

MAR-30S-29.41
MRW-30S (2.48) (40662)
3.2 ± Miles South of Gallion
on U.S.R. #30S

EXISTING BRIDGE DATA
Flat Run Bridge No. MRW-30S-0468
Type: Concrete Beam
Span: 40' Clear
Roadway: 20' between rails
Skew: 22° L.F.
Wearing Surface: 3" Bituminous Mat.
Condition: Extremely poor

P.K. & Tab in S.W. Side of 28" Sycamore
Elev. ~ 1104.72
P.K. & Tab S.R. 288
P.K. & Tab N. Side
REFERENCE POINT For
Sta. 5+00 on & Proposed S.R. 288

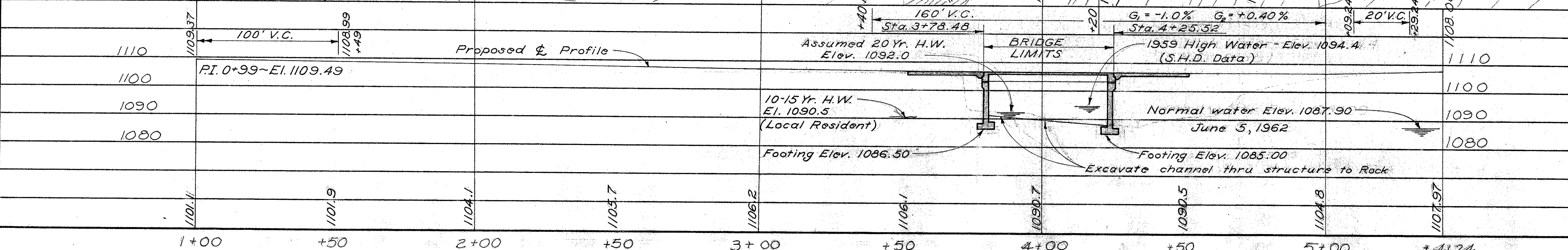
P.K. & Tab N.W. Side of 24" Wild Cherry
Elev. ~ 1106.07
Tacked Hub
SR. 288
P.K. & Tab S.W. Side 28" Oak
REFERENCE POINT for
Sta. 3+50 on & Proposed S.R. 288

FOUNDATION SOUNDINGS: Foundation design and foundation quantities are based on a study of red soundings and soil sample soundings made at the site. This sounding information, the accuracy of which the State does not guarantee, may be examined in the office of the Bureau of Bridges in Columbus or in the Division office.

Clears Assumed 20 Year High Water by 10.9'

DRAINAGE AREA = 7.80 SQ. MI.

B.M. + Cut on N.E. Corner of S. Bridge Railing MRW-30S-0468 Elev. 1108.06



PROPOSED STRUCTURE
TYPE: Single Span Steel Beam with reinforced concrete deck & abutments
SPAN: 45'-0" % Bearings
ROADWAY: 36'-0" & Guardrail
LOAD FREQUENCY: CF-130(57)
SKEW: 10° Right Forward
WEARING SURFACE: 3/4 Mono. Conc.
APPROACH SLABS: AS-1-54(25' long)
ALIGNMENT: Tangent

STATE OF OHIO
DEPARTMENT OF HIGHWAYS
BUREAU OF BRIDGES

SITE PLAN

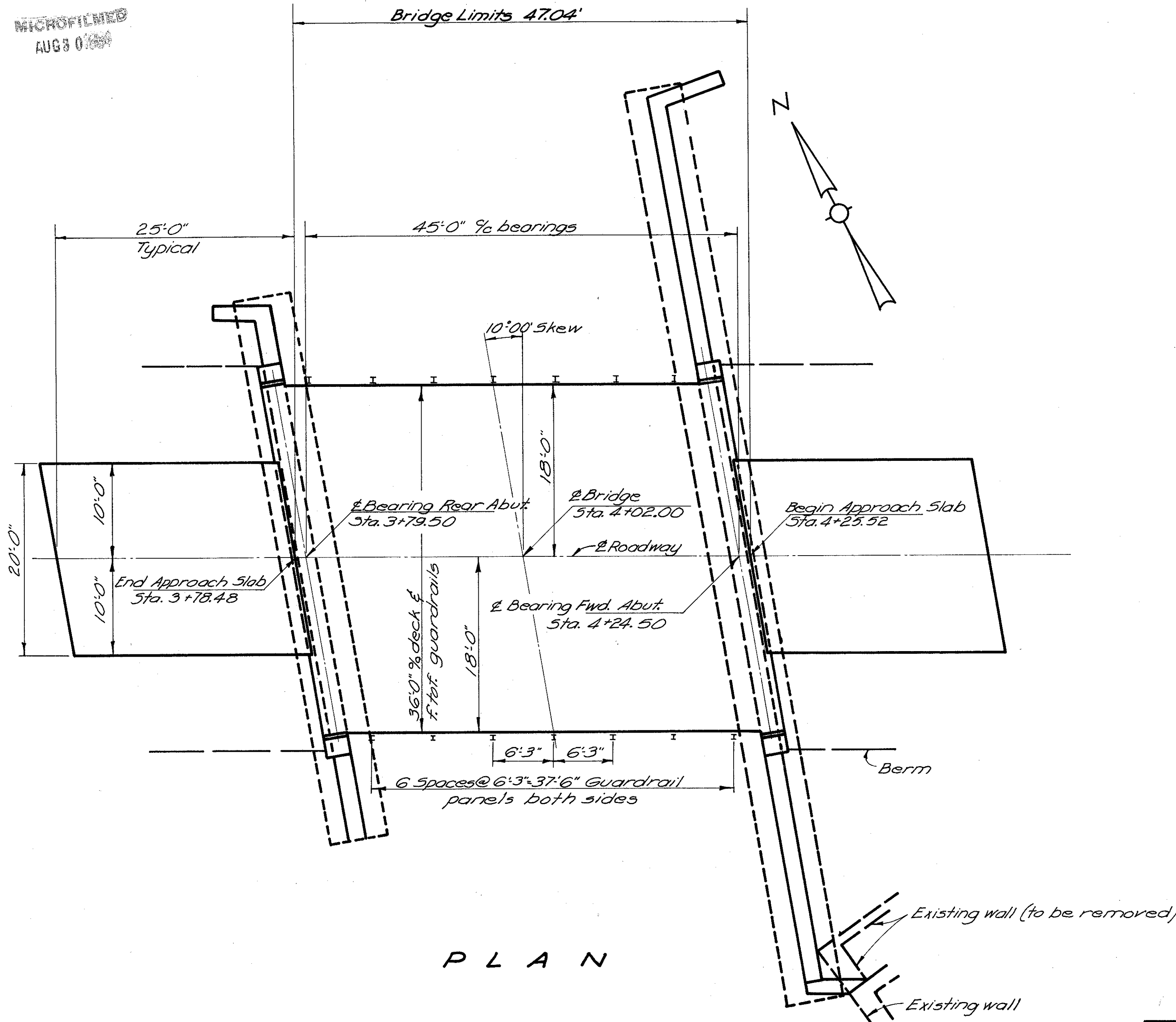
BRIDGE NO. MRW-288-0007
OVER FLAT RUN MORROW CO. SR-288

SEC. STA. 3+78.48
SCALE 1" = 20' STA. 4+25.52

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	Aerial Survey	R.E.J.	R.E.J.	D.H.S.	P.E.R.

BFG 5-G-63

MAR-305-29.41
MRW 305-(2.48)(406-6.02)



GENERAL NOTES

REFERENCE shall be made to Standard Drawing C5B-1-55 sheets 1&2 revised 2-2-59, and to Supplemental Specification 5-101 dated 7-12-62.

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 No. MRW-305-0468 shall be removed. Portions of the forward abutment shall be removed to the elevation and within the limits shown on the SITE PLAN. Remainder of the forward abutment and the rear abutment shall be removed according to Sec. 5-24.

FOOTINGS shall extend a minimum of 3" into undisturbed rock or to the elevation shown, whichever is lower.

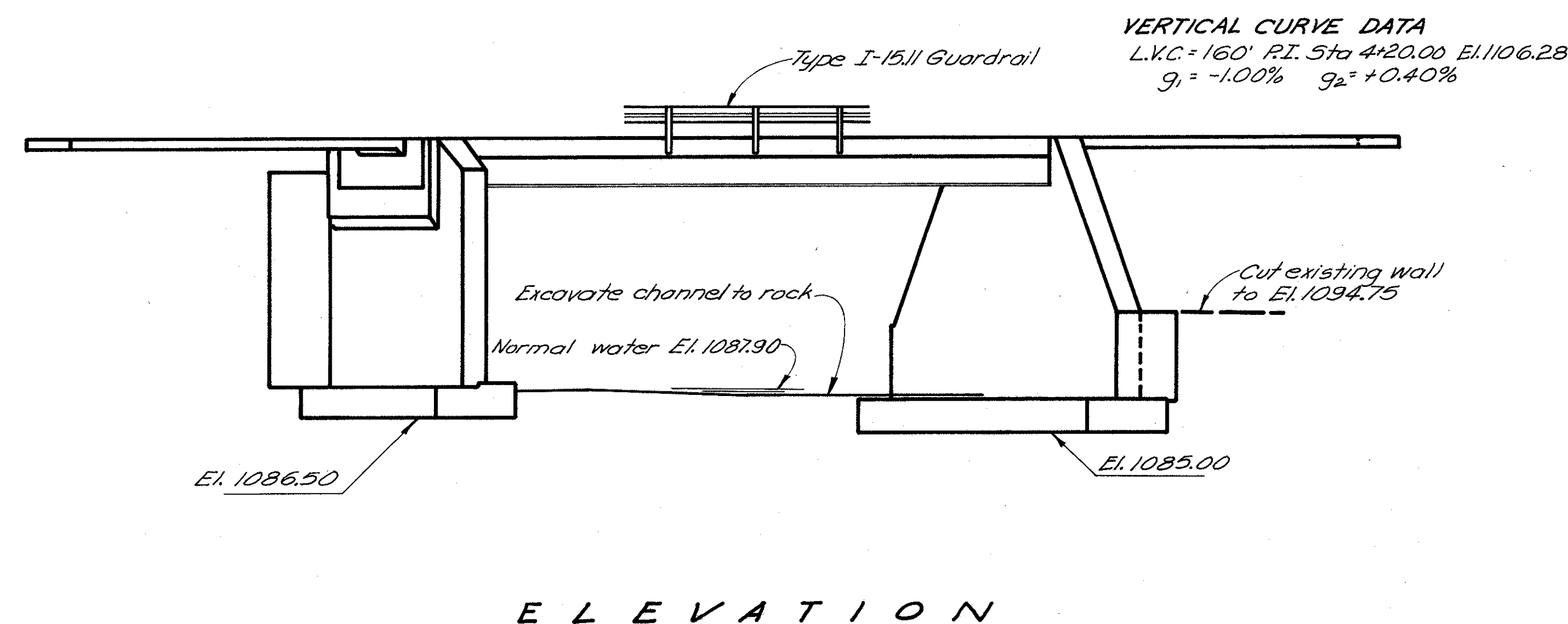
FOUNDATION BEARING PRESSURE: Abutment footings are designed for a maximum bearing pressure of 2.5 tons per sq. ft.

WELDING of structural steel shall be class "A"

Design Loading - CF = 130
Concrete Class "C" basic unit stress 1,333 p.s.i.
Concrete Class "E" basic unit stress 1,133 p.s.i.

Structural Steel ASTM A36 - basic unit stress 20,000 p.s.i. (ASTM A7 and A373 steel not permitted)

Reinforcing Steel ASTM A15, A16, A160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 p.s.i. Except, spiral reinforcement may be plain, structural grade with basic unit stress of 18,000 p.s.i.



ESTIMATED QUANTITIES

Item	Total	Unit	Description	Super.	Abutts	Genl.
E-2	20	Cu. Yds.	Unclassified excavation		20	
E-2	150	Cu. Yds.	Rock excavation		150	
E-2	Lump	Sum	Cofferdams, cribs and sheeting			Lump
E-3	539	Cu. Yds.	Channel excavation			539
5-1	61	Cu. Yds.	Class "C" concrete, superstructure	61		
5-1	80	Cu. Yds.	Class "E" concrete, abutment footings		80	
5-1	156	Cu. Yds.	Class "E" concrete, abutments above footings		156	
5-3	106	Lin. Ft.	Waterproofing, premolded sealing strip		106	
5-4	30,417	Lbs.	Reinforcing steel	13,555	16,862	
5-7	29,700	Lbs.	Structural steel	29,700		
5-8	29,700	Lbs.	Field painting of structural steel	29,700		
5-9	63	Sq. Ft.	1/4" Preformed expansion joint filler		63	
5-9	80	Sq. Ft.	1" Preformed expansion joint filler		80	
5-14	94.08	Lin. Ft.	Railing type I-15.11 (with galvanized steel posts & bolts)	94.08		
5-24	Lump	Sum	Removal of existing structure			Lump
5-29	165	Cu. Yds.	Porous backfill		165	
5-101	61	Each	Water-reducing, set-retarding admixture	61		

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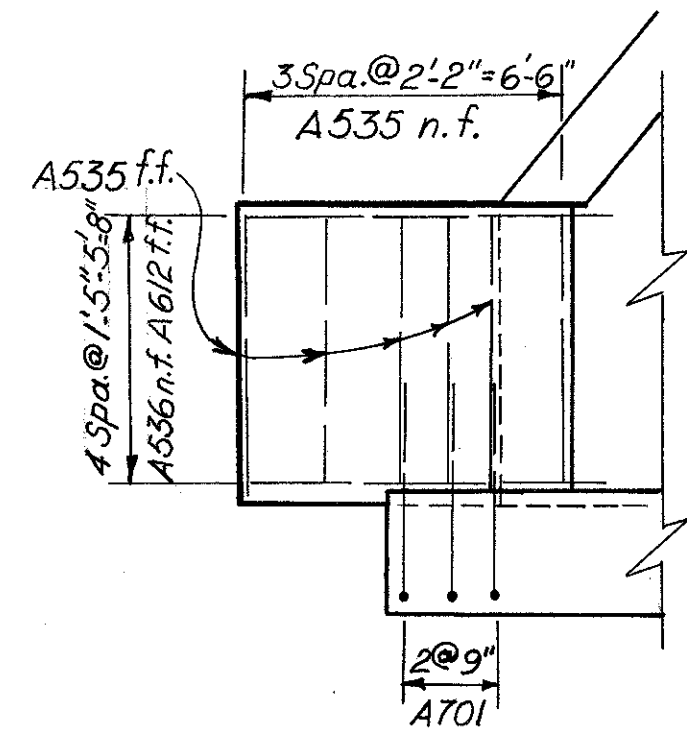
GENERAL PLAN & ELEVATION, NOTES, AND ESTIMATED QUANTITIES
BRIDGE No. MRW-288-0007
OVER FLAT RUN
MORROW COUNTY Sta. 3+78.48 to Sta. 4+25.52

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.D.R.	J.D.R.	CAM	MPB	BFG	5-6-63	

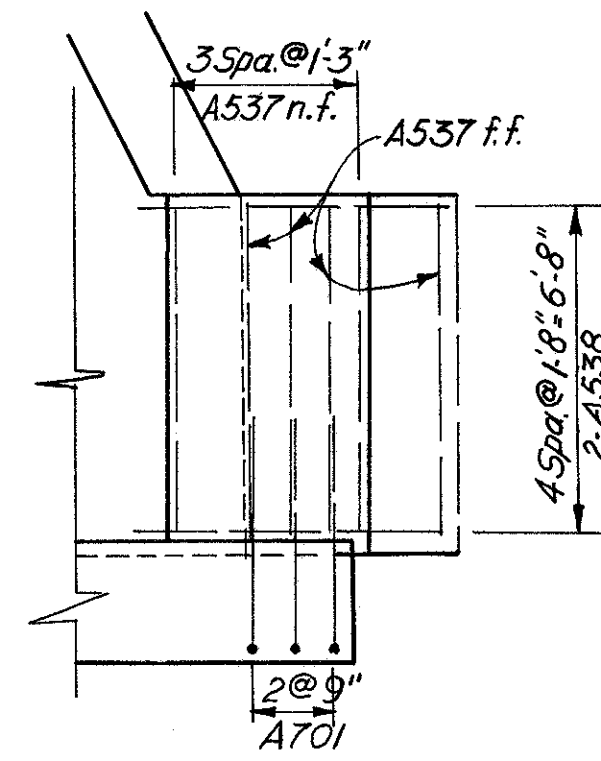
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FED. RD. DIVISION	STATE	PROJECT	208
2	OHIO		

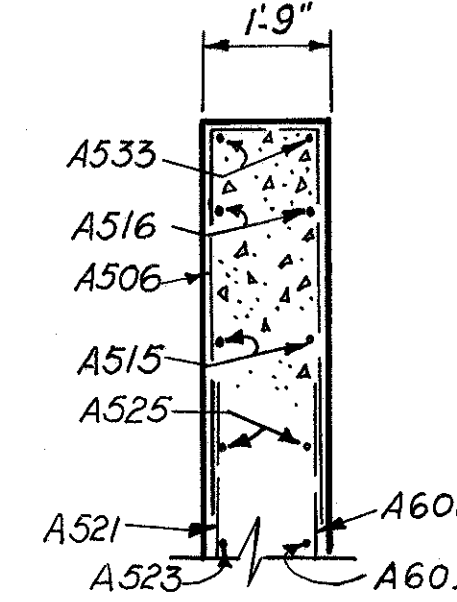
MAR-305-29.41
MRW 305-(2.48)(406-6.02)



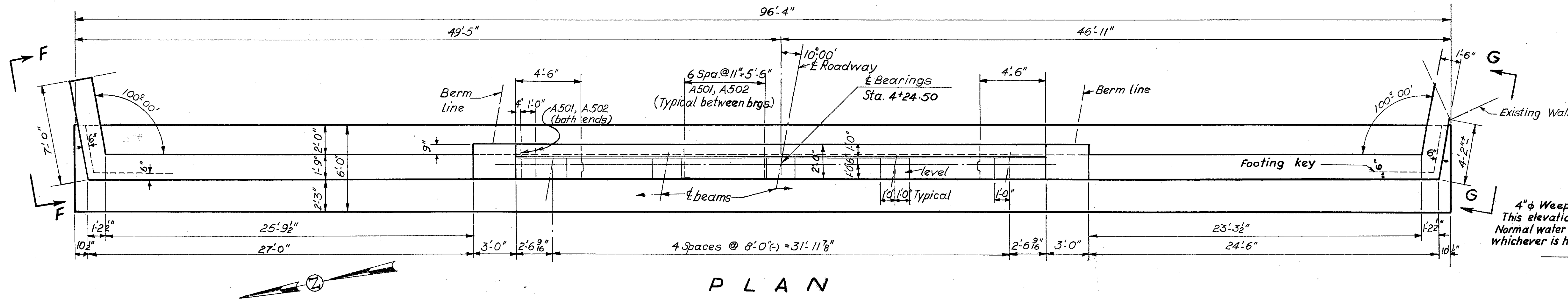
VIEW F-F



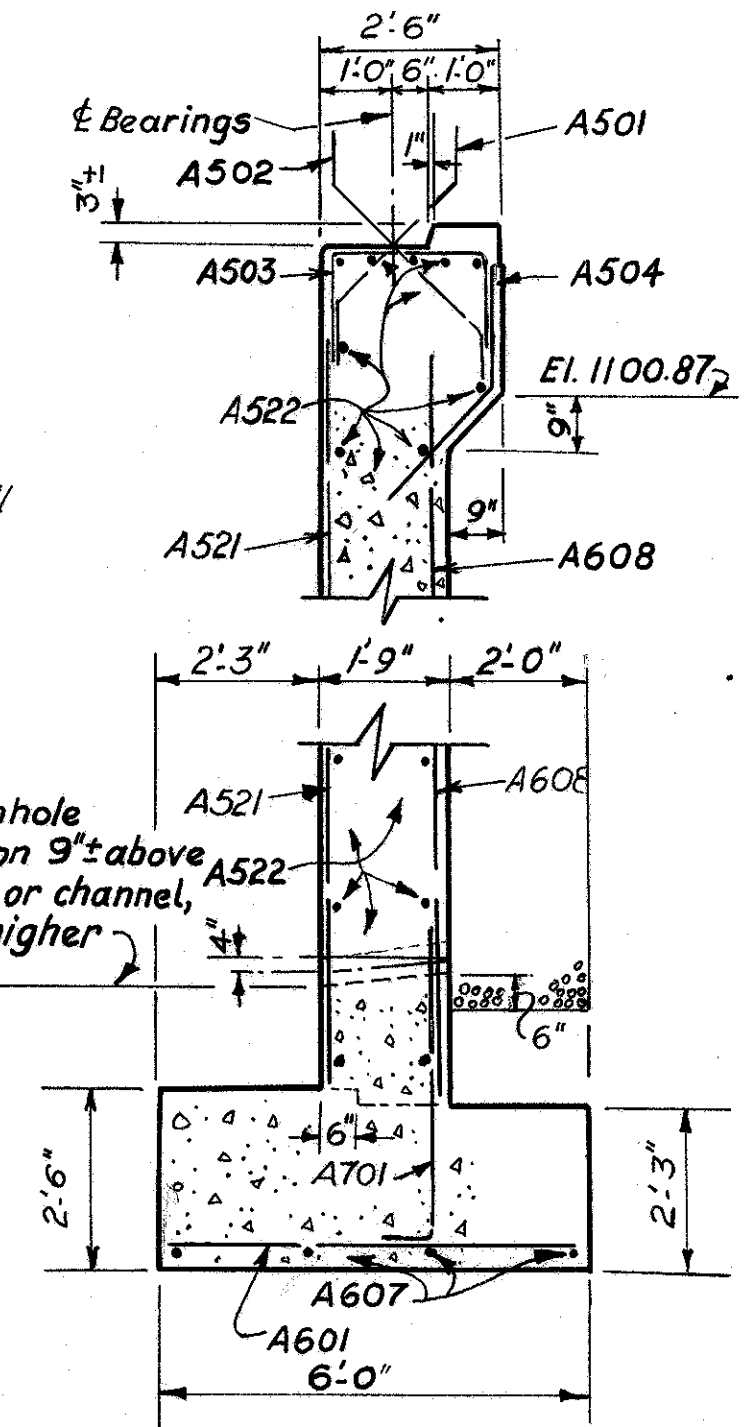
VIEW G-G



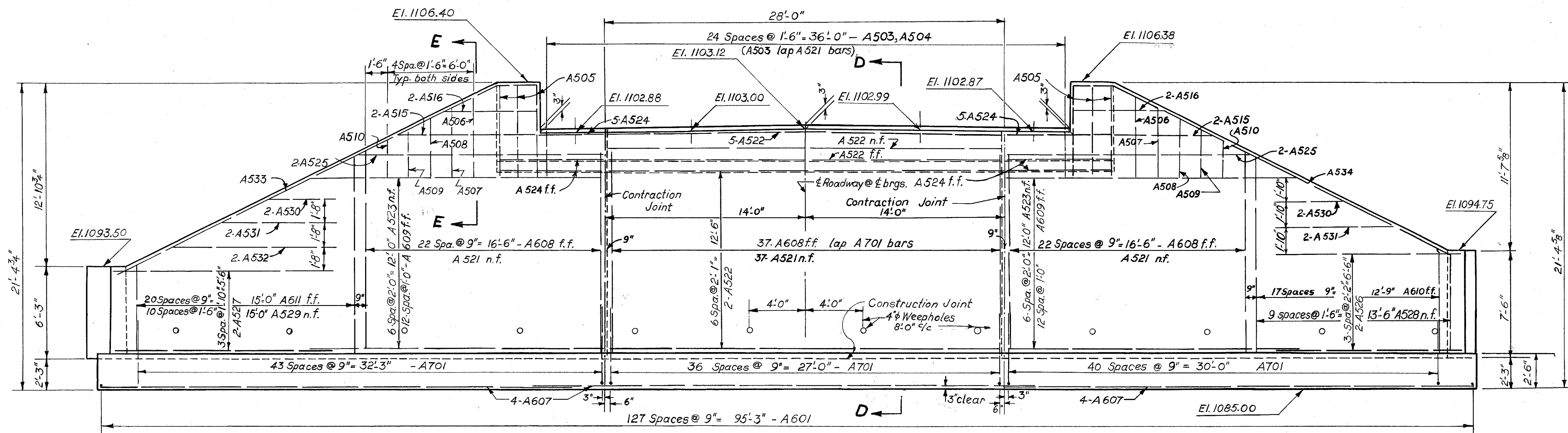
SECTION E-E



PLAN



SECTION D-D



ELEVATION

POROUS BACKFILL 2 feet thick, full length of the abutment and wings, shall extend up to the underside of the approach slab or to the finished ground surface.

DO NOT BACKFILL higher than Elevation 1095.0 before placing the superstructure concrete.

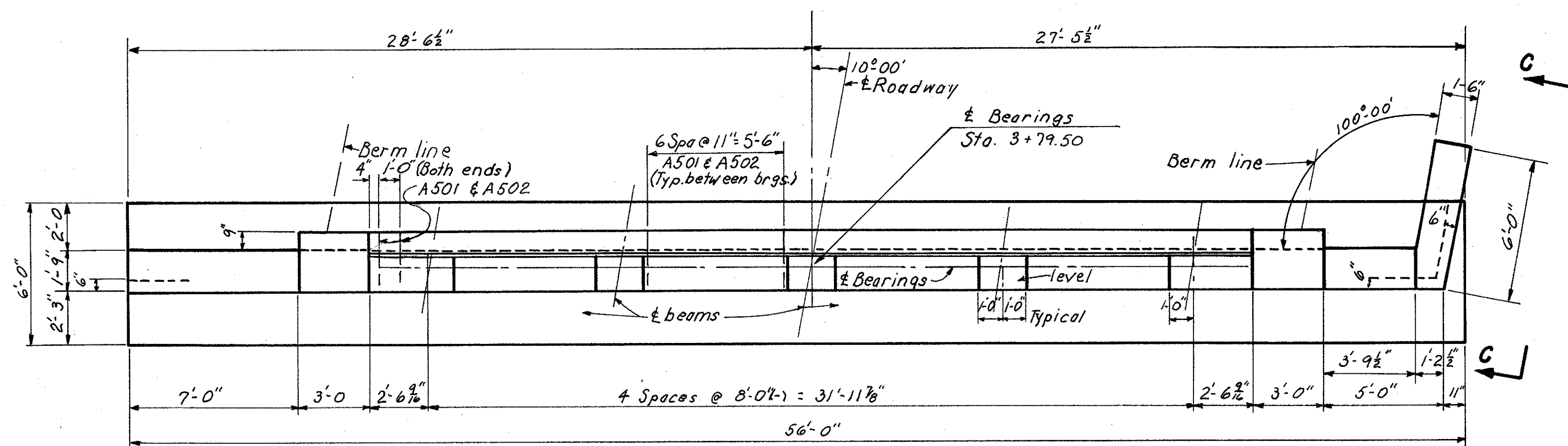
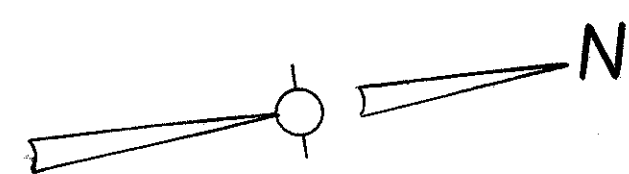
See Sheet No. 209 for additional details.

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES						
FORWARD ABUTMENT						
BRIDGE NO. MRW-288-000Z						
OVER FLAT RUN						
MORROW COUNTY						
Sta. 3+78.48 to						
4+25.52						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.D.R.	J.D.R.	H.A.M.	MPB	BFG	5-6-63	

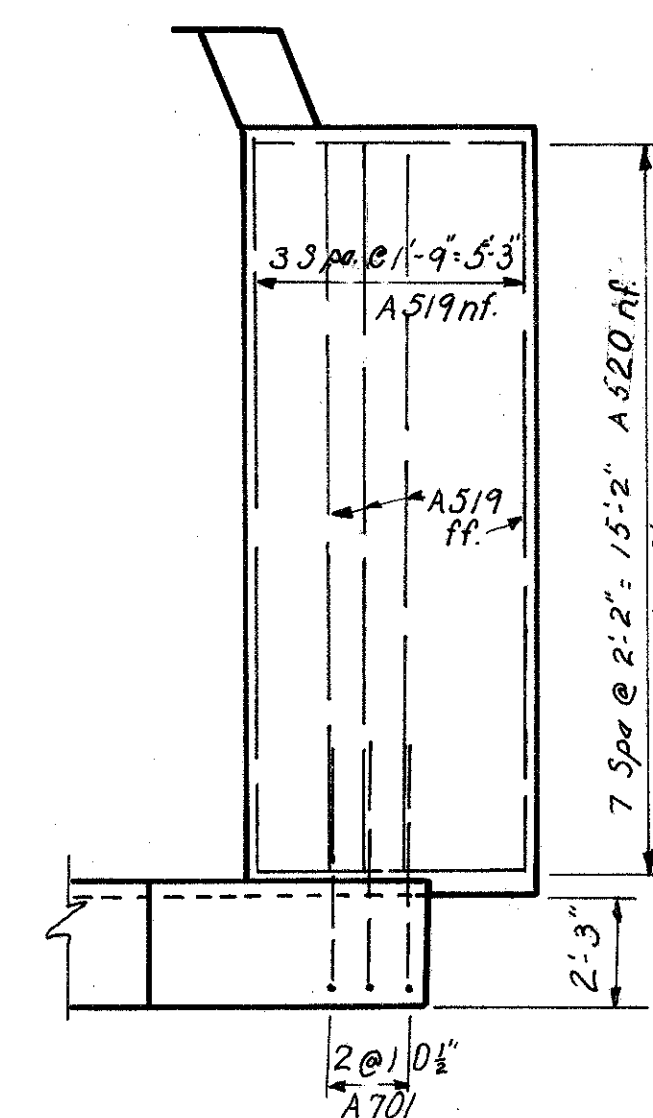
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FED. RD. DIVISION	STATE	PROJECT	209
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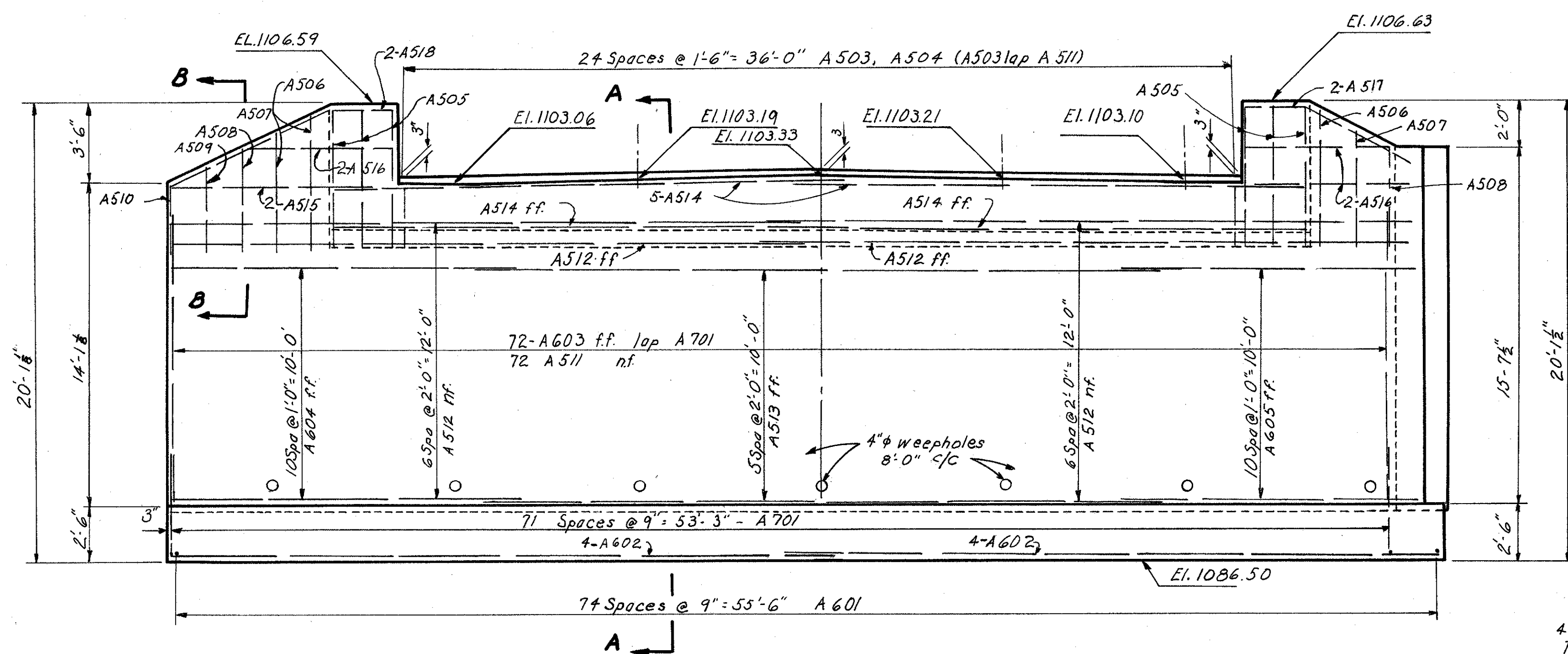
MAR-305-29.41
MRW-305-(2.48)(406-6.02)



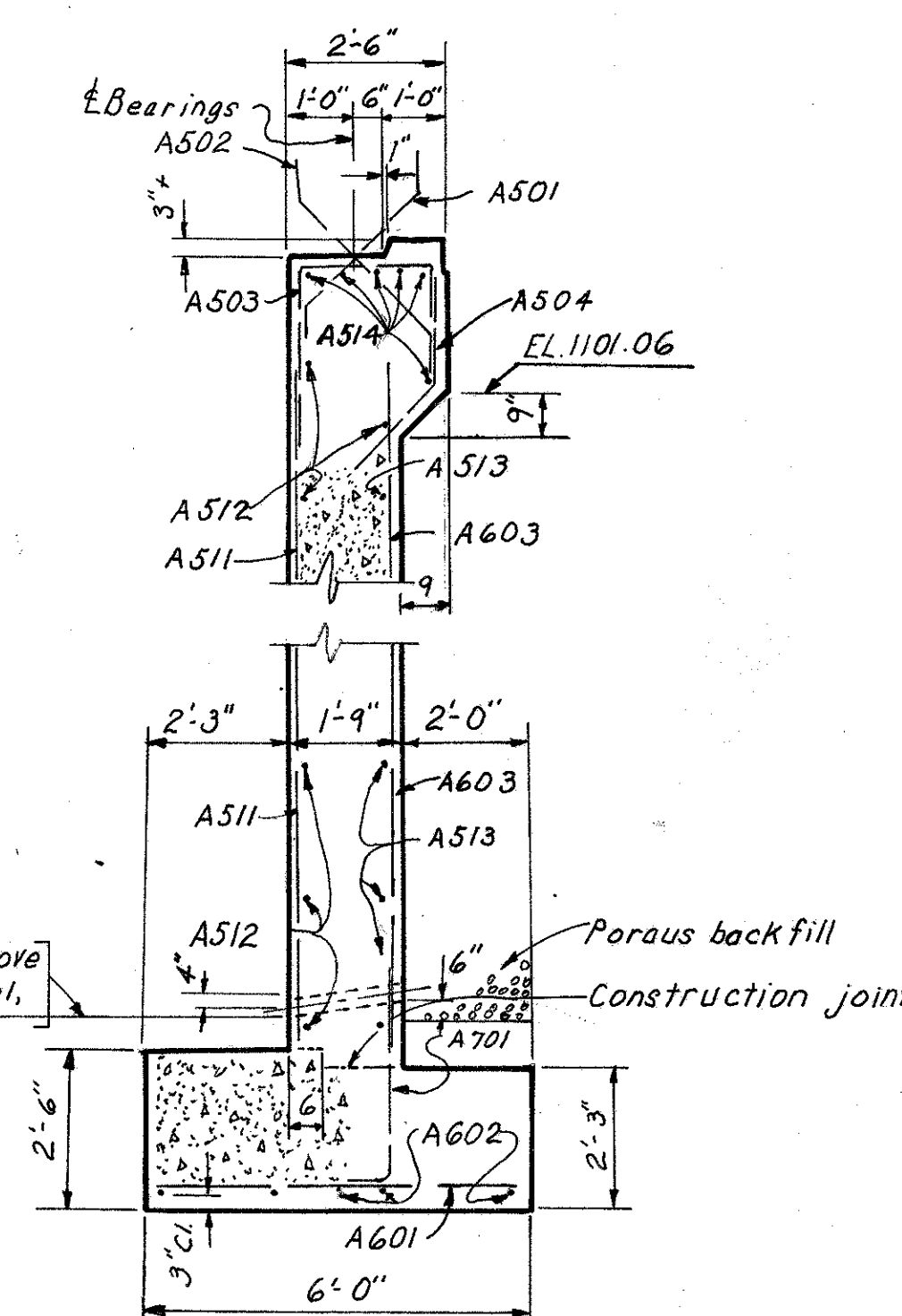
PLAN



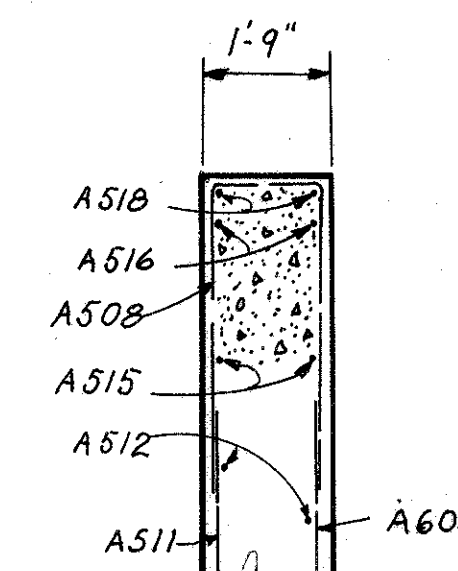
VIEW C-C



ELEVATION



SECTION A-A



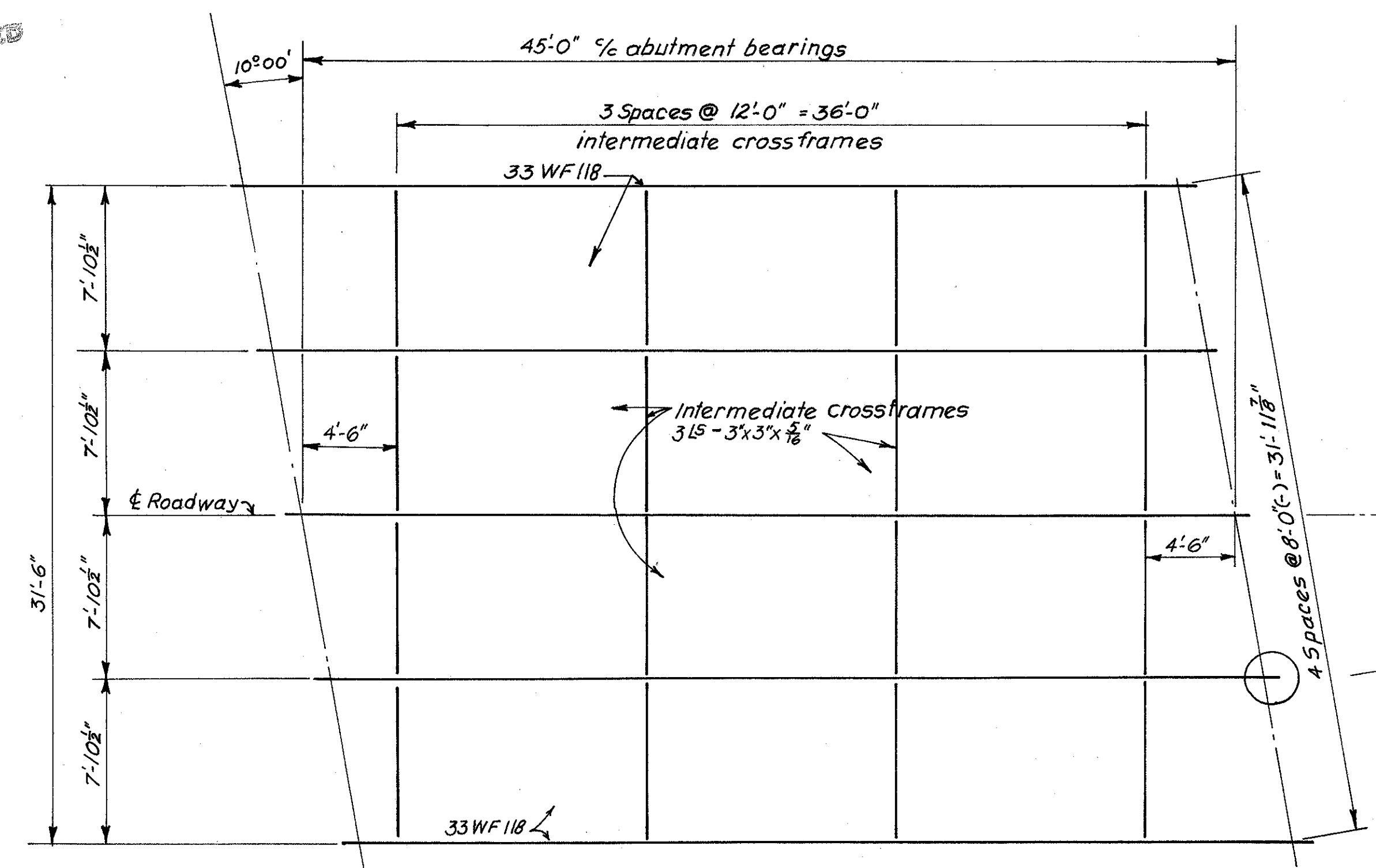
SECTION B-B

POROUS BACKFILL 2 feet thick, full length of the abutment and wing, shall extend up to the under side of the approach slab or to the finished ground surface.

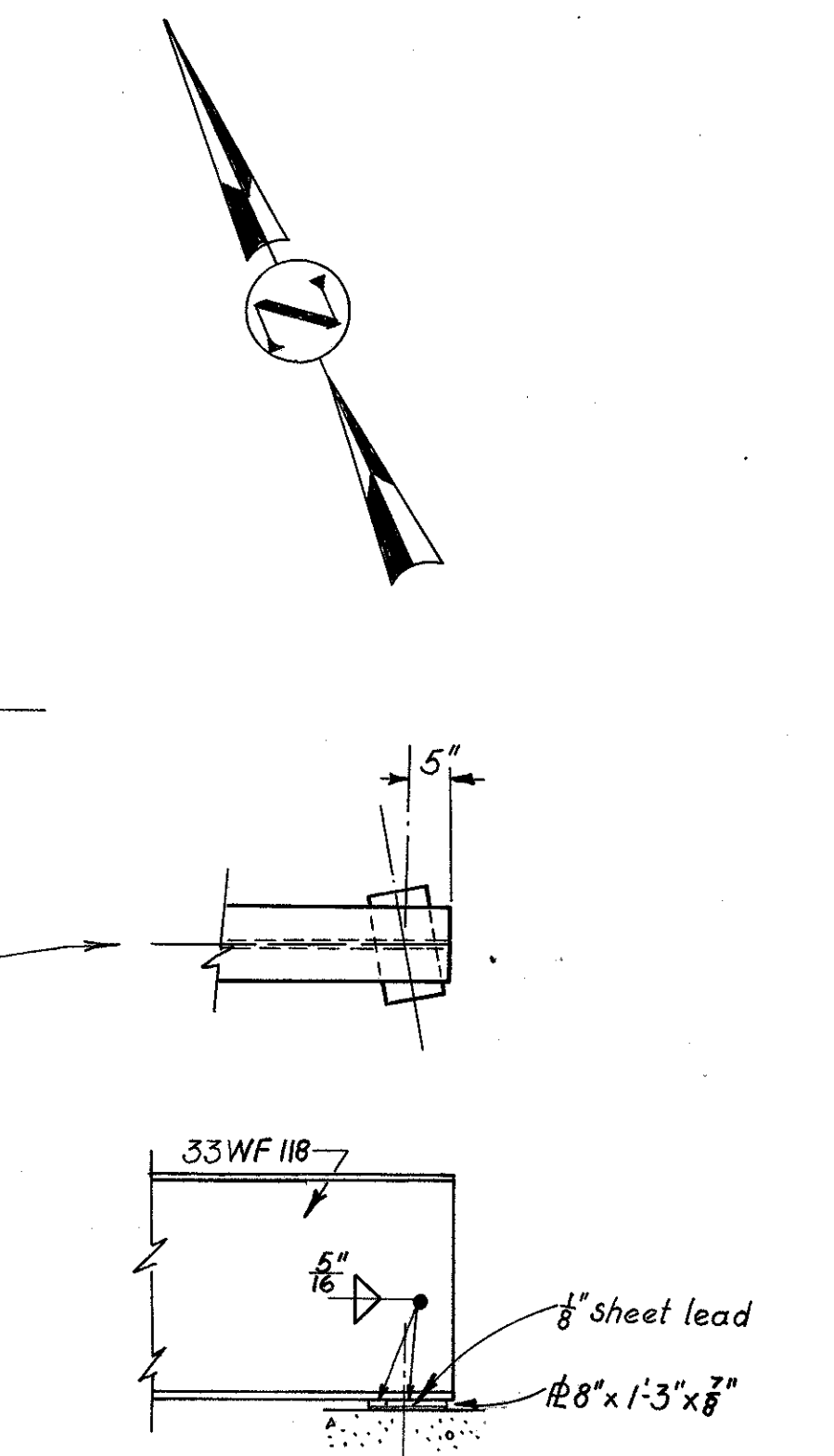
DO NOT BACKFILL higher than Elev. 1095.0 before placing the superstructure concrete.

THE WING AND SOUTH END OF THE REAR ABUTMENT shall butt into the existing rock.

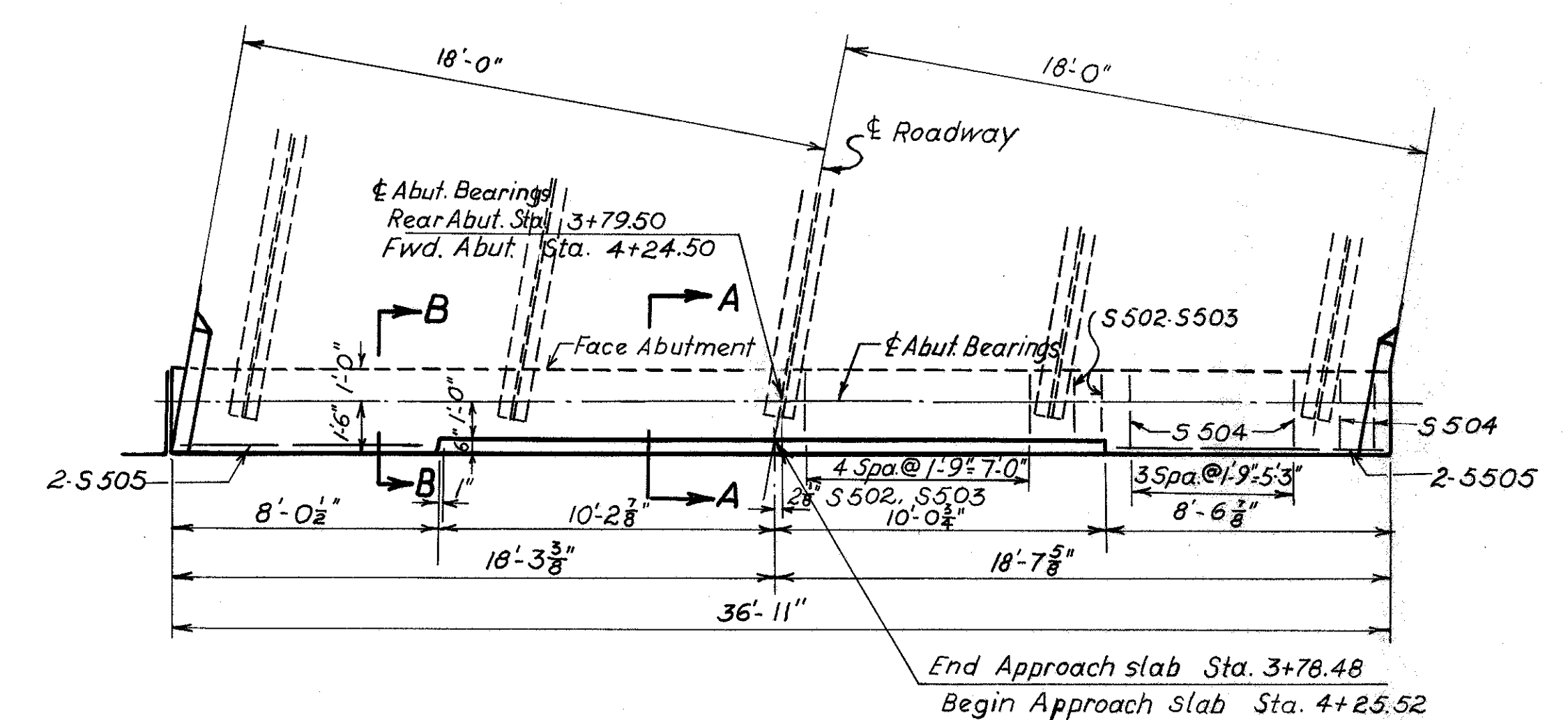
STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES						
REAR ABUTMENT						
BRIDGE NO. MRW-288-0007 OVER FLAT RUN						
MORROW COUNTY Sta. 3+78.48 to +25.52						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.D.R.	J.D.R.	G.F.S.	M.P.B.	B.F.G.	5-6-63	



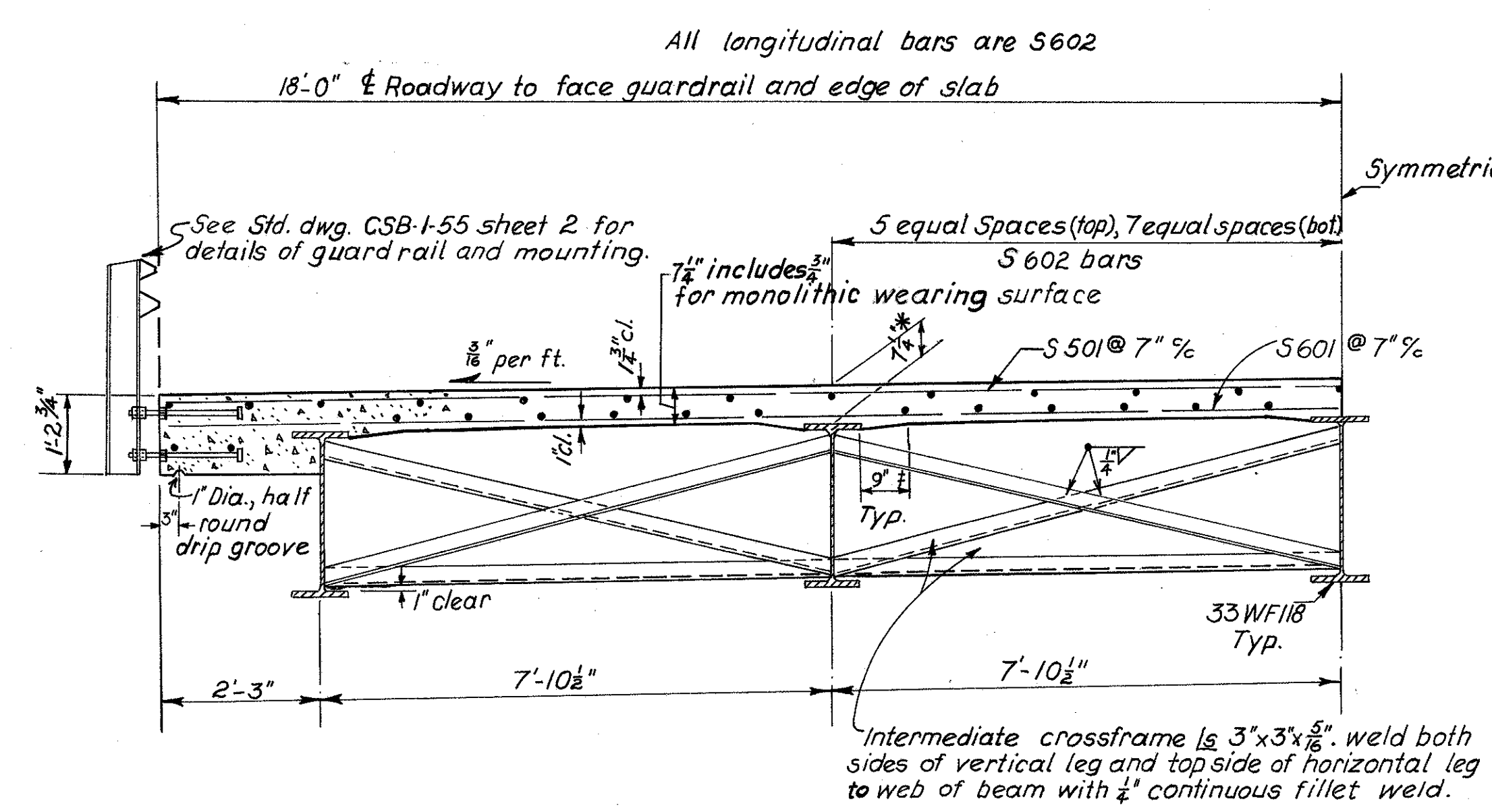
STEEL PLAN



BEARING PLATE DETAIL



DECK PLAN AT ABUTMENTS
S 502, S 503, and S 504 bars symmetrical about ϕ Roadway;
S 801 bars not shown.



TRANSVERSE HALF SECTION

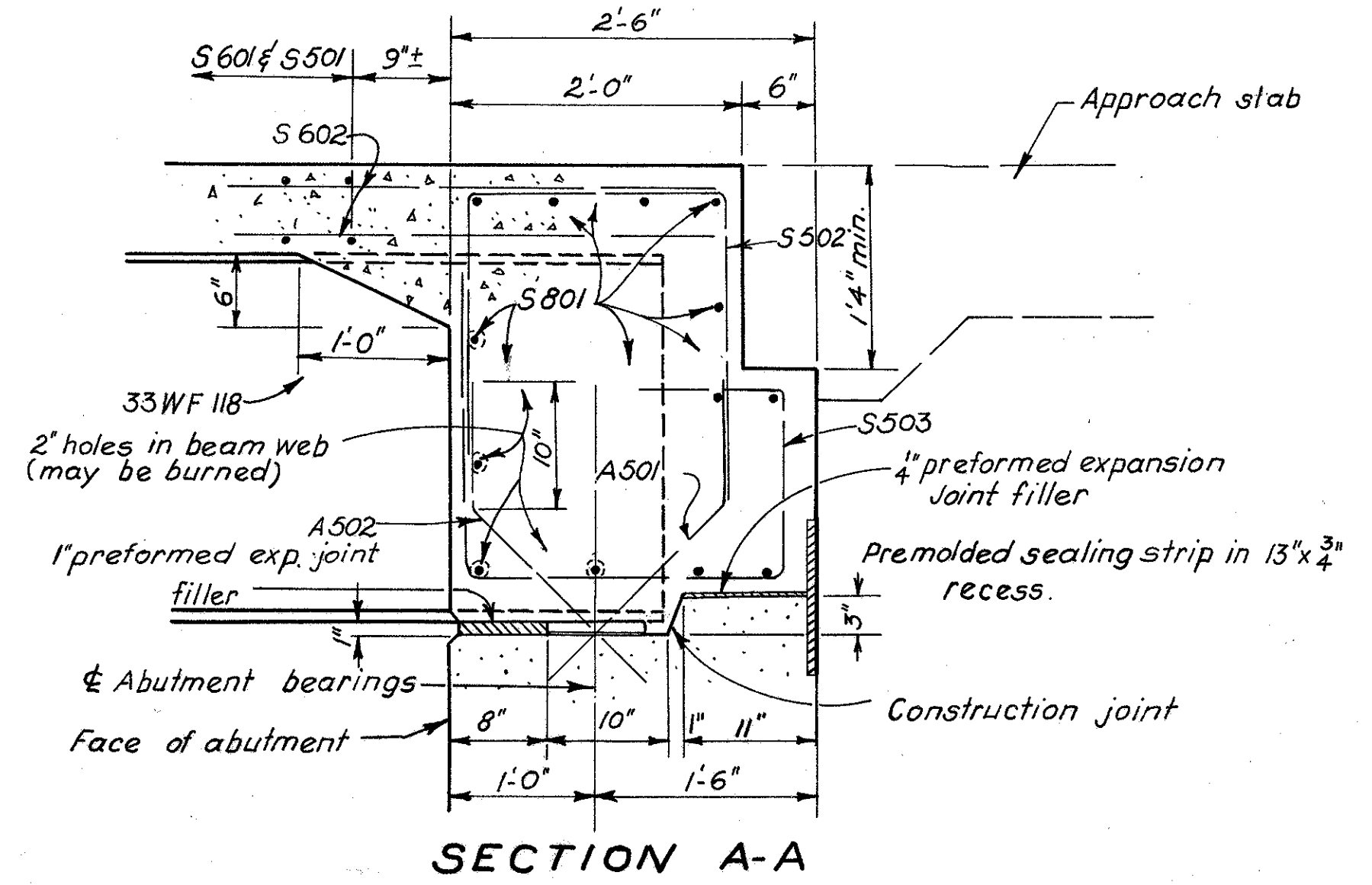
* This is a nominal dimension. The quantity of deck concrete to be paid for shall be based on this dimension even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.

† 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 between the limits of 6" and 12" except that the maximum slope shall not exceed 3" per foot. Payment for the deck slab concrete shall be based on the 9" width.

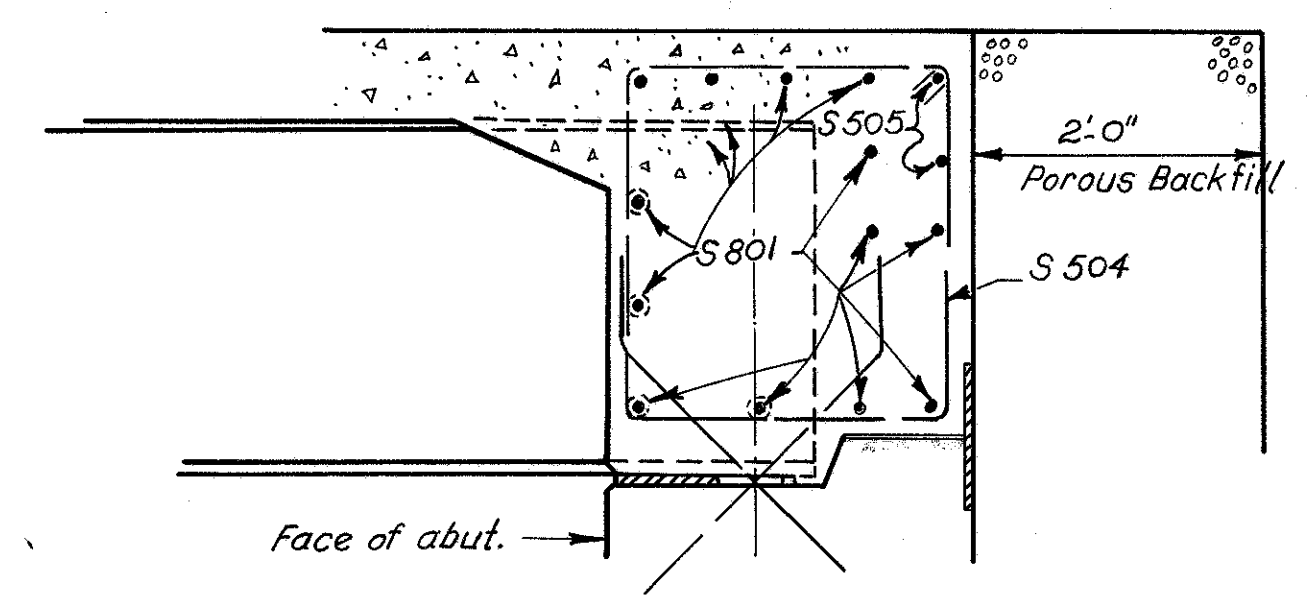
TRANSVERSE REINFORCING STEEL shall be placed parallel to substructure elements.

No Camber is required

DEFLECTION and CONVEXITY	
Deflection due to wt. steel	+ 1/16"
Deflection due to remaining dead load	+ 7/16"
Convexity due to V. C.	- 1/8"
Sum of Deflection and Convexity	+ 1/8"



SECTION A-A



SECTION B-B
For details not shown see Sec. A-A.

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

SUPERSTRUCTURE DETAILS
BRIDGE No MRW-288-0007
OVER FLAT RUN

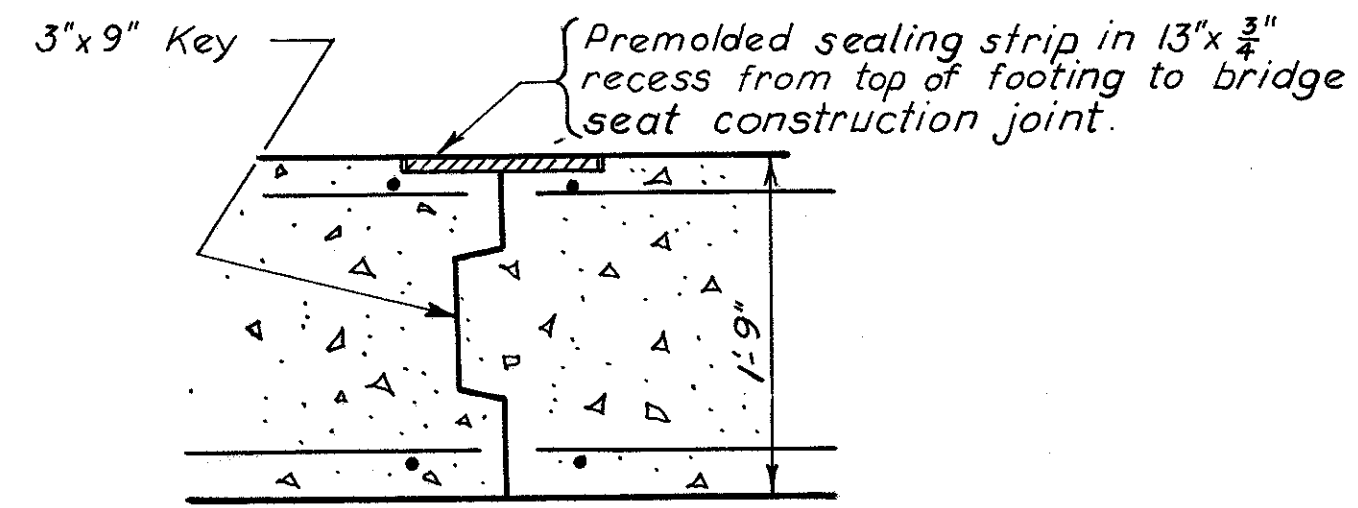
MORROW COUNTY Sta. 3+76.48
to 4+25.52

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.D.R.	J.D.R.	H.A.M.	MPB	BFG	5-6-63	

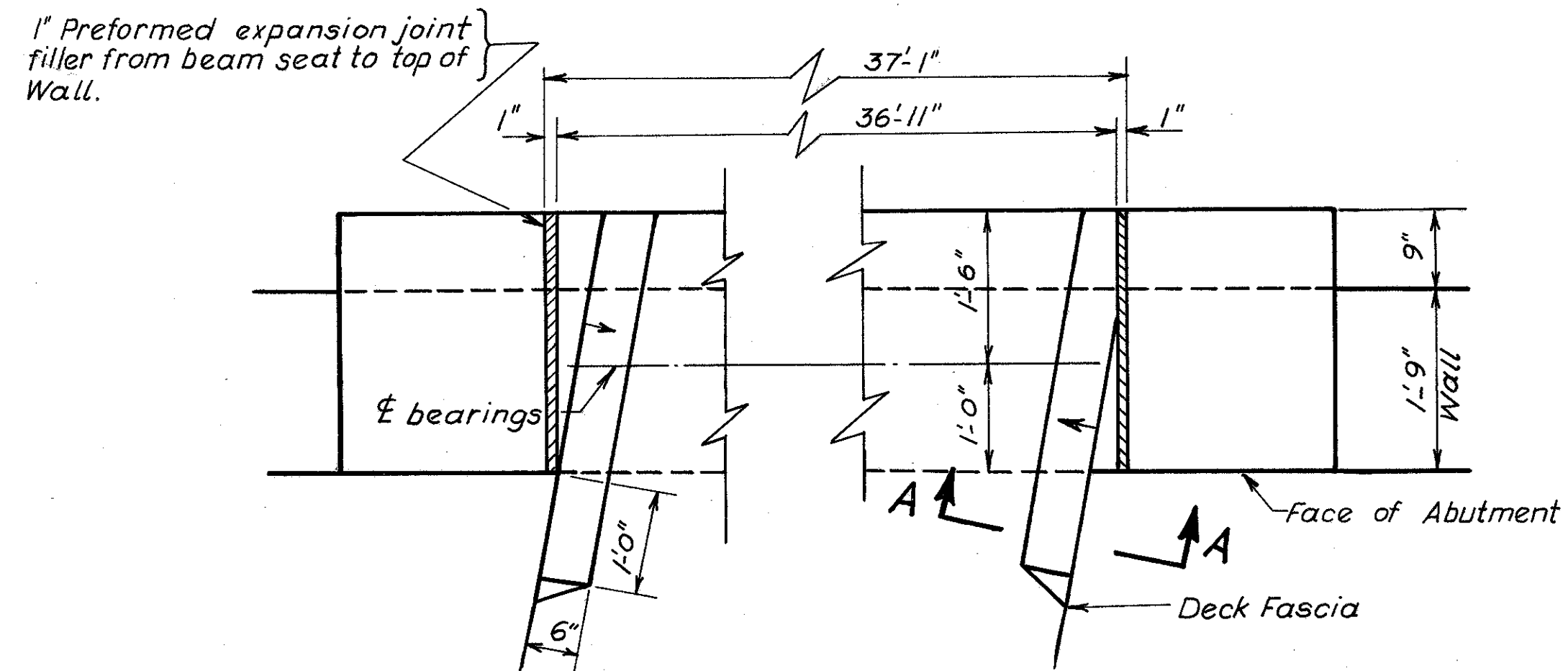
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FED. RD. DIVISION	STATE	PROJECT	211
2	OHIO		

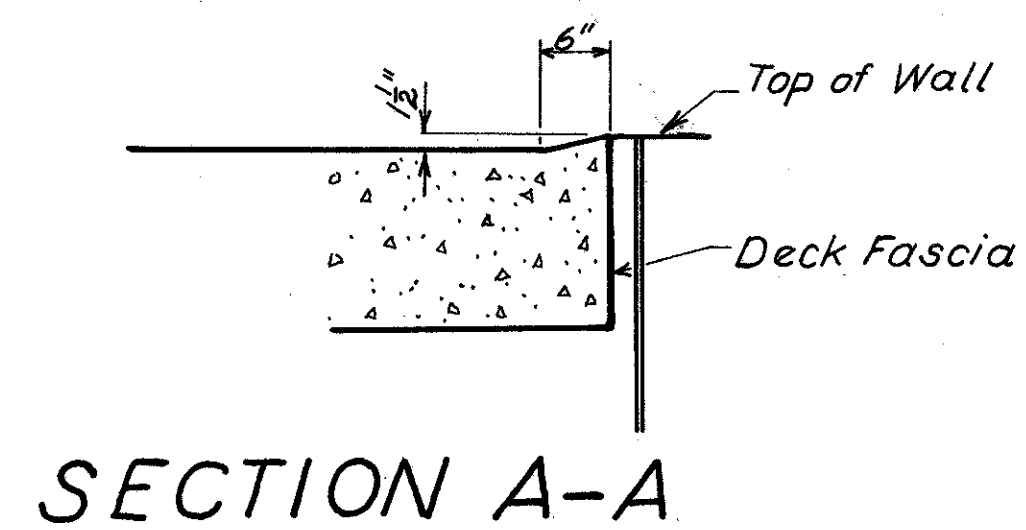
MAR-305-29.41
MRW-305-(2.48)(406-6.02)



CONTRACTION JOINT DETAIL



PLAN AT DECK CORNERS



SECTION A-A

REINFORCING STEEL LIST

Mark	No.	Length	Weight	Shp.	Bending Diagrams					Mark	No.	Length	Weight	Shp.					
Superstructure										Abutments (Cont'd)									
S 801	26	36'-5"	2528	S						A 511	72	12'-9"	957	S					
S 601	72	36'-2"	3911	S						A 512	16	28'-3"	471	S					
S 602	53	46'-8"	3715	S						A 513	6	30'-0"	188	S					
S 501	72	36'-2"	2716	S						A 514	12	22'-1"	276	S					
S 502	28	5'-11"	173	B						A 515	6	8'-10"	55	S					
S 503	28	6'-5"	187	B						A 516	10	6'-6"	68	S					
S 504	24	10'-5"	261	B						A 517	2	7'-7"	16	B					
S 505	8	7'-8"	64	S						A 518	2	10'-3"	21	B					
Replacement Bars															A 519	8	15'-3"	127	S
RE 801	1	6'-6"	-	S											A 520	8	7'-6"	63	B
RE 701	1	6'-2"	-	S						A 521	83	14'-0"	1212	S					
RE 601	1	5'-11"	-	S						A 522	21	27'-8"	606	S					
RE 501	1	5'-7"	-	S						A 523	14	20'-6"	299	S					
Abutments										A 524	14	7'-2"	105	S					
A 701	203	5'-1"	2109	B						A 525	4	17'-2"	72	S					
A 601	203	5'-8"	1728	S						A 526	8	13'-0"	108	S					
A 602	8	28'-9"	345	S						A 527	8	15'-4"	128	S					
A 603	72	13'-0"	1406	S						A 528	One each of 10	6'-9" to 13'-6"	106	S					
A 604	11	15'-6"	256	S						A 529	One each of 11	6'-1" to 13'-7"	113	S					
A 605	11	12'-0"	198	S						A 530	4	5'-0"	21	S					
A 606	15	6'-4"	143	B						A 531	4	8'-3"	34	S					
A 607	12	33'-4"	601	S						A 532	2	11'-4"	24	S					
A 608	83	14'-3"	1776	S						A 533	2	32'-1"	67	B					
A 609	26	20'-6"	801	S						A 534	2	29'-1"	61	B					
A 610	One each of 18	7'-5" to 13'-10"	287	S	Vary each by 4 1/2" (±)					A 535	9	5'-10"	55	S					
A 611	One each of 21	6'-4" to 13'-10"	318	S	Vary each by 4 1/2" (±)					A 536	5	8'-6"	44	B					
A 612	5	7'-4"	55	B						A 537	8	7'-1"	59	S					
A 501	64	3'-6"	234	B						A 538	10	5'-8"	59	B					
A 502	64	4'-3"	284	B															
A 503	50	5'-11"	309	B															
A 504	50	4'-2"	217	B															
A 505	12	15'-5"	193	B															
A 506	4	12'-8"	53	B															
A 507	4	11'-2"	47	B															
A 508	4	9'-8"	40	B															
A 509	3	8'-2"	26	B															
A 510	3	6'-8"	21	B															

Note: BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and the first two digits where four are used, indicate the bar size number. For example, A 700 is a No. 7 size bar and A 1014 is a No. 10 size.

STATE OF OHIO DEPARTMENT OF HIGHWAYS DIVISION OF DESIGN AND CONSTRUCTION BUREAU OF BRIDGES						
ABUTMENT DETAILS AND REINFORCING STEEL LIST						
BRIDGE N ^o MRW-288-0007						
OVER FLAT RUN						
MORROW COUNTY Sta. 3+78.48 to 4+25.52						
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
J.D.R.	J.D.R.	H.A.M.	M.P.B.	B.F.G.	5-6-63	