

\*See Proposal Note

#### ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super.	Abuts.	Piers	Gen'l.
E-2	Lump Sum	Cofferdams, cribs and sheeting				Lump	
E-2	392	Cu.yds. Unclassified excavation		218	174		
E-3	10,524	Cu.yds. Channel excavation				10,524	
S-1	238	Cu.yds. Class "C" concrete, superstructure	238				
S-1	111	Cu.yds. Class "C" concrete, piers above footings			111		
S-1	74	Cu.yds. Class "E" concrete, pier footings			74		
S-1	183	Cu.yds. Class "E" concrete, abutments		183			
S-4	87,322	Lbs. Reinforcing steel	68,439	9,688	9,195		
S-7	233,000	Lbs. Structural steel	233,000				
S-8	233,000	Lbs. Field painting of structural steel	233,000				
S-14	373.96	Lin.ft. Railing (Type I-15.11 with galvanized steel posts and bolts)	373.96				
S-16	Lump Sum	First test pile				Lump	
S-18	2140	Lin.ft. 12" Cast-in-place reinforced concrete piles		880	1260		
S-24	Lump Sum	Removal of existing structure				Lump	
S-29	44	Cu.yds. Porous backfill		44			
I-10	357	Sq.yds. Crushed aggregate slope protection			357		
Special	238	Each Water-reducing set-retarding admixture*	238				

#### ELEVATION

#### GENERAL NOTES

REFERENCE shall be made to Standard Drawing CSB-1-55 revised 2-2-59, Sheets 1, 2, and 8.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57 together with current revisions thereof.

REMOVAL OF EXISTING STRUCTURE: When no longer needed to maintain traffic the existing structure on County Road No. 0-13 shall be removed. Plank floor and all stringers shall be stored near the site for removal by the County forces. Abutments shall be removed to Flow Line Elev. 849.6 and slopes dressed at 2:1.

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

PILES shall be driven to a minimum bearing capacity of 35 tons per pile.

SHOP PAINTING STEEL: The surface preparation of all steel, requiring shop painting as per the Plans and Specifications, shall be accomplished by blast cleaning or power-tool cleaning, except as noted in the Specifications regarding the use of Chromate Primers.

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

STATE OF OHIO  
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DIVISION OF DESIGN AND CONSTRUCTION  
BUREAU OF BRIDGES

GENERAL PLAN & ELEVATION,  
NOTES & ESTIMATED QUANTITIES  
BRIDGE NO. WIL-20A-00/3  
over ST. JOSEPH RIVER

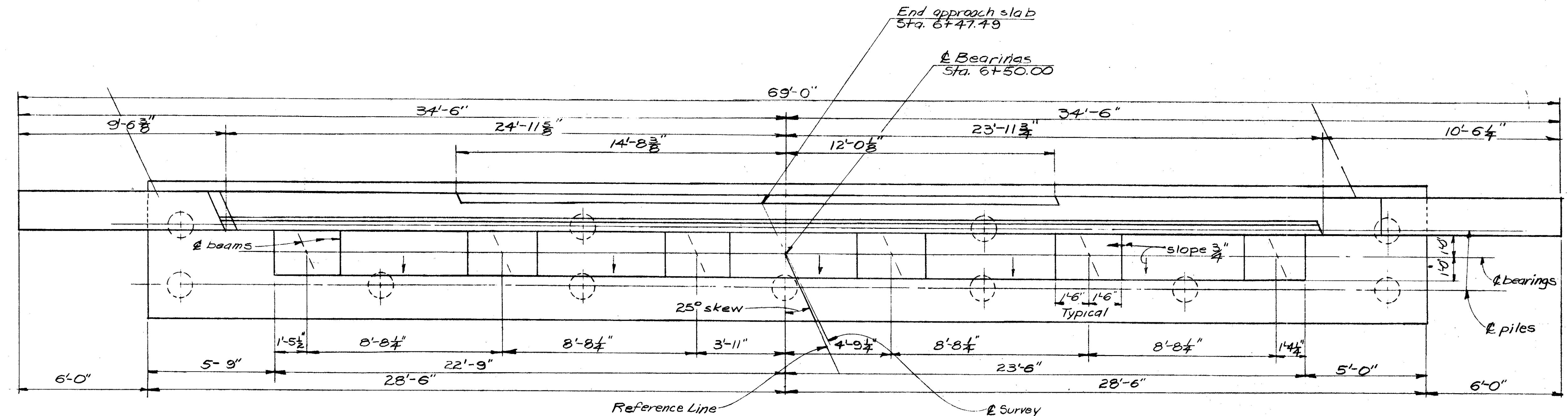
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DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAS	RAS	AD	WCK	BFG	Aug 1-24-62	

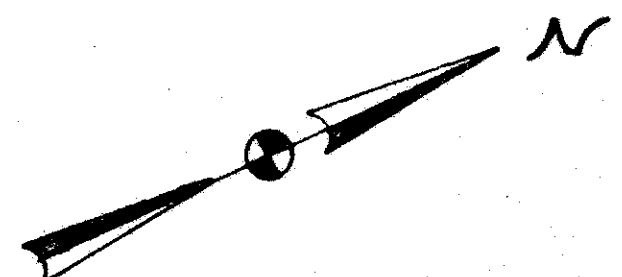
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2	OHIO		

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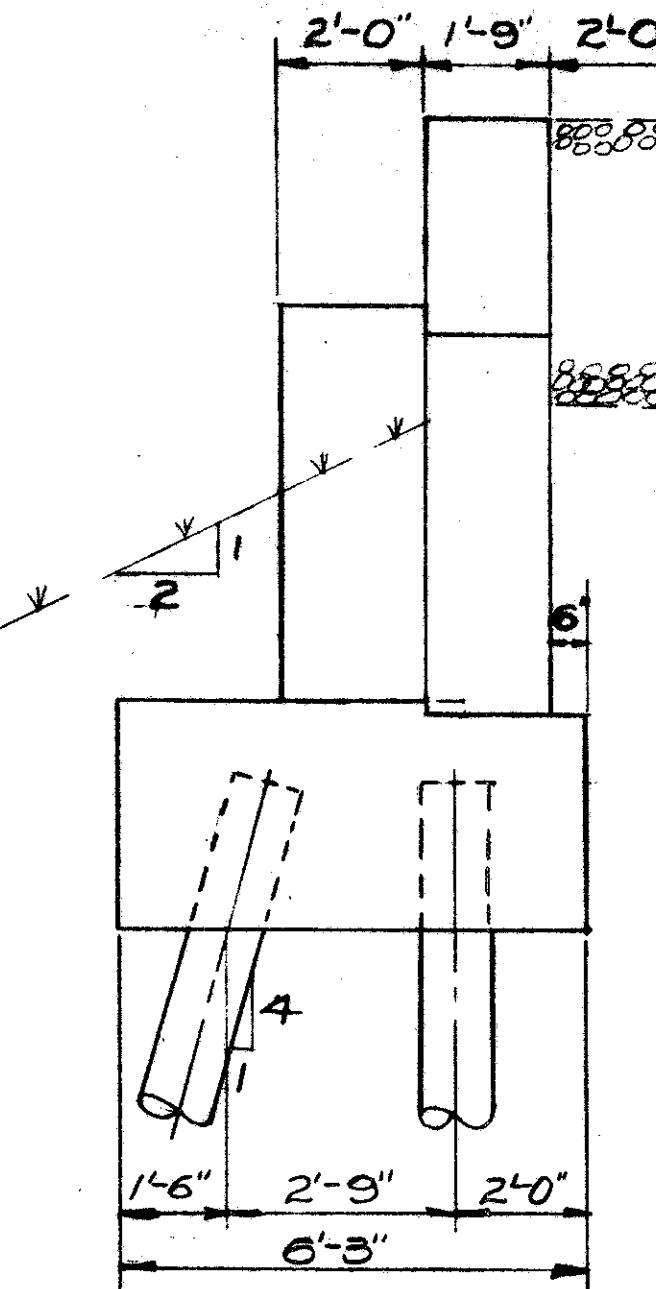
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## *PLAN*



**VIEW B-B**



This hand-drawn technical sketch illustrates a bridge approach slab supported by reinforced concrete piles. The diagram shows a cross-section with various dimensions and reinforcement details.

**Dimensions:**

- Width: 8'-0"
- Thicknesses: 3'-8", 2'-0", 5'-5/8", 5'-1/8", 2'-0", 1'-0", 3'-9/2", 1'-0", 7'-10 1/2", 1'-0", 4'-1", 1'-0", 3'-9/2", 1'-0", 867.77, 867.96, 867.84, 863.98, 864.17, 864.36, 864.55, 864.74, 868.92, 868.99, 856.90, 1'-6".
- Reinforcement:

  - Approach slab seat: 2n A512
  - Bottom of porous backfill: 2n A504 in 5 spaces @ 2'-0"
  - Approach slab seat: 1603 in 7 spaces @ 1'-0" = 7'-0" 1'-0"
  - Approach slab seat: 1602 in 26 spaces @ 1'-0" = 26'-0"
  - Construction joint: 1'-0" A603 in 10 spaces @ 1'-0" = 10'-0"
  - Construction joint: 2n A513
  - Bottom of porous backfill: 5n A511
  - Bottom of porous backfill: 2n A511
  - Bottom of porous backfill: A503 in 5 spaces @ 1'-6" = 7'-6" (Typical)
  - Bottom of porous backfill: 2n A506
  - Bottom of porous backfill: 2n A507
  - Bottom of porous backfill: 2n A508
  - Bottom of porous backfill: 2n A509
  - Bottom of porous backfill: A501
  - Bottom of porous backfill: 3n A801
  - Bottom of porous backfill: 4n A801
  - Bottom of porous backfill: A601 in 5 spaces @ 1'-6" = 7'-6" (Typical)
  - Bottom of porous backfill: A501 in 5 spaces @ 1'-6" = 7'-6" (Typical)
  - Bottom of porous backfill: A502 in 5 spaces @ 1'-6" = 7'-6" (Typical)
  - Bottom of porous backfill: A802 (far side) A512 (near side) A501

**Notes:**

  - Note: Place A603 bars open end up
  - Approach slab seat
  - Bottom of porous backfill
  - Construction joint
  - 12" cast-in-place reinforced concrete piles in 6 spaces @ 9'-0" = 54'-0" (front row)  
in 3 spaces @ 18'-0" = 54'-0" (back row)

Hand-drawn technical diagram of a structural frame, likely a column base or foundation detail, showing the following features:

- Dimensions:**
  - Top horizontal dimension: 6' 1'-3" 1'-0" 1'-0"
  - Left vertical dimension: 2'-0"
  - Right vertical dimension: 3'
  - Bottom horizontal dimension: 2'-0" 2'-6" 2'-0"
  - Bottom right vertical dimension: 3'-3"
  - Bottom overall width: 6'-3"
  - Bottom overall depth: 2'-0" 2'-9" 1'-6"
- Material Specifiers:**
  - A602 (labeled twice)
  - A503
  - A511
  - A801
- Bearings:**
  - 8 Bearings (indicated by arrows pointing to the base)
- Annotations:**
  - Baseplate (labeled on the left)
  - 80 (labeled near the top right)
  - 501 (labeled twice on the left)
  - 501 (labeled once at the bottom left)

*SECTION A-A*

**PROCEDURE:** The embankment shall be placed and compacted up to the finished spill-thru slope and to the level of the subgrade, after which excavation shall be made for the abutment and the piles driven.

**REINFORCING STEEL** at beam seats shall be carefully placed to clear anchor bars for bearing plates.

**POROUS BACKFILL** shall extend upward to the surface of the earth shoulders, and outward to the surface of the embankment slopes. Excavation therefore, in excess of that required for construction of the abutment shall be considered as paid for in the bid price per cu. yd. paid for porous backfill.

## ELEVATION

STATE OF OHIO  
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 DIVISION OF DESIGN AND CONSTRUCTION  
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# REAR ABUTMENT DETAILS

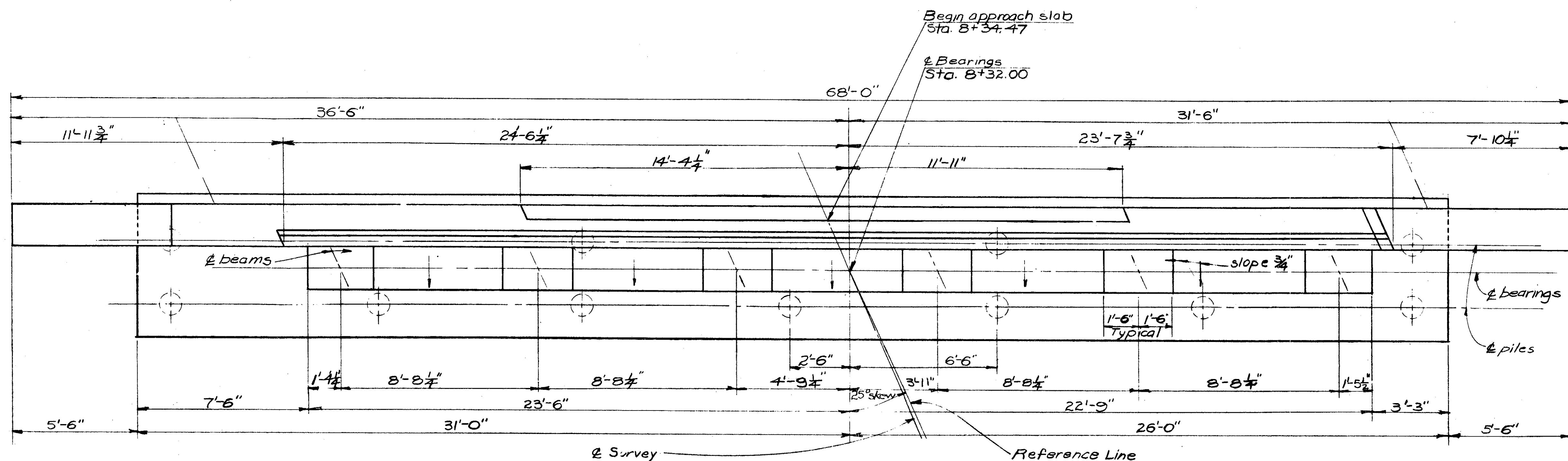
BRIDGE No. WIL-20A-0013  
 OVER ST. JOSEPH RIVER

Williams County      Sta. 6+47.49  
 8+34.47

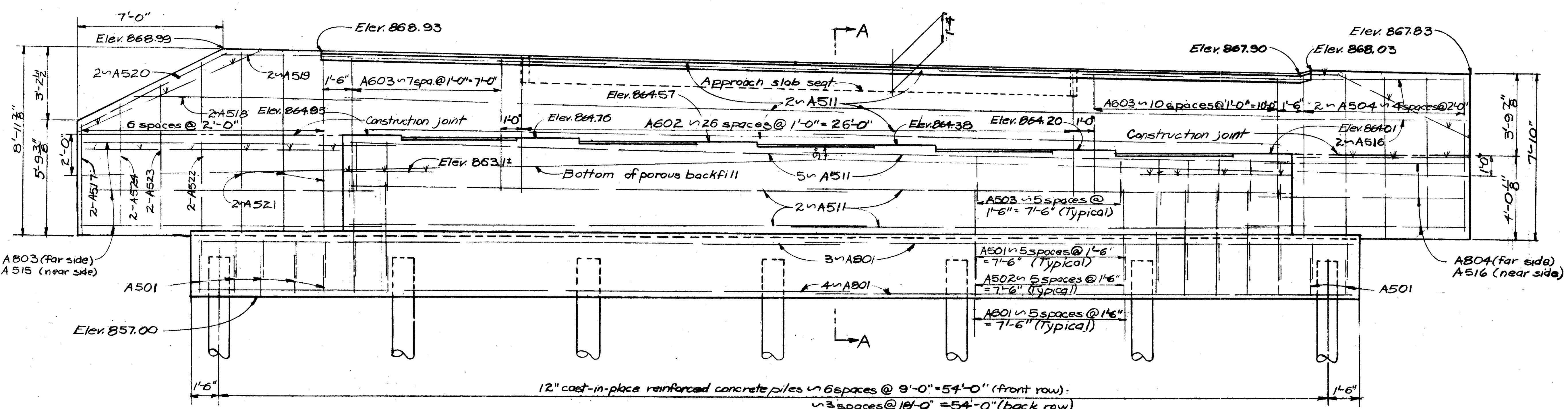
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RAS	RAS		WCK	G.J.F.	1-24-62	

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## PLAN



## ELEVATION

For abutment notes, and  
section A-A, See sheet No.

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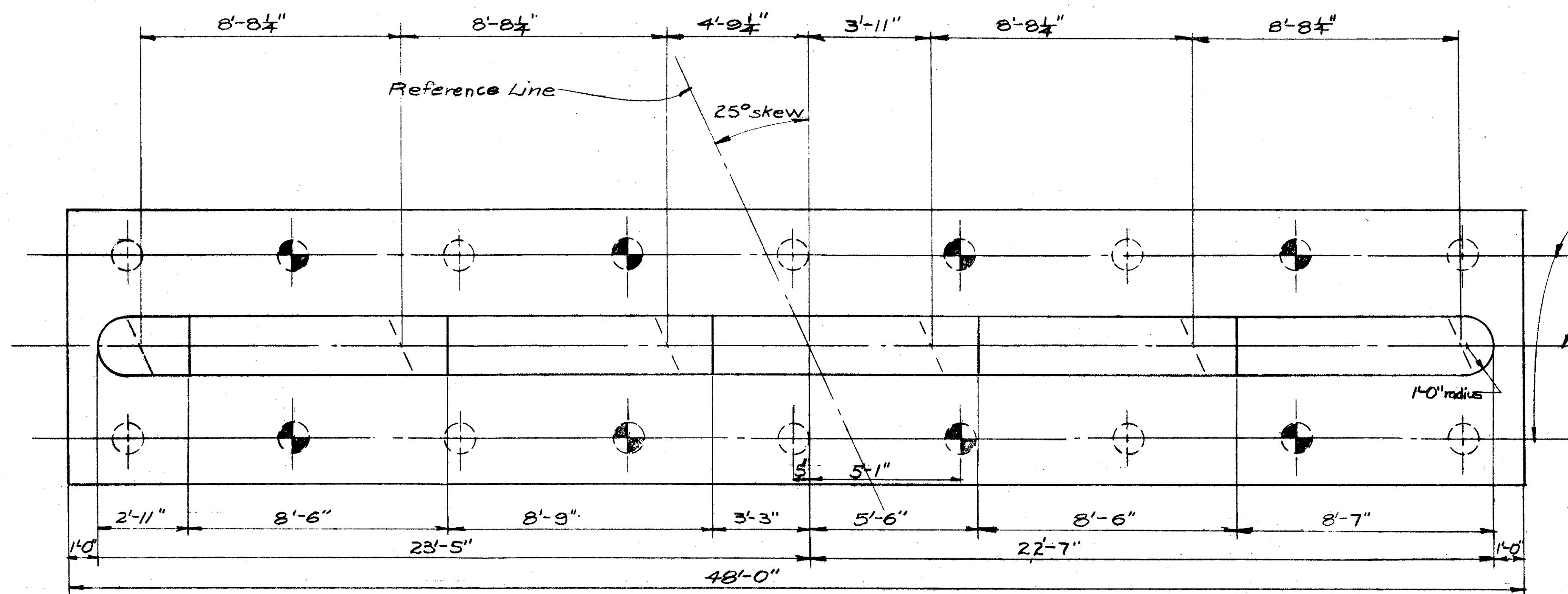
# FORWARD ABUTMENT DETAILS

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 OVER ST. JOSEPH RIVER  
 Williams County Sta. 6+47.49  
                                   8+34.47

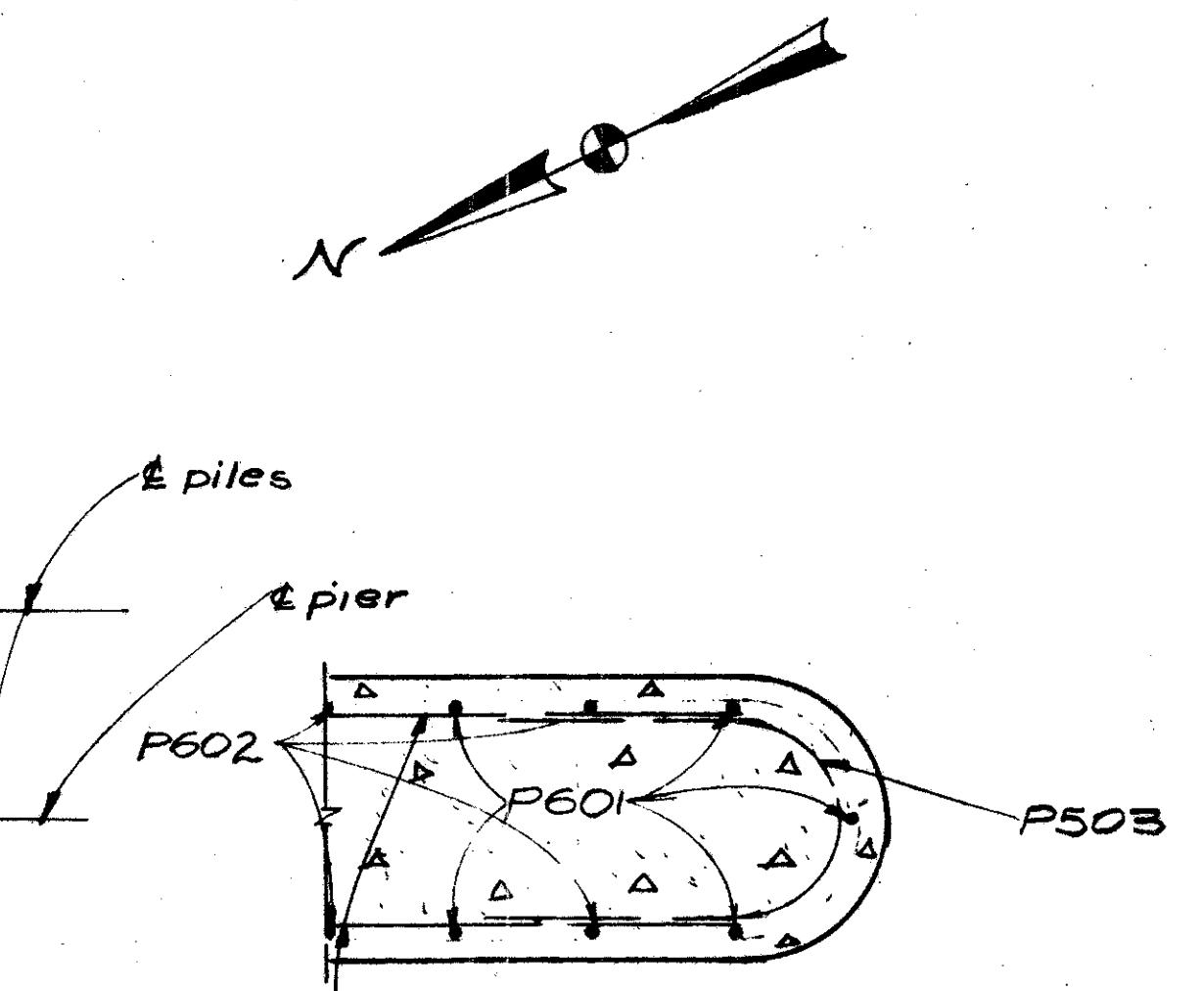
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RAS	RAS		WCK	g.j.t.	1-24-62	

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43  
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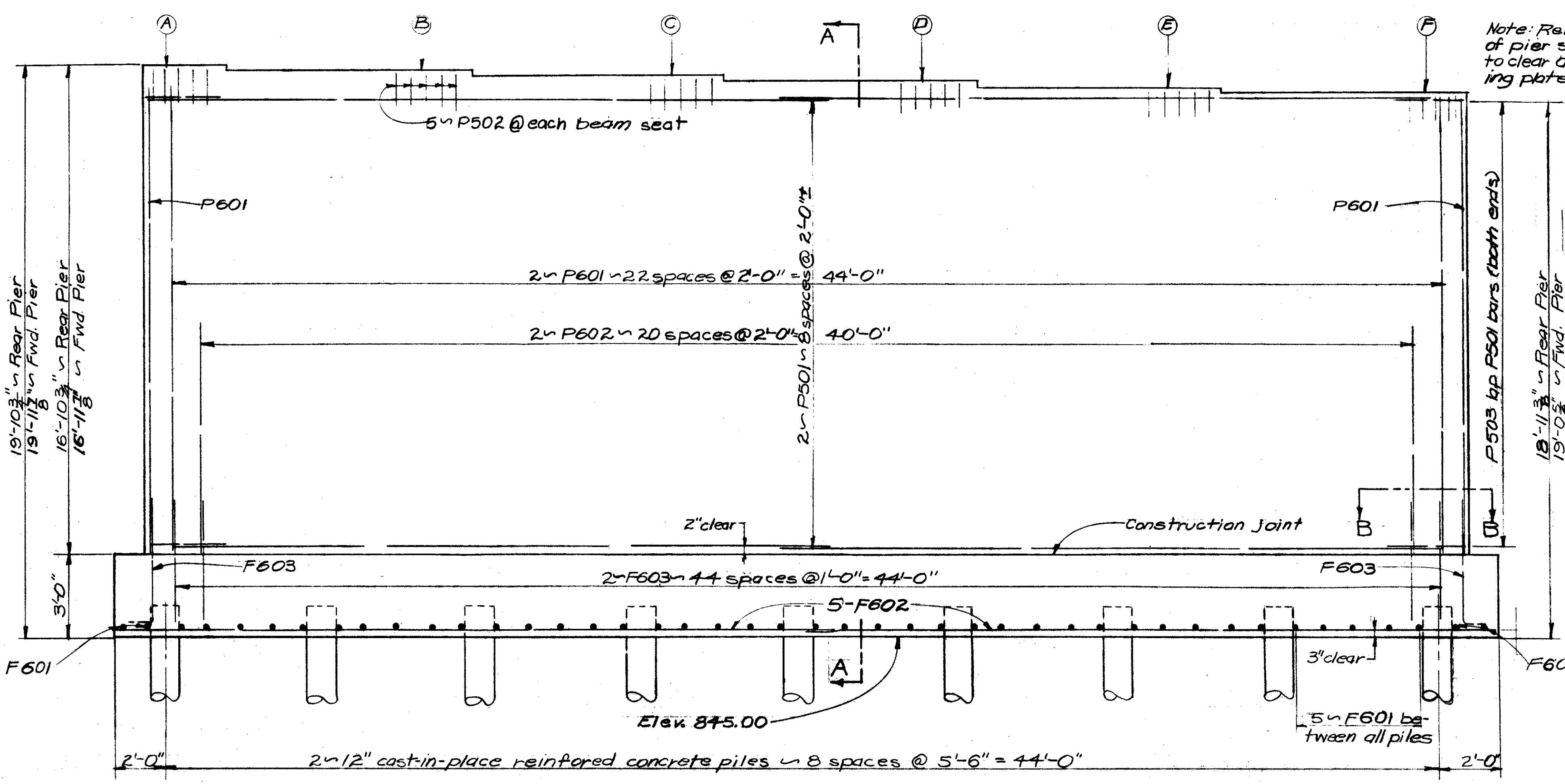


## *PLAN*

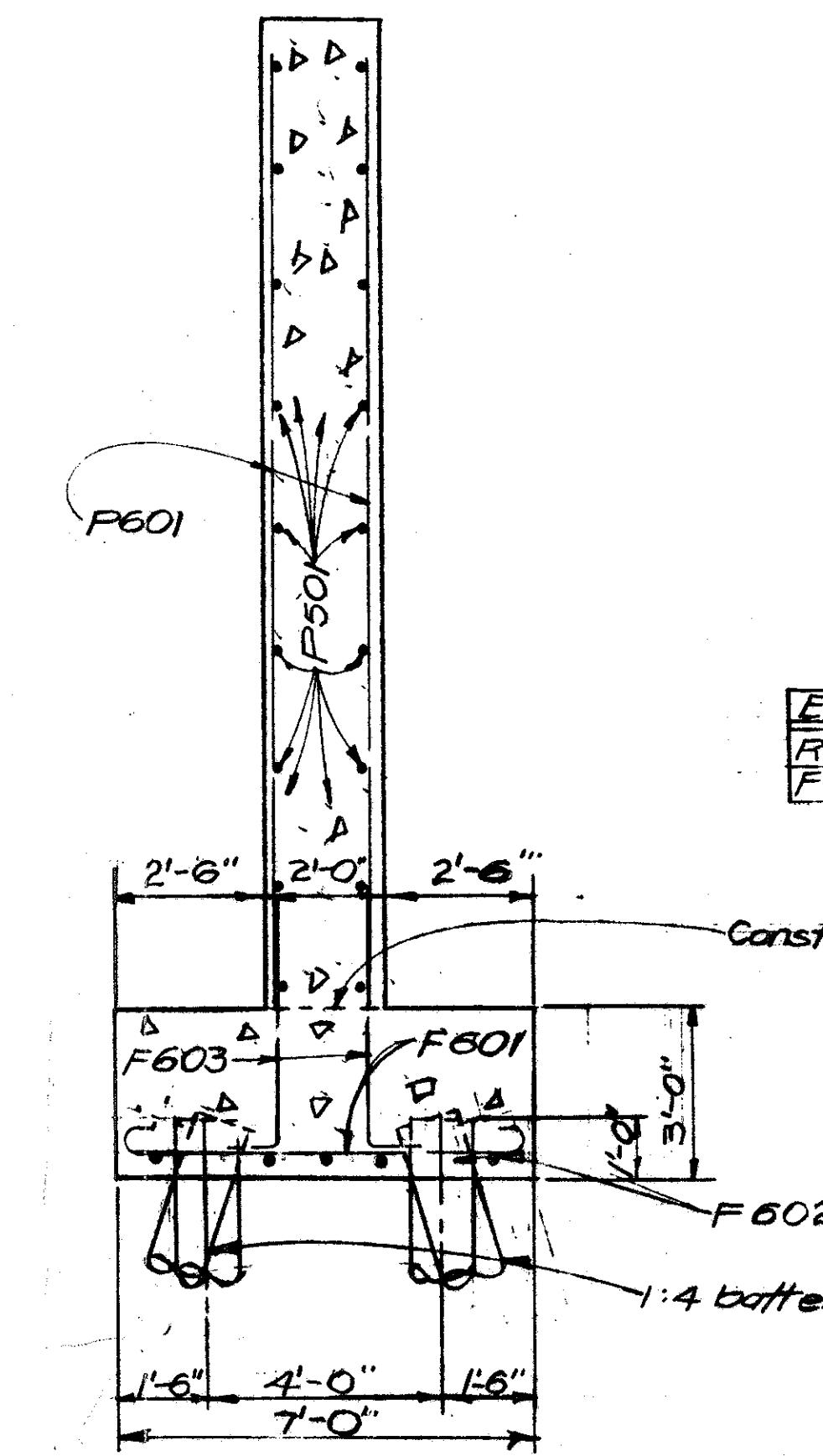


*SECTION B-B*

 Denotes battered pile



## ELEVATION



**SECTION A-A**

EL E V A T I O N	A	B	C	D	E	F
REAR PIER	864.90	864.71	864.52	864.32	864.14	863.95
WD. PIER	864.99	864.80	864.61	864.42	864.24	864.05

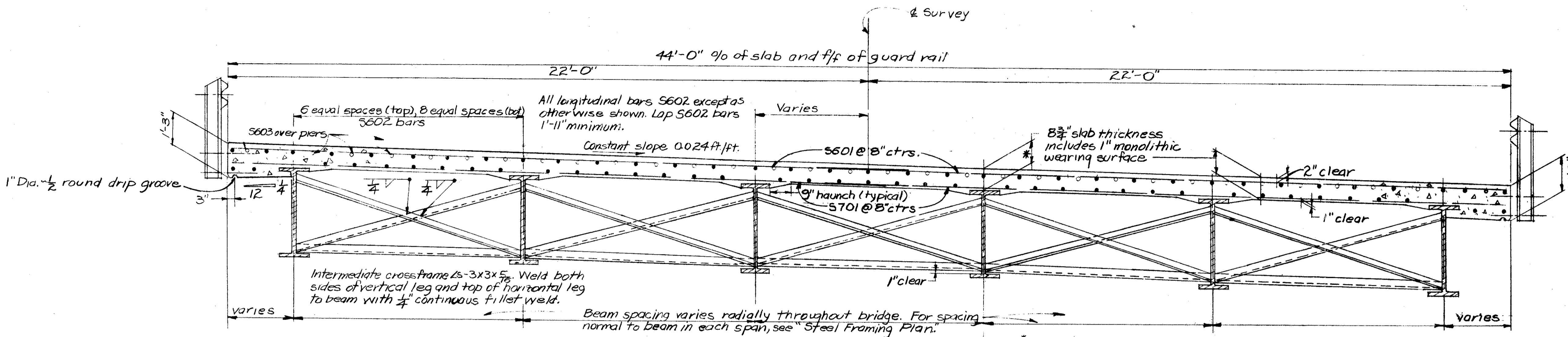
STATE OF OHIO  
DEPARTMENT OF HIGHWAYS  
DIVISION OF DESIGN AND CONSTRUCTION  
BUREAU OF BRIDGES

**PIER DETAILS**

**BRIDGE NO. WIL-20A-0013  
OVER ST. JOSEPH RIVER**

**Williams County      Sta. 6+47.49  
    8+34.47**

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
RAS	RAS		WCK	BFG G.J.E.	1-24-62	



RADIAL TRANSVERSE SECTION  
For additional reinforcing steel details, see Sheet #43.

\*This is the nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

DEFLECTION & CAMBER		
SPAN	END	CENTER
Deflection due to weight of steel	1/16	1/16
Deflection due to remaining dead load	1/4	5/16
Convexity required for horizontal and vertical curve	1/16	-1/16
Sum of Deflection and Convexity	3/8	5/16
Required Camber	0*	0*

\*Beams shall be inspected for actual camber and shall be fabricated and erected with the convex flange up.

BEAM SPLICE WELDING PROCEDURE  
1. Raise the abutment ends of the beams 1/8".  
2. Butt-weld the beam flanges and web, using the following sequence: make two passes on each flange, then two on the web; repeat, using one pass at each location, until welds are completed.

3. Weld the bottom and top moment plates.  
4. Lower the beam ends to final position.

BEAM WEB WELDS: Butt welds in webs of beams may have convex reinforcement in accordance with Sect. S-7.22. Finishing flush by grinding is not required.

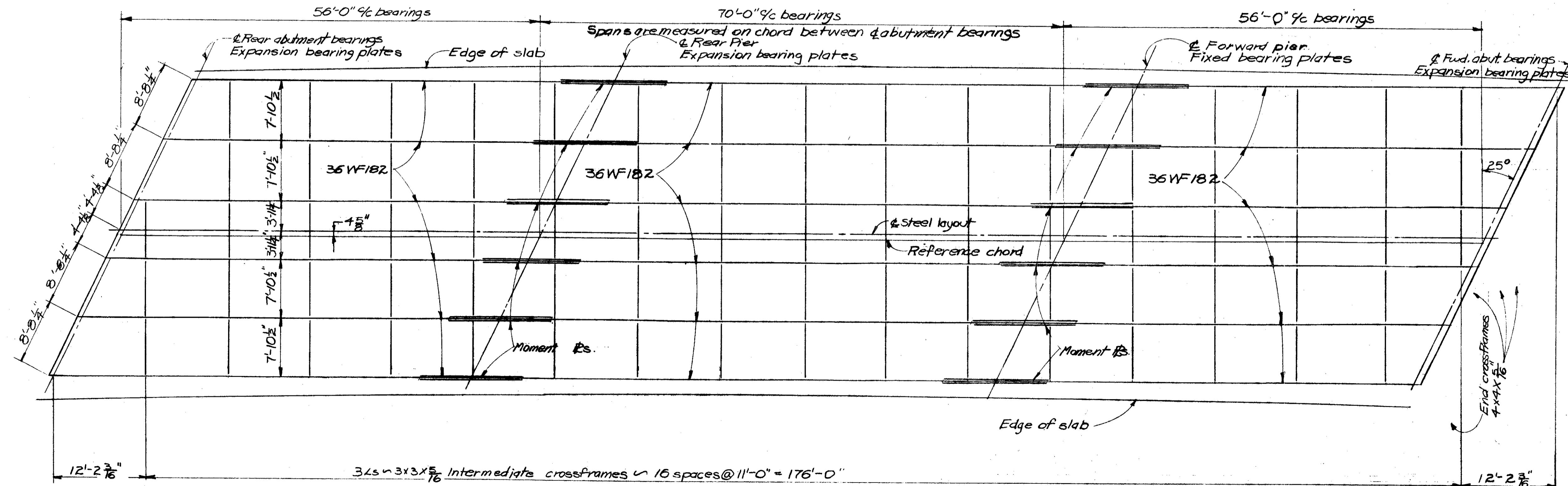
EDGE OF DECK is concentric to centerline of survey.

DECK SLAB HAUNCH: The haunch in the deck slab adjacent to the top of the steel beams, which is shown as 9" wide, may vary from this dimension with a minimum of 6" and maximum of 12". Maximum slope of haunch shall be one vertical to four horizontal. Payment for deck slab concrete shall be based on the 9' width.

FOR ADDITIONAL DETAILS see Standard Drawings CSB-1-55, sheets 1 and 2, with these modifications:

1. Turned-up end on end dam as detailed in Sec. BB is not required on the high side of the deck.

2. Welded butt joint in superstructure end dam angles at 45° of roadway is not necessary.



Note: 1/4 of steel layout bisects mid-ordinate and is parallel to reference line.

### STEEL FRAMING PLAN

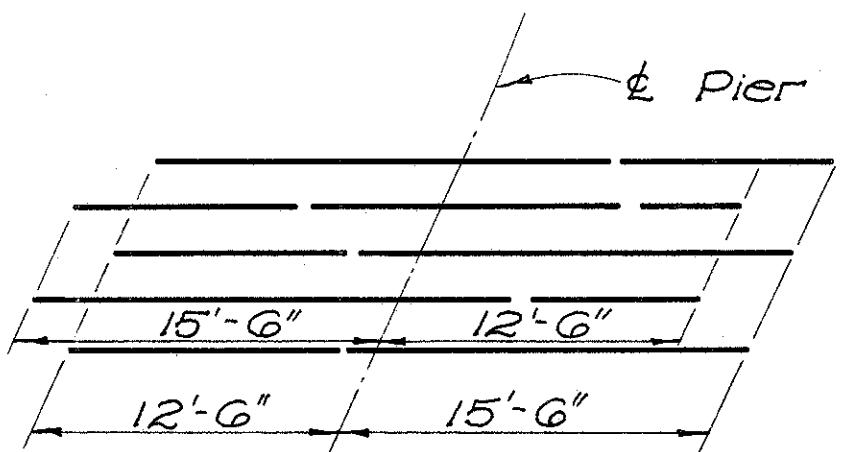
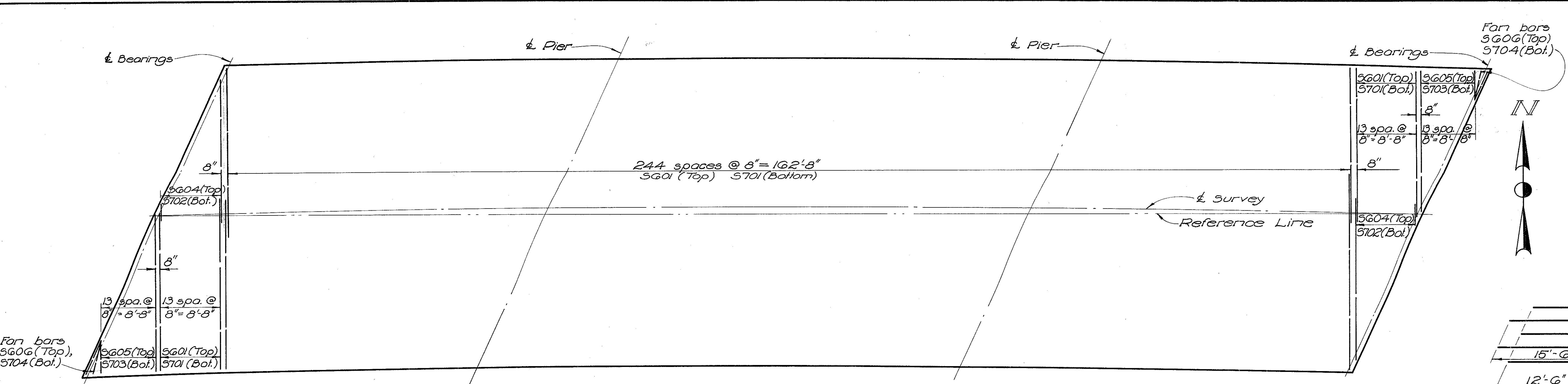
Moment Plate Sizes:  
Top: 10 1/2" x 7/8" x 13'-10"  
Bottom: 13 1/2" x 7/8" x 13'-10"

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES					
SUPERSTRUCTURE DETAILS					
BRIDGE NO. WIL-20A-0013 OVER ST. JOSEPH RIVER Williams County Sta. 6+47.49 8T3447					
DESIGNED RAS	DRAWN RAS	TRACED	CHECKED WCK	REVIEWED BEG Q.J.T. 1-21-62	DATE REVISED

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

45  
49

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### TRANSVERSE DECK REINFORCING STEEL

Note: Transverse bars shall be placed perpendicular to the reference line. Longitudinal bars are shown with the superstructure details, sheet #44 and placed parallel to the chords or & survey.

DIAGRAM SHOWING STAGGER OF S603 BARS OVER PIERS

MARK	No.	LENGTH	WEIGHT	SHAPE	BENDING DIAGRAMS		MARK	No.	LENGTH	WEIGHT	SHAPE	
					Diers	Abutments (corners)						
P501	72	22'-10"	1715	S			A801	28	29'-7"	2212	S	
P502	60	2'-8"	167	B			A802	6	13'-4"	214	S	
P503	36	5'-5"	203	B			A803	3	14'-7"	117	S	
F601	88	8'-0"	1506	B			A804	3	10'-4"	83	S	
F602	20	24'-10"	746	S								
F603	184	5'-8"	1566	B								
P601	96	15'-10"	2283	S								
P602	84	8'-0"	1009	S								
<hr/>												
<b>Abutments</b>												
A501	91	9'-2"	869	B			5601	518	22'-40"	17,765	S	
A502	61	6'-0"	381	B			5602	370	38'-3"	21,257	S	
A503	61	8'-2"	520	B			5603	64	28'-0"	2,692	S	
A504	22	7'-6"	172	S			5604	series of 14	*21'-5"	511	S	
A505	4	8'-7"	36	S			5605	series of 14	*22'-3"	545	S	
A506	2	7'-9"	16	S			5606	4	4'-0"	24	S	
A507	2	7'-0"	15	S			5701	518	22'-10"	24,175	S	
A508	2	6'-0"	13	S			5702	series of 14	*21'-5"	695	S	
A509	2	5'-0"	10	S			5703	series of 14	*22'-3"	742	S	
A510	2	8'-6"	18	S			5704	4	4'-0"	33	S	
A511	60	23'-6"	1471	S								
A512	10	13'-4"	139	S								
A513	2	10'-0"	21	S								
A514	2	6'-3"	13	S								
A515	3	14'-7"	46	S								
A516	7	10'-4"	75	S								
A517	2	5'-6"	11	S								
A518	2	12'-0"	25	S								
A519	2	7'-3"	15	S								
A520	2	8'-0"	17	S								
A521	6	8'-3"	52	S								
A522	2	7'-10"	16	S								
A523	2	7'-3"	15	S								
A524	2	6'-3"	13	S								
A601	61	12'-7"	1153	B								
A602	54	14'-7"	1183	B								
A603	38	13'-1"	747	B								

\*Lengths vary by 1'-5&frac12; increments

REPLACEMENT BARS: If reinforcing bars are fabricated from stock which has previously been tested and approved by the Ohio Highway Testing Laboratory, test samples as provided in Sec. 5-4.02 need not be furnished and replacement bars will not be required.

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES	SUPERSTRUCTURE REINFORCING STEEL & REINFORCING STEEL LIST BRIDGE NO. WIL-20A-0013 over St. JOSEPH RIVER Williams County Sta. G + 47.49 B + 34.47		
DESIGNED R.A.S	DRAWN R.A.S	TRACED G.G.	CHECKED W.C.K.
REVIEWED B.F.G	DATE 9/9/14-62	REVISED	