

STATE OF OHIO  
DEPARTMENT OF HIGHWAYS

ERI - 2 - 22.24

GRADE SEPARATION WITH  
NORFOLK AND WESTERN RAILWAY

ERI COUNTY

BERLIN AND VERMILION TOWNSHIPS

LIMITED ACCESS  
THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR OF HIGHWAYS IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02, REVISED CODE OF OHIO.

1971 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF HIGHWAYS, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL, SHALL GOVERN THIS IMPROVEMENT.

THE RIGHT-OF-WAY FOR THIS IMPROVEMENT WILL BE PROVIDED BY THE STATE OF OHIO.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING OF THE HIGHWAY TO TRAFFIC AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THESE PLANS AND ESTIMATES.

APPROVED: H. A. Reader  
DATE: 7/9/69 DIVISION DEPUTY DIRECTOR

APPROVED: C. H. Abwater  
DATE: 9-9-71 ENGINEER OF BRIDGES

APPROVED: E. J. Schaper  
DATE: 9-10-71 ENGINEER OF LOCATION AND DESIGN

APPROVED: H. Krause  
DATE: 9/13/71 DEPUTY DIRECTOR OF DESIGN AND CONSTRUCTION

APPROVED: R. E. Neudinger  
DATE: 10/6/71 DEPUTY DIRECTOR OF RIGHT-OF-WAY

APPROVED: William Sunkley  
DATE: 10-29-71 DEPUTY DIRECTOR OF PLANNING AND PROGRAMMING

APPROVED: William P. McKenna  
DATE: 11-2-71 FIRST ASSISTANT DIRECTOR

APPROVED: Philip D. Dwyer  
DATE: 11/2/71 DIRECTOR OF HIGHWAYS

MICROFILMED  
APR 1 1979  
REPRODUCTION  
APERTURE  
CAP

MICROFILMED  
APR 10 1979  
REPRODUCTION

No PID  
C No 720425

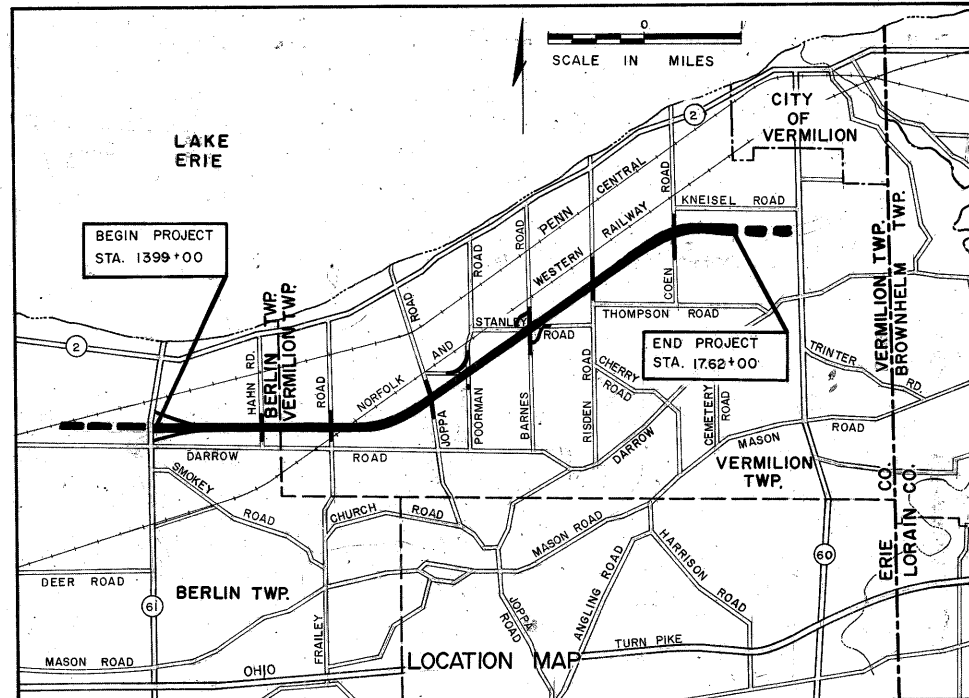
CONVENTIONAL SIGNS

COUNTY LINE	-----
TOWNSHIP LINE & CORPORATION LINE	-----
SECTION LINE	-----
CENTER LINE	-----
PROPERTY LINE	-----
EXISTING RIGHT-OF-WAY	-----
RIGHT-OF-WAY LINE	-----
LIMITED ACCESS LINE	-----
LIMITED ACCESS & RIGHT-OF-WAY LINE	-----
TEMPORARY & CHANNEL EASEMENTS	-----
WORK LIMITS	-----
FENCE LINE (EXISTING, PROPOSED)	-----
EXISTING GUARD RAIL	-----
GUARD RAIL	-----
POLE LINE (POWER, TELEPHONE, TELEGRAPH)	-----
UNDERGROUND UTILITIES (GAS, WATER, TEL)	-----
EXISTING TREES, STUMPS	-----
TILE & DRAIN PIPES	-----

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NOTE: Sheets no. 223 and 225 have been deleted.



PORTION TO BE IMPROVED  
STATE HIGHWAYS  
OTHER ROADS

SCALES

PLAN	0" = 50'
PROFILE-HORIZONTAL	0" = 50'
PROFILE-VERTICAL	0" = 5'
CROSS SECTIONS	0" = 10'

LINE	PROJECT LENGTH	WORK LENGTH	
S.R. 2	1399+00 to 1762+00	1397+40 to 1762+00	364.60 Lin. Ft.
Hahn Road		16+00 to 36+00	2000 Lin. Ft.
Frailey Road		16+50 to 31+50	1500 Lin. Ft.
Joppa Road		17+00 to 34+20	1720 Lin. Ft.
Ashmont-Poorman Road & Poorman Road		19+00 to 31+20 & 21+00 to 22+58	1378 Lin. Ft.
Access Road		26+85 to 29+90	305 Lin. Ft.
Barnes Road		17+00 to 34+00	1700 Lin. Ft.
Stanley Road West		1+75 to 11+17.45	942.45 Lin. Ft.
Stanley Road East		8+54.69 to 18+70	1015.31 Lin. Ft.
Risden Road		16+50 to 34+50	1800 Lin. Ft.
Coen Road		15+80 to 34+70	1890 Lin. Ft.
Net Length			50,710.76 Lin. Ft. 9.604 Miles

PREPARED AND RECOMMENDED BY  
FRANKLIN ENGINEERING, LIMITED  
CONSULTING ENGINEERS  
COLUMBUS, OHIO

STANDARD CONSTRUCTION DRAWINGS							
DRAWING NO.	DATE	DRAWING NO.	DATE	DRAWING NO.	DATE	DRAWING NO.	DATE
BP-1	6-1-65	GB-4	9-1-69	GR-2A	1-1-71	HL-1	11-1-65
BP-2	12-1-68			GR-2B	11-9-71	HL-2	11-1-65
BP-3	1-1-71	HW-E	6-1-65	GR-5	1-1-71	HL-3	11-1-65
BP-4	1-1-71	JP-53	6-30-61	GR-6	1-1-71	HL-4	1-1-66
BP-5	1-1-71	MC-1	6-13-69	MH-1	10-1-68	AS-1-67	6-12-69
BP-6	6-1-65	MC-3	6-20-69	F-2	1-1-71	FACI-1	4-20-71
BP-7	1-1-66	MC-4	6-13-69	F-3	3-10-69	FACI-2	4-20-71
BP-8	5-20-70	MC-7	10-1-68	F-5	3-10-69	L-1	6-1-65
CB-2-2A & B	6-1-65	MC-8	12-1-67	F-6	10-1-66	MH-1A	10-1-68
				BR-1-67	10-15-71	RB-1-55	2-2-59
GR-3	11-9-71	GR-4	11-9-71			SD-1-69	6-12-69

SUPPLEMENTAL SPECIFICATIONS			
SPECIFICATION NO.	DATE	SPECIFICATION NO.	DATE
		801	1-1-69
		941	11-25-70
		808	1-1-71
		836	6-12-69
		839	11-25-70
		815	1-1-69
		816	1-1-69
		1001	1-1-69

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: \_\_\_\_\_  
DIVISION ENGINEER

DATE: \_\_\_\_\_

FILE NO. \_\_\_\_\_  
ERI COUNTY  
ERI-2-22.24  
DATE OF LETTING \_\_\_\_\_  
CONTRACT NO. \_\_\_\_\_

Rev. 2-4-72  
Rev. 12-2-71  
Rev. 4-27-72

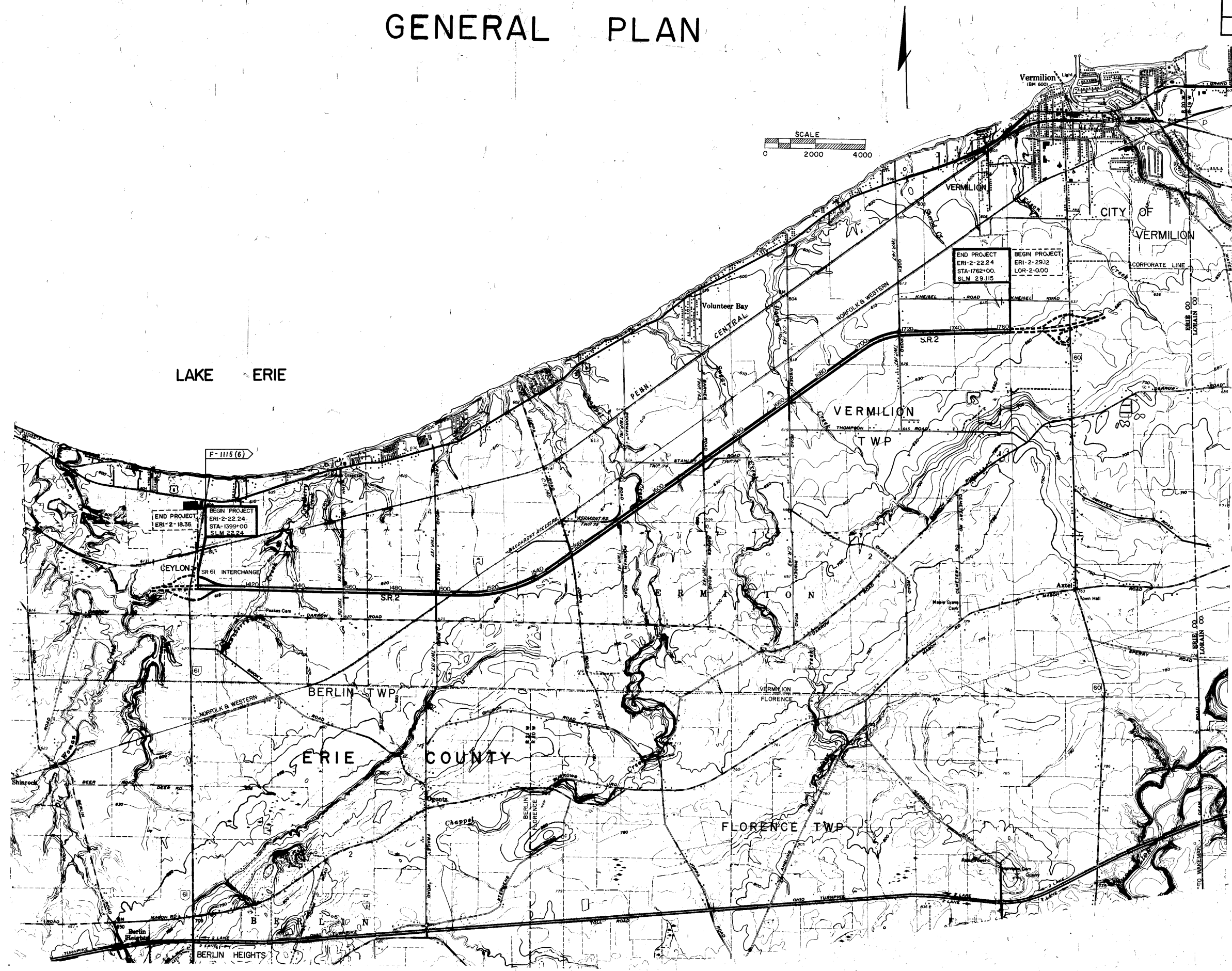
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APR 14 1979  
ERIE COUNTY

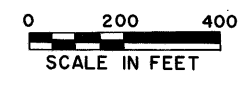
# GENERAL PLAN

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2  
395

ERIE COUNTY  
ERI-2-22.24





ERIE COUNTY  
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**TRAFFIC FACTOR**  
 Design Year 1988  
 Present Year 1967  
 Percent truck during DHV - 5%  
 Directional distribution factor - 0.55  
 1988 to 1967 projection factor - 0.42

**NOTE:** Traffic volumes shown were supplied by Ohio Department of Highways by letter October 11, 1967. Distribution, truck and present year factors were forwarded by letter July 28, 1966.

**DESIGN DESIGNATION**

1967 ADT	7,576
1988 ADT	18,039
DHV	1,515
D (Dir. Dist.)	0.55
T (% Trucks)	5%
V (Design Speed)	70mph

**DESIGN DESIGNATION**

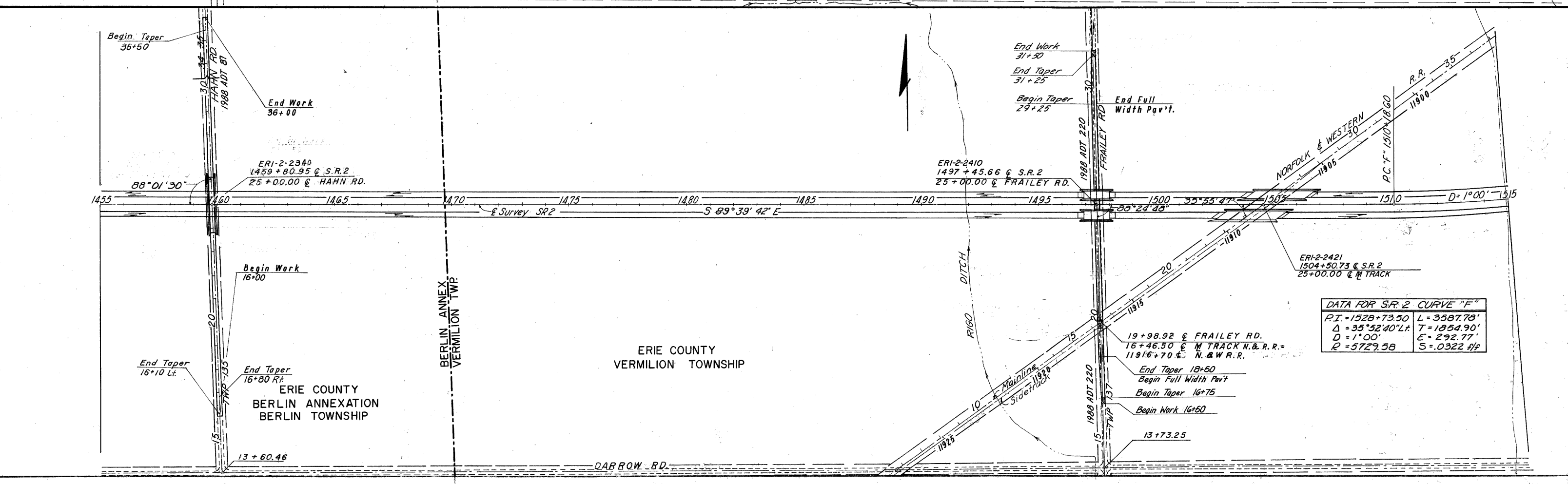
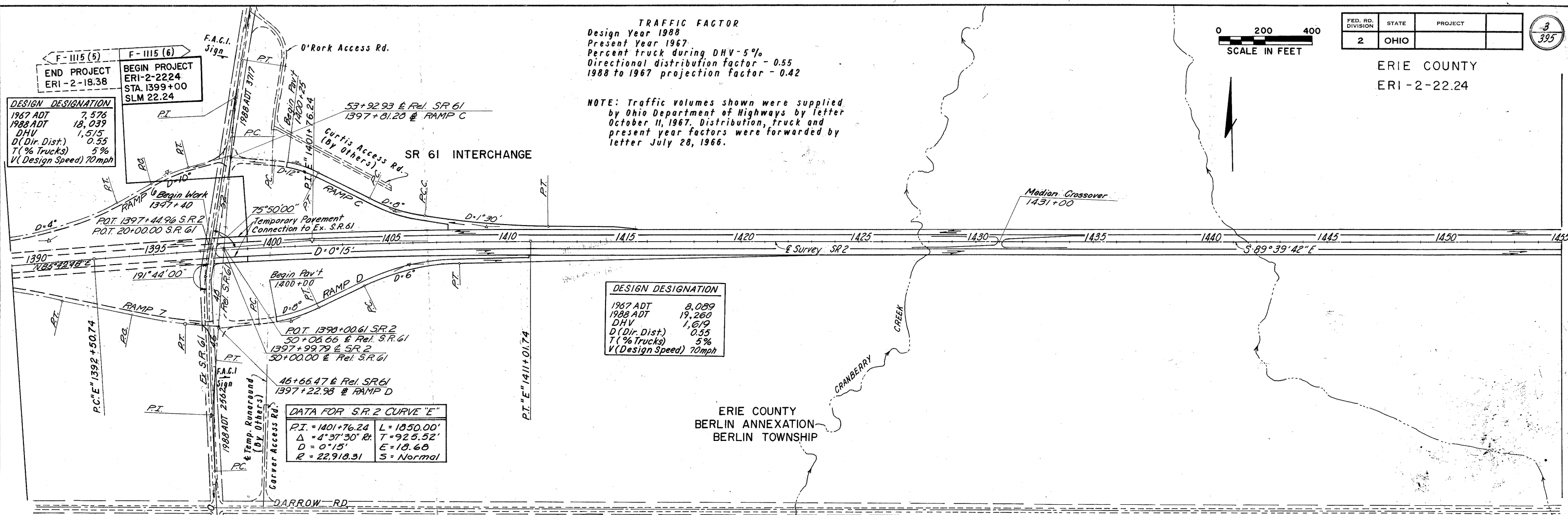
1967 ADT	8,089
1988 ADT	19,260
DHV	1,619
D (Dir. Dist.)	0.55
T (% Trucks)	5%
V (Design Speed)	70mph

**DATA FOR S.R. 2 CURVE "E"**

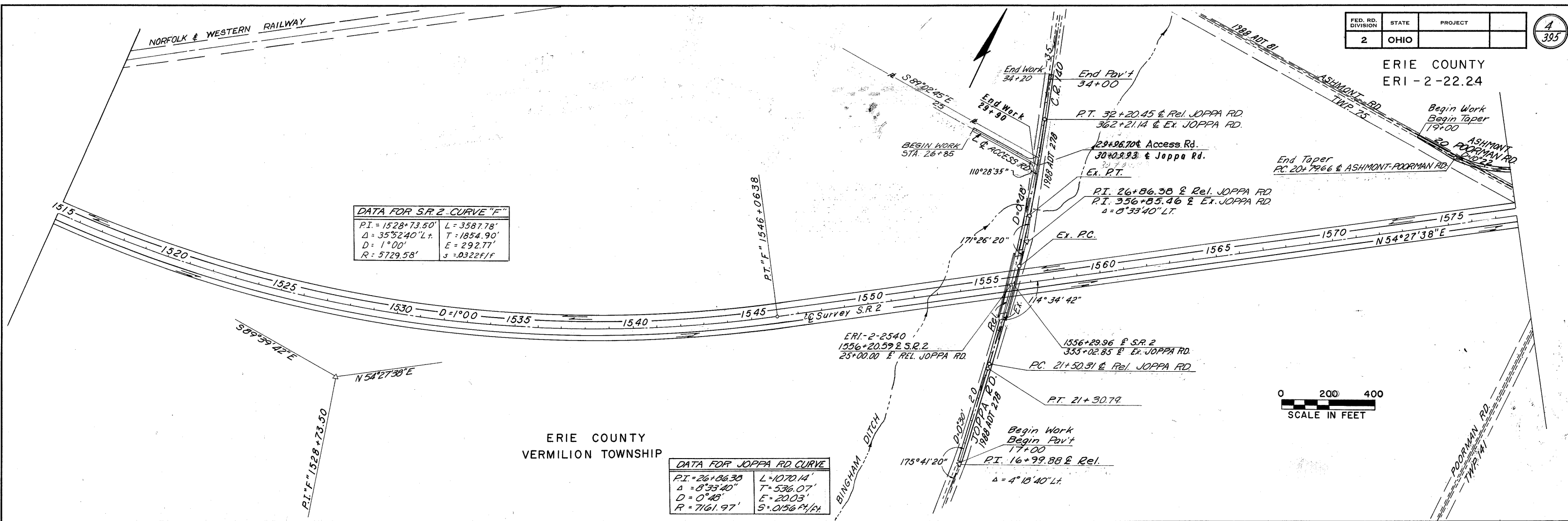
P.I.	= 1401+76.24	L	= 1050.00'
Δ	= 4°37'30" Rt	T	= 925.52'
D	= 0°15'	E	= 18.68
R	= 22,918.31	S	= Normal

**DATA FOR S.R. 2 CURVE "F"**

P.I.	= 1528+73.50	L	= 3587.78'
Δ	= 35°52'40" Lt	T	= 1854.90'
D	= 1°00'	E	= 292.77'
R	= 5729.58	S	= .0322 H/f

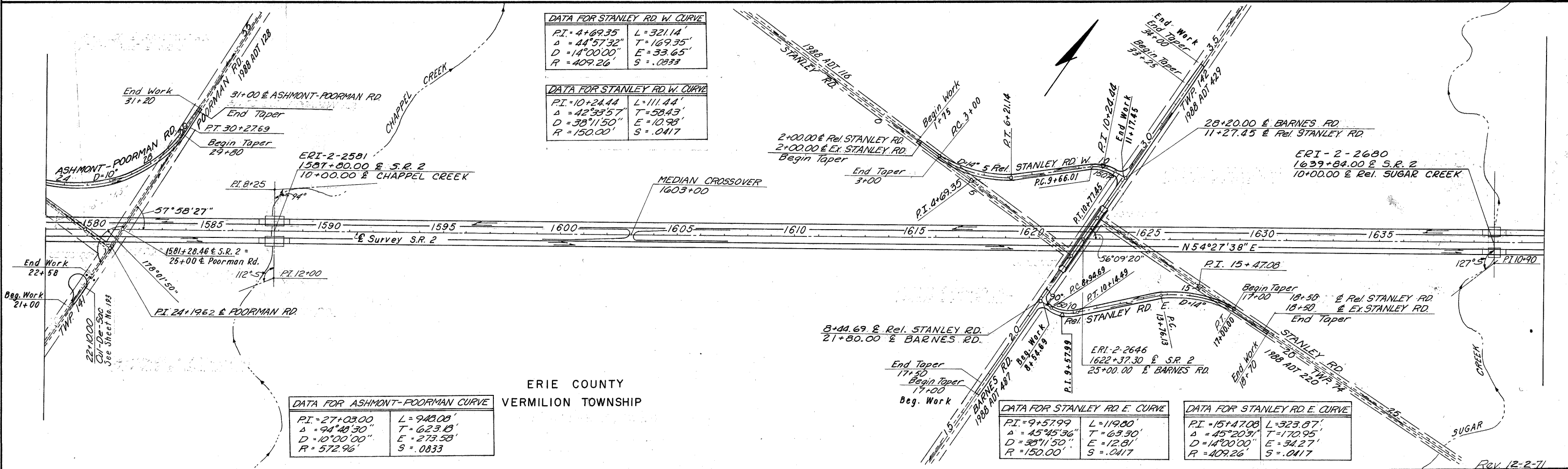


ERIE COUNTY  
ERI - 2-22.24



ERIE COUNTY  
VERMILION TOWNSHIP

DATA FOR JOPPA RD CURVE	
PI = 26+86.38	L = 1070.14'
Δ = 0°33'40"	T = 536.07'
D = 0°48'	E = 20.03'
R = 7161.97'	S = .0156 ft/ft



ERIE COUNTY  
VERMILION TOWNSHIP

DATA FOR ASHMONT-POORMAN CURVE	
PI = 27+03.00	L = 948.08'
Δ = 94°40'30"	T = 623.18'
D = 10°00'00"	E = 273.58'
R = 572.96'	S = .0833

DATA FOR STANLEY RD. E. CURVE	
PI = 9+57.99	L = 119.00'
Δ = 45°45'36"	T = 63.30'
D = 38°11'50"	E = 12.81'
R = 150.00'	S = .0417

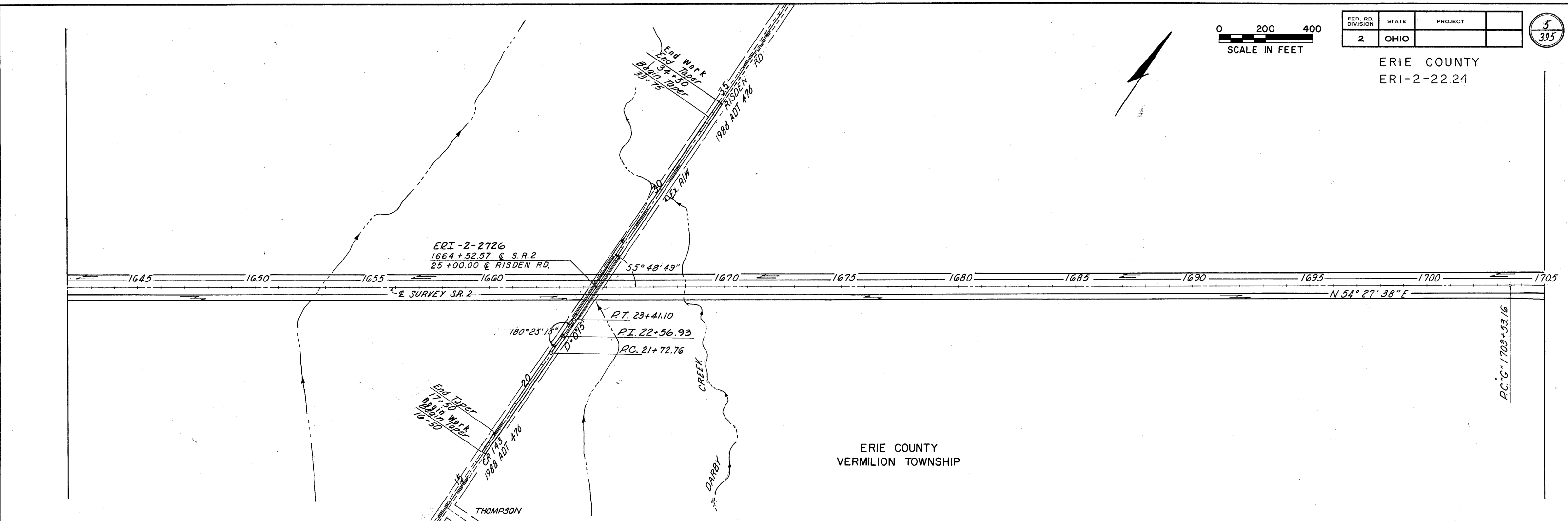
DATA FOR STANLEY RD. E. CURVE	
PI = 15+47.08	L = 323.07'
Δ = 45°20'31"	T = 170.95'
D = 14°00'00"	E = 34.27'
R = 409.26'	S = .0417

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

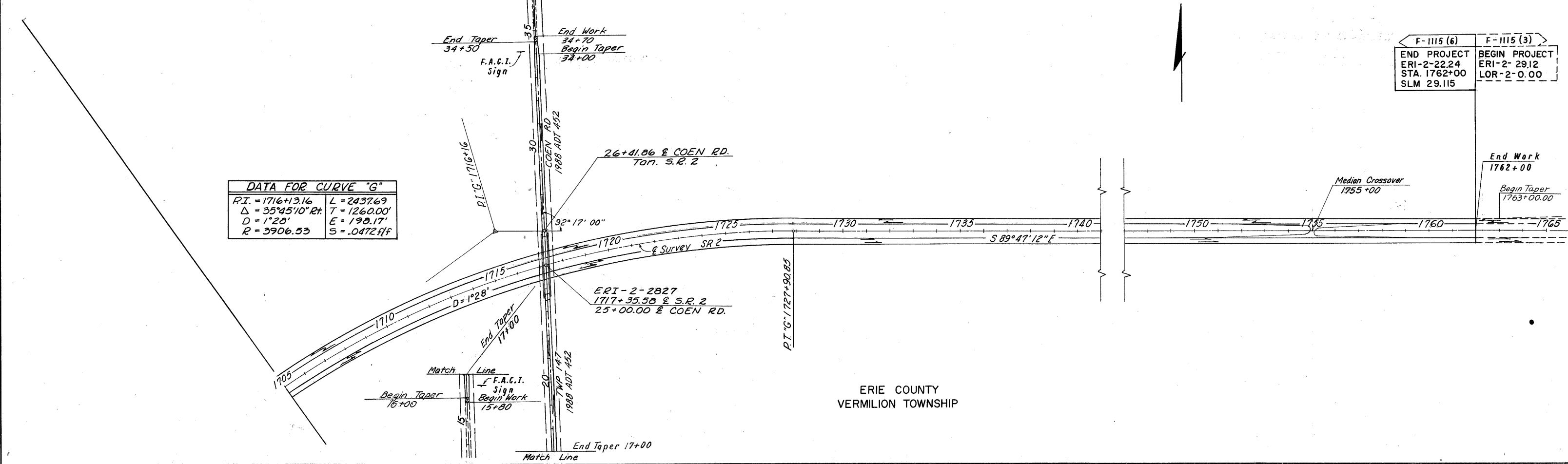
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0 200 400  
SCALE IN FEET

ERIE COUNTY  
ERI-2-22.24



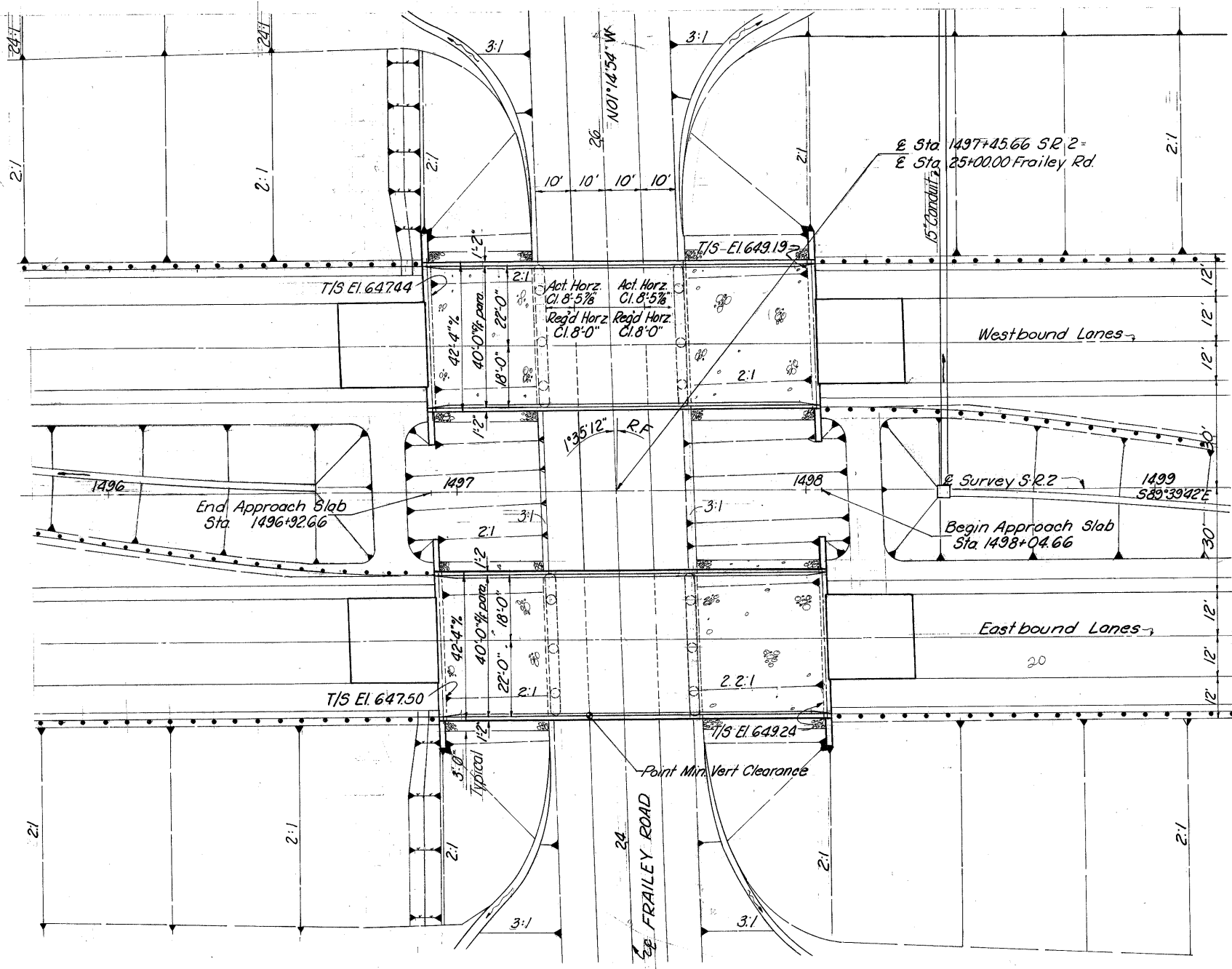
PI. = 1716+13.16	L = 2437.69
$\Delta = 35^{\circ}45'10'' R$	T = 1260.00'
D = 1'20"	E = 190.17'
R = 3906.53	S = .04721/f



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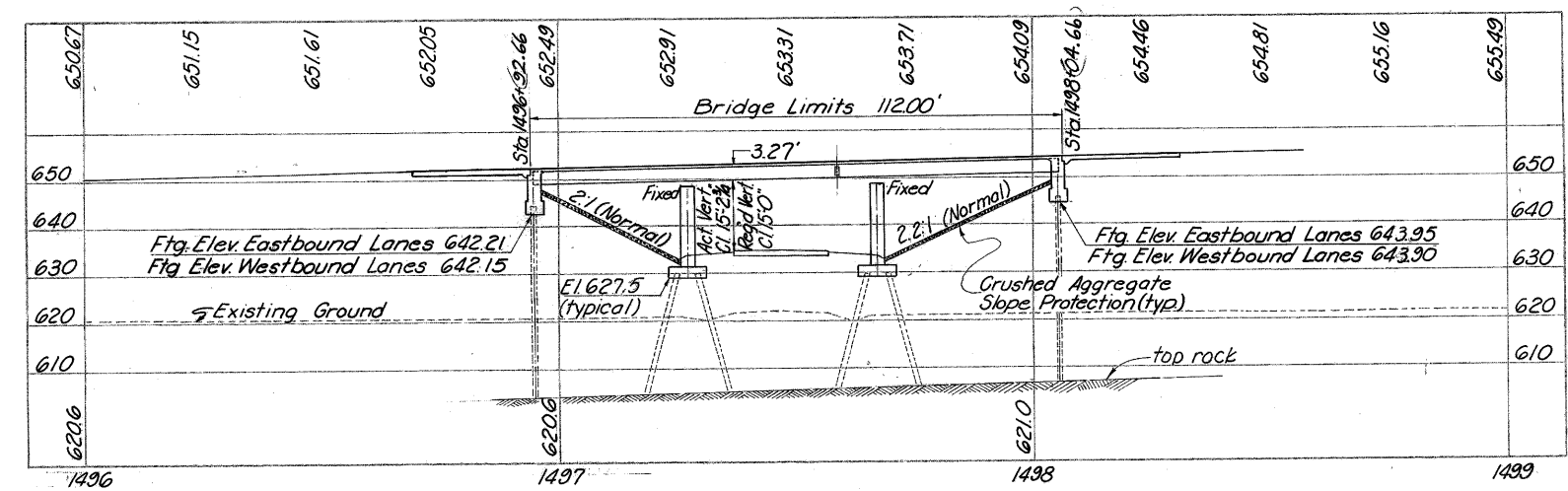
FED. RD. DIVISION	STATE	PROJECT	280 395
2	OHIO		

ERI. 2-22.24



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

PLAN



PROFILE EASTBOUND LANES

VERTICAL CURVE DATA  
PVI Sta 1505+00.00  
Length 1900'  
G1 = +2.00%  
G2 = -1.78%  
PVI Elev. = 668.71  
Vert. Corr. 8.98'

Abutment Piles: 10BP42, est. average pay length 35'.  
Pier Piles: 12BP53, est. average pay length 22'.

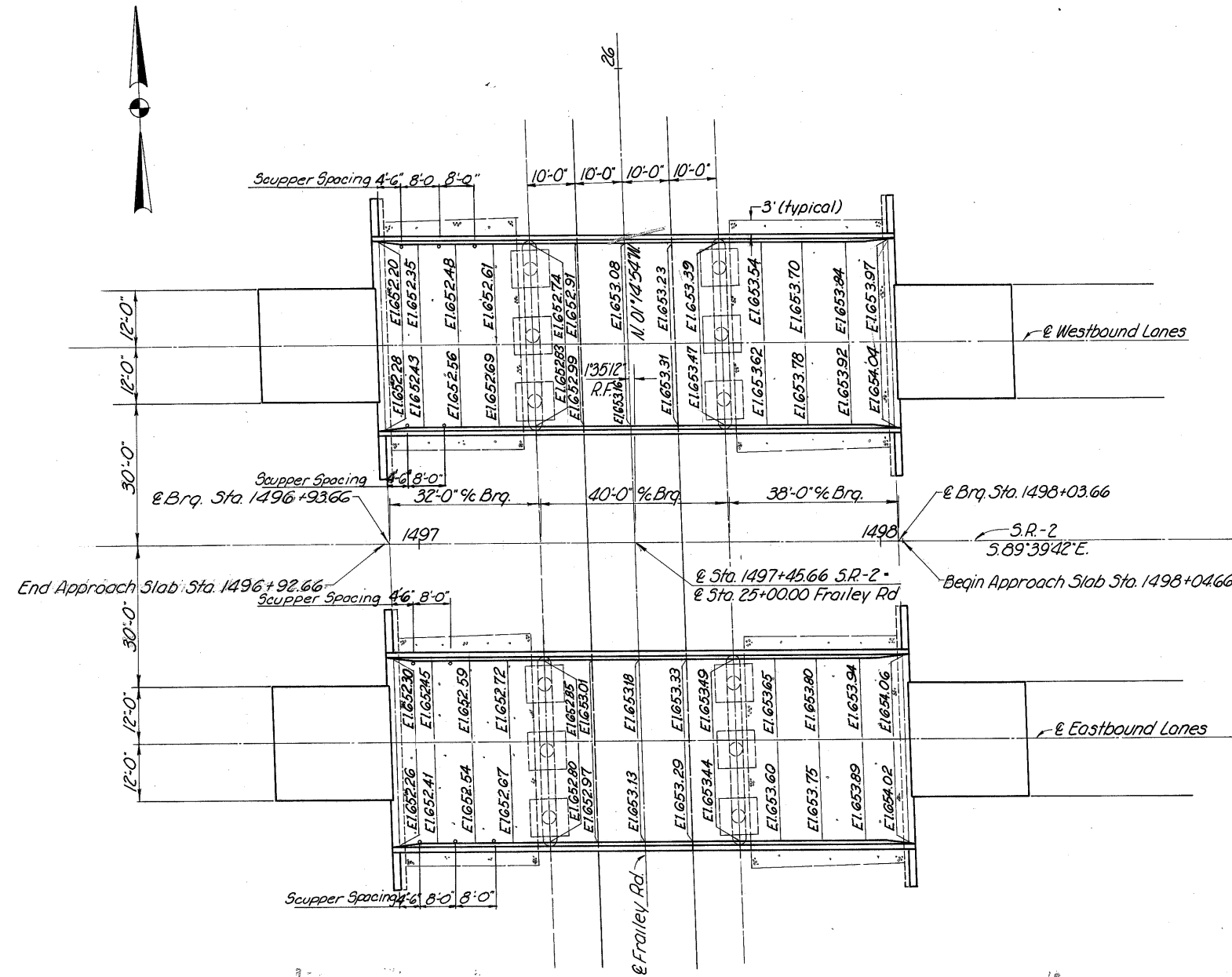
<b>PROPOSED STRUCTURE</b>					
TYPE: Continuous Steel Beam Bridge with Reinforced Concrete Deck & Substructure					
SPANS: 32'-0"; 40'-0"; 38'-0" % Brgs.					
ROADWAY: 40'-0" w/ parapets					
LOAD FREQUENCY: HS 20-44					
WEARING SURFACE: 1" monolithic concrete					
SKEW: 1°35'12" R.F.					
APPROACH SLAB: 45'-1-67" (25'-0" long)					
ALIGNMENT: tangent					
SUPERELEVATION: none					
AVERAGE DAILY TRAFFIC: 21,623 (1988)					
<b>FRANKLIN ENGINEERING, LIMITED</b>					
Consulting Engineers OHIO					
<b>SITE PLAN</b>					
BRIDGE NO ERI-2-2410L&R over FRAILEY ROAD					
ERIE COUNTY				SR-2	
Sta. 1497+45.66					
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE
HM	J		JBG	JF	1/15-67

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APR 13 1979  
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

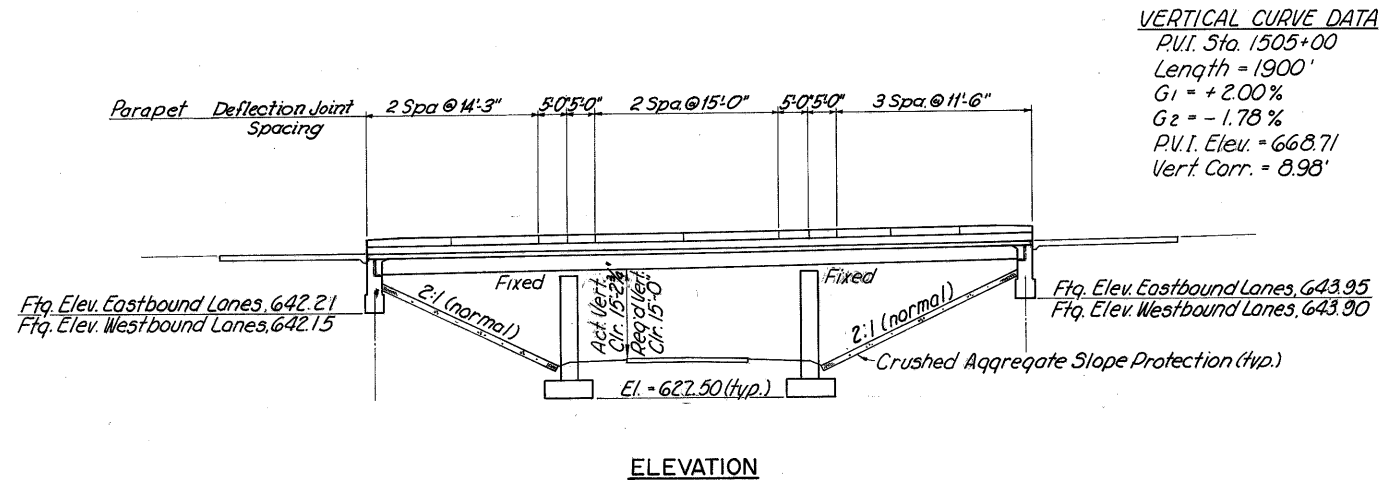
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ERI-2-22.24



GENERAL PLAN

NOTE: Elevation shown at Gutter Lines are Screed Elevations at Quarter Points of Span and include concrete dead load deflections.



ELEVATION

VERTICAL CURVE DATA  
P.V.I. Sta. 1505+00  
Length = 1900'  
G<sub>1</sub> = +2.00%  
G<sub>2</sub> = -1.78%  
P.V.I. Elev. = 668.71  
Vert. Corr. = 8.98'

REFERENCE shall be made to Standard Drawing AS-1-67 (rev. 6-12-69, BR-1-67, (REV/Q-15-71), SD-1-69 (dated 6-12-69 sheets 1, 2, 3 & 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, 1965, including the Ohio Supplement to these specifications.

DESIGN DATA:

Design Loading	H3-20-44
Concrete Class C	Unit Stress 1200 psi for Superstructure Unit Stress 1333 psi for Substructure
Structural Steel	ASTM A36-Unit Stress 20,000 psi
Reinforcing Steel	ASTM A615, A616 or A617-Unit Stress 20,000 psi. Spiral reinforcement may be plain bars ASTM A82, A306, A499, or A615

EMBANKMENT CONSTRUCTION: The embankments shall be constructed to the subgrade for a minimum distance of 200 feet back of the abutments. Excavation shall then be made for the abutment and piers.

ABUTMENT EXCAVATION QUANTITY in addition to 503.11, includes the removal of fill material required for construction of the abutments.

PILES shall be driven with a hammer of not less than 11,000 ft. lbs. 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:  
41 tons per pile using an 11,000 ft. lb hammer  
36 tons per pile using a 15,000 ft lb or greater hammer  
For the pier piles:  
63 tons per pile using an 11,000 ft lb hammer  
56 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 abutment piles and 40 tons per pile for pier piles.

UTILITY LINES: All expense involved in relocating the affected utility lines shall be borne by the Owner. The Contractor and Owner are requested to cooperate by arranging their work in such a manner that inconvenience to either would be held to a minimum.

WELDS on non-stress carrying members are shown thus:

WELD ATTACHMENTS: No attachments shall be made by field welding to the top flanges of continuous beams within a distance of 0.10 of the span length on either side of the interior supports. Welding for attachments to the top flanges of other part of the spans shall be kept at least 2" from edge of flange.

SCUPPERS shall be in accordance with Std. Dwg. SD-1-69 except that scupper pipes shall extend 8" below the bottom of the beams instead of 2".

# If bars in accordance with ASTM A616 are provided they shall be subject to bend tests as per AASHTO Designation M42-70.

FRANKLIN ENGINEERING, LIMITED Consulting Engineers				
COLUMBUS,				OHIO
GENERAL PLAN and GENERAL NOTES				
BRIDGE NO ERI-2-2410 L&R over FRAILEY ROAD				
ERIE COUNTY				SR-2
DESIGNED H.T.	DRAWN J.M.	TRACED	CHECKED Y.A.D.	REVIEWED J.A. DATE 11/21/68 REVISED

Rev. 1-4-72

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FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

282  
395

ERI-2-22.24

ESTIMATED QUANTITIES - TWO BRIDGES													
ITEM	TOTAL BOTH BR.	TOTALS		UNIT	DESCRIPTION	SUPERSTR.		ABUTMENTS		PIERS		GENERAL	
		Left Br.	Right Br.			Left Br.	Right Br.	Left Br.	Right Br.	Left Br.	Right Br.		
503	498	242	256	Cu.Yds.	Unclassified Excavation			128	128	114	128		
505	Lump Sum	Lump		Sum	Test Pile							Lump	
507	1240	620	620	Lin.Ft	Steel Piles HP12x53*					620	620		
507	1120	560	560	Lin.Ft	Steel Piles HP10x42*			560	560				
509	144,482	72,241	72,241	Lbs	Reinforcing Steel	44,902	44,902	10,198	10,198	17,141	17,141		
511	174	87	87	Cu.Yds	Class "C" Concrete, Abutments			87	87				
511	102	51	51	Cu.Yds	Class "C" Concrete, Piers above Footings					51	51		
511	96	48	48	Cu.Yds	Class "C" Concrete, Pier Footings					48	48		
511	346	173	173	Cu.Yds	Class "C" Concrete, Superstructure	173	173						
512	176	88	88	Lin.Ft	Premolding Sealing Strip			88	88				
513	131040	65520	65520	Lbs.	Structural Steel	65520	65520						
514	131040	65520	65520	Lbs.	Field Painting of Structural Steel	65520	65520						
516	168	84	84	Sq.Ft.	1/2" Preformed expan. joint filler			84	84				
516	170	85	85	Sq.Ft.	1" Preformed expan. joint filler			85	85				
518	10	5	5	Each	Scuppers, including supports	5	5						
518	82	41	41	Cu.Yds.	Porous Backfill			41	41				
518	232	116	116	Lin.Ft.	6" Perf. Helical Corrugated Metal Pipe, including Specials (707.01)			116	116				
518	96	48	48	Lin.Ft.	6" Non-Perf. Helical Corrugated Metal Pipe (707.01)			48	48				
601	726	363	363	Sq.Yds.	Crushed Aggregate Slope Protection							363	363
808	346	173	173	Units	Chemical admixture for concrete, Type A, Bor D	173	173						
516	20	10	10	Each	Bearing Devices					10	10		

\* HP 12x53 piles formerly designated 12 BP 53  
HP 10x42 piles formerly designated 10 BP 42

3/8

FRANKLIN ENGINEERING, LIMITED Consulting Engineers COLUMBUS, OHIO						
ESTIMATED QUANTITIES BRIDGE No ERI-2-2-2410L&R over FRAILEY ROAD ERIE COUNTY SR2						
DESIGNED HM	DRAWN	TRACED F.S.	CHECKED J.A.D. 10/10/68	REVIEWED J.F.	DATE 10/20/68	REVISED

Rev. 1-4-72

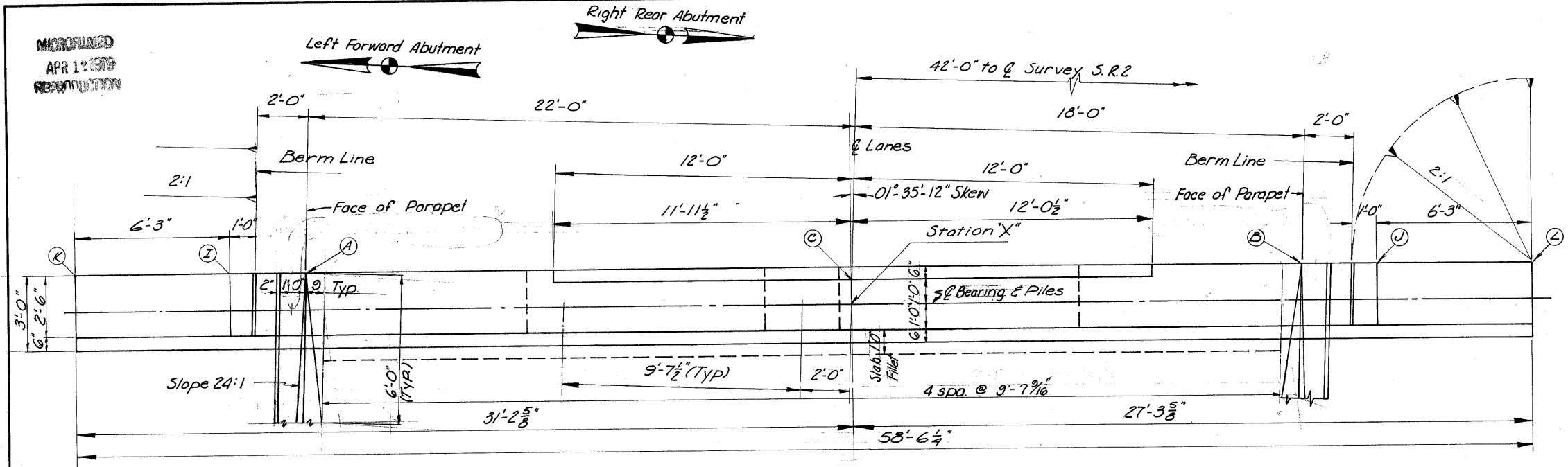


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RESOLUTION

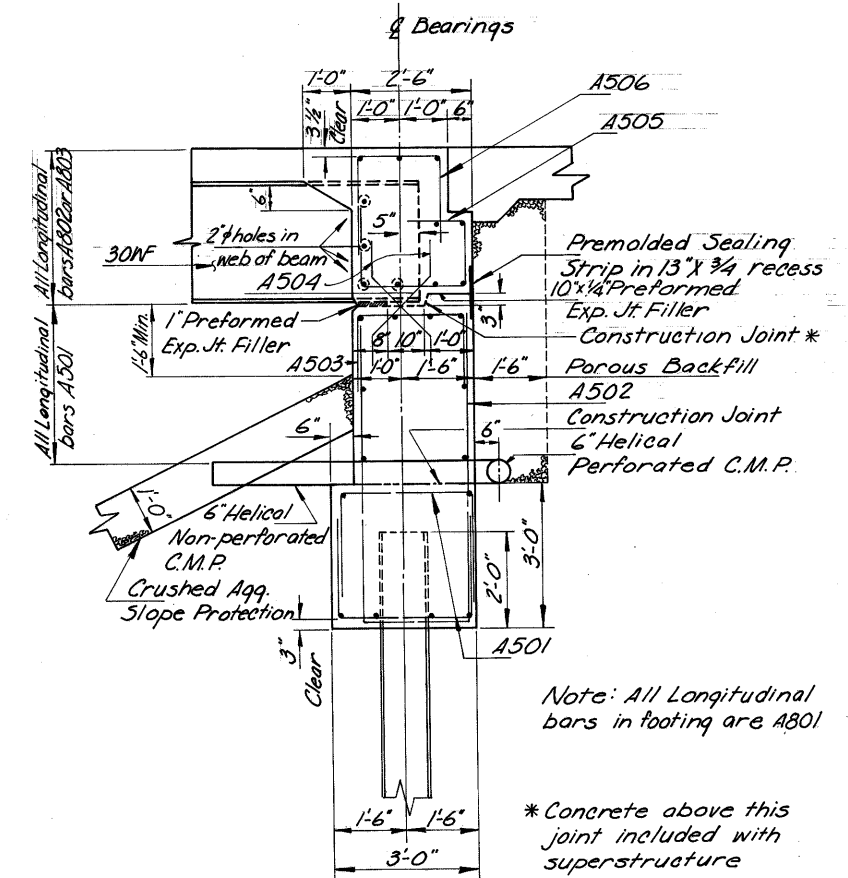
FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

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ERI.2-22.24

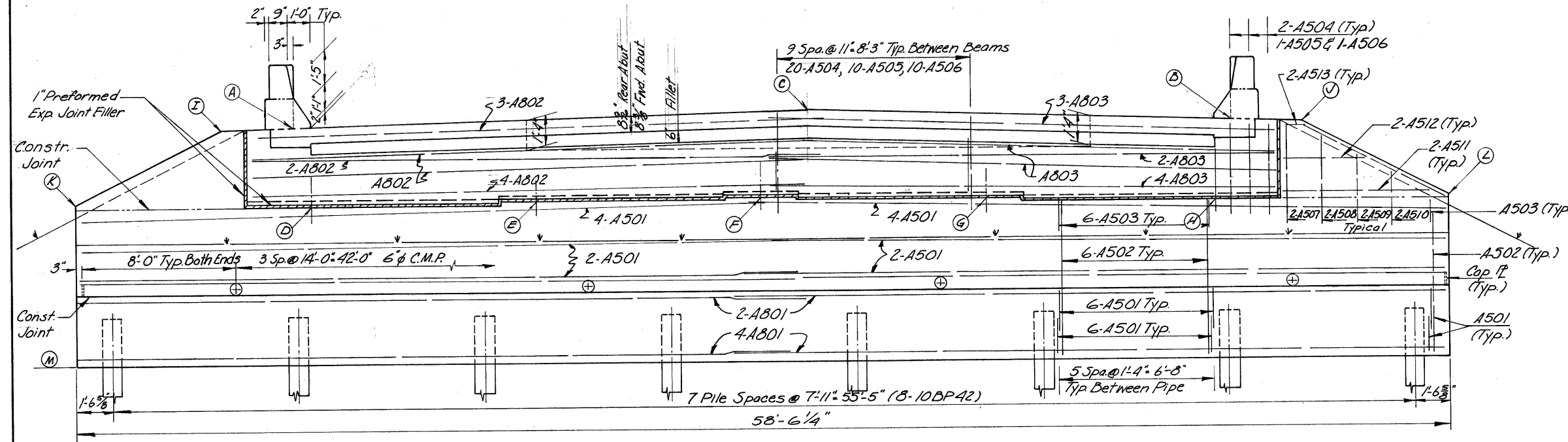


PLAN  
RIGHT BRIDGE-REAR ABUTMENT  
LEFT BRIDGE-FORWARD ABUTMENT



TYPICAL ABUTMENT DETAILS

Porous Backfill shall extend upward to the subgrade to the surface of the embankment slopes.



PLAN  
RIGHT BRIDGE-REAR ABUTMENT  
LEFT BRIDGE-FORWARD ABUTMENT

TABLE OF STATIONS AND ELEVATIONS

	Sta. X	A	B	C	D	E	F	G	H	I	J	K	L	M
Right Bridge-Rear Abut.	1496+94.8	652.23	652.27	652.57	649.00	649.15	649.29	649.20	649.04	652.18	652.22	649.05	649.09	642.21
Left Bridge-Fwd. Abut.	1498+02.50	653.98	654.06	654.33	650.69	650.85	651.00	650.92	650.77	653.93	654.01	650.80	650.89	643.90

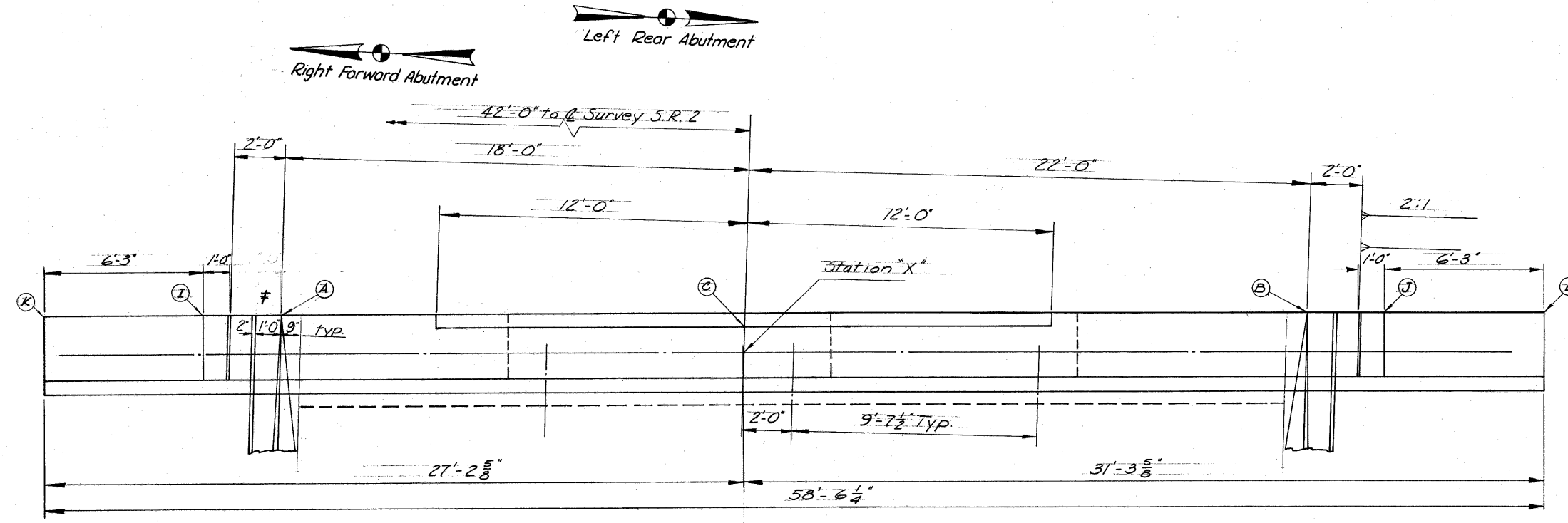
**FRANKLIN ENGINEERING, LIMITED**  
Consulting Engineers  
COLUMBUS, OHIO

**ABUTMENT DETAILS**  
BRIDGE NO. ERI-2-2410L&R  
over FRAILEY ROAD

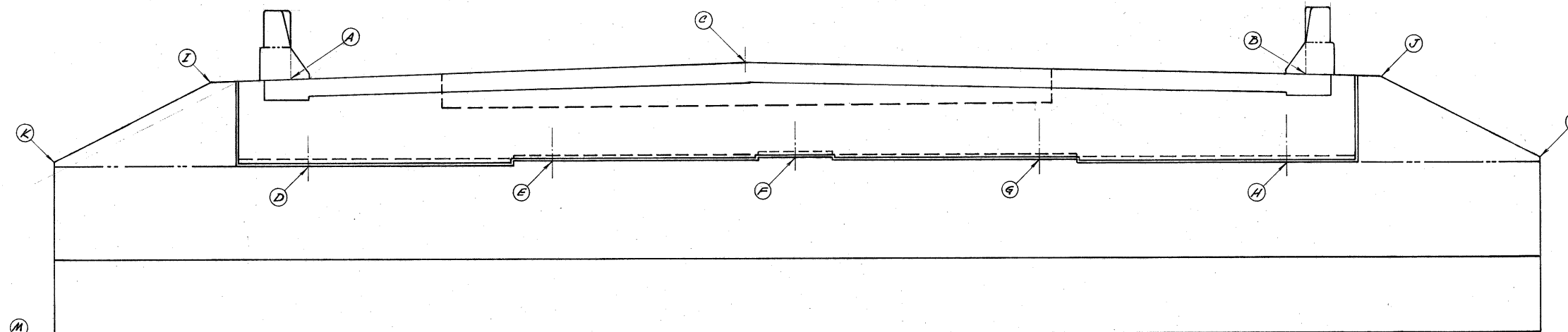
ERIE COUNTY SR-2

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
H.T.	J.C.		J.A.D.	J.F.	10/21/68	

MICROFILMED  
APR 19 1979  
REPRODUCTION



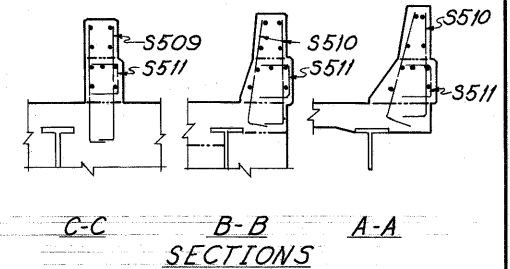
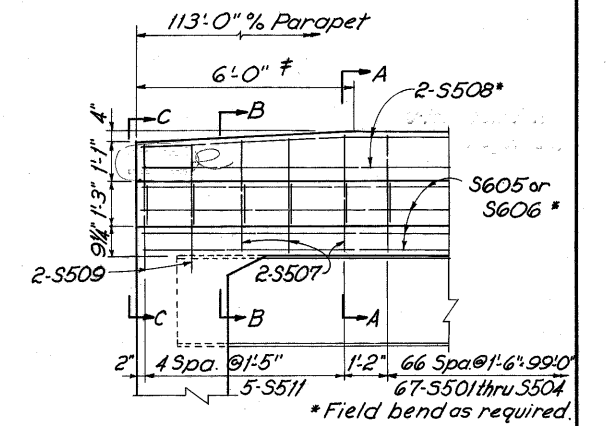
**PLAN**  
- - - RIGHT BRIDGE - FORWARD ABUTMENT  
- - - LEFT BRIDGE - REAR ABUTMENT



**ELEVATION**  
- - - RIGHT BRIDGE - FORWARD ABUTMENT  
- - - LEFT BRIDGE - REAR ABUTMENT

TABLE OF STATIONS AND ELEVATIONS														
	Sta. "X"	A	B	C	D	E	F	G	H	I	J	K	L	M
Right Bridge - Fwd Abut.	1498+04.02	654.08	654.04	654.36	650.79	650.95	651.04	650.89	650.74	654.03	653.99	650.90	650.86	643.95
Left Bridge - Rear Abut.	1496+92.50	652.25	652.17	652.53	649.02	649.17	649.25	649.09	648.94	652.20	652.12	649.07	648.99	642.15

10-15-71  
\* PARAPET TRANSITIONS shall be as shown on Std. Drwg. BR-1-67 revised 10-15-71. Reinforcing steel shall be field bent or cut to fit the revised shape.



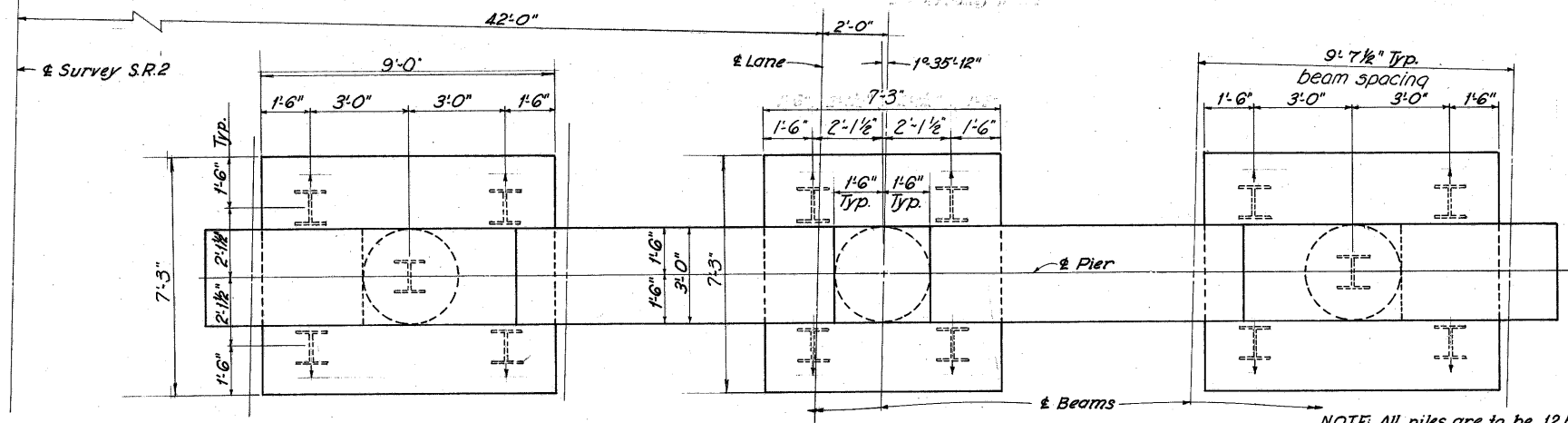
Note:  
For Details not shown, see sheet 4/B.

FRANKLIN ENGINEERING, LIMITED Consulting Engineers COLUMBUS, OHIO					
<b>ABUTMENT DETAILS</b> BRIDGE NO ERI-2-2410 L&R over FRAILEY ROAD					
ERIE COUNTY				SR-2	
DESIGNED HM	DRAWN J.C.	TRACED	CHECKED Y.A.D.	REVIEWED J.F.	DATE 10/21/68

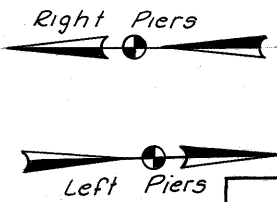
MICROFILMED  
APR 1 1979  
REPRODUCTION

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	ERI-2-22.24

285  
395

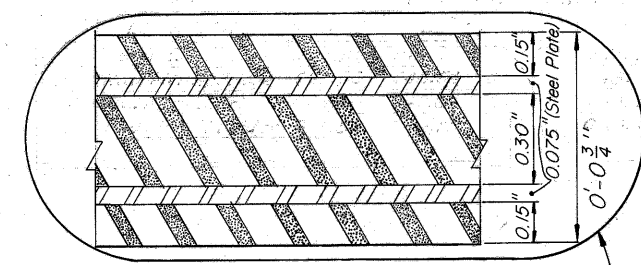


**PLAN**  
Right Bridge Shown  
Left Bridge Opposite Hand



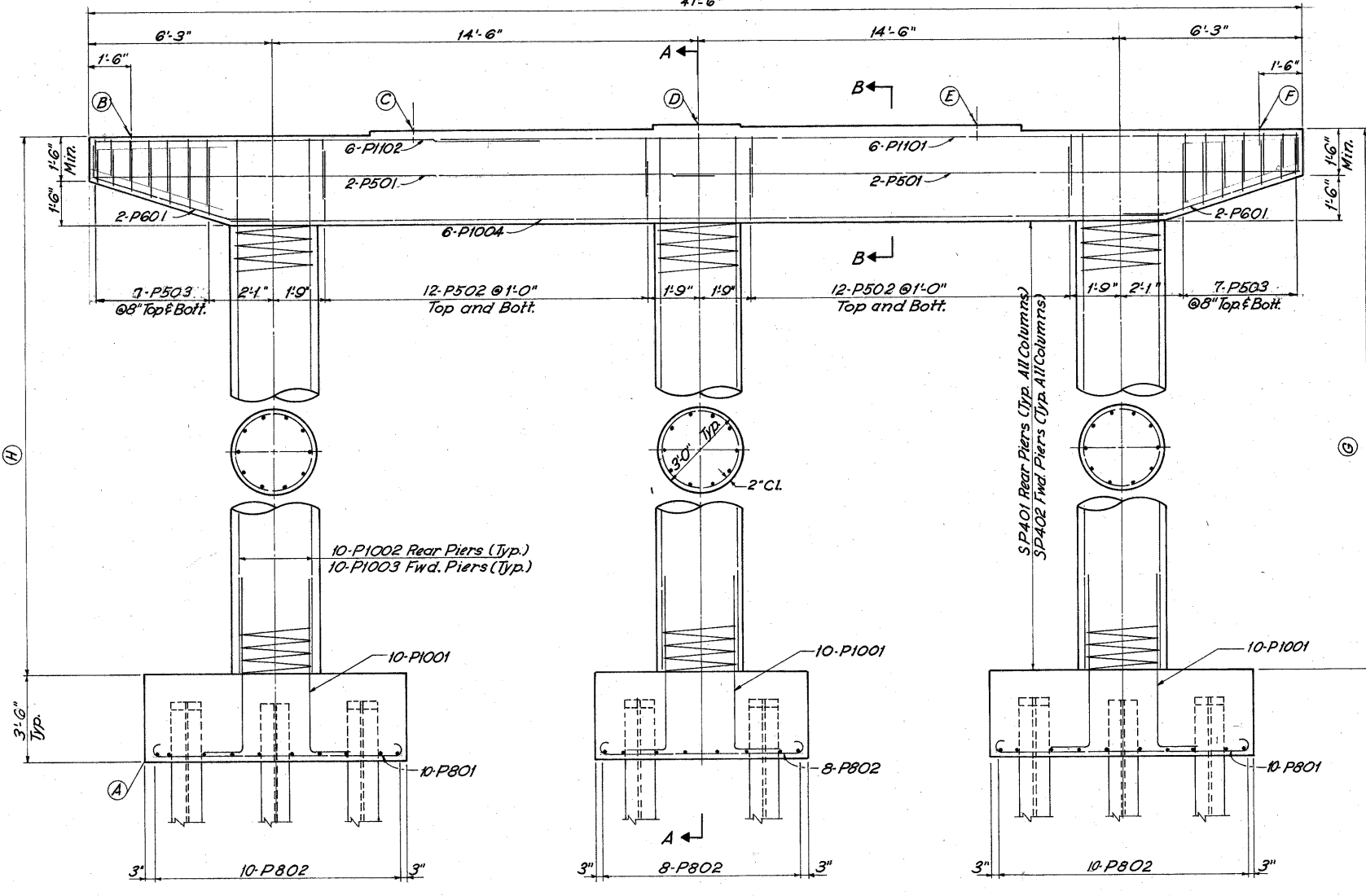
**TABLE OF ELEVATIONS**

LOCATION	A	B	C	D	E	F	G	H
Rear Pier-Lt. Bridge	627.50	649.31	649.47	649.62	649.51	649.40	18'-4 3/4"	18'-3 3/4"
Rear Pier-Rt. Bridge	627.50	649.42	649.57	649.67	649.52	649.37	18'-4 3/4"	18'-5"
Fwd. Pier-Lt. Bridge	627.50	649.95	650.10	650.26	650.17	650.03	19'-0 1/4"	18'-11 3/4"
Fwd. Pier-Rt. Bridge	627.50	650.05	650.20	650.29	650.15	650.80	18'-11 3/4"	19'-0 1/2"

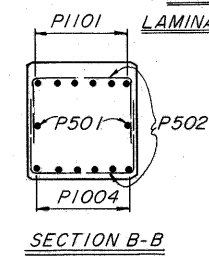


\* BLOW UP OF CROSS SECTION OF LAMINATED ELASTOMERIC BEARING PADS

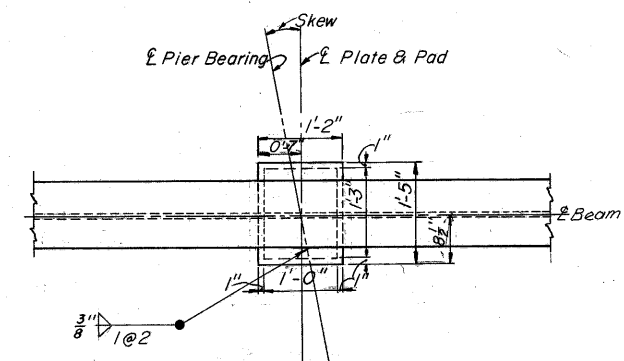
\* The bearing pad shall be a 50 Durometer Neoprene Steel Laminated Bearing Pad and shall be bonded to the beveled  $\# 14 \times (2 \frac{1}{8} - 2 \frac{3}{8}) \times 1'-5"$ . The beveled  $\# 14$ , shall be included with Item 516. Bearing Devices for payment.



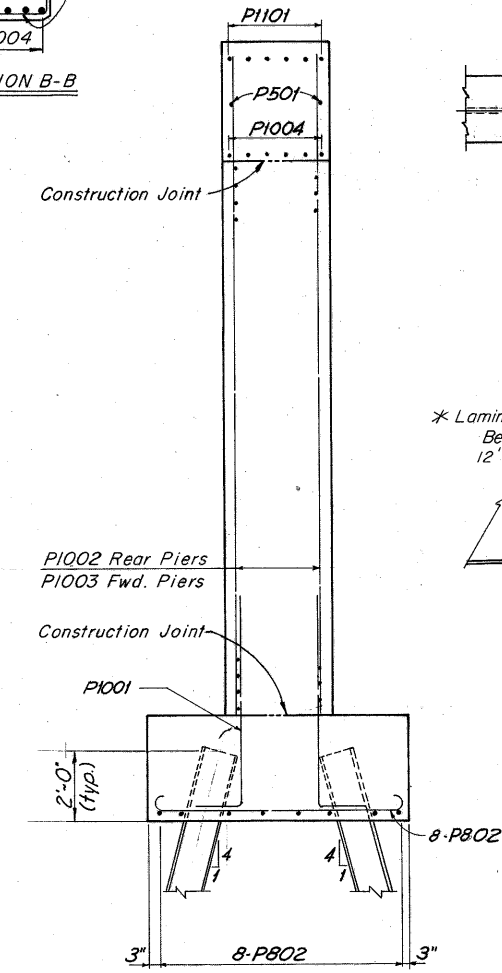
**ELEVATION**  
Right Bridge Shown  
Left Bridge Opposite Hand



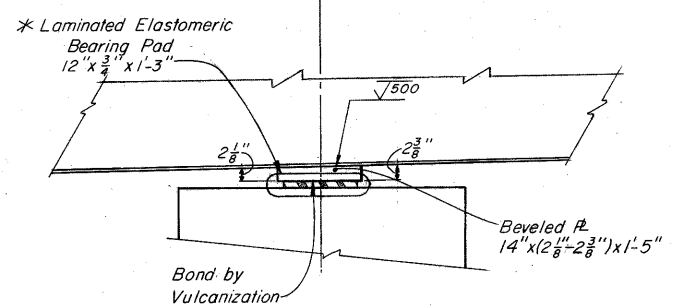
SECTION B-B



PLAN AT PIER BEARING



SECTION A-A



ELEVATION AT PIER BEARING

6/8

**FRANKLIN ENGINEERING, LIMITED**  
Consulting Engineers  
COLUMBUS, OHIO

**PIERS**  
BRIDGE NO. ERI-2-2410L&R  
over FRAILEY ROAD  
ERIE COUNTY SR-2

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HM	BS	BS	J.A.D.	J.F.	11/6/48	

\*\* Except where needed to clear parapet joints

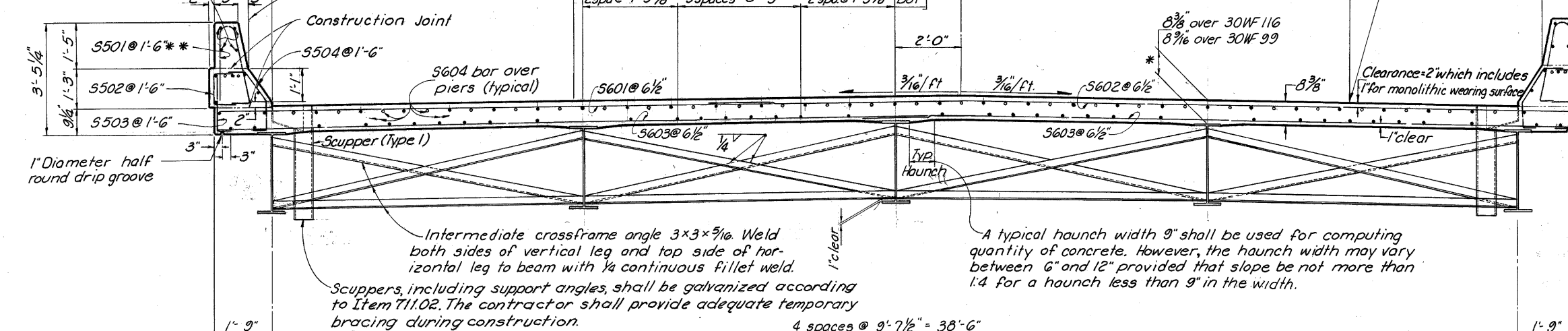
42'-0" to E Survey S.R. 2

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

286  
395

ERI. 2-22.24

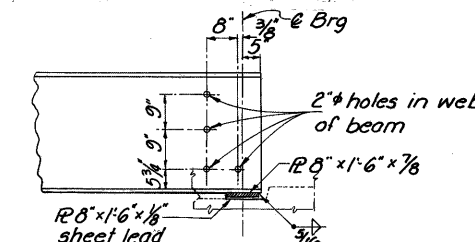
5505 @ 14'-3" parapet panels  
5506 @ 5'-0" parapet panels  
5507 @ 15'-0" parapet panels  
5508 @ 11'-6" parapet panels



TRANSVERSE SECTION

SCUPPERS shall be in accordance with Std. Dwg. SD-1-69 except that scupper pipes shall extend 8" below the bottom of the beams instead of 2"

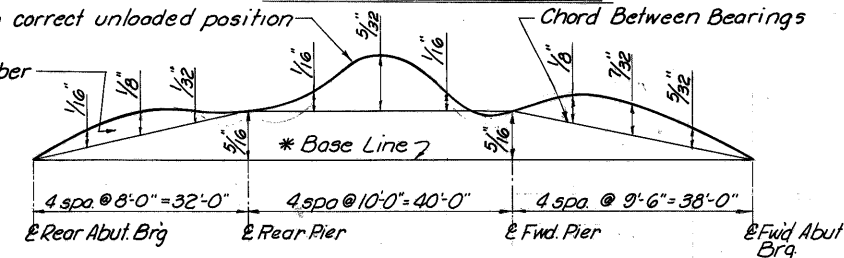
\* This is a nominal dimension. The quantity of deck concrete to be paid for shall be based upon this dimension, even though deviation from it may be necessary because the top flange of the beam may not have the exact camber or conformation required to place it parallel to the finished grade.



ABUTMENT BEARING DETAIL

Stringer shown in correct unloaded position

Required Shop Camber

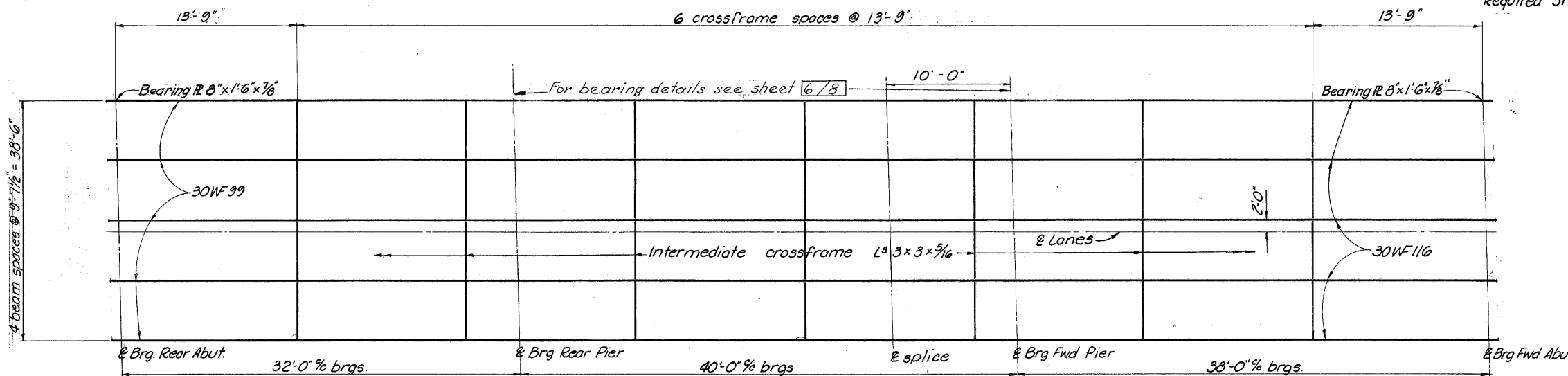


LAYOUT DIAGRAM

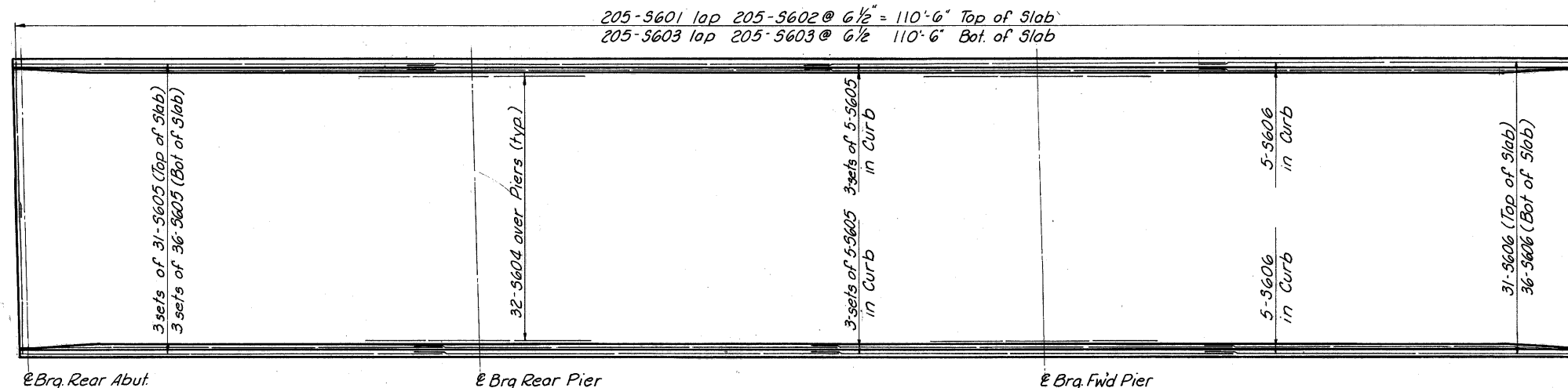
\* Base Line is a line from E of Beam at E Brg. Rear Abut. to E of Beam at E Forward Abutment

DEFLECTION AND CAMBER TABLE

LOCATION	SPAN 1			SPAN 2			SPAN 3		
	1/4 Pt	1/2 Pt	3/4 Pt	1/4 Pt	1/2 Pt	3/4 Pt	1/4 Pt	1/2 Pt	3/4 Pt
Deflection due to weight of steel	0	0	0	0	0	0	0	0	0
Deflection due to remaining dead load	1/16	3/32	1/32	1/32	3/32	1/32	3/32	1/32	1/8
Adjustment required for vertical curve	0	1/32	0	1/32	1/16	1/32	1/32	1/16	1/32
Required shop camber	1/16	1/8	1/32	1/16	5/32	1/16	1/8	1/32	5/32



FRAMING PLAN



SLAB PLAN

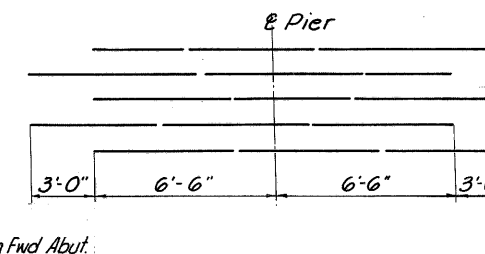


DIAGRAM SHOWING STAGGER OF S604 BARS OVER PIERS

FRANKLIN ENGINEERING, LIMITED  
Consulting Engineers  
COLUMBUS, OHIO

**SUPERSTRUCTURE DETAILS**  
BRIDGE No ERI-2-2410 LER  
over  
FRAILEY ROAD

ERIE COUNTY SR 2

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HM	J		J.A.D.	J	12/1/68	

