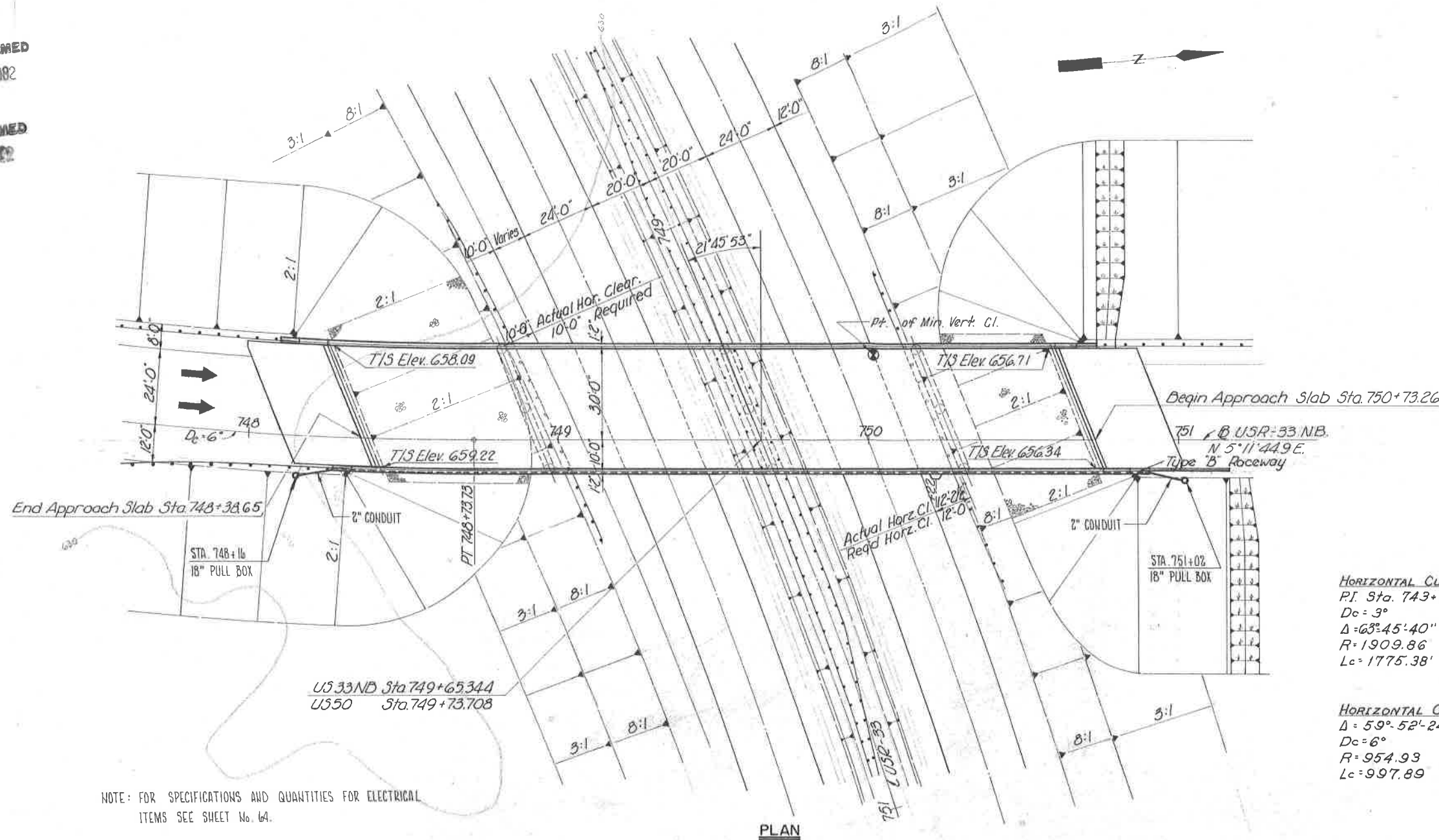


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2	OHIO	

ATH-33-1593
1580

SFN 0506/25



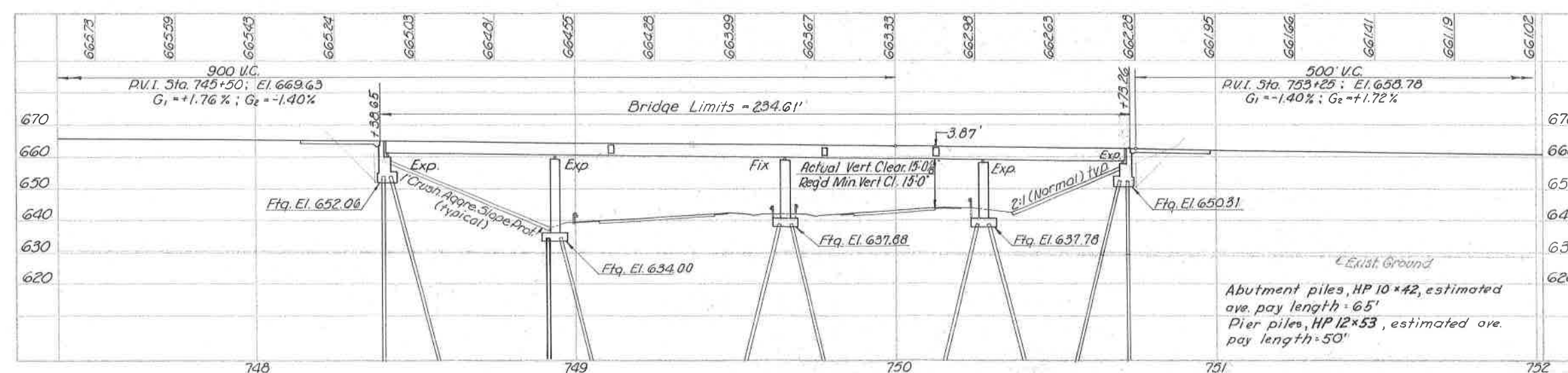
HORIZONTAL CURVE DATA USR-33 & 50
 P.I. Sta. 743+81.80
 Dc = 3°
 Δ = 63°45'40"
 R = 1909.86
 Lc = 1775.38'

HORIZONTAL CURVE DATA US-33 NB
 Δ = 59°52'24"
 Dc = 6°
 R = 954.93
 Lc = 997.89

Earthwork limits shown are schematic. Actual slopes shall conform to plan cross sections.

NOTE: FOR SPECIFICATIONS AND QUANTITIES FOR ELECTRICAL ITEMS SEE SHEET No. 64.

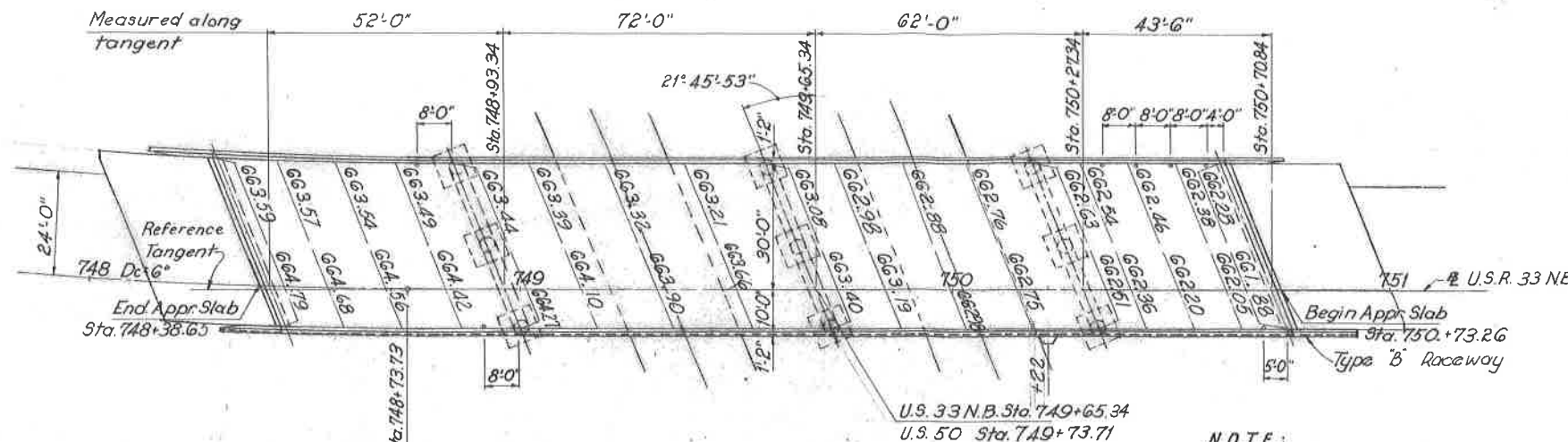
PLAN



PROFILE ALONG B USR-33 Northbound

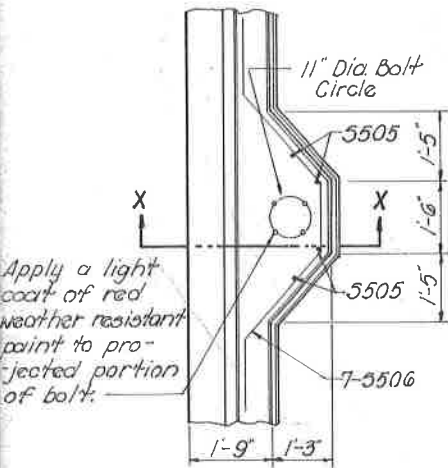
PROPOSED STRUCTURE	
TYPE: Continuous Steel Beam Bridge with Reinforced Conc. Deck and Substructures	
SPANS: 52'-0"; 72'-0"; 62'-0"; 43'-6" @ tan.	
ROADWAY: 40'-0" flt of Parapets	
LOADING: HS 20-44	
WEARING SURFACE: 1 1/2" Asphalt Concrete	
SKEW: 21°45'53" R.F.	
APPROACH SLAB: AS-1-72 (25'-0" long)	
ALIGNMENT: tangent & 6°00' curve	
SUPERELEVATION: Varies	
AVERAGE DAILY TRAFFIC: 5190	

FRANKLIN ENGINEERING, LIMITED Consulting Engineers COLUMBUS, OHIO	
SITE PLAN	
BRIDGE NO ATH-33-1593 under USR-33 Northbound	
ATHENS COUNTY	USR-33
DESIGNED	TRACED
CHECKED	REVIEWED
DATE	REVISED

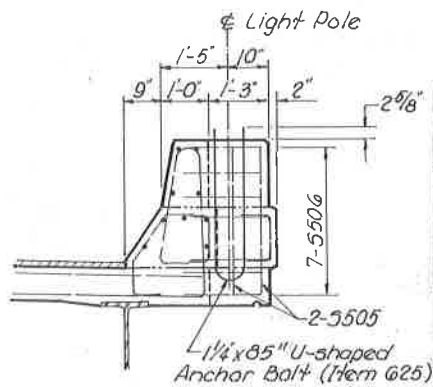


PLAN

NOTE:
Screed elevations include concrete deck and Asphalt Wearing Surface dead load deflections and are given at the top of the concrete deck at the quarter points of the spans.

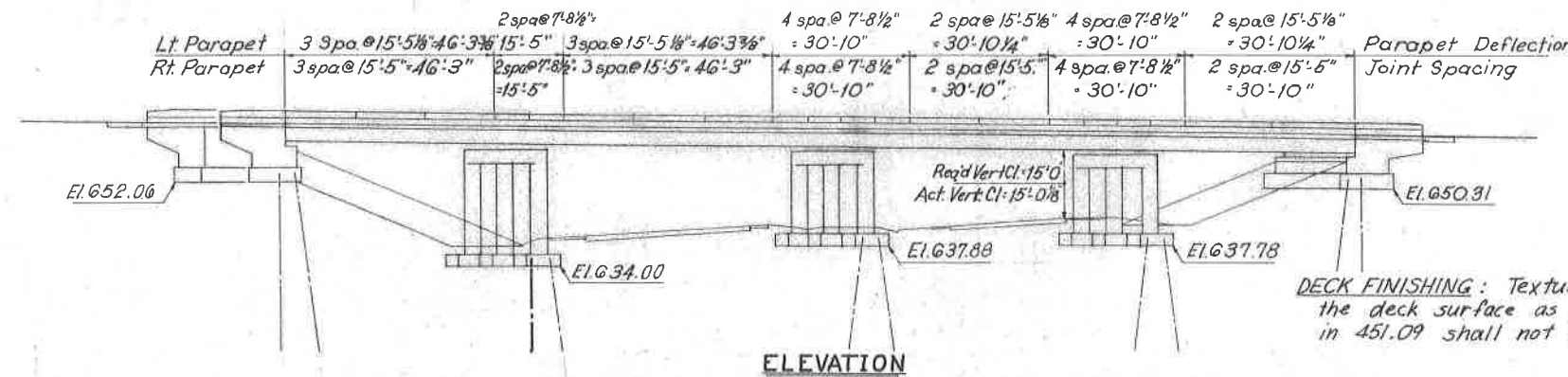


Apply a light coat of red weather resistant paint to protected portion of bolt.



SECTION X-X
LIGHT POLE DILASTER

NOTE:
For Lighting Details not shown see sheet No. 66



ELEVATION

DECK FINISHING: Texturing of the deck surface as provided in 451.09 shall not be done.

		ESTIMATED QUANTITIES					
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER.	ABUT.	PIERS	GEN'L.
503	508	cu.yds.	Unclassified Excavation		244	264	
505	Lump	Sum	Test Pile				Lump
507	2400	lin.ft.	Steel H-Piles (12BP53)			2400	
507	1690	lin.ft.	Steel H-Piles (10BP42)		1690		
509	154,827	lbs.	Reinforcing Steel	102,928	13,605	38,294	
511	308	cu.yds.	Class "C" Concrete, Superstructure	308			
511	174	cu.yds.	Class "C" Concrete, Abutments		174		
511	87	cu.yds.	Class "C" Concrete, Piers above Footings			87	
511	100	cu.yds.	Class "C" Concrete, Pier Footings			100	
513	222,570	lbs.	Structural Steel	222,570			
514	222,570	lbs.	Field Painting of Structural Steel	222,570			
518	7	each	Scuppers, including supports	7			
518	51	cu.yds.	Porous Backfill		51		
518	101	lin.ft.	6" Perf. Helical Corrugated Metal Pipe, including specials (707.01)		101		
518	72	lin.ft.	6" Non-Perf. Helical Corrugated Metal Pipe (707.01)		72		
518	470	lin.ft.	Subdrainage for wearing course	470			
601	526	sq.yds.	Crushed Aggregate Slope Protection				526
625			For 625 Lighting Items see sheet No. 66				
808	308	units	Chemical Admixture for Concrete, type A, B or D.	308			
404	27	C.Y.	Asphalt Concrete (70-35 or AC-20)	27			
Special	14	C.Y.	Sand-Asphalt. (See proposal Note)	14			
Special	987	S.Y.	Membrane Waterproofing, Sheet Type (see proposal note)	987			
506	Lump	Sum	Pile Test Load				Lump
506	1	Each	Subsequent pile test load.				

*The sand-asphalt mixture temperature on arrival at the project site shall be as determined by the Engineer.

GENERAL NOTES

REFERENCE shall be made to Standard Drawings A5-1-72 (6-30-72), RB-1-65 (2-2-59), BR-1-67 (rev. 10-15-71), SD-1-69 (Dated 6-12-69) Sheets 1, 2, 3 and 4 of 4, and Supplemental Specifications 808 (dated 1-1-71) and 836 (dated 1-1-71).

DESIGN SPECIFICATIONS
This structure conforms to Standard Specifications for Highway Bridges adopted by the American Association of State Highway Officials, 1969, including the Ohio Supplement to these Specifications.

DESIGN DATA
Design Loading H5 20-44
Concrete Class "C" Unit Stress: 1200 p.s.i. for Superstructure, 1333 p.s.i. for Substructure.
Structural Steel ASTM A36, Unit Stress 20,000 p.s.i.
Reinforcing Steel: ASTM A615, A616 or A617, Unit Stress 20,000 p.s.i. Spiral reinforcement may be plain bars ASTM A82, A306, A499 or A675. (If bars in accordance with ASTM A615 are provided, they shall be subject to bend tests as per ASTM designation #42-70)

EMBANKMENT CONSTRUCTION
The embankments shall be constructed to the level of the subgrade for a minimum distance of 200 feet back of the abutments. After a minimum waiting period of 30 days, excavation may be made for the abutments, and piers.

PILES shall be driven with a hammer of not less than 11,000 Ft. Lb. per blow, to firm contact with bedrock. If the length of penetration is approximately equal to the depth of bedrock according to the bridge foundation investigation report, the firm contact shall be considered as attained when the capacity according to the formula in 507.05 is not less than the following value for a pile hammer of the indicated energy rating:
For the Abutment Piles:
38 Tons per pile Using an 11,000 Ft. Lb. Hammer
32 Tons per pile Using a 15,000 Ft. Lb. or Greater Hammer

For the Pier Piles
80 Tons Per Pile using a 15,000 Ft. Lb. or Greater Hammer
If the energy rating of the hammer is between the rating as shown above, the required formula capacity shall be determined by interpolation. The design load is 35 tons per pile for the abutment piles and 50 tons per pile for the pier piles.

WELDS on non-stress-carrying members are shown thus:
N Y 1/4

ITEM SPECIAL - SAND-ASPHALT:
A layer of Sand-Asphalt shall be used to protect the protective membrane. Traffic will not be permitted on the membrane until a protective layer of sand-asphalt has been placed and compacted. The sand-asphalt shall be mixed not using natural sand, 708.05, and asphalt cement, 702.01. The asphalt grade and content shall be established by the contractor within a range of 8.5 to 10.5 percent of the total mix. The sand-asphalt shall be placed on the membrane by means of a pneumatic tired mechanical spreader and compacted to produce a reasonably smooth surface. The quantity placed shall be as necessary to level irregularities and cover the surface with a compacted layer 1/2 in thickness. Turning movements of equipment used to place the sand-asphalt shall not be made on the membrane. *
Basis of payment: The accepted quantity of sand-asphalt will be paid for at the contract unit price per cubic yard, which price and payment shall be full compensation for furnishing and placing all materials.
Payment will be made under:

ITEM	UNIT	DESCRIPTION
Special	Cu. Yds.	Sand-Asphalt

FRANKLIN ENGINEERING, LIMITED
Consulting Engineers
COLUMBUS, OHIO

GENERAL PLAN, GENERAL NOTES & ESTIMATED QUANTITIES
BRIDGE No. ATH-33-1593
UNDER USR 33 NORTHBOUND
ATHENS COUNTY USR-33

DESIGNED	DRAWN	CHECKED	REVISION
165	163	163	7-9-70

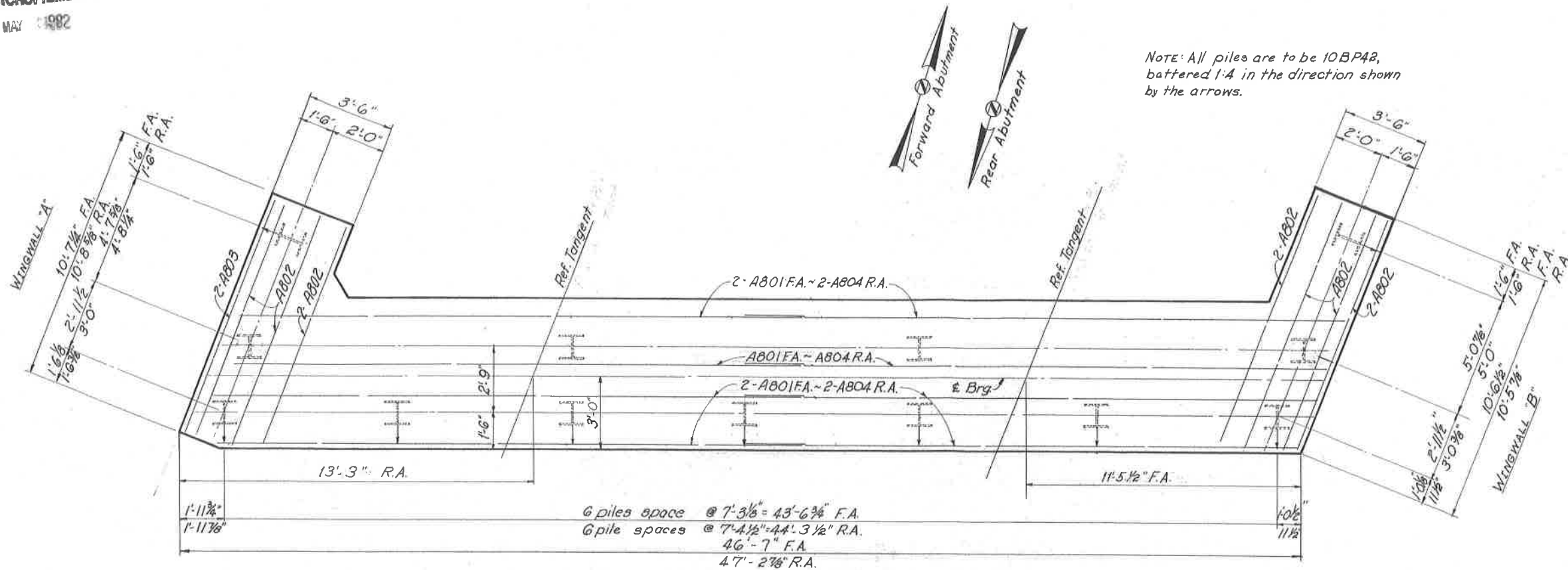
Rev. 7-9-70
R. B. 11/16/70

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FED. RD. DIVISION	STATE	PROJECT
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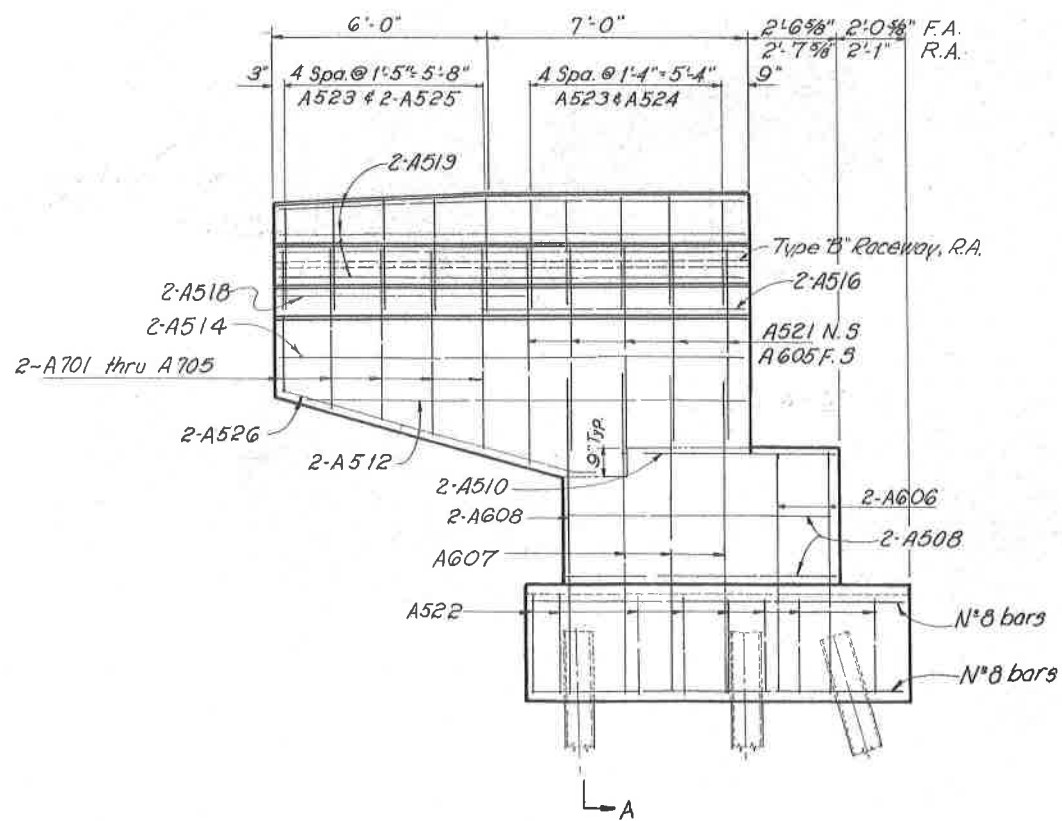
85
93

ATH-33-15.93

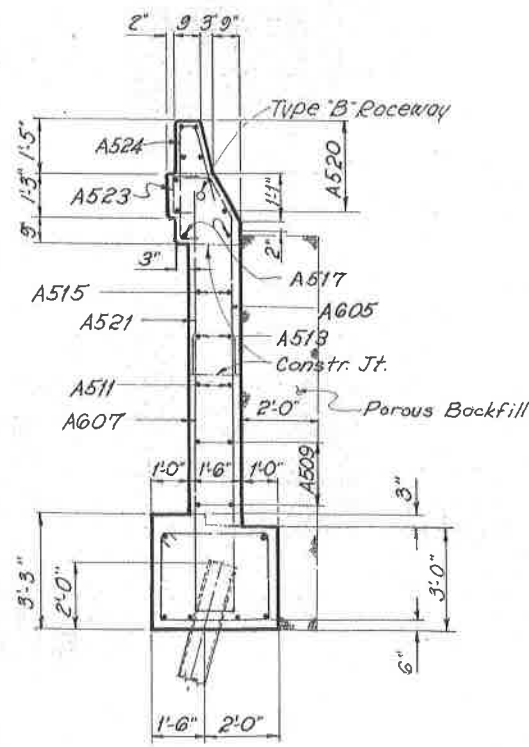


LEGEND
F.A. - Forward Abutment
R.A. - Rear Abutment

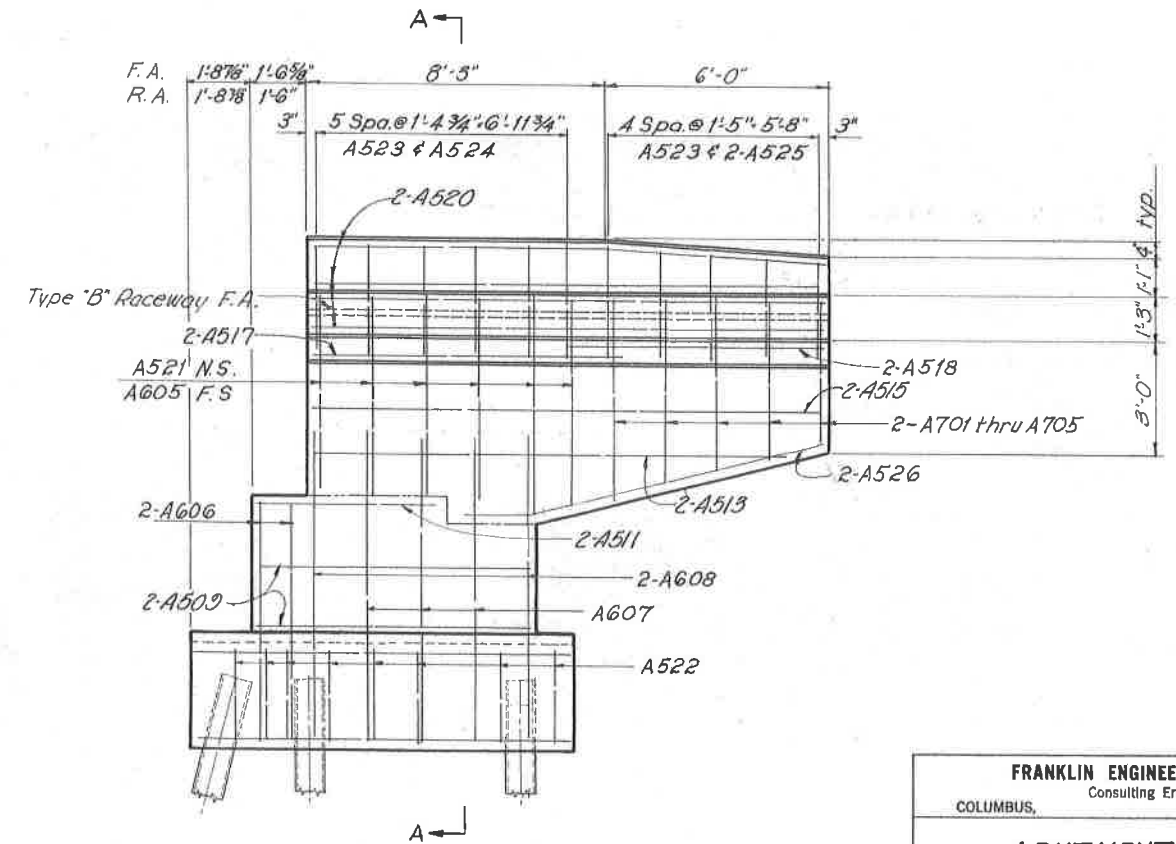
FOOTING PLAN
See "General Plan" for layout.



WINGWALL "A"



SECTION A-A



WINGWALL "B"

FRANKLIN ENGINEERING, LIMITED Consulting Engineers COLUMBUS, OHIO					
ABUTMENT DETAILS BRIDGE No. ATH-33-1593 UNDER USR-33 NORTHBOUND ATHENS COUNTY					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
J.A.D.	J.		F.S.	J.F.	3/7/70

5/5

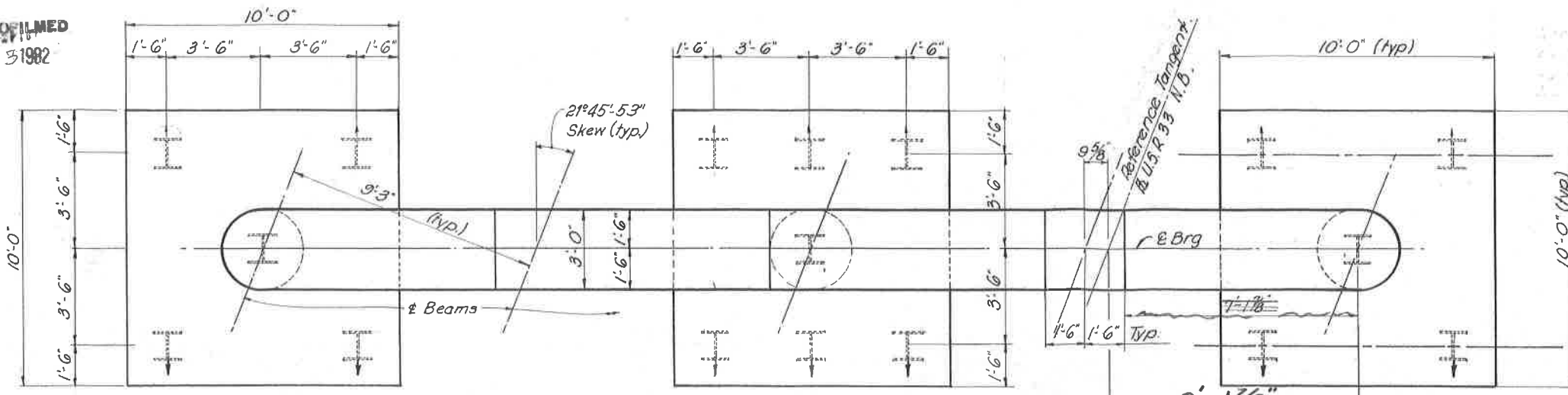
USR-33

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MAY 5 1982

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

86
93

ATH-33-15.93



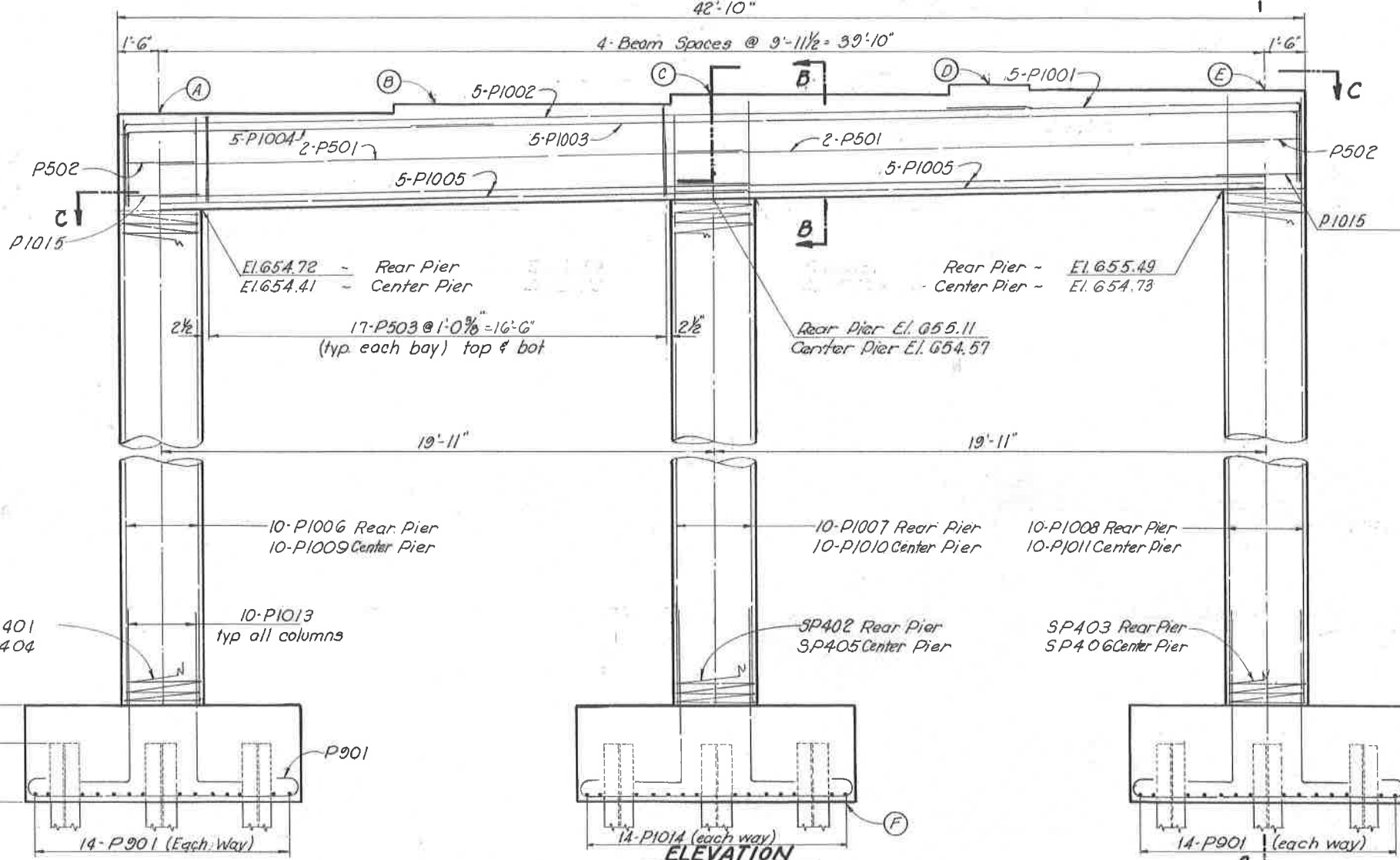
PLAN

TABLE OF ELEVATION

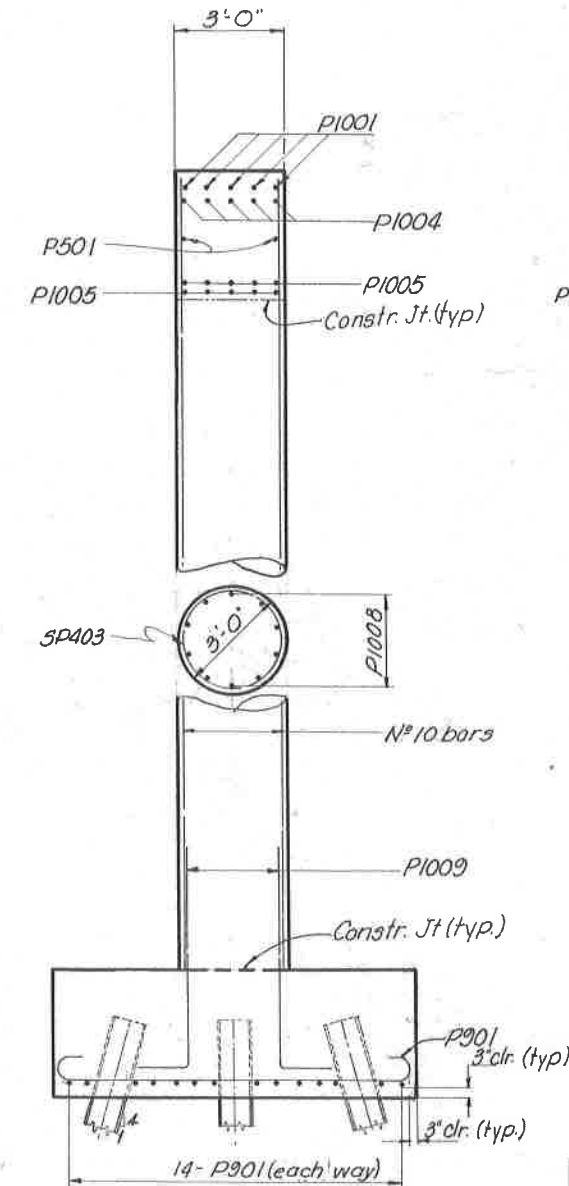
Location	A	B	C	D	E	F
Rear Pier	658.37	658.72	659.06	659.37	659.20	634.00
Center Pier	657.97	658.17	658.36	658.53	658.31	637.88

Batter this row
Rear & Center Piers

Batter this row
Center Pier



ELEVATION



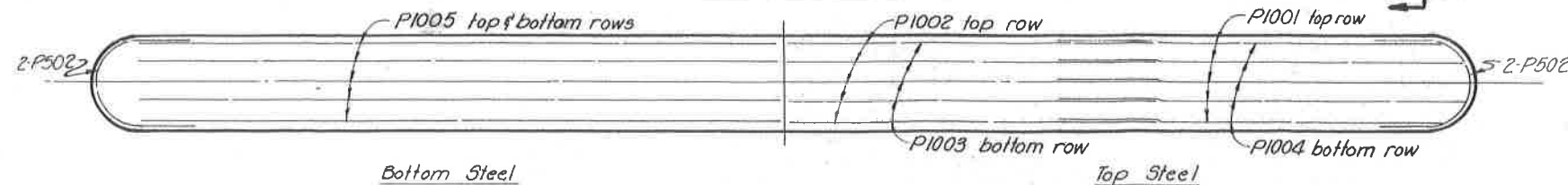
SECTION B-B

SECTION A-A

All piles HP 12 x 53.

BRIDGE SEAT REINFORCING-CENTER PIER
Special care shall be taken in placing reinforcing steel in the vicinity of the bridge seat so as to avoid interference with the drilling of anchor bars holes.

CENTER PIER:
For Structure grounding see Standard Construction Drawings HL-4



VIEW C-C

Rear Pier: SP401
Center Pier: SP404

10-P1013
typ all columns

SP402 Rear Pier
SP405 Center Pier

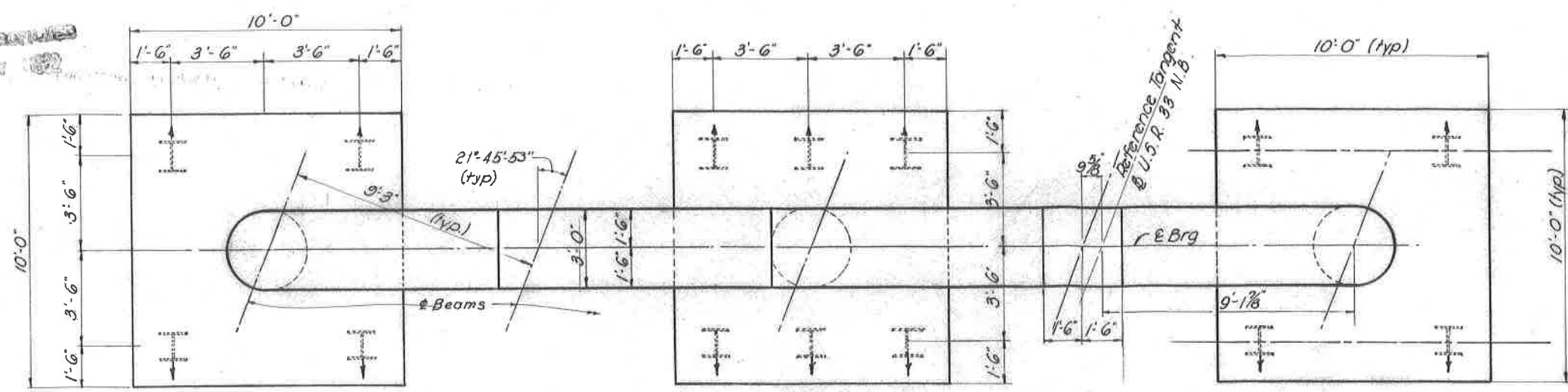
SP403 Rear Pier
SP406 Center Pier

FRANKLIN ENGINEERING, LIMITED
Consulting Engineers
COLUMBUS, OHIO

REAR & CENTER PIER DETAILS
BRIDGE N° ATH-33-1593
UNDER USR-33 NORTHBOUND

ATHENS COUNTY USR-33

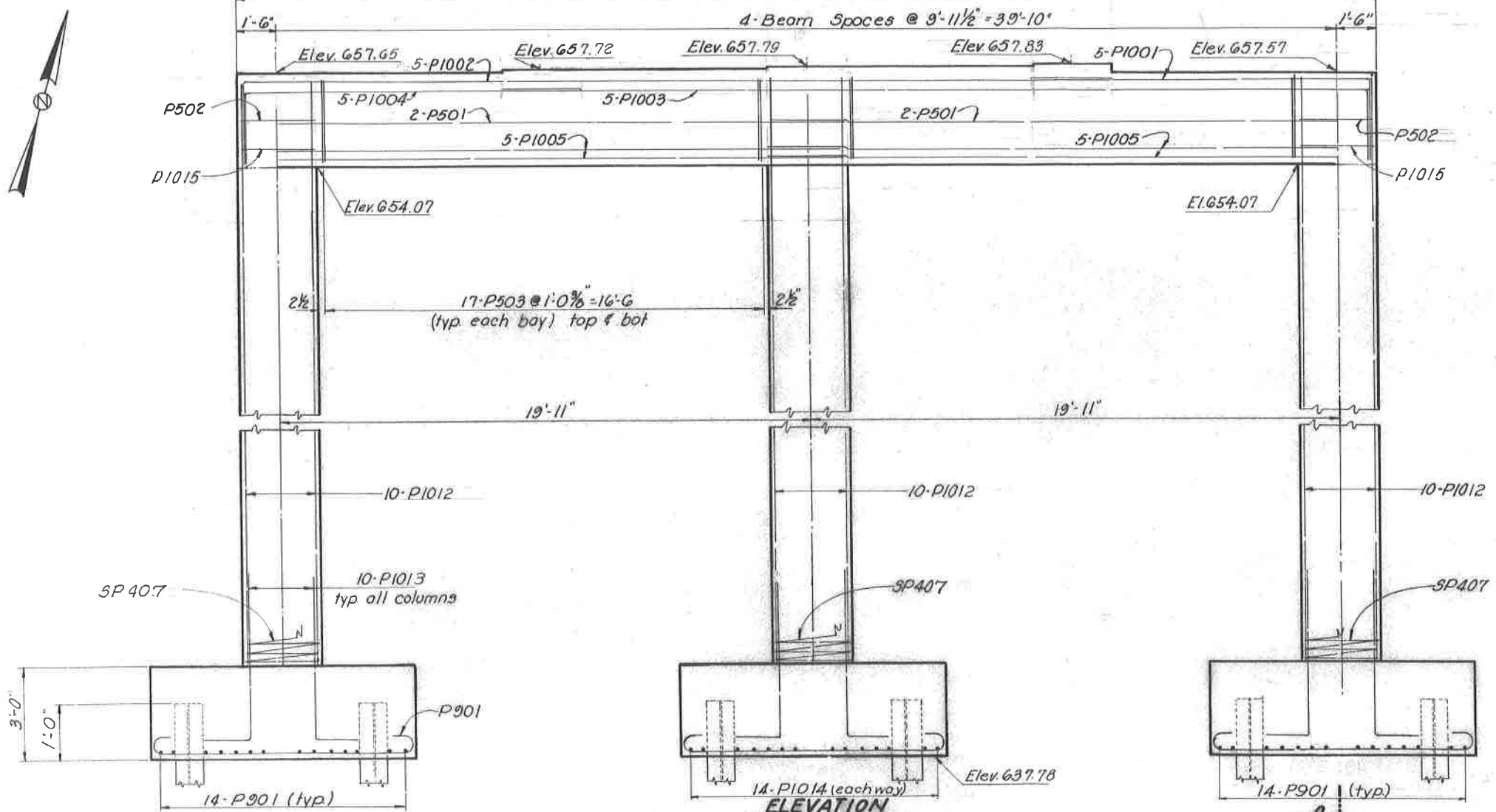
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
J.B.D.	J.S.		F.S.	J.F.	3/9-70	6-26-70



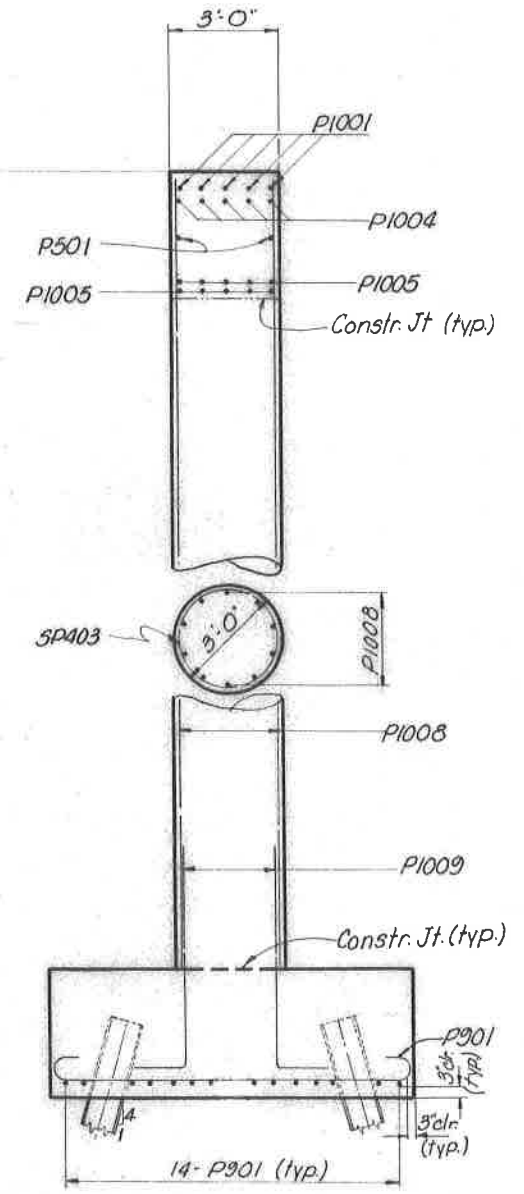
PLAN

Batter this row
NOTE: All piles are to be HP 12x53

Batter this row

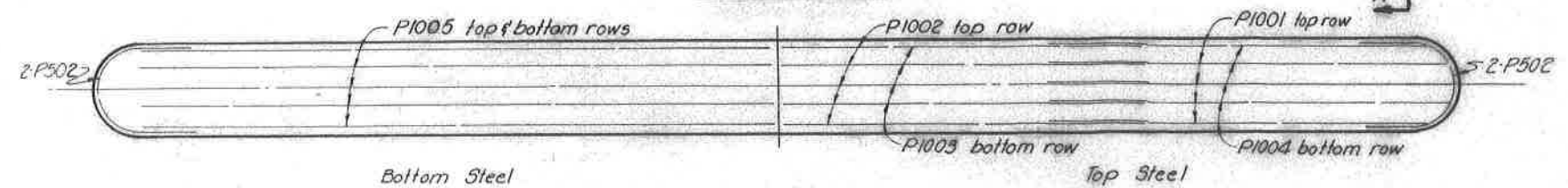


ELEVATION



SECTION C-C

SECTION A-A



VIEW D-D



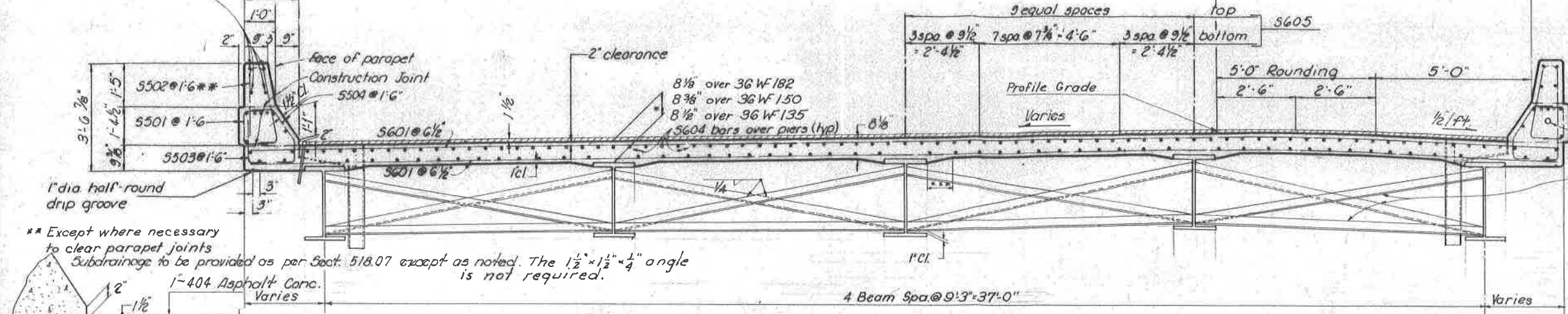
FRANKLIN ENGINEERING, LIMITED Consulting Engineers				
COLUMBUS,				OHIO
FORWARD PIER DETAILS				
BRIDGE # ATH-33-1593				
UNDER USR-33 NORTHBOUND				
ATHENS COUNTY		USR-33		
DESIGNED	DRAWN	CHECKED	REVIEWED	DATE
J. A. D.	[Signature]	FDS	J. J.	3/9-70

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MAY 1992

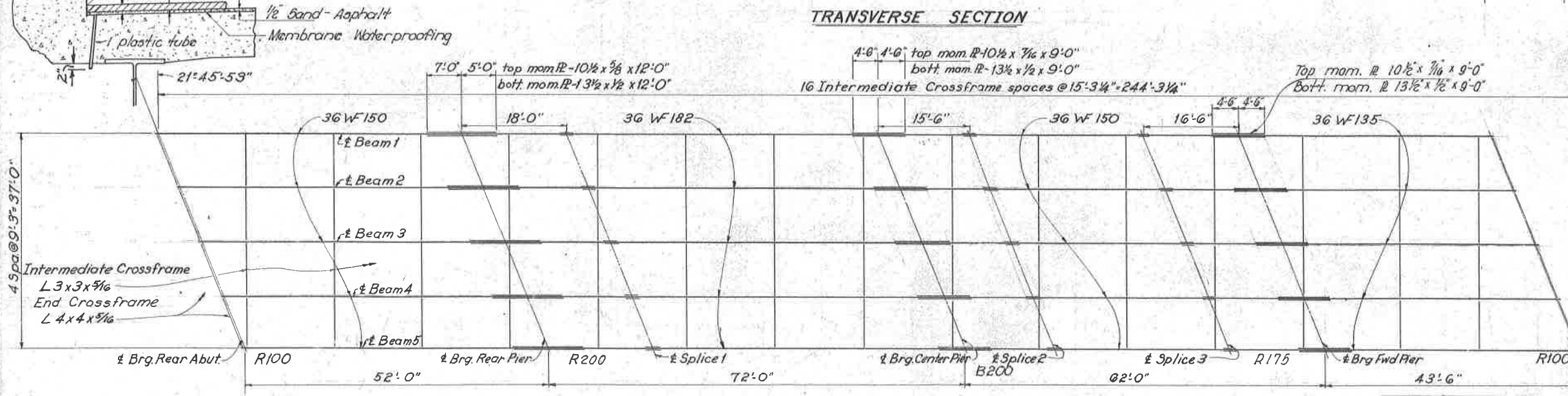
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

ATH-33-15.93

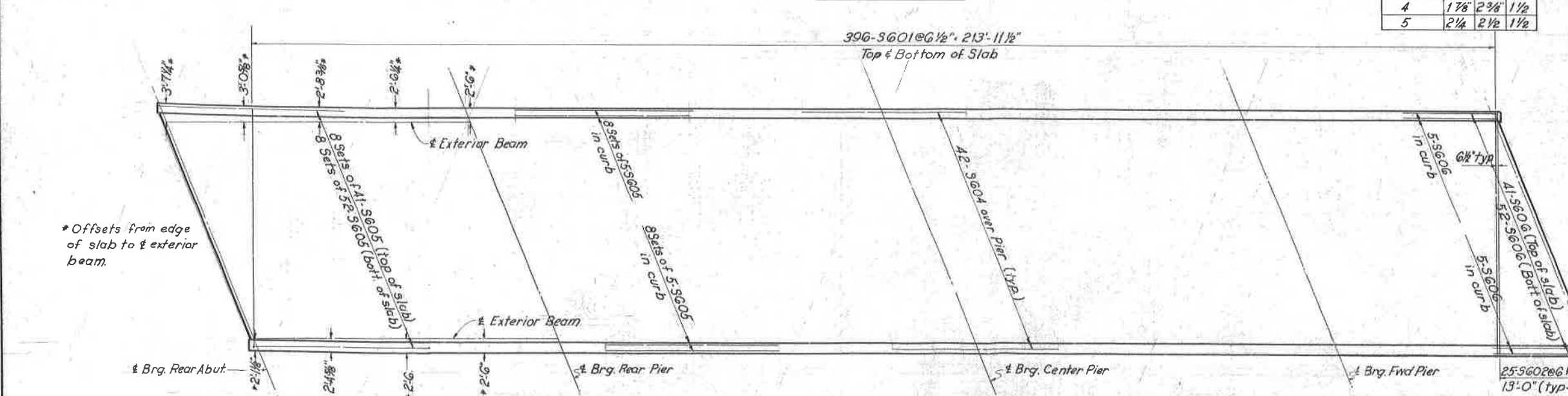
5507 in long panels.
5508 in short panels



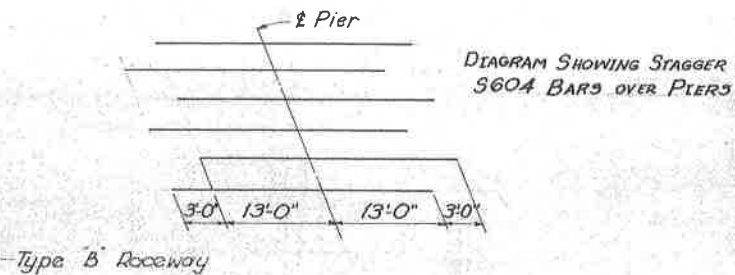
TRANSVERSE SECTION



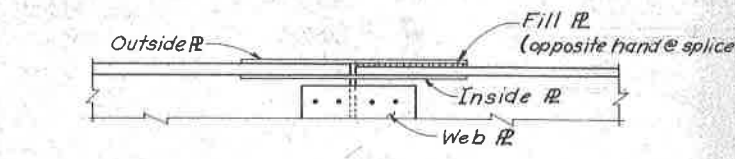
FRAMING PLAN



SLAB PLAN



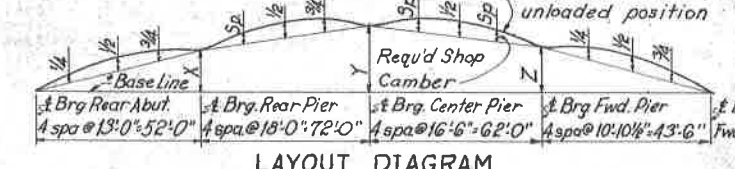
Intermediate crossframe angles $3 \times 3 \times 3/8$. Weld both sides of vertical leg & top side of horizontal leg to beam with continuous fillet weld
 * Deck Slab Depth: The distance shown from the top of deck slab to top of steel beam is the design dimension. The quantity of deck concrete to be paid 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 conformal required to place it parallel to the finished grade.
 *** A haunch width of 9" shall be used for computing quantity of concrete. However, the haunch width may vary between 6" and 12" provided that the slope shall be not more than 1:4 for a haunch less than 9" in width



For additional details, see Std. Dwg. SD-1-69, sheet A of A.

	Inside R (4 req'd)	Outside R (2 req'd)	Fill R (2 req'd)	Web R (2 req'd)
Splice 1	$4 \frac{1}{2} \times 9/16 \times 2'4 \frac{1}{2}''$	$11 \times 7/16 \times 2'4 \frac{1}{2}''$	$11 \times 1/4 \times 1'2 \frac{1}{8}''$	$13 \frac{1}{2} \times 3/8 \times 2'7''$
Splice 2	$4 \frac{1}{2} \times 9/16 \times 2'4 \frac{1}{2}''$	$11 \times 7/16 \times 2'4 \frac{1}{2}''$	$11 \times 1/4 \times 1'2 \frac{1}{8}''$	$13 \frac{1}{2} \times 3/8 \times 2'7''$
Splice 3	$4 \frac{1}{2} \times 1/2 \times 2'4 \frac{1}{2}''$	$11 \times 3/8 \times 2'4 \frac{1}{2}''$	$11 \times 1/8 \times 1'2 \frac{1}{8}''$	$13 \frac{1}{2} \times 3/8 \times 2'7''$

* Base Line is a line between & Brgs. of the abutments at the & Beams.



LAYOUT DIAGRAM

	SPAN 1		SPAN 2		SPAN 3		SPAN 4				
	1/4 Pt	1/2 Pt	3/4 Pt	3/4 Pt	1/2 Pt	1/4 Pt	1/4 Pt	3/4 Pt			
Deflection due to weight of steel	0	0	0	1/16	1/8	1/16	0	0	0	0	0
Deflection due to remaining dead load	3/16	3/16	1/16	5/16	1/2	5/16	1/16	3/16	1/8	1/16	1/8
Adjustment req'd. for vertical curve	1/8	1/8	1/8	3/16	1/4	3/16	1/16	1/16	0	0	0
Req'd. Shop Camber	3/16	5/16	3/16	9/16	7/8	9/16	1/8	1/4	1/8	1/16	1/8

FRANKLIN ENGINEERING, LIMITED
 Consulting Engineers
 COLUMBUS, OHIO

SUPERSTRUCTURE DETAIL
 BRIDGE No ATH-33-1593
 UNDER
 USR-33 NORTHBOUND

ATHENS COUNTY USR-3

DESIGNED: J.B.D. DRAWN: J. TRACED: F.D.S. CHECKED: J.F. REVIEWED: J.F. DATE: 3/9-70