

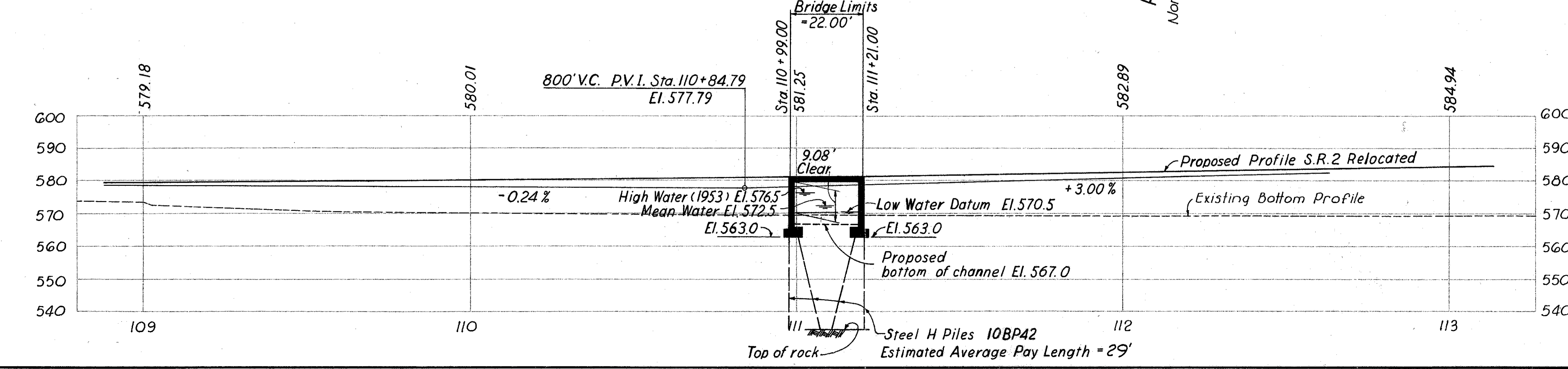
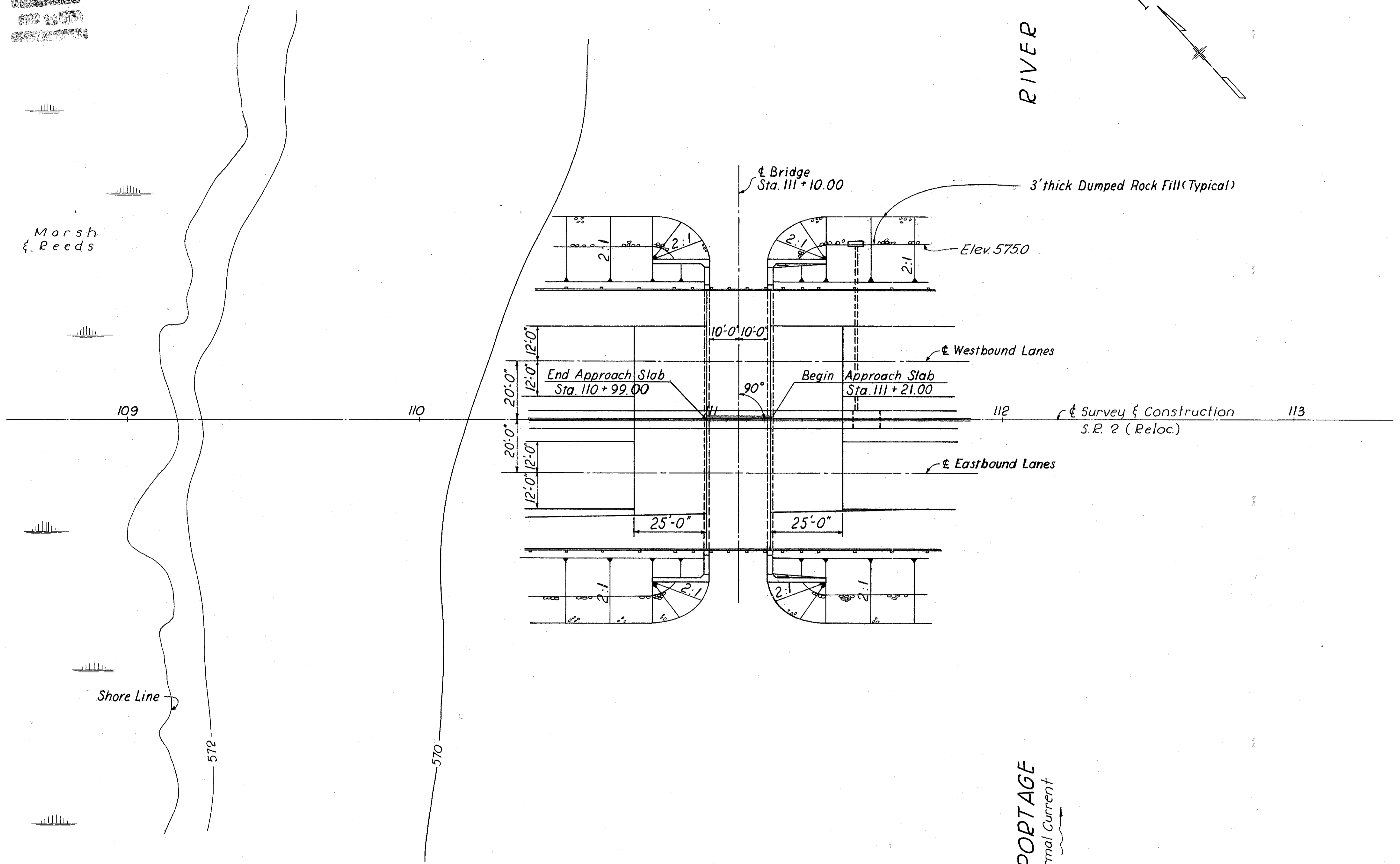
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REVISIONS
DATE 12/15/48
BY

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-1042 (10)	

102
133

OTT. 2-16.48
2.7 miles west of Port Clinton, Ohio



FOUNDATION SOUNDINGS
Foundation design and foundation quantities are based on a study of rod soundings and soil-sampling soundings made at the site. This sounding information, 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.

BENCH MARKS
BM #9 Nail in South root of 30" basswood tree. 15' Left of Sta. 99+40. Elev. 575.43.
BM #10 Nail in South side of 6" thorn tree. 3' Right of Sta. 106+72. Elev. 574.92.

PROPOSED STRUCTURE
Type: Reinforced Concrete Slab
Reinforced Concrete Abutments
Spans: 20'-0" Clear
Roadway: 88'-0" Slab, also 1/2 Guardrails including 6' Concrete Median
Load Frequency: CF400 (57)
Skew: 0°
Wearing Surface: 1" Monolithic Concrete
Approach Slabs: AS-1-54 (25'-0" Long).
Alignment: Tangent

Waterway opening below low water datum = 70 Square feet

SANZENBACHER, MILLER & BRIGHAM
CONSULTING ENGINEERS
TOLEDO OHIO

SITE PLAN
BRIDGE No. OTT. 2-1820
OVER PORTAGE RIVER
OTTAWA COUNTY STA. 110+99.00 to
SCALE: 1" = 20' STA. 111+21.00

PRESENT TOPOGRAPHY		PROPOSED WORK		
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED
S-M-B	T.W.D.	JHY	JHY, OMB	BJH
				REVIEWED
				FCM 2-1820

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FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-1042(10)	

OTT.2-16.48

GENERAL NOTES

REFERENCE shall be made to Standard Drawing AS-1-54 "Reinforced Concrete Approach Slabs", revised 7-5-62, and to Supplemental Spec. S-101, dated 7-12-62.

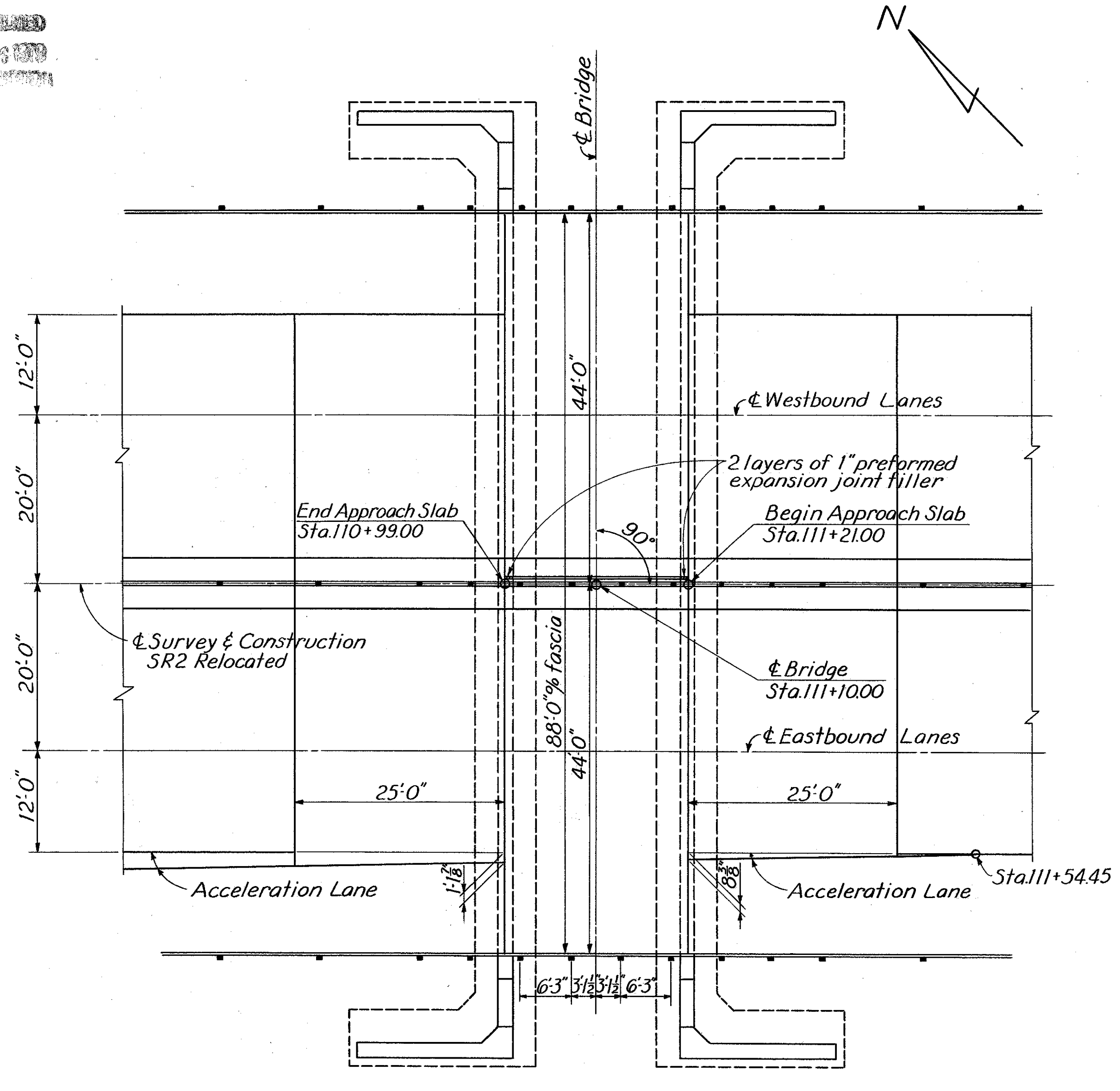
DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57 together with current revisions thereof.

PILES shall be driven with a hammer of not less than 11000 ft.lbs. per blow to firm contact with rock. If the length of penetration is approximately equal to the depth to rock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in Sec.S-1805 is not less than the following value for a pile hammer of the indicated energy rating:
35 tons per pile using an 11000 ft.lb. hammer
35 tons per pile using a 15000 ft.lb. or greater hammer

The design load is 35 tons per pile.

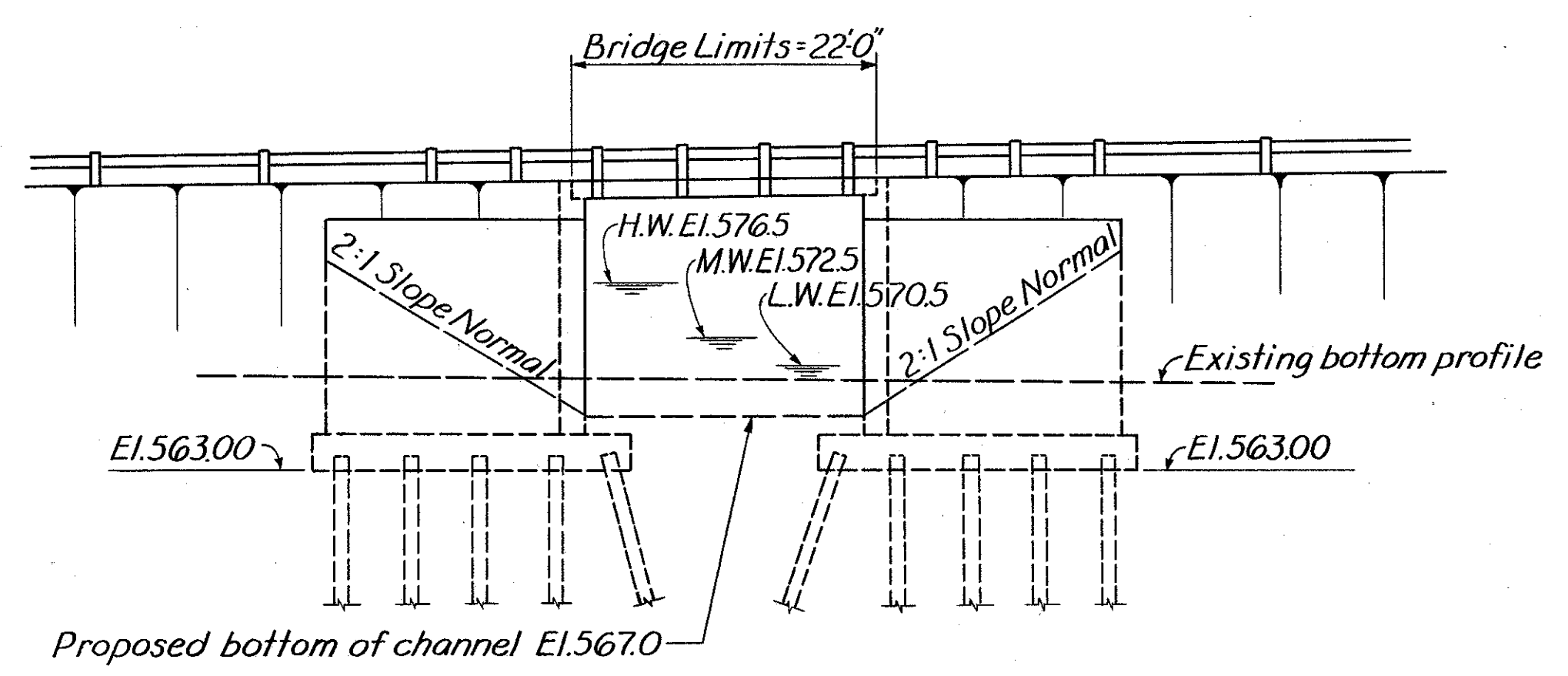
MACHINE FINISH: At the Contractor's option, the concrete deck may be finished by the use of a finishing machine.

BAR SIZE is indicated in the bar mark. The first digit where three digits are used, and first two digits where four are used, indicate the bar size number. For example, a R501 is a No.5 size bar, and a S1101 is a No.11 size.



GENERAL PLAN

REINFORCING STEEL BRIDGE No.OTT.2-1820					Bending Diagrams	
Mark	Number	Length	Weight	Shape		
ABUTMENTS						
R901	36	8'-9"	1071	B	R901	
R801	152	8'-6"	3450	B	6'-9" %	
R802	148	6'-6"	2569	B		
R803	36	7'-6"	721	B		
R804	36	5'-6"	529	B		
R601	296	8'-3"	3668	B	std	
R602	58	13'-7"	1183	S	6'-5" %	
R603	58	14'-1"	1227	S	6'-11" %	
R604	8	15'-8"	188	S	21'-8" %	
R605	12	15'-4"	276	S		
R606	4	14'-0"	84	S		
R607	4	14'-6"	87	S		
R608	4	13'-3"	80	S		
R609	4	13'-9"	83	S		
R610	8	12'-6"	150	S	std	
R611	48	13'-0"	937	S	7'-7"	
R612	58	13'-11"	1212	S	5'-7"	
R613	58	14'-5"	1256	S	6'-7"	
R614	12	14'-10"	267	S	4'-7"	
R615	8	15'-2"	182	S		
R501	154	3'-6"	562	S	3'-2" %	
R502	80	29'-10"	2489	S	1'-4"	
R503	80	29'-7"	2468	S	std	
R504	8	23'-0"	192	S		
R505	68	7'-7"	538	B	1'-8" %	
R506	8	5'-8"	47	S	1'-4"	
R507	8	7'-6"	63	S	2"	
R508	80	18'-4"	1530	S		
R509	48	12'-6"	626	S		
R510	60	4'-9"	297	S		
R511	36	22'-1"	829	S		
R512	72	26'-2"	1965	S		
SUPERSTRUCTURE						
S801	208	23'-10"	13236	B		
S601	98	23'-2"	3410	S		
S602	98	22'-5"	3300	S		
S501	37	21'-8"	836	S		
S502	16	6'-1"	102	B		
S503	16	4'-7"	76	B		
REPLACEMENT BARS						
RE901	1	6'-10"	23	S		
RE801	2	6'-6"	35	S		
RE601	1	5'-11"	9	S		
RE501	1	5'-7"	6	S		



GENERAL ELEVATION

ESTIMATED QUANTITIES BRIDGE No.OTT.2-1820						
Item	Total	Unit	Description	Super.	Abuts.	General
E-2	Lump	Sum	Cofferdams, cribs and sheeting			Lump
E-2	650	Cu.Yds.	Unclassified excavation		650	
E-3	220	Cu.Yds.	Channel excavation			220
S-1	97	Cu.Yds.	Class "C" concrete, Superstructure	97		
S-1	461	Cu.Yds.	Class "E" concrete, Abutments		461	
S-3	95	Lin.ft.	Waterproofing, premolded sealing strip		95	
S-4	51859	Lbs.	Reinforcing steel	20960	30826	73
S-9	80	Sq.ft.	1" preformed expansion joint filler	8	72	
S-14	44	Lin.ft.	Railing (Type I-1511 with galvanized steel posts and bolts)	44		
S-14	22	Lin.ft.	Barrier Railing (Type I-1511, double faced with galvanized steel posts and bolts), as per plan	22		
S-101	97	Each	Water-reducing, set-retarding admixture	97		
S-16	Lump	Sum	First test pile			Lump
S-18	2780	Lin.ft.	Steel piles, 10BP42		2780	
S-29	112	Cu.Yds.	Porous backfill		112	

SANZENBACHER, MILLER & BRIGHAM
CONSULTING ENGINEERS
TOLEDO, OHIO

**GENERAL PLAN & ELEVATION
ESTIMATED QUANTITIES, REINFORCING STEEL & GENERAL NOTES
BRIDGE No.OTT.2-1820
OVER PORTAGE RIVER
OTTAWA COUNTY**

Sta. 110+99.00
To Sta. 111+21.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
OMB	OMB	JHY	BJH	FCM	2/19/63	

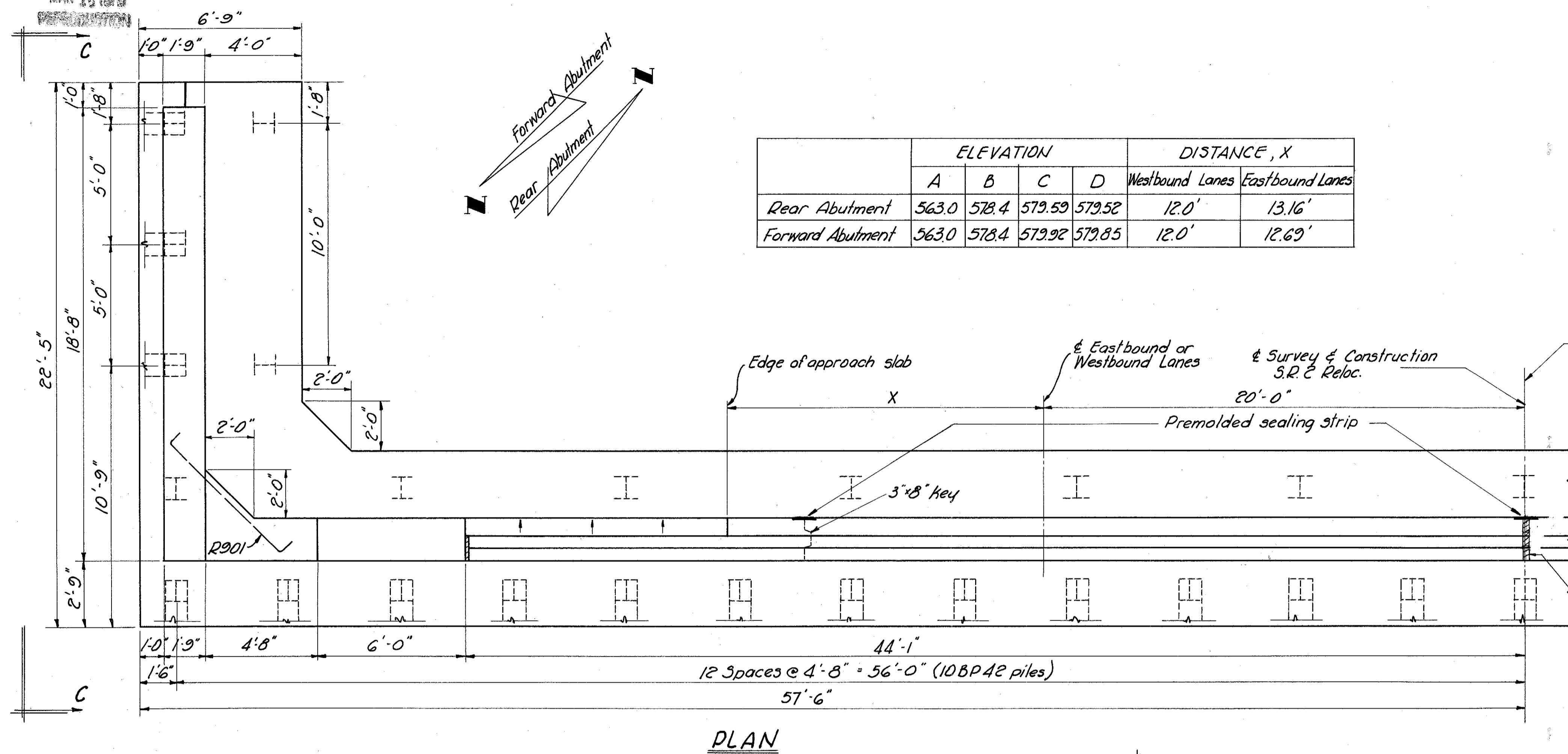
MODIFIED
MAR 15 1970
RESUBMISSION

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-1042(10)	

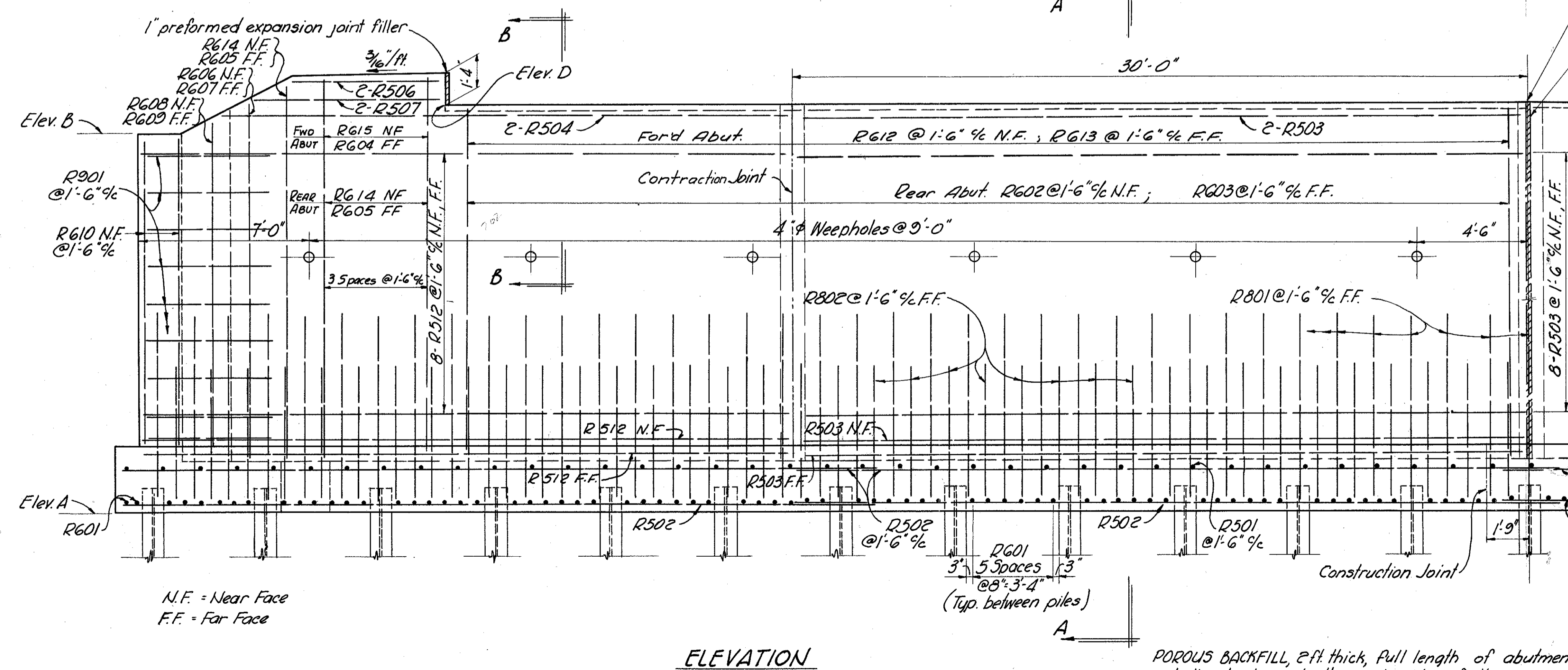
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OTT. 2-16.48

	ELEVATION				DISTANCE, X	
	A	B	C	D	Westbound Lanes	Eastbound Lanes
Rear Abutment	563.0	578.4	579.59	579.52	12.0'	13.16'
Forward Abutment	563.0	578.4	579.92	579.85	12.0'	12.69'

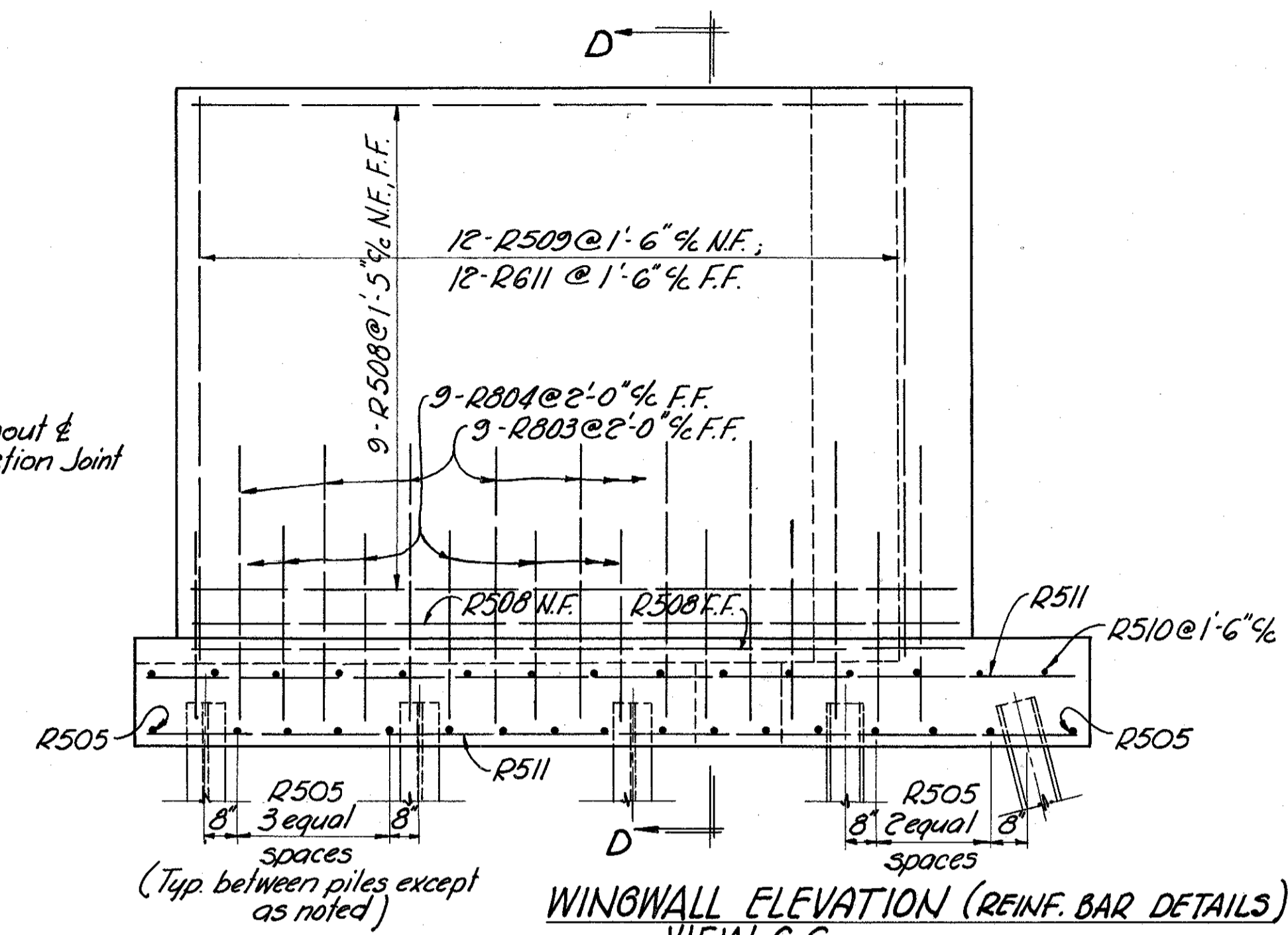


PLAN

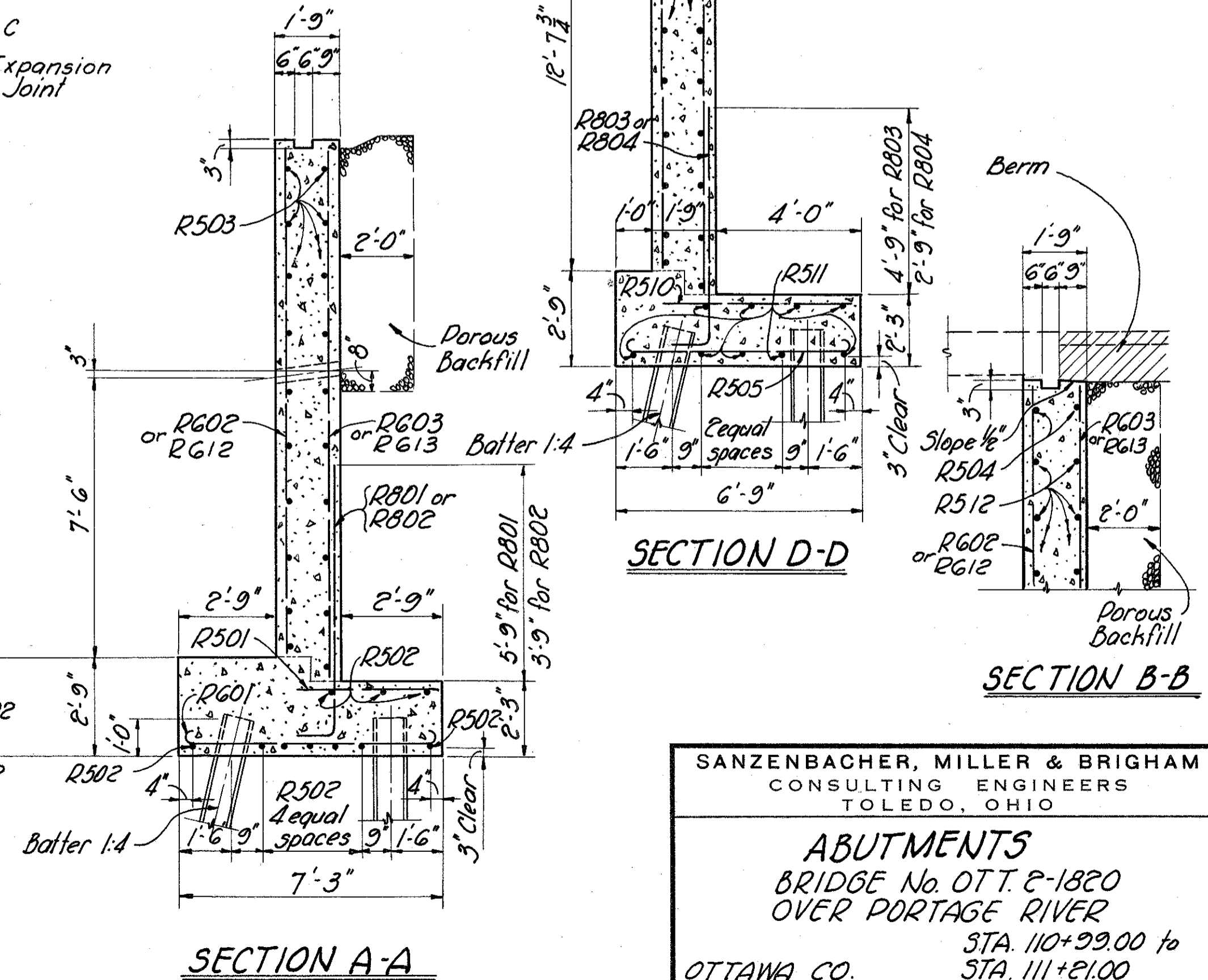


ELEVATION

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



WINGWALL ELEVATION (REIN. BAR DETAILS)
VIEW C-C



SECTION A-A

SECTION D-D

SECTION B-B

SANZENBACHER, MILLER & BRIGHAM
CONSULTING ENGINEERS
TOLEDO, OHIO

ABUTMENTS
BRIDGE No. OTT. 2-1820
OVER PORTAGE RIVER
OTTAWA CO. STA. 110+99.00 to
STA. 111+81.00

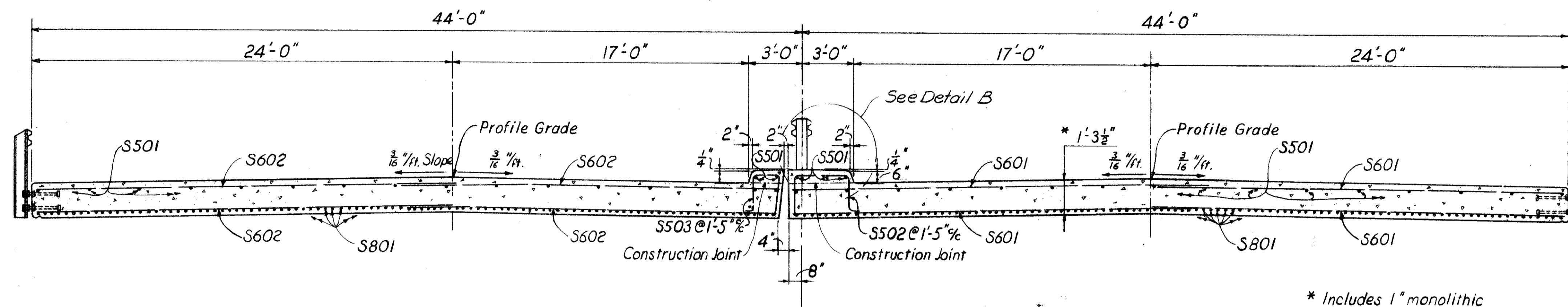
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
OMB	OMB	BB	B.J.H.	FCM	2-12-63	

REVISED
MAY 15 1979
CONSTRUCTION

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO	F-1042 (10)	

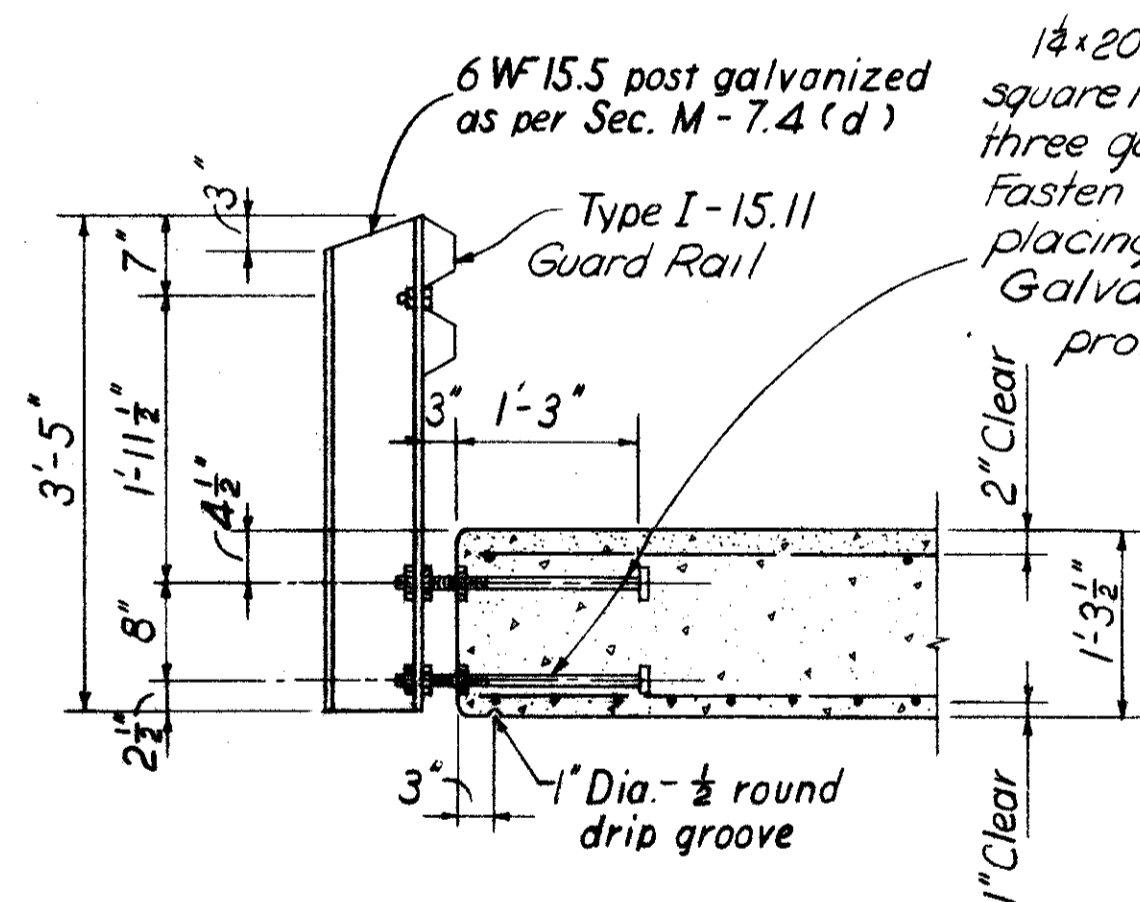
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OTT. 2-16.48



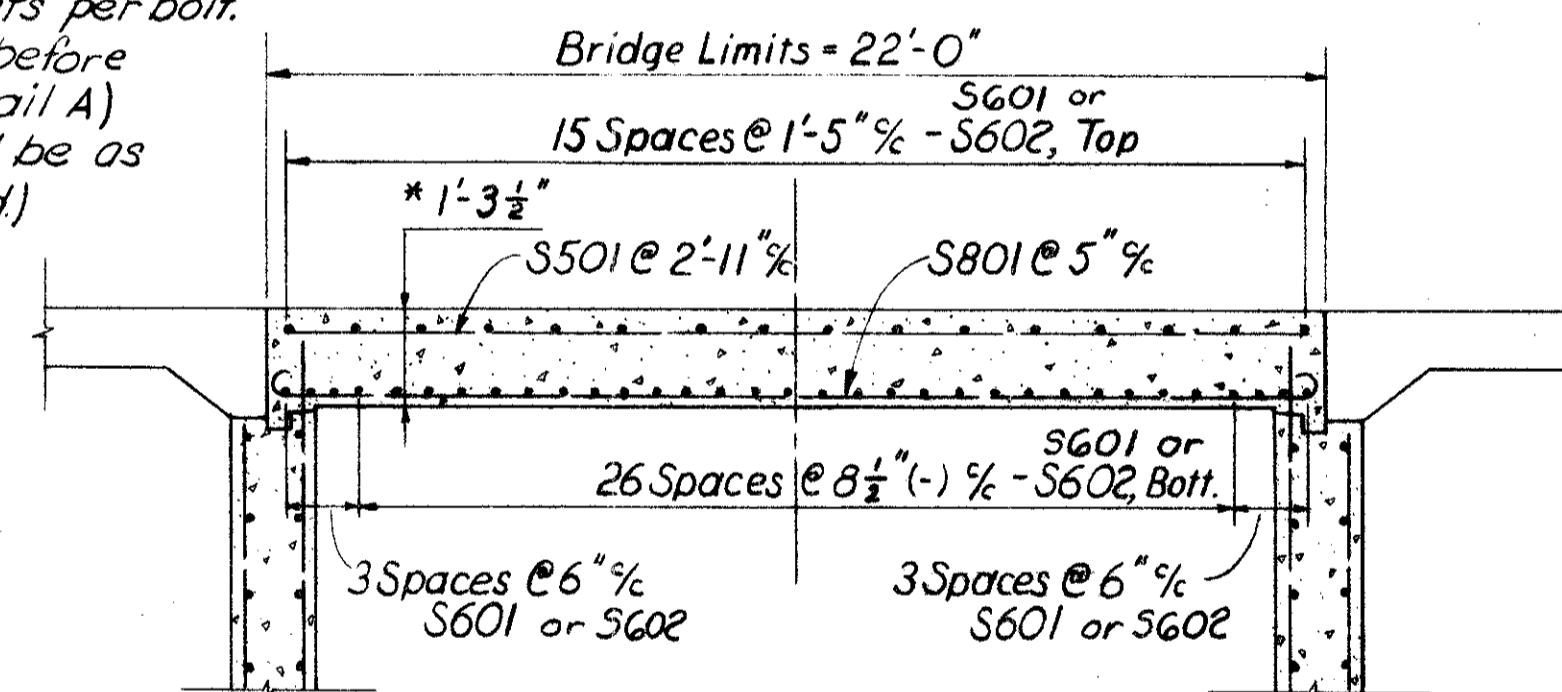
* Includes 1" monolithic wearing surface.

TRANSVERSE SECTION OF DECK

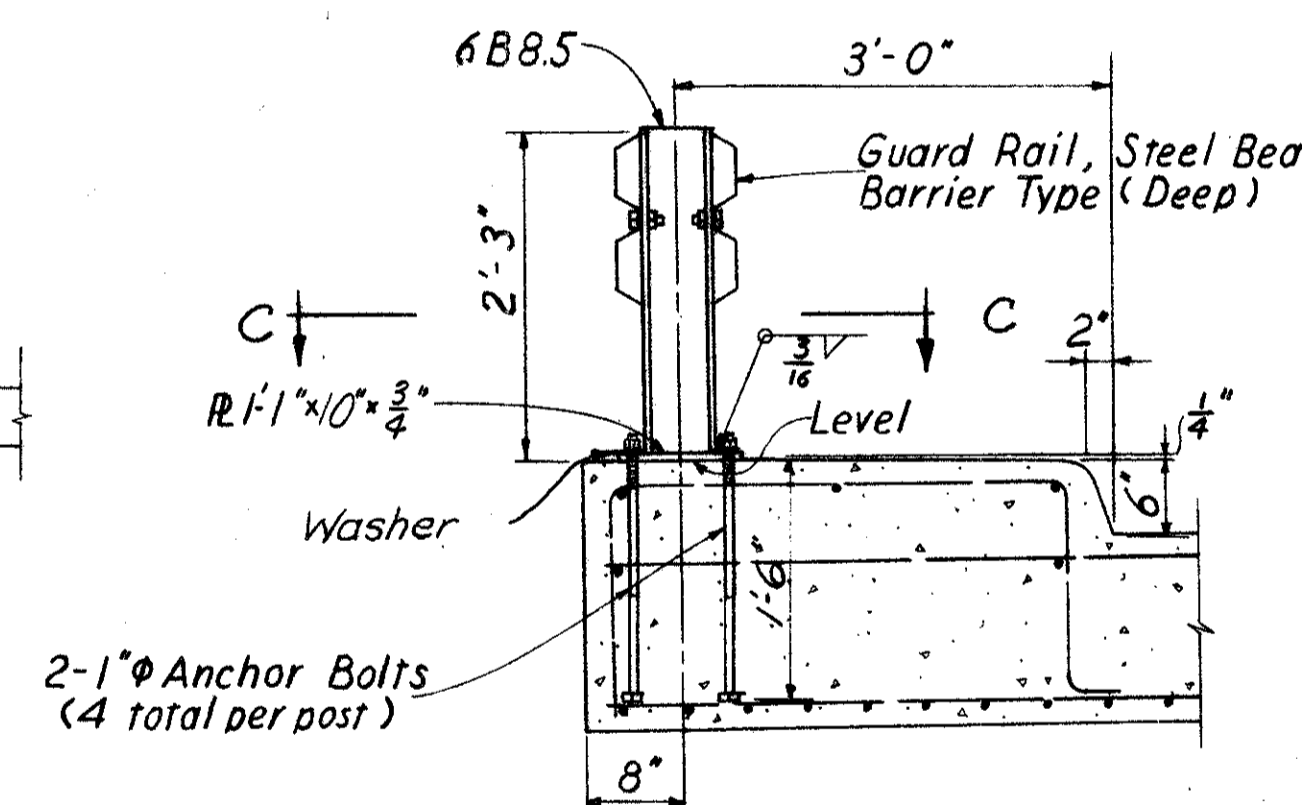


PART DECK SECTION

1 1/2" x 20" galvanized machine bolts with square heads. Thread 8" length and provide three galvanized hexagonal nuts per bolt. Fasten bolts rigidly to form before placing concrete. (See Detail A) Galvanizing of bolts shall be as provided in Sec. M-7.4(d).

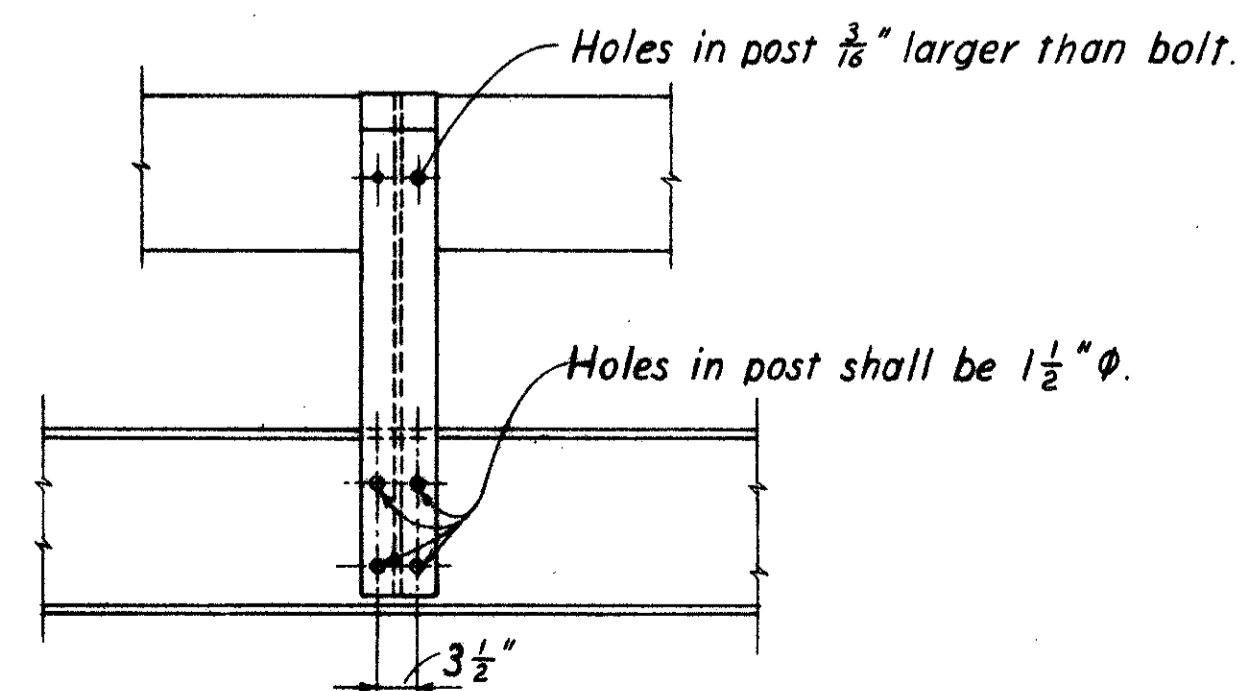


LONGITUDINAL SECTION OF BRIDGE



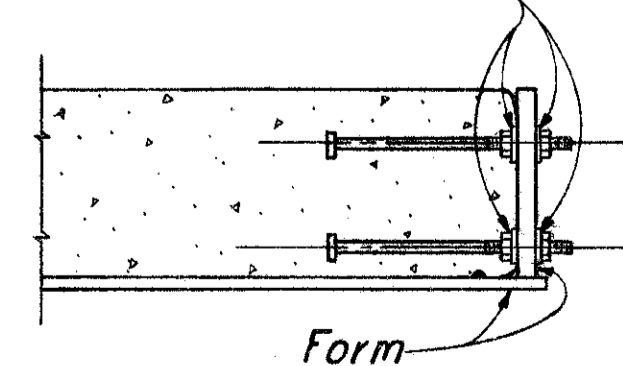
6B8.5 posts, 12x10" R's, bolts, nuts and washers to be galvanized per Sec. M-7.4(d)

DETAIL B

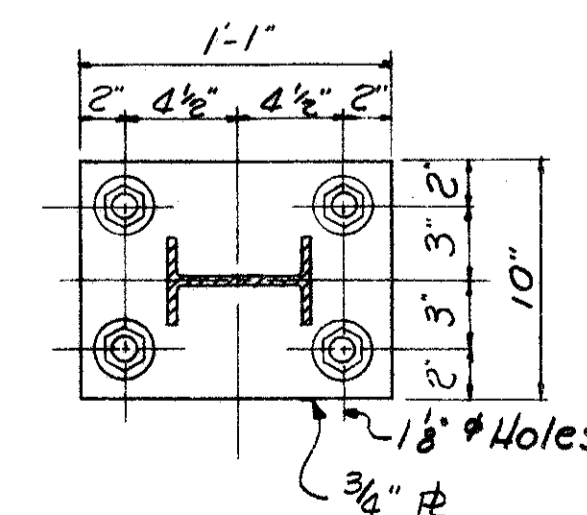


ELEVATION OF RAILING POST

Steel washers (need not be galvanized) shall be removed with forms.



DETAIL A



SECTION C-C

SANZENBACHER, MILLER & BRIGHAM
CONSULTING ENGINEERS
TOLEDO, OHIO

SUPERSTRUCTURE DETAILS
BRIDGE No. OTT. 2-1820
OVER PORTAGE RIVER

OTTAWA CO. STA. 110 + 99.00 to
STA. 111 + 21.00

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
OMB	OMB		BJH	FCM	2-12-63	