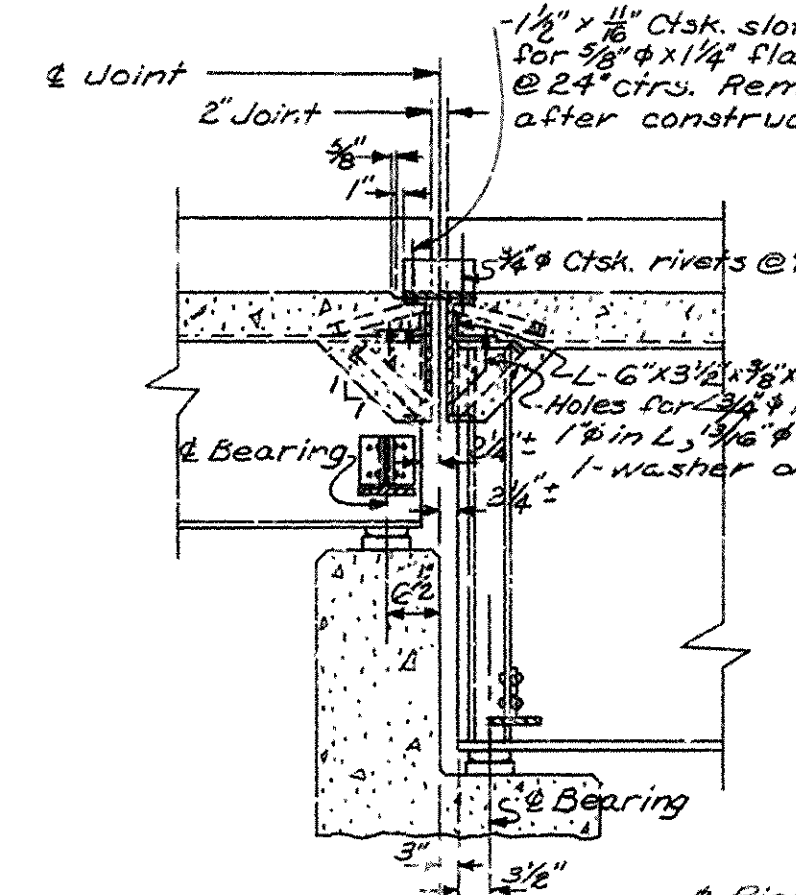
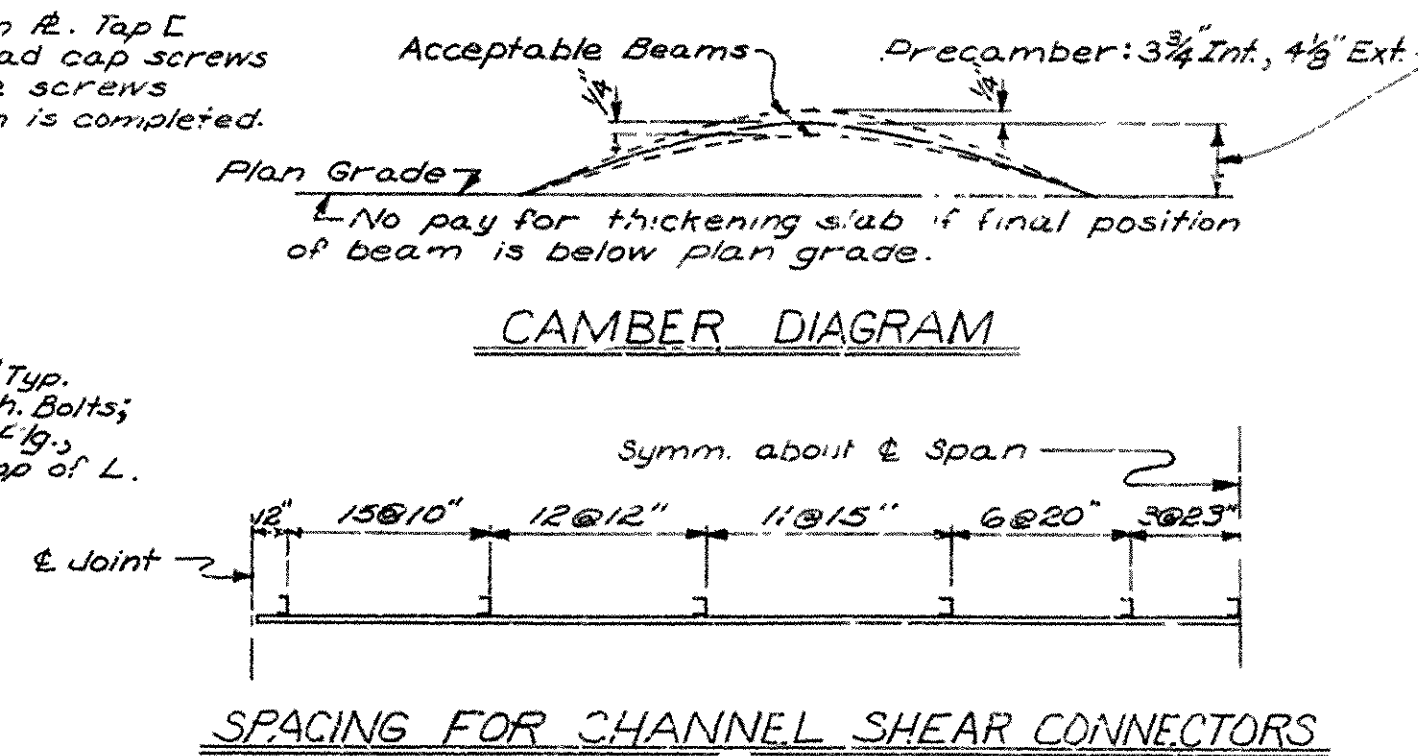
DESIGN: A.A.S.H.O. 1957
LOADING: H-20-S16

LOAD DISTRIBUTION: TO INT. GIRDER TO EXT. GIRDER

Dead Load to Girder: --- 75% + 105' --- 354% + 105' width of Girder @ width of Girder @ Dead Load to Composite Girder: --- 178% --- 178% Live Load to Composite Girder: --- 0.782 Lanes --- 0.705 Lanes plus impact plus impact plus impact

UNIT STRESSES: Class 5 Concrete (f'c = 4000 psi) Reinforcing Steel (f's = 60,000 psi) Structural Steel (A-7) 18,000 psi Structural Steel (A-7) 3/4" under 23,000 psi Structural Steel (A-7) 3/4" to 1 1/2" incl. 24,000 psi

SLAB POURING NOTE: Not less than 72 hours shall elapse between adjacent pours. The mid-Tier section of #2 S243 shall be poured first. End sections may be poured simultaneously, if not, 48 hours shall elapse between end section pours.

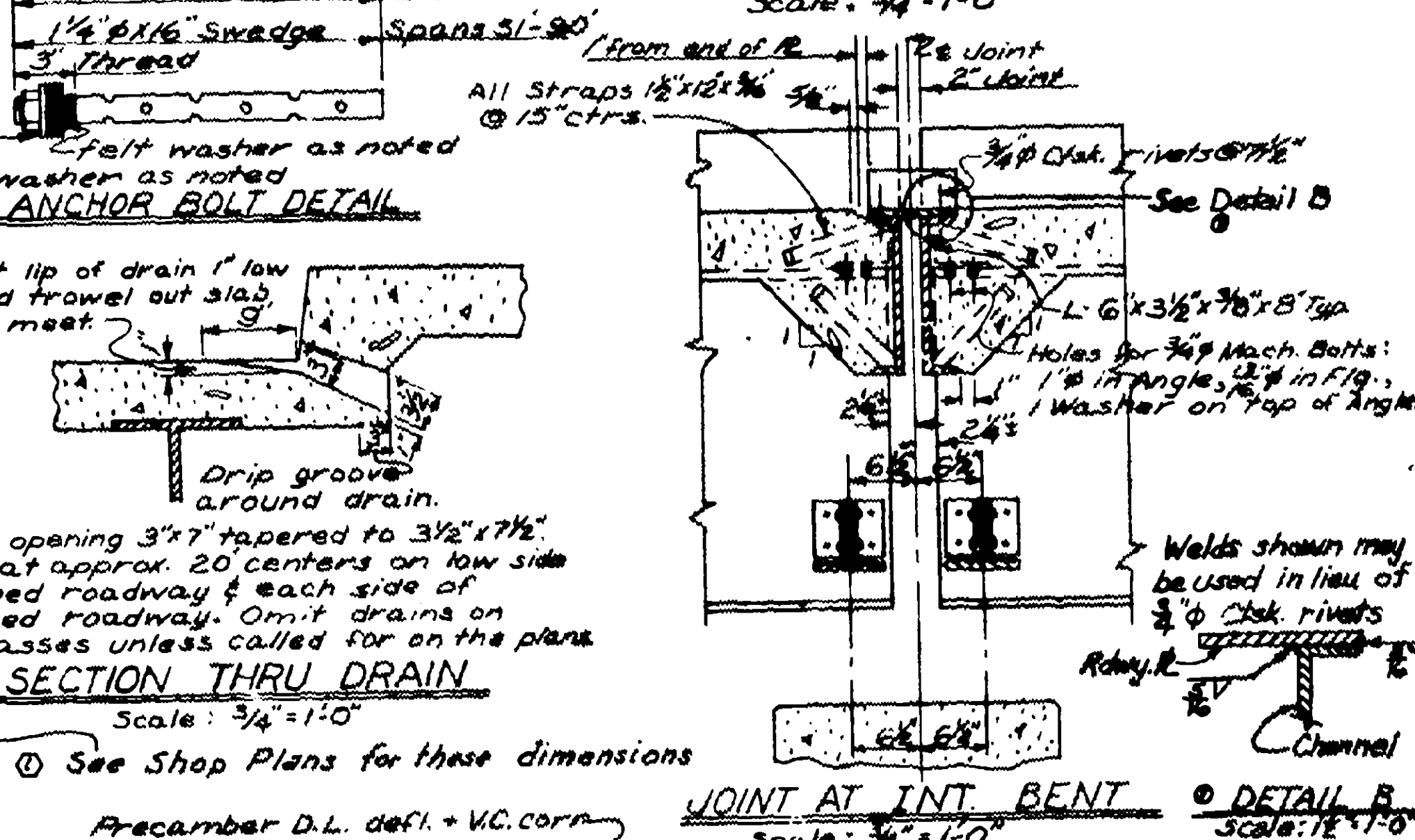
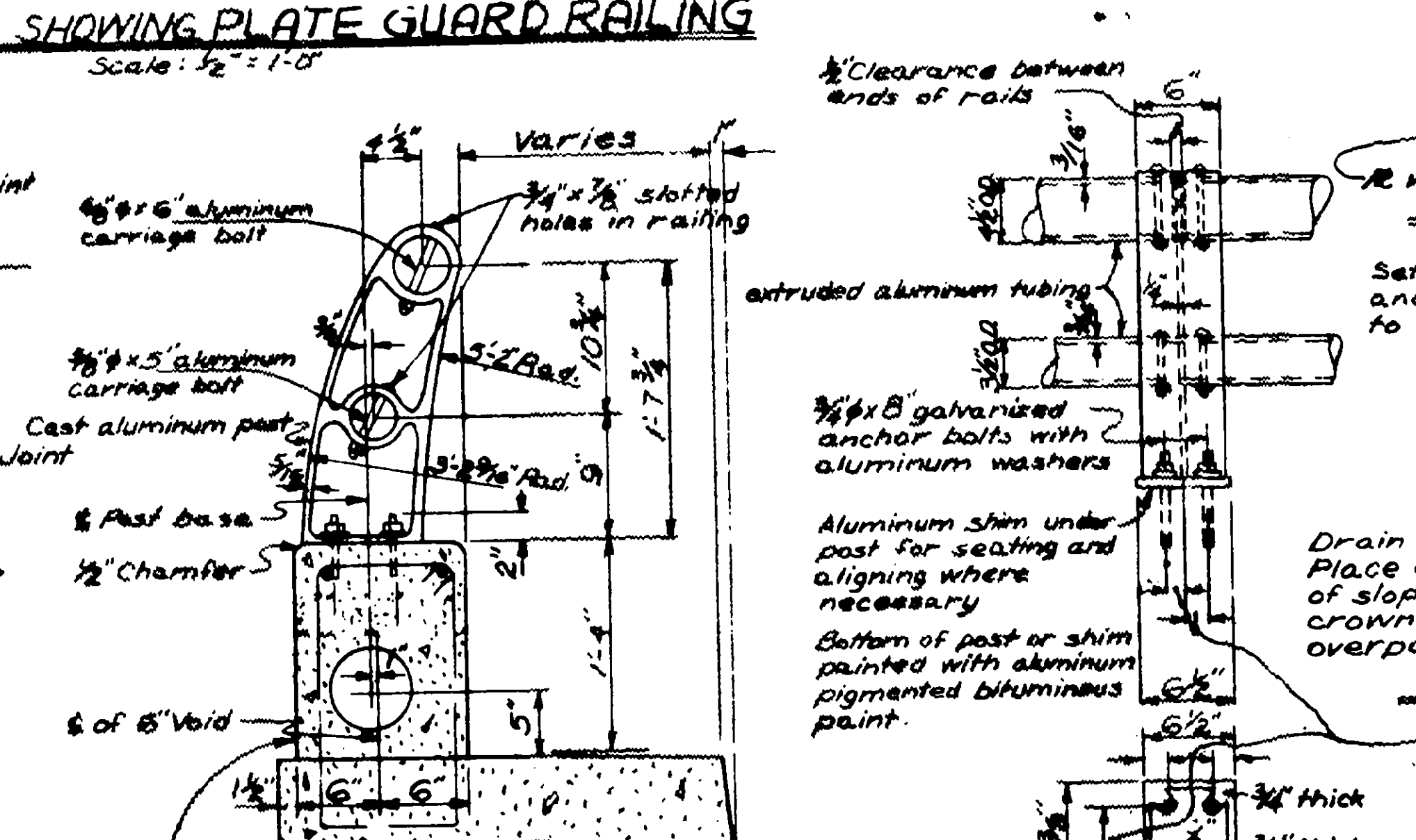
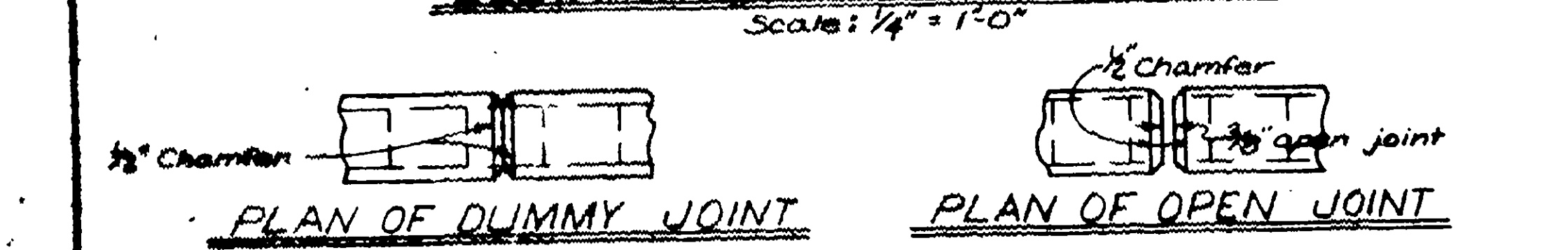
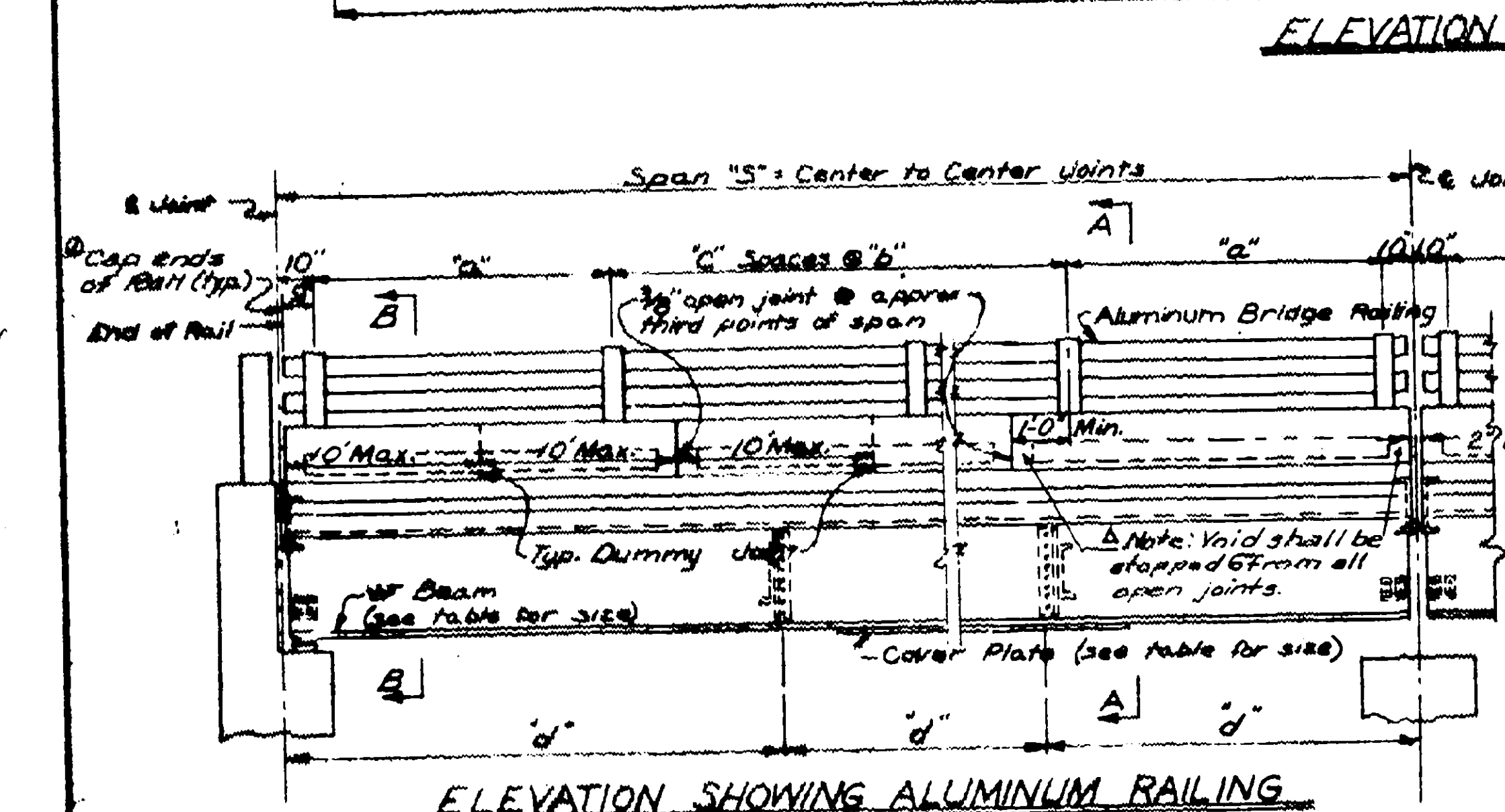
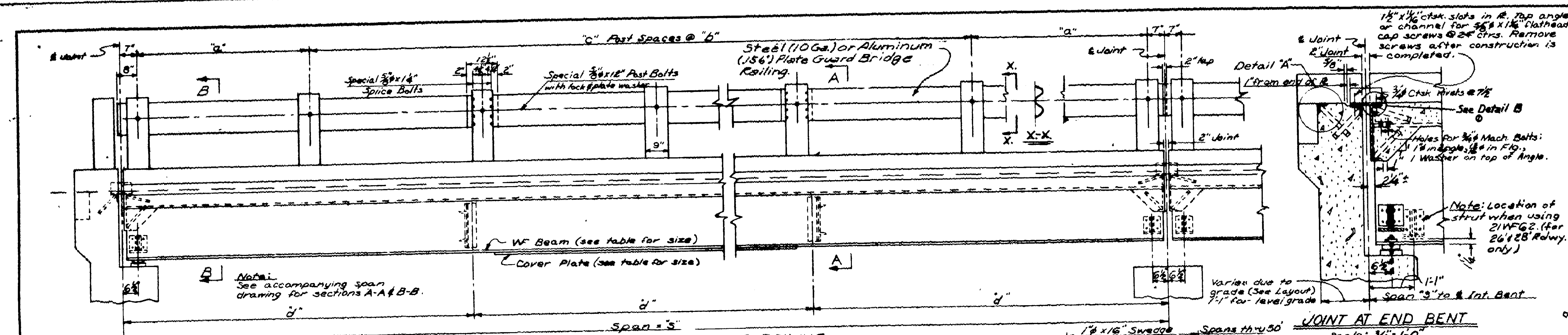


Note: For details of shoes see drawing 1121A. For typical details not shown and for additional General Notes see drawing 342A. For layout see dwg 11205.

Notes: Revised Bridge Railing, Reinforcing steel Bar List, and General Notes. C.E.V. 10-18-60. Revisions Checked: ERB 10-19-60

DETAILS OF
110' PLATE GIRDER SPANS
BRIDGE OVER OUACHITA RIVER
OUACHITA RIVER BRIDGE & APPROACHES
HOT SPRING COUNTY
INT. ROUTE 30 SEC. 2
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.
DRAWN BY: R.W.P. DATE: 6-10-59
TRACED BY: DATE: 2-27-60
CHECKED BY: ERB DATE: 2-27-60
SCALE: As Shown
BRIDGE NO. 342A8B DRAWING NO. 11215

PROJ. NO.	STATE	FED. AID	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
JOB NO.					



GENERAL NOTES

All concrete to be Class S. All exposed corners to be chamfered unless otherwise noted.

Field connections to be riveted or bolted with high strength bolts. Rivets: 3/4" open holes 3/8" except where noted otherwise. Structural shapes of equal or greater strength may be substituted for shapes shown, but payment will be made on the basis of shapes shown or those actually used, whichever is less.

All welded connections to be the filler shop welds except as noted. All welding shall conform to the American Welding Society, Standard Specification for Welded Highway and Railway Bridges, 3rd Edition.

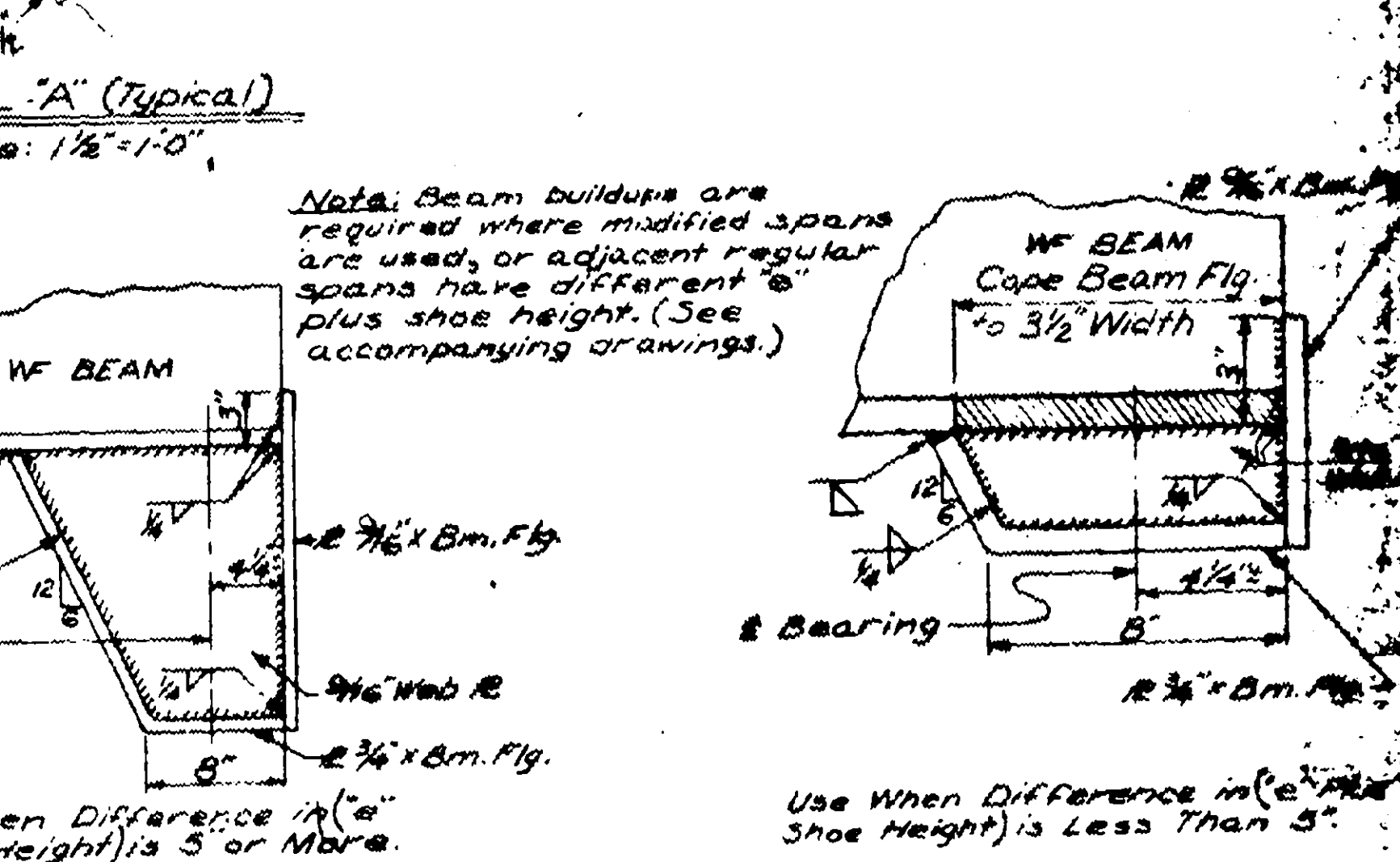
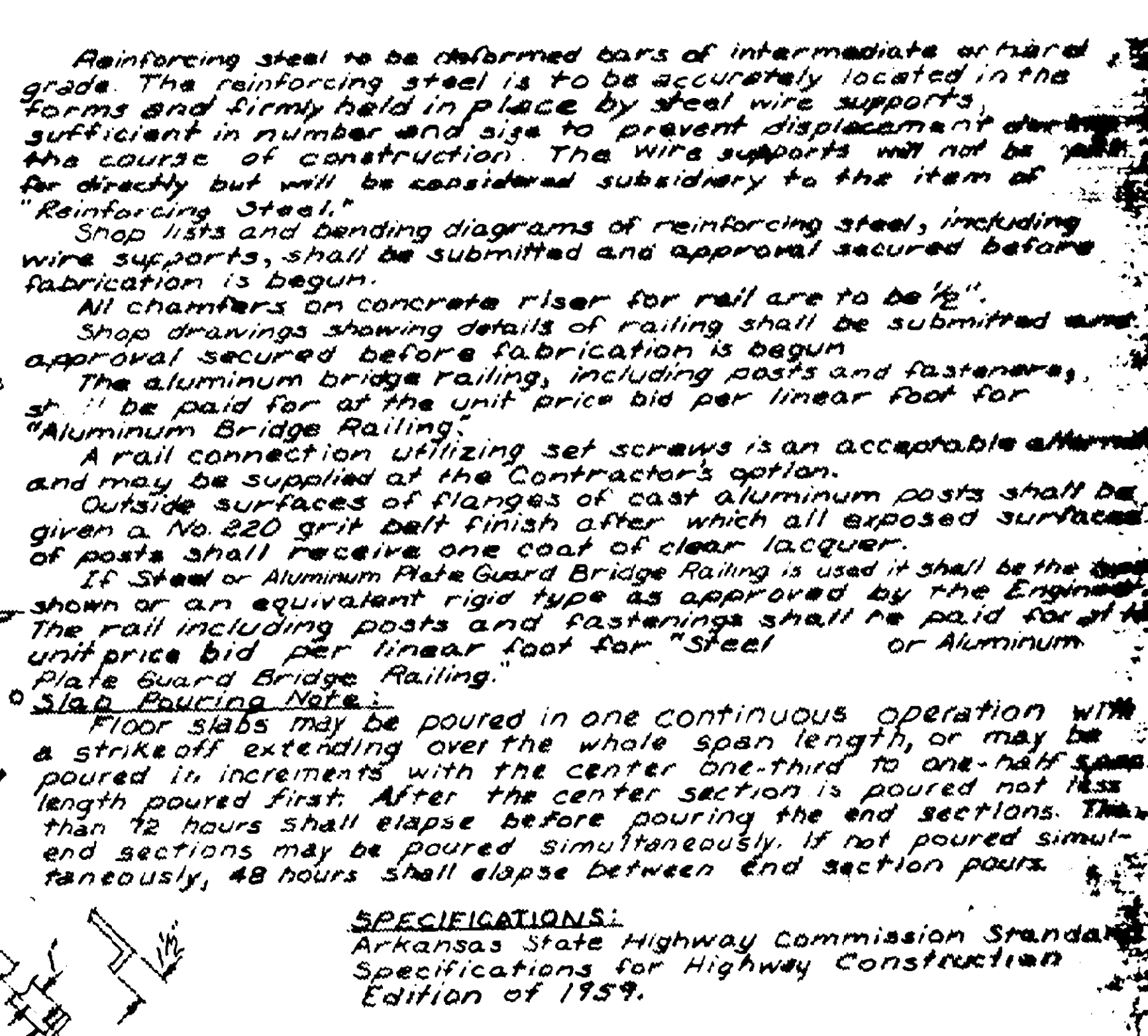
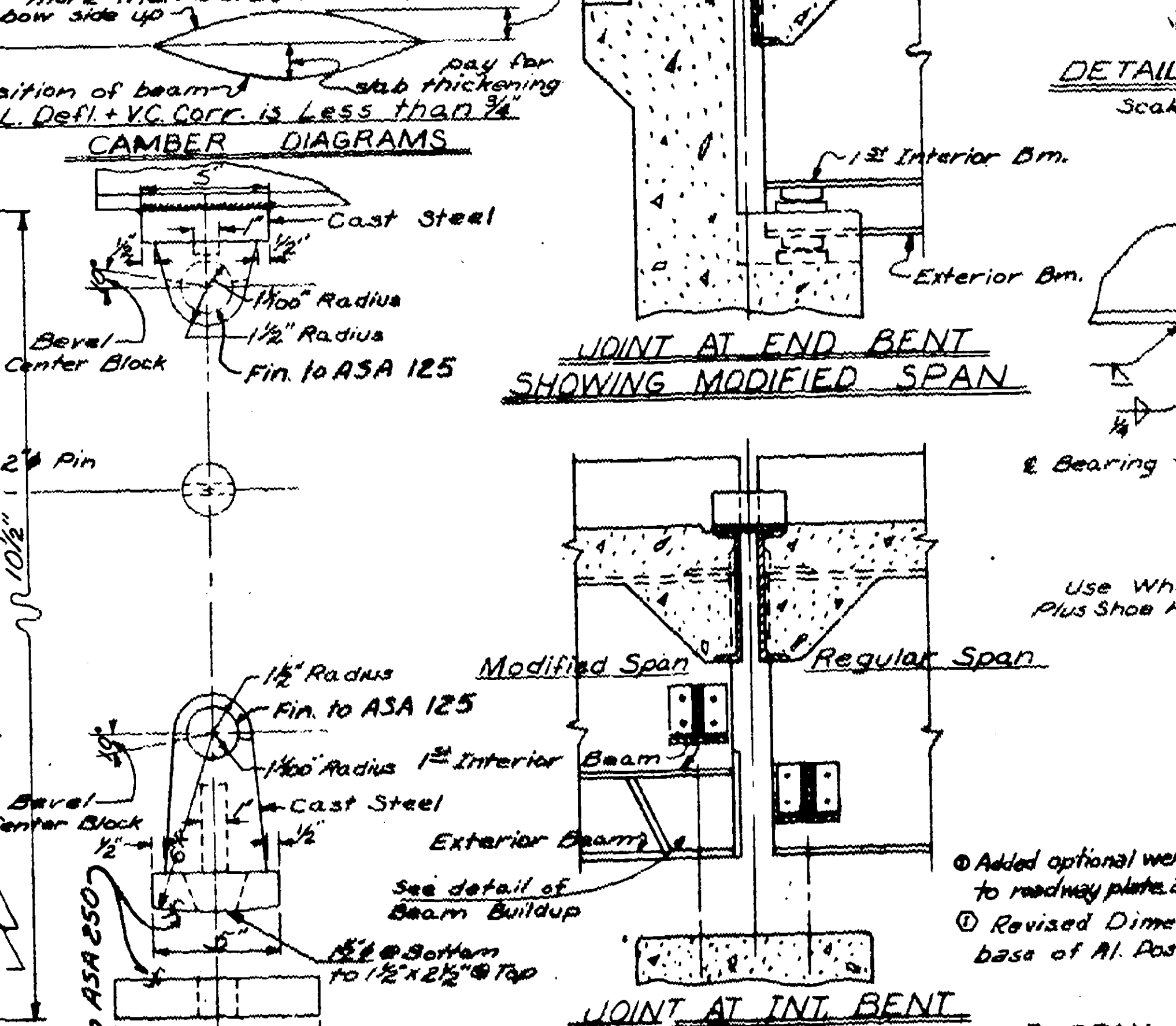
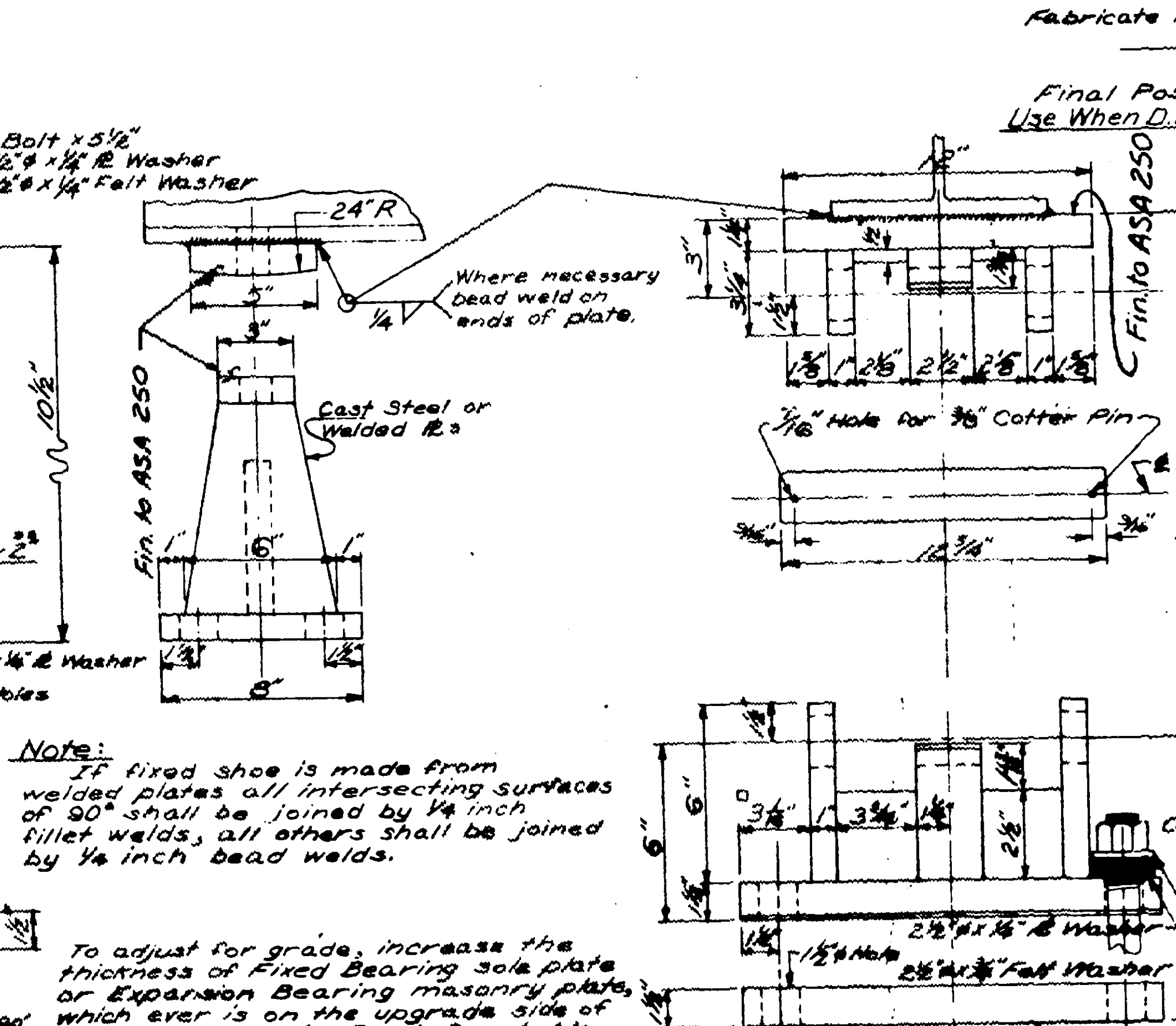
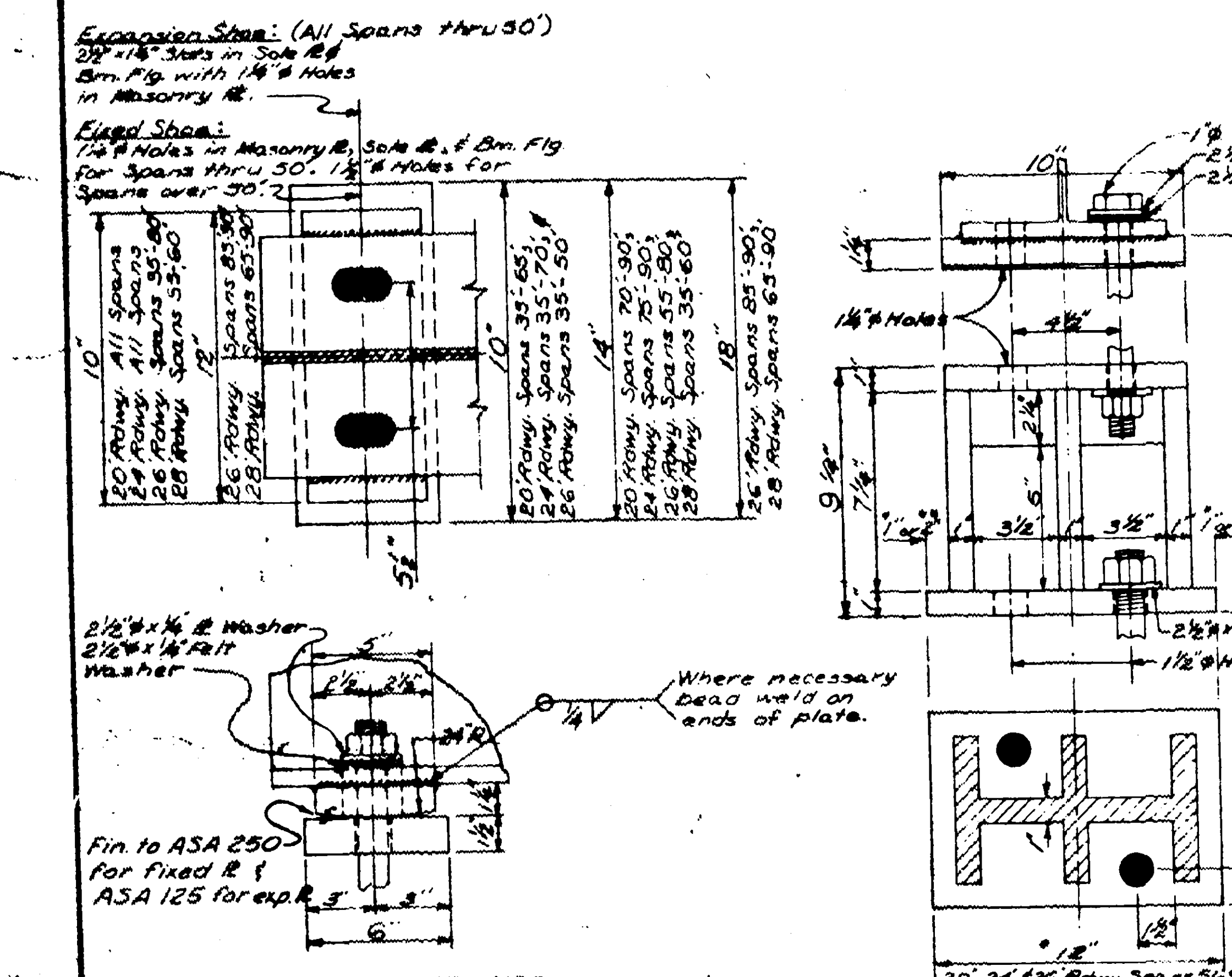
Shop Paint: All structural steel except surfaces in contact with concrete shall be given one coat of red lead and black lined oil before shipment.

Field Paint: First coat - red lead tinted with lamp black. Second coat - aluminum paint.

All bearing plates and roadway expansion devices to be paid for as structural steel in beam spans. Bearings shall be finally sealed in a manner set forth in the Specifications. This work and material are to be considered as subsidiary to the item "Structural Steel in Beam Spans" and will not be paid for directly.

This drawing shows general features of design only. Shop drawings shall be made in accordance with the Specifications, submitted and approved secured before fabrication is begun.

Anchor bolts shall be galvanized to conform to ASTM Specification, Designation A153.

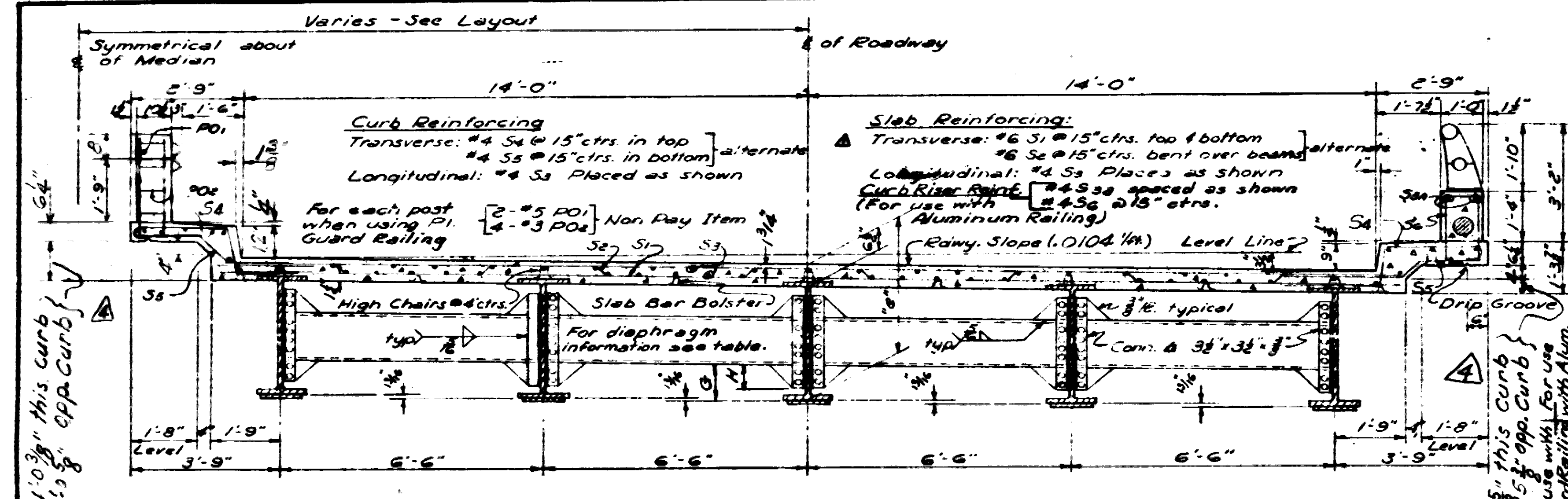


DETAILS COMMON TO STANDARD 35'-0" COMPOSITE I-BEAM SPANS

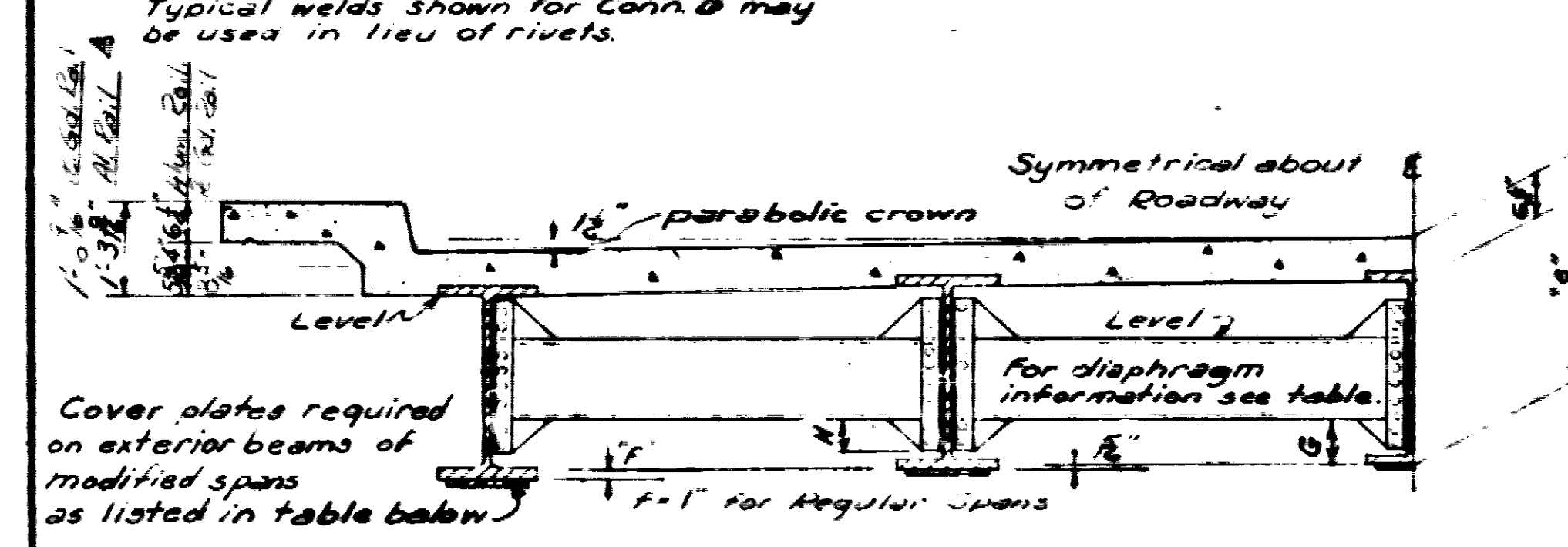
20', 24', 26', AND 28' ROADWAYS

ARKANSAS STATE HIGHWAY COMMISSION

BRIDGE NO. 5462

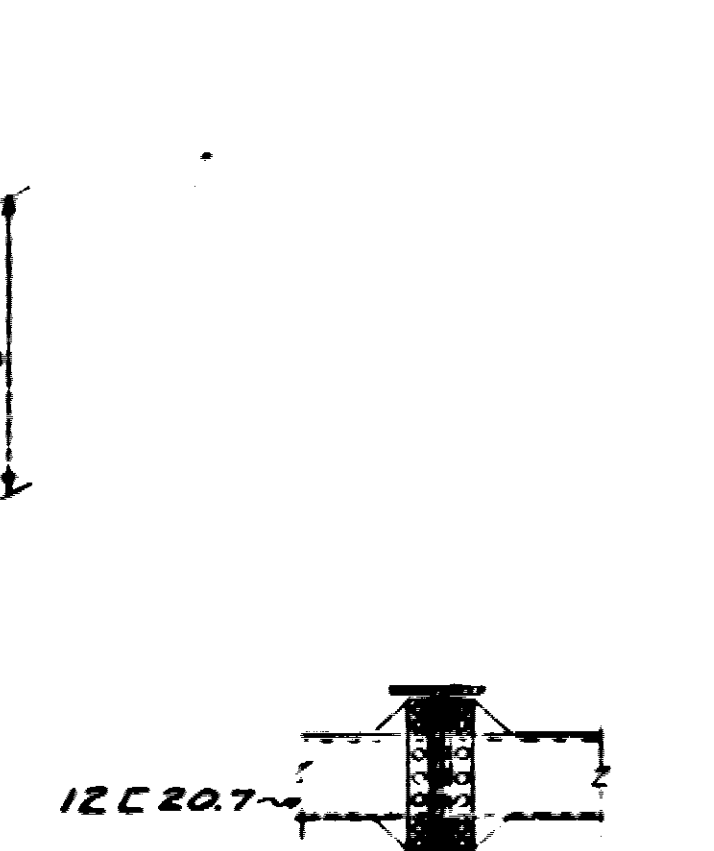


SECTION A-A OF REGULAR SPAN SLOPED RDWY.
(Regular Spans Have All Beams of Equal Depth)

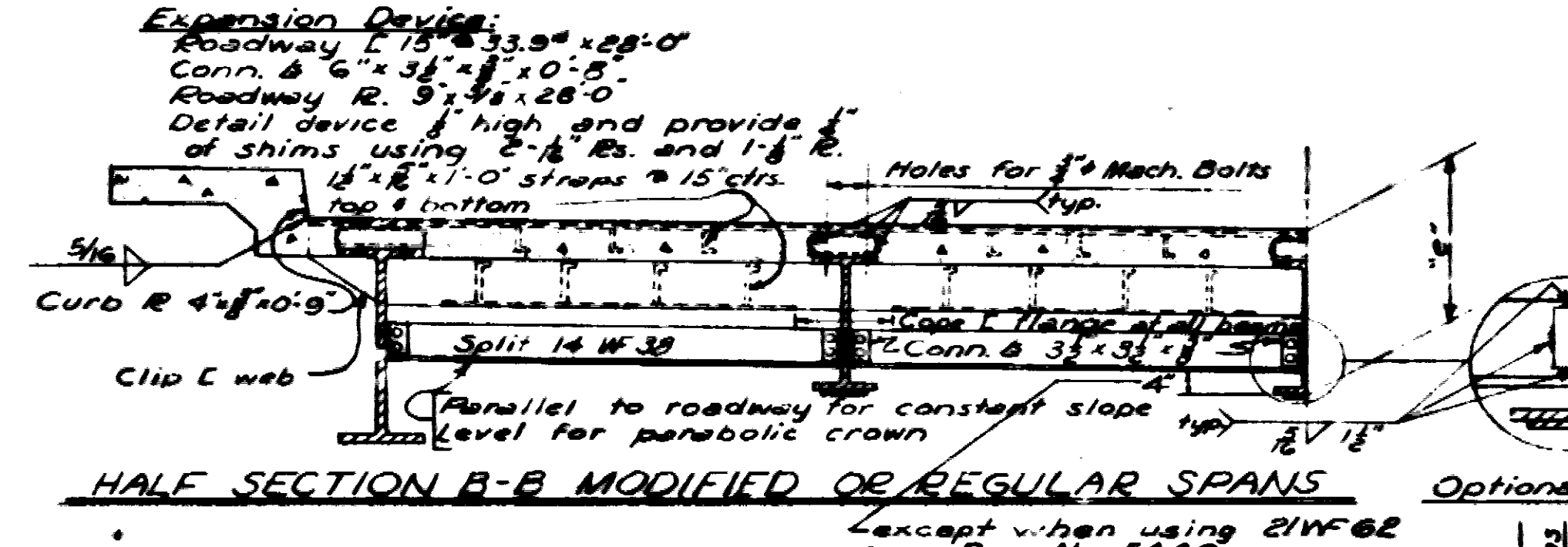


HALF SECTION A-A MODIFIED OR REGULAR SPAN
PARABOLIC RDWY.

NOTE:
See Drawing No. 5462 for location of
Sections A-A and Section B-B
and Variables a, b, c, and d.



DIAPHRAGM FOR
43-49 SPANS



HALF SECTION B-B MODIFIED OR REGULAR SPANS

NOTE:
See Drawing No. 5462 for location of
Sections A-A and Section B-B
and Variables a, b, c, and d.

BAE LIST - ONE SPAN

Number Required Each Span																																						
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	65	70	75	80	85	90									
60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	104	108	112	116	120	124	128	132	136	140								
90	90	91	92	92	93	94	95	96	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122			
106																																						
159																																						
60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	104	108	112	116	120	124	128	132	136	140								
58	60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	100	104	108	112	116	120	124	128	132	136	140								
60	62	64	66	68	70	72	74	76	78	80	82	84	86	88	90	92	94	96	98	100	104	108	112	116	120	124	128	132	136	140								
12																																						
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104																																						
112																																						
120																																						
128																																						

FED. ROAD No.	STATE	FED. AID PROJECT	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
6	ARK.				
JOB NO.					

Hand-drawn bending diagram for a bridge deck. The diagram shows a plan view of a 20' wide deck with a 3' wide curb on the left. The deck is divided into three sections: a 3' wide curb, a 13' wide main deck, and a 4' wide curb on the right. The main deck is further divided into three sections: a 3' wide section, a 6' wide section, and a 4' wide section. The diagram includes dimensions for the deck width, curb width, and section widths. It also shows the location of reinforcement bars (rebar) with labels like 'SE', 'SW', 'NE', 'NW', and 'S'. The diagram is labeled 'BENDING DIAGRAM' at the bottom.

Dimensions are to centers of bars.

BENDING DIAGRAM

Dimensions are to centers of bars.
BENDING DIAGRAM

