

GENERAL NOTES

GOVERNING SPECIFICATIONS:

Design: AASHTO Specifications for Highway Bridges, 1961 Edition with current interim specifications.

Construction: Arkansas State Highway Commission Standard Specifications for Highway Construction, 1959 Edition with 1966 Supplemental Specifications and designated Special Provisions.

American Welding Society Specifications for Welded Highway and Railway Bridges, 1963 Edition.

LOADING:

AASHTO HSEC

UNIT STRESSES:

Concrete: $f_c = 1200$ psi
 $n = 10$

Reinforcing Steel: $f_s = 20,000$ psi

Structural Steel: A36 $f_s = 20,000$ psi
A441 $f_s = 24,000$ psi

CONCRETE:

All concrete for roadway slabs, curbs and parapets shall be Class S(AE)
Concrete for footings shall be Class S.
Concrete for pier shaft encasement and counterforts shall be Class S(AE).
Concrete shall be poured in the dry.
All exposed corners shall be chamfered $\frac{1}{4}$ ".

REINFORCING STEEL:

All reinforcing steel shall be intermediate grade, hard grade or rail steel with conformations conforming to ASTM A305.
All reinforcing shall be placed 2" clear of the concrete surface unless otherwise noted.
All dimensions given in bending diagrams are out-to-out of bars.
The first digit of three digit and the first two digits of four digit bar marks indicate the size of bar.
Shop lists and bending diagrams of reinforcing steel including wire supports shall be submitted and approval secured before fabrication is begun.

STRUCTURAL STEEL:

Structural steel for the arch ribs, tie girders and splices shall be ASTM A441. All other structural steel shall be A36 unless otherwise noted.
All field connections shall be made with $\frac{3}{4}$ " high strength bolts ASTM A325 in $\frac{3}{4}$ " holes unless otherwise noted.
The structure shall be fabricated for full dead load camber and adjacent components shall be shop assembled in their true position for rearing of field connection holes.
Painting shall be in accordance with the specifications. Painting is not a pay item and shall be included in the unit price bid for structural steel.

METAL BEARING DEVICES:

Castings for shoes shall be cast steel, ASTM Grade 65-35. Pins shall be cold-finished steel shafting ASTM A108 Grade 1030. Other steel parts shall conform to ASTM Designation A7 or A307.

EXISTING STRUCTURES:

All dimensions and elevations relating to the existing structure are general and any adjustments which may be necessary to conform to the existing structure shall be made.
Plans of the Existing structure will be furnished to the Contractor on request.

BENCHMARKS:

Horizontal Control: Centerline of Pier 2 equals Station 4+25.81.
Vertical Control: Bench Mark 1 approximately Station 2+65 on east curb of existing bridge. Elevation 427.90 above mean sea level.

SUMMARY OF QUANTITIES

ITEM NO.	ITEM	UNITS	CORPS OF ENG. CONT. NO. DA-03-050-CIVENG-66-37	STATE JOB	NON PARTICIPATING	TOTAL QUANTITY
SP & 802	Class S(AE) Concrete (Counterforts, Pier Shaft Encasement & Footings)	Cu. Yd.	2,637			2,637
SP & 802	Class S(AE) Concrete (Widening and Approach Slab)	Cu. Yd.		559		559
SP & 802	Class S(AE) Concrete (Arch Span)	Cu. Yd.	417			417
803	Reinforcing Steel	Lb.	245,530	103,670		355,200
SP & 806	Structural Steel	Lb.	1,532,800	7,200		1,535,800
SP & 807	Metal Bearing Devices	Lb.	25,505			25,505
** SP & 805	Metal (Aluminum) Bridge Railing (Type A) Alternate No. 1	Lin. Ft.	908	2,170		3,078
805	Metal (Steel) Bridge Railing (Type A) Alternate No. 2	Lin. Ft.	908	2,170		3,078
** SP - 917-1	Aluminum Plate Guard Fence (Type A) Alternate No. 1	Lin. Ft.		100		100
** SP - 917-1	Steel Plate Guard Fence (Type A) Alternate No. 2	Lin. Ft.		100		100
SP	Drainage Inlets	Ea.		2		2
SP	Navigation Lighting	Comp. Item	1.00			1.00
SP	Provision for Roadway Lighting	Comp. Item		1.00		1.00
SP	Repair of Cracks	Lin. Ft.		750		750
SP	Repair of Expansion Joints	Ea.	2	17		19
501	Tack Coat (Grade EA-2)	Qa.		170		170
605	Mineral Aggregate in Asphaltic Conc. Hot Mix Sur. Course - Type 3	Ton		277		277
605	Asphalt Cement in Asphaltic Concrete Hot Mix Surface Course	Ton		18		18
SP	Cofferdams and Excavation	Comp. Item	1.00			1.00
SP	Removal of Existing Structure for Widening	Comp. Item		1.00		1.00
SP	Removal of Existing Spans (Pier 2 to Pier 4)	Comp. Item	1.00			1.00
SP	Detour Ramps and Temporary Roadway	Comp. Item	1.00			1.00
SP	Pier 4 Modifications	Comp. Item	1.00			1.00
SP	Pier 3 Modifications	Comp. Item	1.00			1.00
SP	Pier 3 Win. Bracing Frame	Comp. Item	1.00			1.00
SP	Water Main Relocation-Permanent	Lin. Ft.	470		1,130	1,650
SP	Water Main Relocation-Temporary	Lin. Ft.	466			466
SP	Gas Line Support Brackets	Comp. Item			1.00	1.00
SP	Telephone Bracket Inserts	Comp. Item	1.00			1.00
SP	Pier Protective Cells	Ea.	4			4
* See SP	805:0					
** Alternate	Bid Items					

STATION TO STATION	TACK COAT	MIN. AGG. IN ASP. CONC. TYPE-3	ASP. CEM. IN SUR. COUR.
	Gal.	Ton	Ton
1+99.00 to 4+25.81	35	57	4
6+99.34 to 17+59.44	135	220	14
Total	170	277	18
Basis of Estimate: .05 Gal/Sq Ft 162.5#/Sq Yd 10.5#% CEM.			

STATION	STATION	SIDE	LINEAL FEET
1+69.17	1+94.10	East	251'-0"
1+69.10	1+94.10	West	251'-0"
17+70.69	17+95.69	East	251'-0"
17+70.69	17+95.69	West	251'-0"
Total			1001'-0"

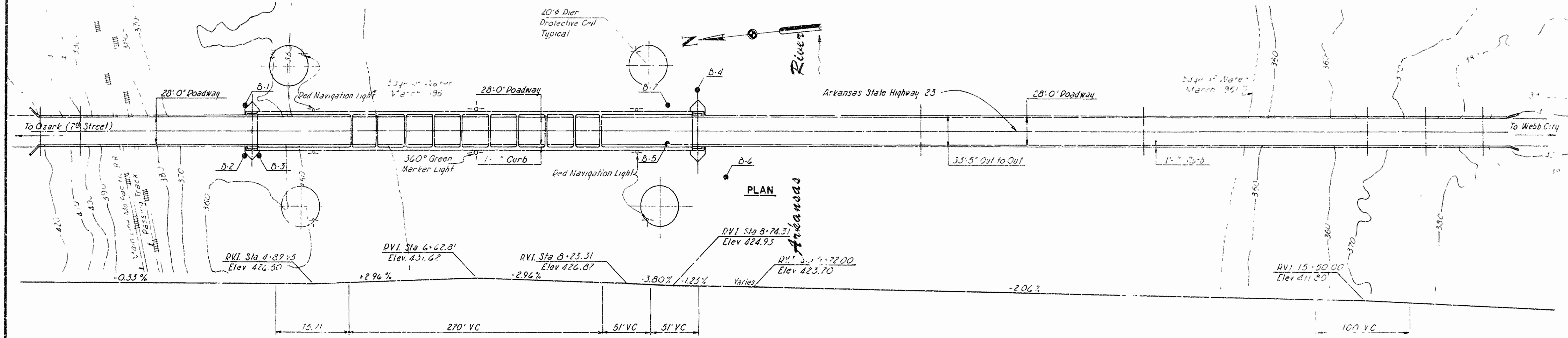
Note:
Use Concrete Posts as per Standard Drawings GR-8 and GR-9.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 21

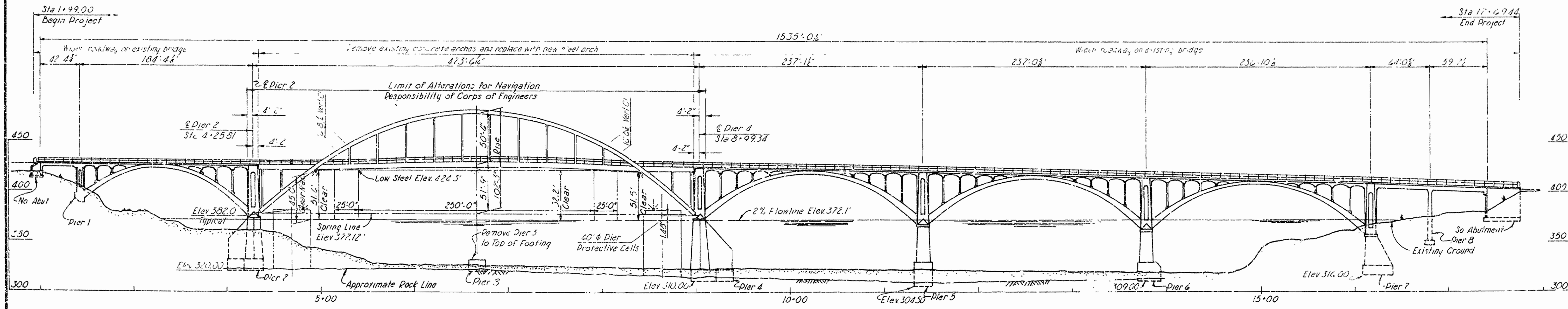
SUMMARY OF QUANTITIES AND GENERAL NOTES

DRAWN BY *RLL* DATE: 8-5-66 CHECKED BY *KC* DATE: 9-28-66
SCALE: None
BRIDGE NO. 1210 A DRAWING NO. 14322

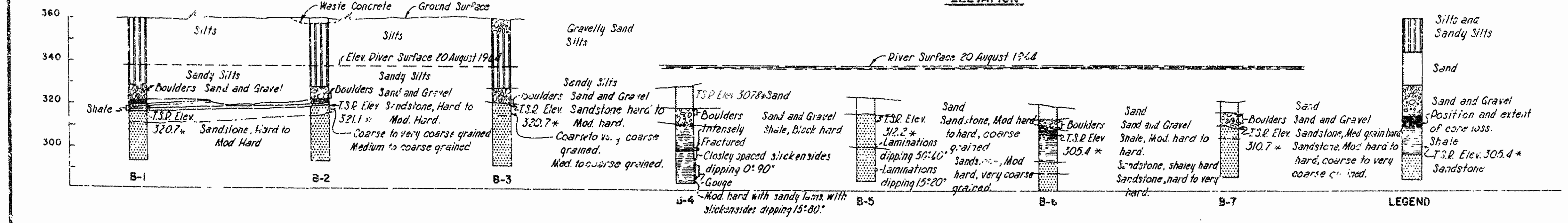
Fed Dist No	Fed Aid Proj No	State	County	Sheet
6		ARKANSAS	FRANKLIN	4
Job No				



PROFILE GRADE



ELEVATION



BORING LOGS

LEGEND

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS

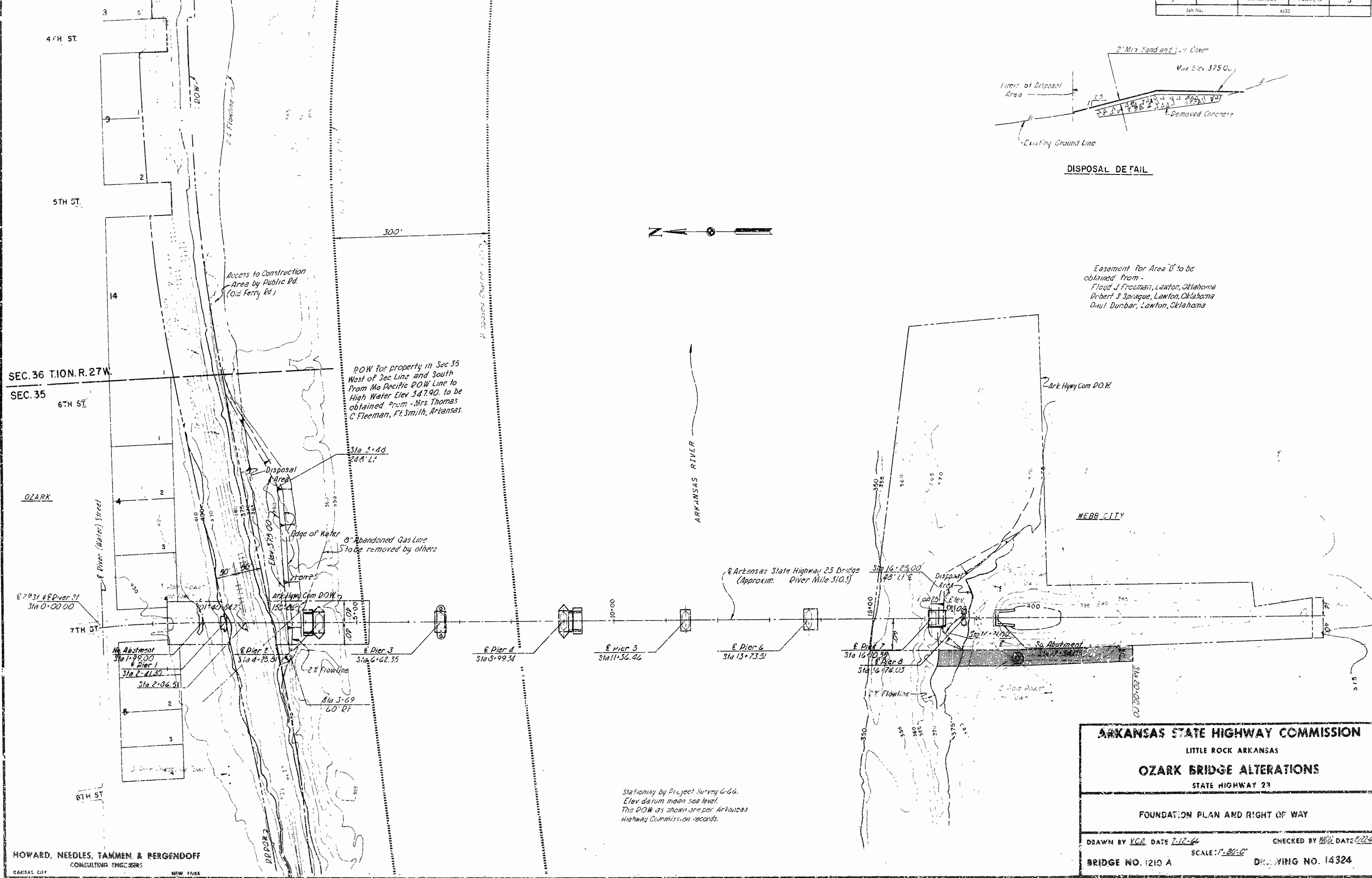
OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

LAYOUT OF BRIDGE OVER ARKANSAS RIVER AND BORING LOG

DRAWN BY VCA DATE 8-19-66 CHECKED BY LPH DATE 8-22-66
BRIDGE NO. 1210 A SCALE: 1"=50' DRAWING NO. 14323

CORPS OF ENGINEERS CONTRACT
NO. DA-03-050-CIVENG-66-37

Proj. Dist. No.	Proj. No.	State	County	Sheet
5		ARKANSAS	FRANKLIN	5
Job No.		4533		



ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS

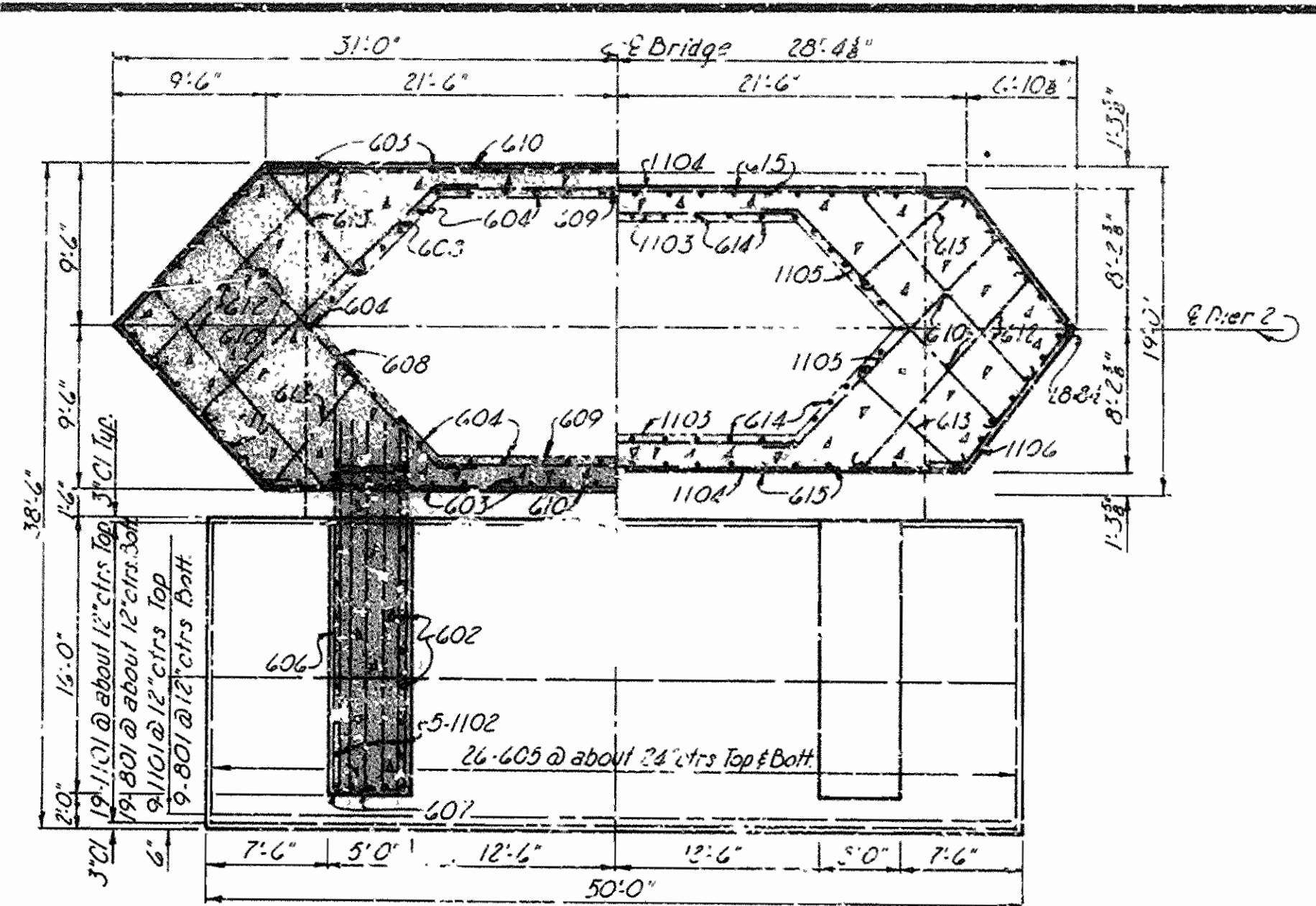
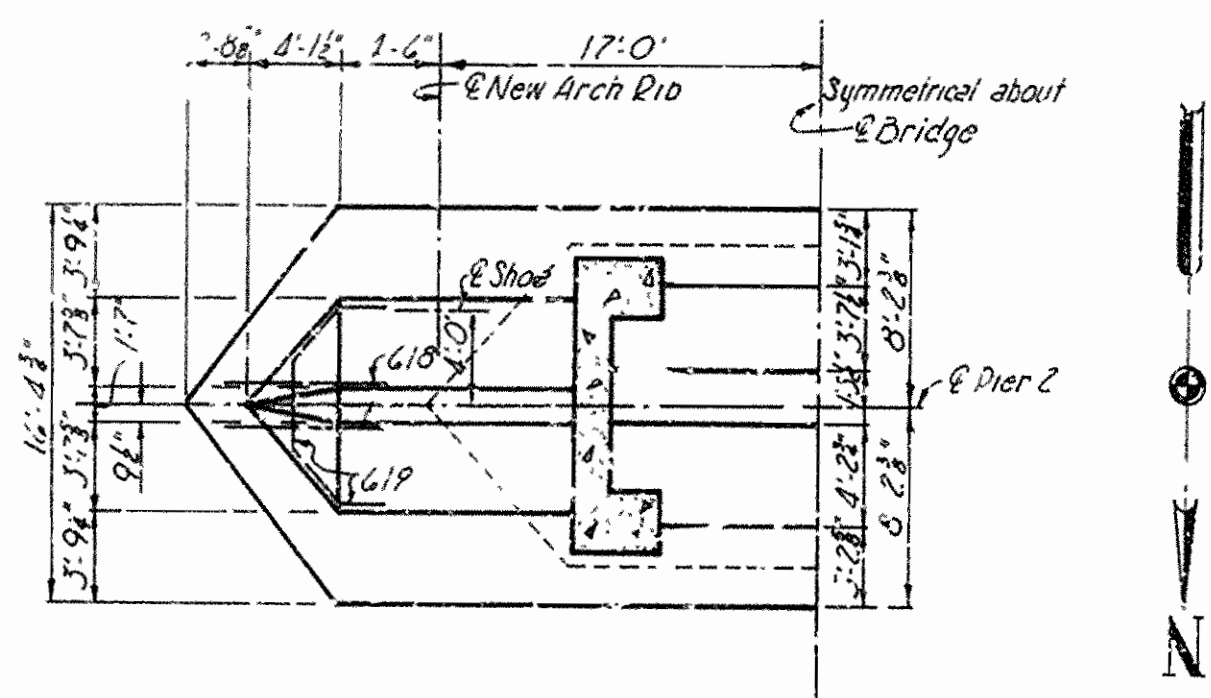
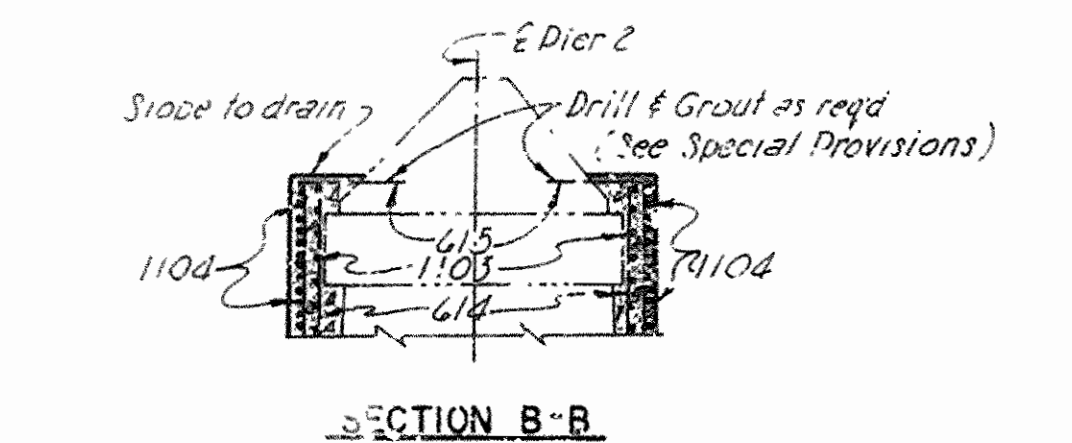
OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

FOUNDATION PLAN AND RIGHT OF WAY

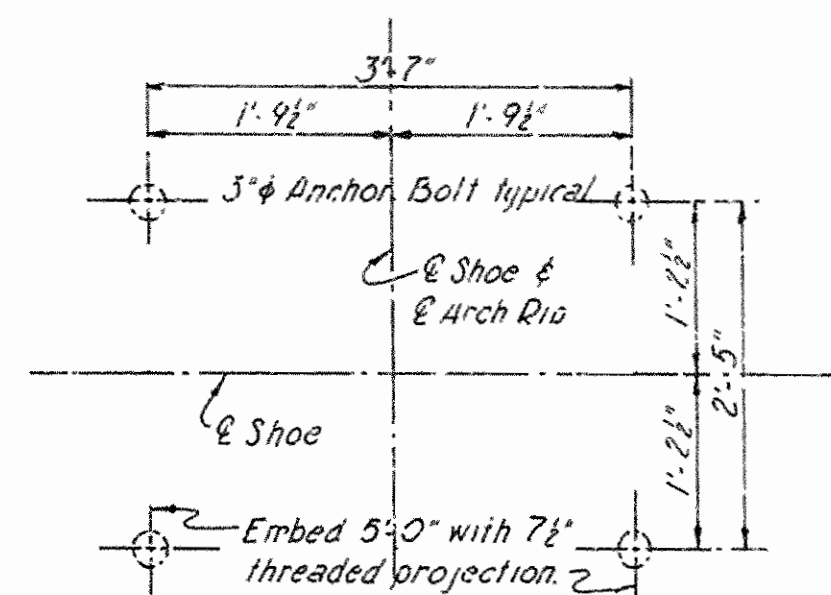
DRAWN BY KCB DATE 7-17-66 CHECKED BY BBE DATE 8-22-66
BRIDGE NO. 1210 A SCALE: 1"=80'-0" DRAWING NO. 14324

HOWARD, NEEDLES, TAMMEN & BERGENDOFF
CONSULTING ENGINEERS
KANSAS CITY NEW YORK

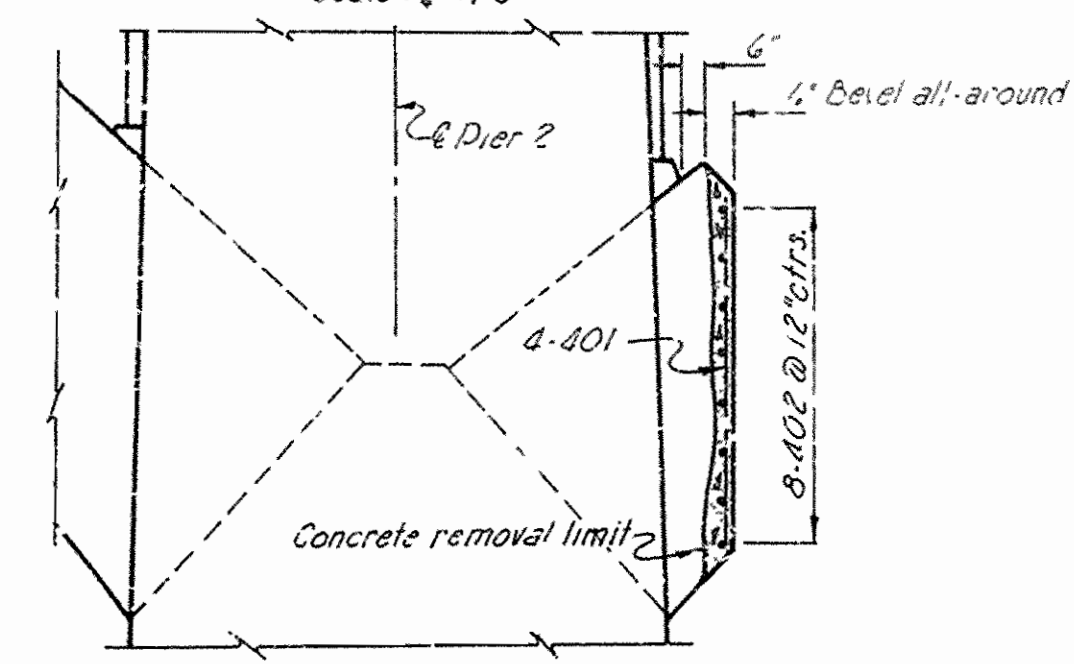
Job No.	4533	State	ARKANSAS	County	FRANKLIN	Sheet	6
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SECTION C-C



ANCHOR BOLT PLAN



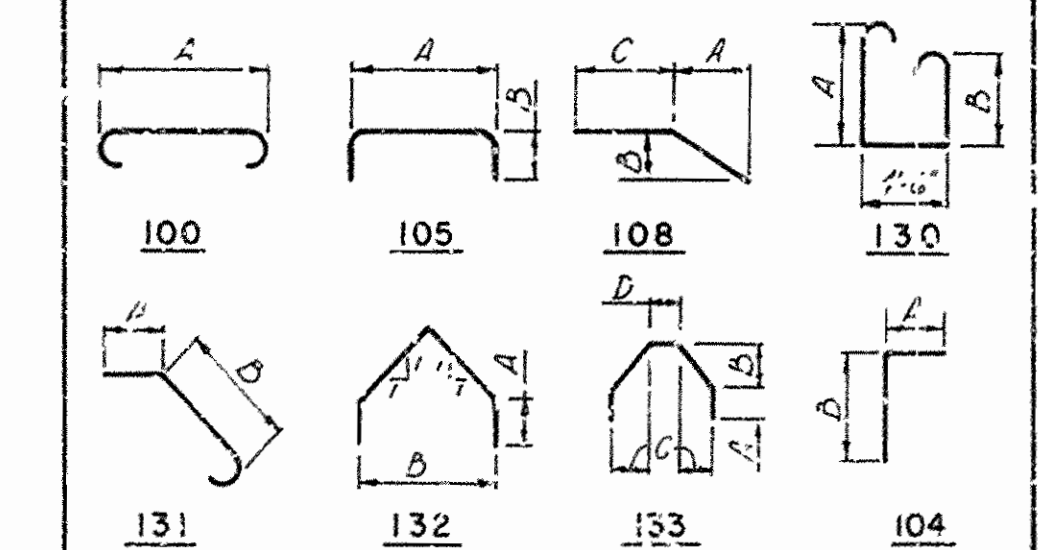
FINISH DETAIL FOR REMOVED ARCH

REINFORCING SCHEDULE

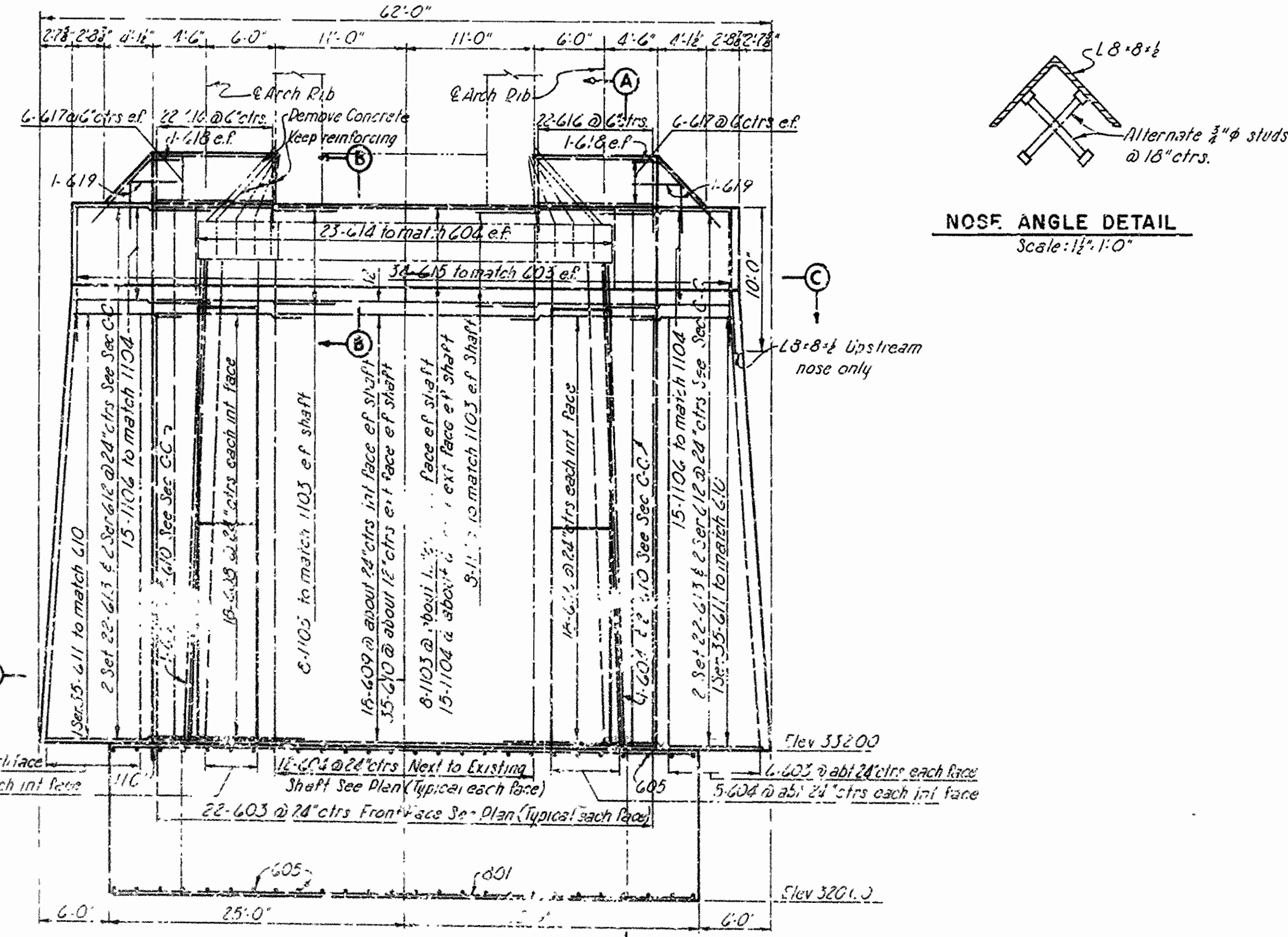
MARK	NUMBER	LENGTH	TYPE	DIMENSIONS			
				A	B	C	D
401	8	7'-0"	STR.				
402	16	7'-3"	STR.				
601	38	5'-0"	STR.				
602	4	19'-0" to 30'-0"	STR.				
603	68	36'-6"	STR.				
604	46	38'-0"	STR.				
605	52	17'-6"	STR.				
606	2 Ser.	51'-3" to 52'-3"	STR.				
607	10	4'-9"	STR.				
608	4 Ser.	19'-9" to 22'-3"	STR.				
609	36	22'-6"	STR.				
610	74	42'-9"	STR.				
611	2 Ser.	24'-0" to 30'-0"	STR.				
612	4 Ser.	24'-0" to 17'-3"	STR.				
613	88	10'-0"	STR.				
614	46	6'-9"	STR.				
615	68	15'-9"	STR.				
616	44	25'-0"	STR.				
617	24	10'-3"	STR.				
618	4	9'-0"	STR.				
619	4	14'-9"	STR.				
801	28	49'-6"	STR.				
1101	28	45'-6"	STR.				
1102	10	2'-6"	STR.				
1103	16	21'-9"	STR.				
1104	30	42'-9"	STR.				
1105	32	24'-0"	STR.				
1106	30	32'-0"	STR.				

Total Weight of Reinfo. = 580 LB

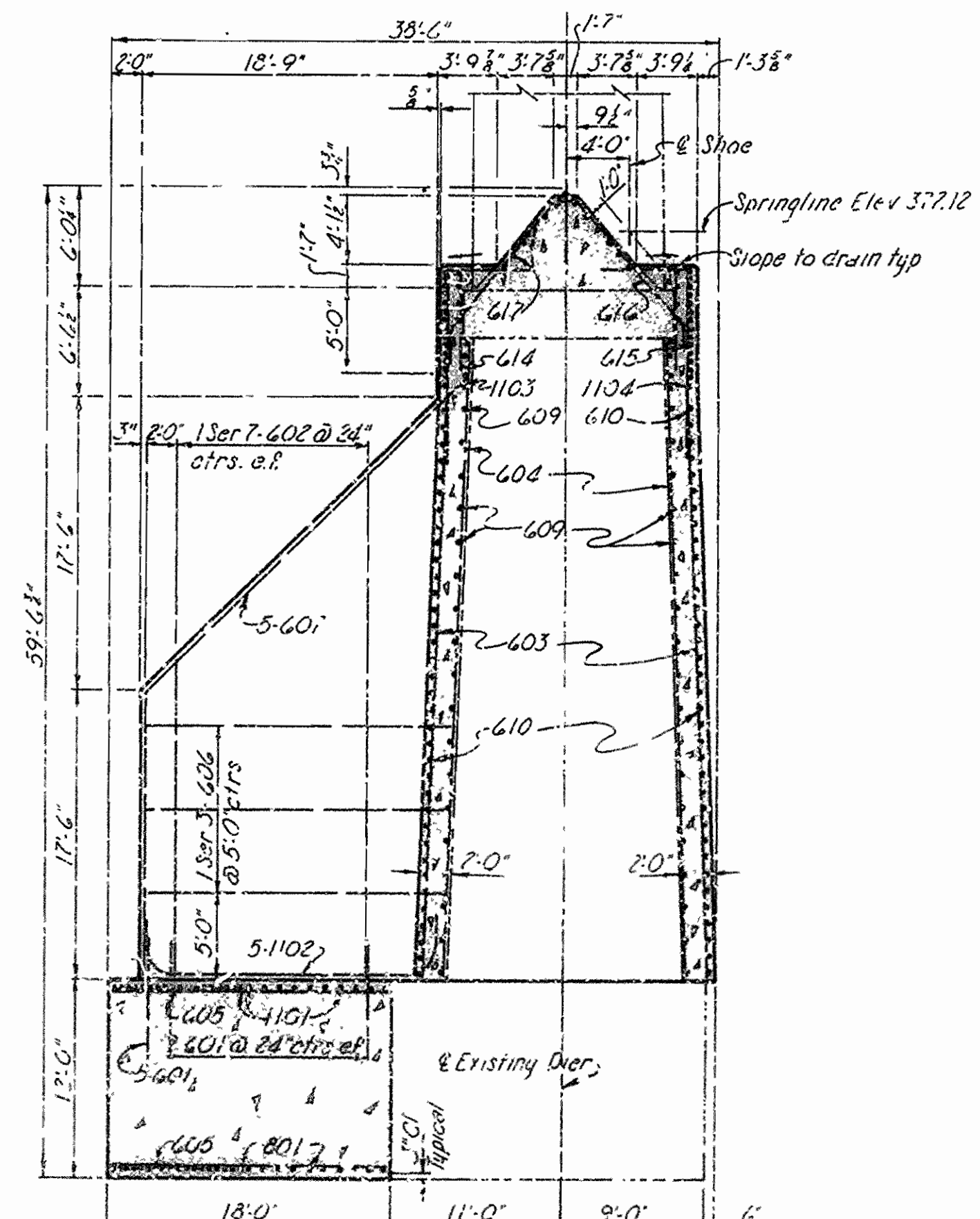
BENDING DIAGRAM



Notes:
Concrete for pier encasement, counterforts and footings shall be class S.
The bearing surface under shoes shall be formed by a substantial steel template supported in exact position from existing pier and formwork.
Nose angles shall be structural steel ASTM A-36 and shall be galvanized after fabrication.
Two horizontal construction joints will be allowed in the pier encasement, these shall be at least 5 ft. below the pier coping.
Cofferdam bracing shall be designed in such a manner that it may be blocked without penetration of encasement pours.
All bar dimensions are out-to-out. The following abbreviations have been used of each face, int. interior; ext. exterior.
For location see Foundation Plan and Right-of-Way Sheet 5.
For shoe details see sheet 15.

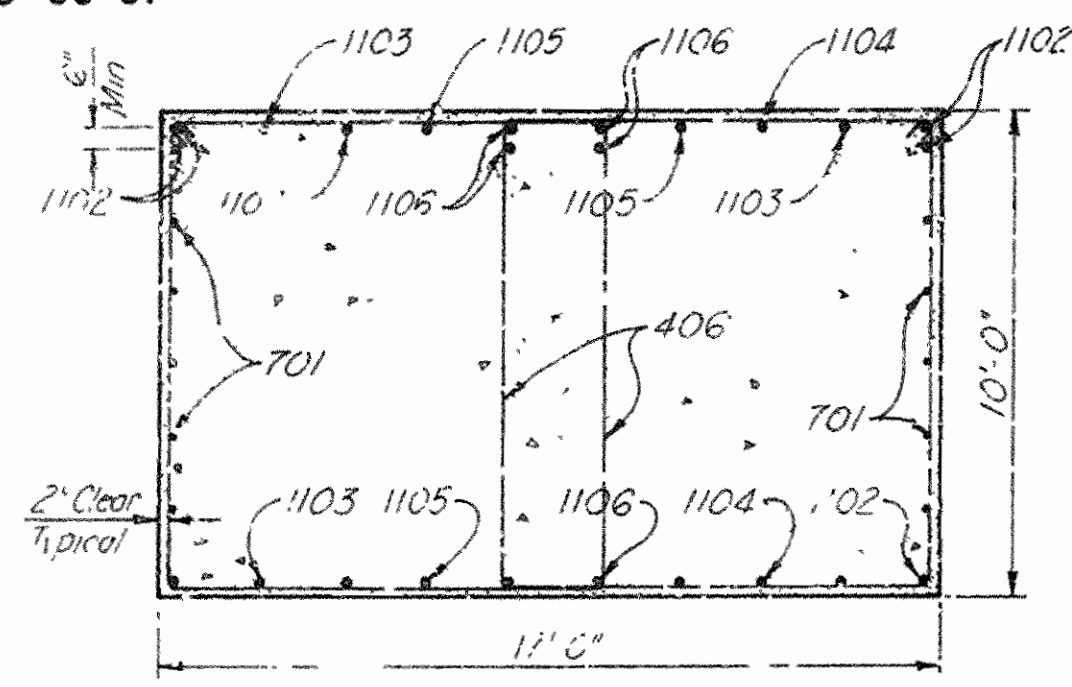


ELEVATION

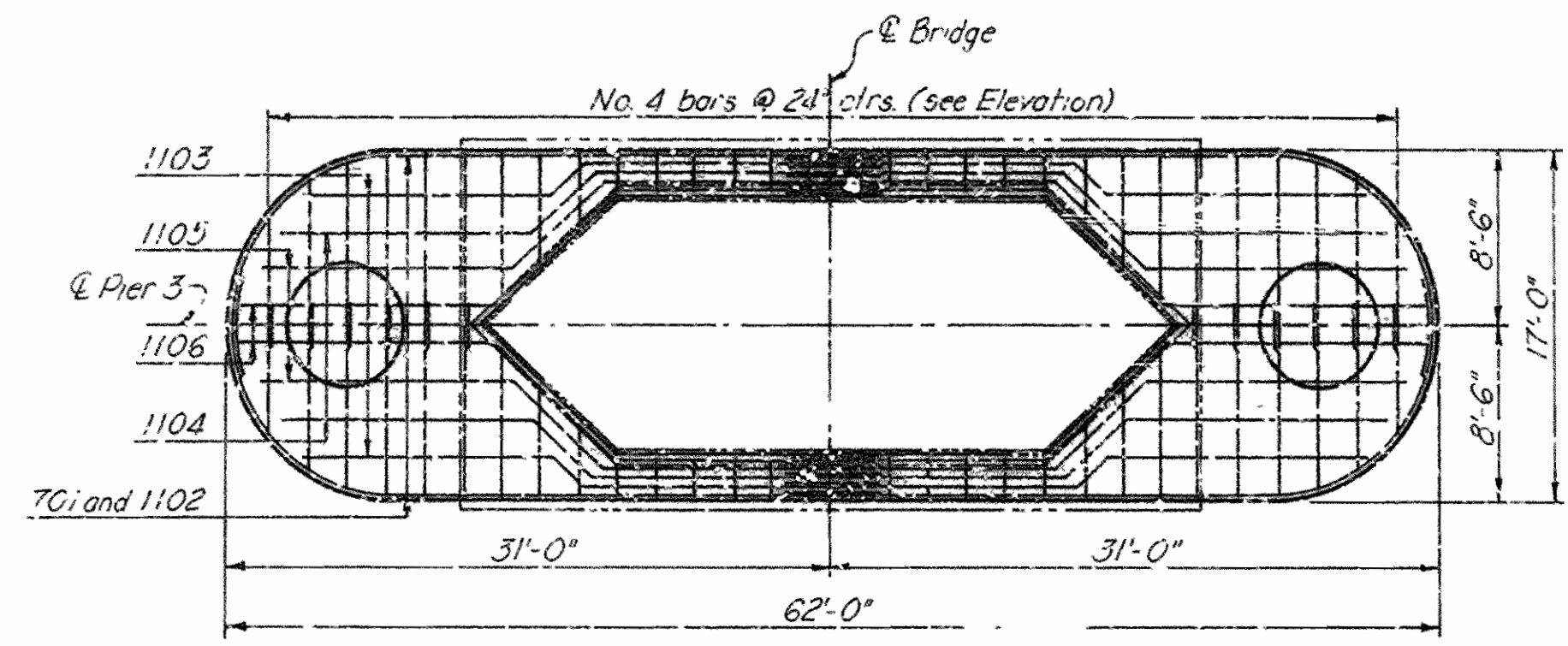


SECTION A-A

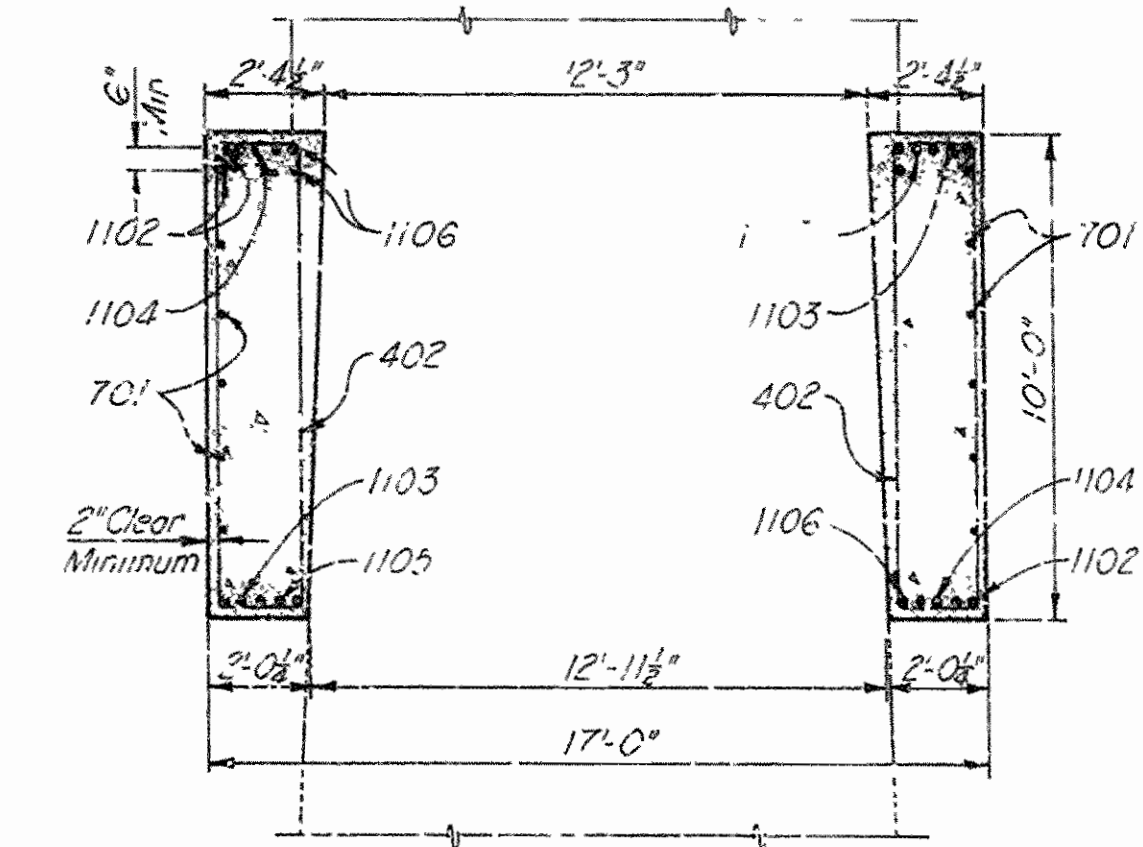
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS
BRIDGE ALTERATIONS
STATE HIGHWAY 23
PIER 2 MODIFICATIONS
DRAWN BY *VSD* DATE *8-8-66* CHECKED BY *DEB* DATE *8-22-66*
SCALE *1/2"=1'-0"*
BRIDGE NO. 1210 A DRAWING NO. 14325



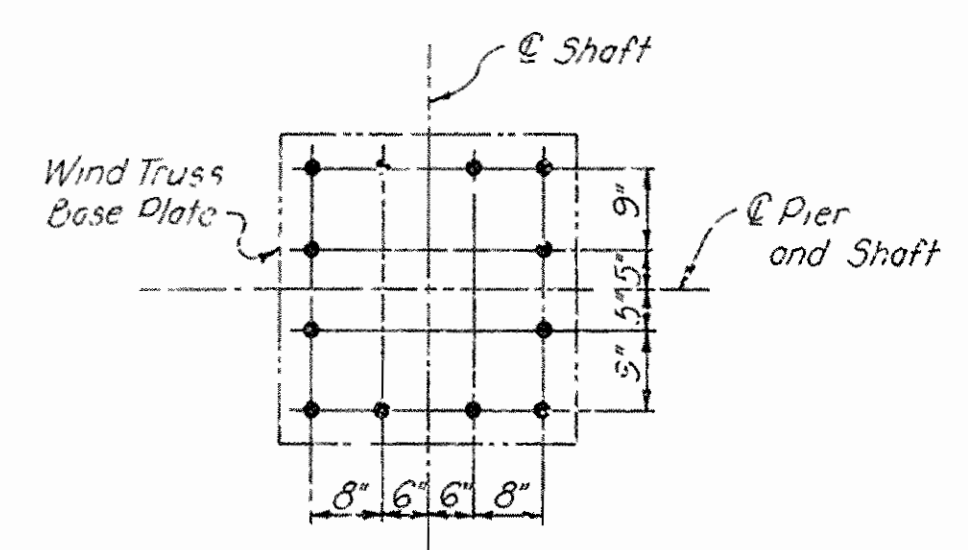
SECTION A-A
Scale: $\frac{1}{8}''=1'-0''$



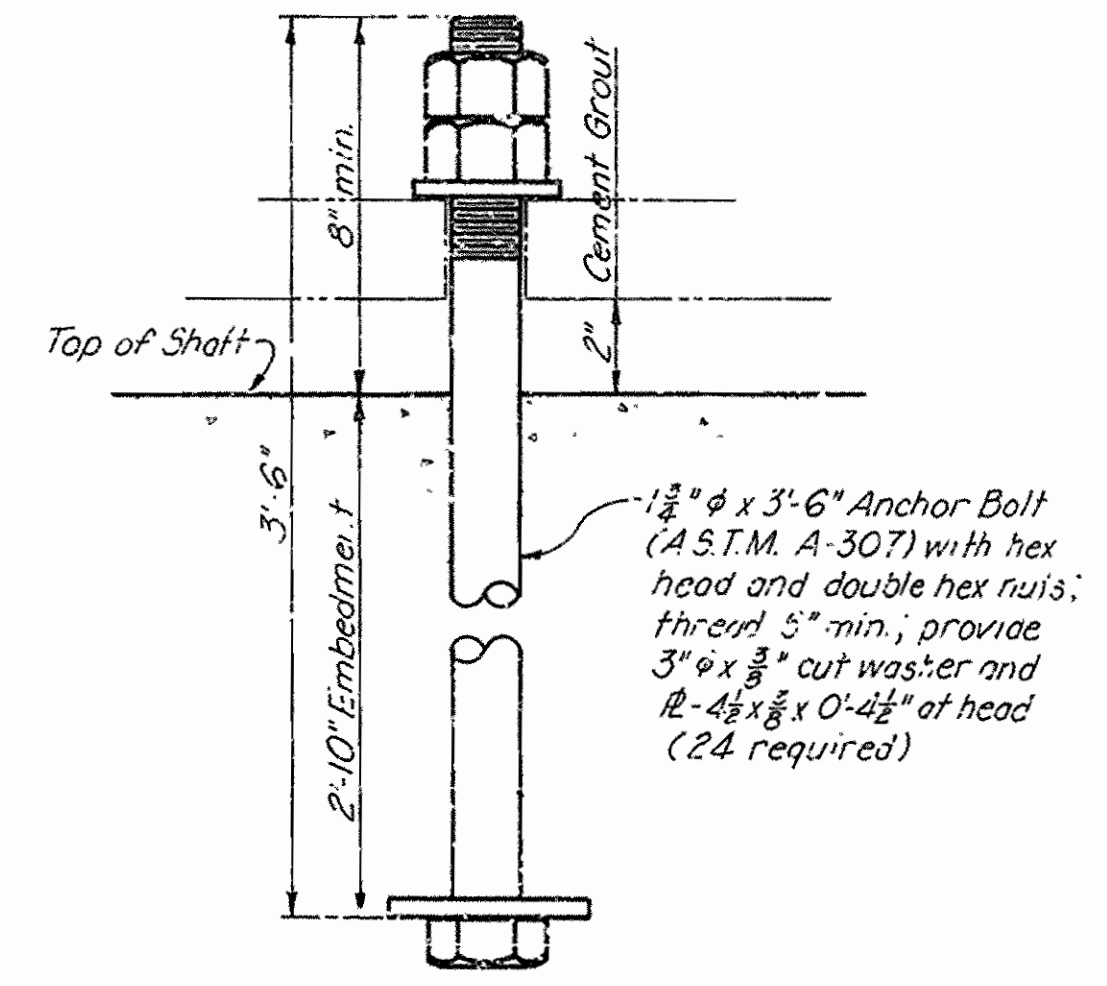
PLAN
Scale: $\frac{1}{8}''=1'-0''$



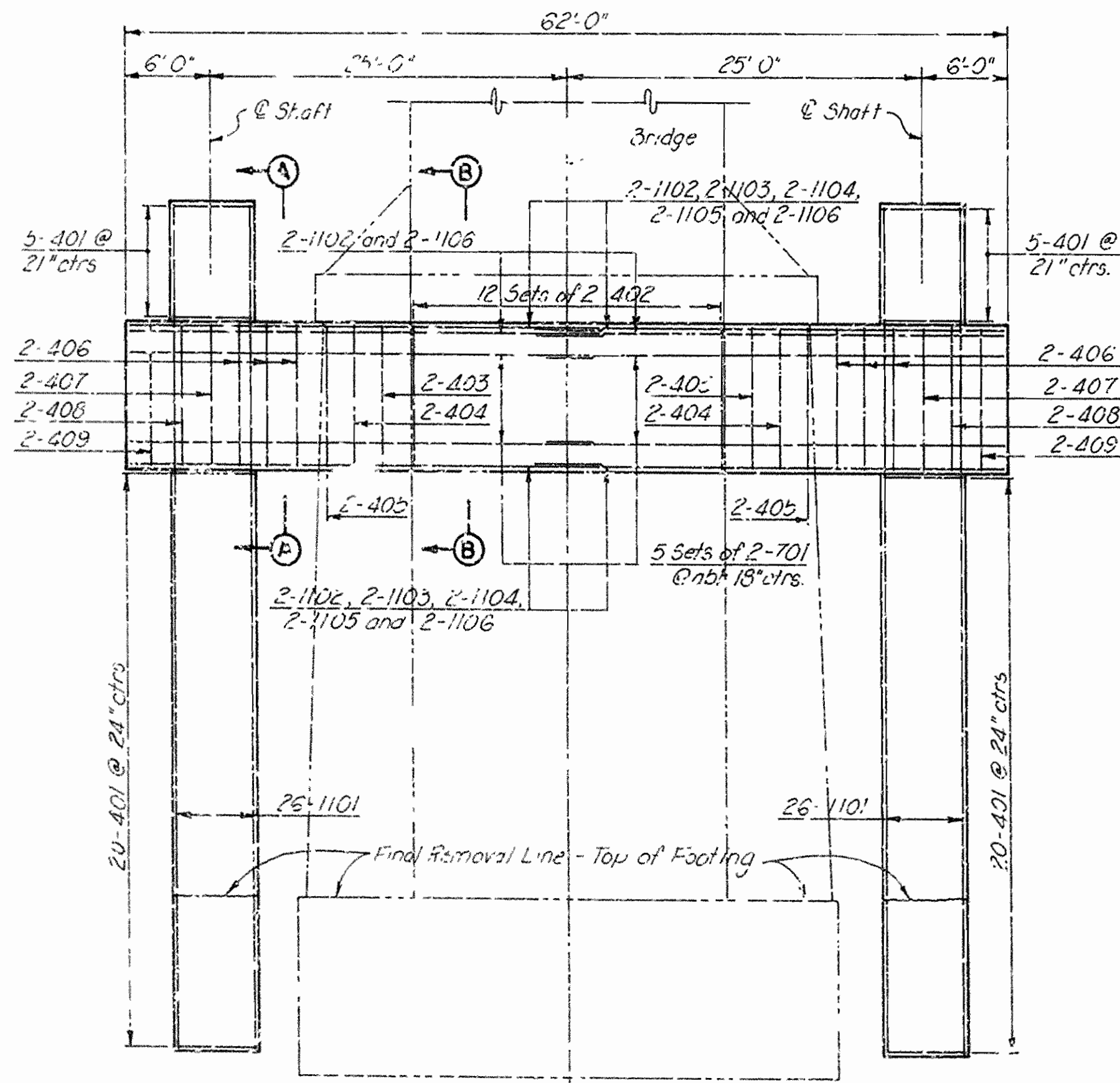
SECTION B-B
Scale: $\frac{1}{8}''=1'-0''$



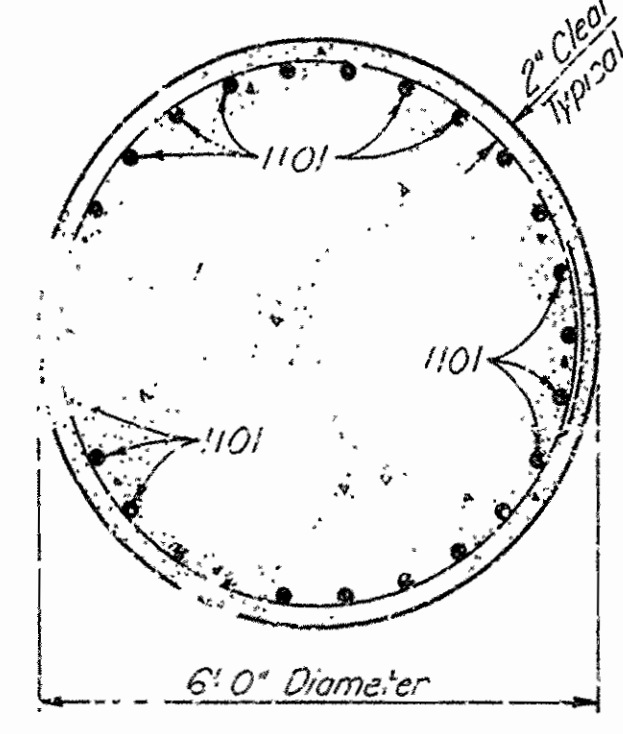
ANCHOR BOLT PLAN
Scale: $\frac{1}{8}''=1'-0''$



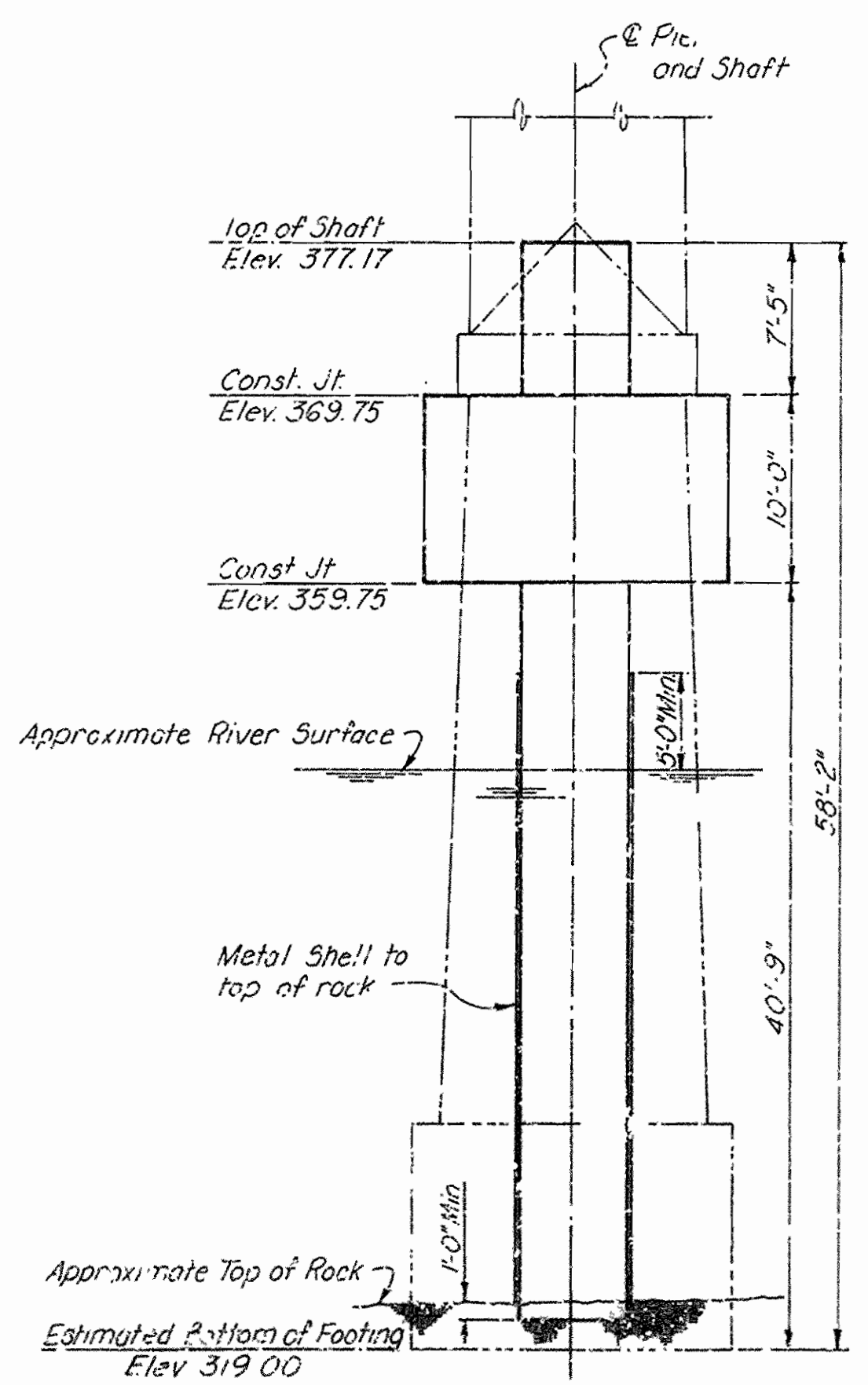
ANCHOR BOLT DETAIL
No Scale



ELEVATION
Scale: $\frac{1}{8}''=1'-0''$



TYPICAL SHAFT SECTION
Scale: $\frac{1}{4}''=1'-0''$

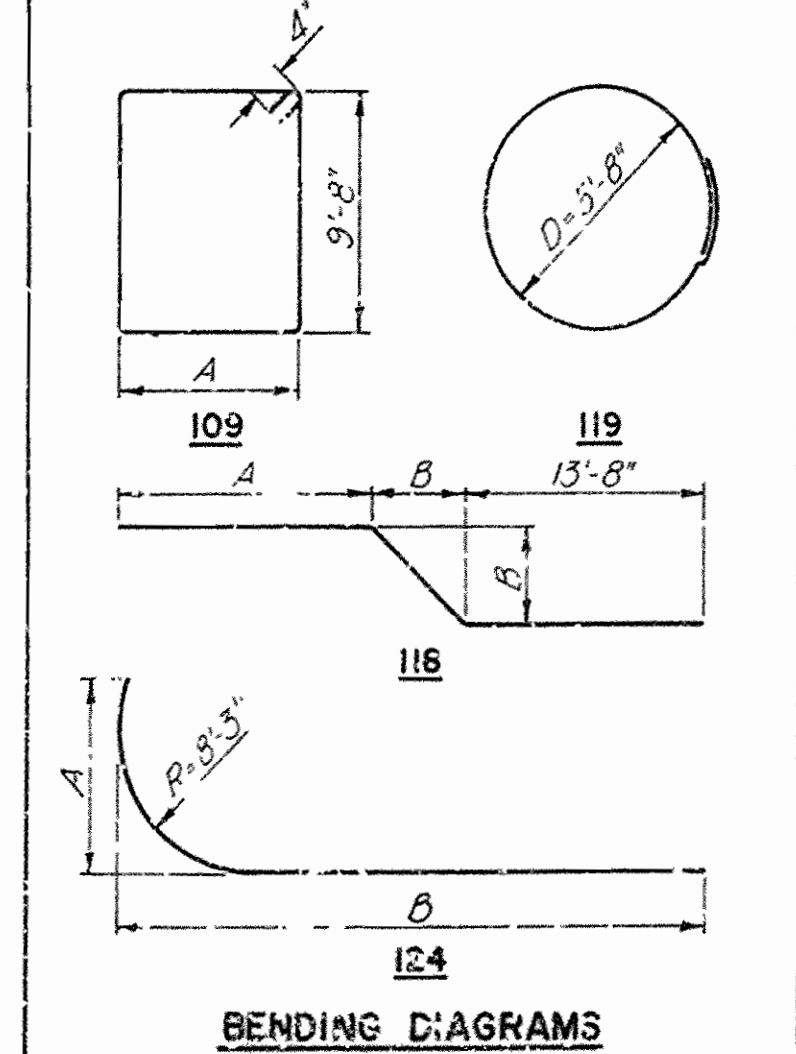


END ELEVATION
Scale: $\frac{1}{8}''=1'-0''$

Proj. No.	Field No.	State	County	Sheet
6		ARKANSAS	FRANKLIN	7
Job No.		4333		

BILL OF REINFORCEMENT					
MARK	NO.	LENGTH	TYPE	DIMENSIONS	
				A	B
401	50	19'-10"	119		
402	24	23'-4"	109	1'-8"	
403	4	27'-2"	109	3"	
404	4	31'-4"	109	5'-0"	
405	4	35'-2"	109	7'-7"	
406	12	38'-10"	109	9'-5"	
407	4	38'-0"	109	9'-0"	
408	4	36'-2"	109	8'-1"	
409	4	32'-6"	109	6'-3"	
701	20	39'-6"	124	9'-9"	32'-4"
1101	52	56'-6"	3tr		
1102	12	41'-2"	124	10'-7"	33'-2"
1103	8	30'-8"	118	14'-9"	1'-7"
1104	8	32'-4"	118	14'-4"	3'-0 1/2"
1105	8	33'-11"	118	13'-11"	4'-6"
1106	12	35'-7"	118	13'-6"	5'-1 1/2"

Total Weight of Reinforcement = 28,500 lbs



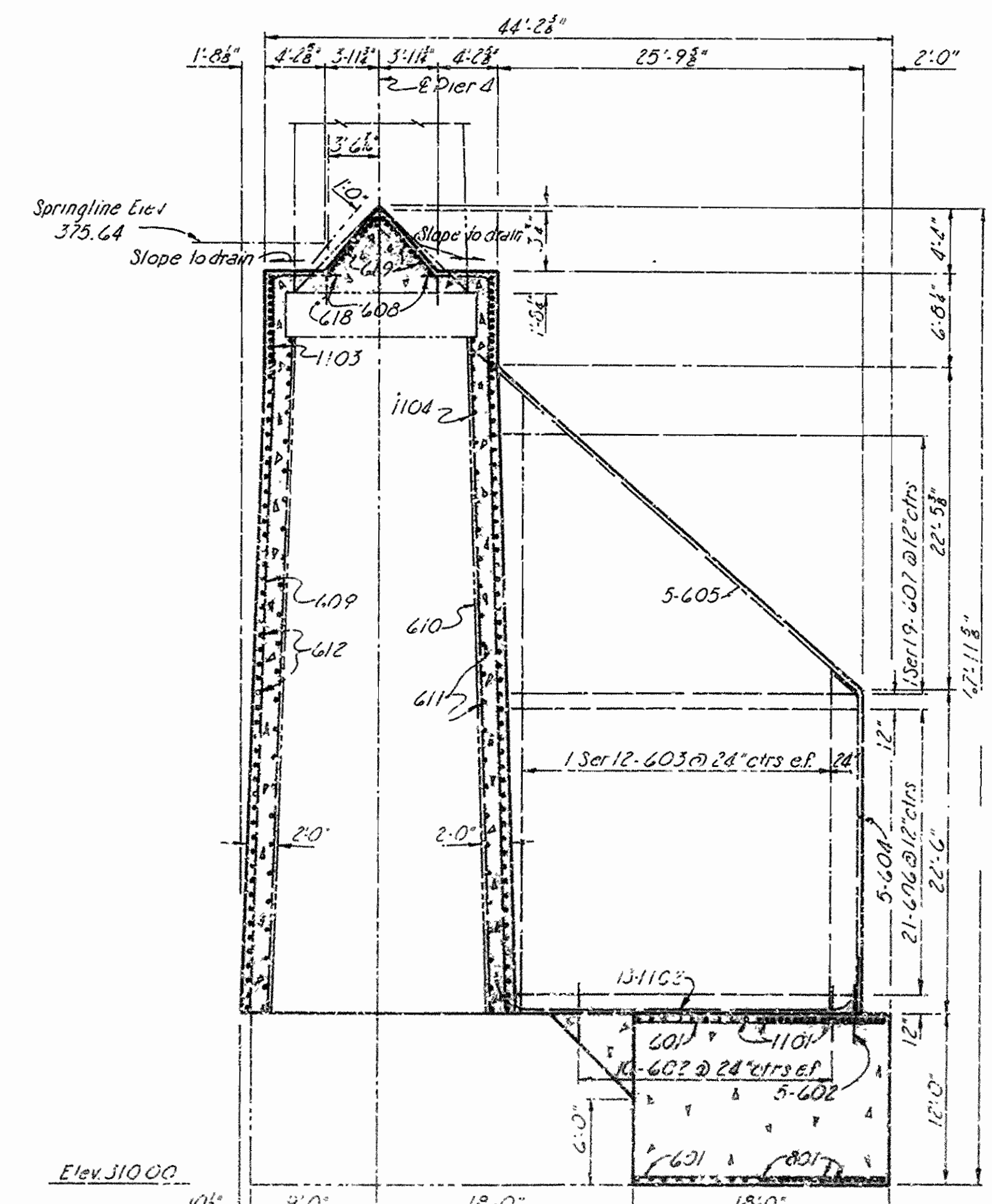
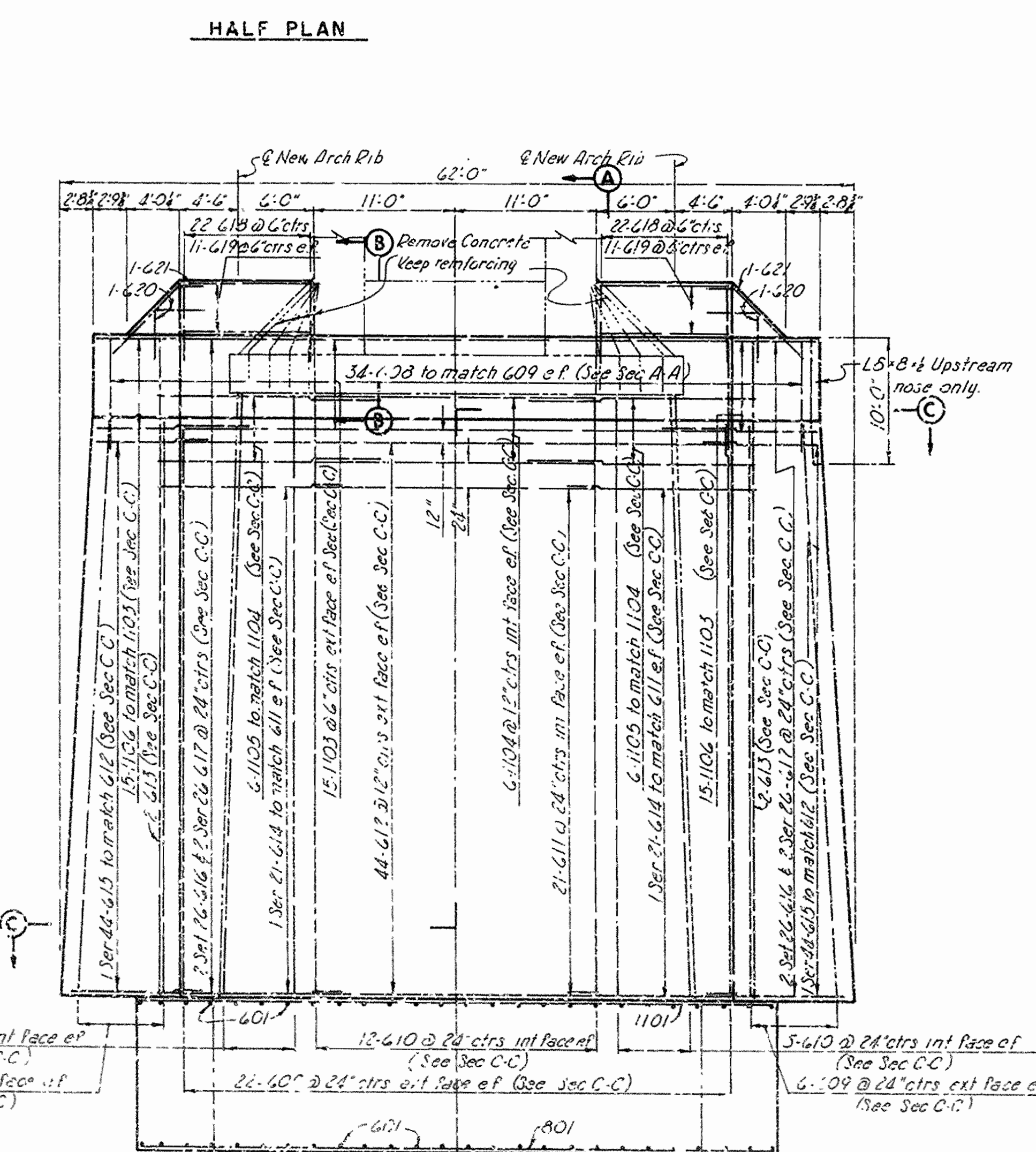
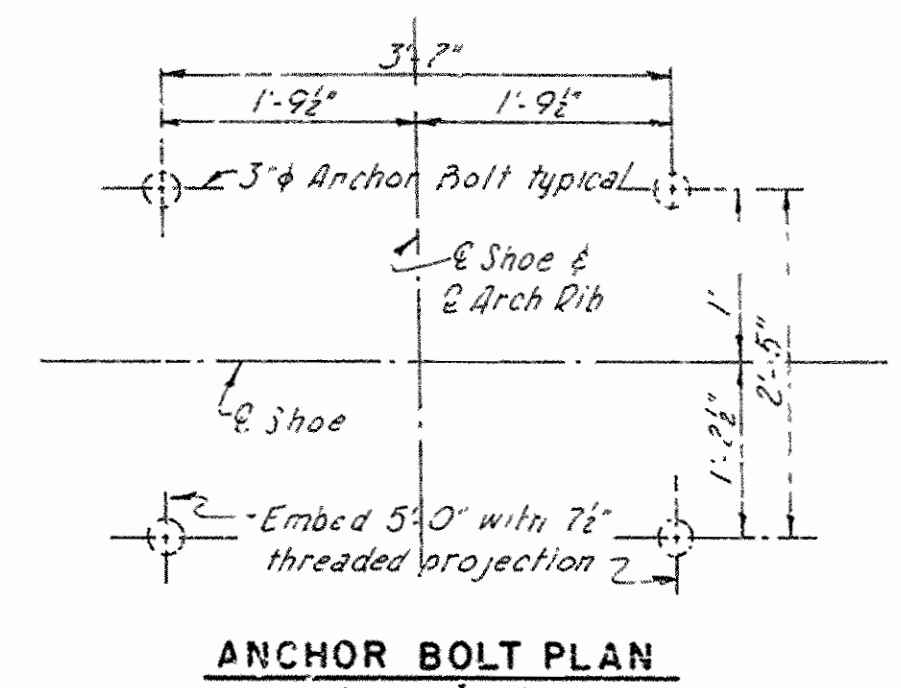
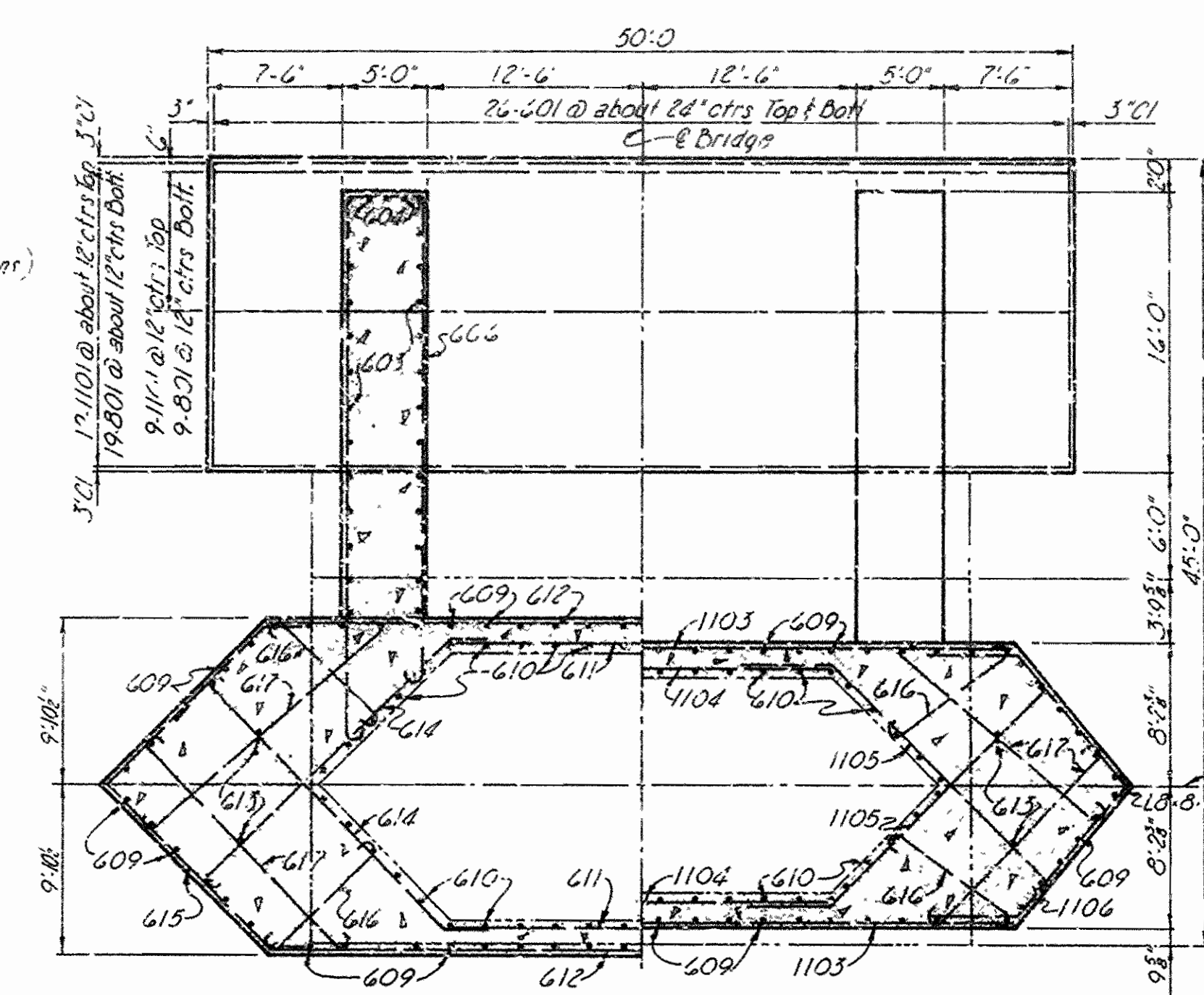
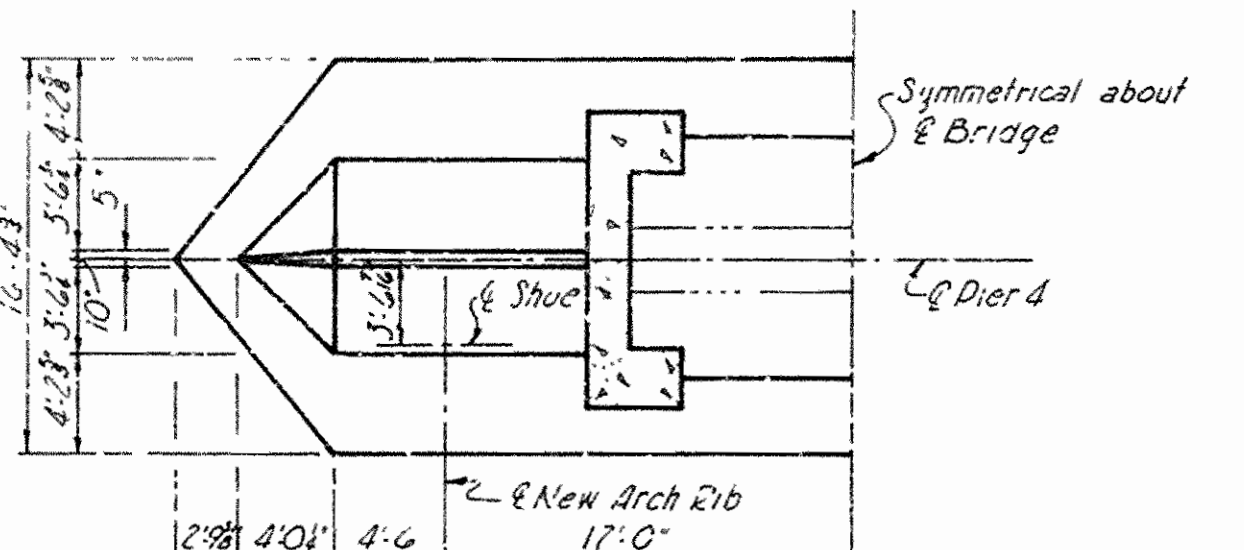
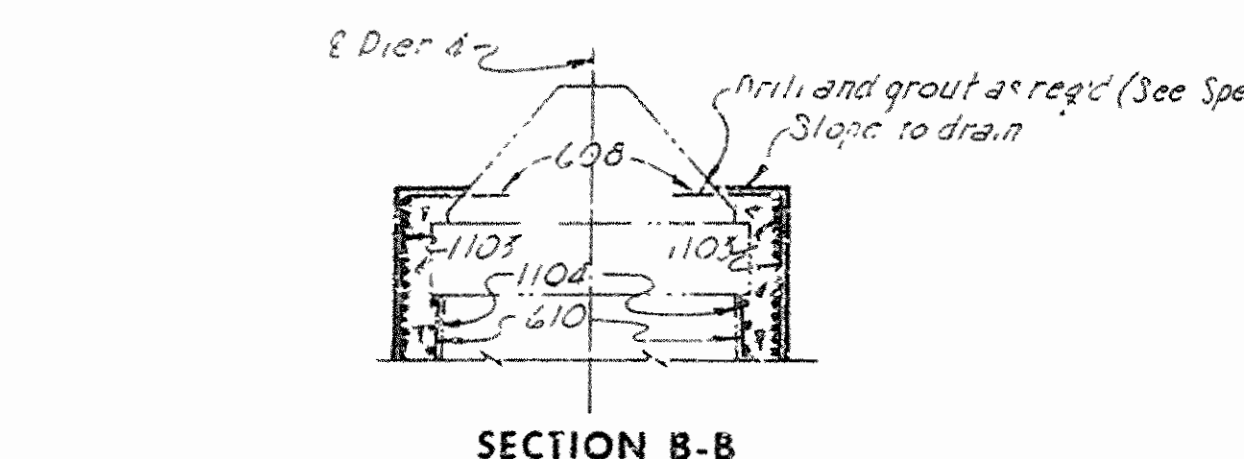
BENDING DIAGRAMS
Note: Dimensions provided for Bending Diagrams are out to out of bars

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS
OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

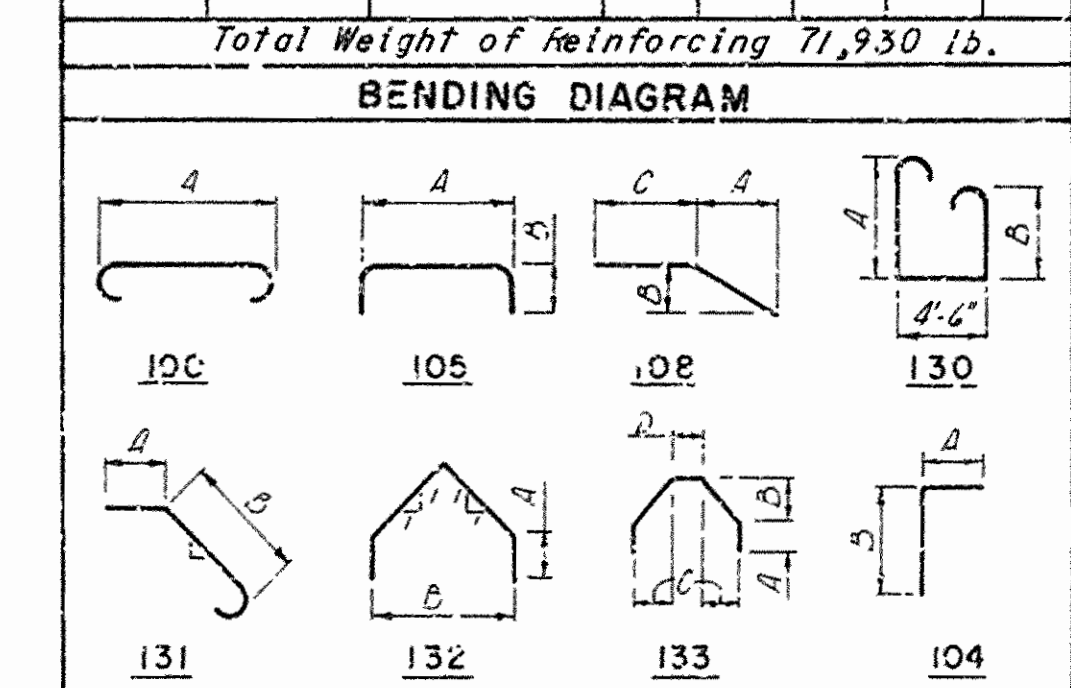
PIER 3 MODIFICATIONS

DRAWN BY L.D.H. DATE 6-15-66 CHECKED BY D.E.T. DATE 6-15-66
SCALE As Shown
BRIDGE NO. 1210 A DRAWING NO. 14326

Dist. No.	Proj. No.	State	County	Sheet
6		ARKANSAS	FRANKLIN	8



MARK	NUMBER	LENGTH	TYPE	DIMENSIONS			
				A	B	C	D
401	8	71'-0"	Str.				
402	16	31'-3"	Str.				
601	52	17'-6"	Str.				
602	50	41'-0"	Str.				
603	4 Ser 12	23'-9" to 42'-9"	Str.				
604	10	24'-0"	108	1'-9"	1'-6"	22'-0"	
605	10	36'-0"	Str.				
606	42	65'-9"	130	3'-4"	27'-6"		
607	2 Ser 19	23'-0" to 62'-6"	130	3'-4"	27'-6"		
608	68	13'-0"	104	4'-6"	8'-6"		
609	68	44'-6"	Str.				
610	44	46'-6"	Str.				
611	42	22'-0"	Str.				
612	88	43'-0"	Str.				
613	4	63'-0"	Str.				
614	4 Ser 21	19'-6" to 21'-0"	Str.				
615	2 Ser 44	28'-6" to 31'-0"	Str.				
616	104	91'-6"	100	8'-0"			
617	4 Ser 26	14'-3" to 17'-6"	1100	19'-0"	18'-0"		
618	44	14'-6"	133	2'-0"	4'-0"	3'-6"	6"
619	44	10'-0"	Str.				
620	4	10'-0"	133	2'-0"	2'-0"	1'-6"	3"
621	2	51'-6"	108	1'-6"	1'-6"	7'-6"	
801	28	49'-6"	Str.				
1101	28	49'-6"	Str.				
1102	25	29'-3"	105	25'-3"	24'-0"		
1103	30	42'-9"	Str.				
1104	12	21'-9"	Str.				
1105	24	24'-6"	131	5'-2"	17'-6"		
1106	30	31'-0"	132	5'-0"	15'-6"		



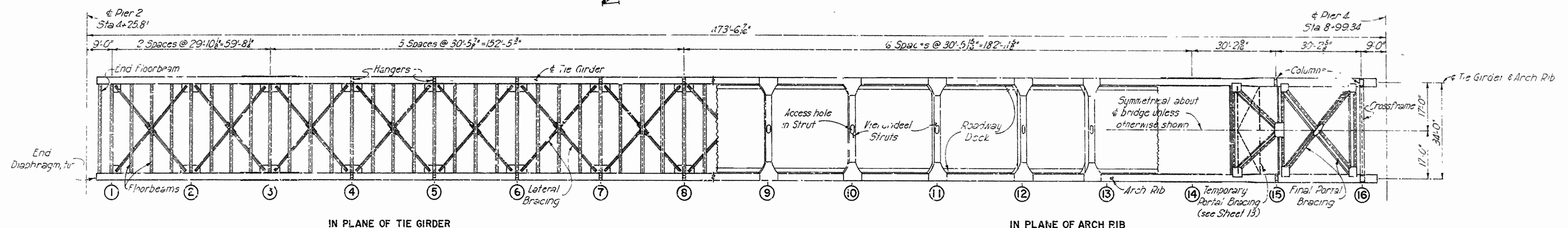
Notes:
All bar dimensions are out to out
The following abbreviations have been used -
e.f. - each face
int - interior
ext - exterior
For location see "Four Section Plan and Right-of-Way," sheet 5
For shoe details see sheet 15
For construction details and material: see sheet 6.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS

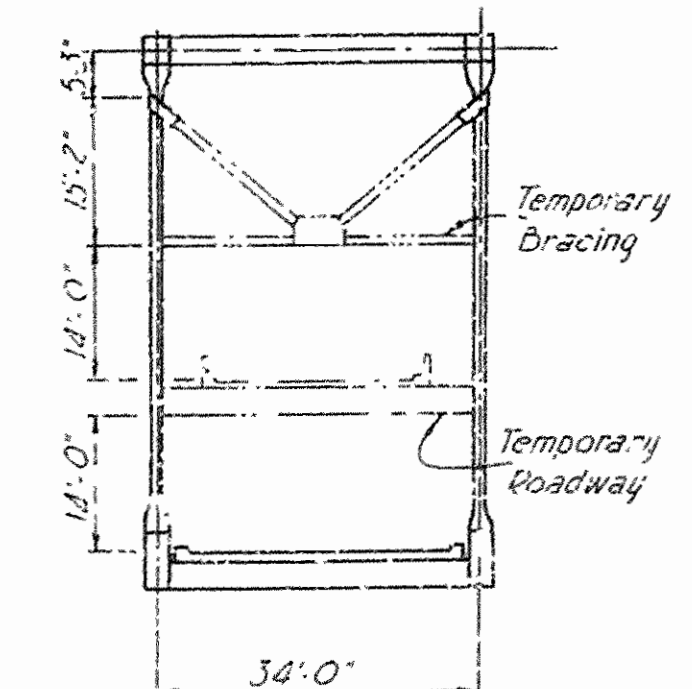
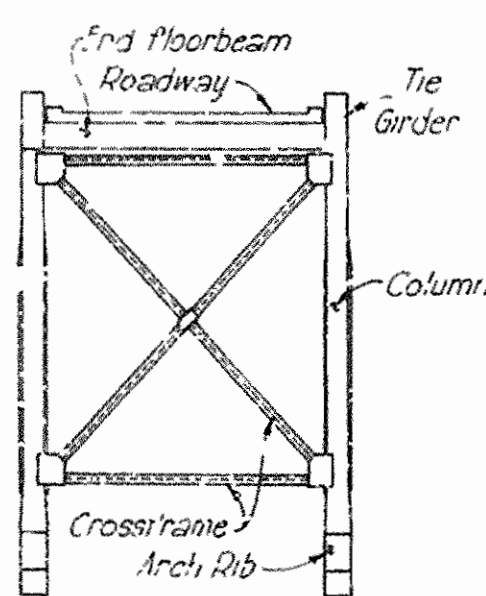
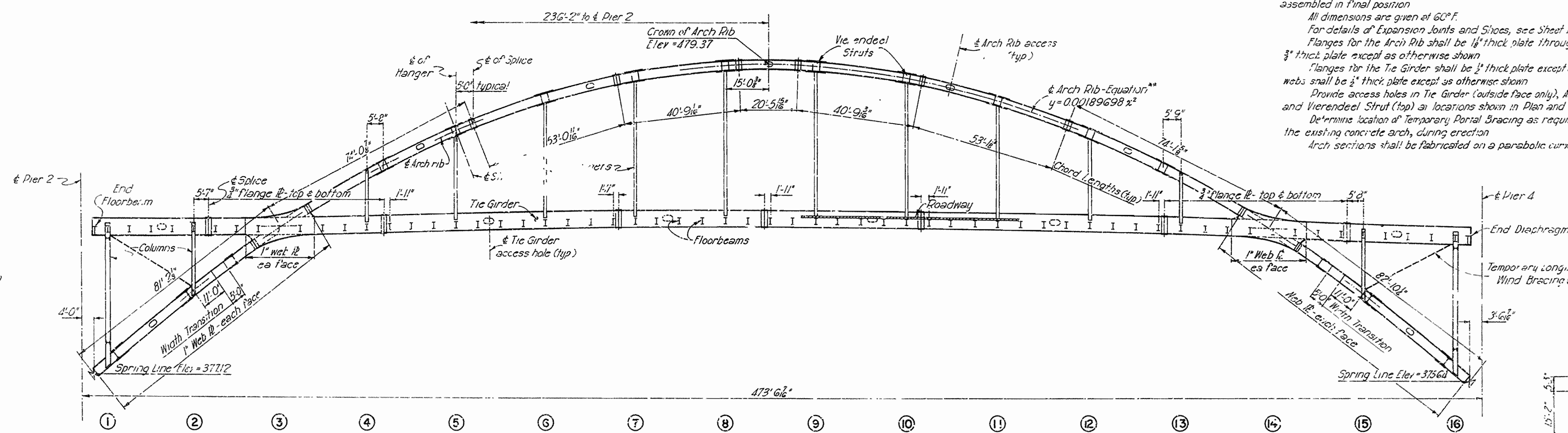
OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

PIER 4 MODIFICATIONS

DRAWN BY *VCC* DATE *8-9-60* CHECKED BY *QED* DATE *8-30-60*
BRIDGE NO. 1210 A SCALE: *1/4"=1'-0"* DRAWING NO. 14327



Note
 All steel for the tie girder, arch rib, field splices, and access door reinforcing plates shall be High Strength, Low Alloy, Structural Manganese Vanadium Steel, ASTM A-441; all other steel for permanent and temporary members shall be Structural Steel, ASTM A-36.
 All field connections shall be made with 3/4" high strength bolts, ASTM A-325, in 1/2" holes. Bolt holes for field splices shall be subpunched, and reamed while assembled in final position.
 All dimensions are given at 60°F.
 For details of Expansion Joints and Slabs, see Sheet No. 15.
 Flanges for the Arch Rib shall be 1 1/2" thick plate throughout; webs shall be 3/4" thick plate except as otherwise shown.
 Flanges for the Tie Girder shall be 3/4" thick plate except as otherwise shown; webs shall be 3/4" thick plate except as otherwise shown.
 Provide access holes in Tie Girder (outside face only), Arch Rib (inside face only), and Vertical Strut (top) at locations shown in Plan and Elevation.
 Determine location of Temporary Partial Bracing as required to clear members of the existing concrete arch, during erection.
 Arch sections shall be fabricated on a parabolic curve.

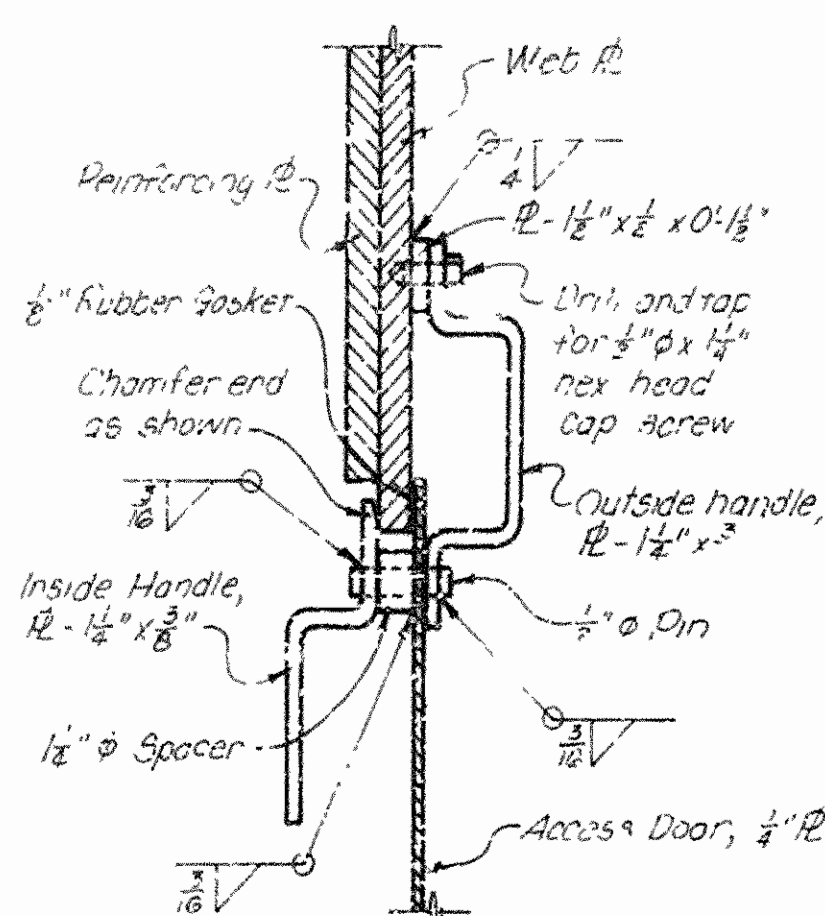


PANEL POINT	END*	1	2	3	4	5	6	7	8	9	10	11	12	14	15	15	END*	
ELEVATION	ARCH	377'-11 1/2"	381'-5 1/2"	405'-6 1/2"	426'-11 1/2"	443'-9 1/2"	457'-10 1/2"	468'-4 1/2"	475'-5 1/2"	478'-11 1/2"	478'-11"	475'-3 1/2"	468'-3 1/2"	457'-8 1/2"	425'-10 1/2"	404'-10 1/2"	380'-5 1/2"	375'-7 1/2"
FULL D.L.	GIRDER	—	425'-11 1/2"	425'-10 1/2"	426'-11 1/2"	425'-9 1/2"	427'-7 1/2"	423'-3 1/2"	428'-8"	428'-10 1/2"	428'-6 1/2"	428'-3 1/2"	427'-8"	425'-10 1/2"	425'-10 1/2"	424'-0 1/2"	—	—
D.L. DEFLECTION	ARCH	0"	0"	1/8"	1/4"	1/2"	1 1/2"	2 3/4"	5 1/2"	3 1/2"	3 1/2"	2 3/4"	1 1/2"	1/2"	0"	0"	0"	0"
	GIRDER	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
ARCH CHORD LENGTH**		0'-7 1/2"	38'-3 1/2"	36'-3 1/2"	35'-2 1/2"	33'-7"	32'-3 1/2"	31'-3 1/2"	30'-8 1/2"	30'-5 1/2"	30'-8 1/2"	31'-2 1/2"	32'-3 1/2"	33'-7 1/2"	35'-2 1/2"	36'-9 1/2"	38'-10 1/2"	7'-3 1/2"
CHORD SHORTENING		—	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"
GIRDER LENGTHENING		—	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"	0"

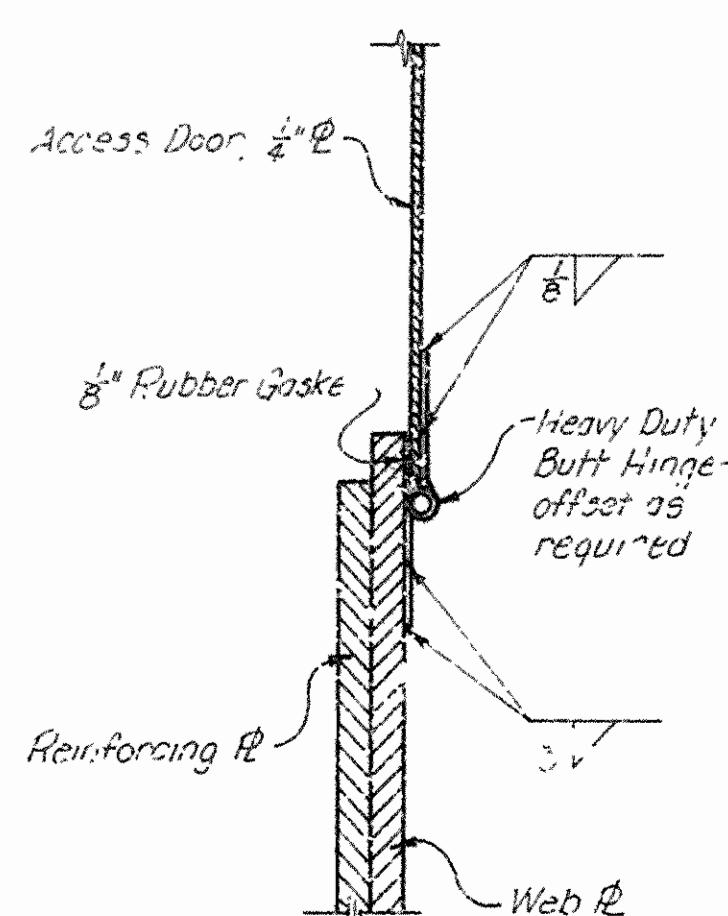
*End point in table represents edge of end diaphragm on Tie Girder, or intersection of Arch Rib and Spring Line.
 Note: Elevations, deflections, lengthening and shortening are given at Tie Girder or Arch Rib.
 **All dimensions on the arch rib equation are given to final position, after dead load deflection.

Fed. Proj. No.	Fed. Aid. Proj. No.	State	County	Sheet
		ARKANSAS	F. CLINK	10
Job No.			4533	

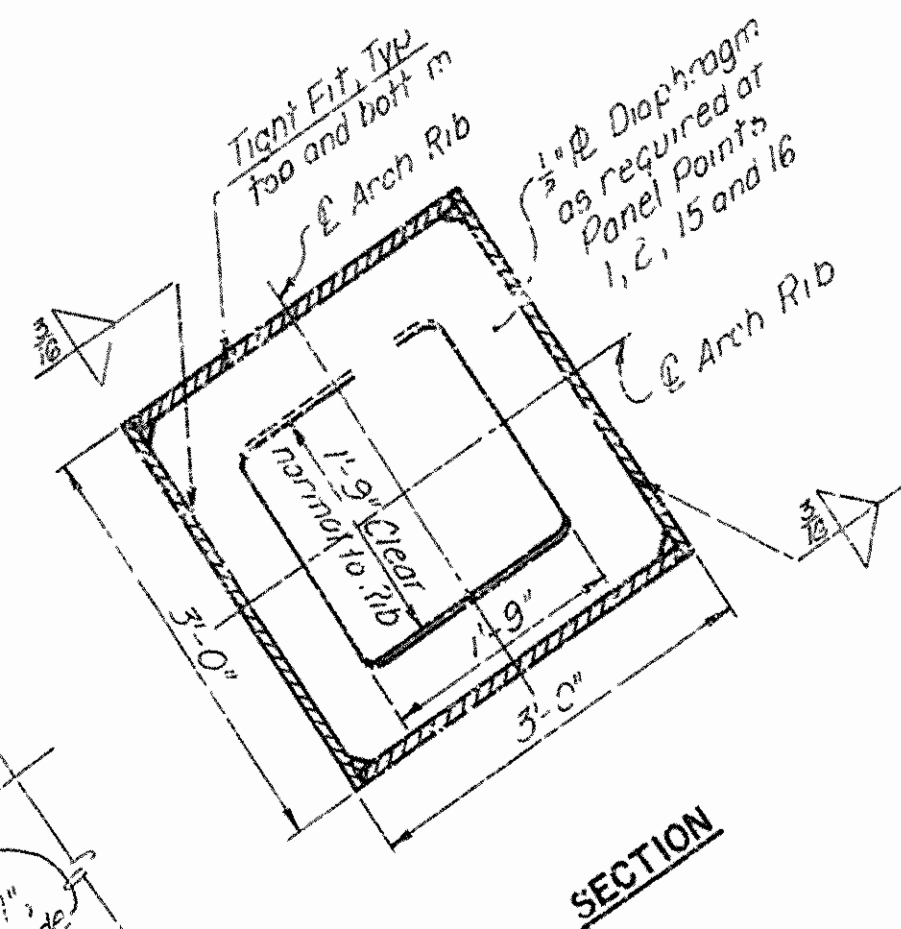
210



LATCH DETAIL
Scale: 3"=1'-0"

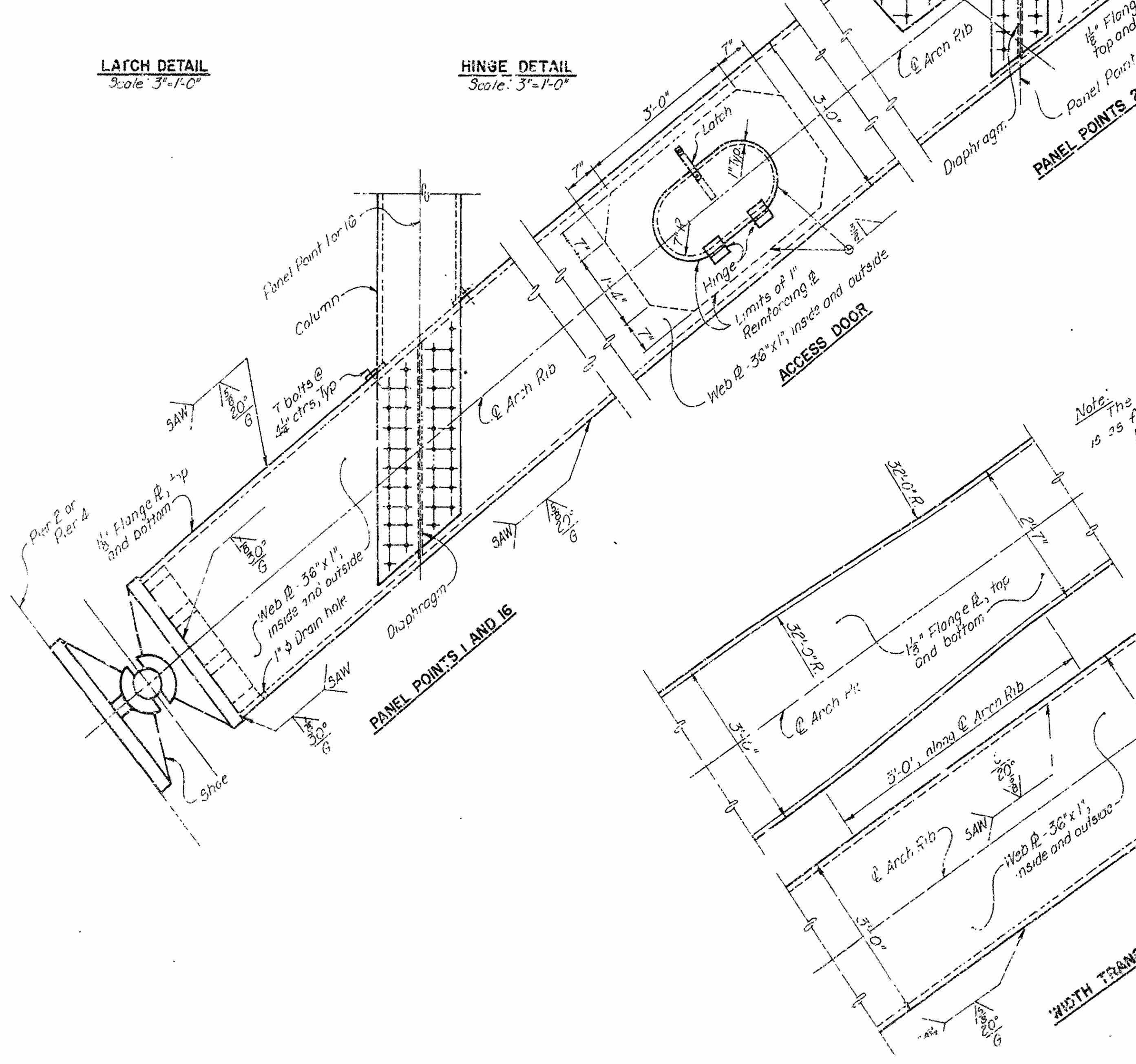


HINGE DETAIL
Scale: 3"=1'-0"

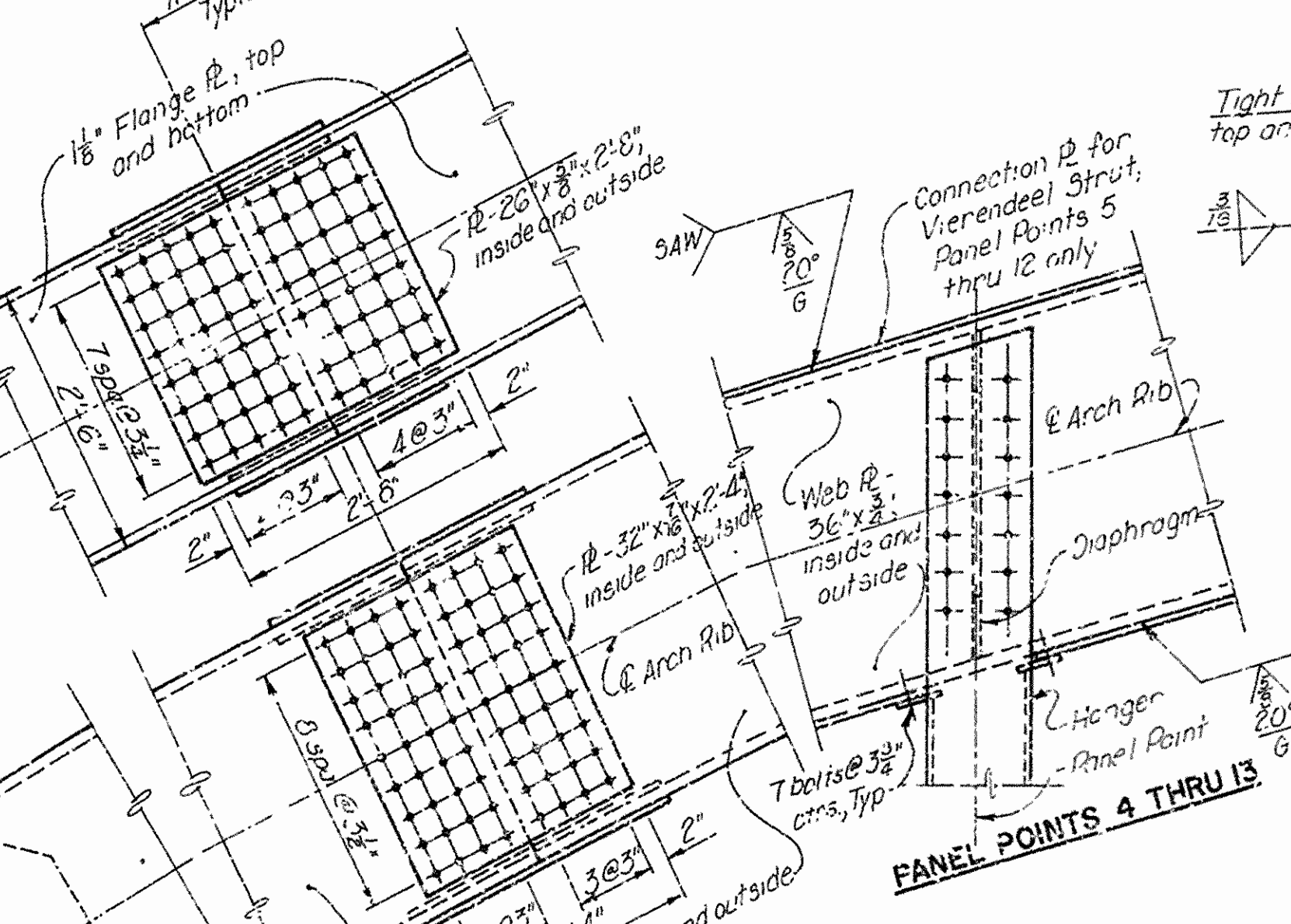


SECTION

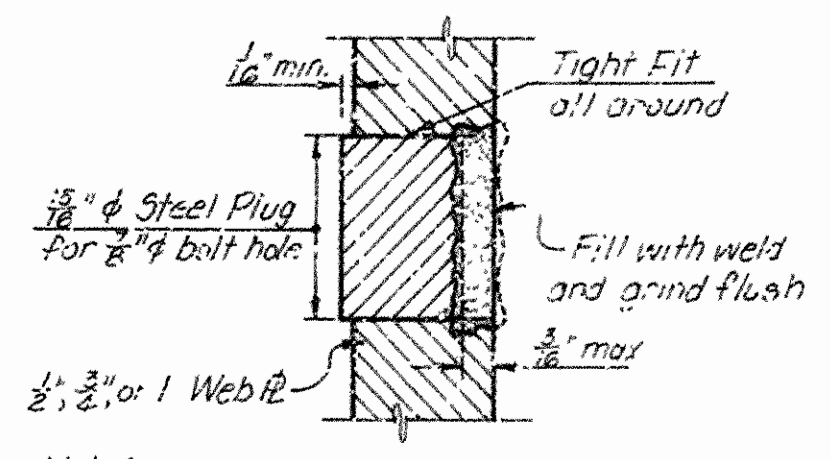
Notes:
All temporary members and their connection plates shall be removed for the final condition, and bolt holes in the arch rib shall be filled and ground flush as indicated in Detail A.
Diaphragms, as detailed in the Sections, shall be provided at each column and hanger connection to the arch rib. Diaphragms shall be provided as shown. Except as otherwise shown, details of access doors in arch rib are identical. For details of arch rib at the intersection with the tie girder, see Panel Points 3 and 14, Tie Girder Details Sheet.
SAW denotes welds to be made by the submerged arc process. Material for the arch rib webs, flanges, field splice plates, and access hole reinforcing plates shall be High Strength Low Alloy Structural Manganese Vanadium Steel, A.S.T.M. A-441.
Material for diaphragms, temporary members, columns, hangers, and connection plates shall be Structural Steel, A.S.T.M. A-36.
All bolted connections shall be made with 3/8" High Strength Bolts, A.S.T.M. A-325, in 1/2" diameter holes.
Arch rib access doors shall be placed on the inside face of arch rib only.



Note: The cut to out width of the arch rib is as follows:
1. Between shoes and width transition is 3'-0"
2. Between width transition and tie girder is 2'-6"
3. Above intersection with tie girder is 3'-0" throughout.
The cut to out depth of the arch rib is 3'-0" throughout.



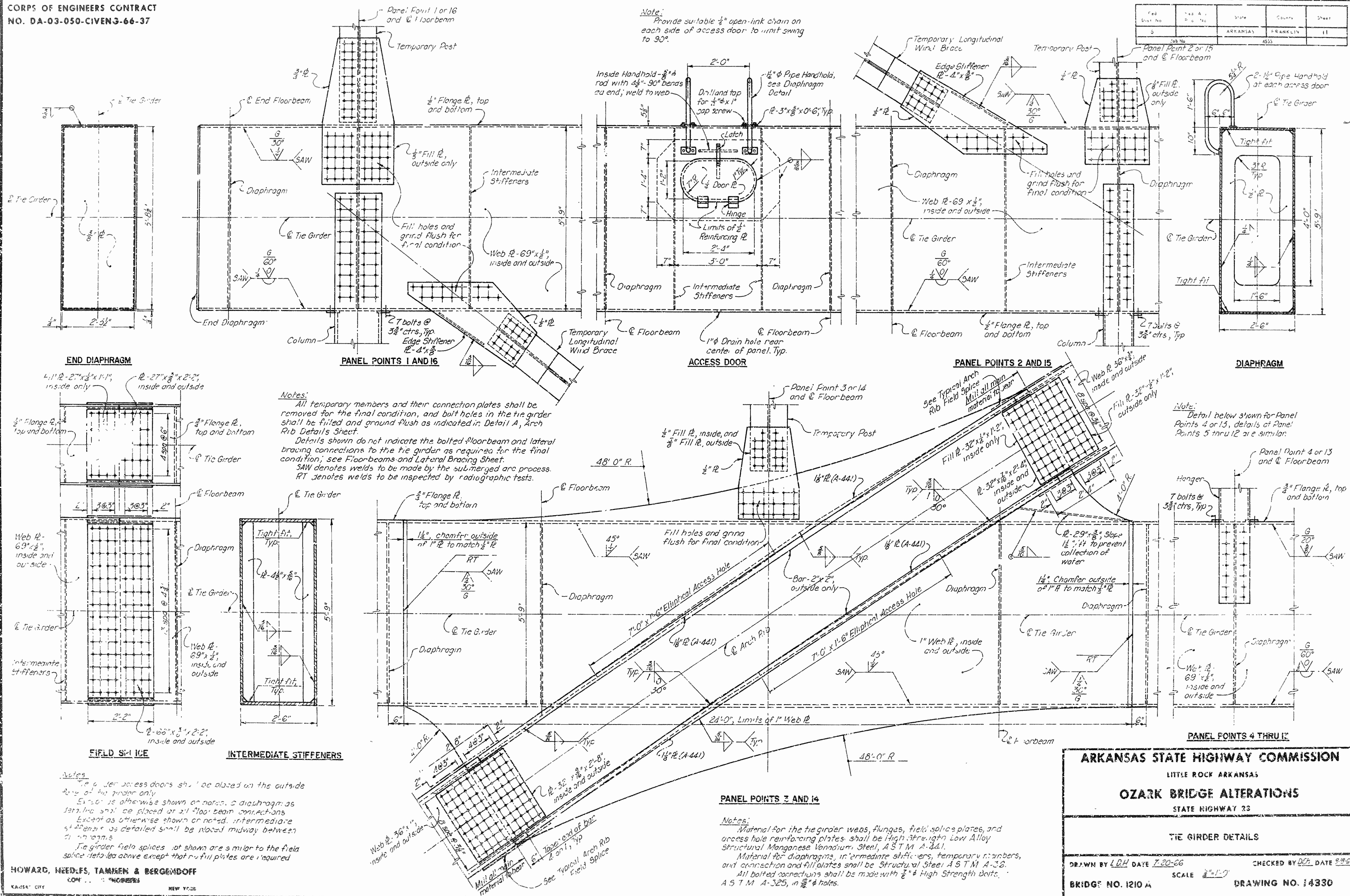
SECTION



DETAIL A
No Scale

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS
OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23
ARCH RIB DETAILS
DRAWN BY L.H. DATE 7-27-66 CHECKED BY J.E. DATE 8-22-66
BRIDGE NO. 1210 A SCALE 3/8"=1'-0" DRAWING NO. 14329

Proj. No.	Task No.	State	County	Sheet
5		ARKANSAS	FRANKLIN	11
Job No.	4555			



ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

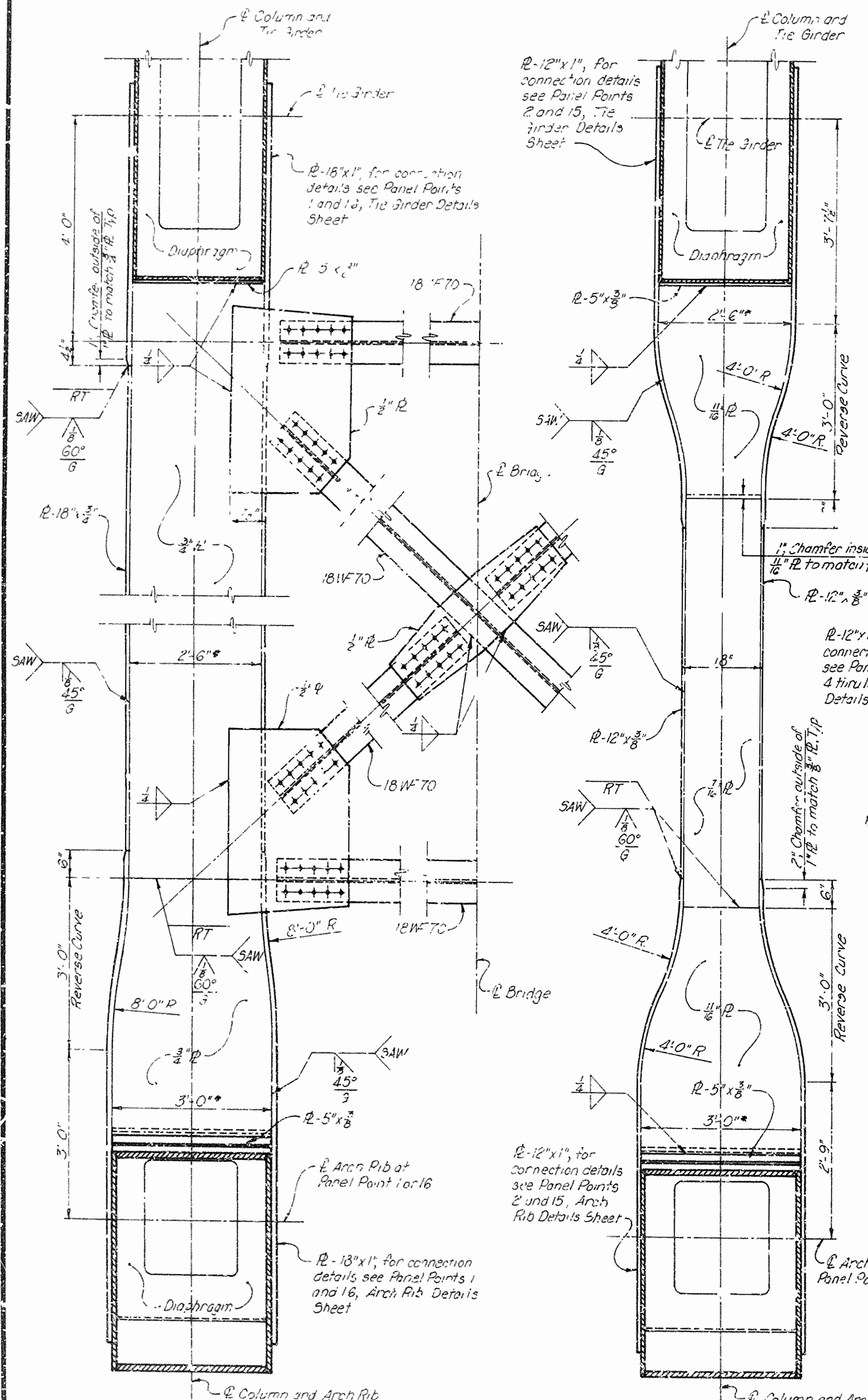
OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

TIE GIRDER DETAILS

DRAWN BY L.D.H. DATE 7-20-66 CHECKED BY D.C.P. DATE 8-9-66
BRIDGE NO. 1210 A SCALE 1"=1'-0" DRAWING NO. 14330

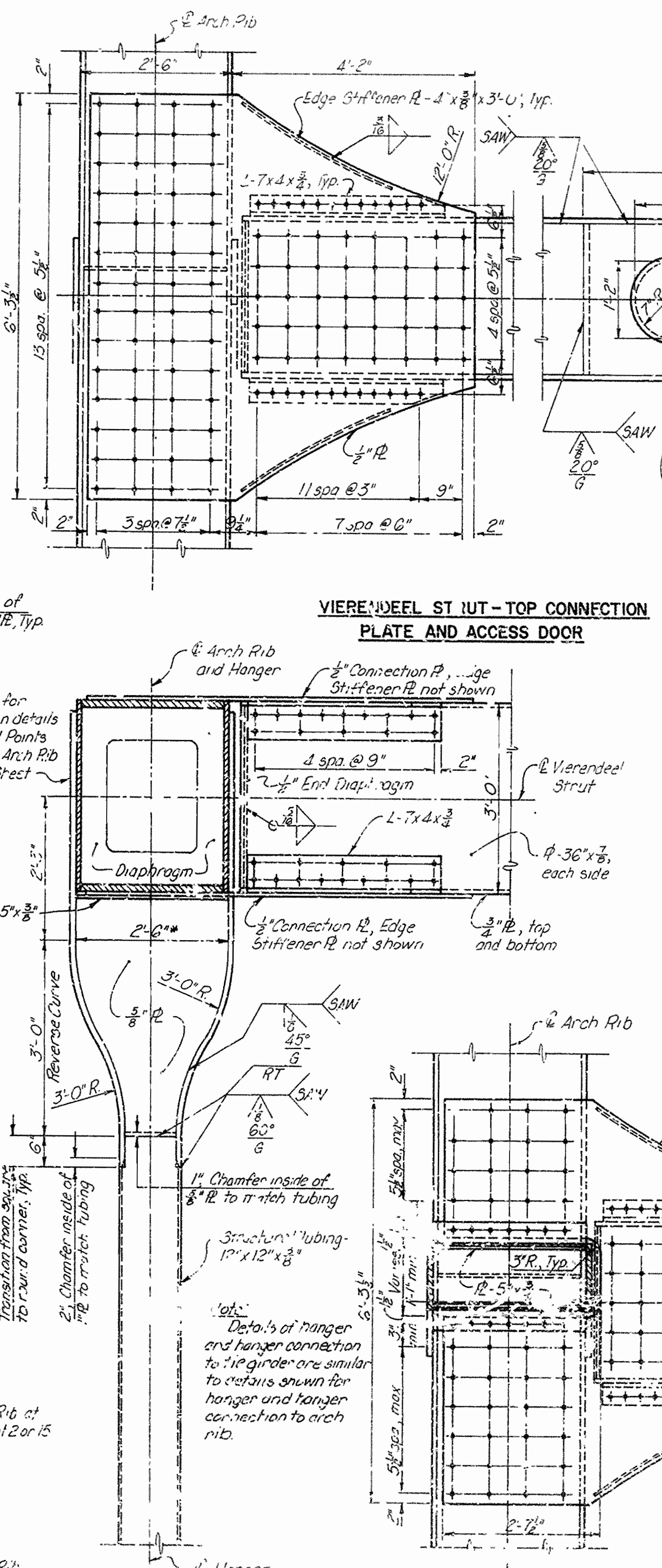
CORPS OF ENGINEERS CONTRACT
NO. DA-03-050-CIV-13-66-37

Sheet No.	433	Sheet	12
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COLUMN AND CROSSFRAME
AT PANEL POINTS 1 AND 16

COLUMN AT PANEL
POINTS 2 AND 15

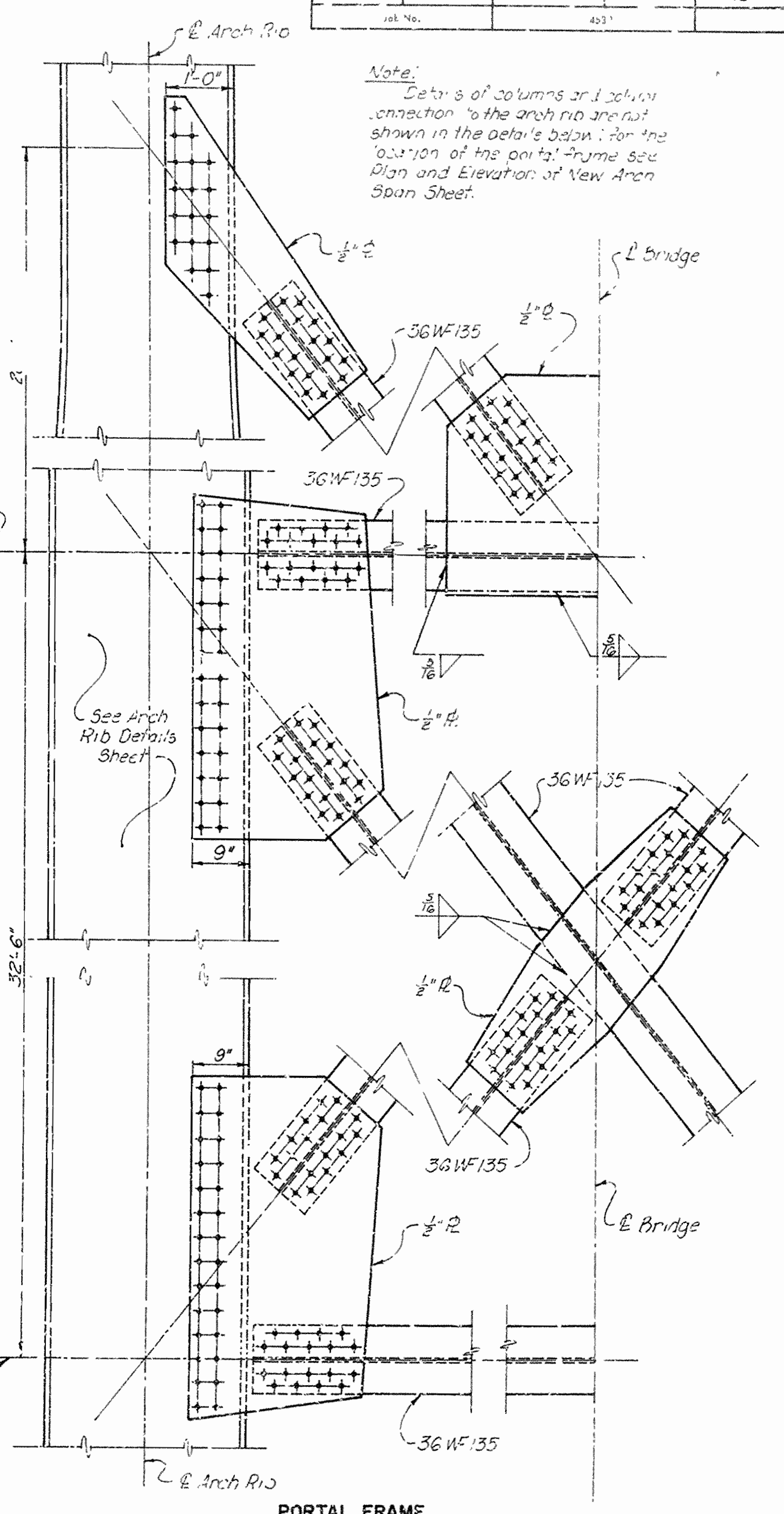


HANGER AND VIERENDEEL
STRUT ELEVATION

VIERENDEEL STRUT--
BOTTOM CONNECTION PLATE

Notes:
 Material for columns, crossframes, hangers, vierendeel struts, and portal frames shall be Structural Steel, A.S.T.M. A-36.
 All bolted connections shall be made with 5/8" High Strength Bolts, A.S.T.M. A-325, in 5/8" holes.
 SAW denotes welds to be made by the submerged arc process.
 An access door as detailed shall be provided for each Vierendeel strut and located on the top of the center of the strut as shown.
 * Fabrication tolerance shall be such that the distance between hanger and column connection plates is between 0.00 inches less and 0.06 inches greater than the actual width of arch rib at respective connections.
 RT denotes welds to be inspected by radiographic tests; these tests shall be made before attaching end seal plates.

Note:
 Details not shown are similar to those for Vierendeel Strut-Top Connection Plate.



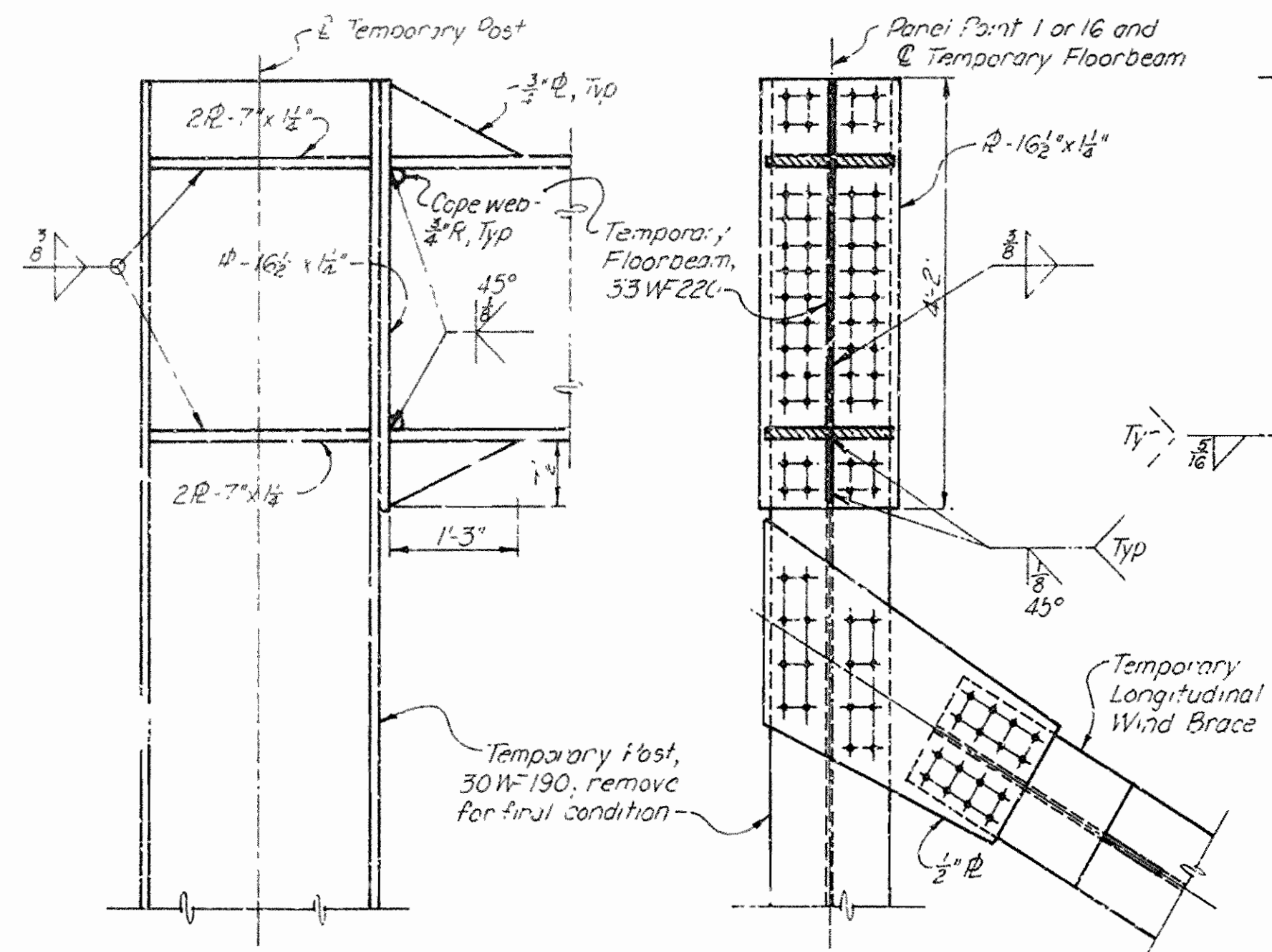
PORTAL FRAME

ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK, ARKANSAS
OZARK BRIDGE ALTERATIONS
 STATE HIGHWAY 23

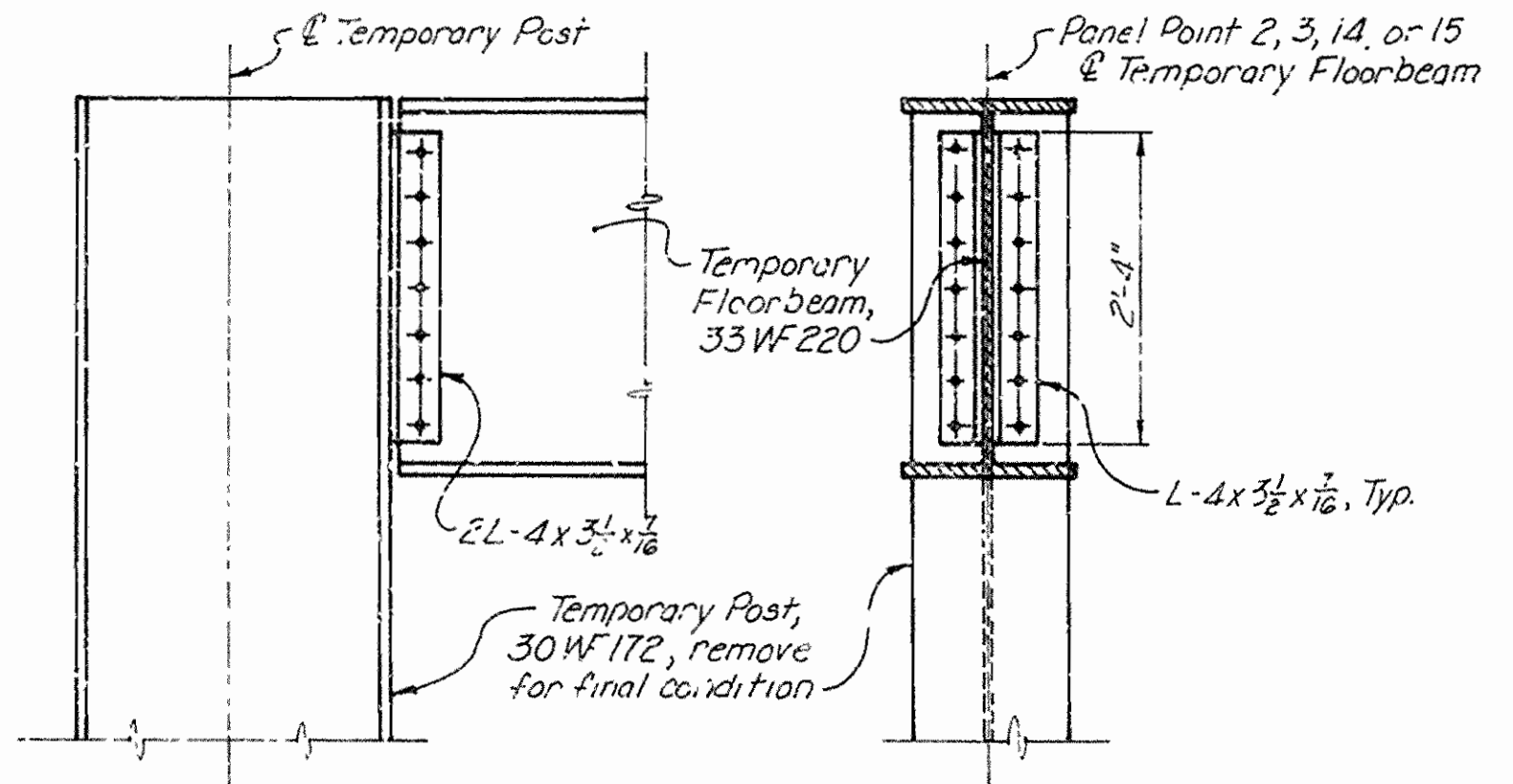
PERMANENT FRAMING DETAILS
 DRAWN BY L.D.H. DATE 8-5-64 CHECKED BY J.E.D. DATE 8-22-64
 SCALE 3/4"=1'-0"
 BRIDGE NO. 1210 A DRAWING NO. 14331

CORPS OF ENGINEERS CONTRACT
NO. DA-03-050-CIVENG-66-3/

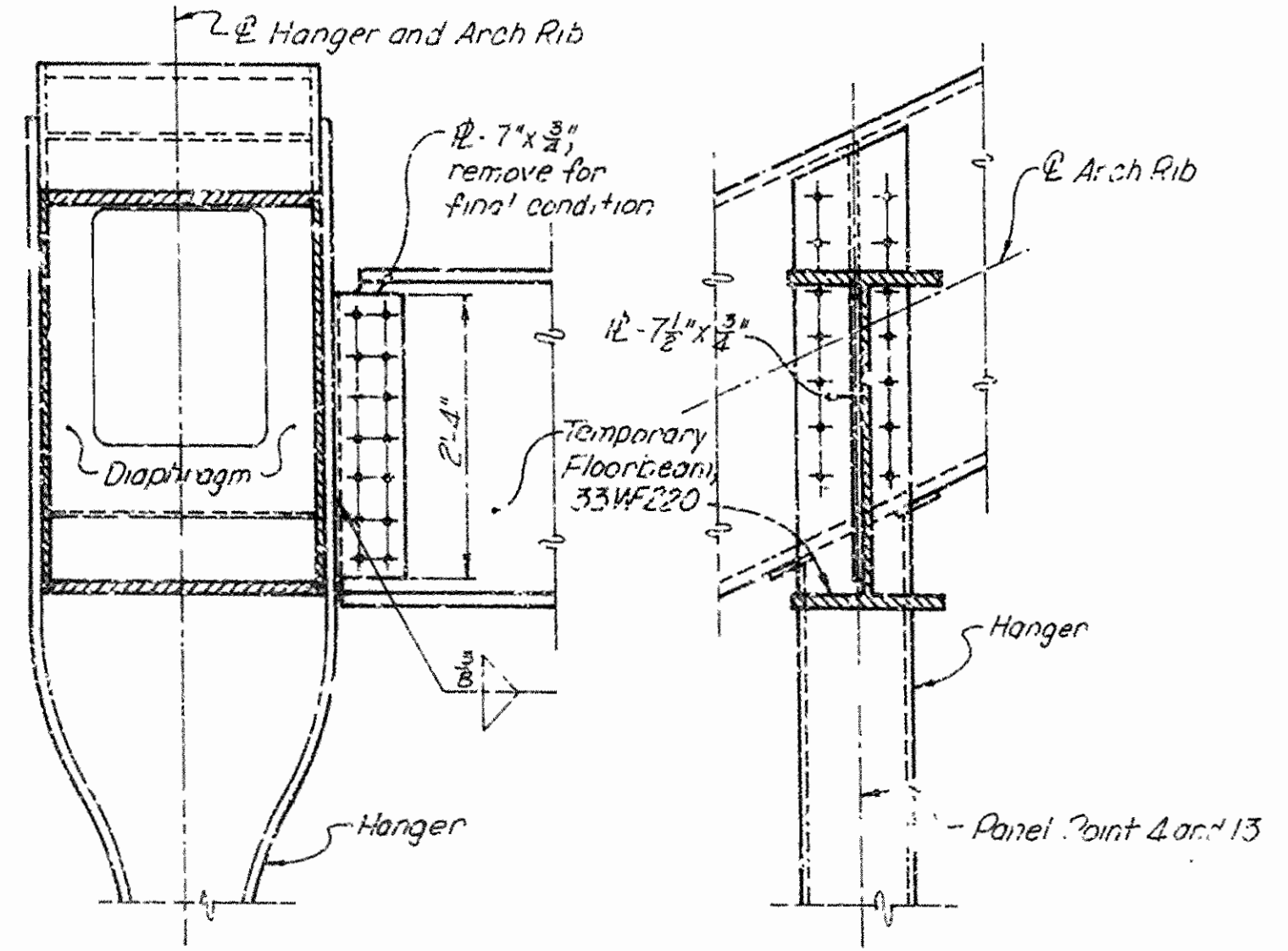
Dist. No.	Fed. Aid Proj. No.	State	County	
		ARKANSAS	WARREN	13
Job No.		4533		



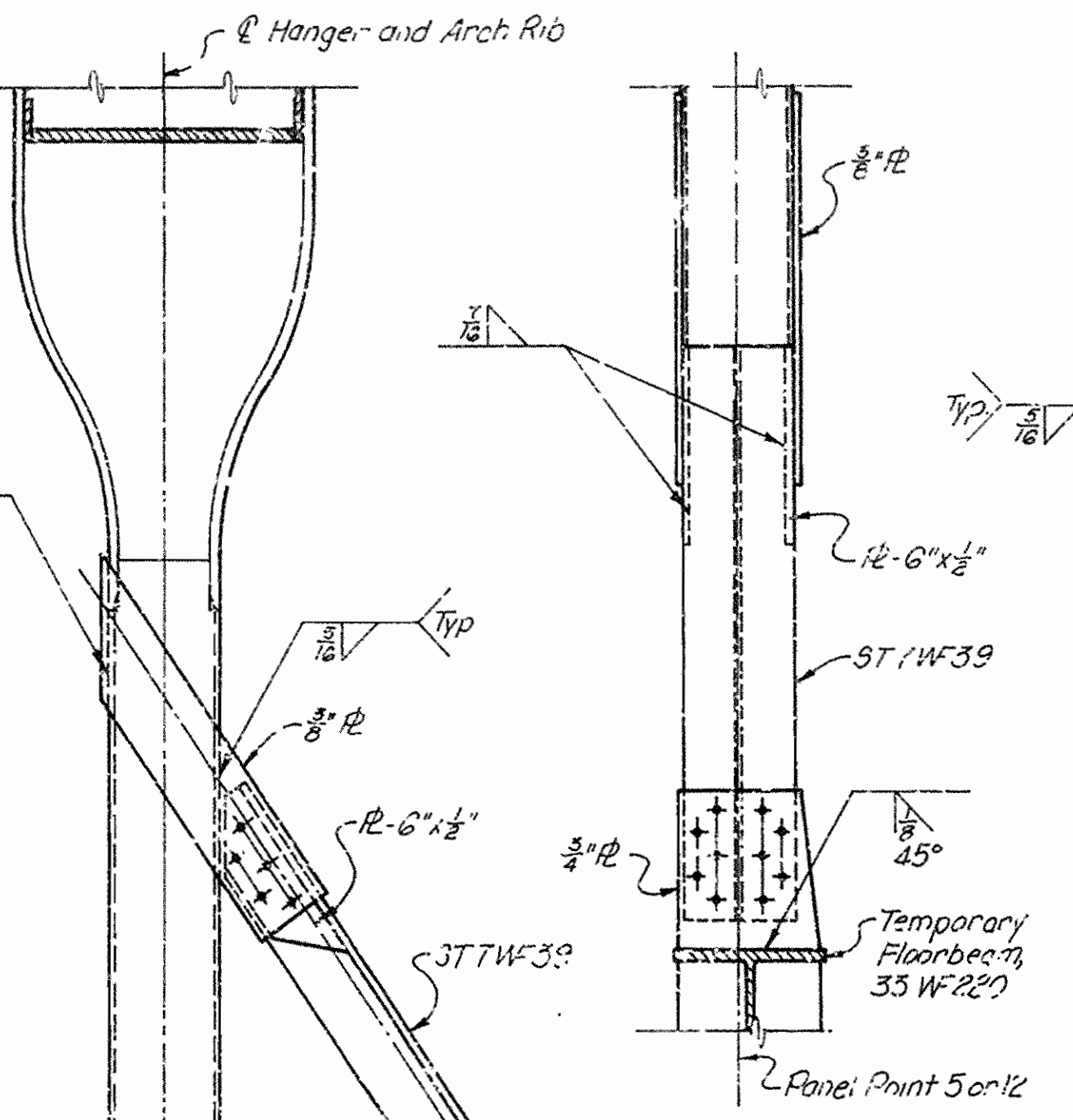
AT PANEL POINTS 1 AND 16



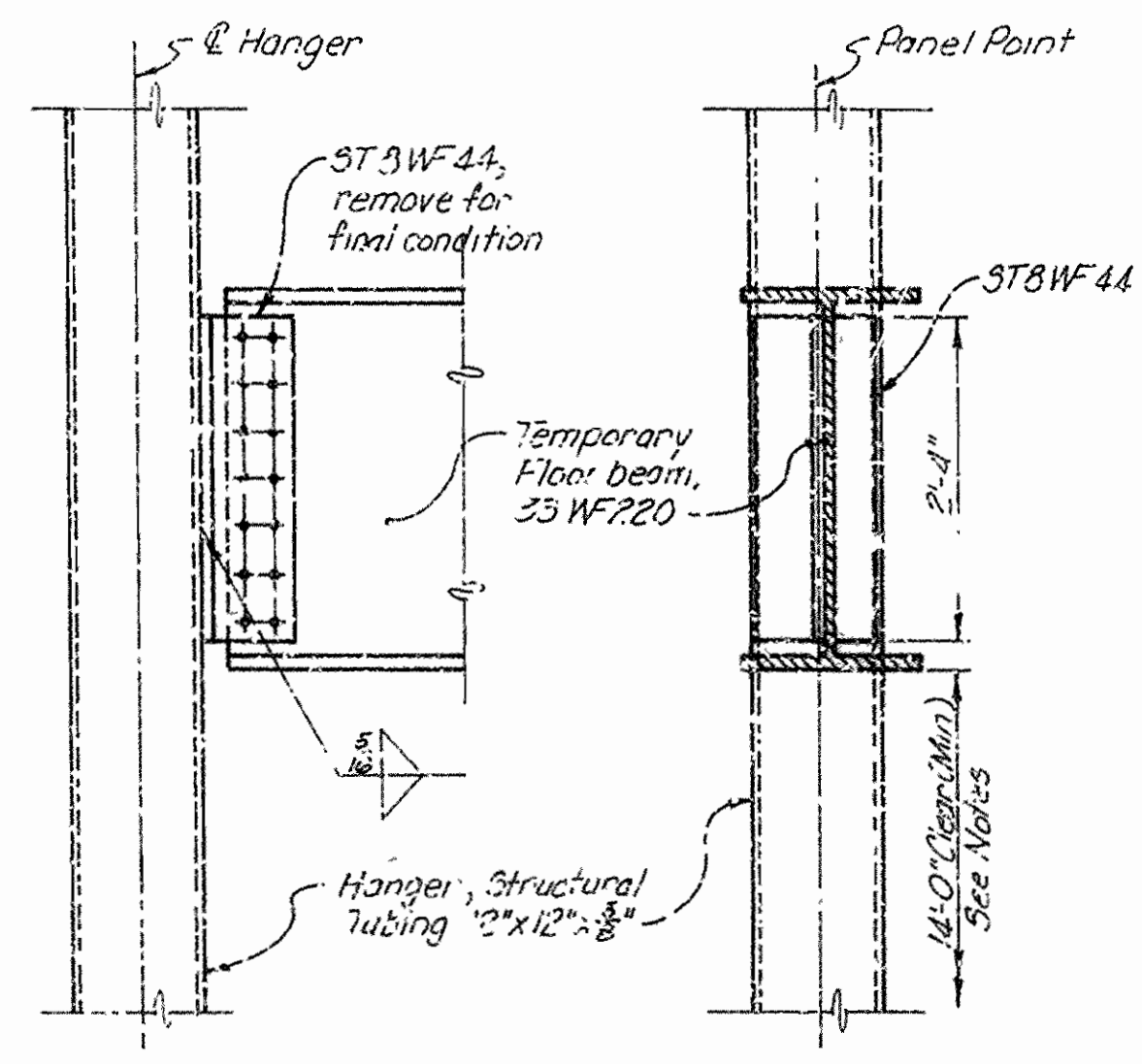
AT PANEL POINTS 2, 3, 14, AND 15



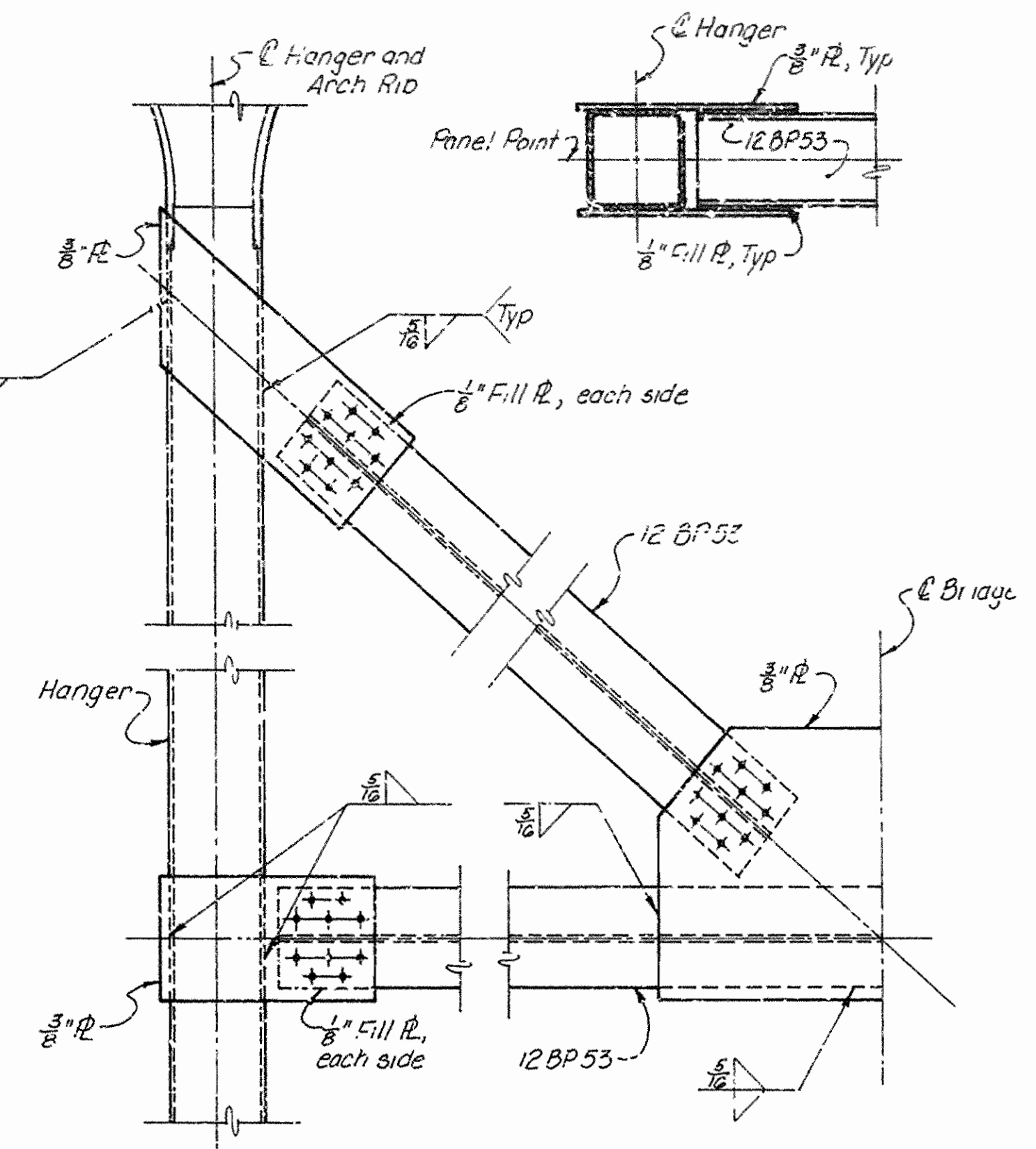
AT PANEL POINTS 4 AND 13



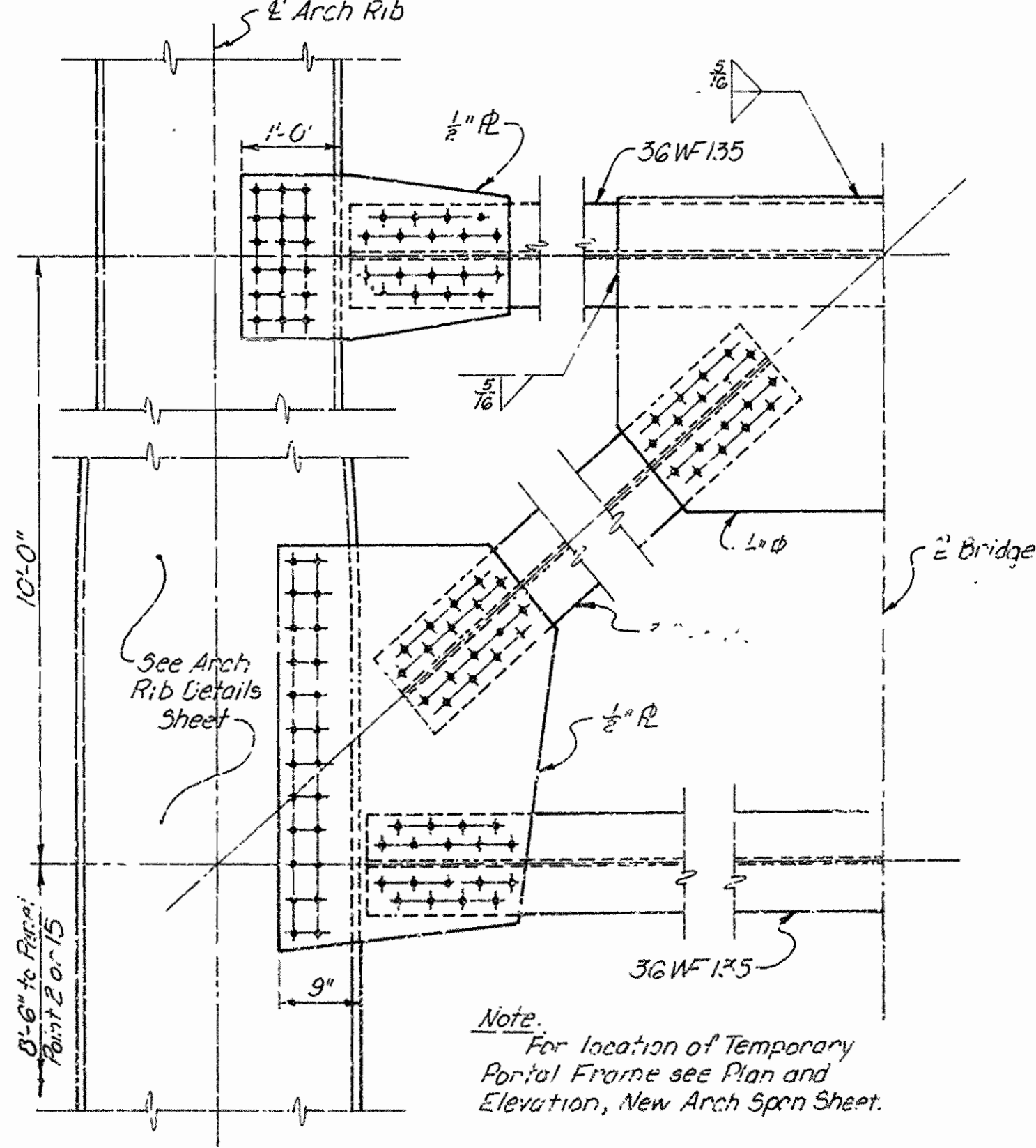
AT PANEL POINTS 5 AND 12



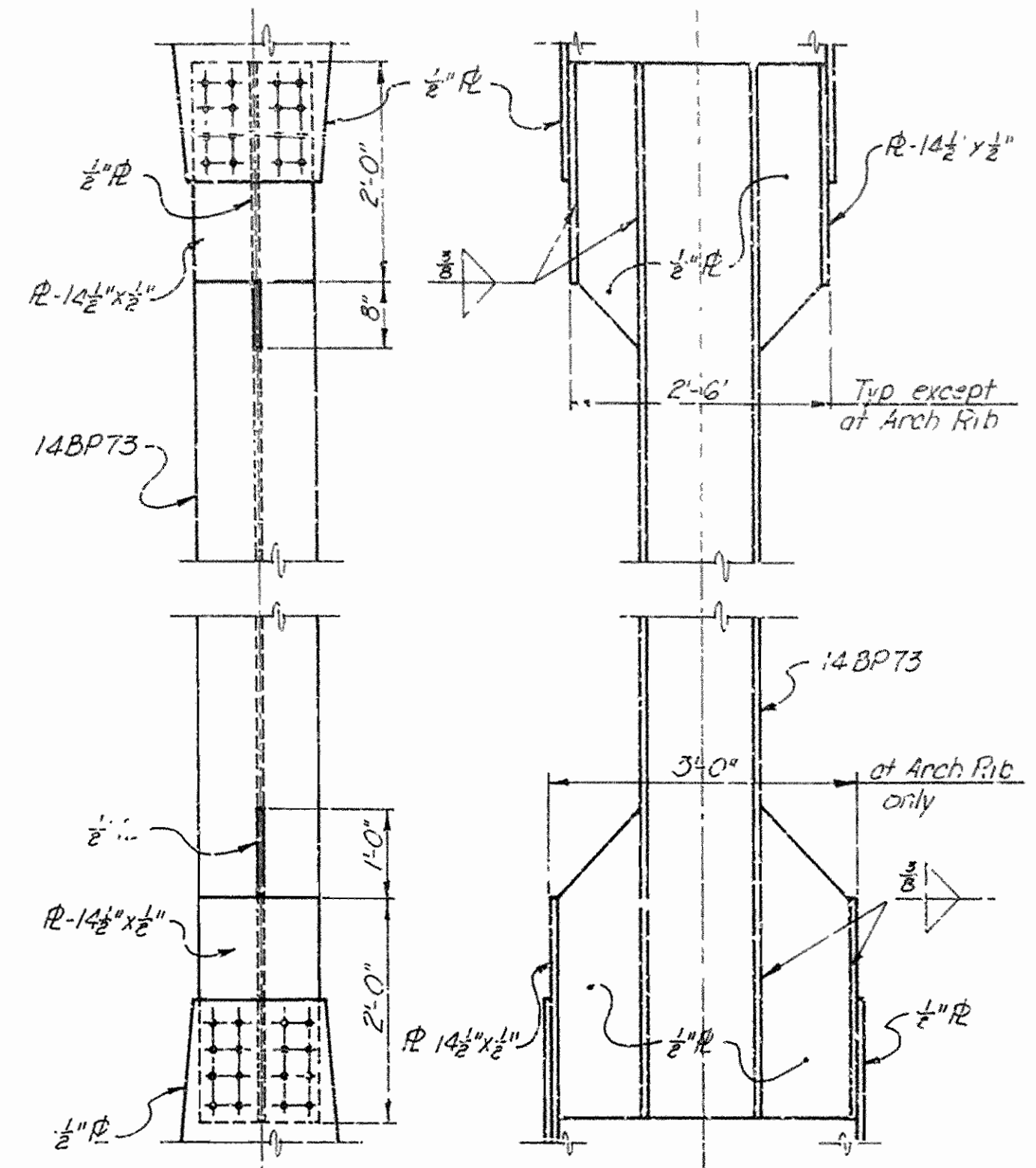
AT PANEL POINTS 6 THRU 11



TEMPORARY BRACING AT PANEL POINT 8 AND 9



TEMPORARY PORTAL FRAME



TEMPORARY LONGITUDINAL WIND BRACE

Note: Provide eight temporary longitudinal wind braces at positions shown on Elevation - Temporary Ramps and Roadway Sheet.

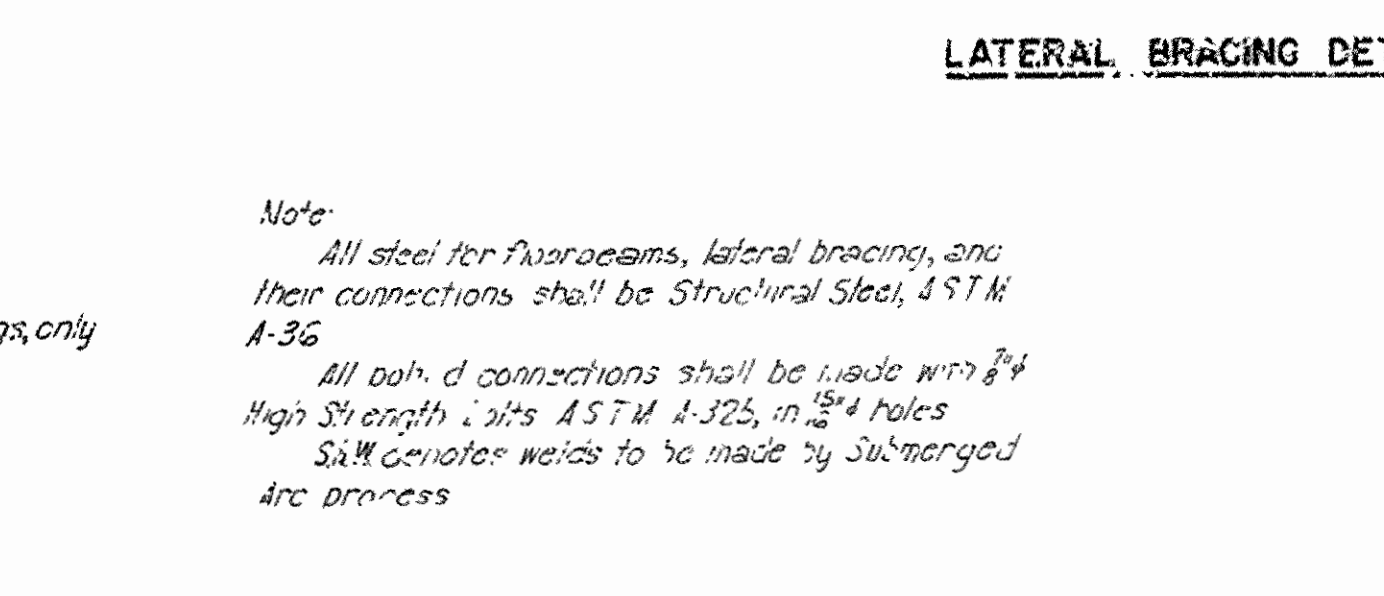
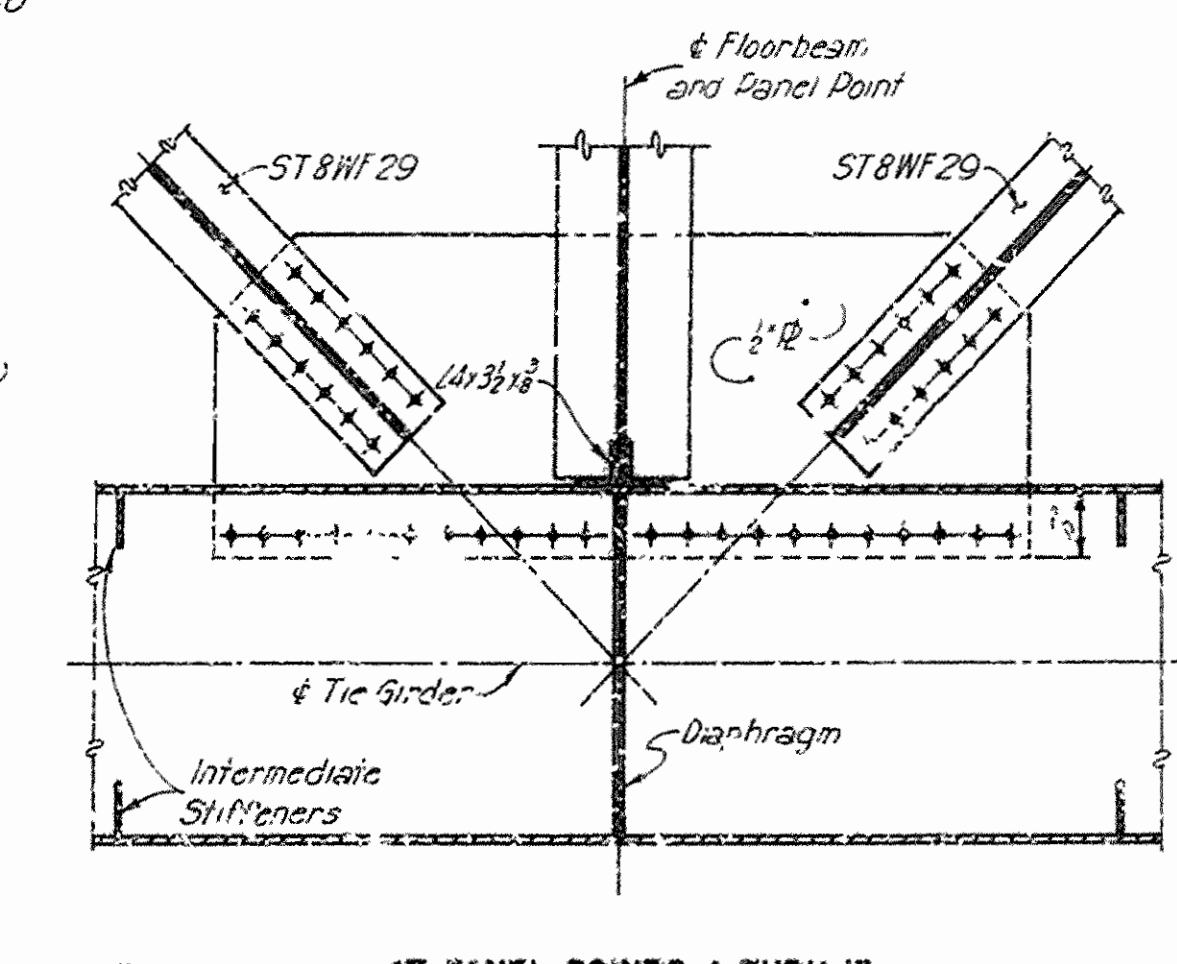
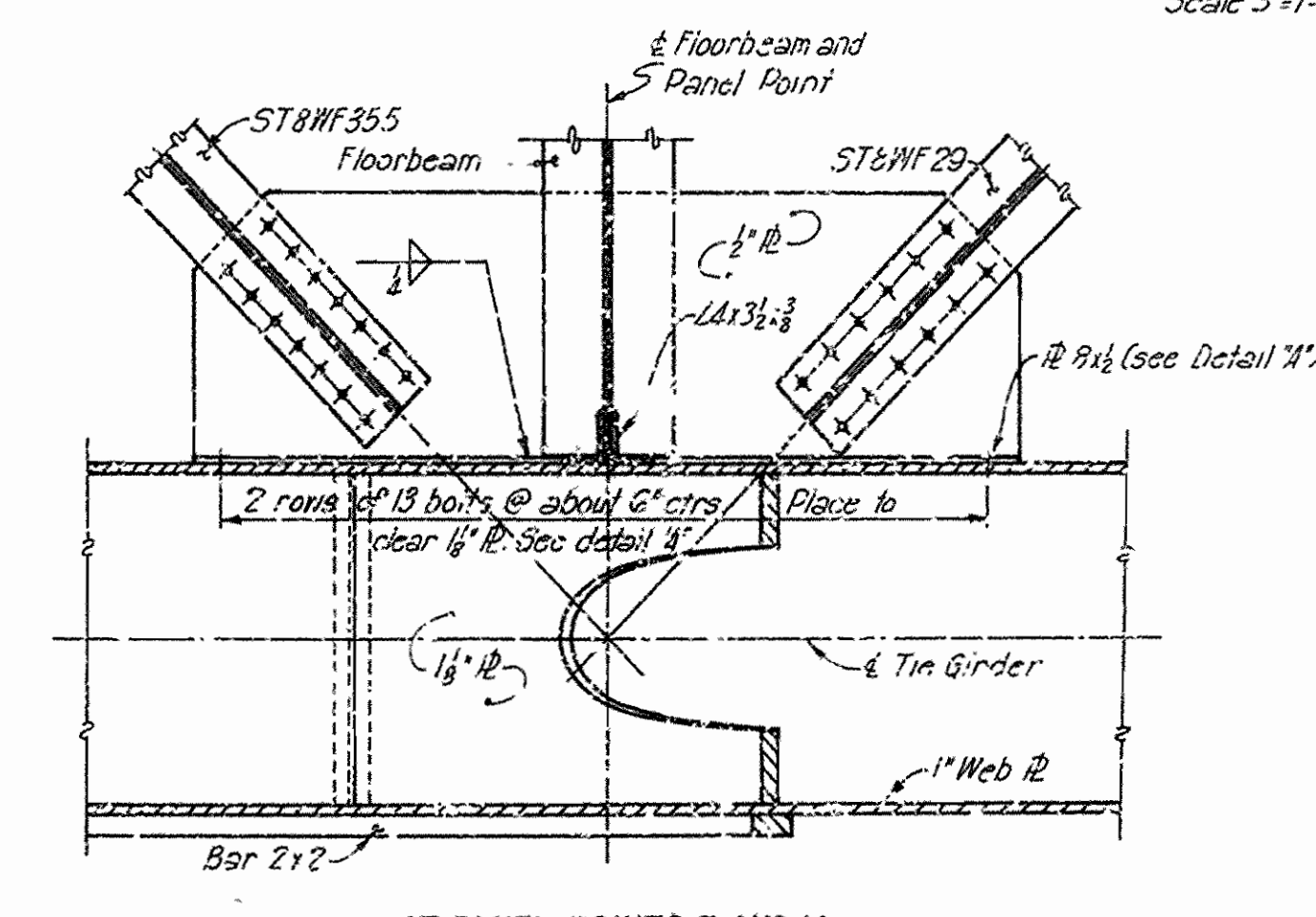
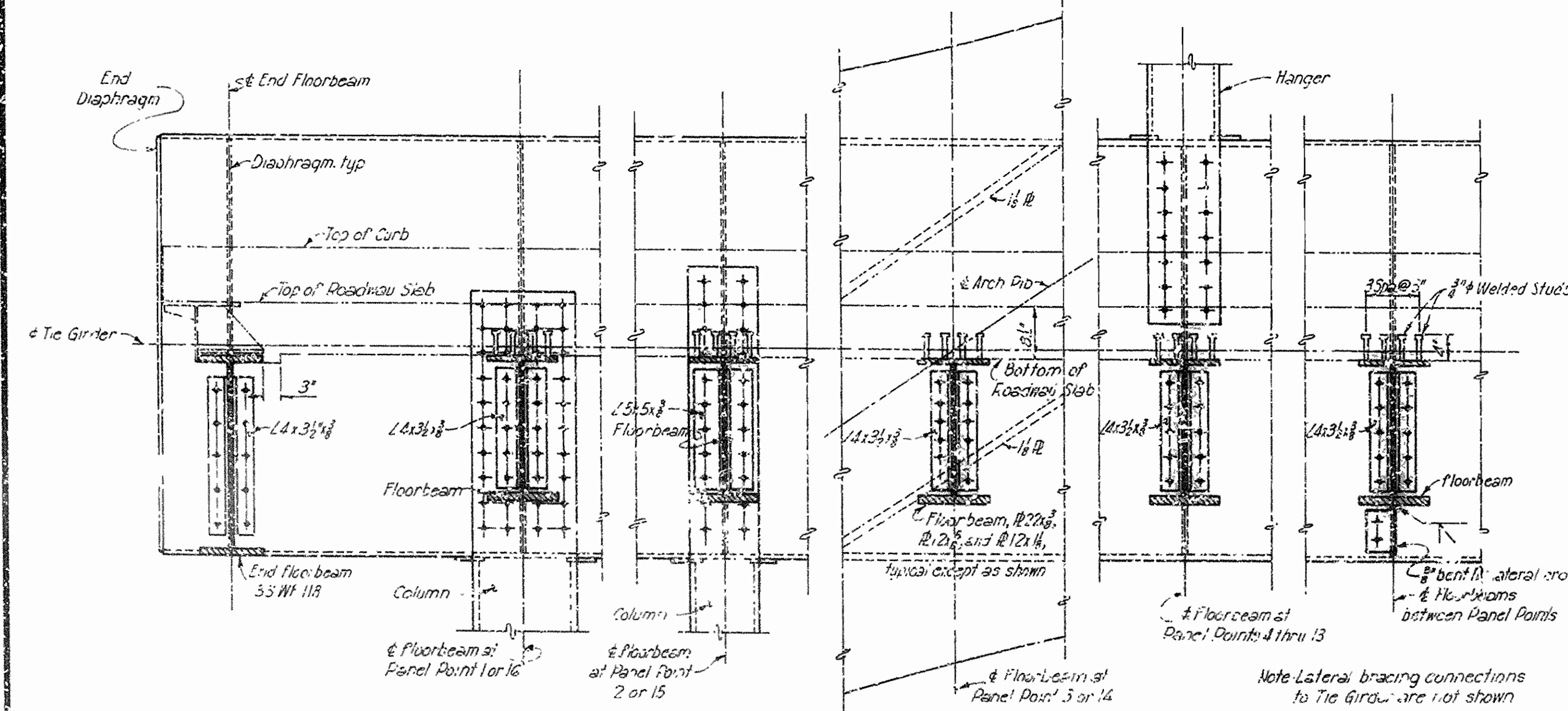
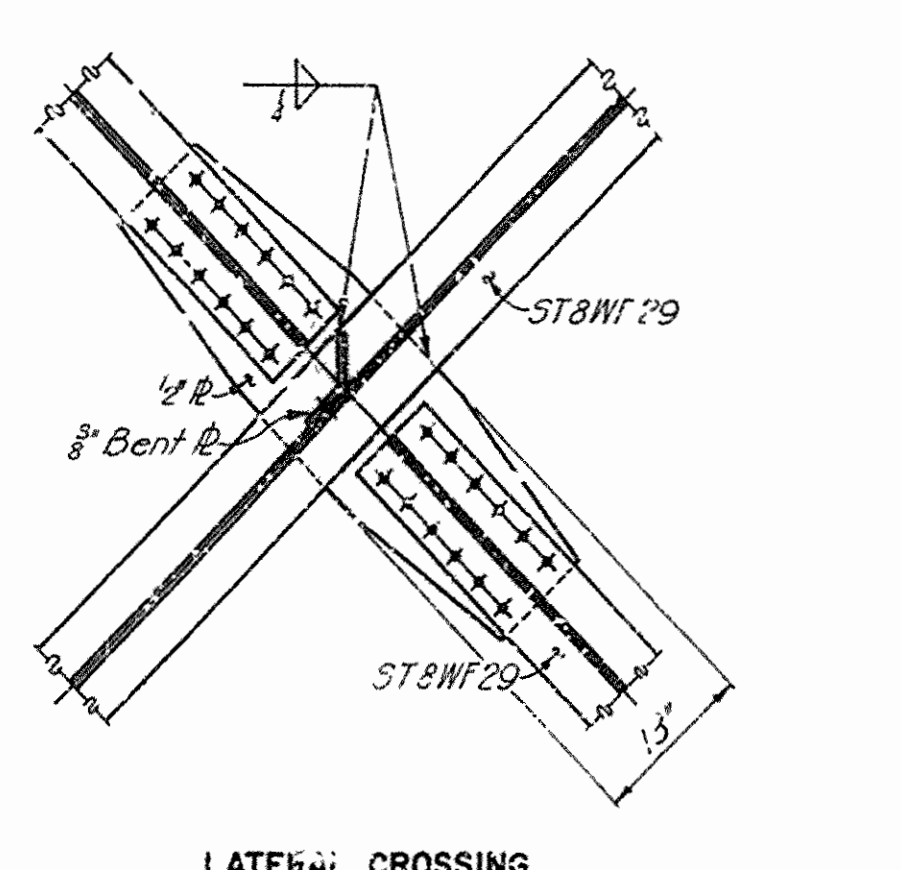
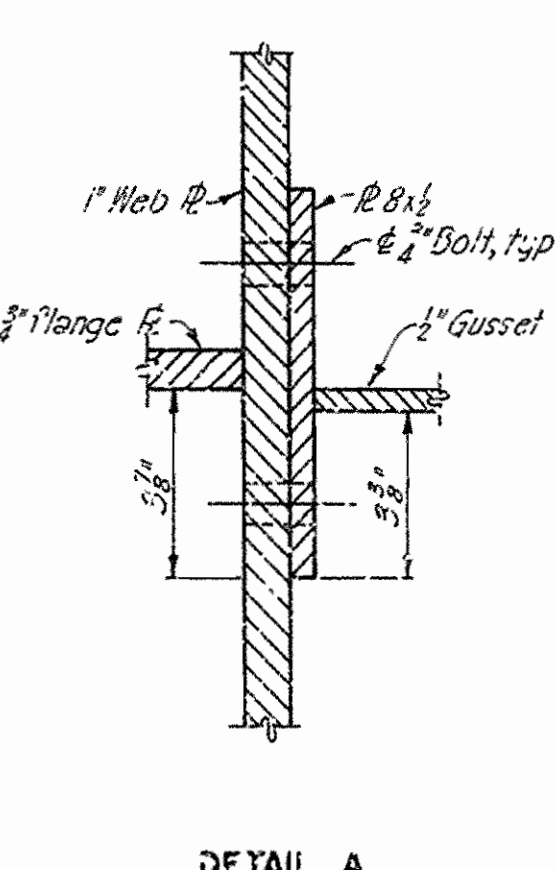
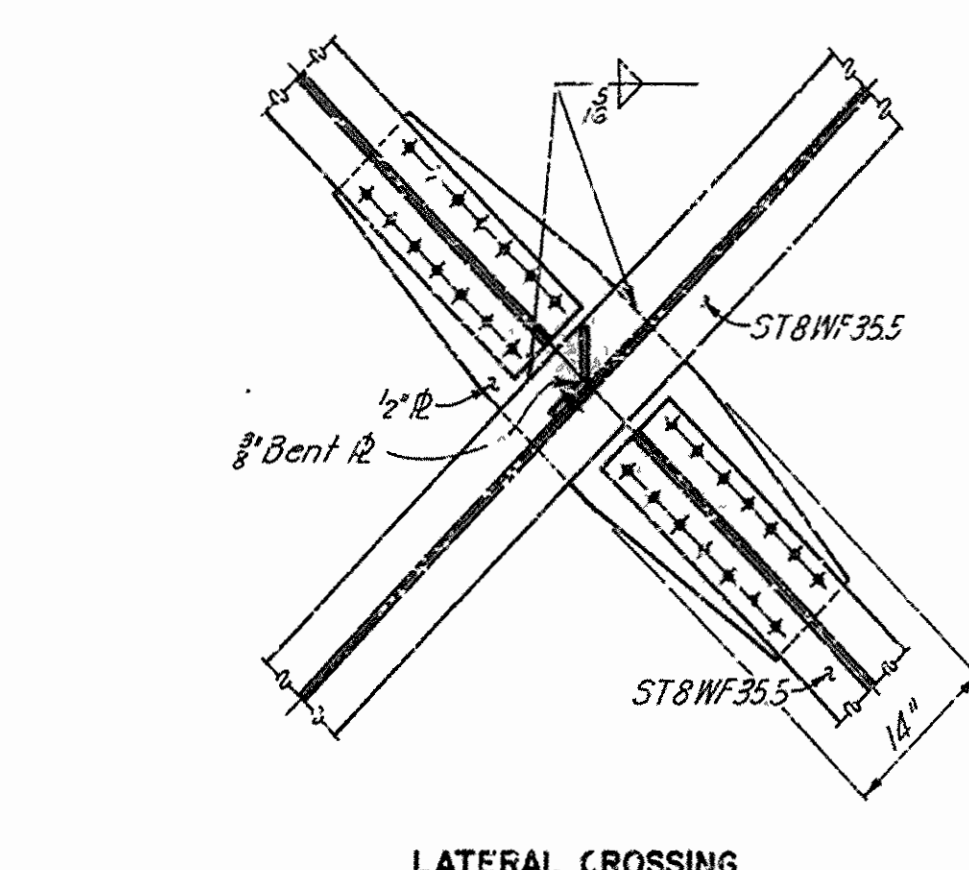
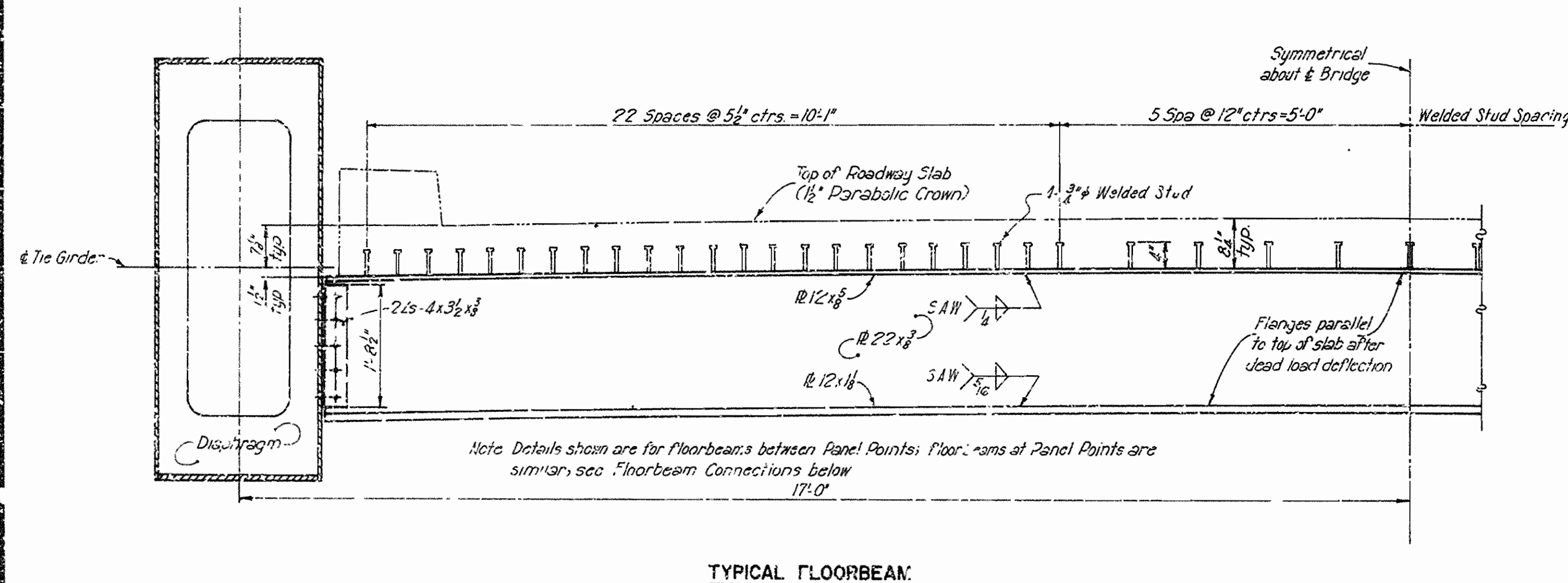
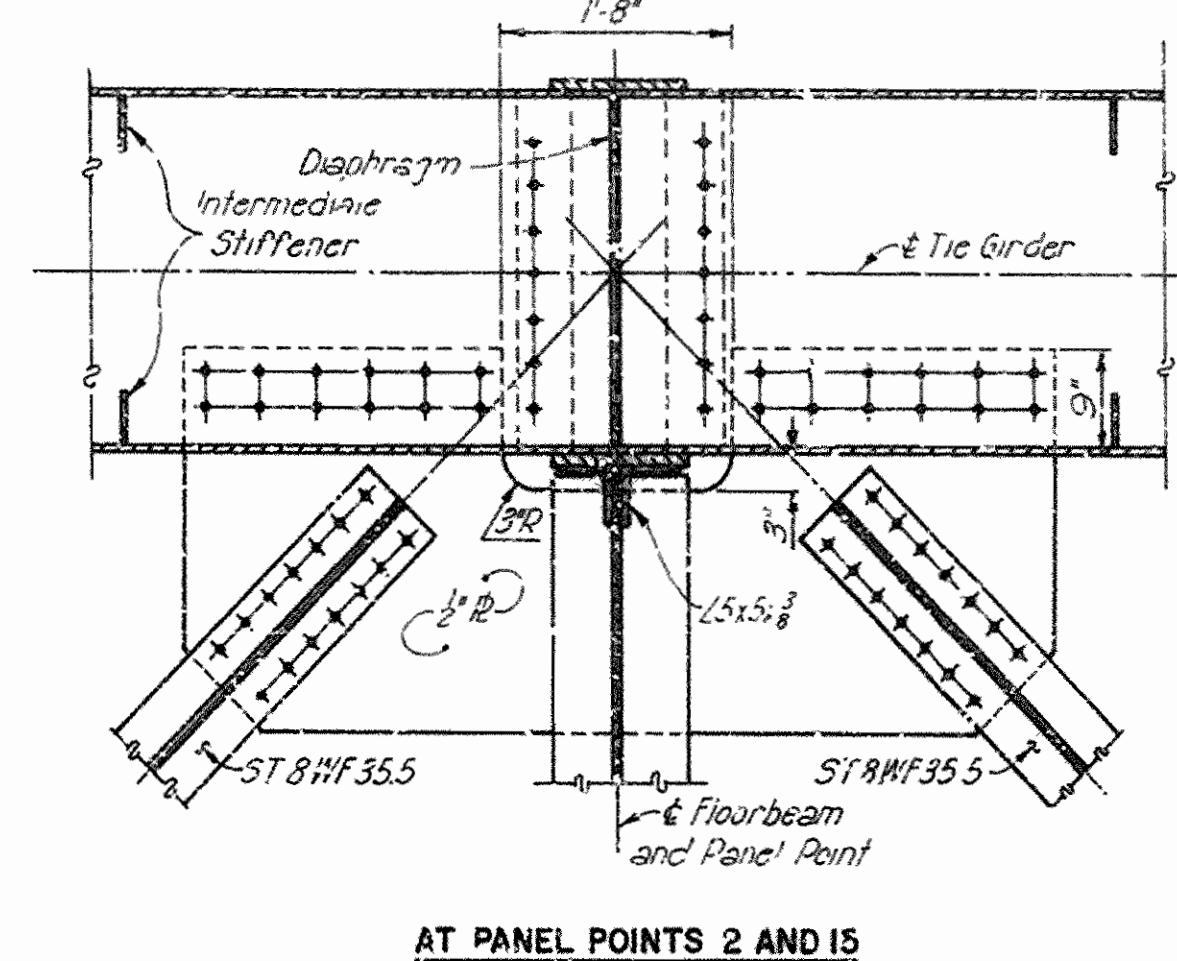
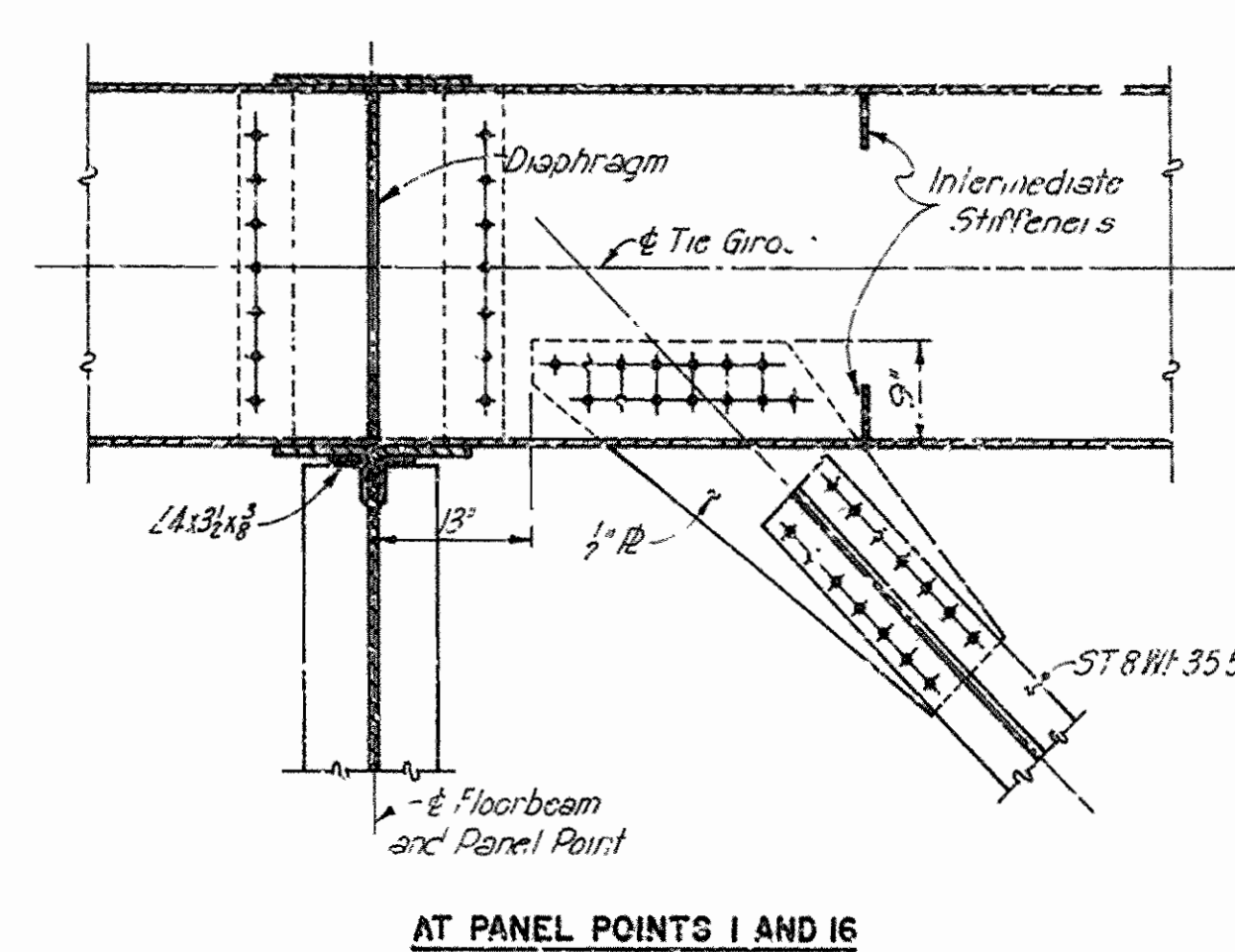
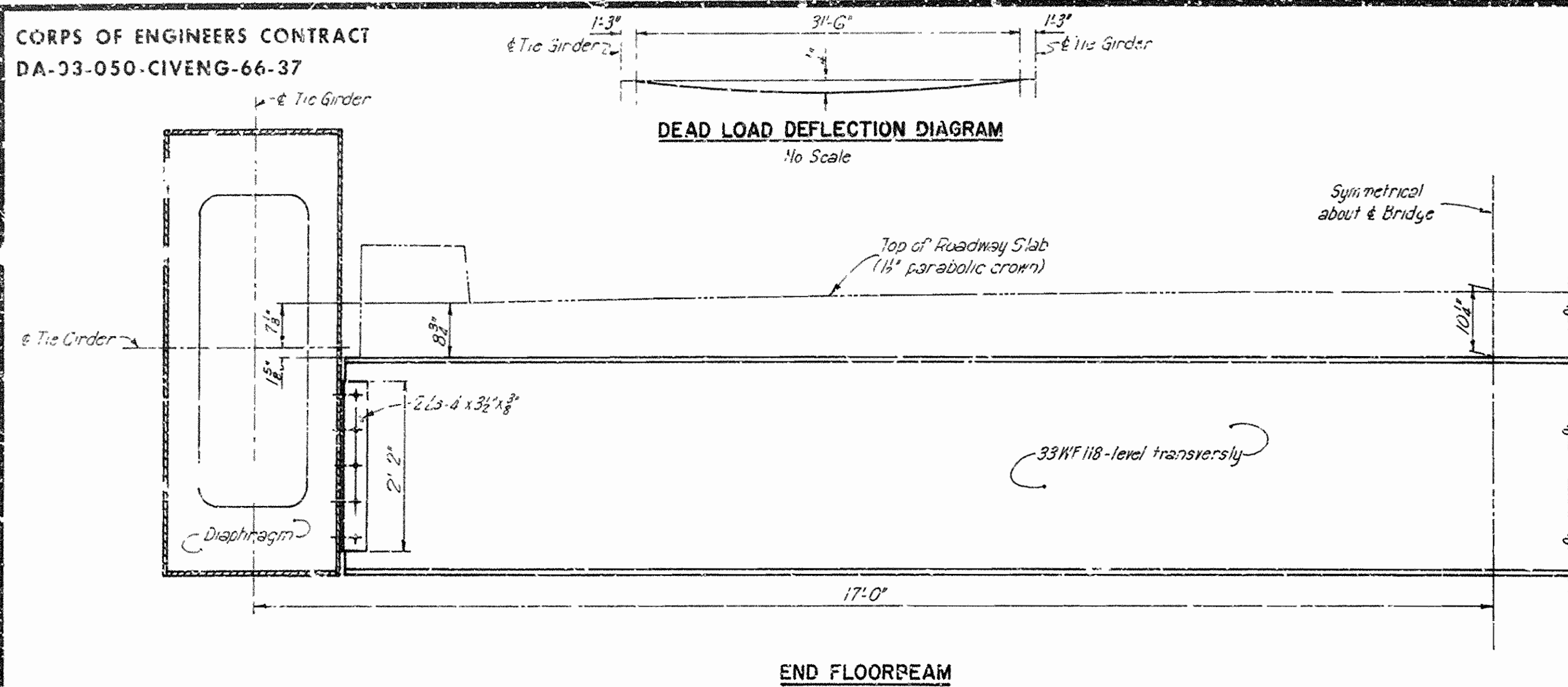
Notes:
Material for all temporary members and framing shall be Structural Steel, A.S.T.M. A-36
All bolted connections shall be made with 3/8" φ High Strength Bolts, A.S.T.M. A-325, in 1/8" φ holes.
The minimum vertical clearance between temporary floorbeams and the crown of final roadway shall be 14'-0".
All temporary members and their connections shall be removed for the final condition; bolt holes shall be filled and ground flush as indicated in Detail A, Arch Rib Details Sheet; remove welded connections and finish permanent members as described in the Special Provisions.
For additional temporary framing details and sections see Temporary Roadway and Framing Sheet.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS
OSARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

TEMPORARY FRAMING DETAILS

DRAWN BY L.O.H. DATE 8-16-66 CHECKED BY D.E.H. DATE 8-22-66
SCALE 3/4" = 1'-0"
BRIDGE NO. 1210 A DRAWING NO. 14332

Proj. No.	Sheet No.	State	County	Sheet
5		ARKANSAS	FRANKLIN	14
Job No.	4533			



Note:
All steel for floorbeams, lateral bracing, and their connections shall be Structural Steel, ASTM A-36.
All bolted connections shall be made with 5/8" High Strength Bolts ASTM A-325, in 1 1/2" holes.
Six M denotes welds to be made by submerged arc process.

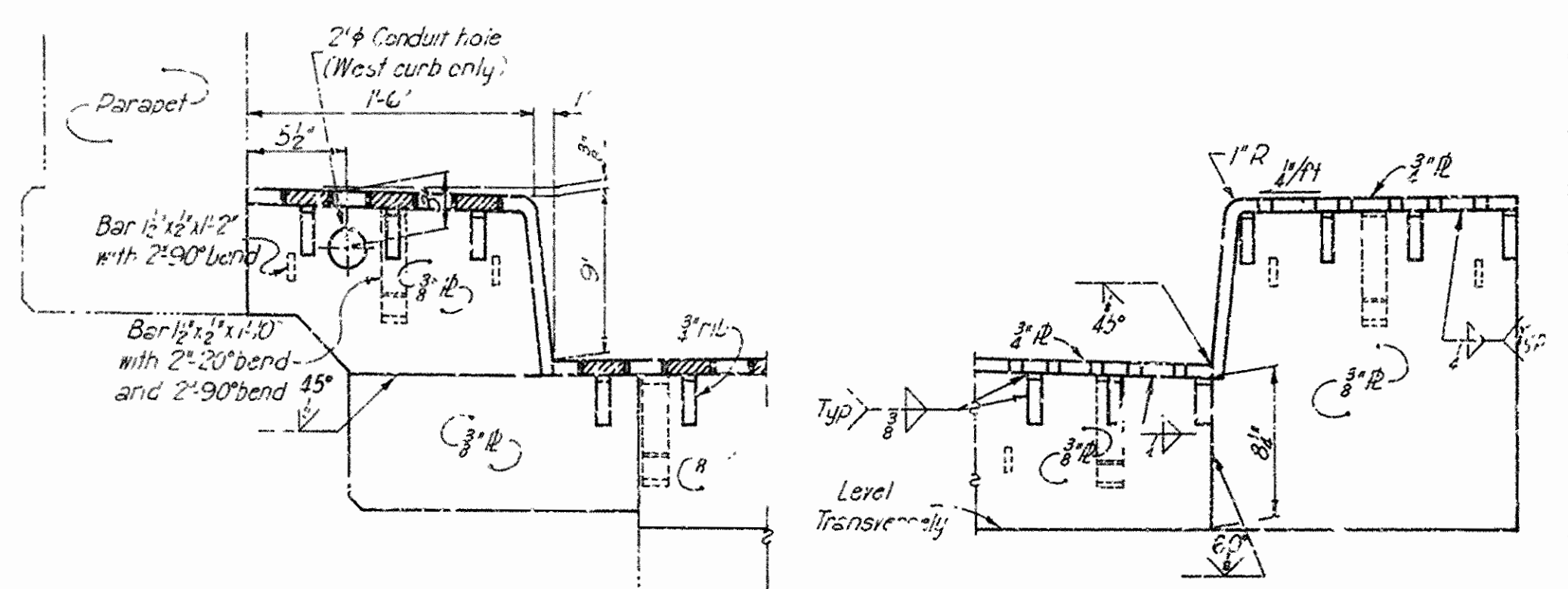
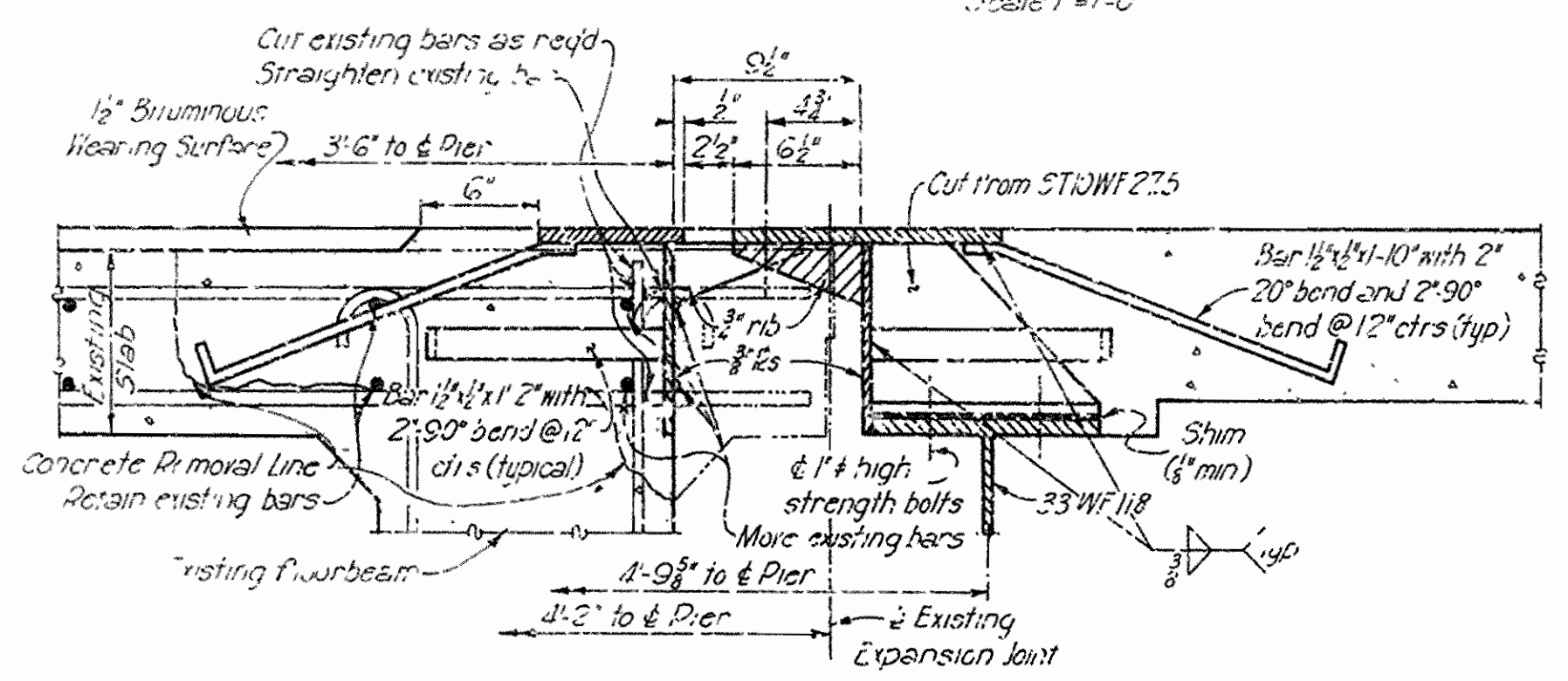
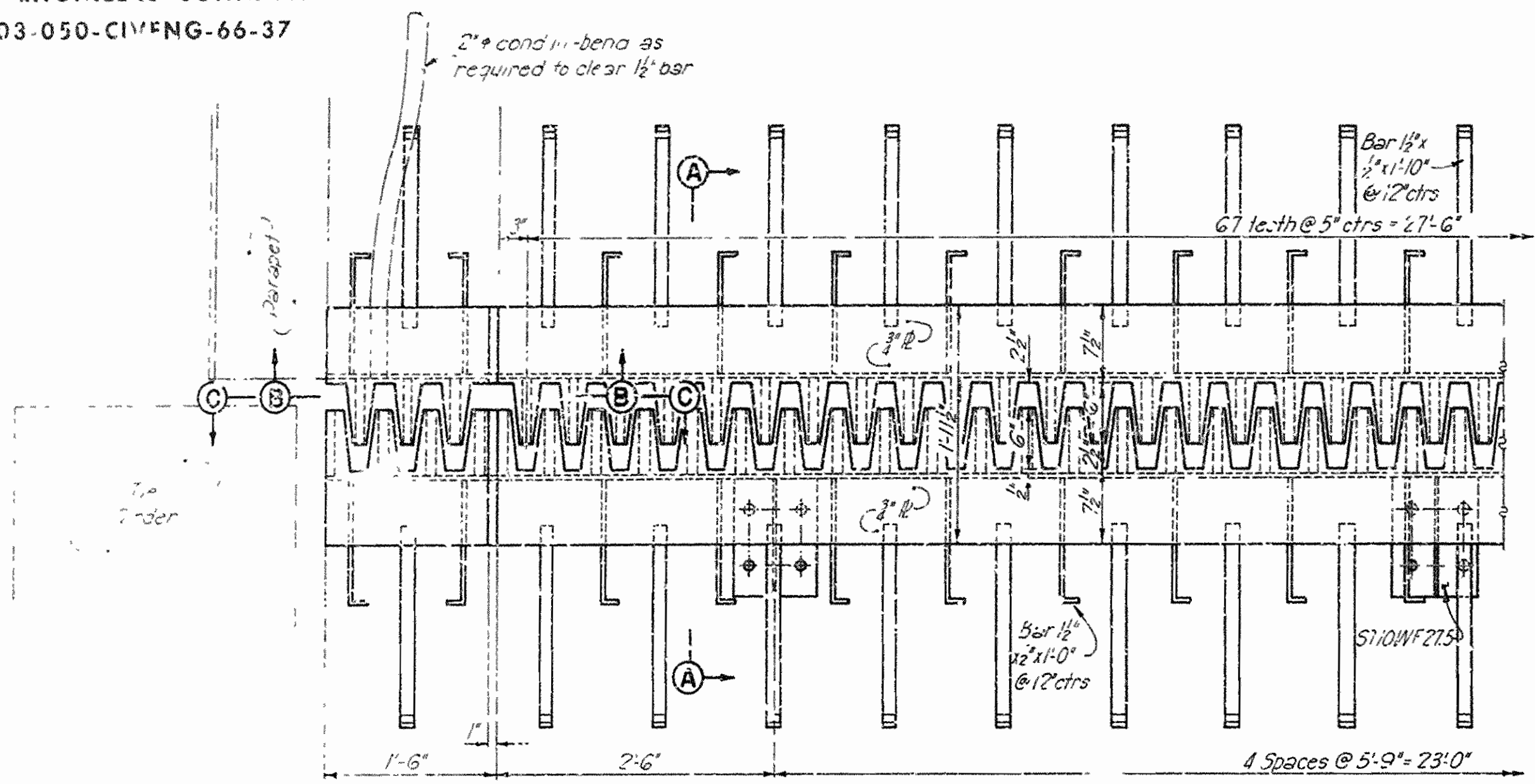
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

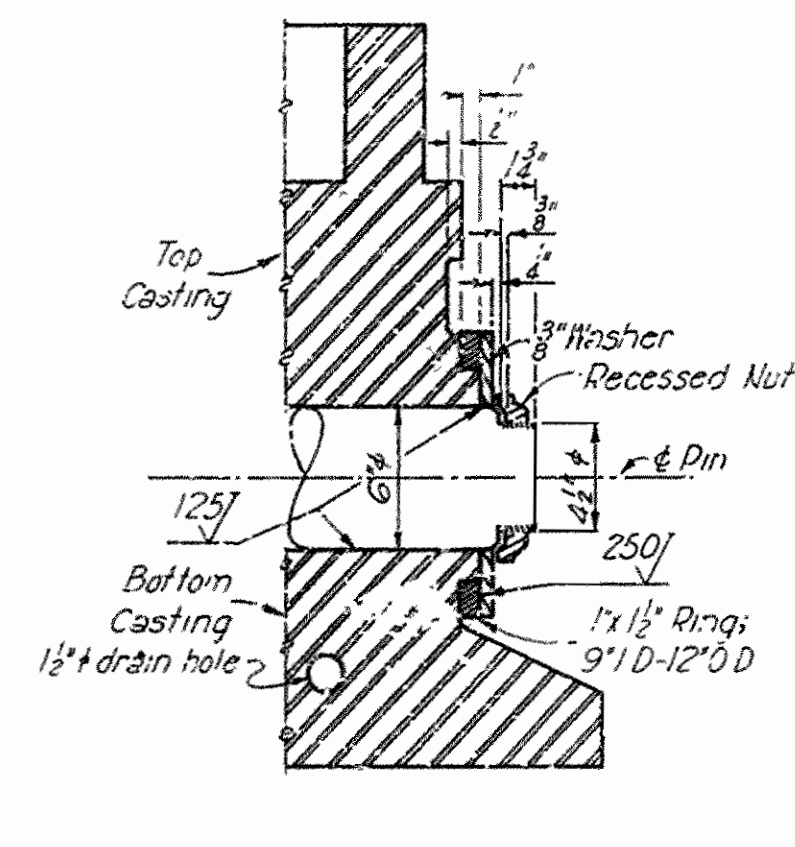
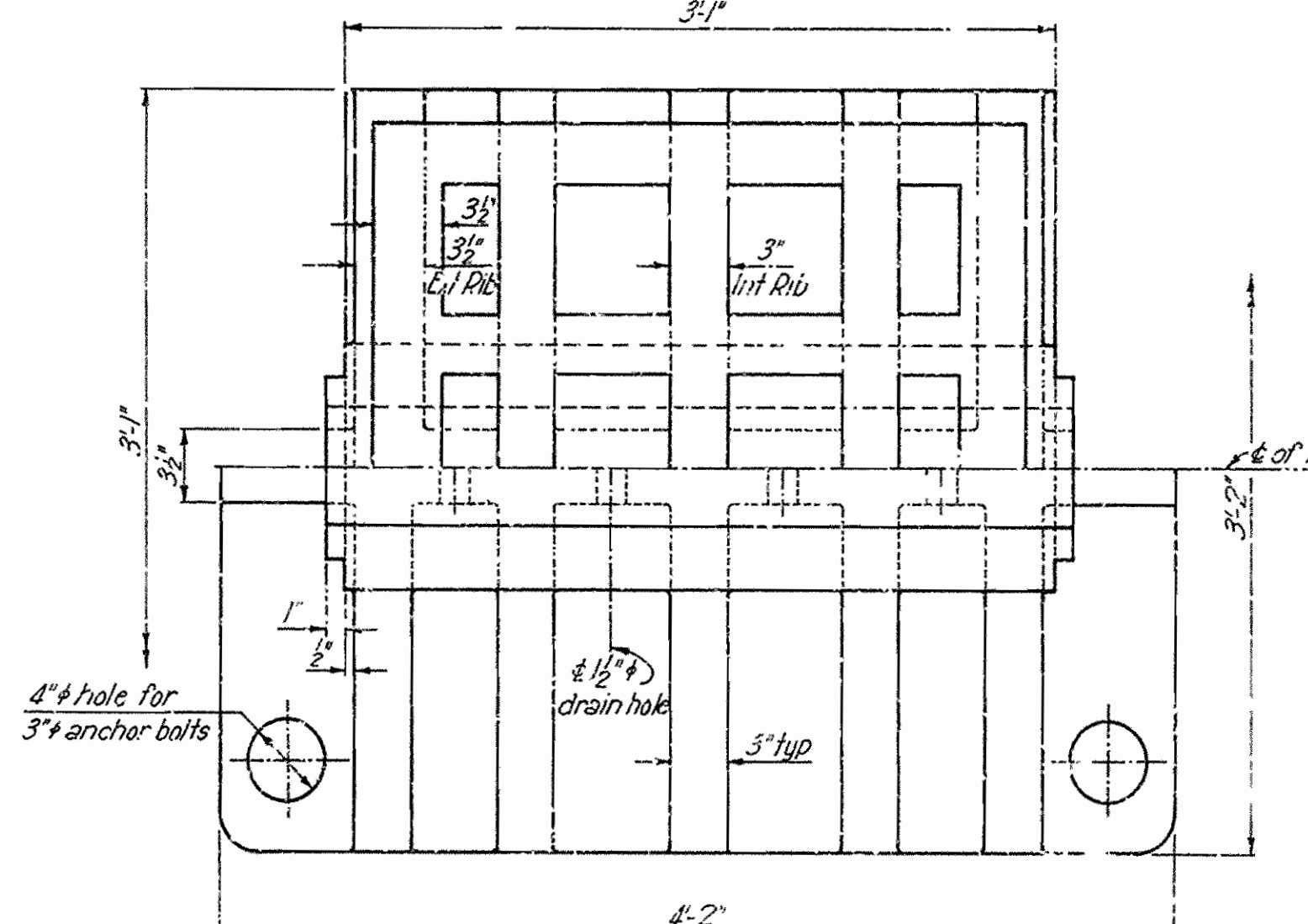
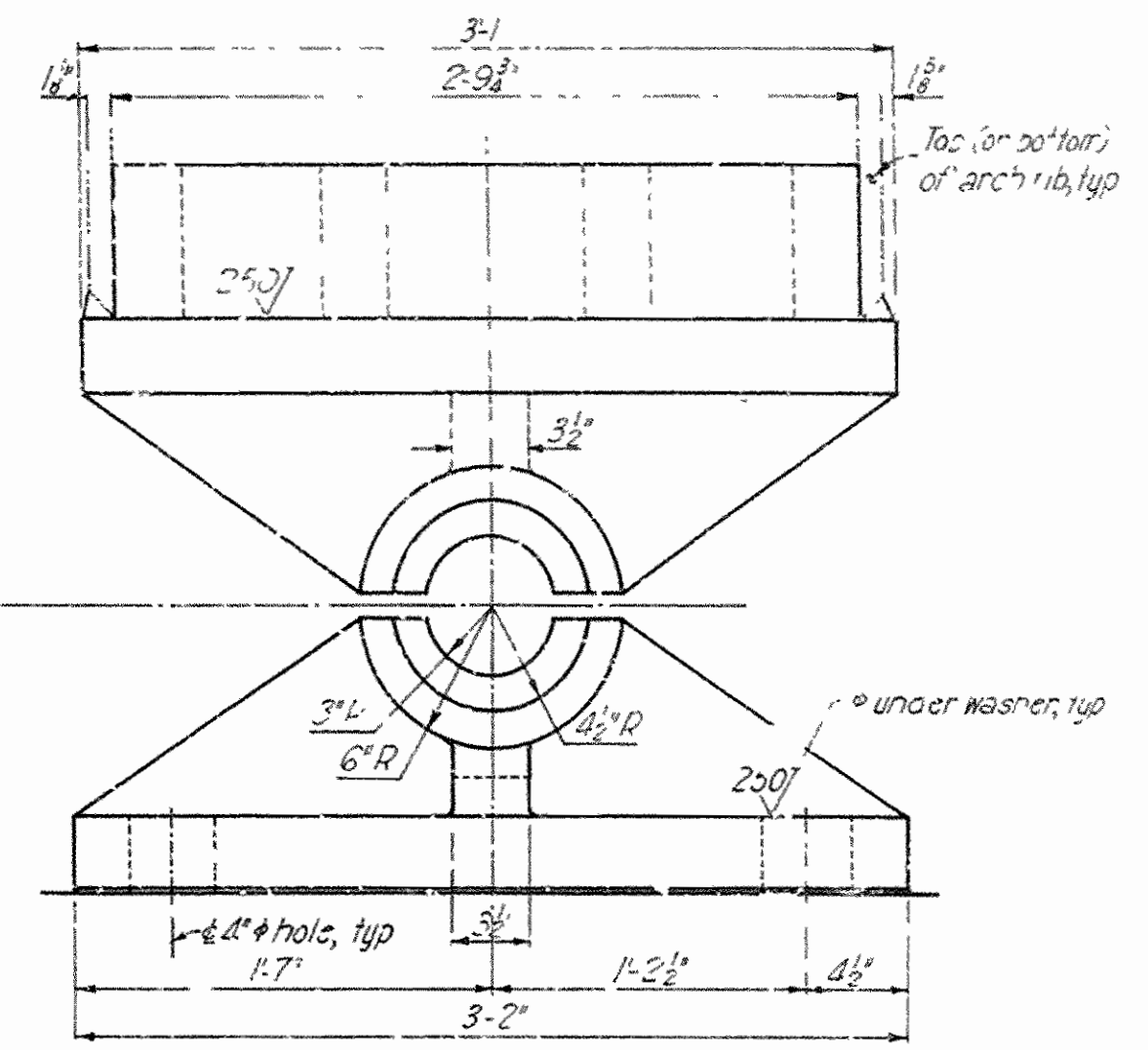
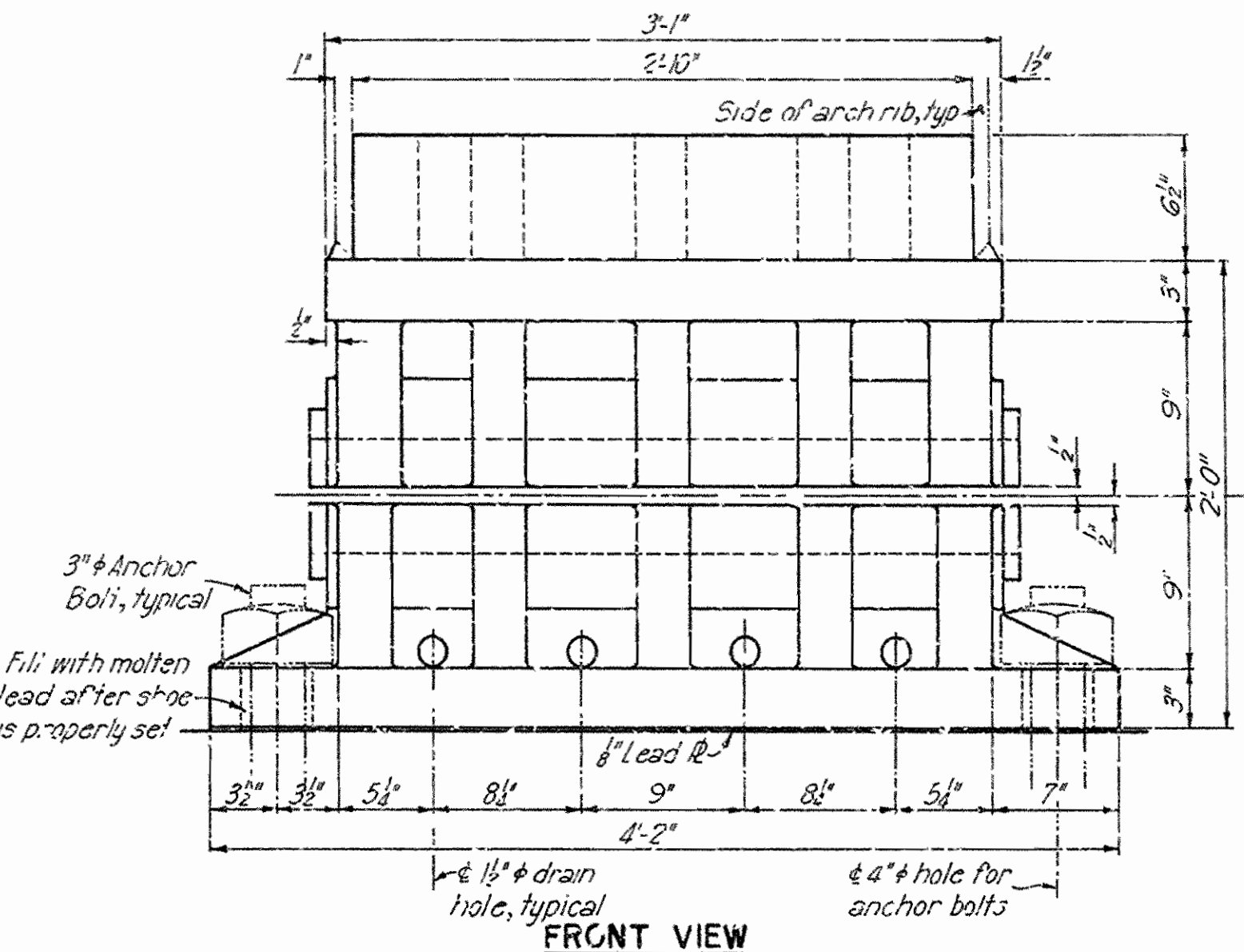
FLOORBEAMS AND LATERAL BRACING

DRAWN BY L.L.L. DATE 8-22-66 CHECKED BY L.D.H. DATE 9-29-66
BRIDGE NO 1210 A SCALE 3/4"=1'-0" DRAWING NO. 14333

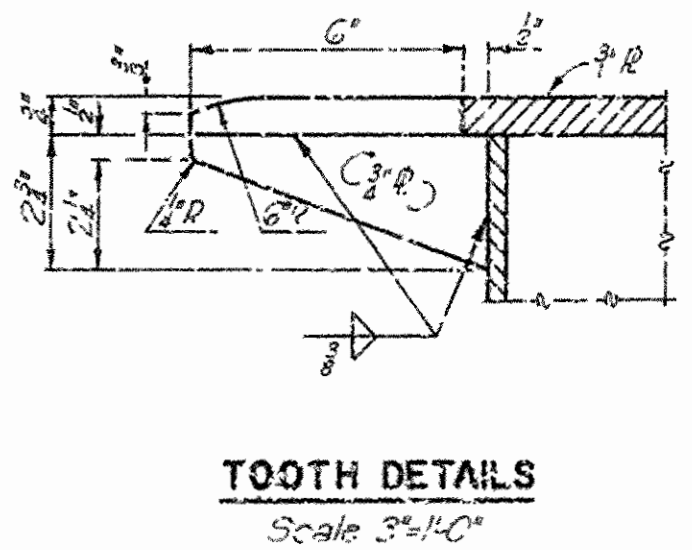
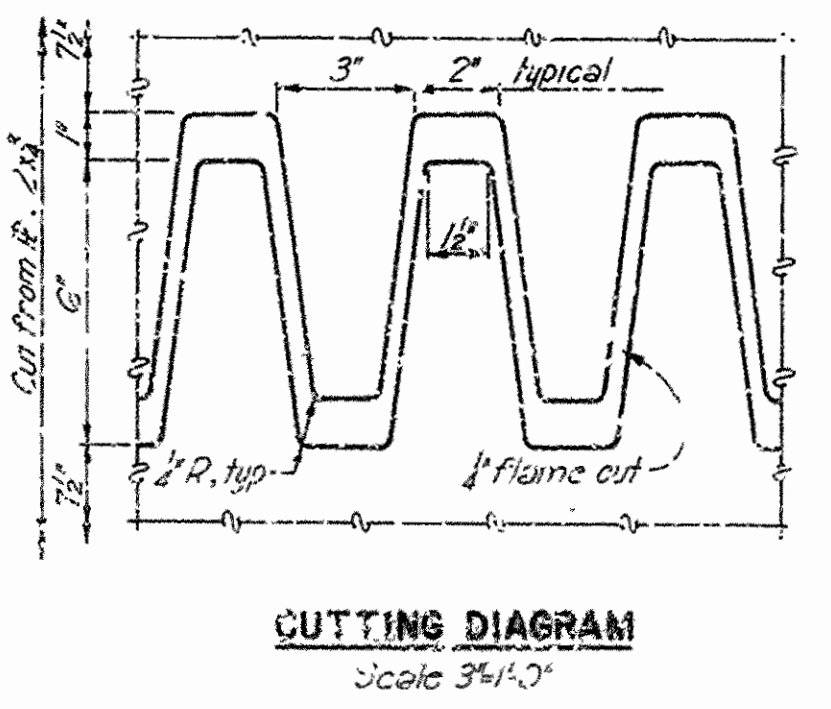
Rev.	Issued	By	For	Sheet
0	8-29-66	W.E. G.	J.S. G.	15
Job No.			4533	



Notes
 All expansion joint members shall be Structural Steel ASTM A-36
 Each unit of each joint shall be hot dip galvanized after fabrication
 Provide a nut, washer and lock washer at each 1" bolt
 All horizontal dimensions are given at 67°F

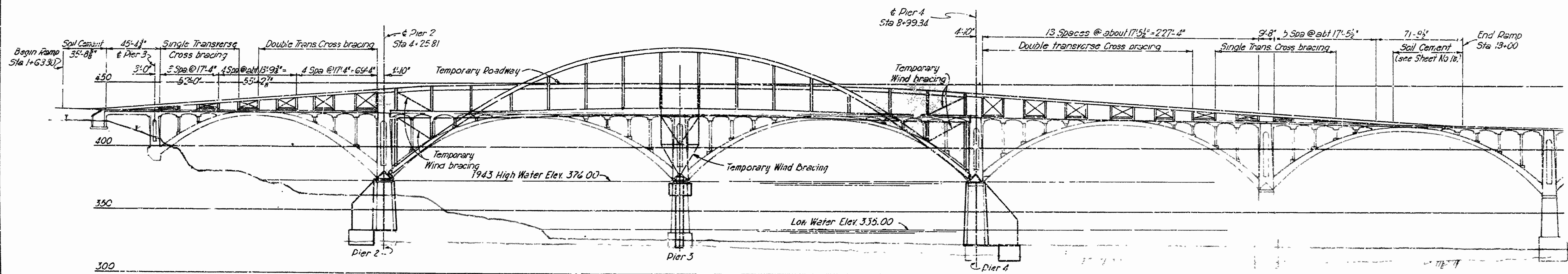
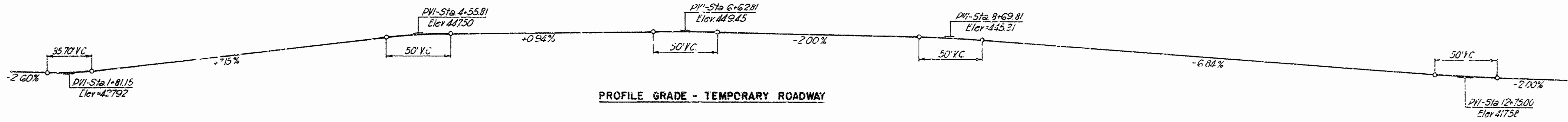


Notes
 Castings for shoes shall be cast steel, ASTM A-27, Grade 55-55
 Pins shall be cold finished steel shafting ASTM 106 Grade 1030
 Contact surfaces shall be finished in the direction of motion and conform to American Standards for surface roughness, waviness, and lay - Part I, ASA, B46.1.
 All base plates shall be scribed with transverse and longitudinal center lines
 All fillets shall be 1/4" Radius
 All components of the shoes shall be hot dip galvanized after machining Galvanizing may be done prior to welding to arch rib
 Shoes shall finally be painted as Structural Steel

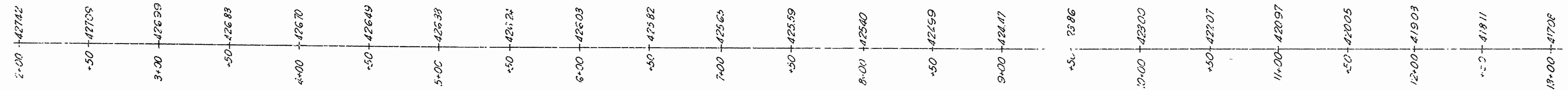


Dist. No.	Proj. No.	State	Count	Sheet
6		ARKANSAS	FRANKLIN	16
Job No.		733		

217



ELEVATION

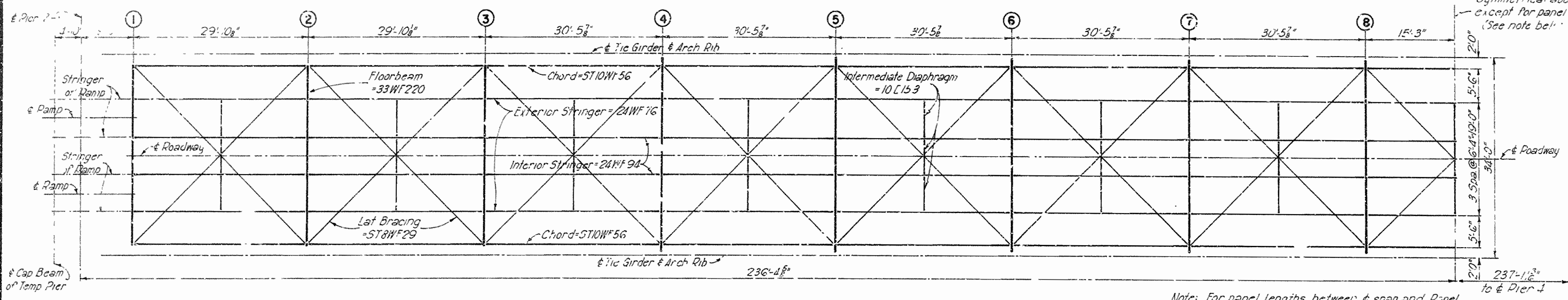


EXISTING ROADWAY GRADES

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS
OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

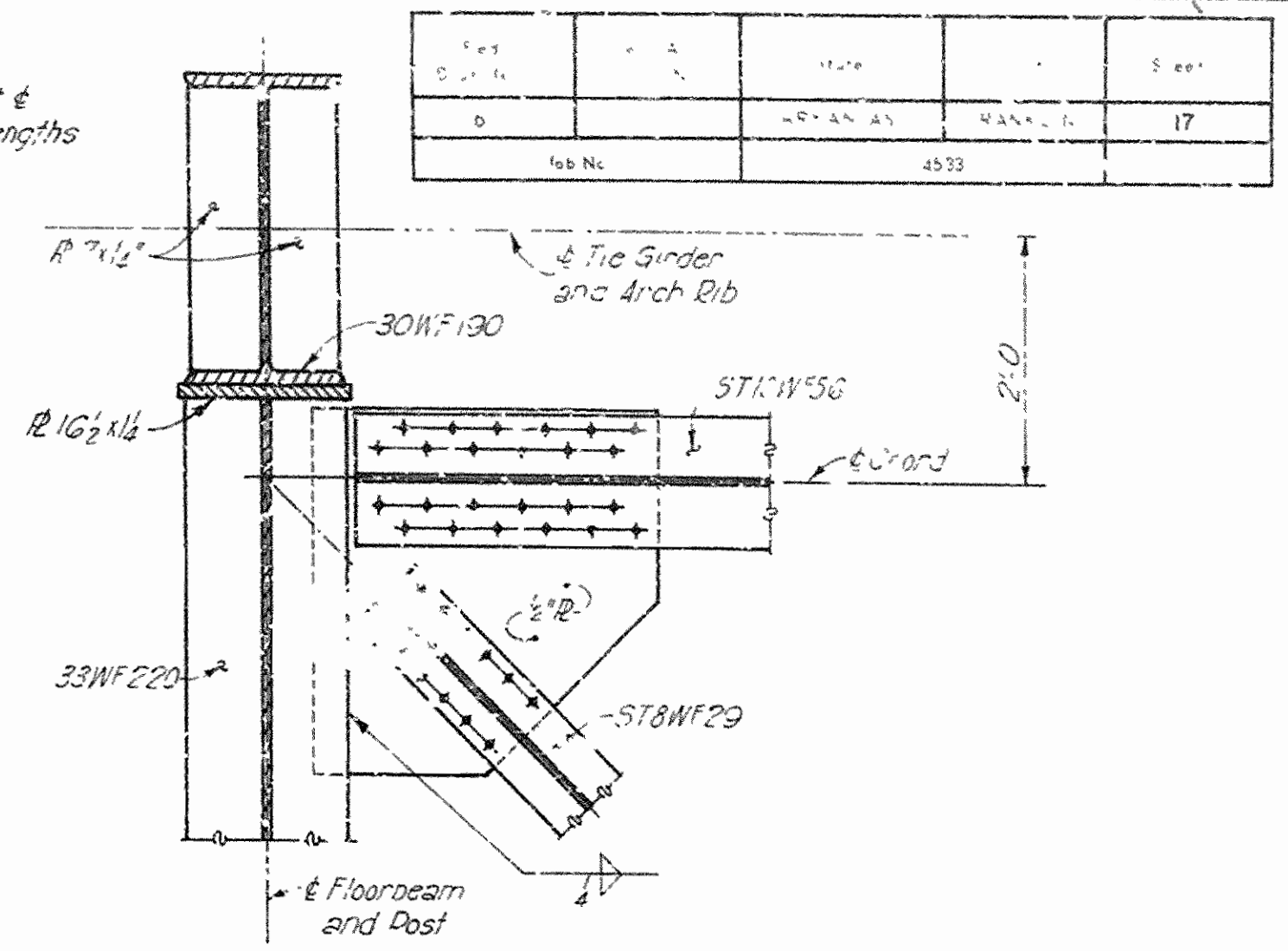
ELEVATION TEMPORARY RAMPS AND ROADWAY

DRAWN BY *DEB* DATE *3-23-66* CHECKED BY *WCB* DATE *3-24-66*
SCALE *1" = 40'*
BRIDGE NO. 1210 A DRAWING NO. 14335

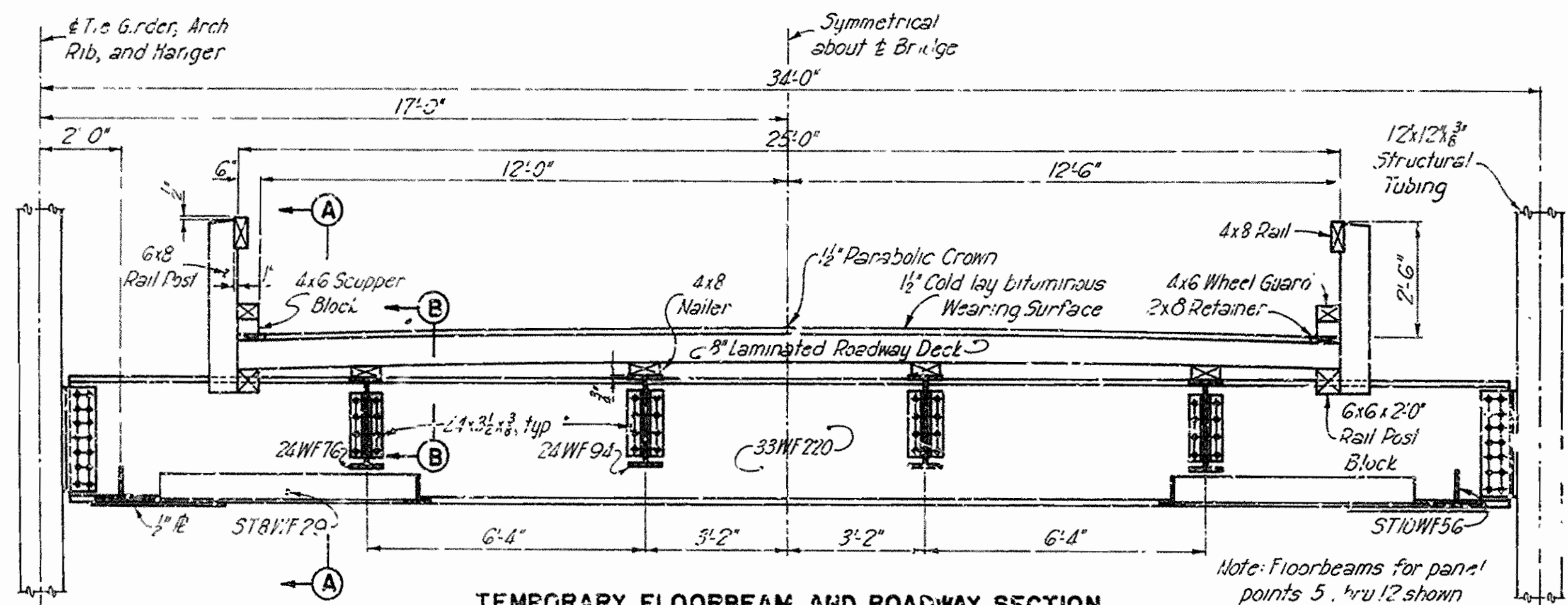


FRAMING PLAN
Scale: 3/8"=1'-0"

Note: For panel lengths between & span and Panel Point 16, see Plan and Elevation of New Arch Span sheet

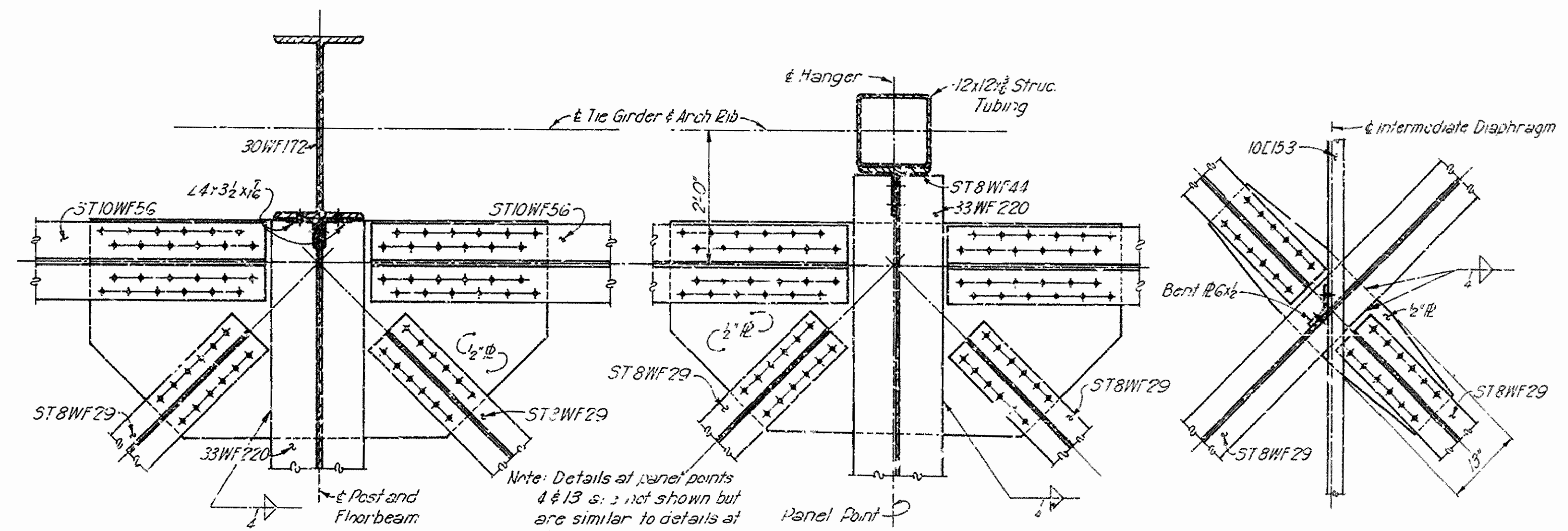


AT PANEL POINTS 1 AND 16



TEMPORARY FLOORBEAM AND ROADWAY SECTION
Scale: 3/8"=1'-0"

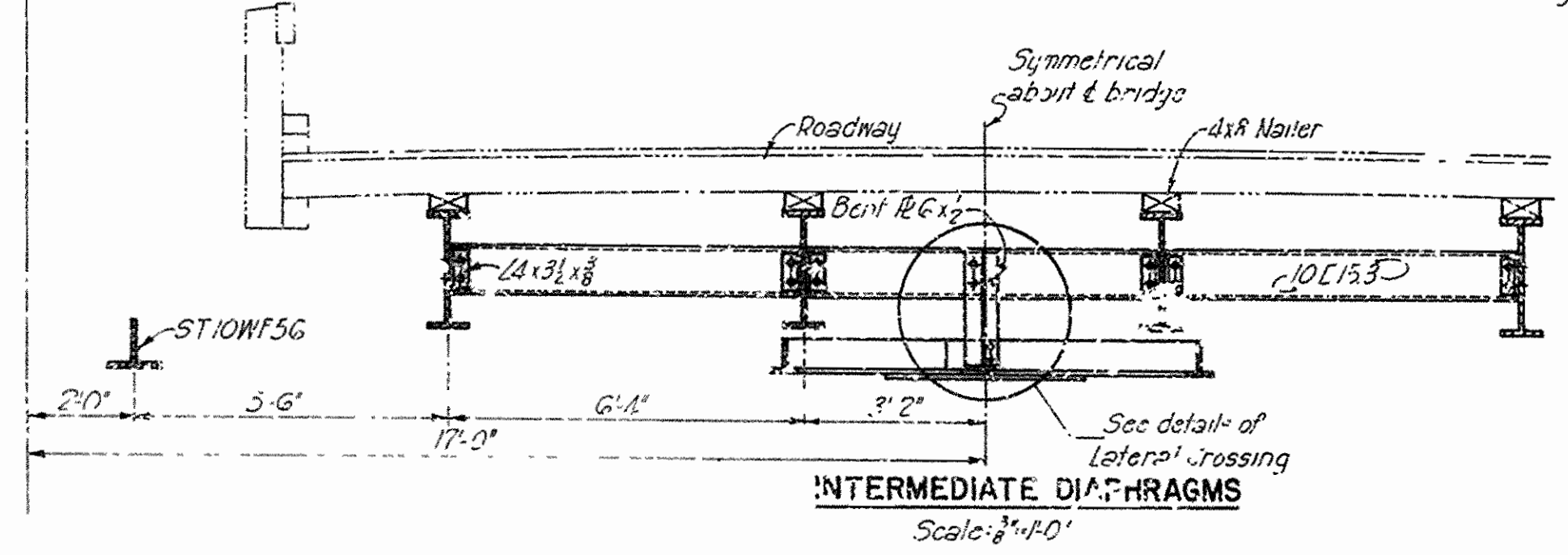
Note: Floorbeams for panel points 5 thru 12 shown. Floorbeams for panel points 1 thru 4 and 13 thru 16 similar. See Temporary Floorbeam Connections, Temporary Framing Details Sheet.



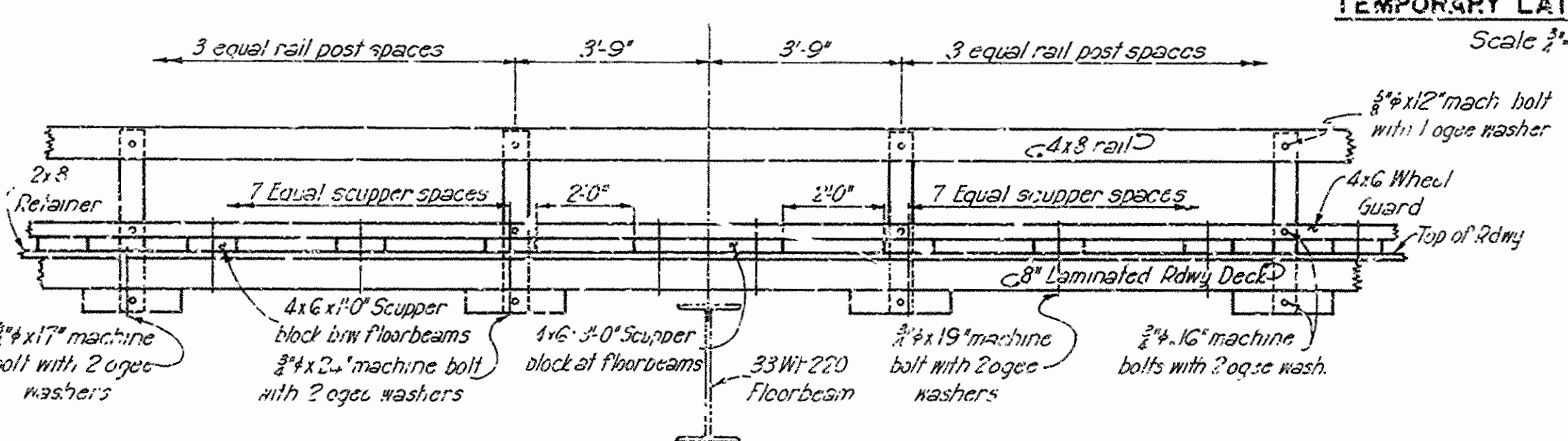
AT PANEL POINTS 2, 3, 4, AND 15

AT PANEL POINTS 5 THRU 12

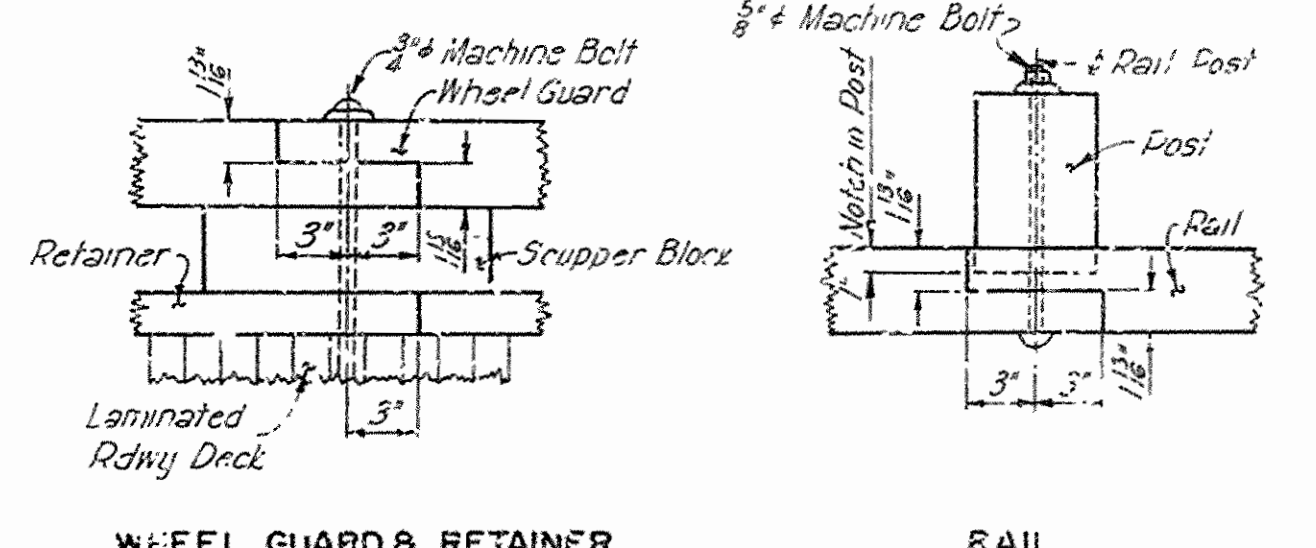
LATERAL CROSSING



INTERMEDIATE DIAPHRAGMS
Scale: 3/8"=1'-0"



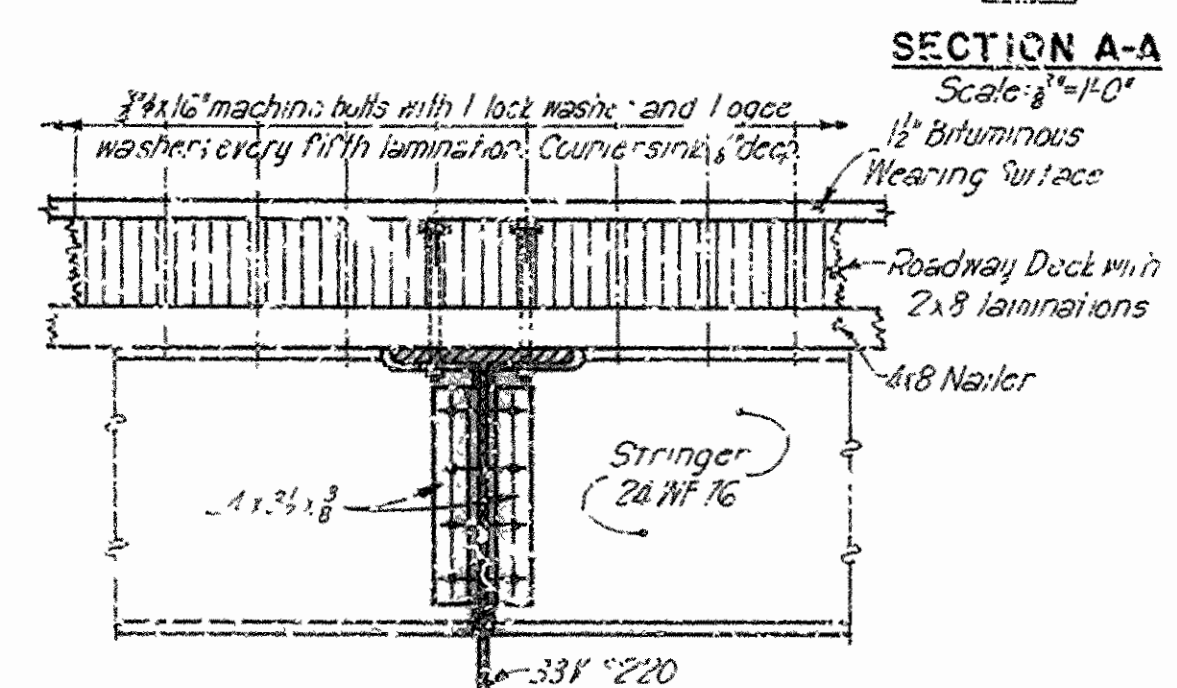
TEMPORARY LATERAL BRACING
Scale: 3/8"=1'-0"



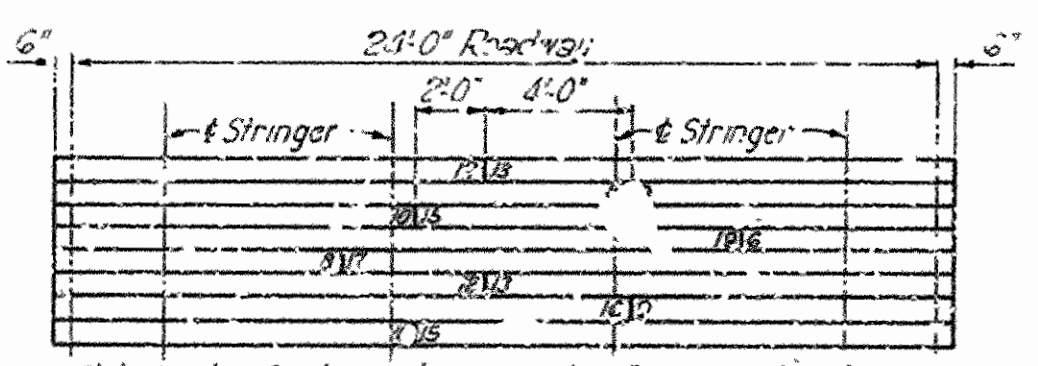
WHEEL GUARD & RETAINER

SPLICE DETAILS
Scale: 1/2"=1'-0"

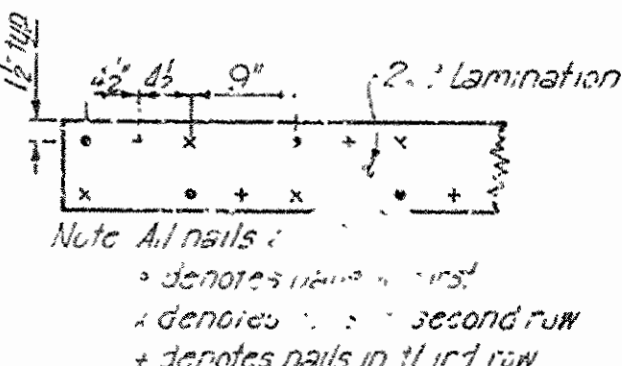
RAIL



SECTION A-A
Scale: 3/8"=1'-0"



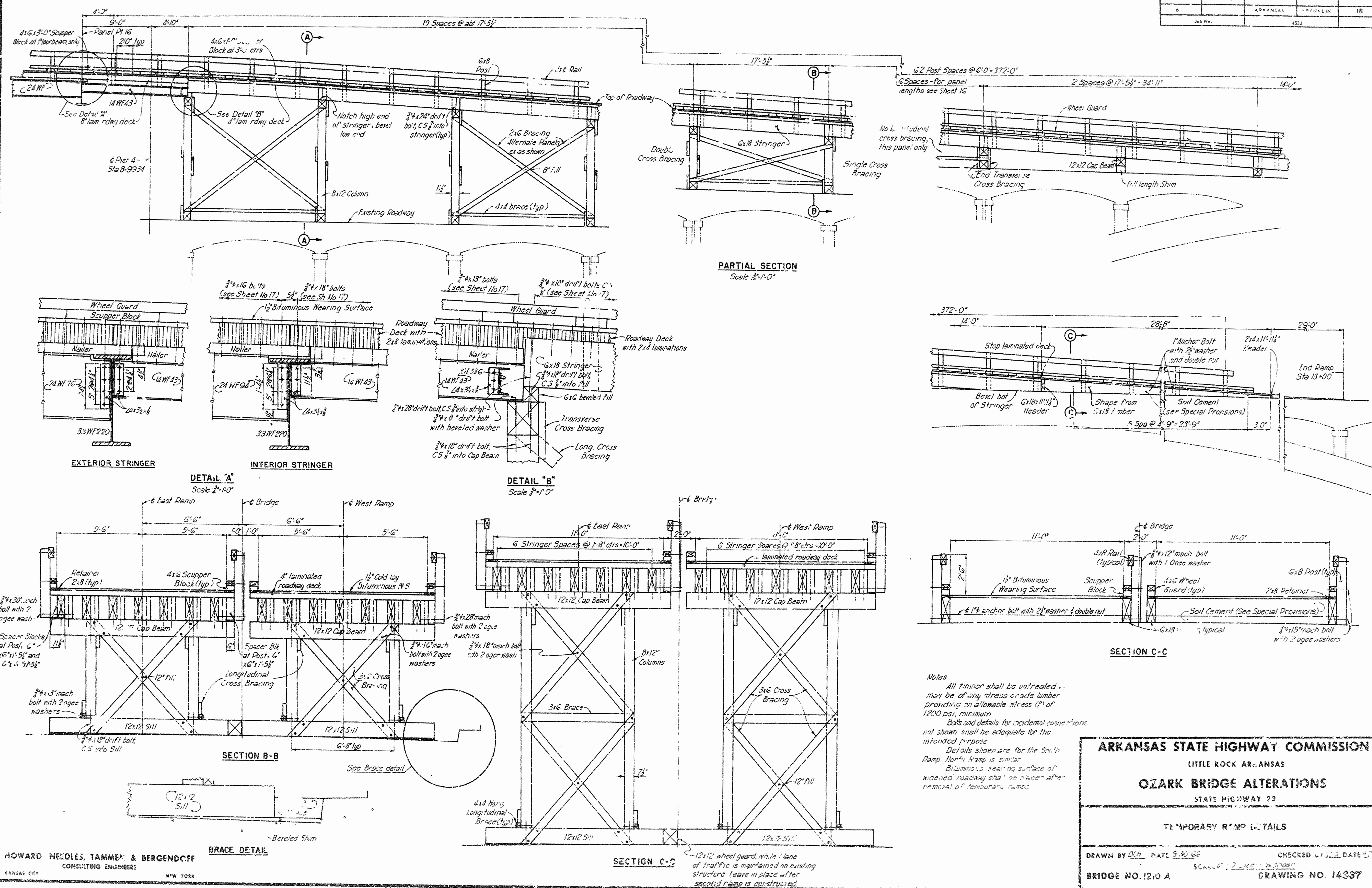
LAMINATING DIAGRAM
1/4" Scale



NAILING DIAGRAM
No Scale

Notes
All steel for temporary members shall be Structural Steel, ASTM A-36
All bolted connections shall be made with 3/4" High Strength Bolts, ASTM A-325 in 1 1/4" holes
All temporary welded connections to permanent framing shall be removed and the permanent members shall be finished as described in the "Special Provisions"
All timber shall be untreated and may be of any stress grade lumber providing an allowable stress (F) of 1400 psi, minimum

Proj. No.	Proj. No.	State	County	Sheet
6		ARKANSAS	INDIAN	18
Job No.		453		



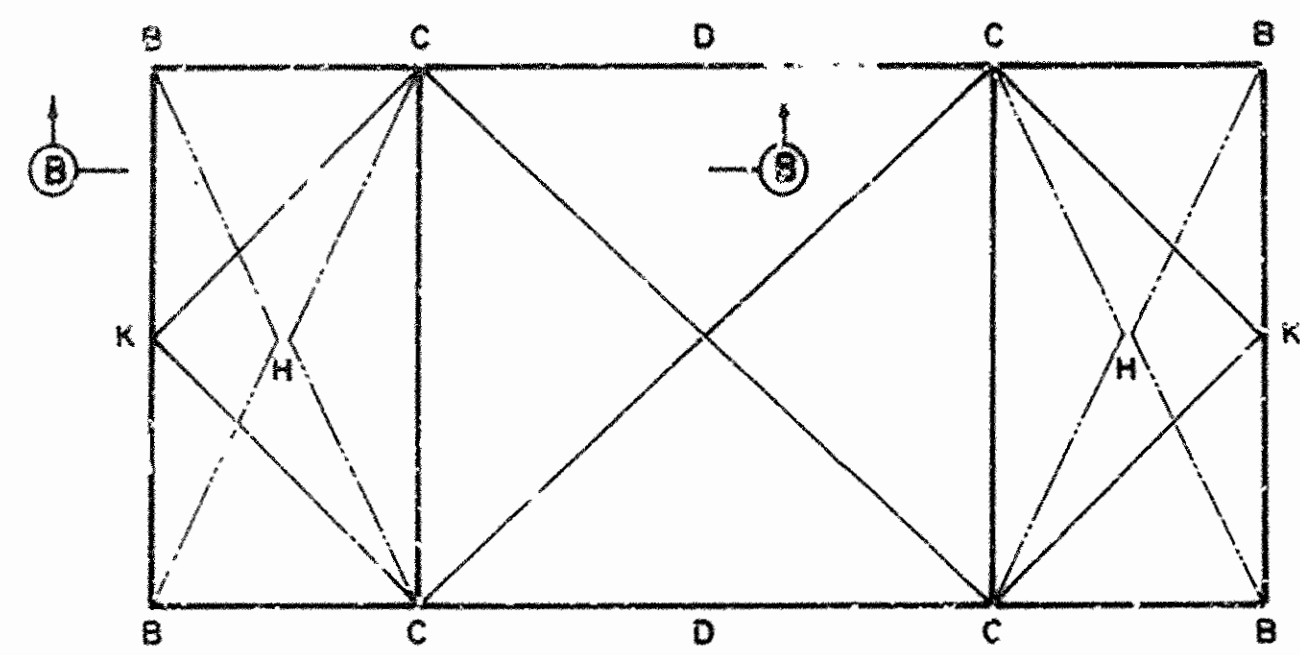
Notes
All timber shall be untreated & may be of any stress grade lumber providing an allowable stress (F) of 1200 psi, minimum.
Bolts and details for incidental connections not shown shall be adequate for the intended purpose.
Details shown are for the South Ramp. North Ramp is similar.
Bituminous wearing surface of widened roadway shall be placed after removal of temporary ramps.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS
OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

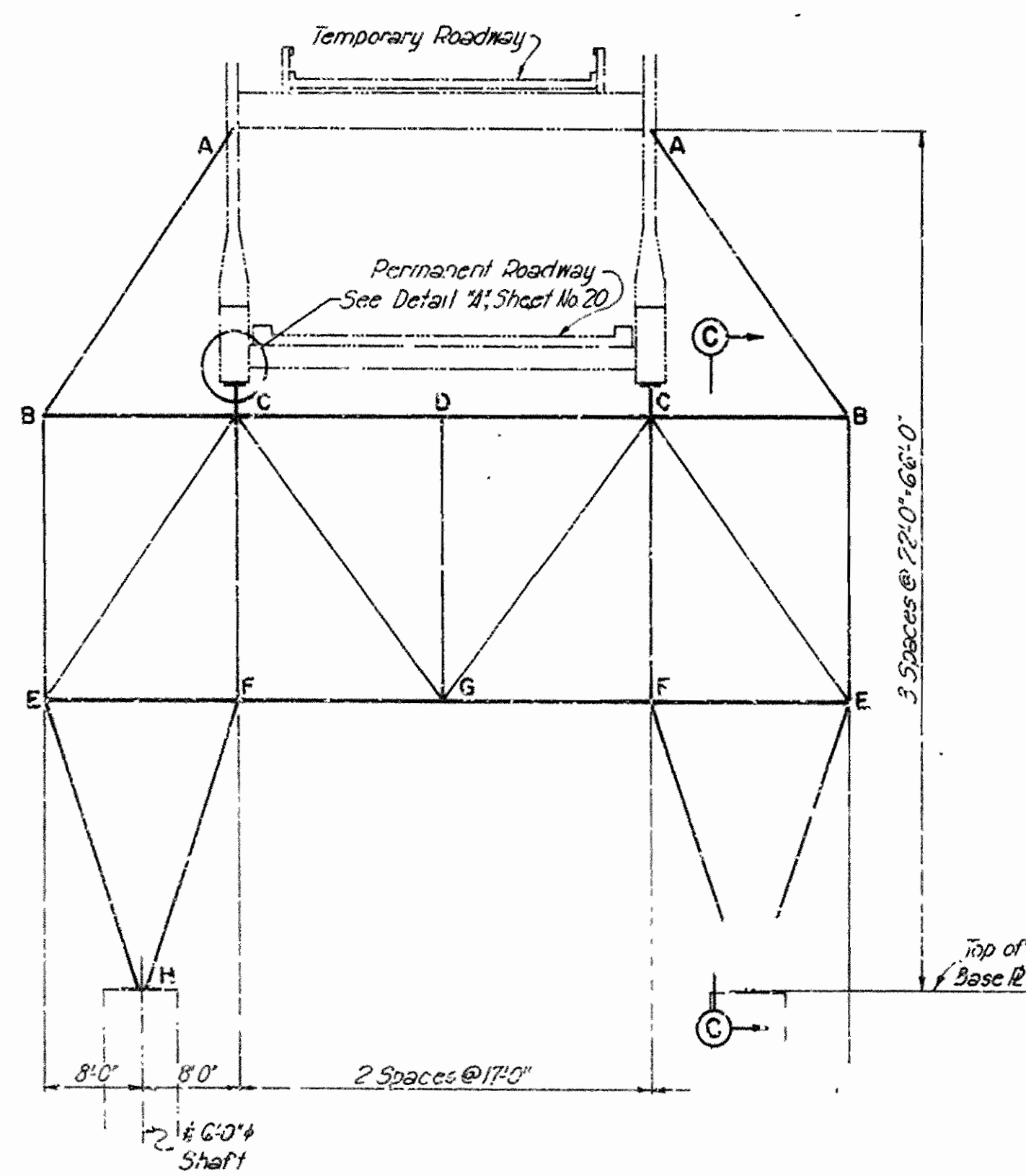
TEMPORARY RAMP DETAILS

DRAWN BY *[Signature]* DATE 5-30-66 CHECKED BY *[Signature]* DATE 6-1-66
BRIDGE NO. 1230 A SCALE: 1/4" = 1'-0" DRAWING NO. 14337

Dist No	Proj No	State	County	Sheet
6		ARKANSAS	FRANKLIN	19
Job No.		4333		

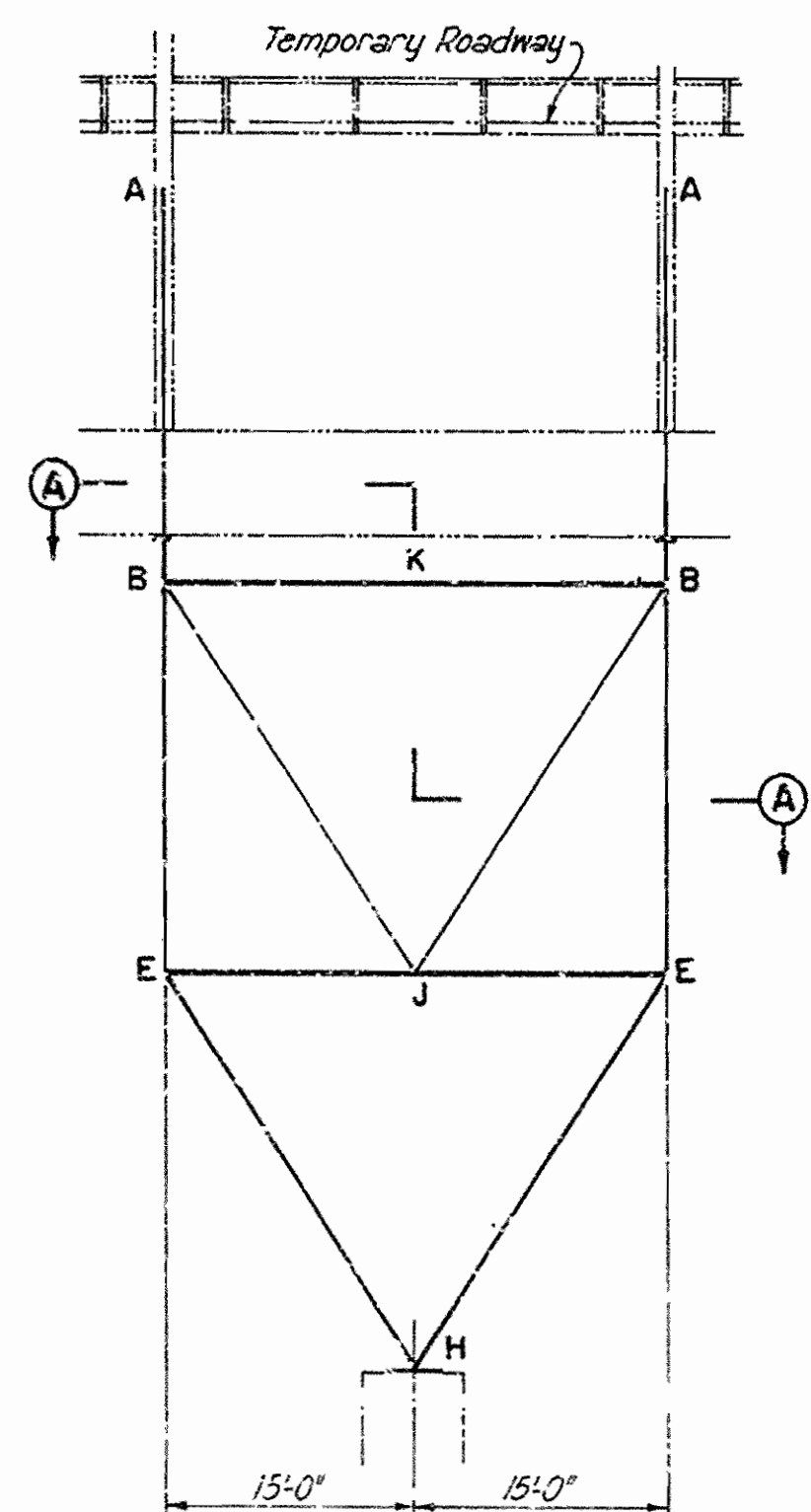


PLAN

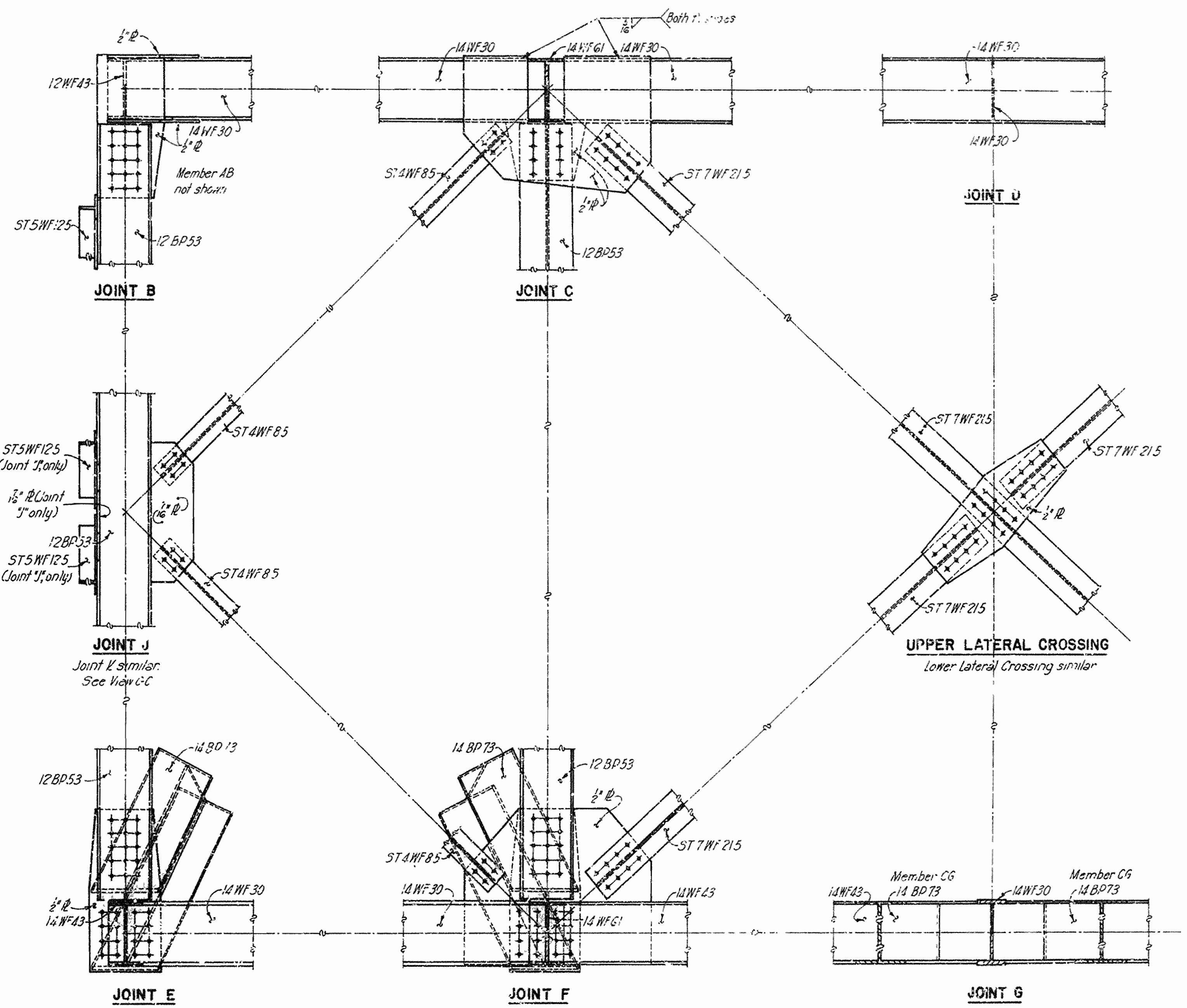


ELEVATION

Note for Views B-B and C-C, see Sheet No 20



END VIEW



VIEW A-A
Scale: 3/4"=1'-0"

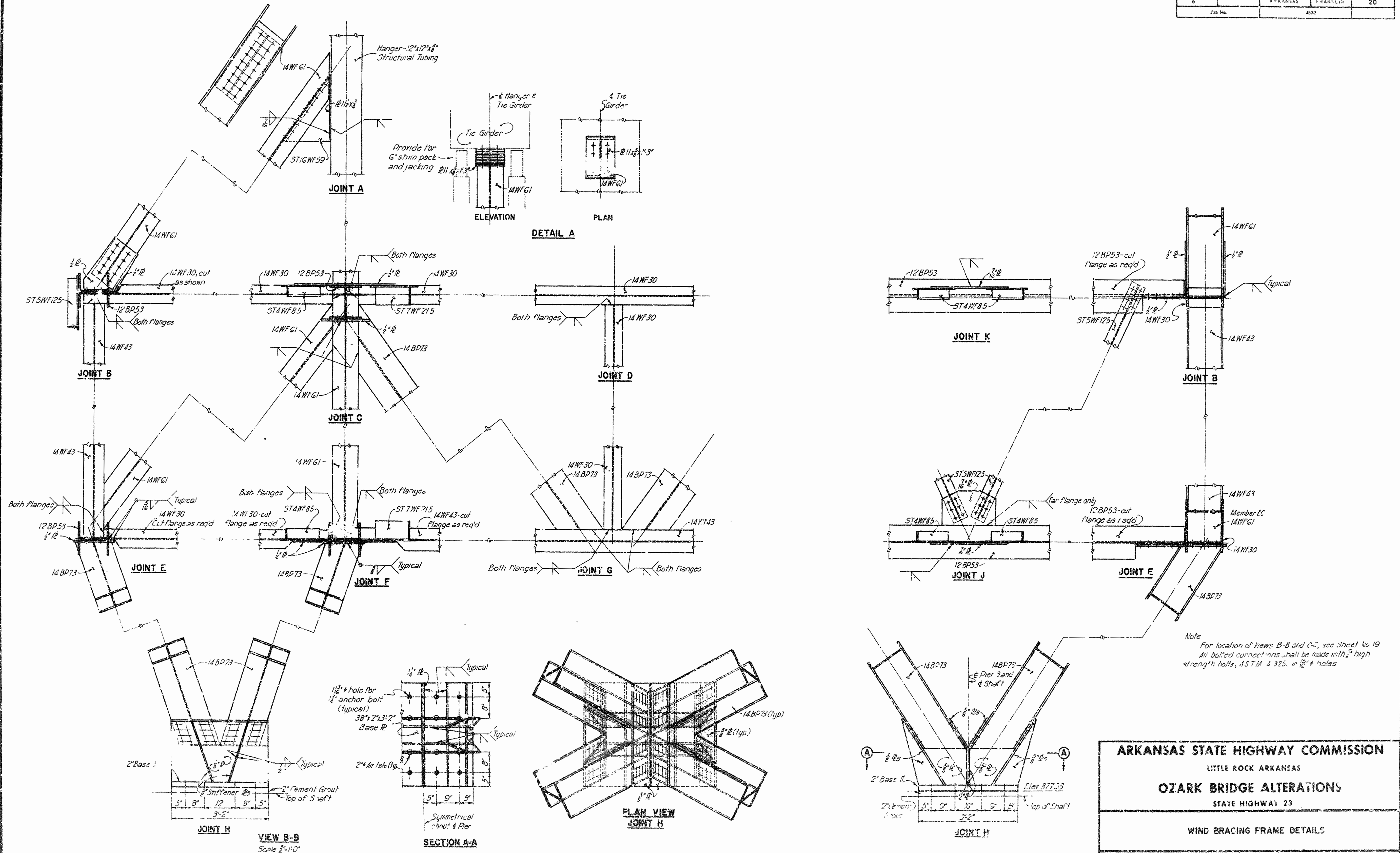
Notes
All structural steel shall be ASTM A36
All connections shall be made with
3/4" high strength bolts, ASTM A325, in
1 1/2" holes
The contractor shall make necessary
provisions for blocking and bracing to
suit his erection procedure.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS
OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

PIER 3 WIND BRACING FRAME

DRAWN BY DCM DATE 8-30-66 CHECKED BY LSJ DATE 9-1-66
BRIDGE NO. 1210 A SCALE 1/4"=1'-0" DRAWING NO. 14338

Sheet No.	6	Proj. No.	AR 532	Sheet	20
Job No.	4532				



HOWARD, NEEDLES, TAMMEN & BERGEN
CONSULTING ENGINEERS
NEW YORK

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

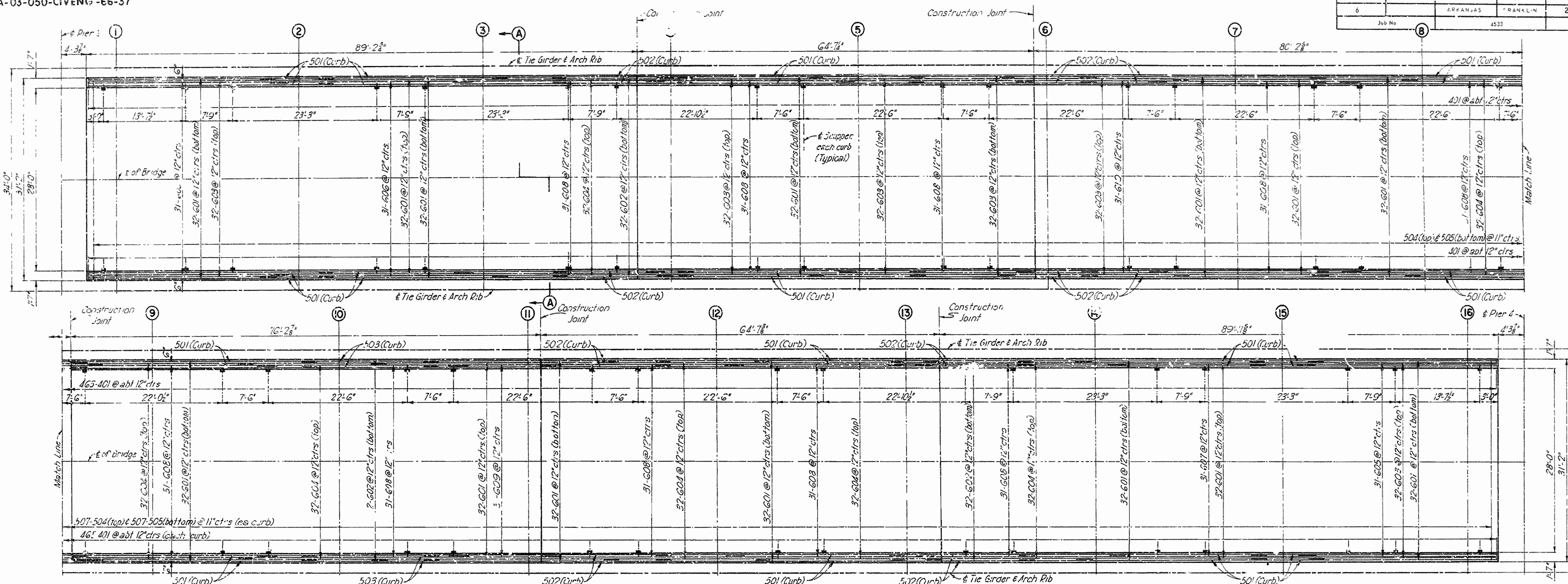
WIND BRACING FRAME DETAILS

DRAWN BY [initials] DATE 11-66 CHECKED BY [initials] DATE 11-66

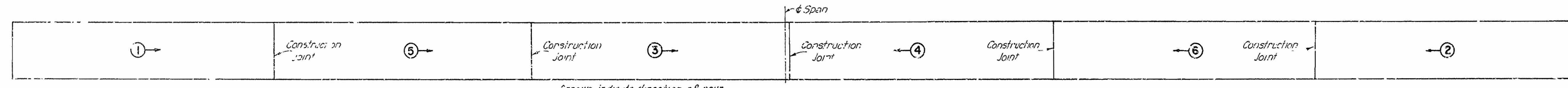
BRIDGE NO. 1210 A SCALE 3/4"=1'-0" DRAWING NO. 14339

U.S. No.	State	County	Sheet
6	ARKANSAS	FRANKLIN	21
Job No.	4533		

219

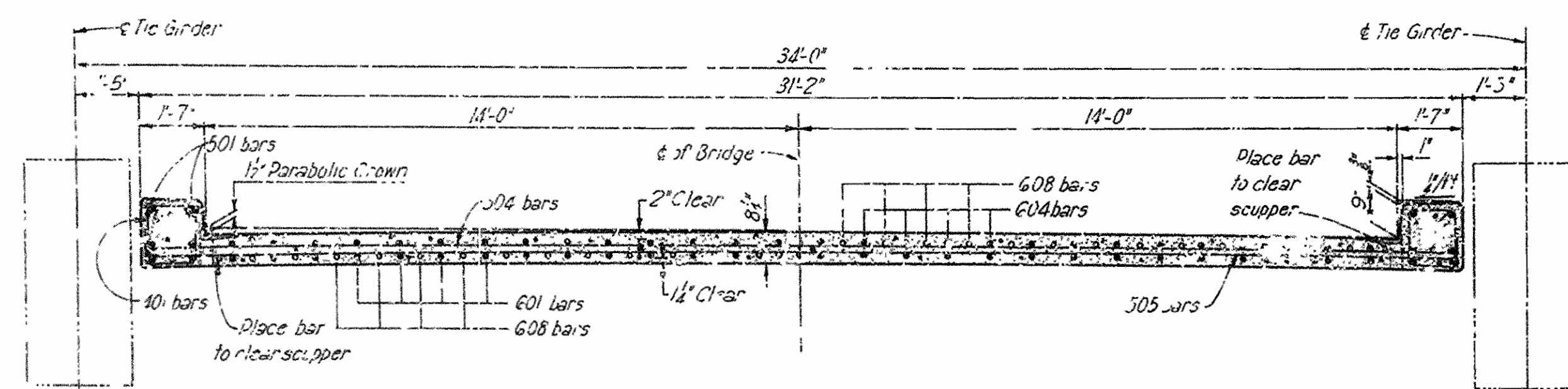


PLAN
Scale 1/8" = 1'-0"

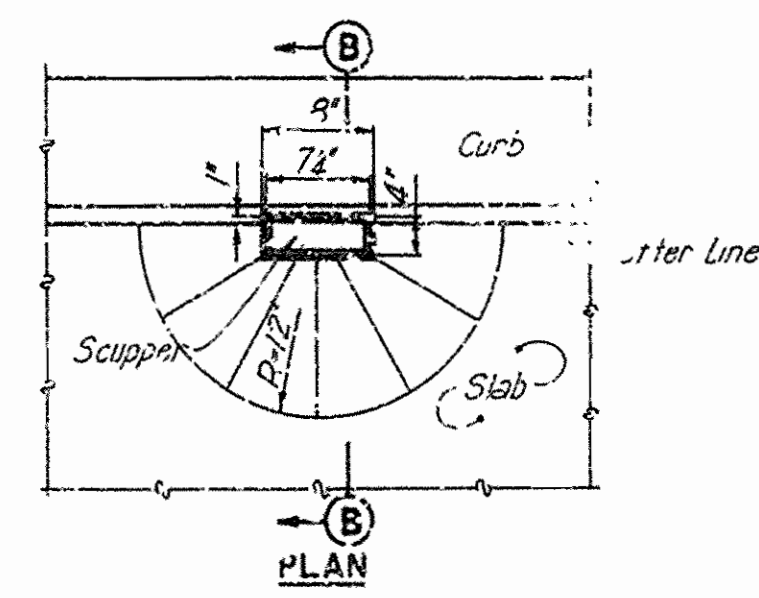


Arrows indicate direction of pour.

POURING SEQUENCE
No Scale



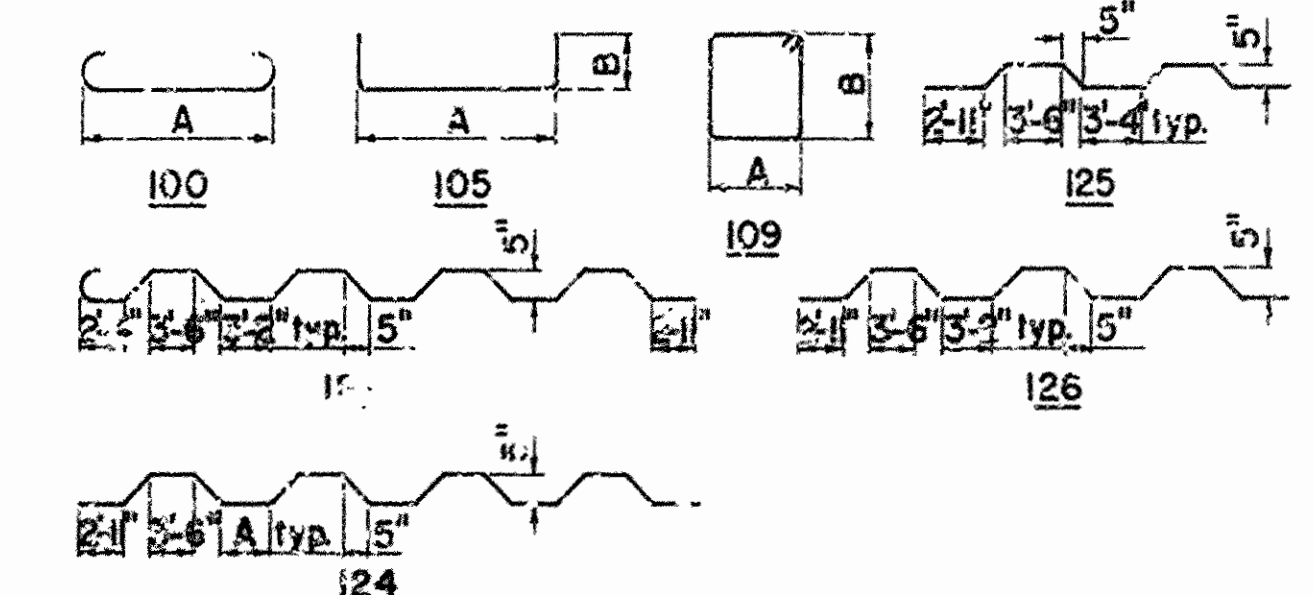
SECTION A-A
Scale 1/8" = 1'-0"



SECTION B-B
SCUPPER DETAILS

Note:
For additional scupper
details see Sheet 25.

BILL OF REINFORCEMENT				
MARK	NO.	LENGTH	TYPE	DIMENSION
401	930	5'-9"	105	1'-2" 1'-2"
501	32	40'-0"	Str.	
502	20	30'-0"	Str.	
503	4	25'-0"	Str.	
504	507	32'-0"	100	30'-5"
505	507	32'-0"	105	30'-6" 0'-9"
601	448	40'-0"	Str.	
602	96	23'-3"	Str.	
603	192	30'-9"	Str.	
604	224	27'-0"	Str.	
605	62	34'-2"	125	
606	31	33'-9"	124	3'-7"
607	31	34'-0"	124	3'-3"
608	310	34'-6"	124	3'-4"
609	31	18'-6"	125	
610	31	26'-2"	126	
Total weight of Reinforcing = 112,180#				



ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS

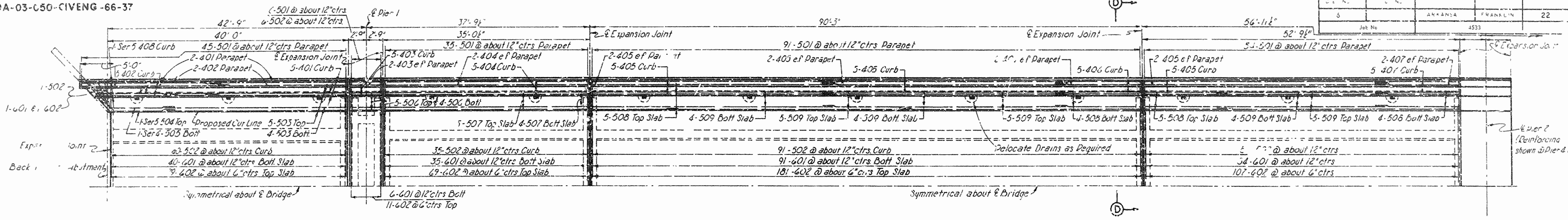
OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 13

SLAB PLAN - PIER 2 TO PIER 4

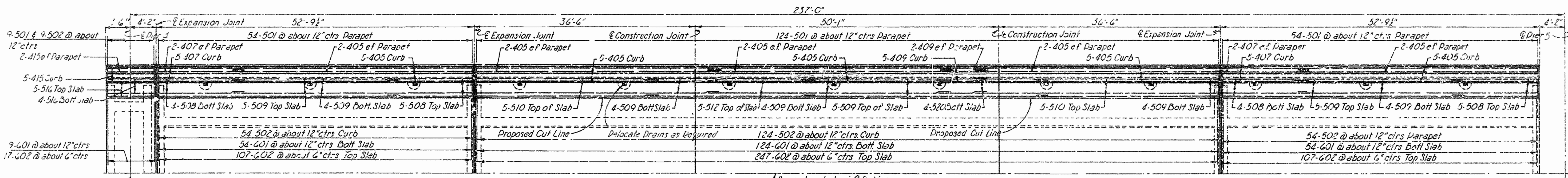
DRAWN BY [Name], DATE [Date] CHECKED BY [Name], DATE [Date]

BRIDGE NO. 1210 A SCALE [Scale] DRAWING NO. 14340

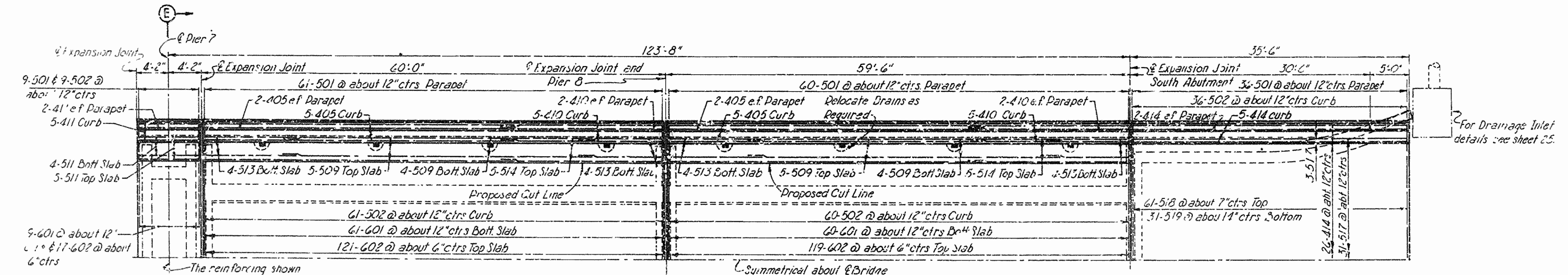
Job No.	AR 4533	FRANKLIN	22
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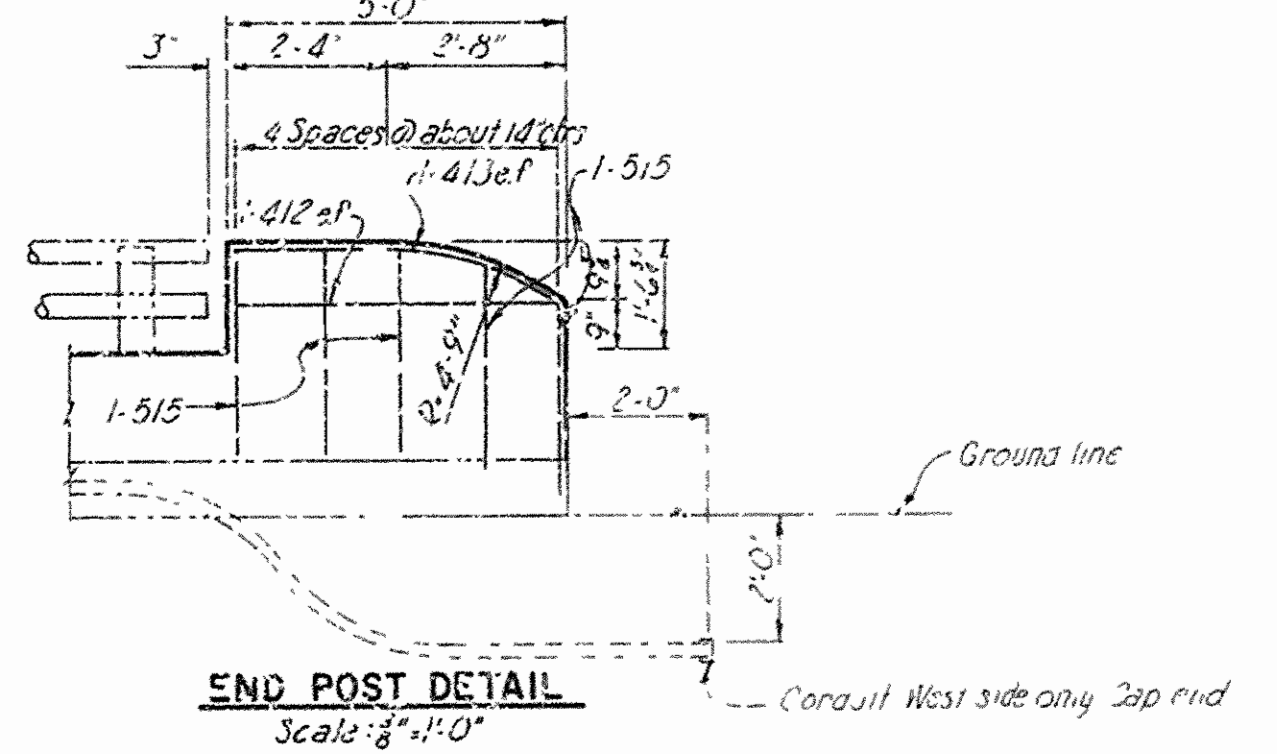
HALF PLAN OF NORTH APPROACH AND 185' SPAN



HALF PLAN OF TYPICAL 237' SPAN

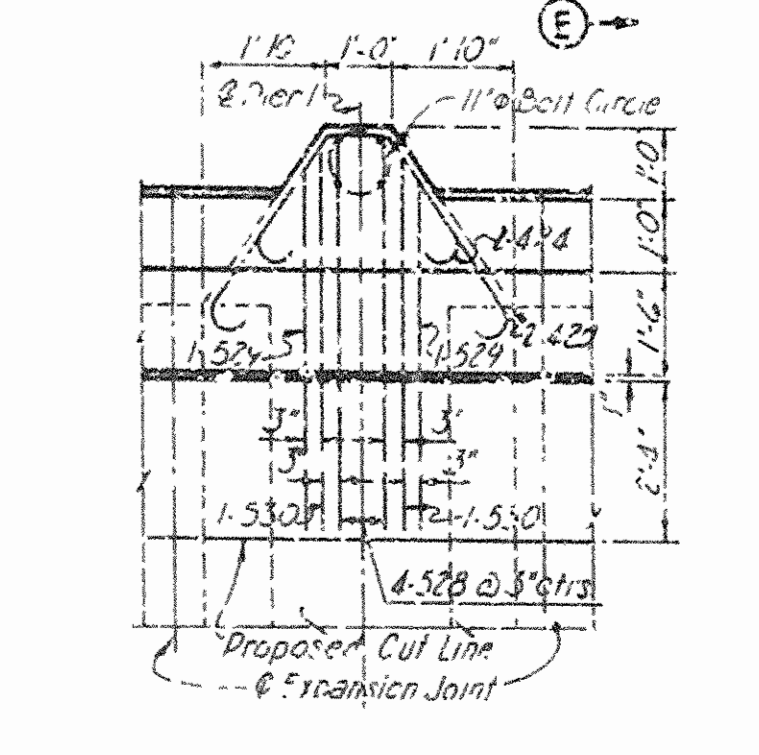


HALF PLAN OF SOUTH APPROACH AND APPROACH SLAB



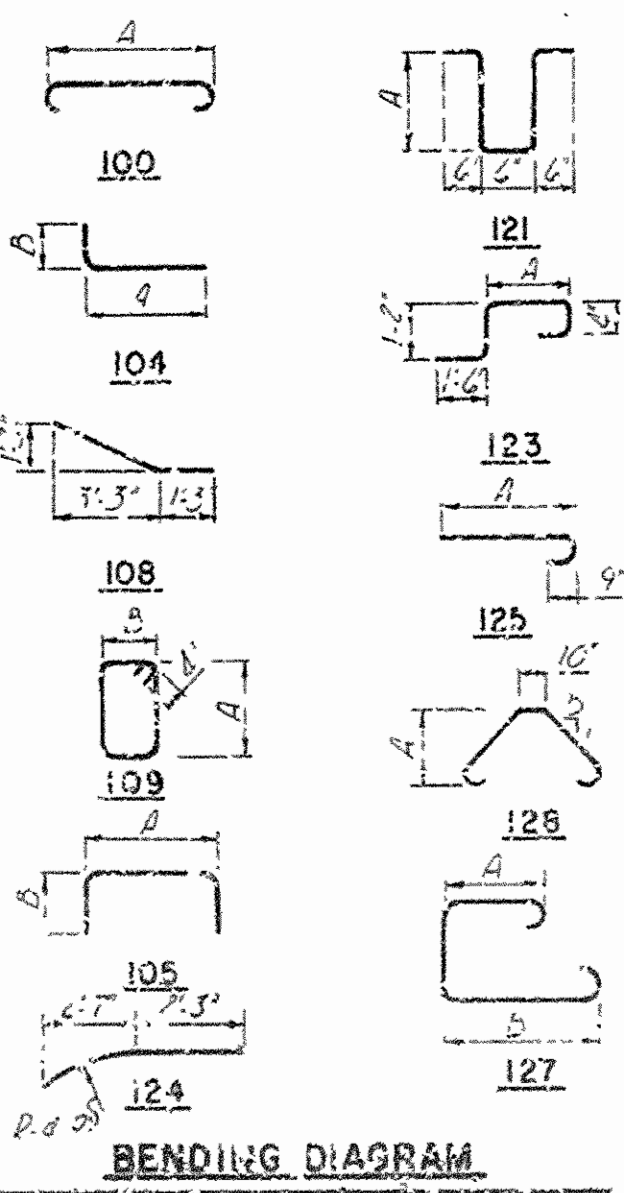
END POST DETAIL
Scale: 1/4" = 1'-0"

Notes:
The details shown are for one half the roadway, the other half shall be identical, except for light standards and denotes each 1:30.
The sections indicated on this sheet are detailed on sheet 25.



LIGHT STANDARD SUPPORT
AT PIER 1
Scale: 1/4" = 1'-0"
Howard, Needles Tammen & Bergendoff
CONSULTING ENGINEERS
NEW YORK

BILL OF REINFORCEMENT																							
PIERS 2 AND 4				APPROACH AND ARCH SPANS								APPROACH SLAB											
MARK	NO.	LENGTH	TYPE	DIMENSIONS		MARK	NO.	LENGTH	TYPE	DIMENSIONS		MARK	NO.	LENGTH	TYPE	DIMENSIONS							
				A	B					A	B				A	B							
415	36	7'-3"	Str.			401	18	23'-0"	Str.	504	25	51'-0"	Str.	414	44	35'-0"	Str.						
422	4	11'-6"	128	3'-0"	1	402	18	2'-0"	Str.	505	25	51'-0"	Str.	501	72	51'-6"	109	1'-9"	0'-8"				
423	4	9'-5"	128	1'-9"	1	403	18	5'-3"	Str.	506	18	5'-3"	Str.	502	72	51'-6"	123	2'-2"					
501	36	5'-6"	109	1'-9"	0'-8"	404	18	34'-9"	Str.	507	18	34'-9"	Str.	517	37	36'-0"	125	35'-0"					
502	36	5'-6"	123	2'-2"		405	360	49'-0"	Str.	508	144	15'-0"	Str.	513	126	17'-0"	125	16'-0"					
516	36	7'-6"	Str.			406	18	13'-9"	Str.	509	300	40'-0"	Str.	519	62	17'-3"	104	16'-0"	1'-3"				
527*	45	59'-8"	127	2'-0"	8"	407	126	14'-3"	Str.	510	60	30'-0"	Str.	428*	6	11'-6"	128	3'-0"	1				
528*	4	11'-1"	127	1'-9"	5'-5"	408	25	20'-6"	Str.	511	54	8'-0"	Str.	429*	6	9'-5"	128	1'-0"	1				
						409	36	9'-0"	Str.	512	30	25'-6"	Str.	429*	2	4'-0"	128	1'-9"	0.6				
601	36	4'-5"	104	3'-0"	1'-3"	410	36	21'-5"	Str.	513	32	12'-3"	Str.	429*	2	9'-2"	128	3'-0"	0.5				
602	36	4'-6"	100	3'-0"		411	54	9'-0"	Str.	514	20	22'-3"	Str.	425*	2	9'-2"	128	3'-0"	0.5				
						412	8	4'-9"	Str.	515	20	5'-8"	105	2'-6"	8"	527*	65	59'-8"	127	2'-0"	8"		
418	8	5'-1"	121	1'-9"		413	8	5'-0"	124	520	24	9'-0"	Str.	528*	8	11'-1"	127	1'-9"	5'-5"				
420	8	4'-1"	121	1'-3"		501	2150	5'-0"	109	601	2148	4'-3"	104	3'-0"	11'-3"	529*	2	3'-8"	127	1'-2"	4'-6"		
421	8	6'-1"	121	2'-3"		502	2148	5'-6"	103	402	1423	4'-6"	100	3'-0"	11'-4"	530*	2	10'-4"	127	1'-4"	5'-0"		
Total Weight Rein. For Piers 2 & 4				1042.503				18				30'-0"				Str.				Total Weight Approach and Arch Spans, Approach Slab and Multi Std. = 108,280 lbs.			



BENDING DIAGRAM

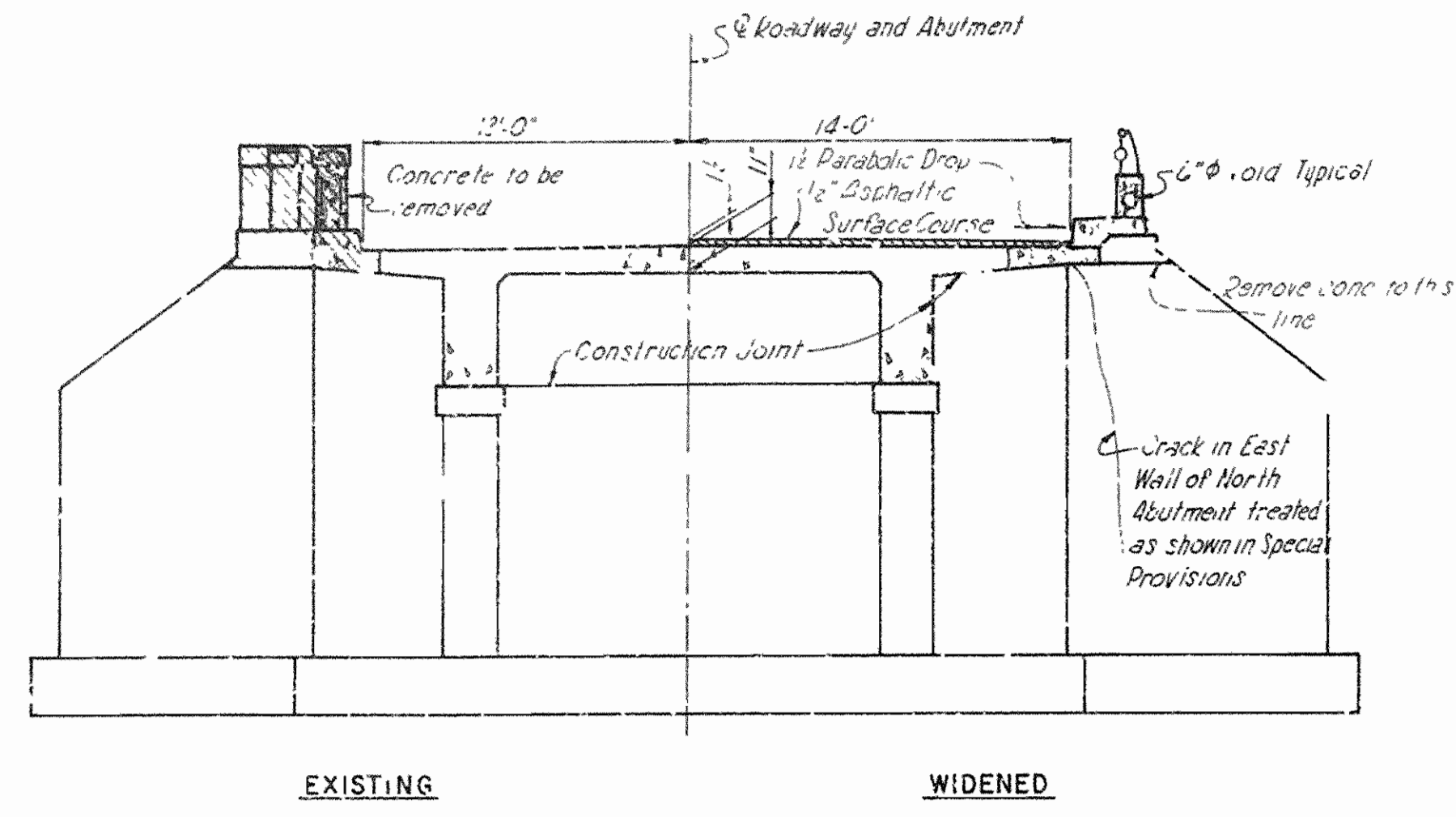
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

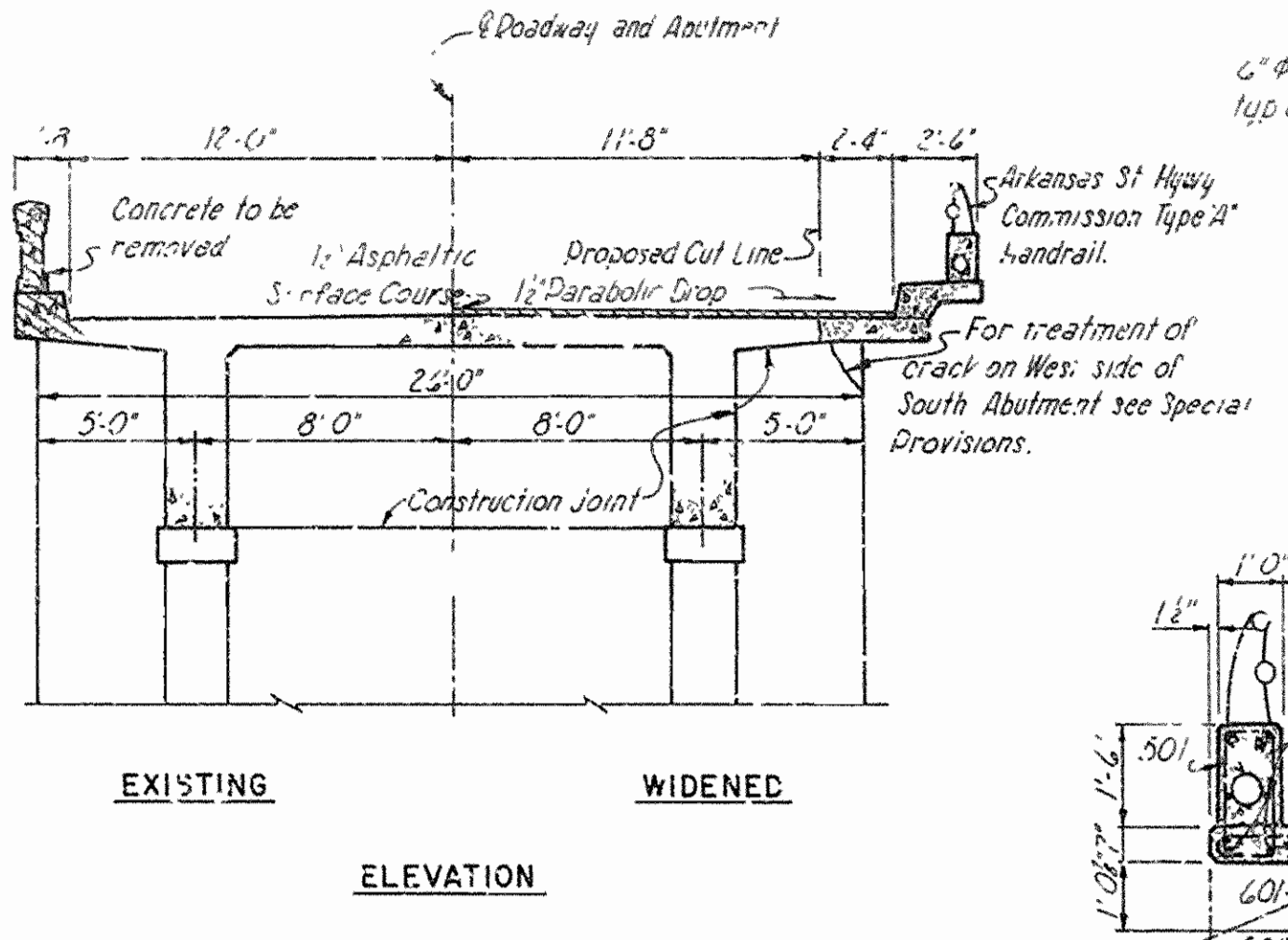
ROADWAY WIDENING AND APPROACH SLAB

DRAWN BY YCA DATE 6-23-66 CHECKED BY DEB DATE 7-1-66
BRIDGE NO. 1210A SCALE 1/4" = 1'-0" DRAWING NO. 14341

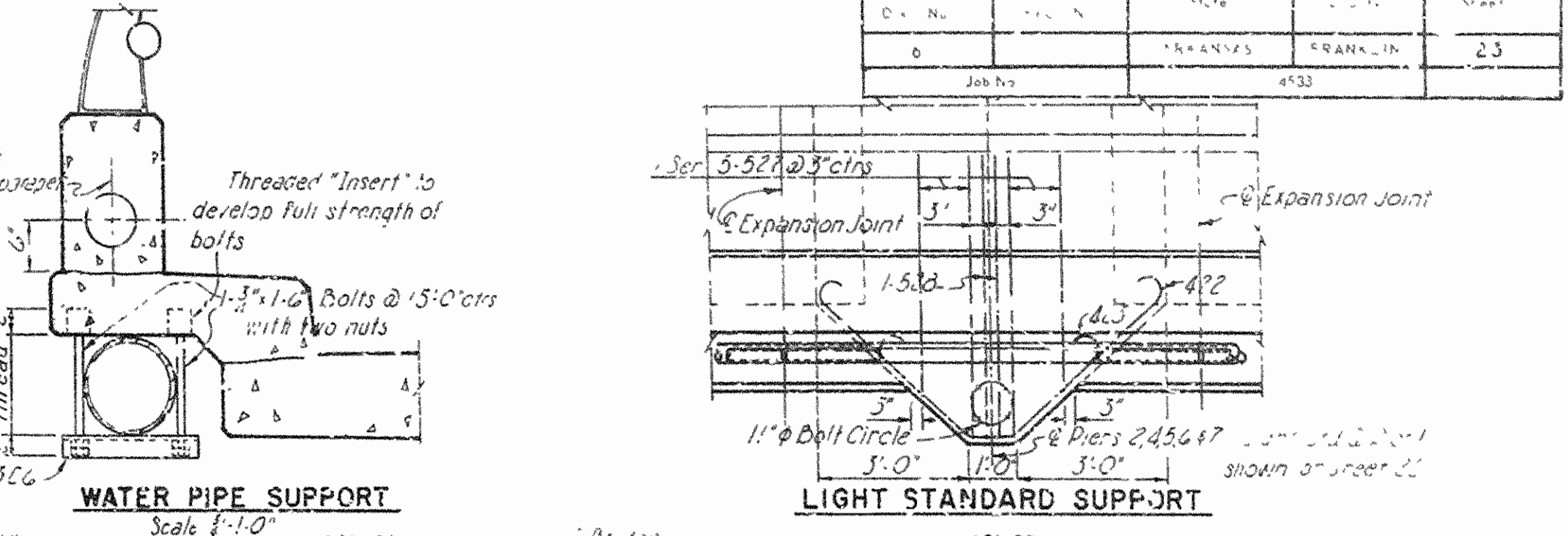
Job No.	4433
Contractor	FRANKLIN
Sheet No.	23



ELEVATION

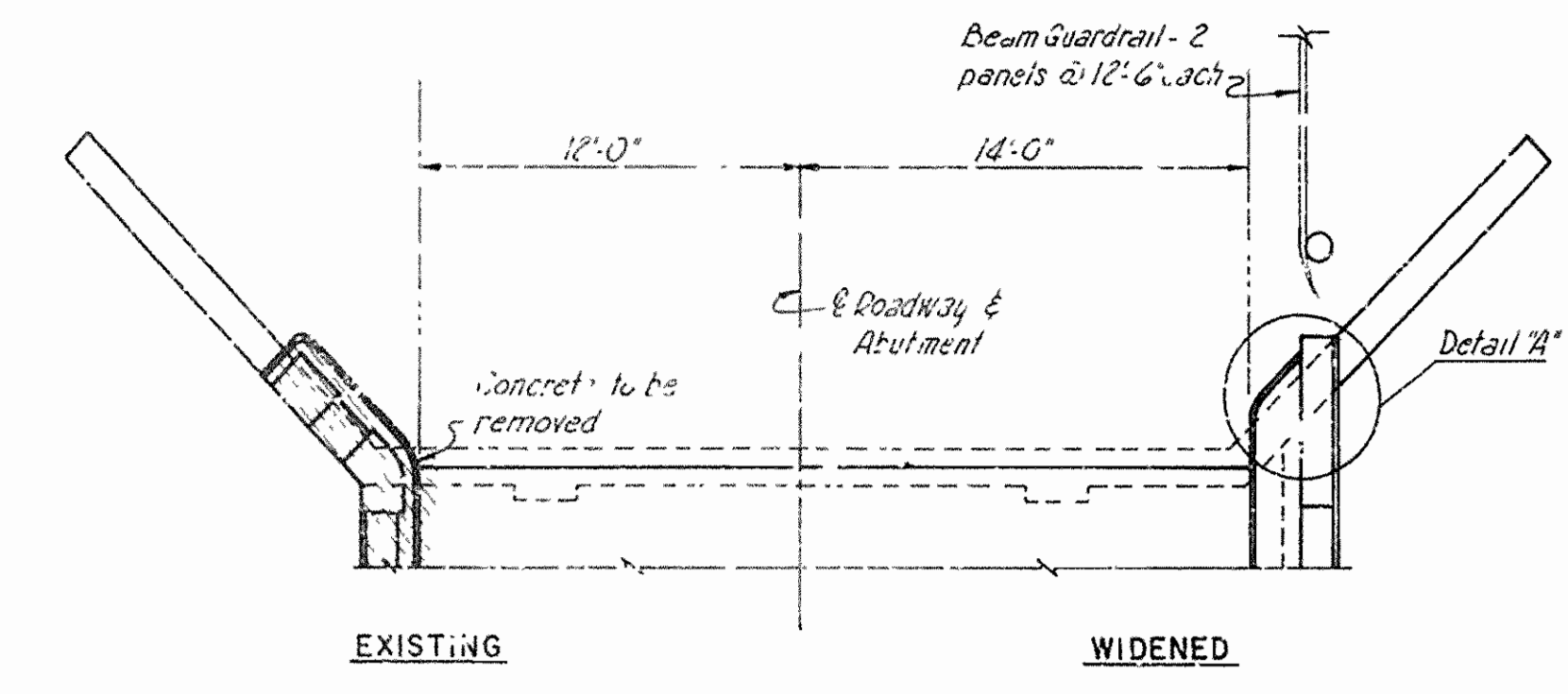


ELEVATION

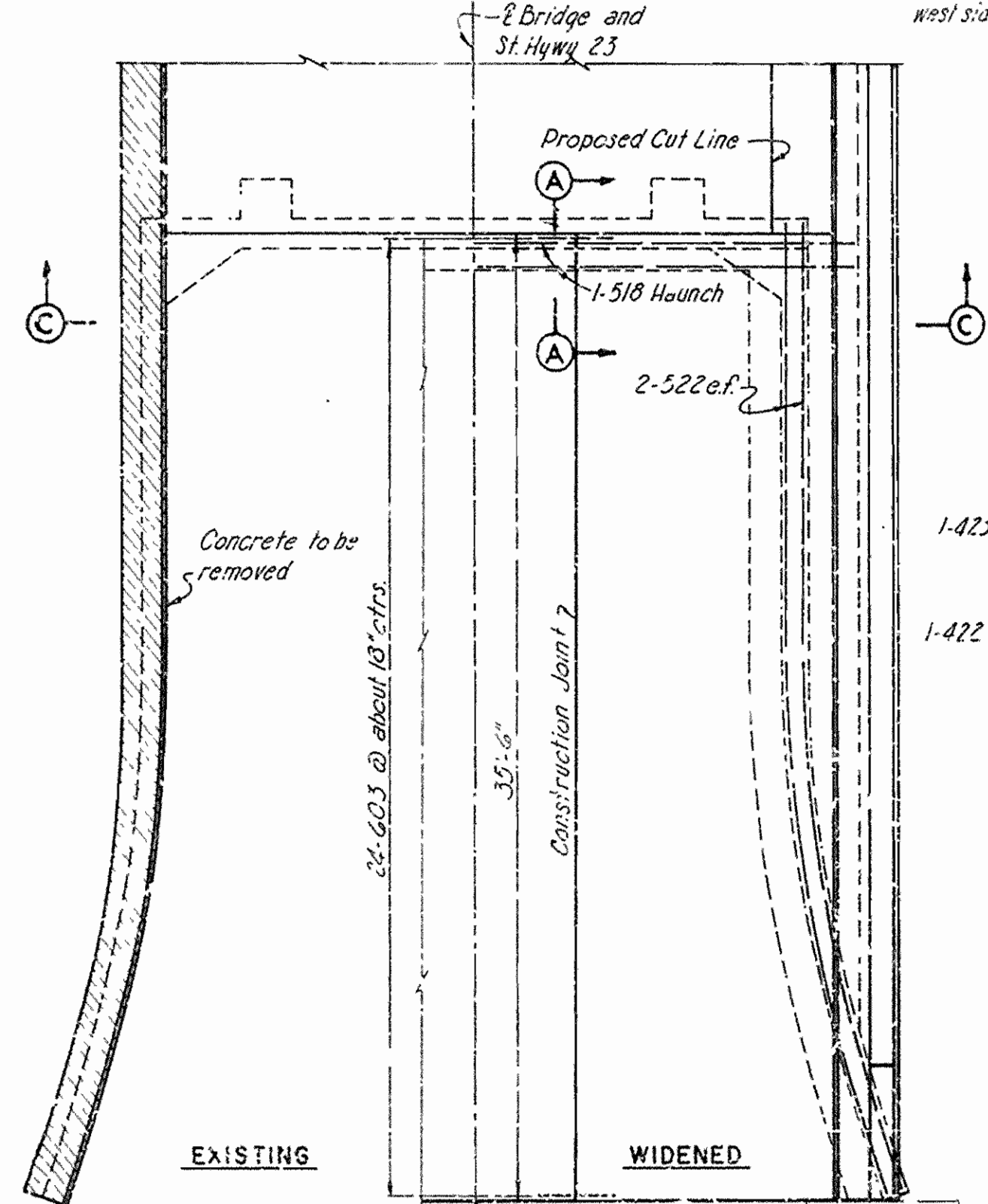


WATER PIPE SUPPORT

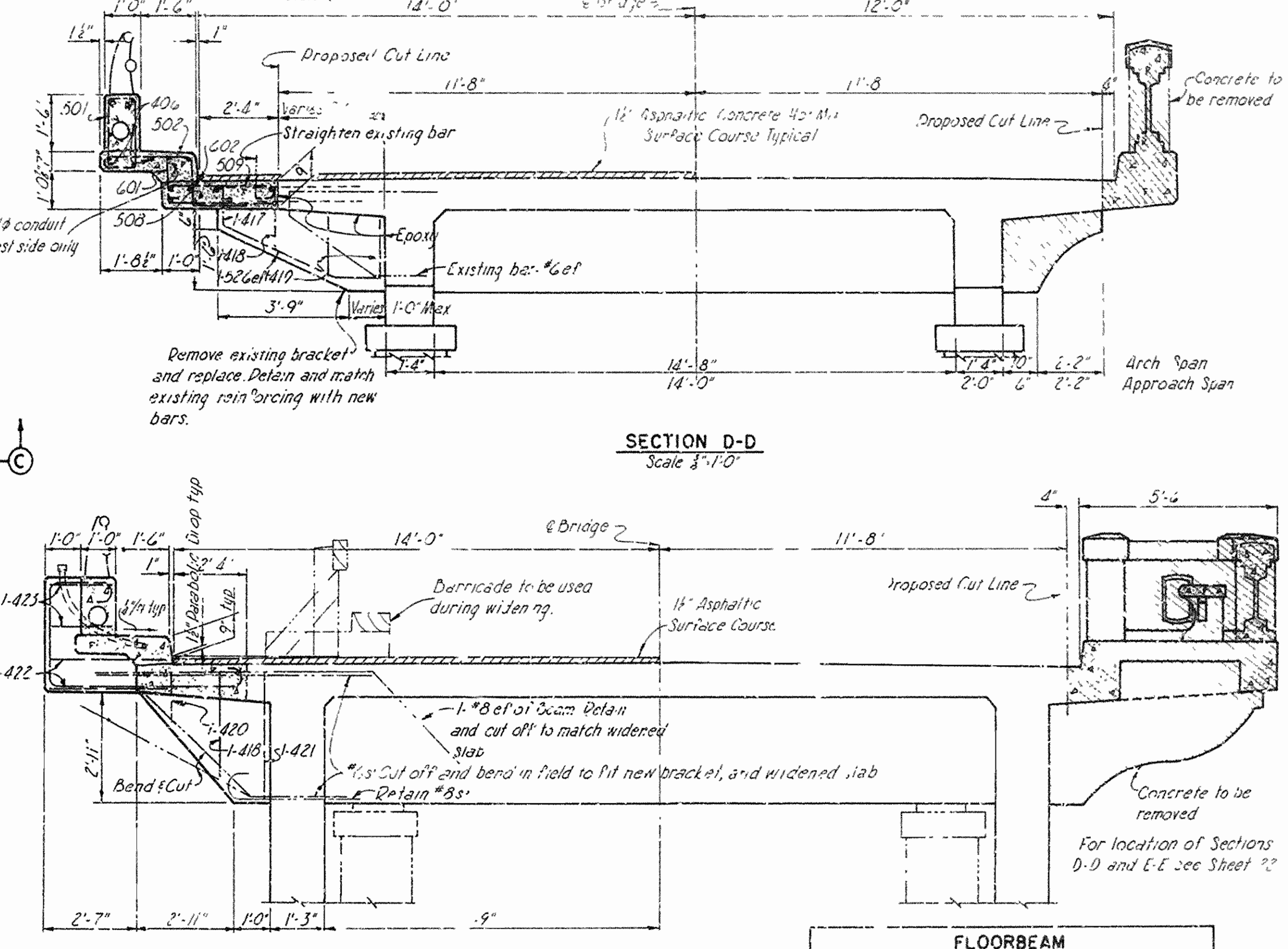
LIGHT STANDARD SUPPORT



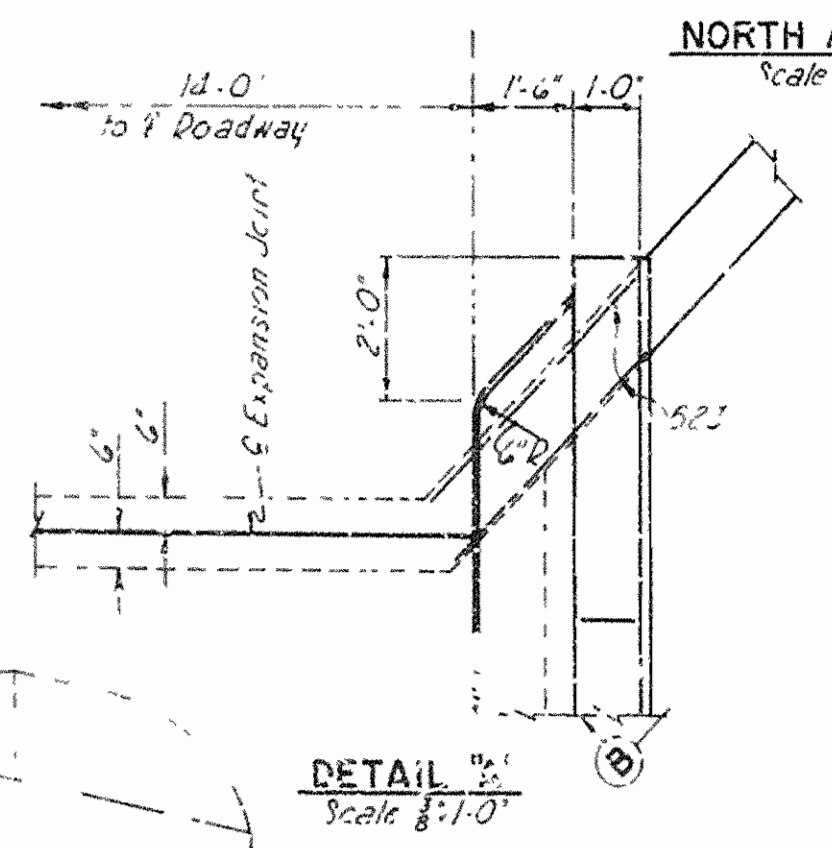
PLAN



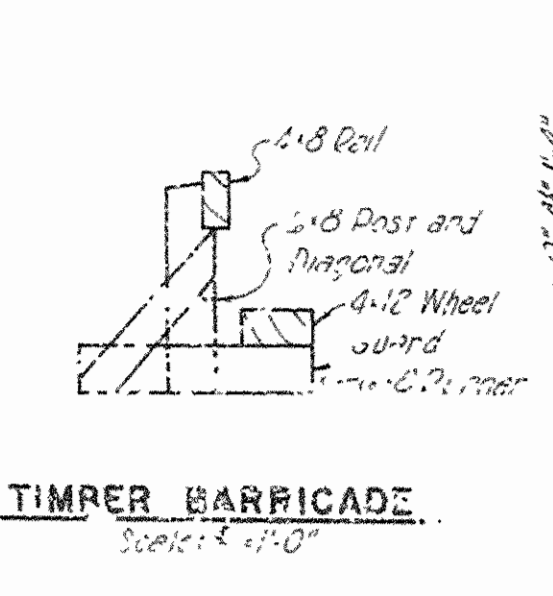
PLAN



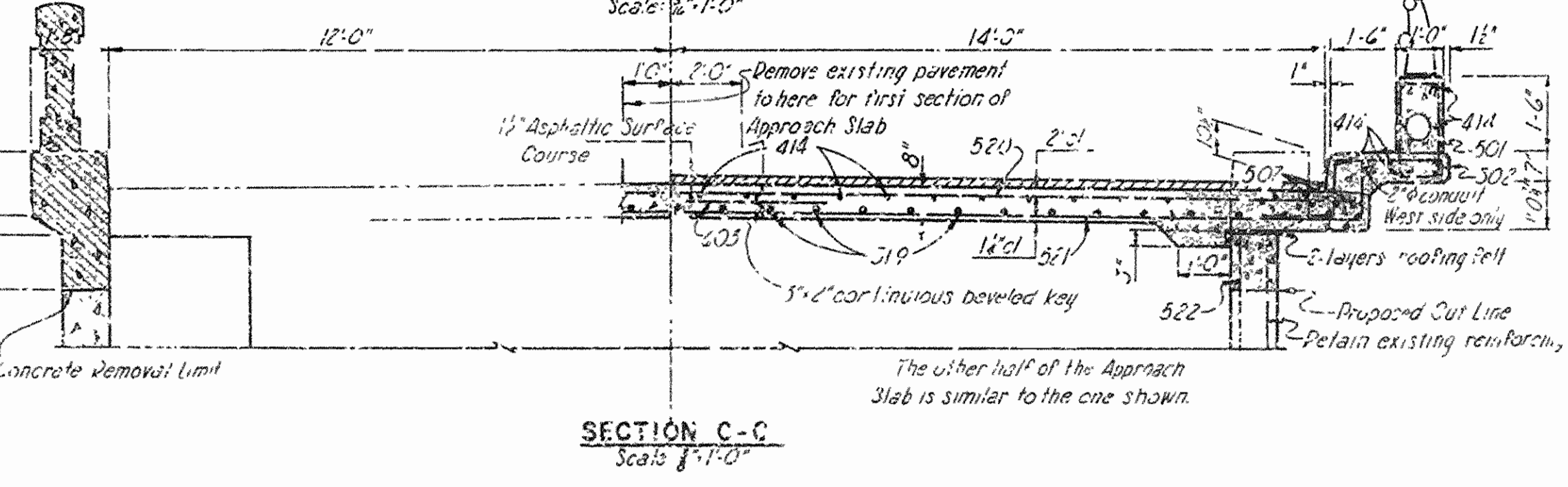
SECTION D-D



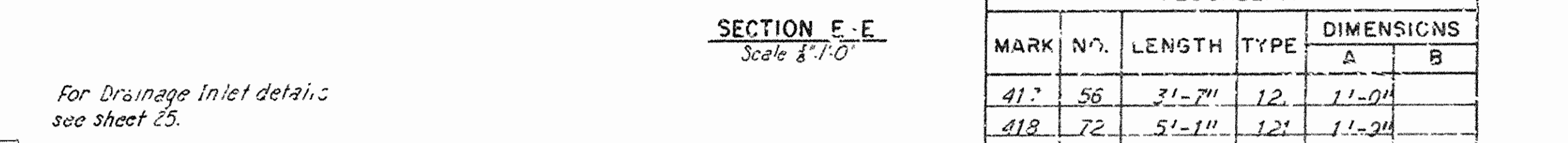
SECTION A-A



TIMBER BARRICADE



SECTION C-C



SECTION E-E

FLOORBEAM					
MARK	N.O.	LENGTH	TYPE	DIMENSIONS	
				A	B
417	56	3'-7"	12"	1'-0"	
418	72	5'-1"	12"	1'-0"	
419	112	4'-7"	12"	1'-0"	
420	15	4'-1"	12"	1'-0"	
421	16	5'-1"	12"	2'-3"	
325	112	4'-9"	10"		
Total Weight of Reinforcing 1390 lb.					

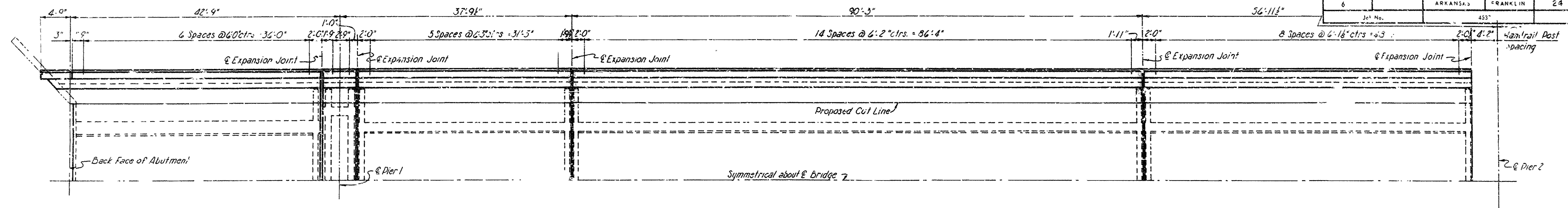
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

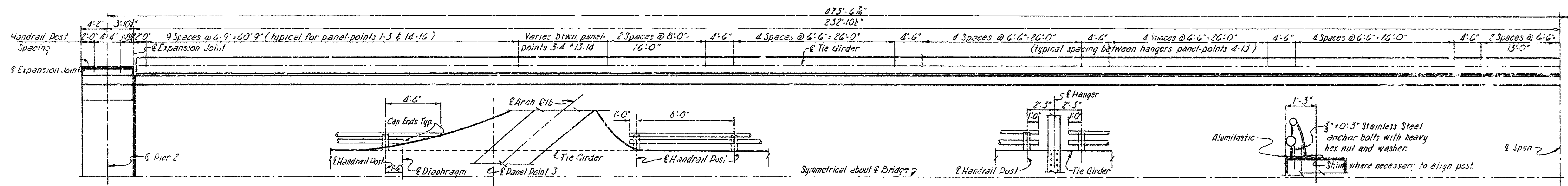
ABUTMENT WIDENING DETAILS

DRAWN BY V.C.G. DATE 5-8-66 CHECKED BY J.P. DATE 7-1-66
SCALE AS SHOWN BRIDGE NO. 1101 A DRAWING NO. 14342

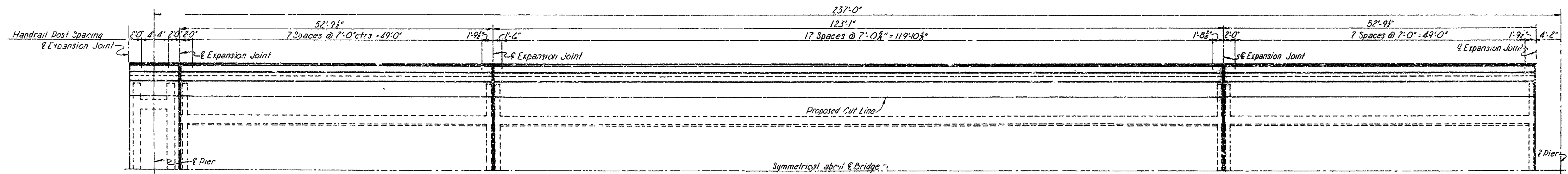
File No.	Dist. No.	Sheet No.	State	County	Sheet
	6	24	ARKANSAS	FRANKLIN	24
Job No.			4337		



HALF PLAN OF NORTH APPROACH AND 185' SPAN

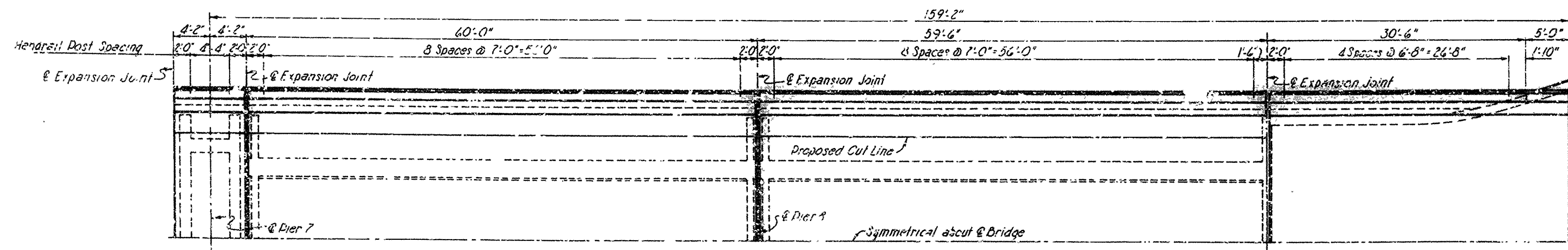


HALF PLAN OF NEW ARCH SPAN



HALF PLAN OF TYPICAL 237' SPAN

Note:
For handrail post details see Arkansas State Highway Commission standard drawing No. 14992.



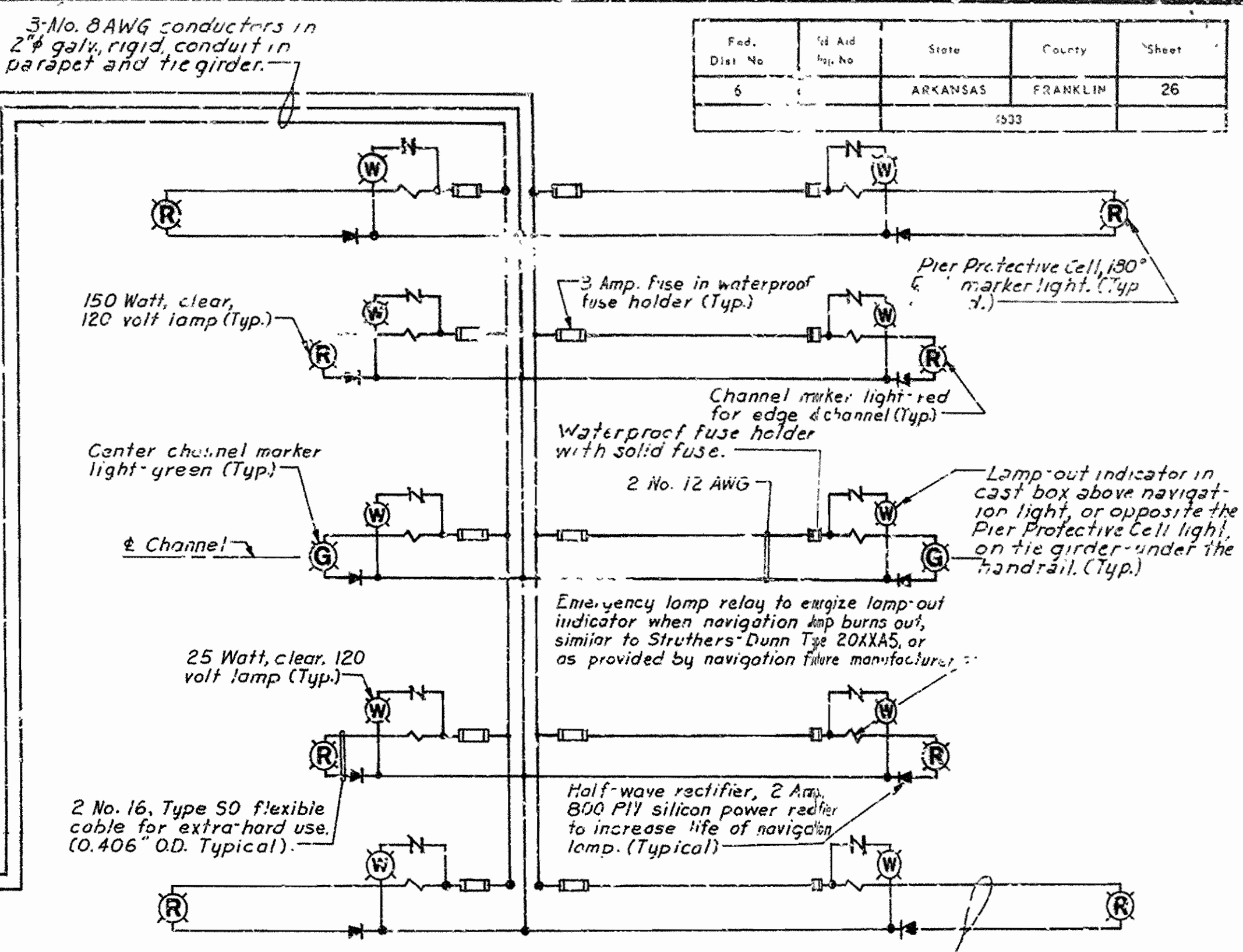
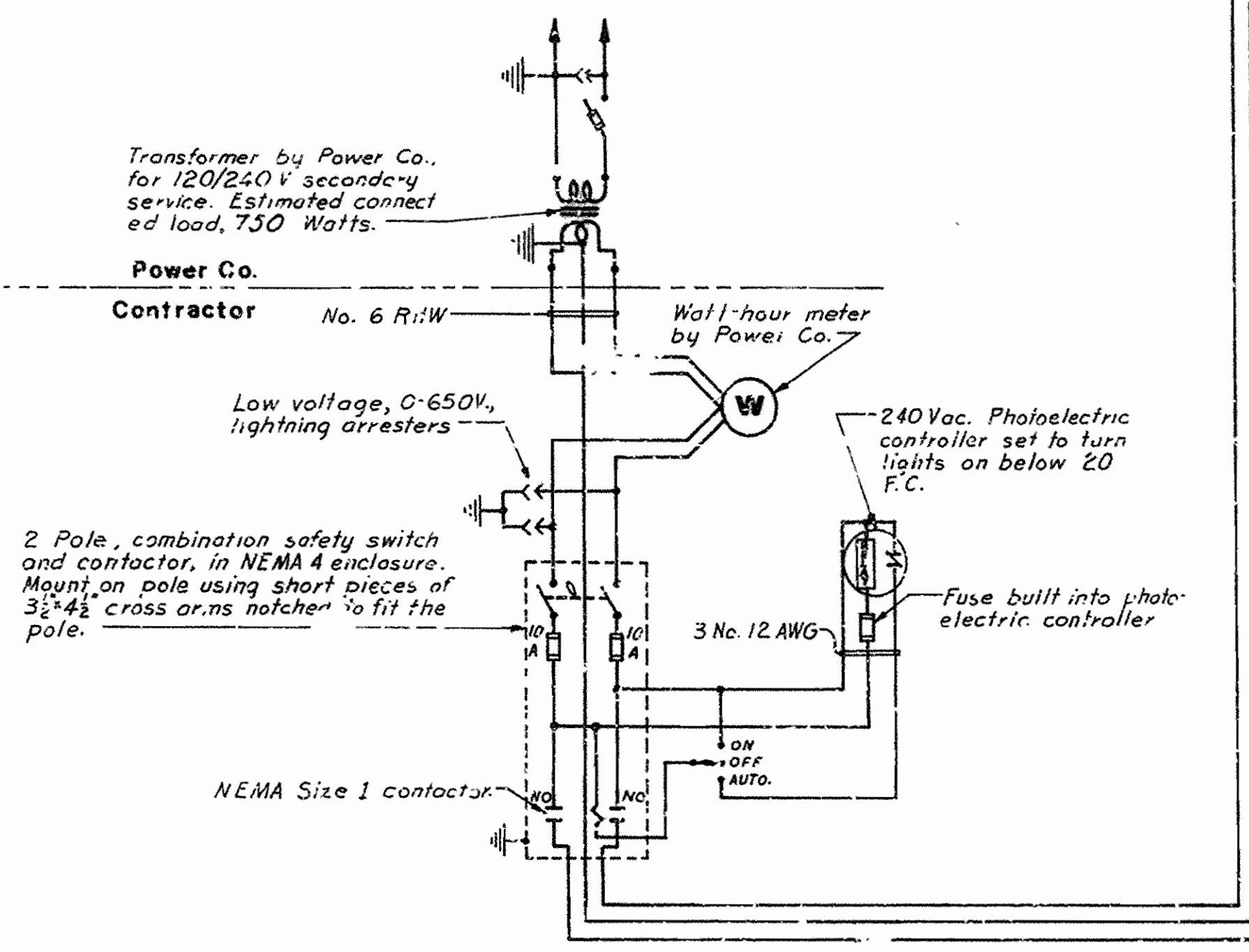
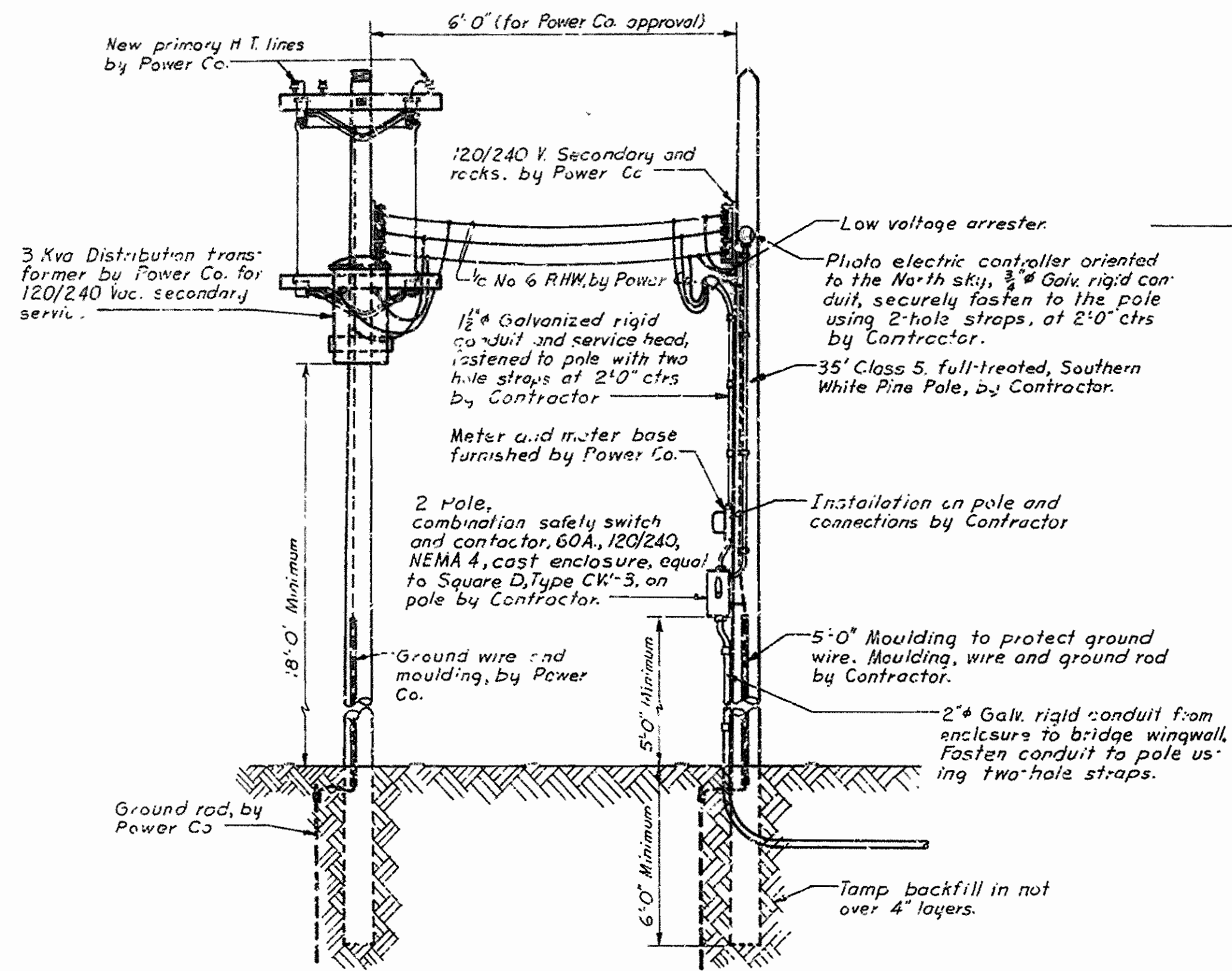
HALF PLAN OF SOUTH APPROACH AND APPROACH SLAB

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS
OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

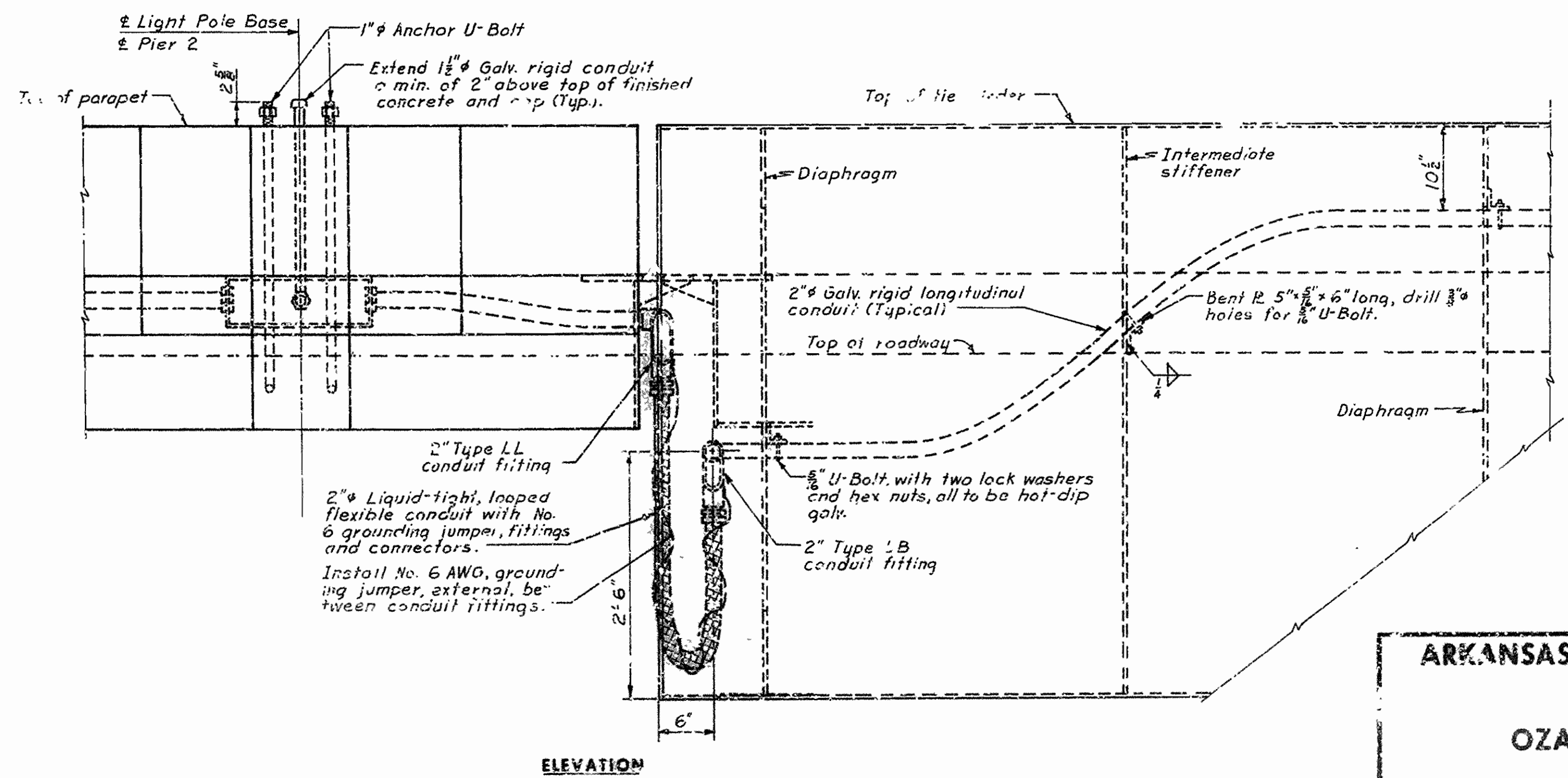
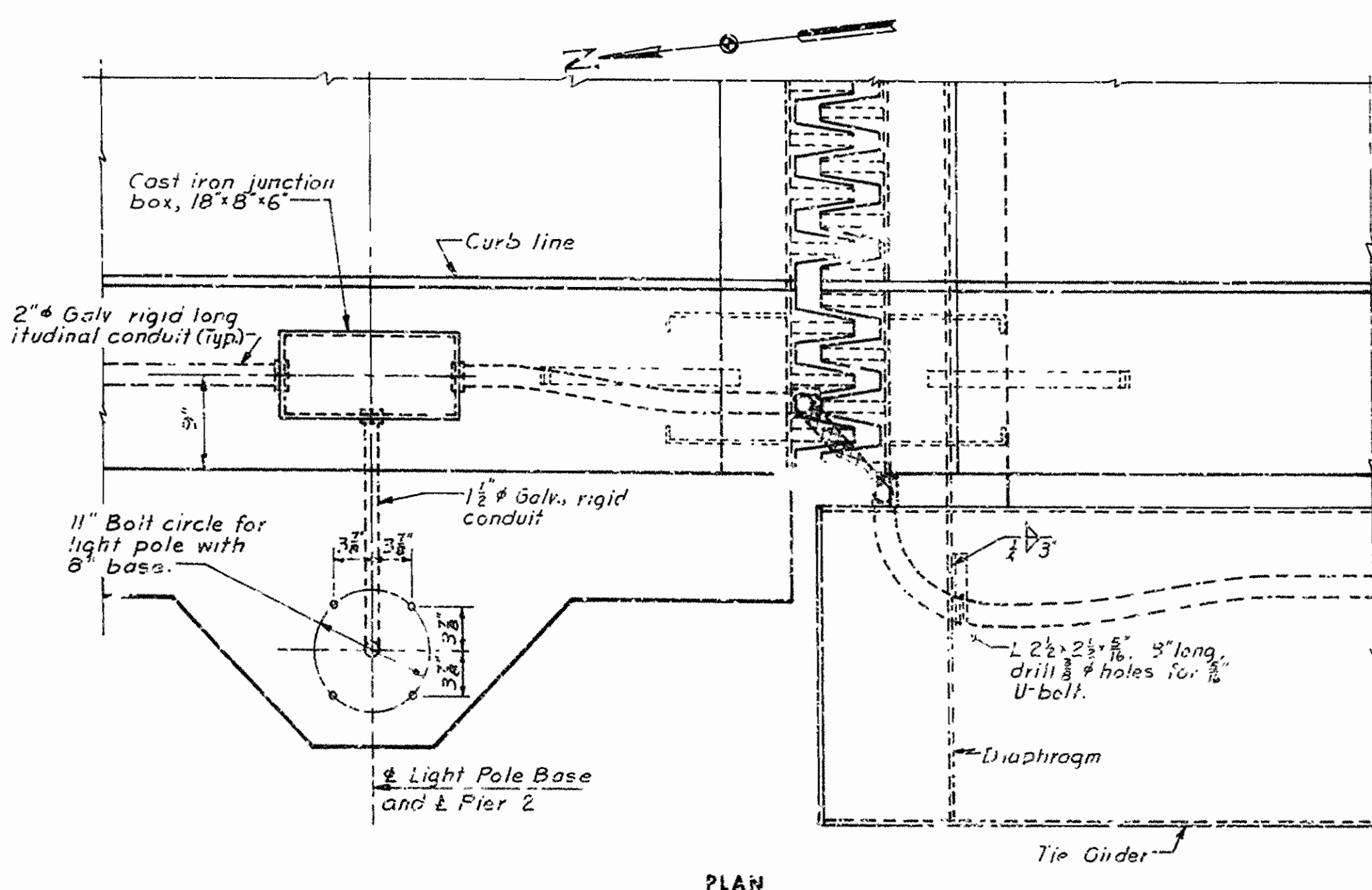
HANDRAIL POST SPACING

DRAWN BY VCA DATE 6-7-66 SCALE 1/4"=1'-0"
BRIDGE NO. 1210A CHECKED BY DEL DATE 8-8-66
DRAWING NO. 14343

Fed. Dist. No.	1st Aid Typ. No.	State	County	Sheet
6		ARKANSAS	FRANKLIN	26
1933				



NAVIGATION LIGHTING WIRING DIAGRAM
No Scale



CONDUIT EXPANSION JOINT DETAILS AT PIERS 2 AND 4
Scale: 1/4" = 1'-0"

Note: Expansion joint details shown above is for expansion joint at Pier 2, expansion joint at Pier 4 is the same except opposite hand.

ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

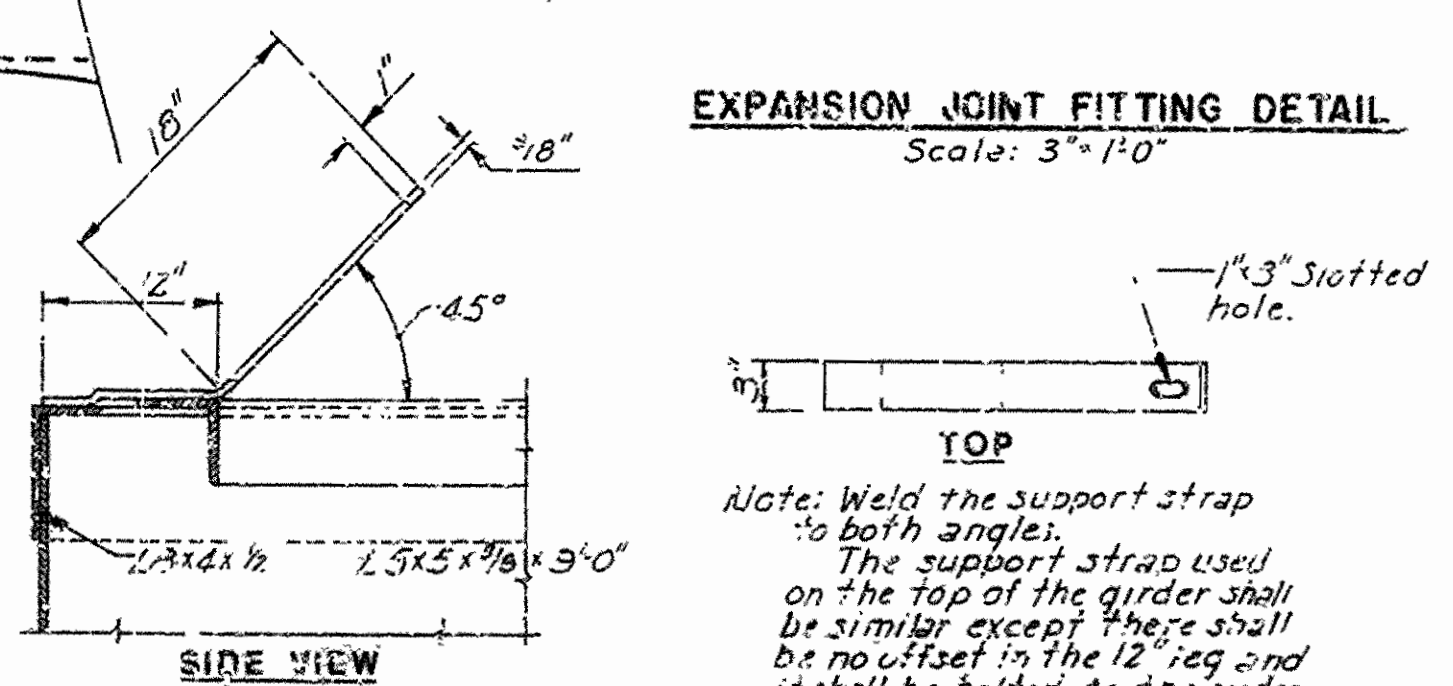
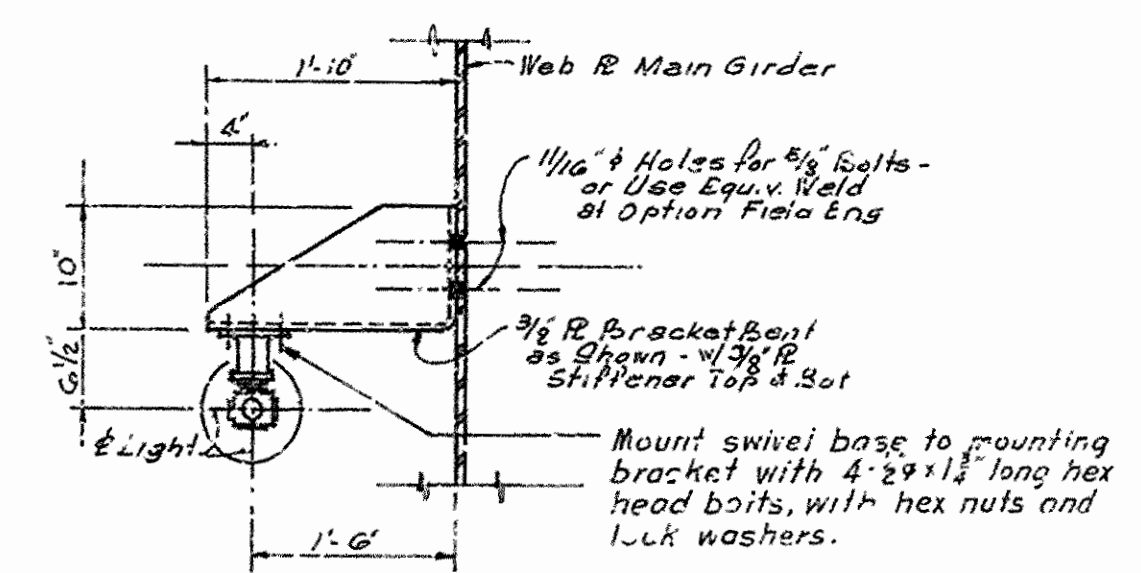
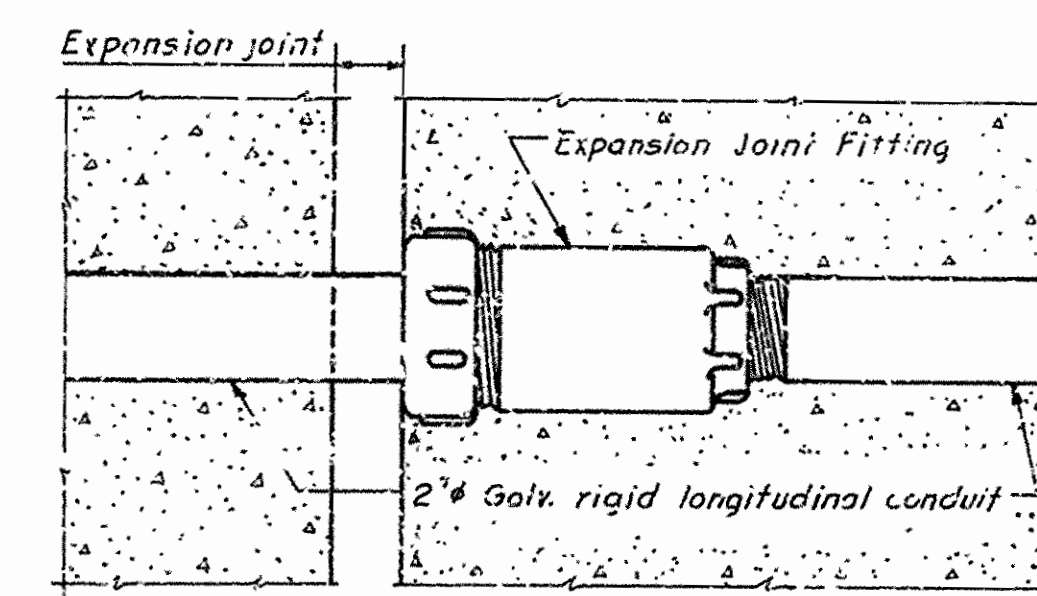
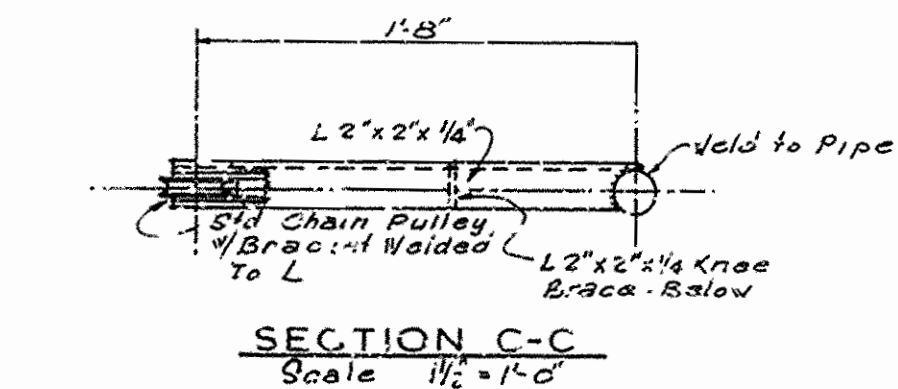
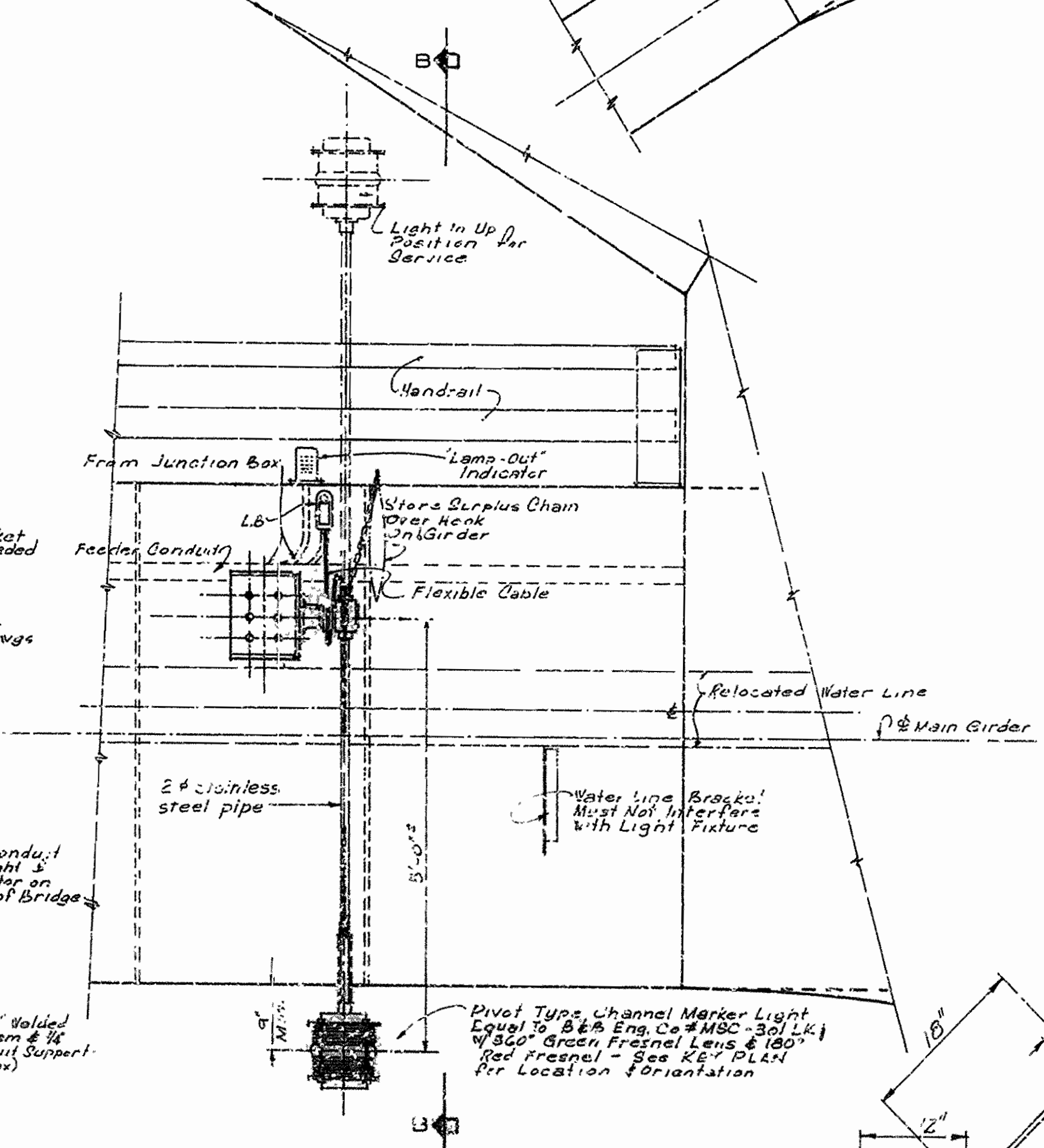
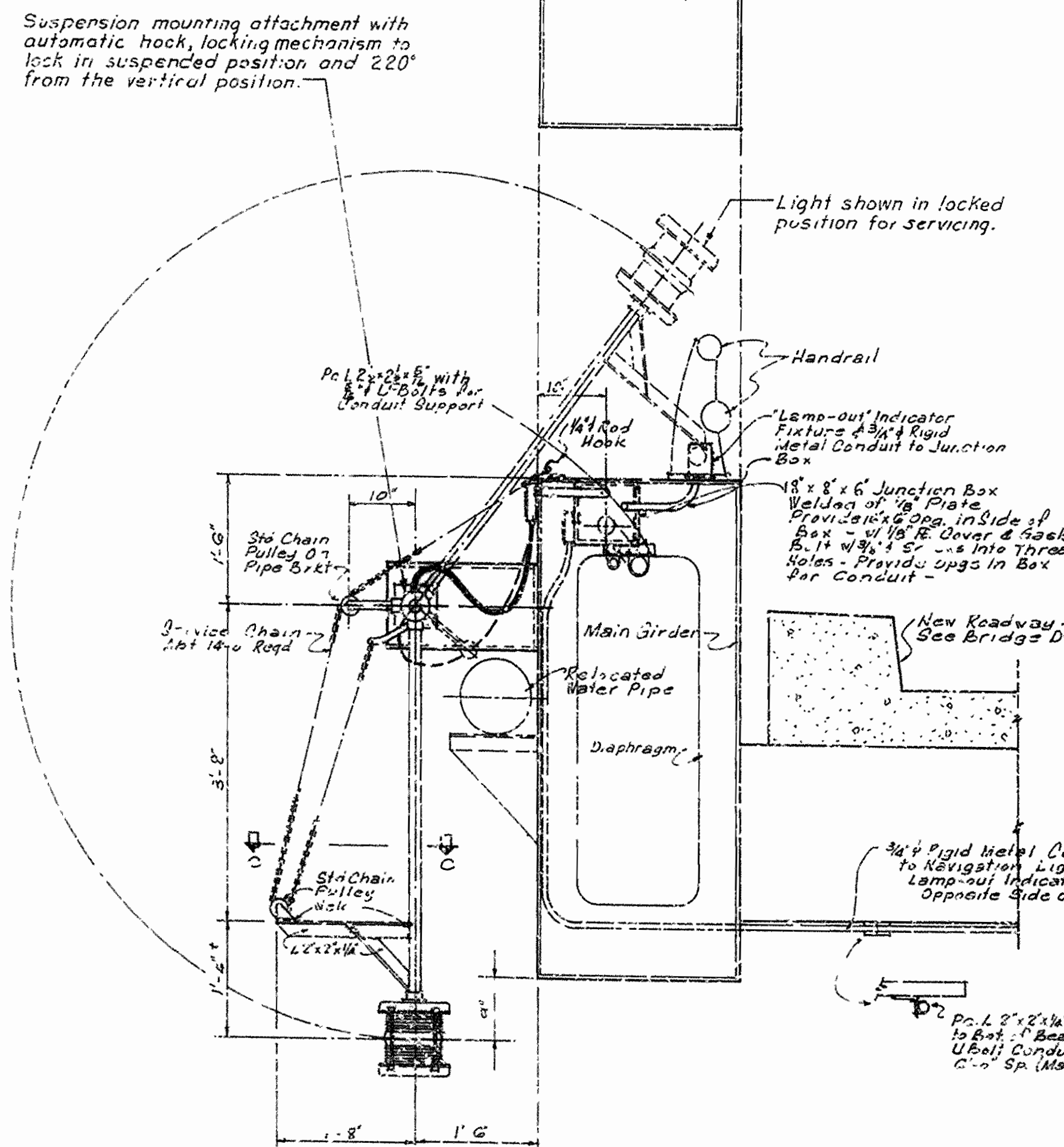
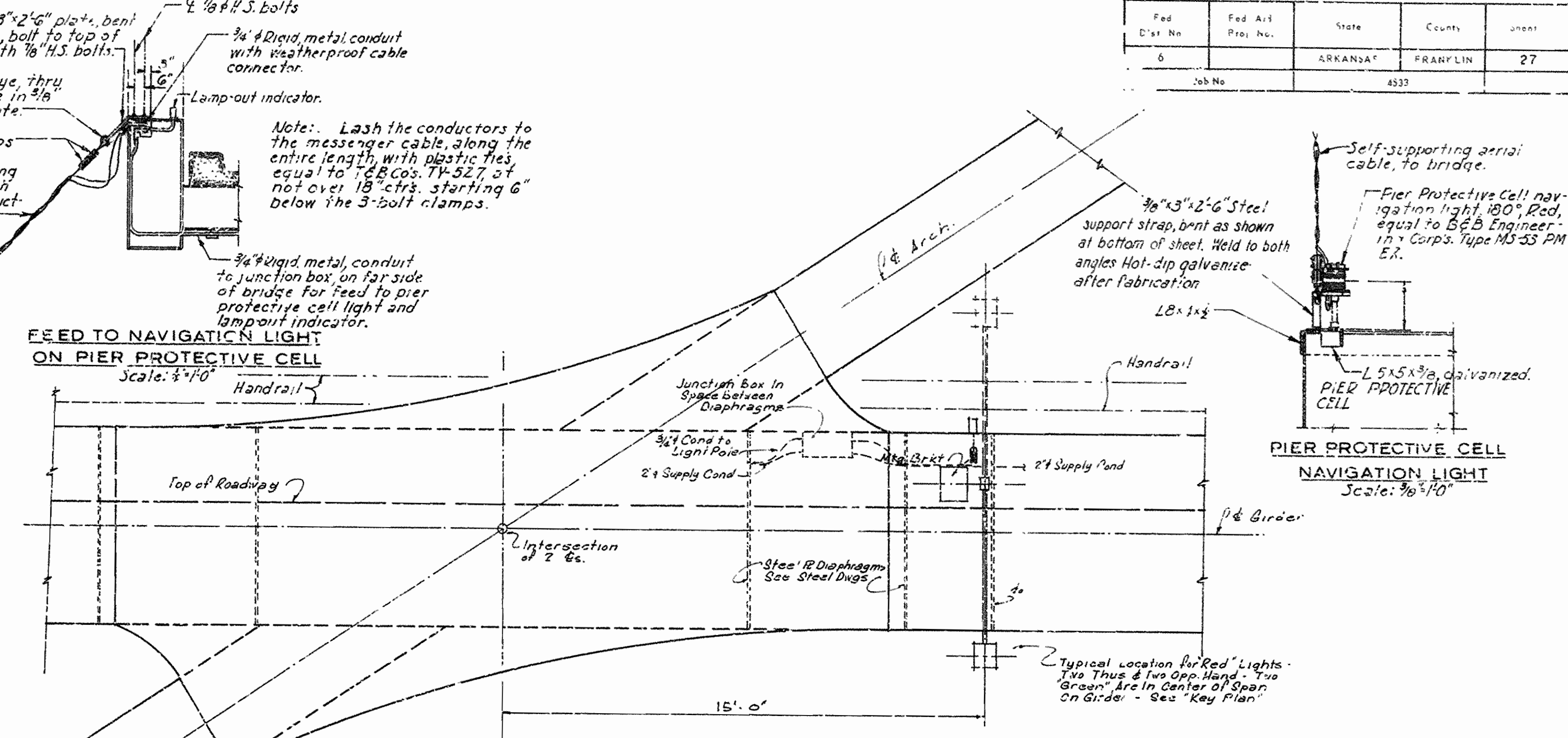
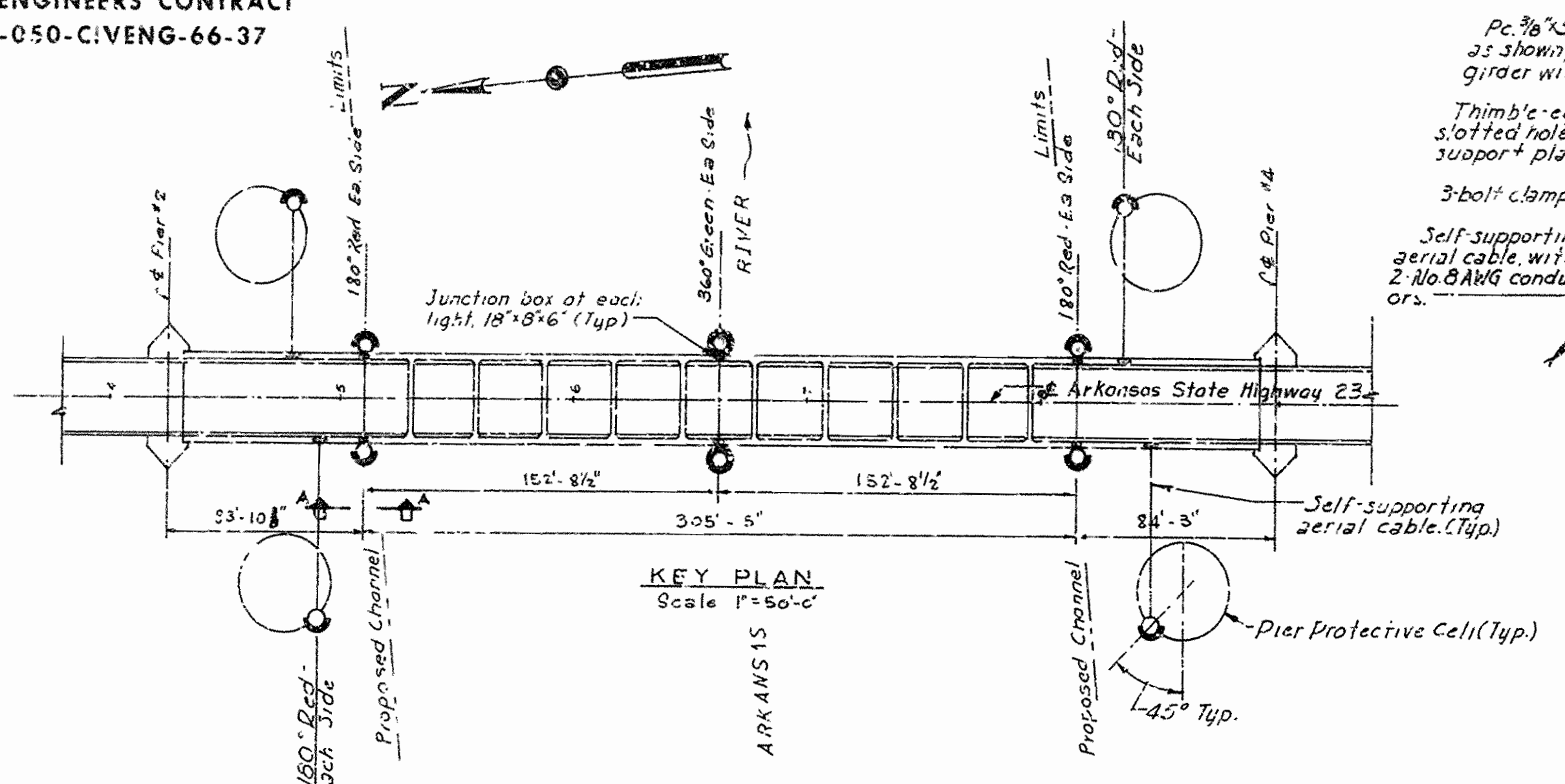
OZARK BRIDGE ALTERATIONS
SITE HIGHWAY 23

ELECTRICAL DETAILS

DRAWN BY LML DATE 9-1-66 CHECKED BY JSA DATE 9-2-66

BRIDGE NO. 1210 A DRAWING NO. 14345

Fed Dist No	Fed Ais Proj No.	State	County	Sheet
6		ARKANSAS	FRANKLIN	27
Job No		4337		



CHANNEL MARKER LIGHT MOUNTING
Scale: 3/4" = 1'-0"

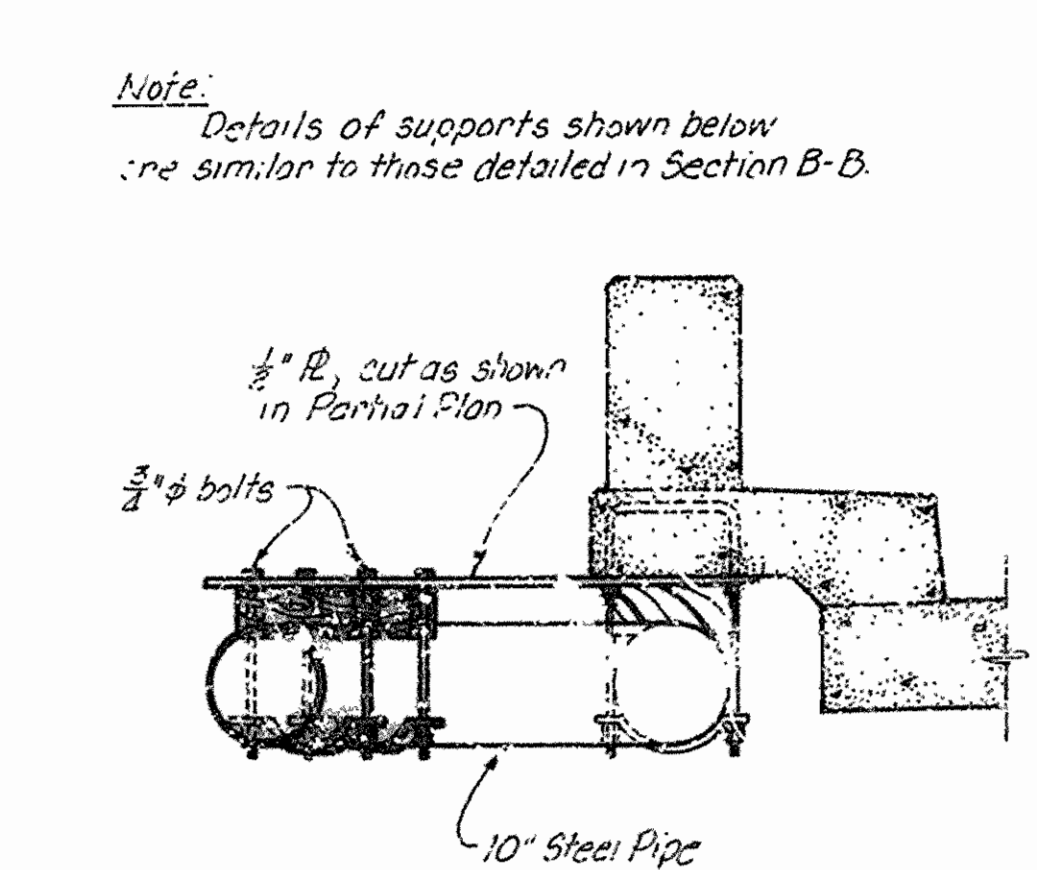
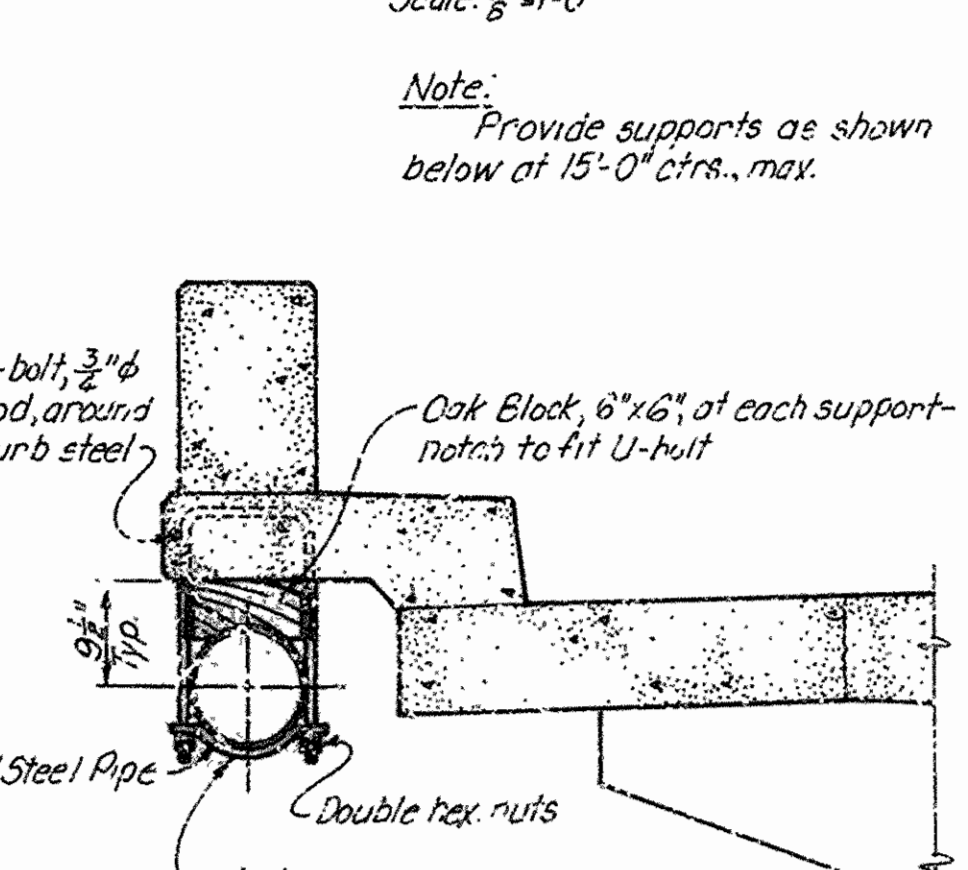
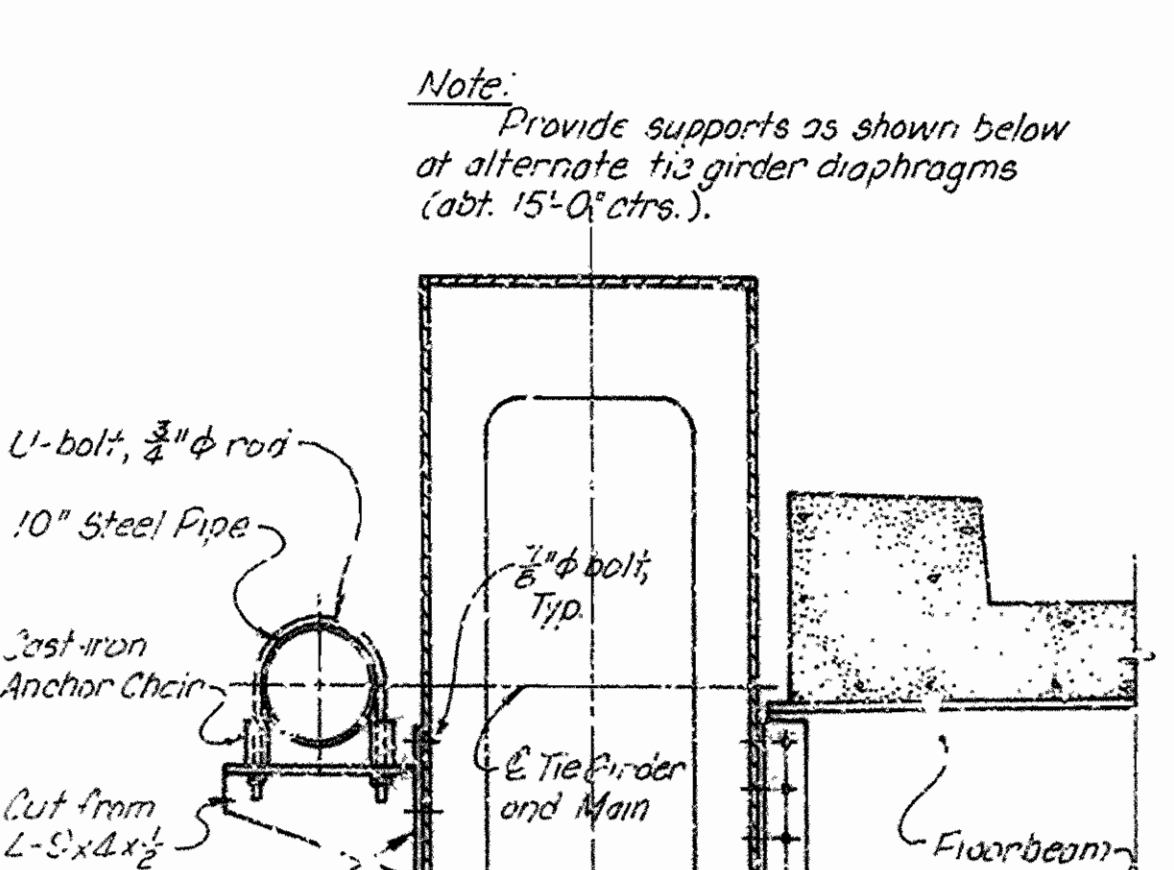
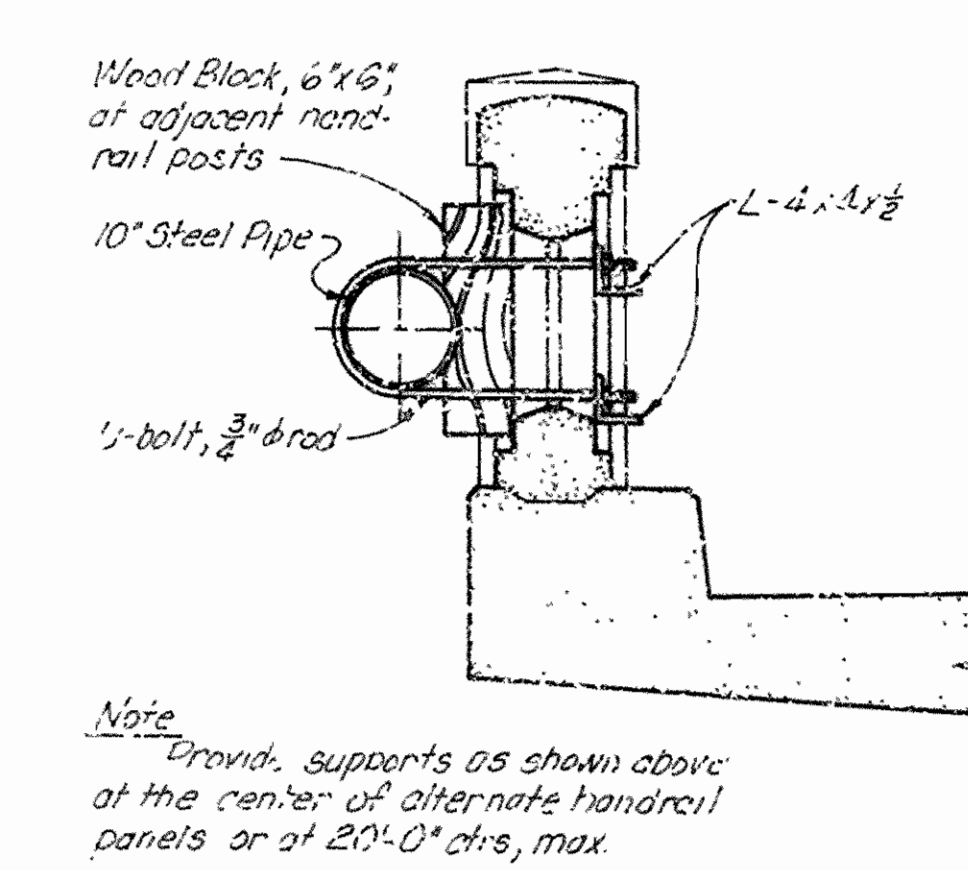
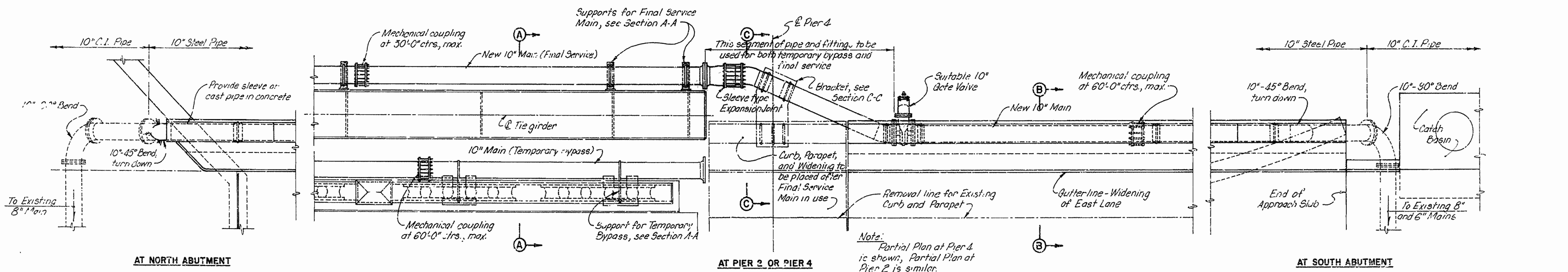
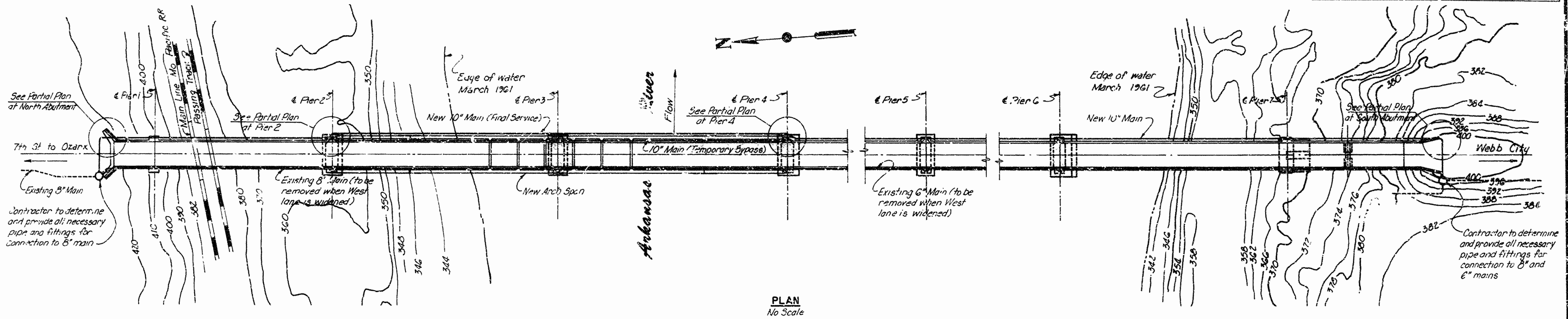
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS

OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

NAVIGATION LIGHTING LAYOUT AND DETAILS

DRAWN BY MEC DATE 8-25-66 CHECKED BY LNL DATE 9-2-66
SCALE As shown DRAWING NO. 14346

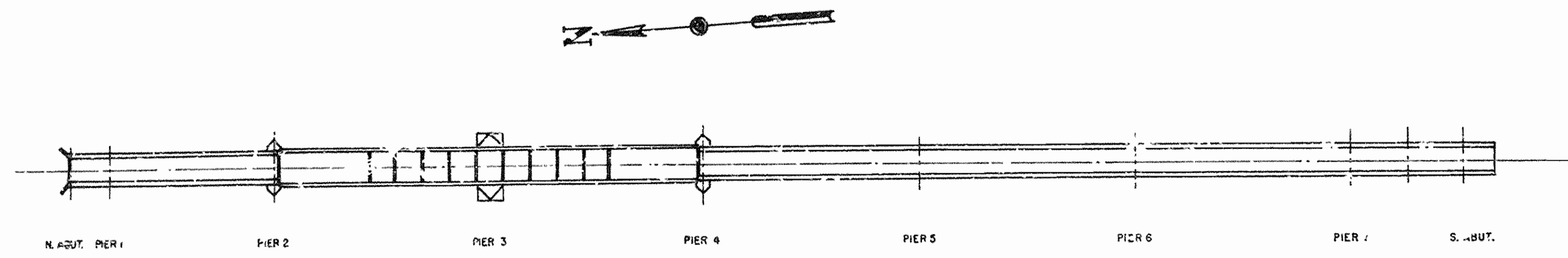
Job No.	4532	Sheet	28
ARK. NS&A		FRANKLIN	



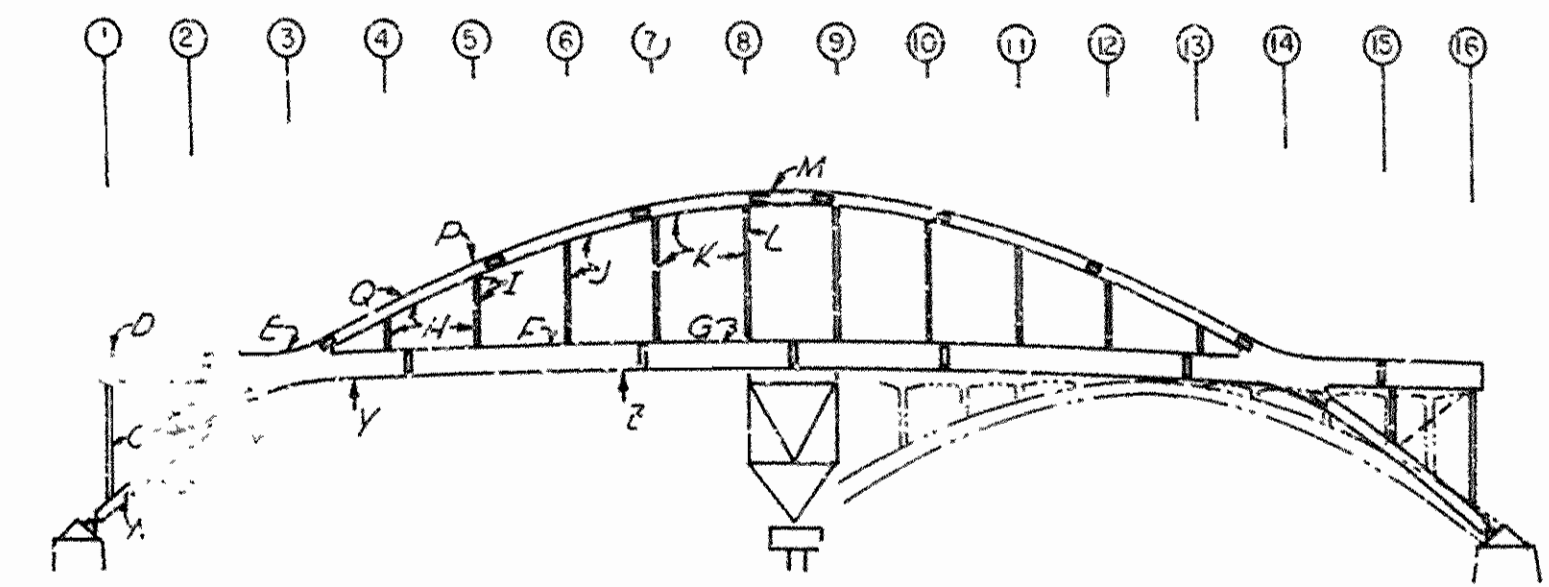
Notes:
 Material for pipe and fittings on the bridge shall be steel, pipe and fittings placed in the ground shall be cast iron, see Special Provisions.
 Except where mechanical couplings are indicated, all joints in steel pipe may be welded.
 For sequence of construction for water main relocation see Sequence of Alteration and Arch Erection Procedure.
 It shall be the responsibility of the Contractor to determine methods of connecting to existing mains and provide details of the same to the Engineer for approval.

ARKANSAS STATE HIGHWAY COMMISSION
 LITTLE ROCK ARKANSAS
OZARK BRIDGE ALTERATIONS
 STATE HIGHWAY 23
 WATER MAIN RELOCATION
 DRAWN BY *L.H.* DATE 9-20-66 CHECKED BY *W.C.A.* DATE 9-26-66
 BRIDGE NO. 1210 A SCALE *As Shown* DRAWING NO. 14347

Fed. Dist. No.	Fed. A. d. Proj. No.	State	County	Sheet
6		ARKANSAS	FRANKLIN	29
Job No.			4533	

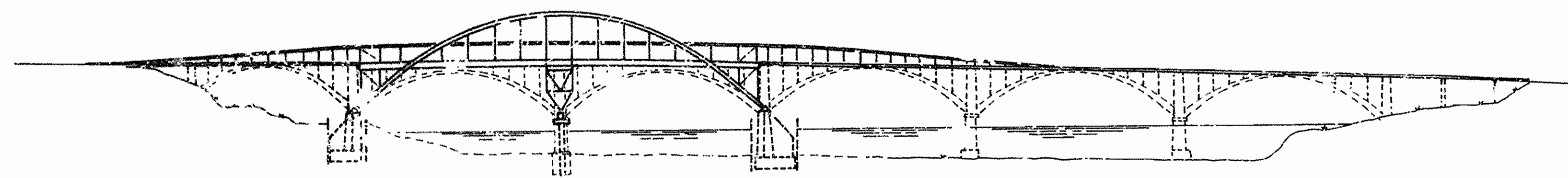


PLAN



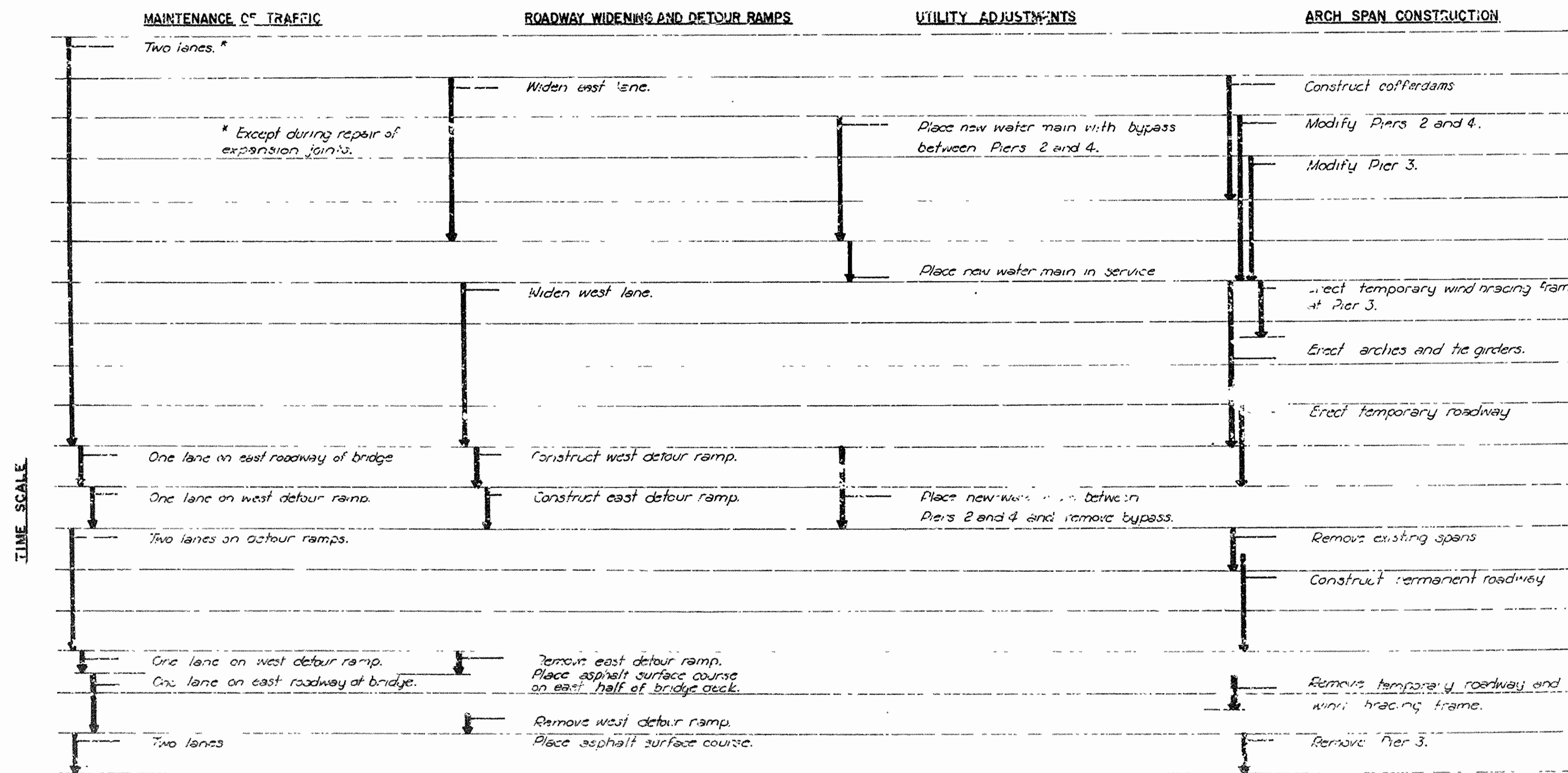
ARCH ERECTION PROCEDURE

- A. Erect first section of arch rib supported at Point 1 on falsework.
 - B. Erect temporary partial bracing in the plane of the arch ribs between Panel Points 2 and 3.
 - C. Erect posts and transverse diagonals at Panel Points 1 and 2 and temporary longitudinal bracing.
 - D. Erect first section of the girder.
 - E. Erect second section of the girder supported at Point Y on falsework.
 - F. Erect third section of the girder supported at Point Z on falsework.
 - G. Erect fourth section of the girder supported on wind bracing truss. Adjust elevations at Points X, Y and Z and provide jacking to effect closure.
 - H. Erect hangers at Panel Points 4 and 5 and second section of arch rib.
 - I. Erect temporary roadway floorbeam and transverse bracing at Panel Point 5. Erection of temporary roadway structure may proceed from Panel Points 1 to 5.
 - J. Erect hanger at Panel Point 6 and third section of arch rib, including strut between arches at Panel Point 6.
 - K. Erect hangers at Panel Points 7 and 8 and fourth section of arch rib, including struts at Panel Points 7 and 8.
 - L. Erect temporary roadway floorbeam and transverse bracing at Panel Point 8. Erection of temporary roadway structure may proceed between Panel Points 5 and 8.
 - M. Cut keystone section of arch rib to length and erect. Release temporary supports at Points X, Y and Z.
- Remove Existing Arches
- N. Erect permanent bracing in the plane of arch ribs between Panel Points 1 and 3.
 - O. Erect floorbeams and lateral bracing for permanent roadway. Pour deck, relieving dead load reaction on temporary wind truss after each pour.
 - P. Erect strut at Panel Point 5 prior to removal of temporary roadway floorbeam and bracing.
 - Q. Erect portal strut near Panel Point 4.
- Note: The erection procedure is indicated for the structure between Panel Points 1 and 6, the procedure from Panel Point 6 proceeding to Panel Point 3 is identical.



ELEVATION

SEQUENCE OF ALTERATIONS



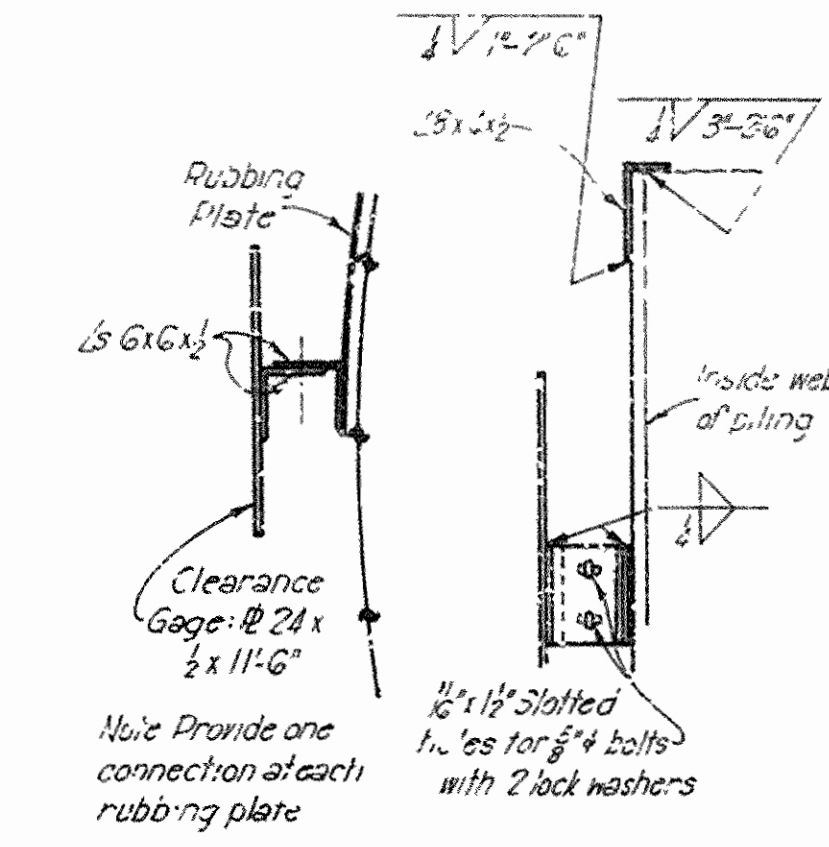
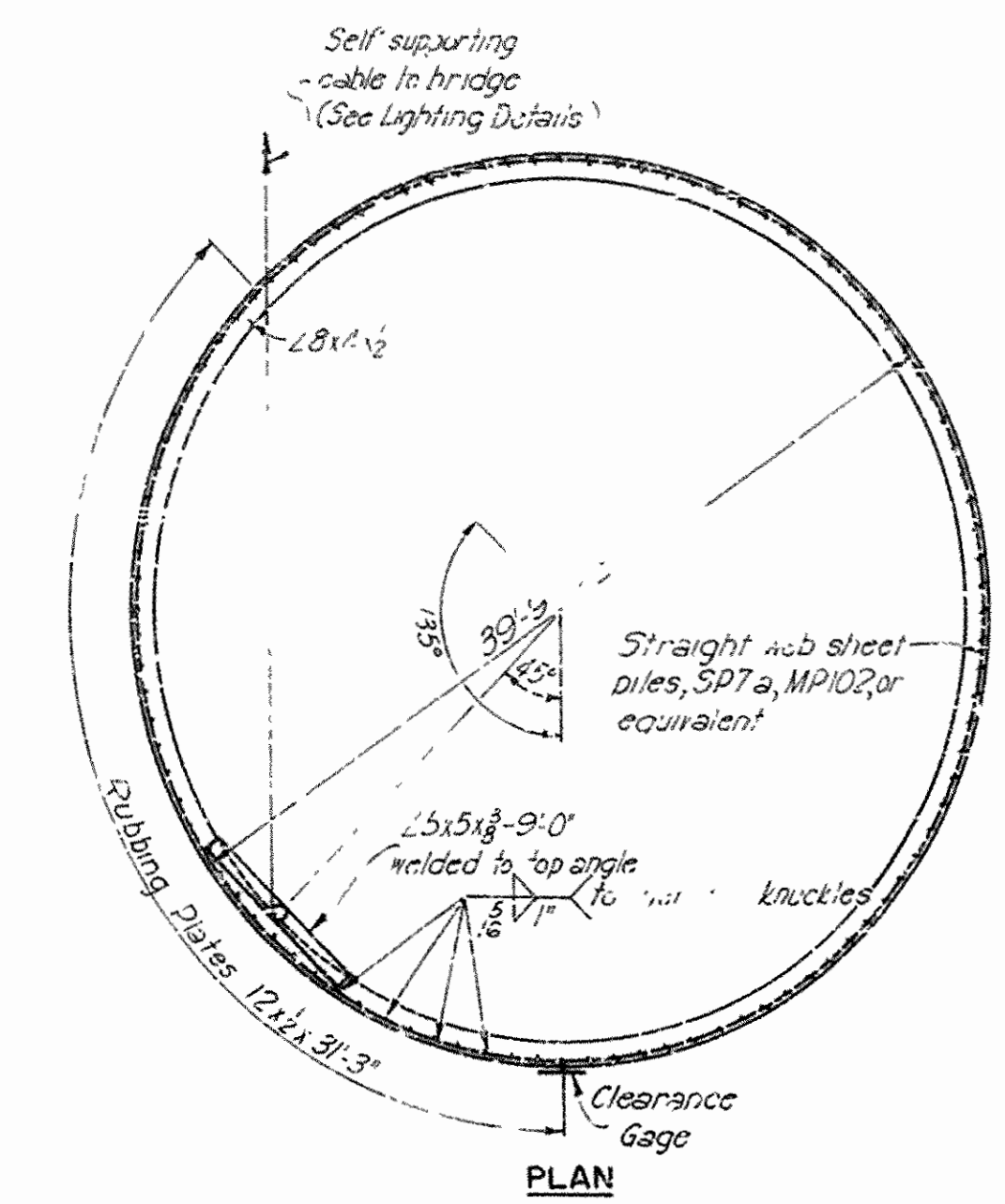
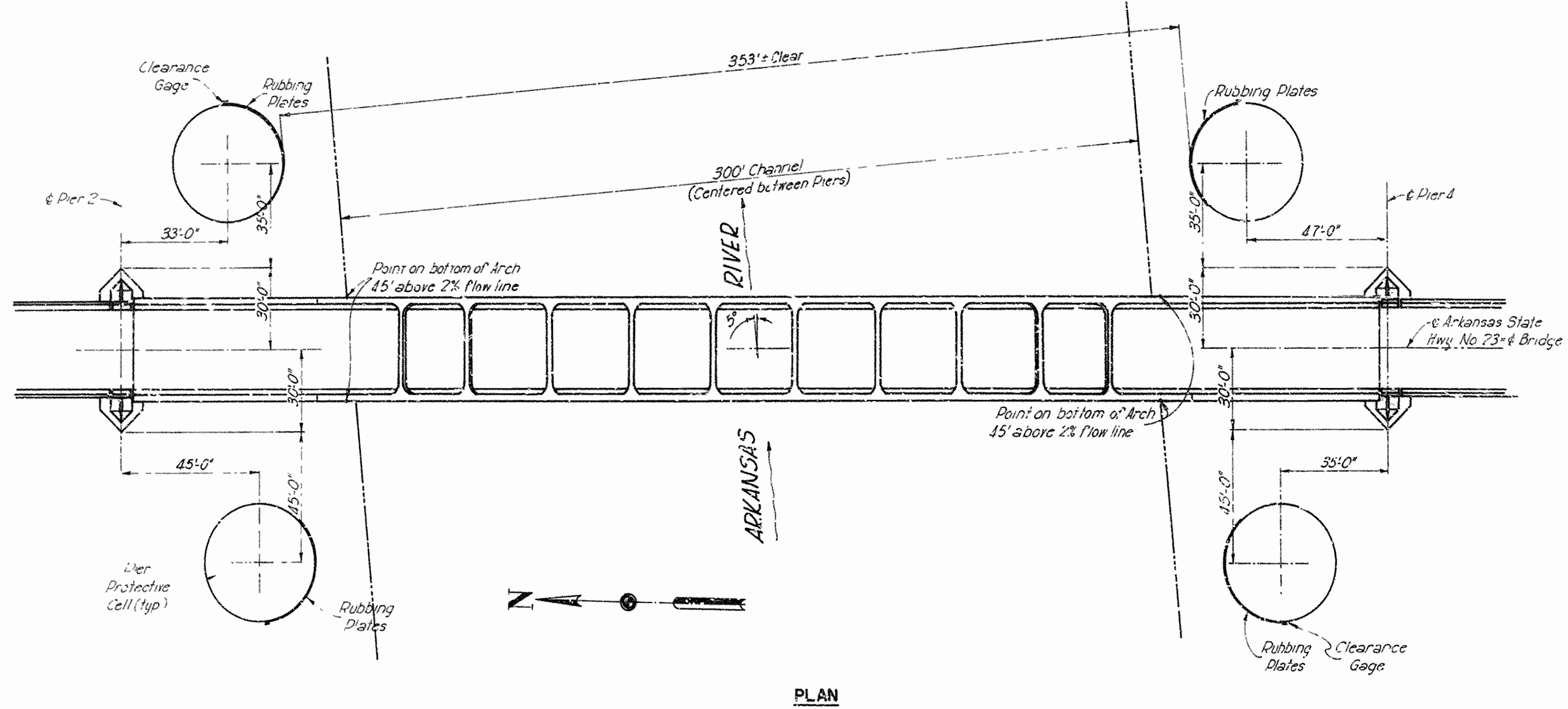
ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS
OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 23

SEQUENCE OF ALTERATIONS AND ARCH ERECTION PROCEDURE

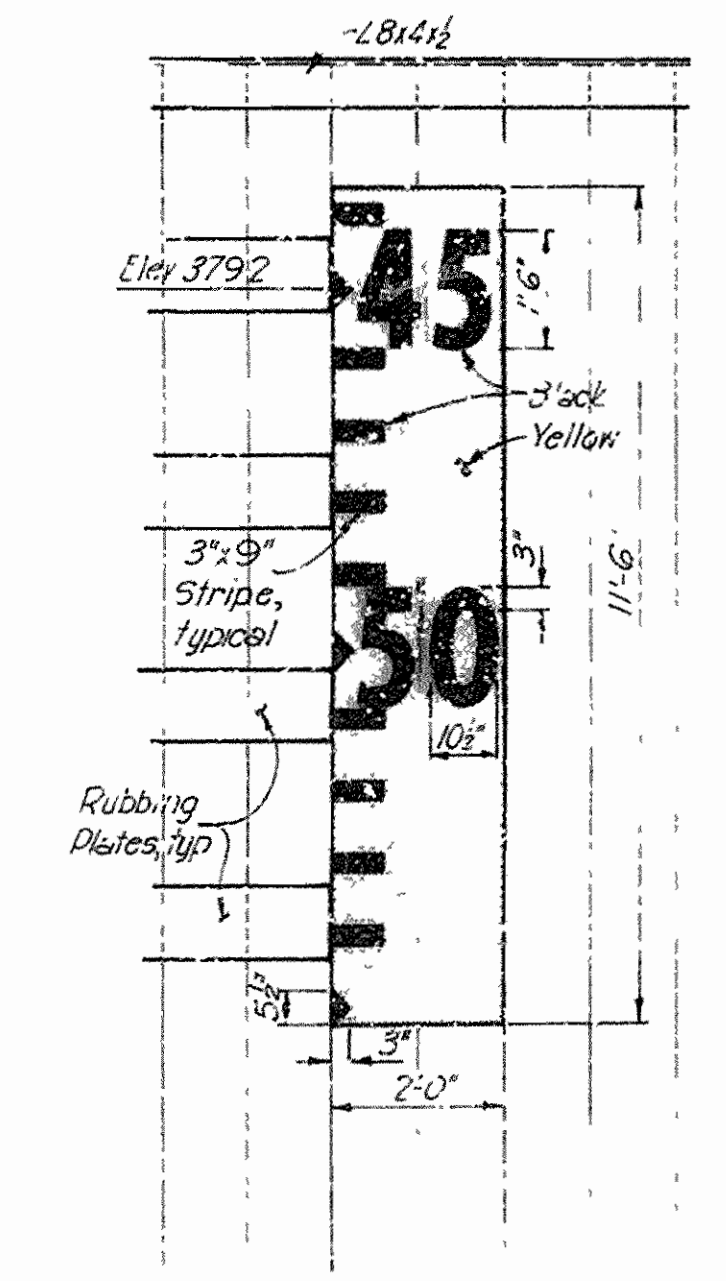
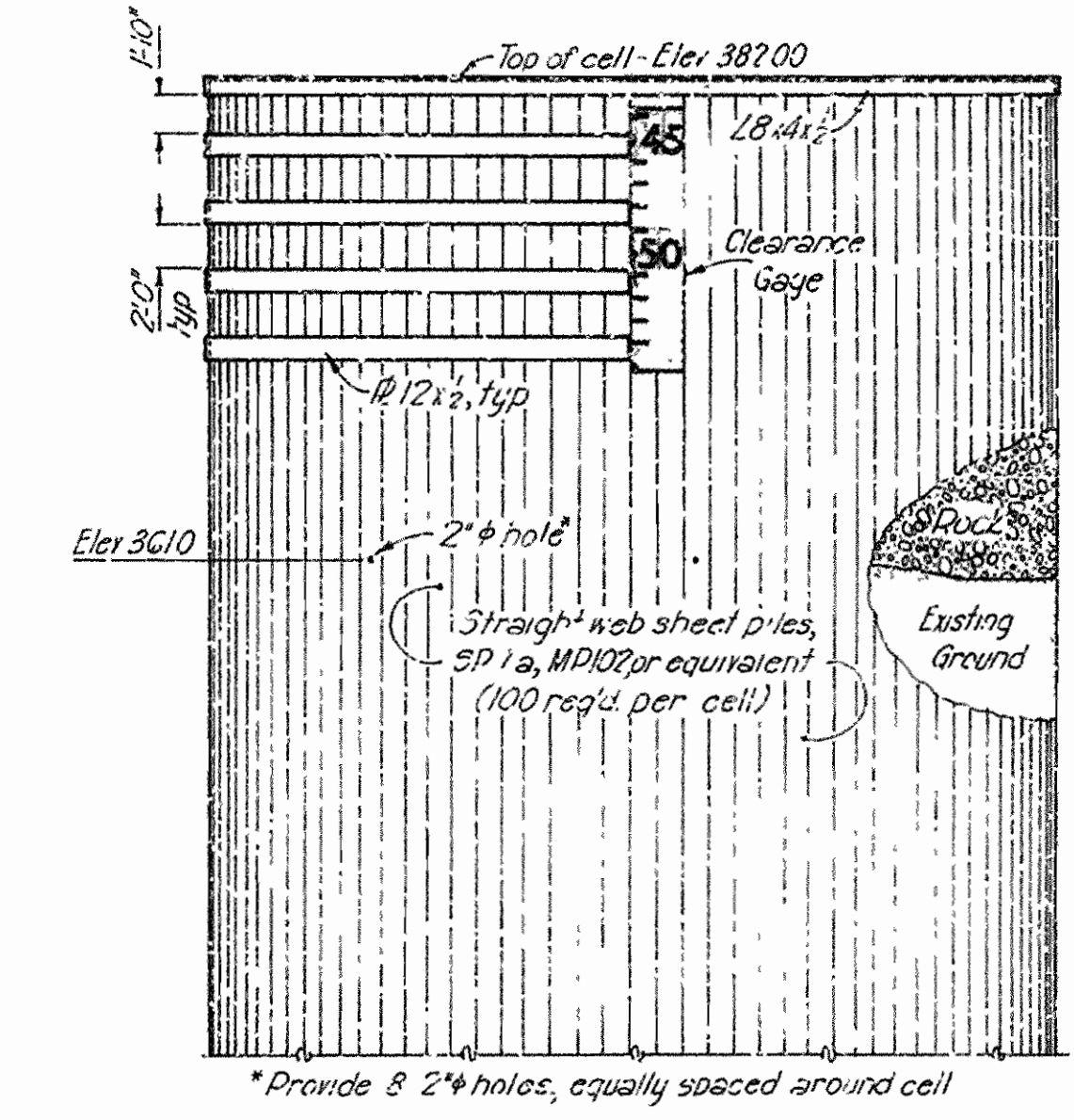
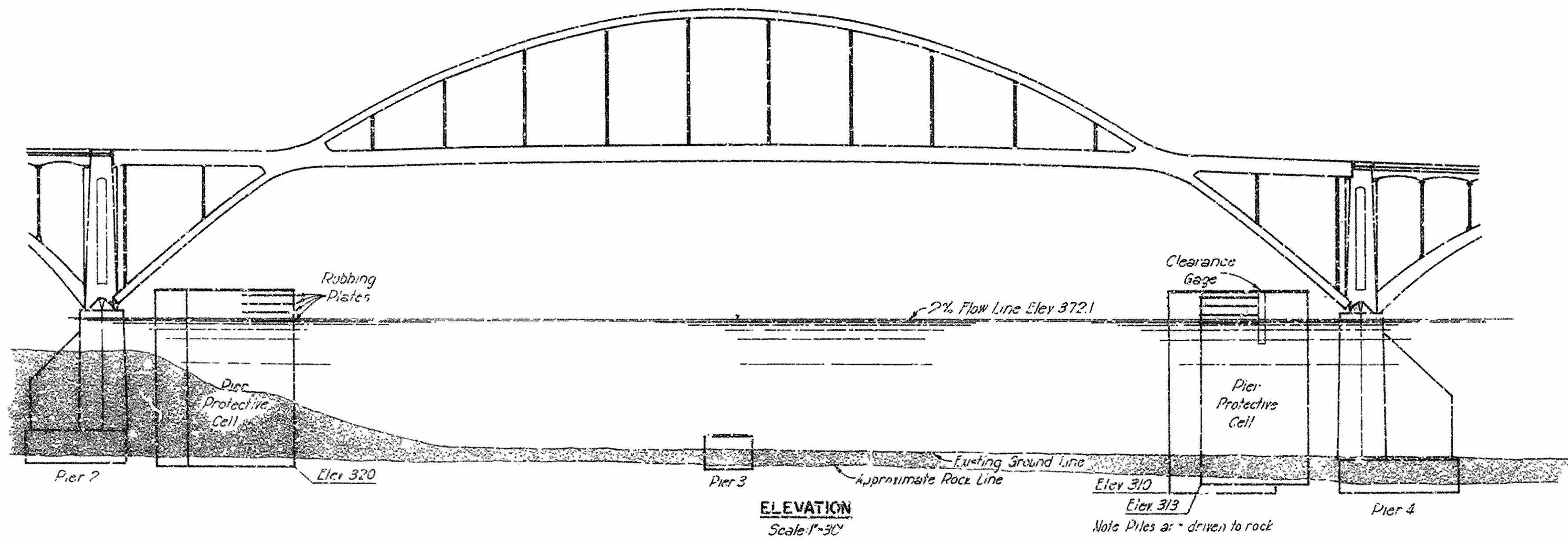
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SCALE None
BRIDGE NO. 1210A DRAWING NO. 14348

Proj. No.	Per. No.	Sheet
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Arkansas		Franklin
4537		

230



PLAN ELEVATION
GAGE CONNECTION DETAILS
Scale 3/8"=1'-0"

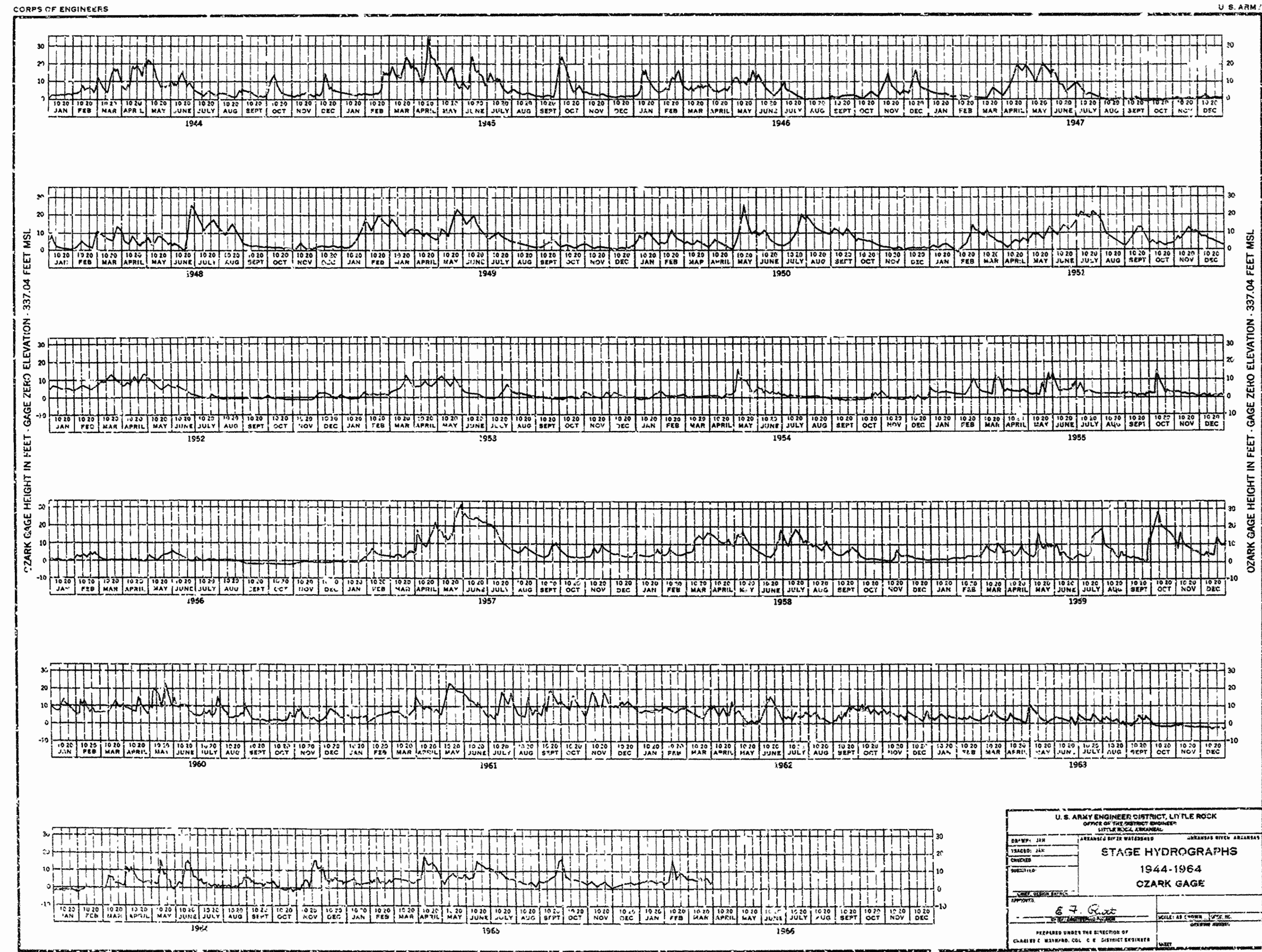


ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK ARKANSAS
OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 13

PIER PROTECTIVE CELL DETAILS

DRAWN BY *DES* DATE 9-21-66 CHECKED BY *VCA* DATE 9/23/66
SCALE *As shown* BRIDGE NO 1210 A DRAWING NO. 14349

Fed. Dist. No.	Fed. Aid Proj. No.	State	County	Sheet
		ARKANSAS	FRANKLIN	31
Job No.		4533		



ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARKANSAS

OZARK BRIDGE ALTERATIONS
STATE HIGHWAY 27

HYDROGRAPH

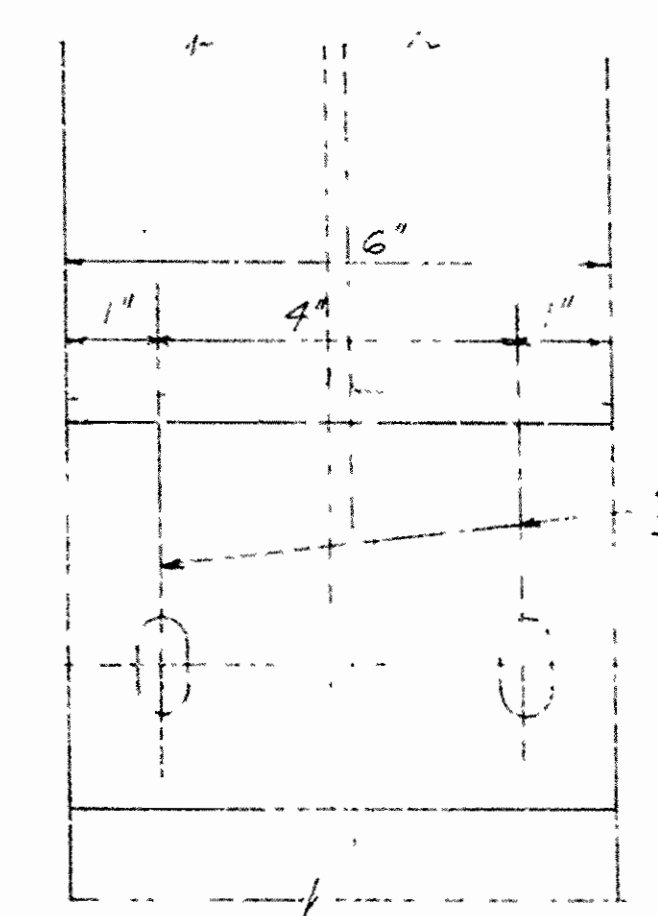
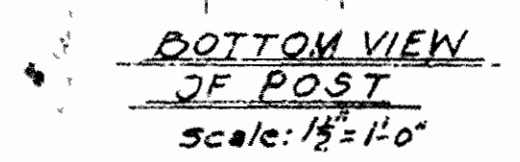
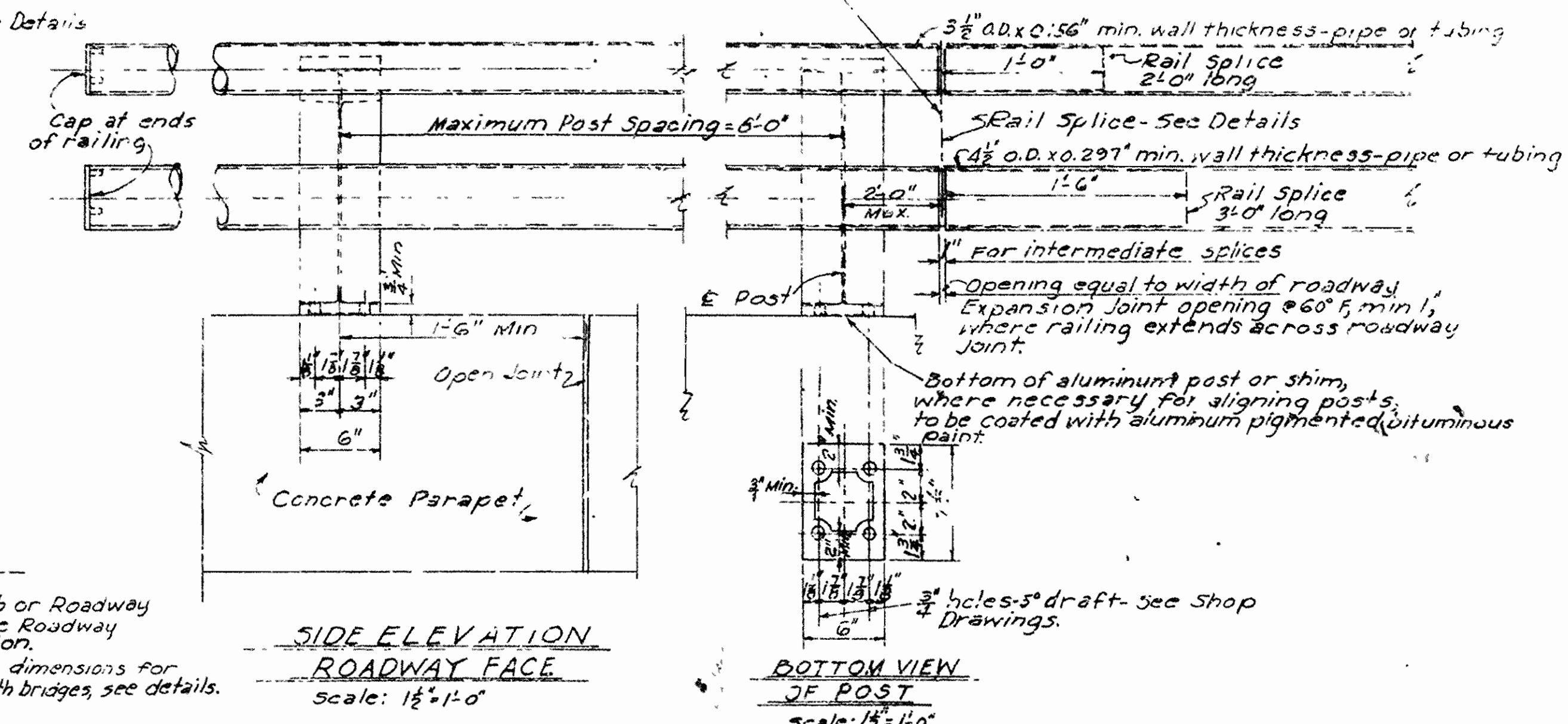
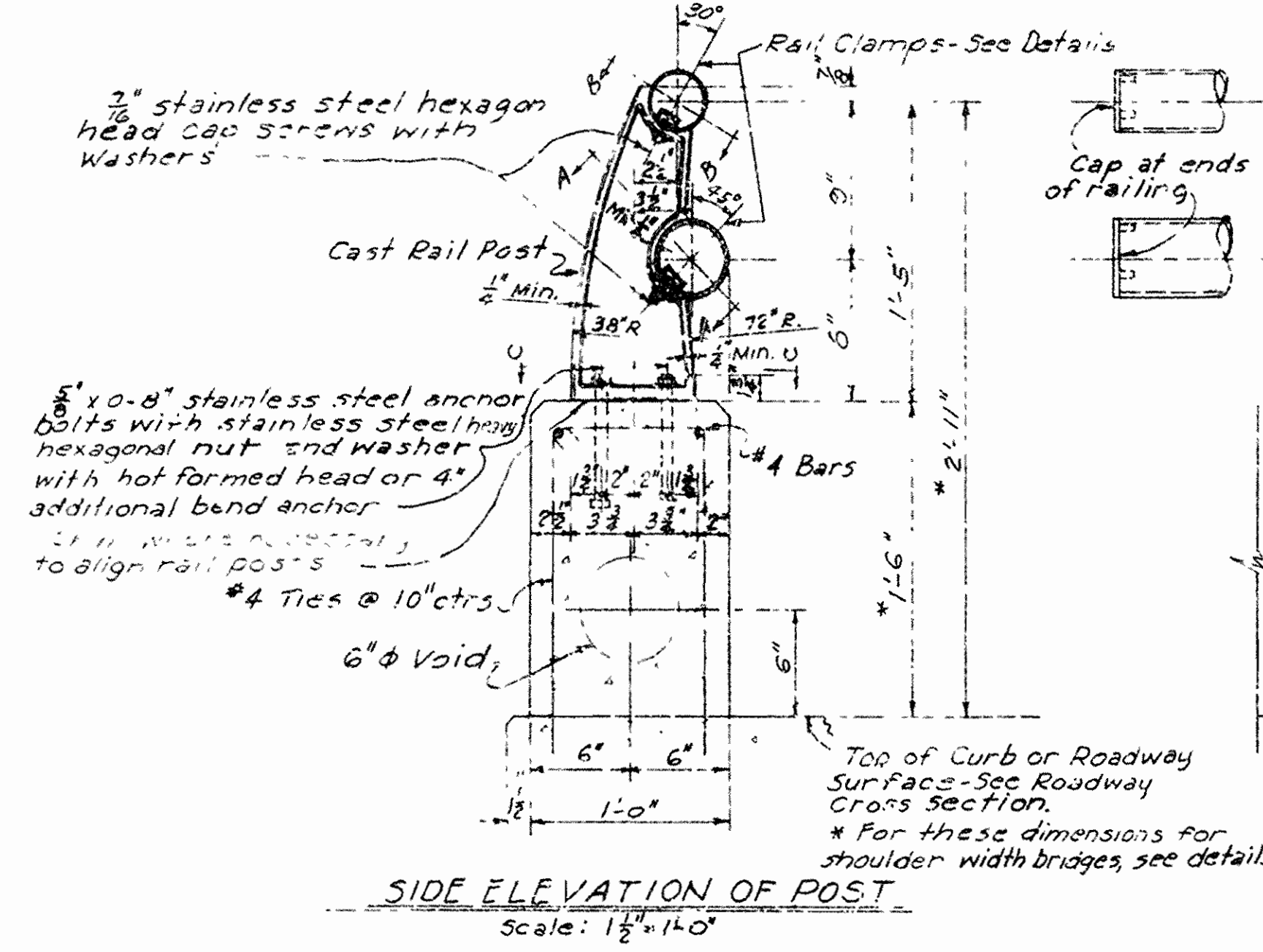
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BRIDGE NO. SCALE *None* DRAWING NO. **14350**

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

Rail terminus 15" long, except for full shoulder width bridges length may be

Splice both rail members which extend across roadway expansion joints, and at intermediate locations not to exceed 50' spacing.



21.5" x 30.75" x 1/8" slotted holes for 7/8" min. rail fasteners.

GENERAL NOTES

Material for metal railing shall be galvanized steel or aluminum alloy as follows:

Aluminum Alloy:
 Tubing: 6061-T6 or 6062-T6; ASTM Specification B 221.
 Pipe: 6061-T6 or 6062-T6; ASTM Specification B 241.
 Extrusions: Rods, bars, and shapes - 6061-T6 or 6062-T6; ASTM Specification B 221.
 Rolling End Caps: 356; ASTM Specification B 26, Alloy GS 10 B.
Cast Rail Posts: Permanent Mold Castings A 344-T4; minimum ultimate strength 20,000 psi; elongation in 2", 20% minimum. Outside surfaces of flange shall be given a No. 220 grit belt finish, after which all exposed surfaces shall receive one coat of clear lacquer.

Steel:
 Tubing, Pipe and Accessories: ASTM Specification A 36 or ASTM Specification A 53, Grade B, or ASTM Specification A 500, Grade A.
Cast Rail Posts: Carbon steel castings conforming to ASTM Specification, Designation A 27, Grade 65-35.
 Steel rail members shall be galvanized in accordance with ASTM Specification A 123, after fabrication.
Anchor Bolts and Rail Clamp Screws: Anchor bolts and rail clamp screws shall be stainless steel conforming to ASTM Specification, Designation A 193, Grade B-8, with a minimum yield strength of 80,000 psi.

Splice Cap Screws: Aluminum Alloy 6061-T6 or 2024-T4, ASTM Specification B 211, or Stainless Steel, ASTM Specification A 193, Grade B-8.
Nuts: Stainless Steel, ASTM Specification A 194, Grade 5.

Threads: Threads on bolts, screws and nuts shall conform to American Standard Coarse Series, Class 2 Fit, ASA Specification B1.1.

Washers: Aluminum Alloy, Alclad 2024; ASTM Specification B 209, or ASTM A 209, Type A, 1/8" thick.

**Uniform section steel or aluminum tubing or pipe of equivalent strength and wall thickness with approved fasteners may be substituted for the design shown.

Longitudinal rail members shall be of sufficient length to provide attachment to at least three posts.

Metal railing including posts and fastenings shall be paid for on the unit price per linear foot bid for Metal (Aluminum or Steel) Bridge Railing.

Shop drawings showing details of railing shall be submitted and approval secured before fabrication is begun.

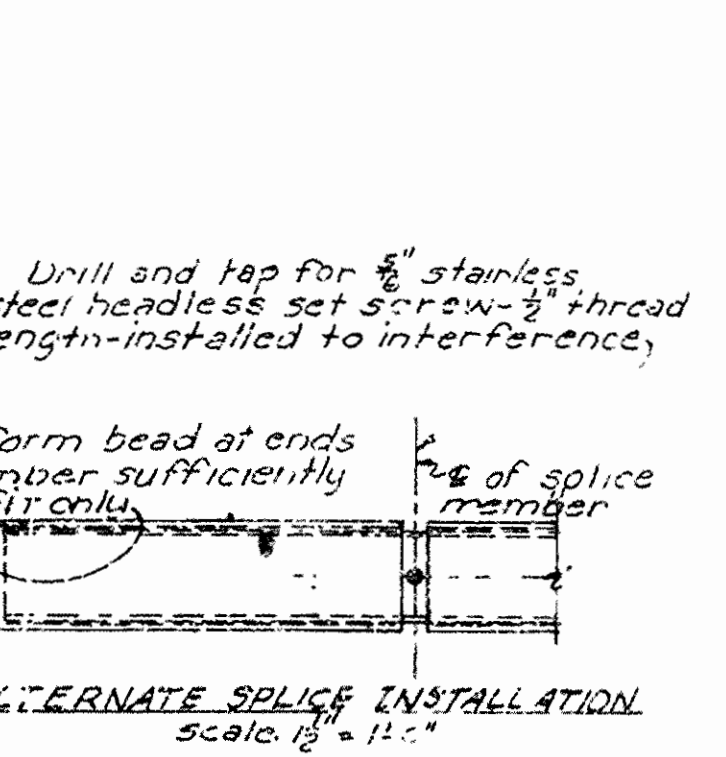
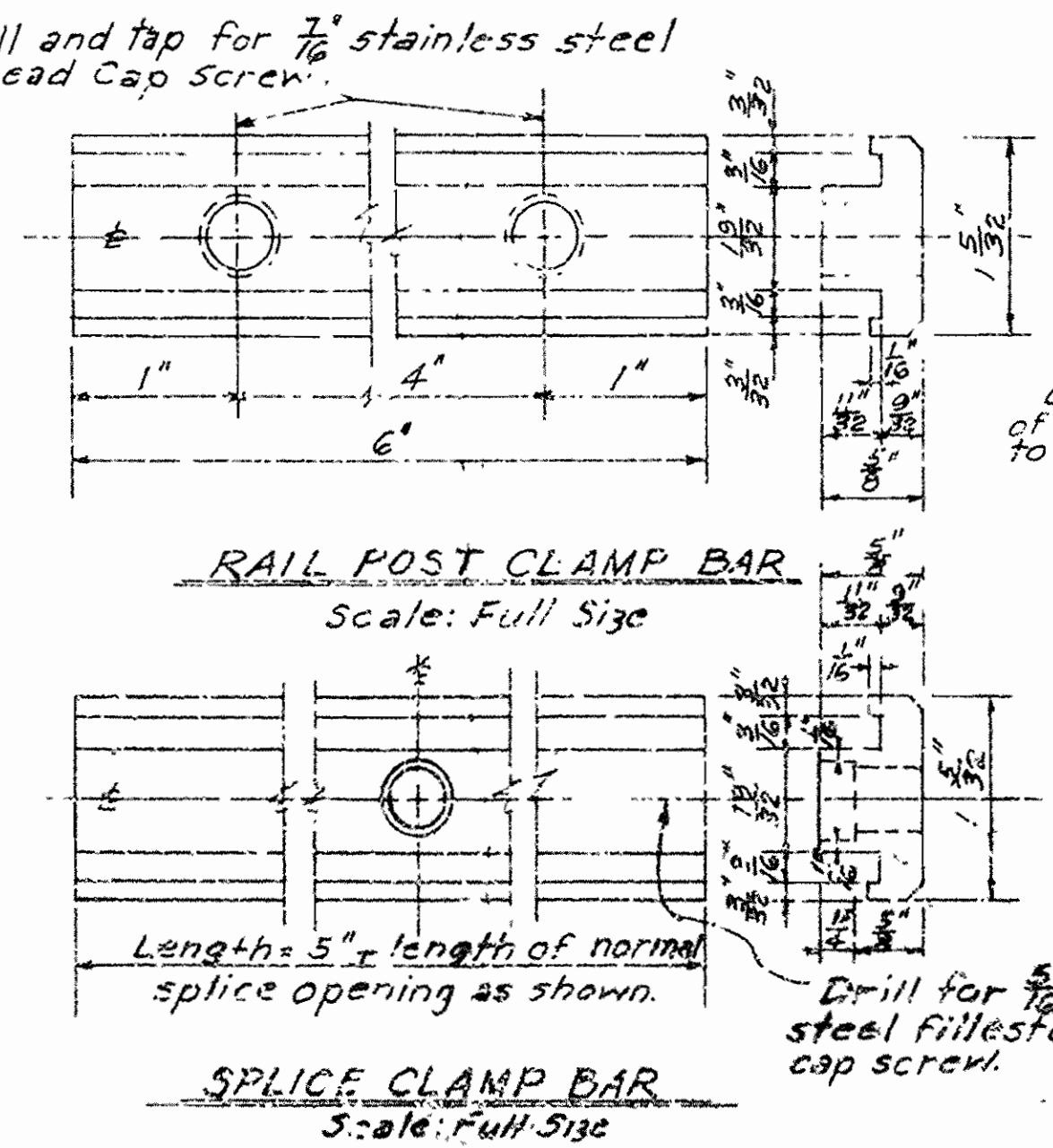
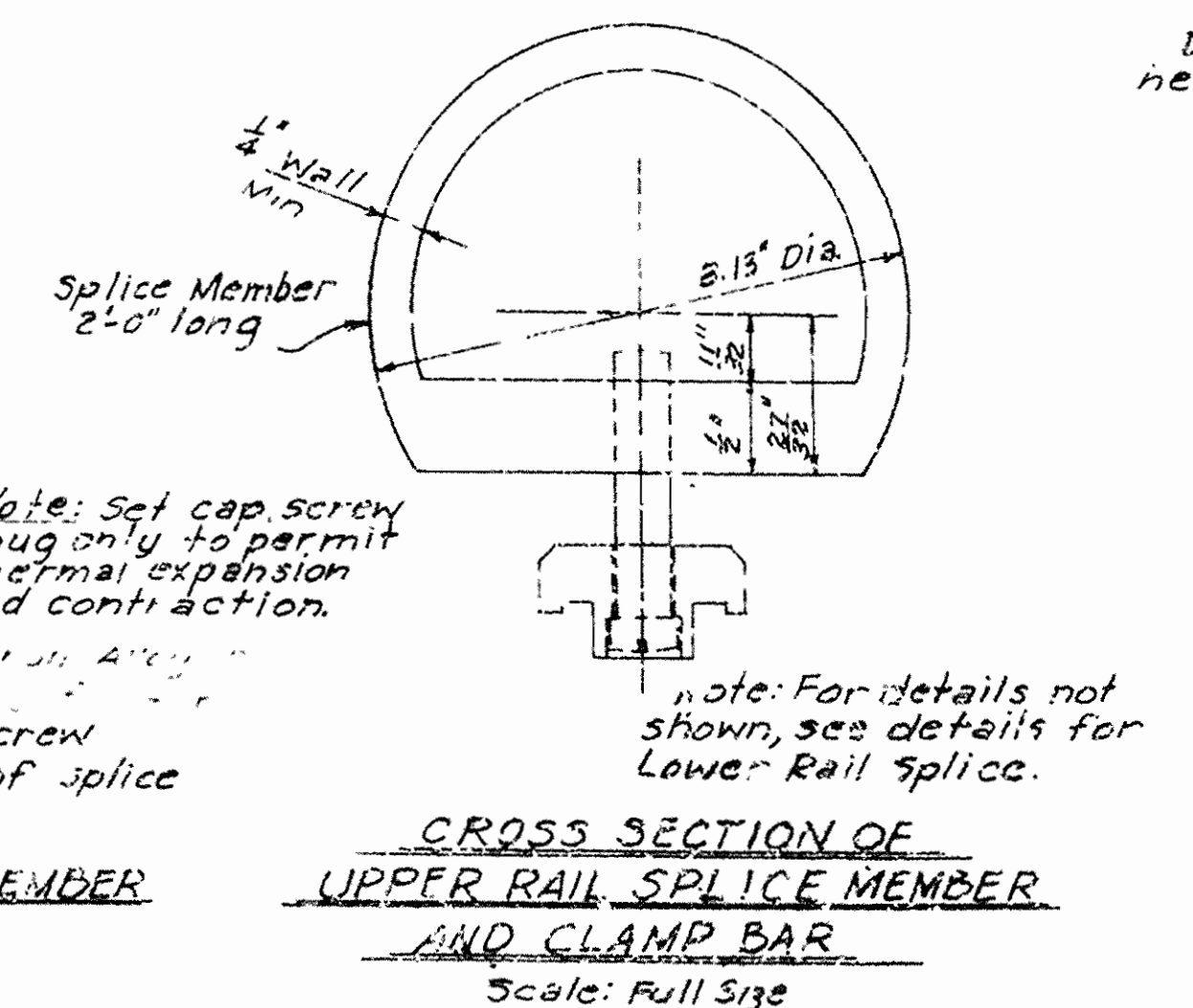
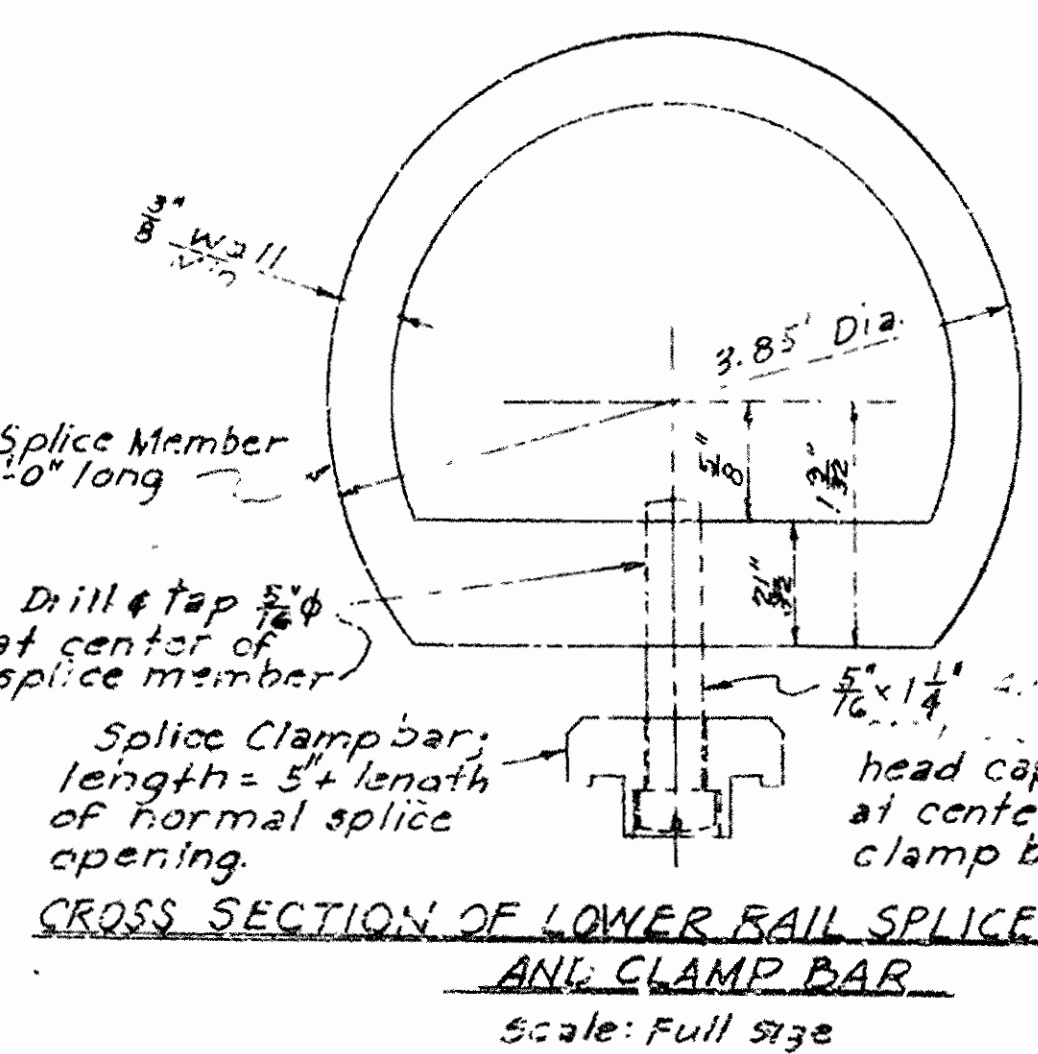
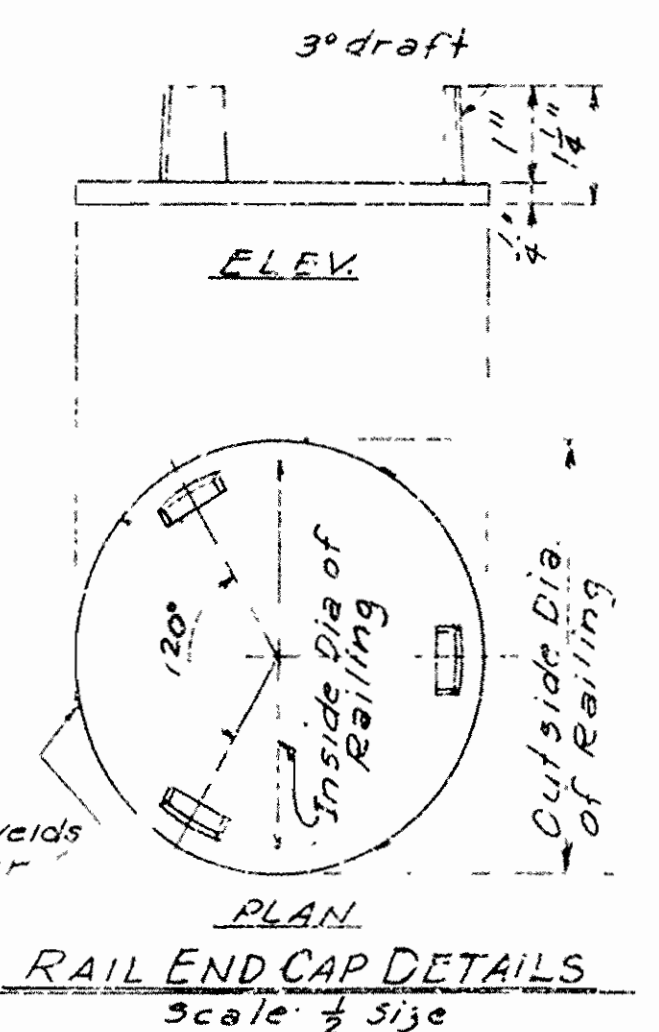
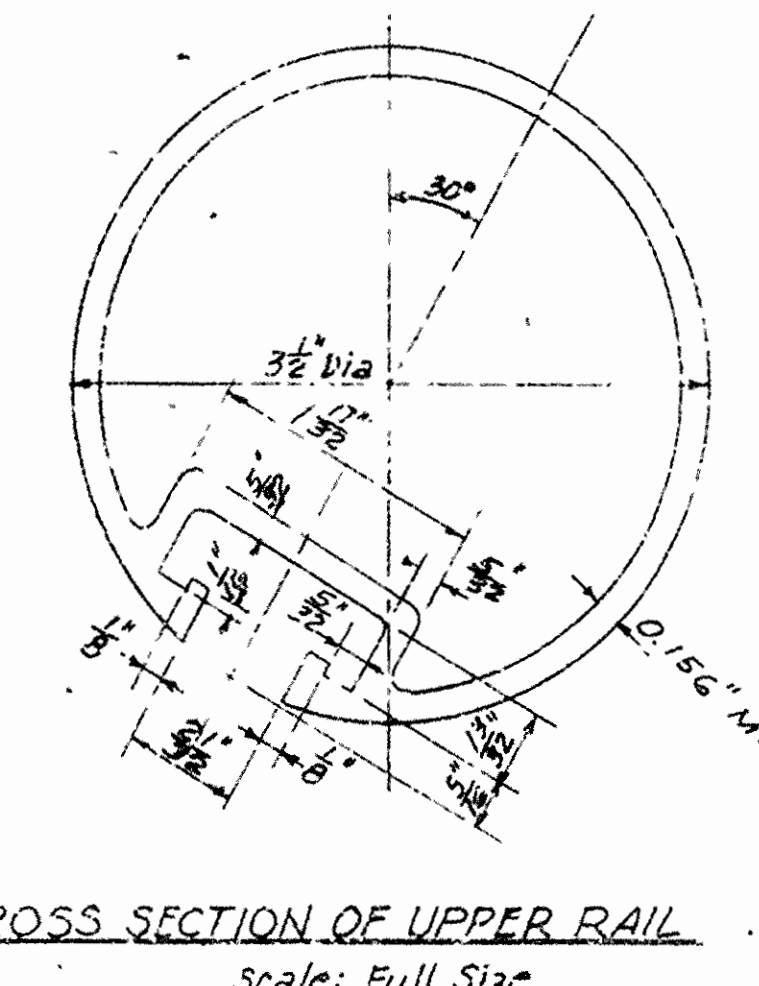
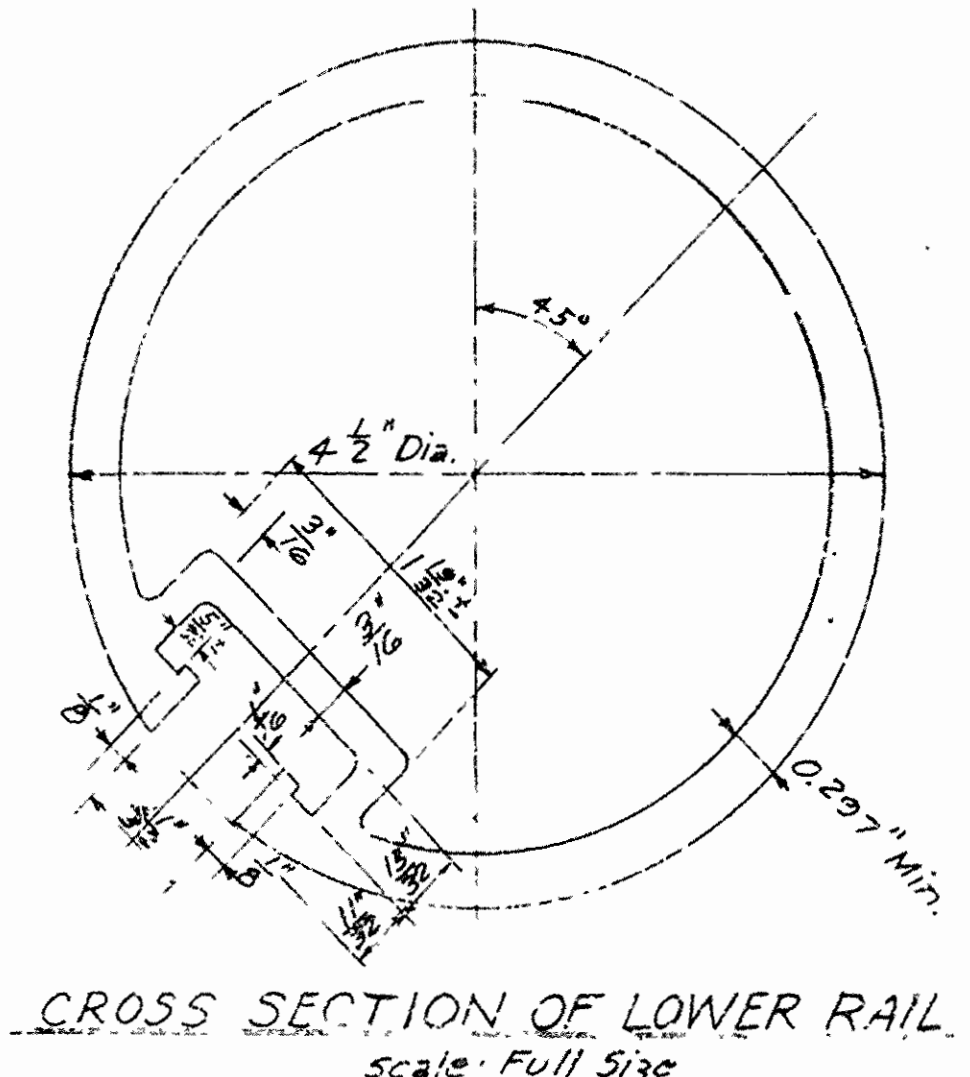
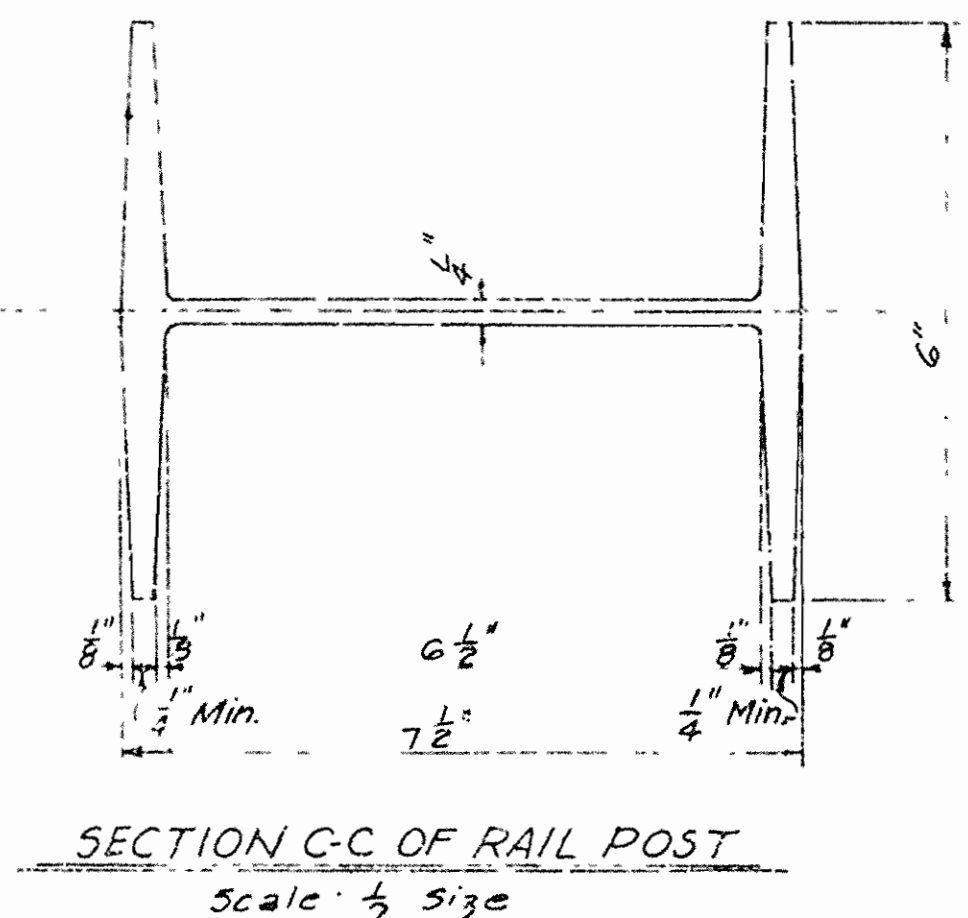
Concrete for parapet shall be Class 5. Reinforcing Steel shall be intermediate or hard grade. This work and material shall be measured and paid for as Class 5 Concrete and Reinforcing Steel respectively.

Finishing of aluminum and steel railing assembly is not permitted.

SPECIFICATIONS: Arkansas State Highway Commission Standard Specifications for Highway Construction, Edition of 1959, the 1958 Supplemental Specifications thereto, and applicable Special Provisions.

Stainless steel, ASTM A276, Type 430 with a minimum ultimate strength of 100,000 psi may be used in lieu of the rail fastener material shown in the notes above.

Carbon steel fastener material as specified shall be stainless steel in lieu of the applicable material specified.



Revision:

Height of Parapet	7-9-64 H.B.
Galvanizing Note	9-10-64 H.B.
Splice detail	10-19-64 H.B.
Steel Tubing ASTM No.	3-4-65 H.B.
Anchor Bolts	3-31-65 H.B.
Fastener Material	4-29-65 H.B.
"	3-26-65 H.B.
"	3-17-66 H.B.
Specifications	1-7-66 H.B.

DETAILS OF METAL BRIDGE RAILING

TYPE A

ROUTE SEC.

ARKANSAS STATE HIGHWAY COMMISSION

LITTLE ROCK, ARK.

DRAWN BY: H.B. DATE: 4-17-64

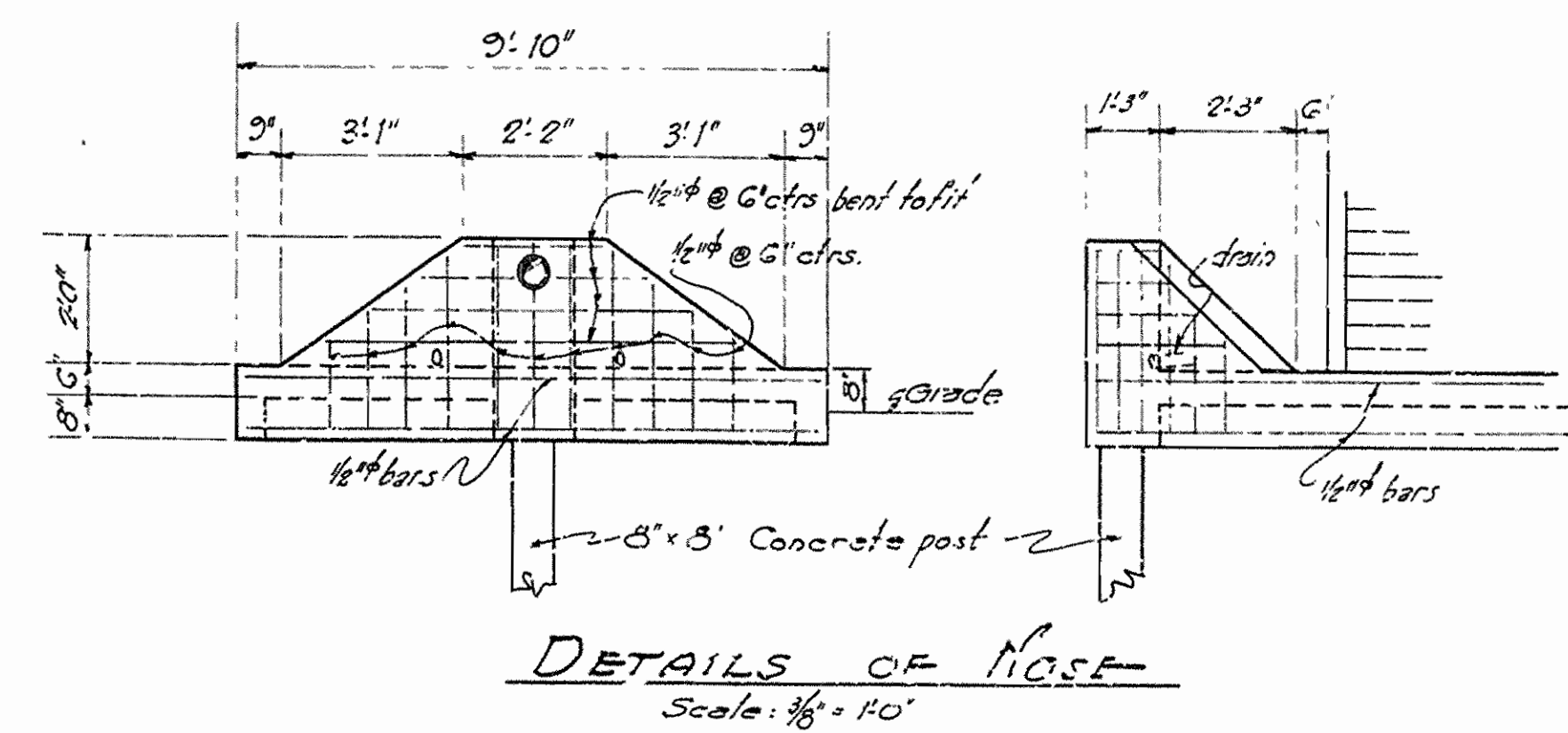
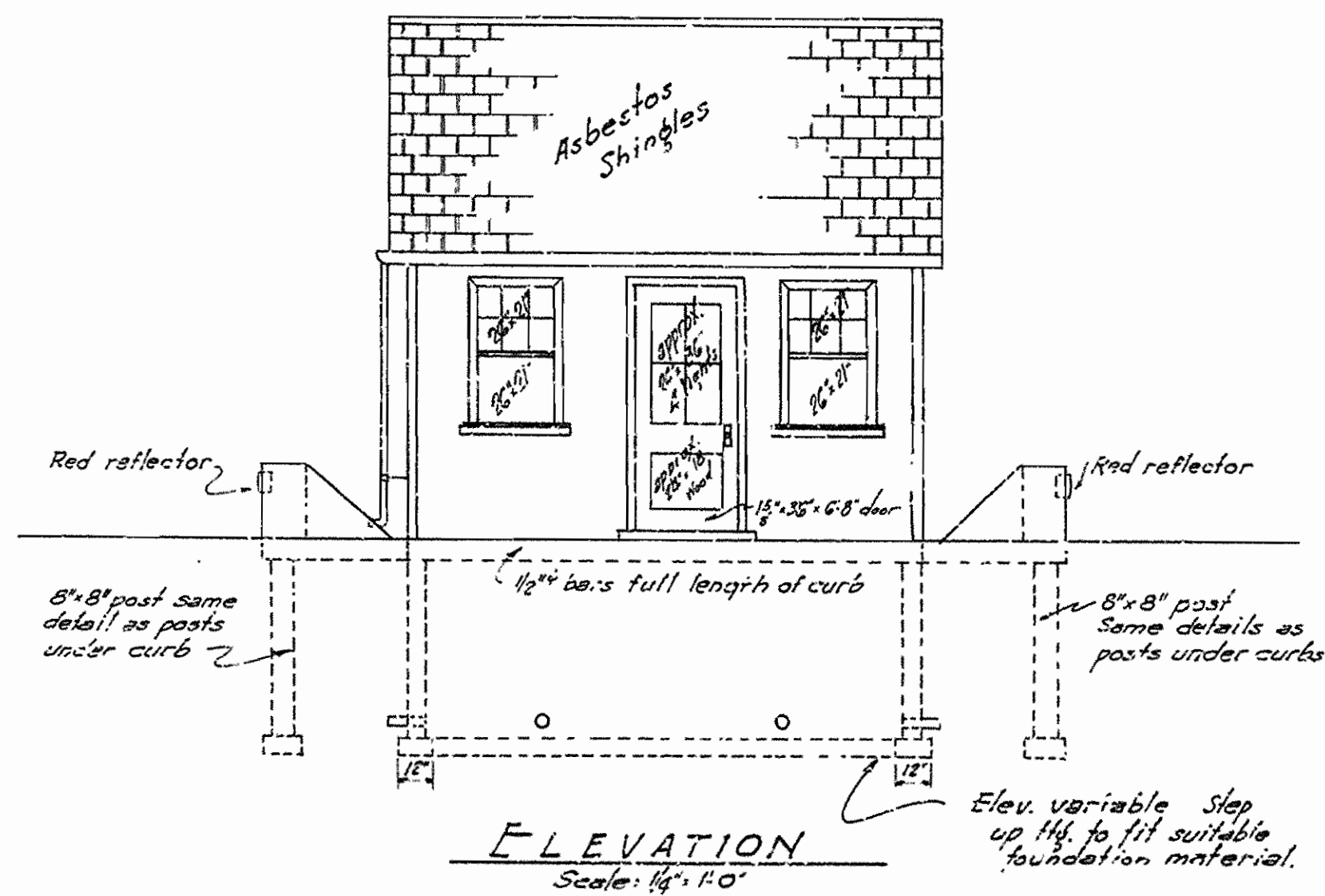
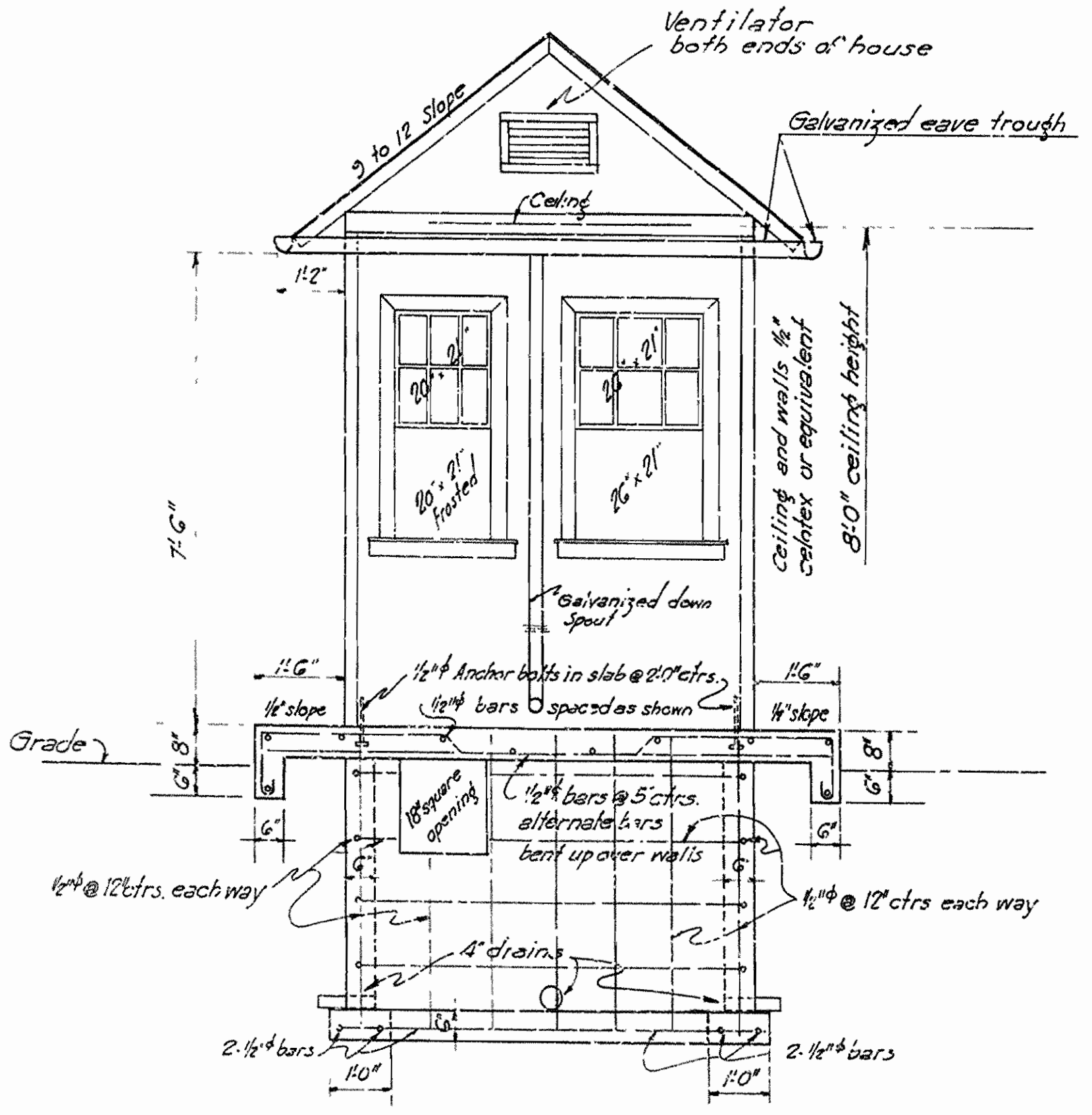
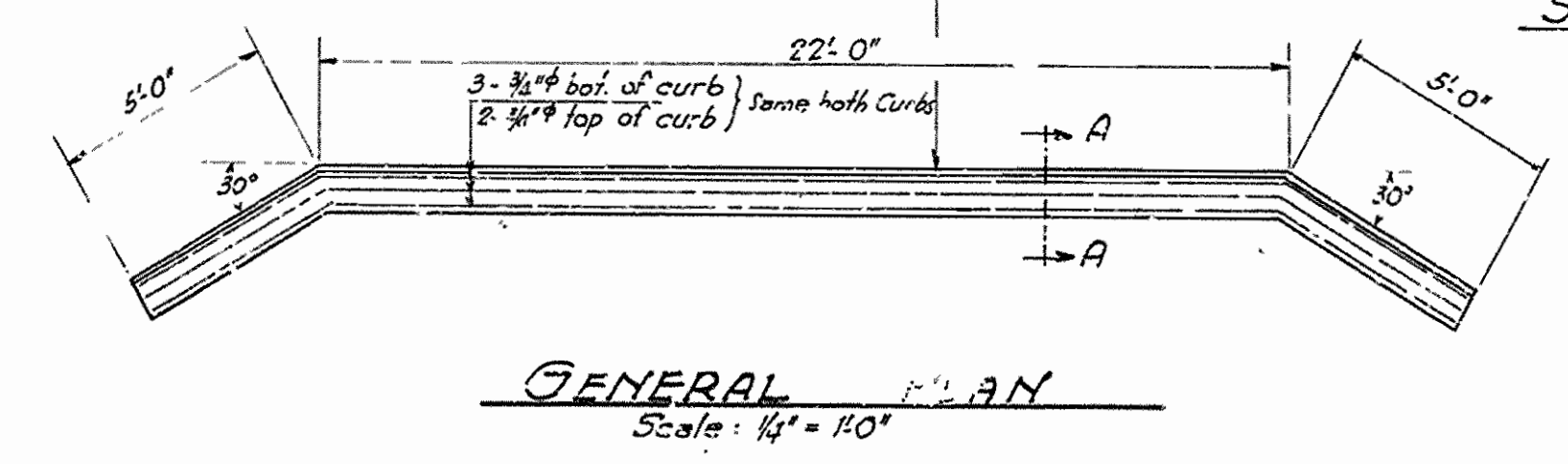
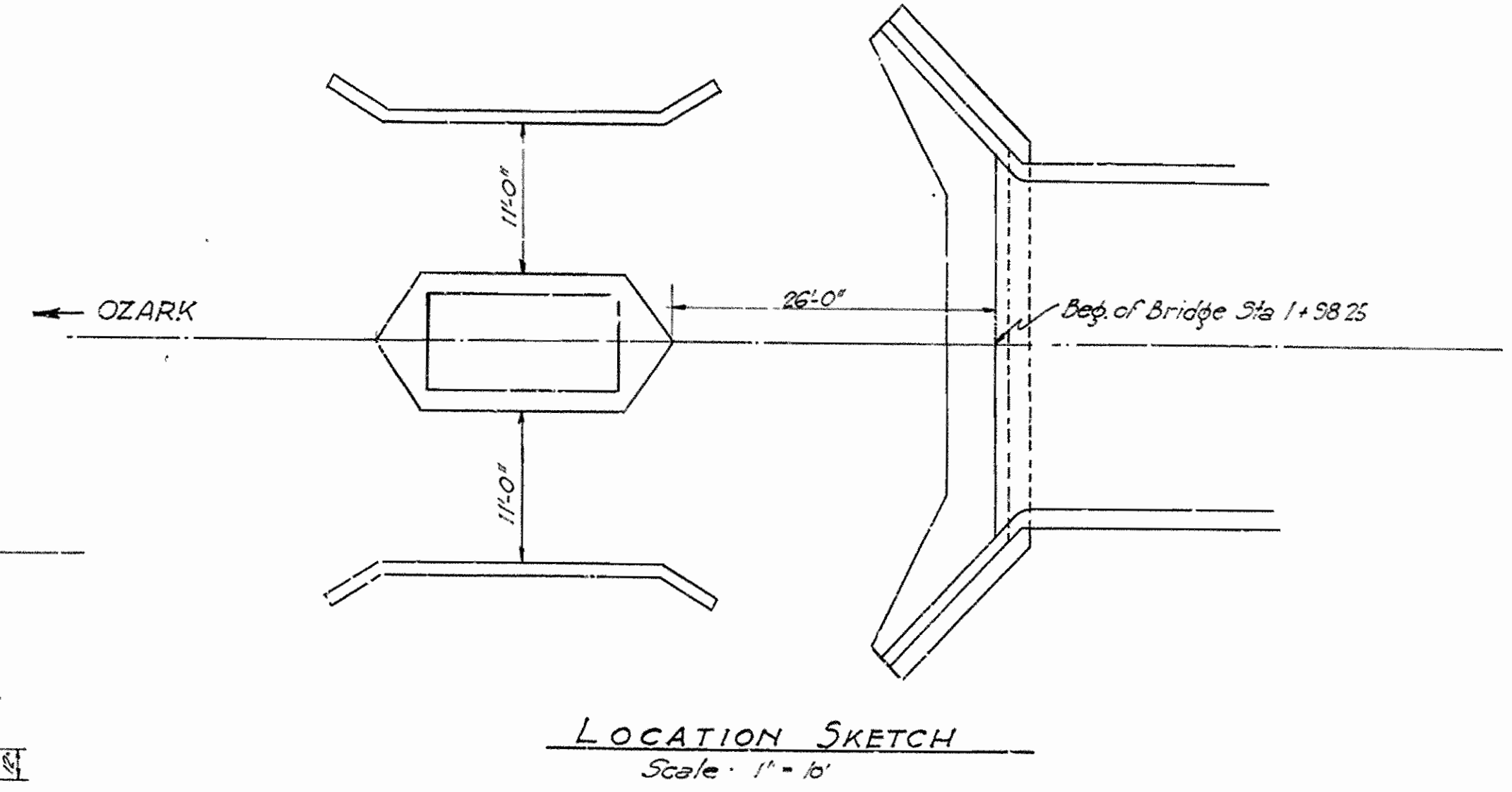
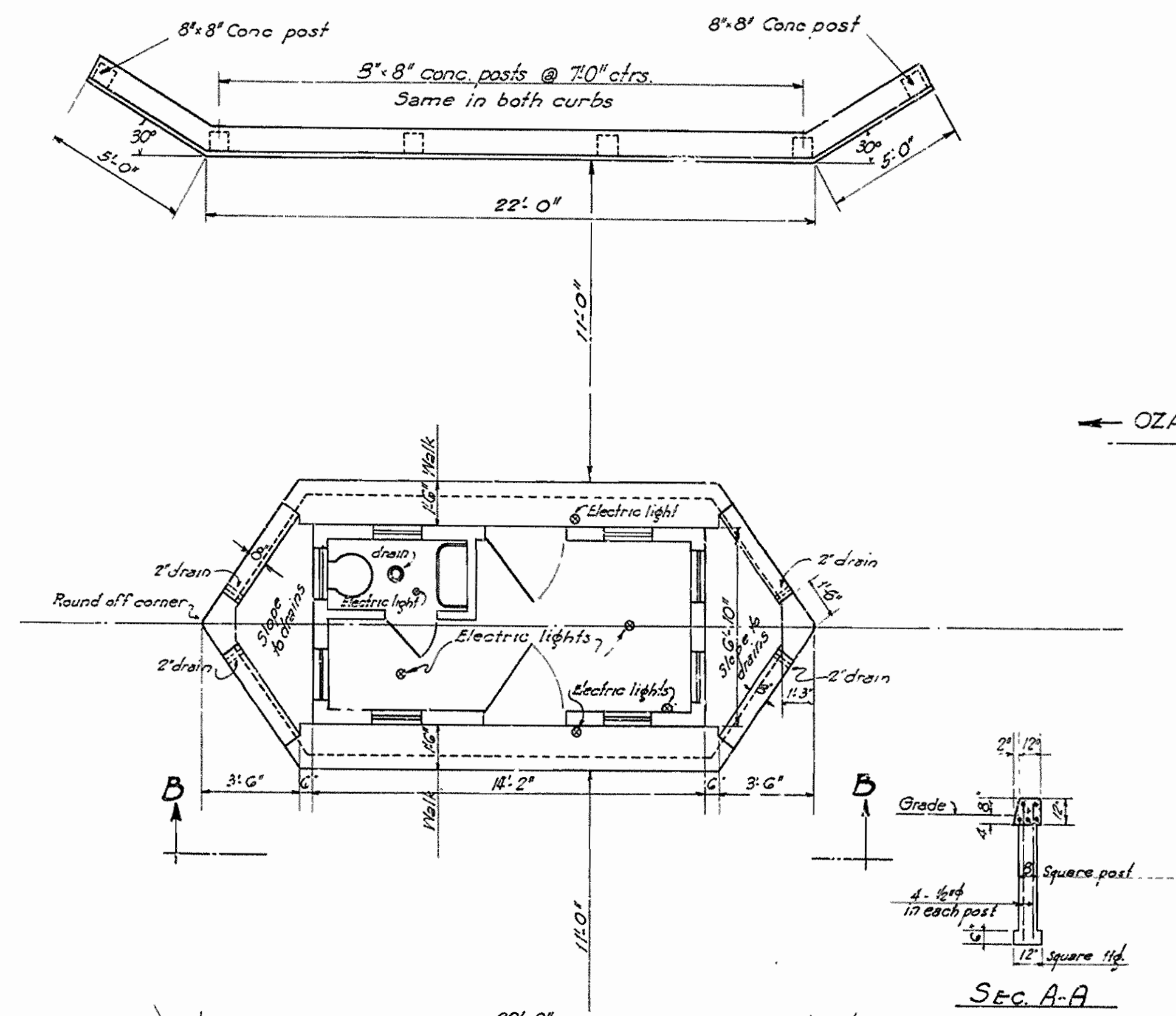
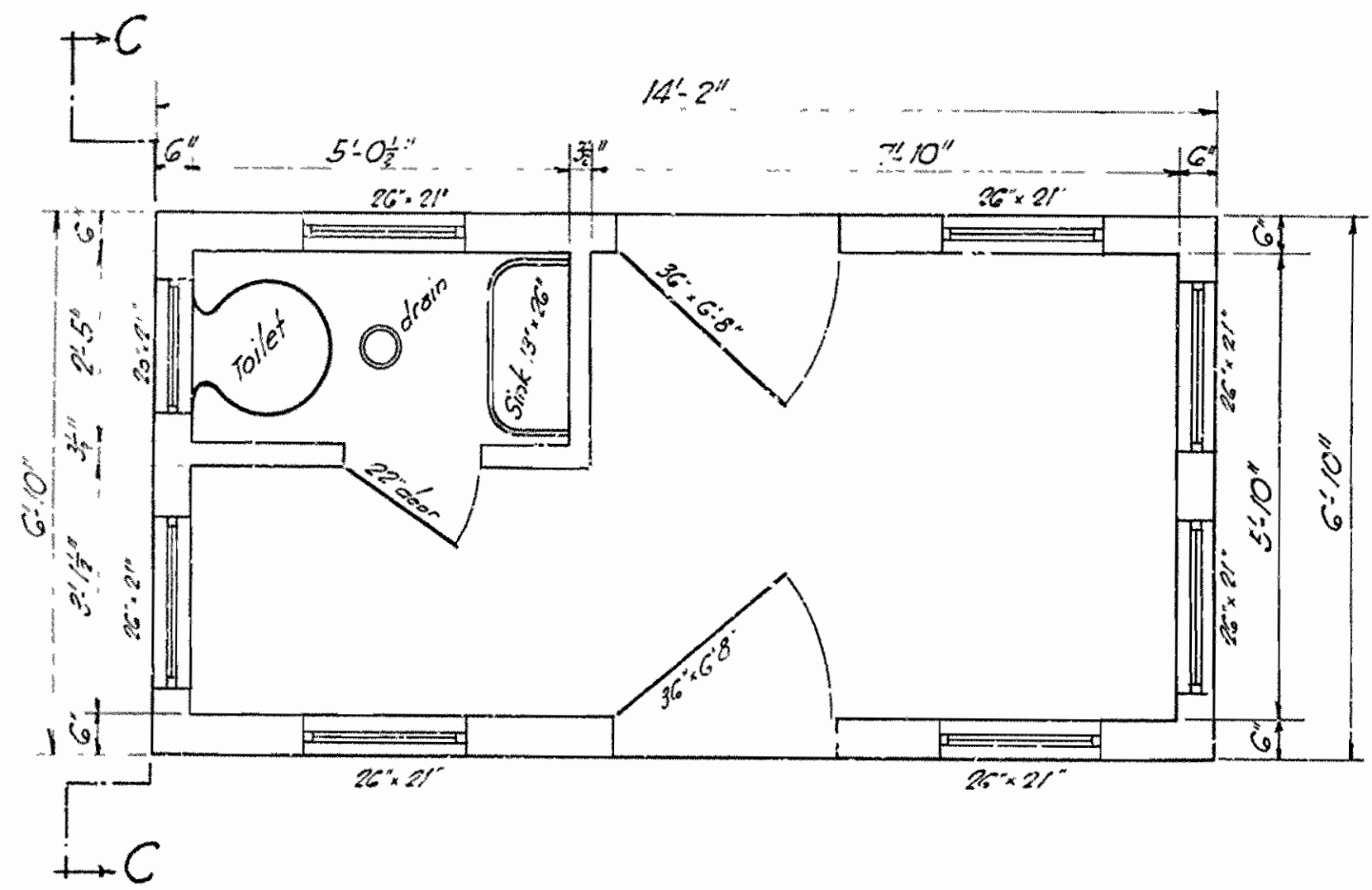
TRACED BY: DATE: SCALE: As Shown

CHECKED BY: F.R.G. DATE: 4-18-64

BRIDGE NO. DRAWING NO. 14992

FISCAL YEAR	SHEET NO.	TOTAL SHEETS

DETAILS OF TOLL COLLECTOR'S HOUSE



**DETAILS OF TOLL COLLECTOR'S HOUSE
OZARK BRIDGE
OVER ARKANSAS RIVER
FRANKLIN COUNTY
ROUTE SEC.**

**ARKANSAS STATE HIGHWAY COMMISSION
LITTLE ROCK, ARK.**

Drawn By: _____ Date: _____
 Traced By: _____ Date: _____
 Checked By: _____ Date: _____

Scale: As noted in. = ft.

BRIDGE NO. 1210 DRAWING NO. 1878

BRIDGE ENGINEER