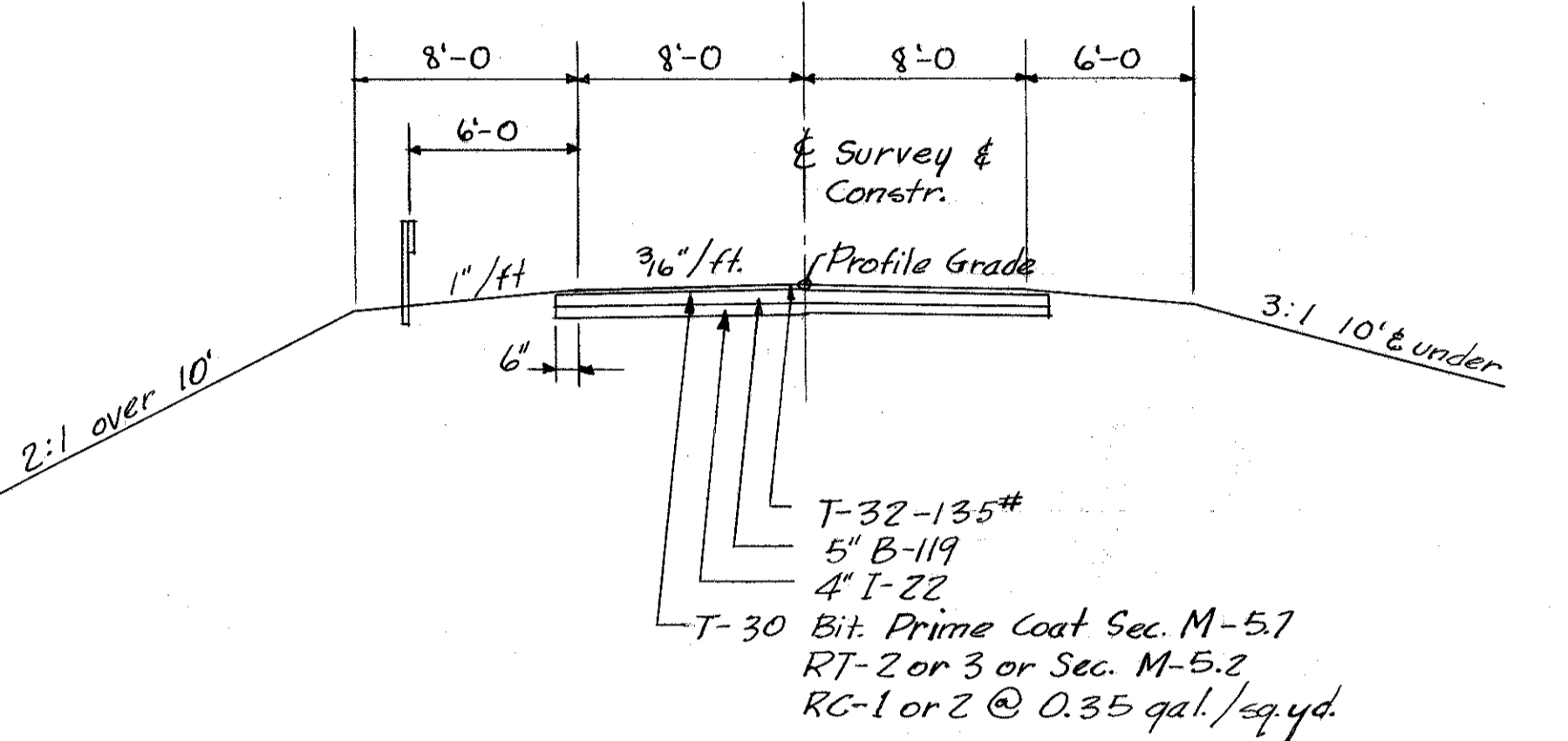
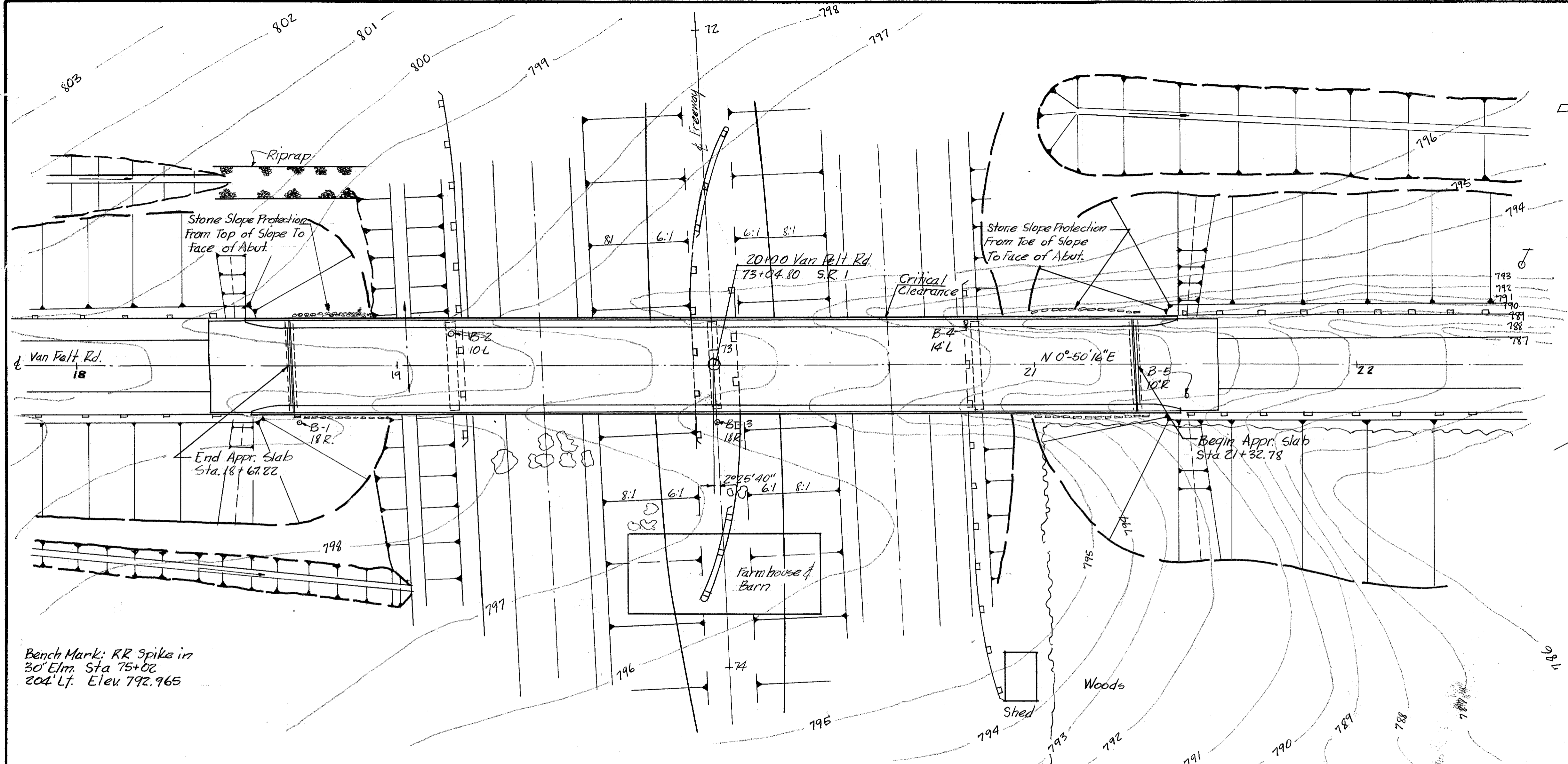


FED. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
2	OHIO	I-1103(15)	1965

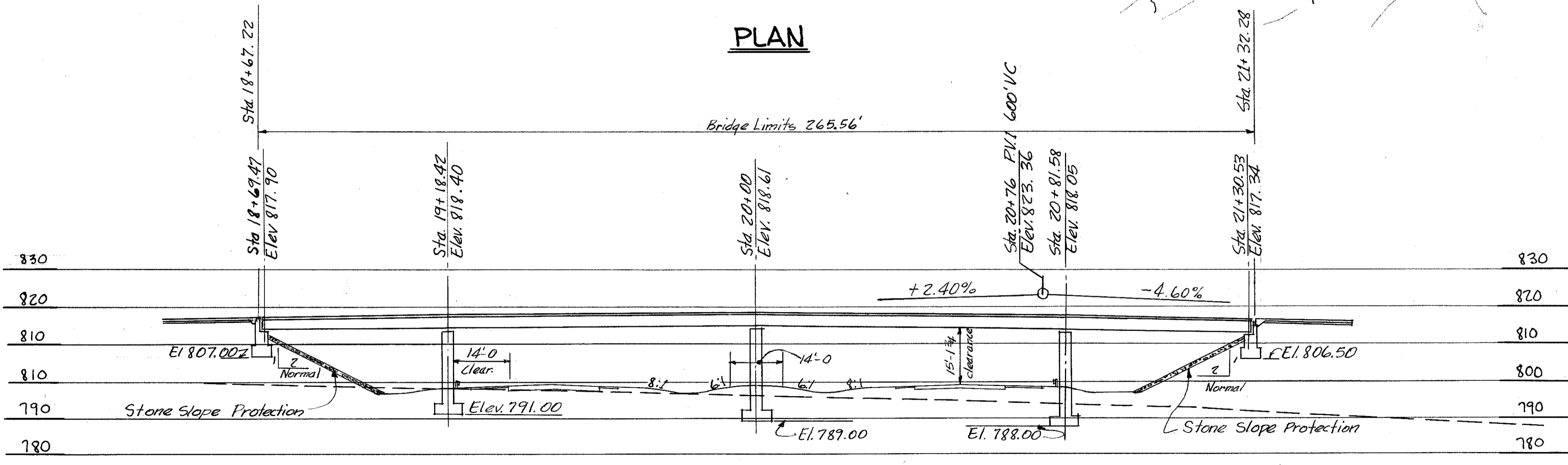
LAKE COUNTY
LAK-1-26.51
ASHTABULA COUNTY
ATB-1-0.00



TYPICAL SECTION THRU APPROACH PAVEMENT

Bench Mark: RR Spike in
30' Elm. Sta 75+02
20d. Lt. Elev. 792.965

PLAN



SECTION ALONG C

PROPOSED STRUCTURE	
Type:	Continuous Steel Beam with Reinforced Concrete Deck and Substructure.
Span:	48'-11 3/4", 81'-7", 81'-7", 48'-11 3/4" % Brq.
Roadway:	24'-0" 5/8" Safety Curbs
Load Frequency:	C.F. = 30 (51)
Skew:	2° 25' 40" R.F.
Wearing Surface:	2" Monolithic Conc.
Approach Slabs:	25'-0" Long
Alignment:	Tangent
Safety Curb:	2'-0" each Side

NOTES
Foundation Soundings - Foundation design and foundation quantities are based on a study of soil sampling soundings made of the site. This sounding information may be inspected at the Interstate Projects Office in Columbus or in the Division office, but the State assumes no responsibility for the accuracy thereof.

1965 TRAFFIC 60VPD with under 30 combination trucks

CHARLES L. BARBER AND ASSOCIATES
HARRY BALKE ENGINEERS
TOLEDO, OHIO

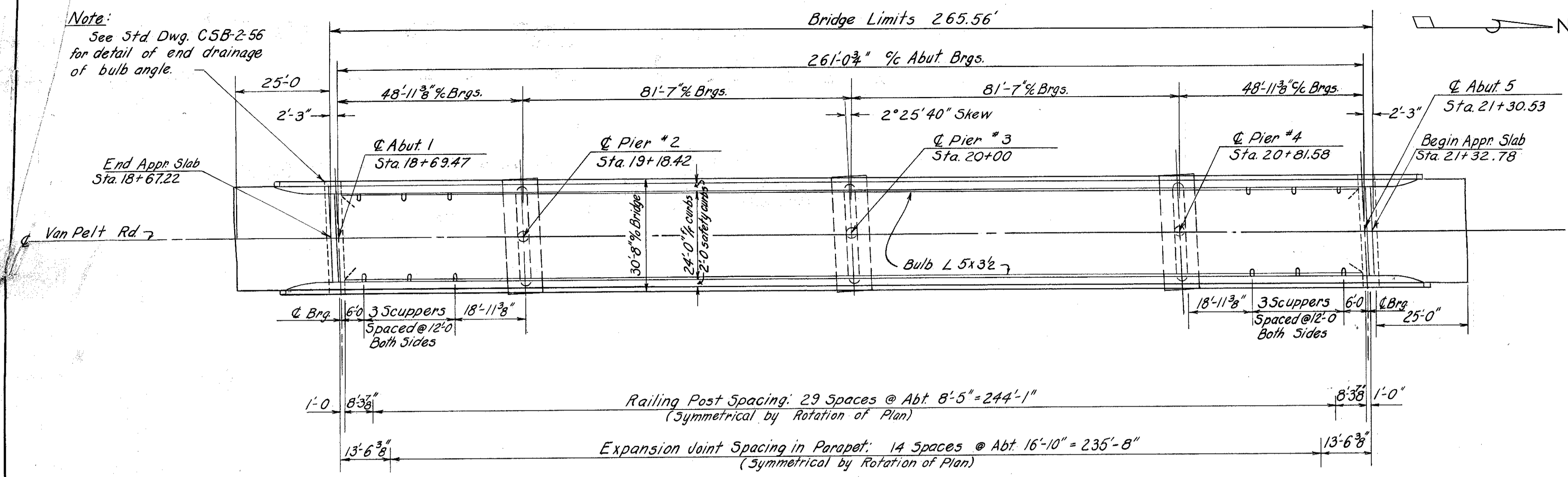
SITE PLAN
BRIDGE No. ATB-1-0138
SRI UNDER VAN PELT RD.
ASHTABULA CO. SK1
STA: 73+04.80

SCALE: 1" = 20'-0"

PRESENT TOPOGRAPHY		PROPOSED WORK			
DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED	
VAL	DAP	RGE	DKM	JJB	ACA

LAKE COUNTY
LAK-1-26.51
ASHTABULA COUNTY
ATB-1-0.00

Note:
See Std Dwg. CSB-2-56
for detail of end drainage
of bulb angle.



GENERAL PLAN

GENERAL NOTES

REFERENCE shall be made to Standard Drawings CSB-2-56 sheets 2 of 6 and 3 of 6 dated December 3, 1956, RB-1-55 dated March 1, 1955, AR-1-57, dated April 9, 1957, and supplemental specifications No. 3-114, revised August 1, 1957.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications for Highway Structures" of the State of Ohio, Department of Highways, dated October 1, 1951, together with revisions thereof dated July 15, 1952, April 1, 1954 and February 1, 1955.

CONCRETE: Superstructure, columns, caps and abutments above footings shall be "Class C concrete." Abutments footings and pier footings shall be "Class E concrete."

DECK CONSTRUCTION PROCEDURE: In order to facilitate water curing of the concrete of the deck slab, the placing of concrete shall progress upgrade. The slab may be placed in sections between transverse construction joints which are normal to the center line of bridge and are located near the center of any span.

EXCAVATION QUANTITIES: shall be as outlined in Sec. E-2 and includes the removal of material from finished grade down to original ground down, whichever is the lower in elevation. Abutment excavation quantities include the removal of fill material between the surface of the embankment and the bottom of the abutment. Backfilling will be included in the cost of excavation.

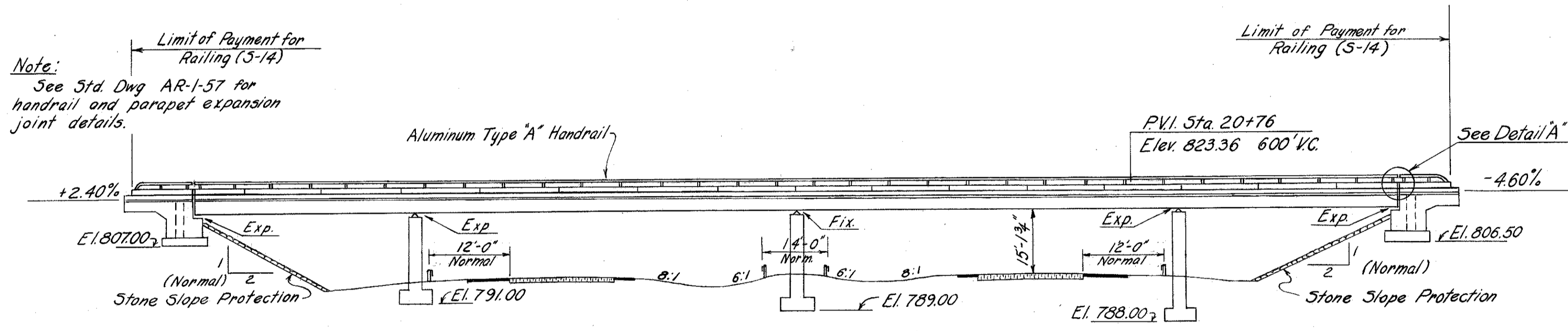
STONE SLOPE PROTECTION extending from face of abutment to invert of ditch shall be provided at all abutments. Protection shall be a minimum of 12 inches thick, measured perpendicular to the slope, and shall extend 3 feet past outside limits of structure. Stone material shall meet the requirements of Section 5-29.02 for porous drains.

WELDING: All welding shall be Class A unless otherwise shown. Any weld shown as field weld may be made in the shop at the option of the Contractor.

WELDED STEEL: The steel for all rolled beams and moment plates with a thickness greater than 1" shall conform to ASTM Designation A-373. All other structural steel shall conform to either ASTM A-7 (per Sec. M-7.4(a) of the Construction and Material Specifications) or to A-373.

BAR SIZE for reinforcing steel is indicated in the bar mark. The first digit indicates bar size number. For example, 5601 is a No. 6 size bar and A1014 is a No. 10 size.

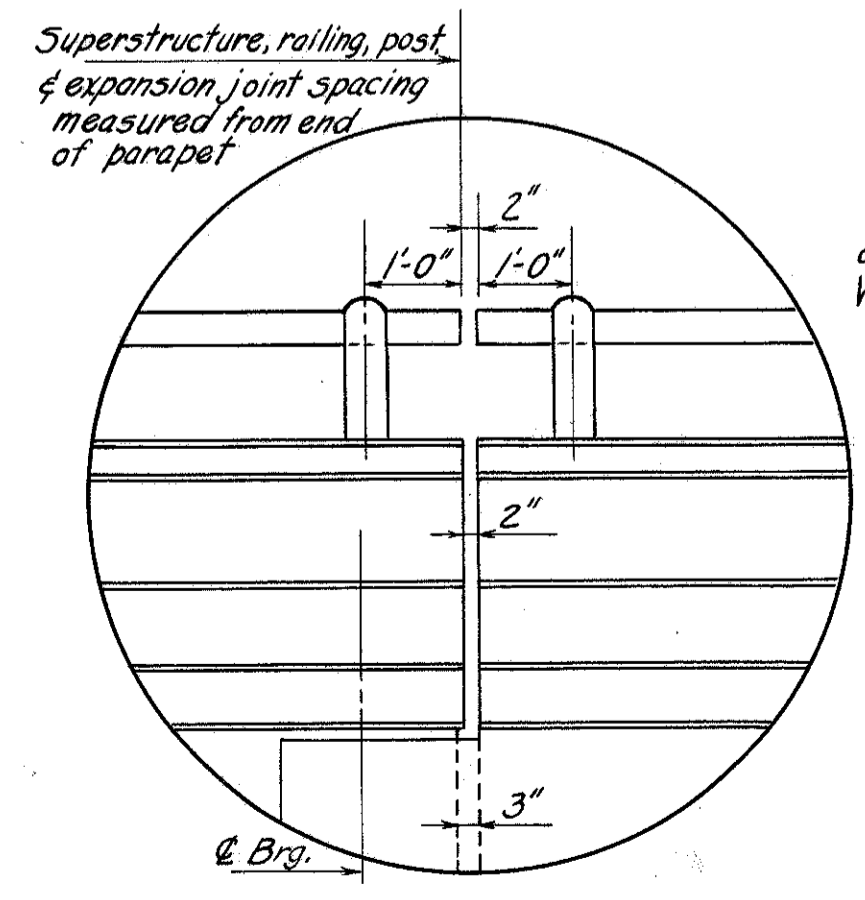
Note:
See Std Dwg. AR-1-57 for
handrail and parapet expansion
joint details.



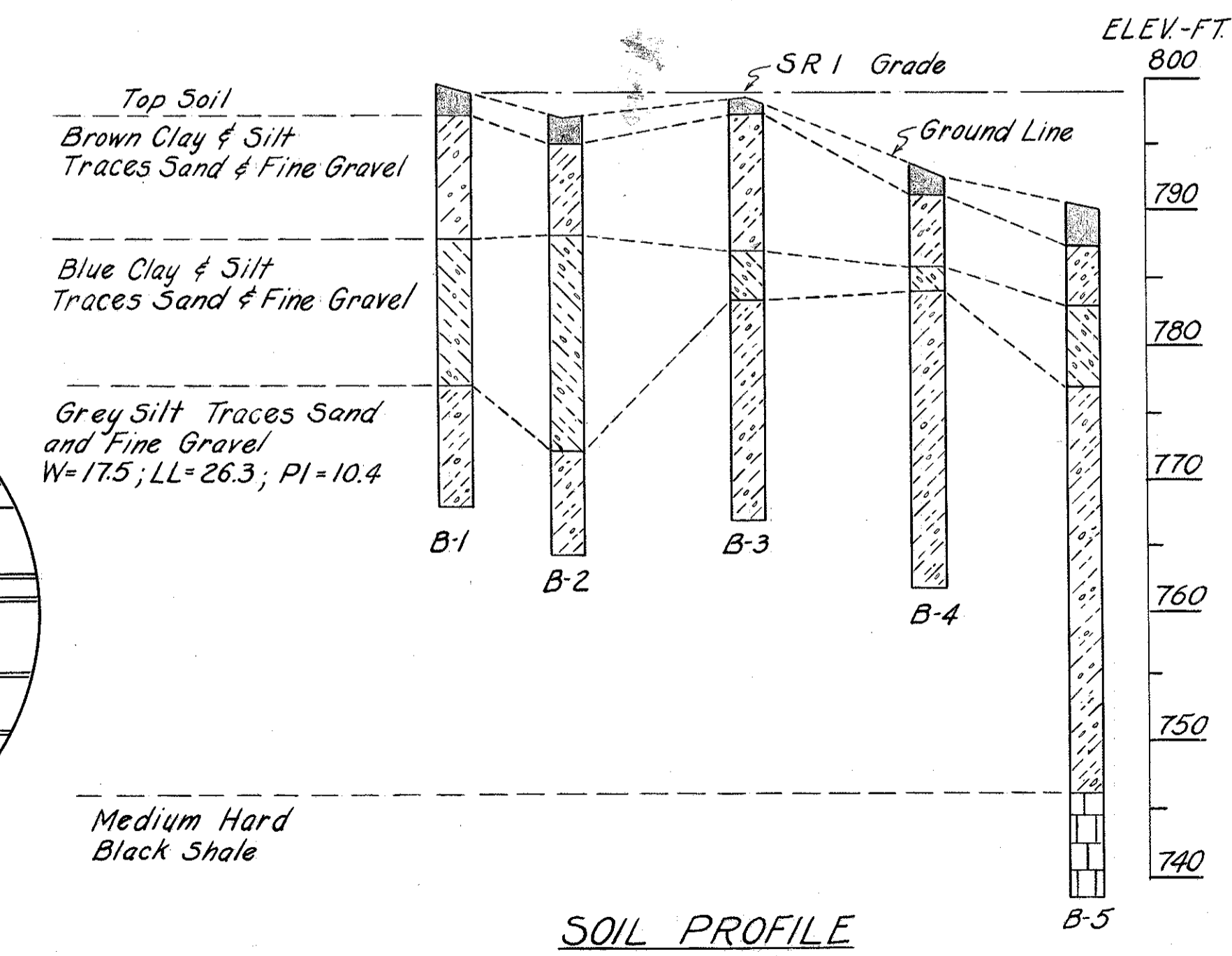
ELEVATION

ESTIMATED QUANTITIES

Item	Total	Unit	Description	Superstr.	Abut. 1	Abut. 5	Pier 2	Pier 3	Pier 4	Genl.
E 2	452	Cu. Yd.	Excavation for Structures		85	85	99	106	77	
E 2	L. 5	L. S.	Cofferdams, Cribs, & Sheeting							L. 5
5 1	231	Cu. Yd.	Class "C" Concrete (Superstructure)	231						
5 1	70	Cu. Yd.	Class "C" Concrete (Pier Caps & Cols.)				22	24	24	
5 1	74	Cu. Yd.	Class "C" Concrete (Abutment above footings)		37	37				
5 1	131	Cu. Yd.	Class "E" Concrete (Pier & Abutment Footings)		17	17	33	32	32	
5 4	93,696	Lbs.	Reinforcing Steel	60,605	4,408	4,409		24,274		
5 7	214,814	Lbs.	Structural Steel	214,814						
5 8	214,814	Lbs.	Field Painting of Structural Steel	214,814						
5 14	578	Lin. Ft.	Railing (Aluminum Type "A" & Concrete Parapet)	526	26	26				
5 29	18	Cu. Yd.	Porous Backfill		9	9				
5 29	93	Cu. Yd.	Stone Slope Protection (1'-0" thick)		47	46				



DETAIL 'A'



SOIL PROFILE

CHARLES L. BARBER AND ASSOCIATES
HARRY BALKE ENGINEERS
TOLEDO, OHIO

GENERAL PLAN & ELEVATION

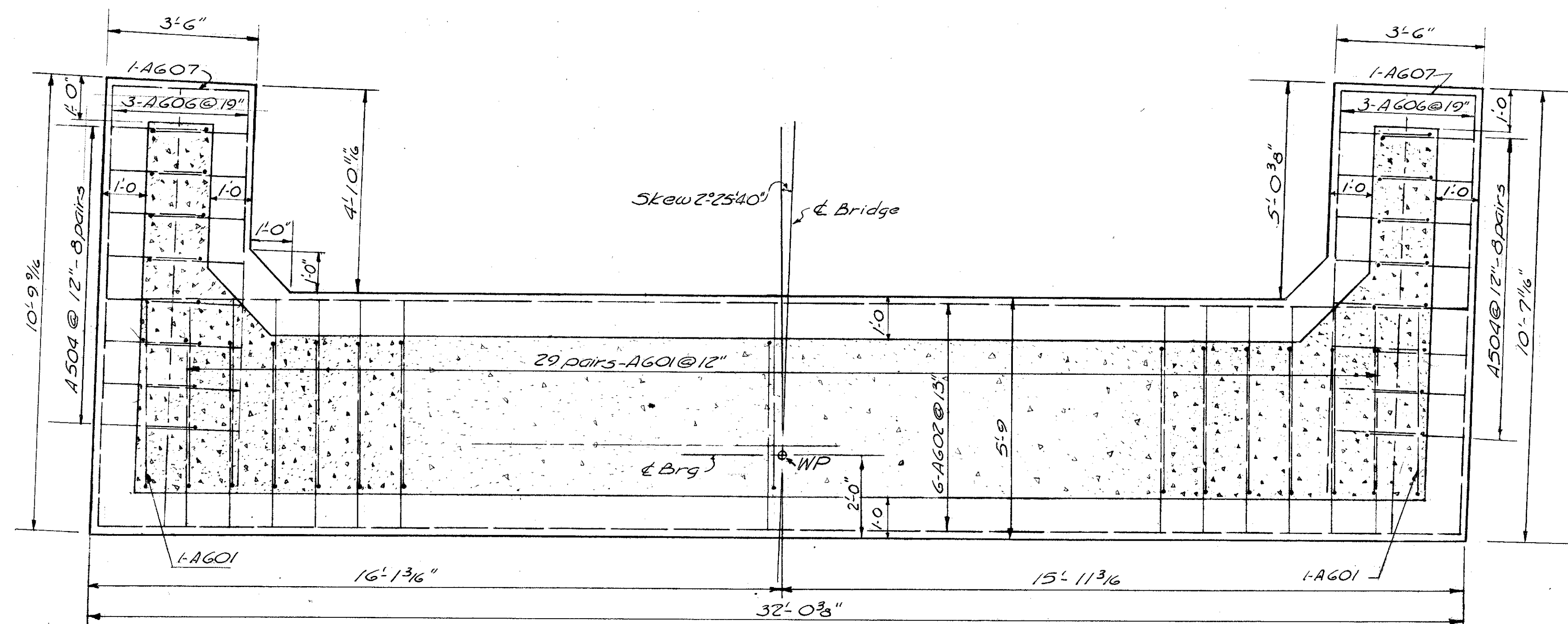
BRIDGE No. ATB-1-0138
SR 1 UNDER VAN PELT RD.
ASHTABULA CO. SR 1
STA. 73+04.80

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C.T.L.	M5		R.G.E.	ACA	8/28/57	

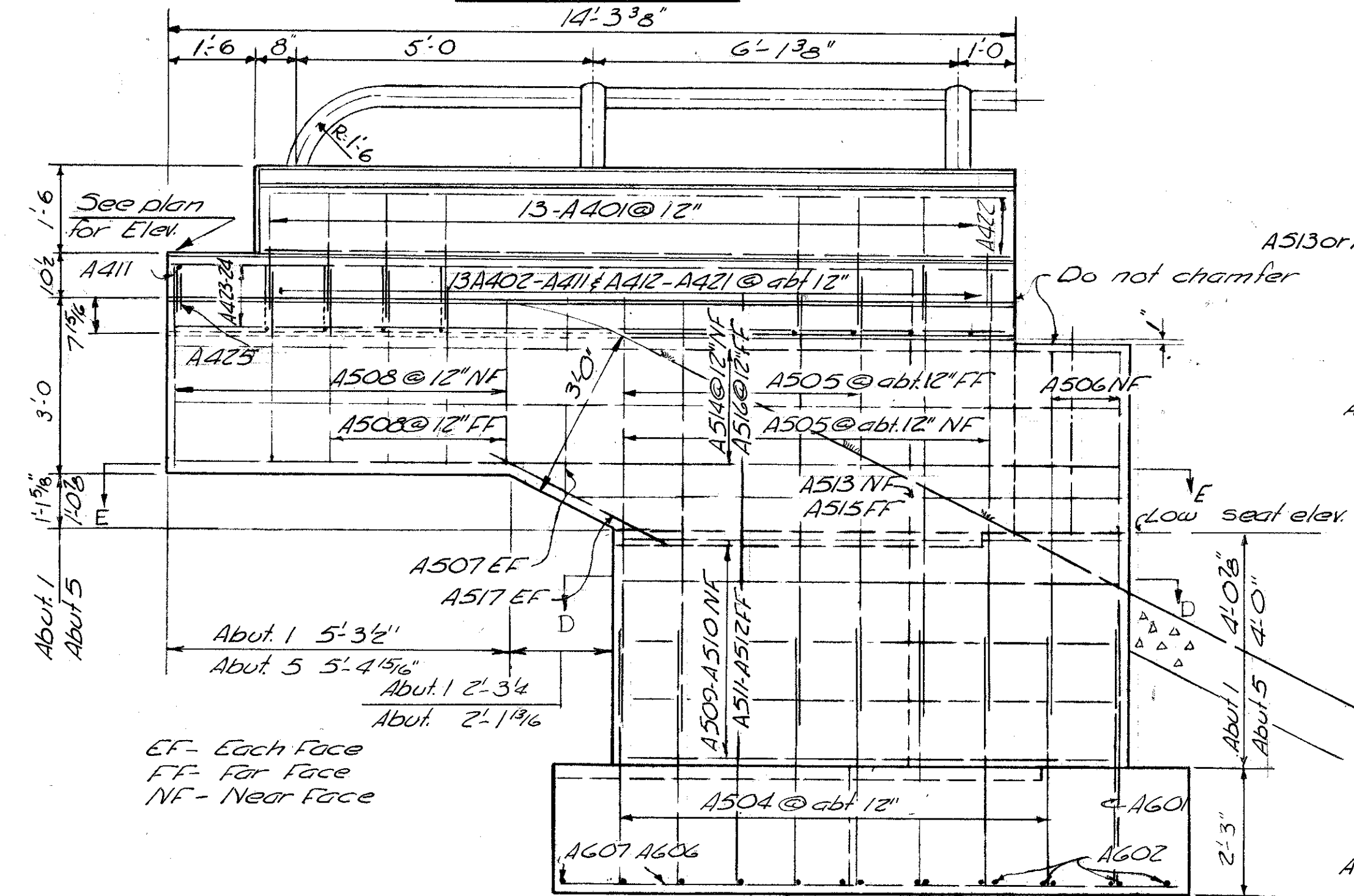
LAKE COUNTY
LAK-1-26.51
ASHTABULA COUNTY
ATB-1-0.00

REINFORCING STEEL LIST BOTH ABUTMENTS

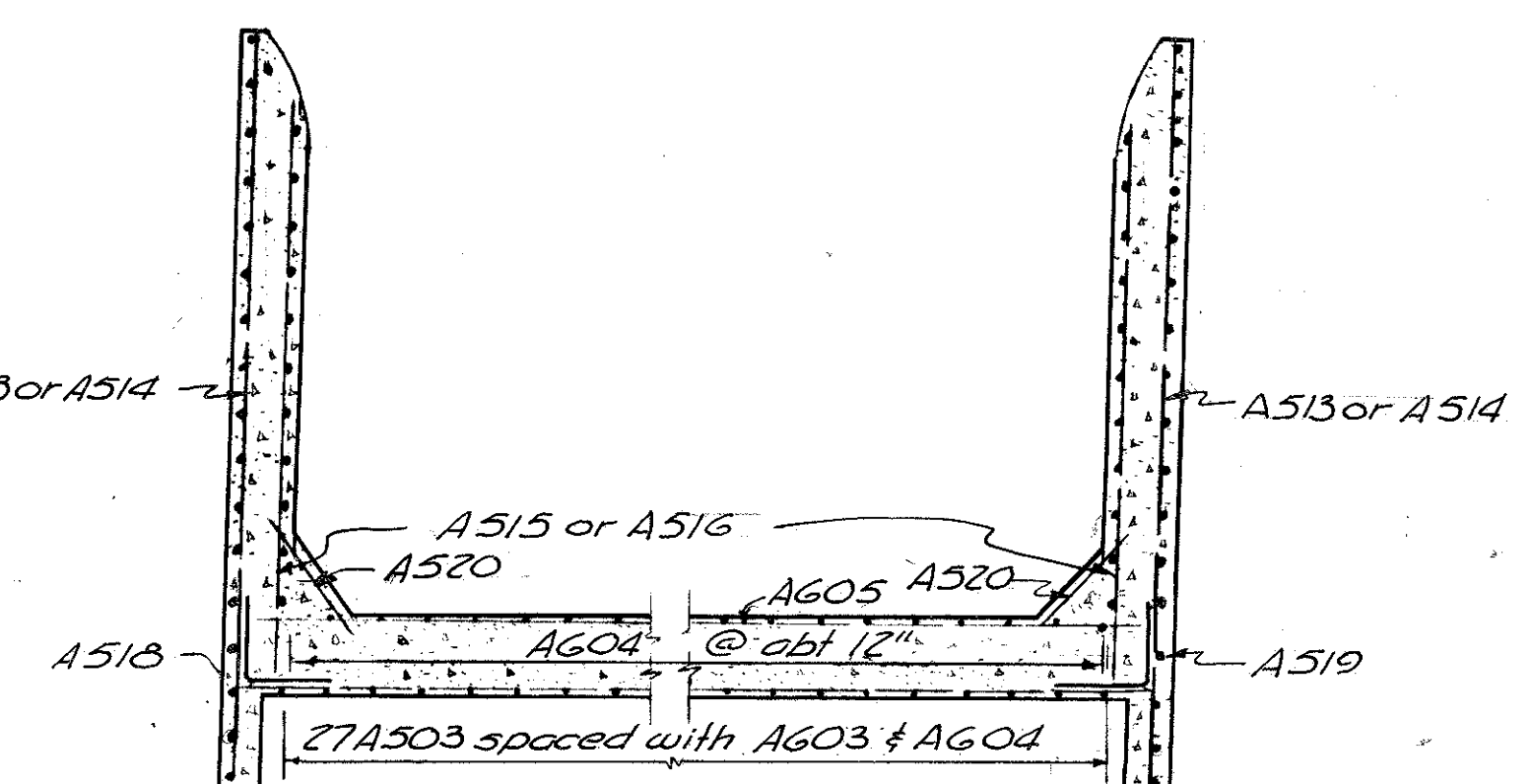
Mark	Length	Shape	No.	Weight	Bar Diagrams
A401	5'-8"	Bent	52	197	
A402	5'-8"	Bent	12	45	
A403	5'-6"	Bent	8	29	
A404	5'-4"	Bent	4	14	
A405	5'-2"	Bent	4	14	
A406	5'-0"	Bent	4	13	
A407	4'-9"	Bent	4	13	
A408	4'-6"	Bent	4	12	
A409	4'-3"	Bent	4	11	
A410	3'-7"	Bent	4	10	
A411	3'-3"	Bent	4	9	
A412	4'-0"	Bent	12	32	
A413	3'-10"	Bent	8	20	
A414	3'-8"	Bent	4	10	
A415	3'-6"	Bent	4	9	
A416	3'-4"	Bent	4	9	
A417	3'-1"	Bent	4	8	
A418	2'-10"	Bent	4	8	
A419	2'-7"	Bent	4	7	
A420	2'-4"	Bent	4	6	
A421	2'-0"	Bent	4	5	
A422	12'-5"	Str.	16	133	
A423	10'-0"	Str.	8	53	
A424	14'-0"	Str.	16	150	
A425	1'-8"	Bent	4	4	
A501	29'-8"	Str.	28	866	
A502	27'-2"	Str.	10	283	
A503	9'-0"	Bent	54	507	
A504	6'-6"	Bent	64	434	
A505	8'-10"	Str.	48	442	
A506	7'-3"	Str.	8	60	
A507	3'-11"	Str.	8	33	
A508	3'-5"	Str.	40	143	
A509	10'-0"	Bent	10	104	
A510	10'-0"	Bent	10	104	
A511	6'-5"	Bent	10	67	
A512	6'-9"	Bent	10	70	
A513	9'-4"	Str.	4	39	
A514	15'-9"	Str.	12	197	
A515	7'-3"	Str.	4	30	
A516	11'-4"	Str.	12	142	
A517	4'-3"	Str.	8	35	
A518	3'-4"	Bent	8	28	
A519	3'-4"	Bent	8	28	
A520	3'-2"	Str.	32	106	
AG01	9'-0"	Bent	120	1622	
AG02	3'-8"	Str.	12	571	
AG03	8'-5"	Bent	62	784	
AG04	8'-2"	Bent	58	711	
AG05	29'-8"	Str.	6	267	
AG06	10'-4"	Str.	12	186	
AG07	3'-2"	Str.	4	19	
A426	1'-6"	Str.	56	56	
A427	2'-4"	Str.	40	62	
Total.....				8817	



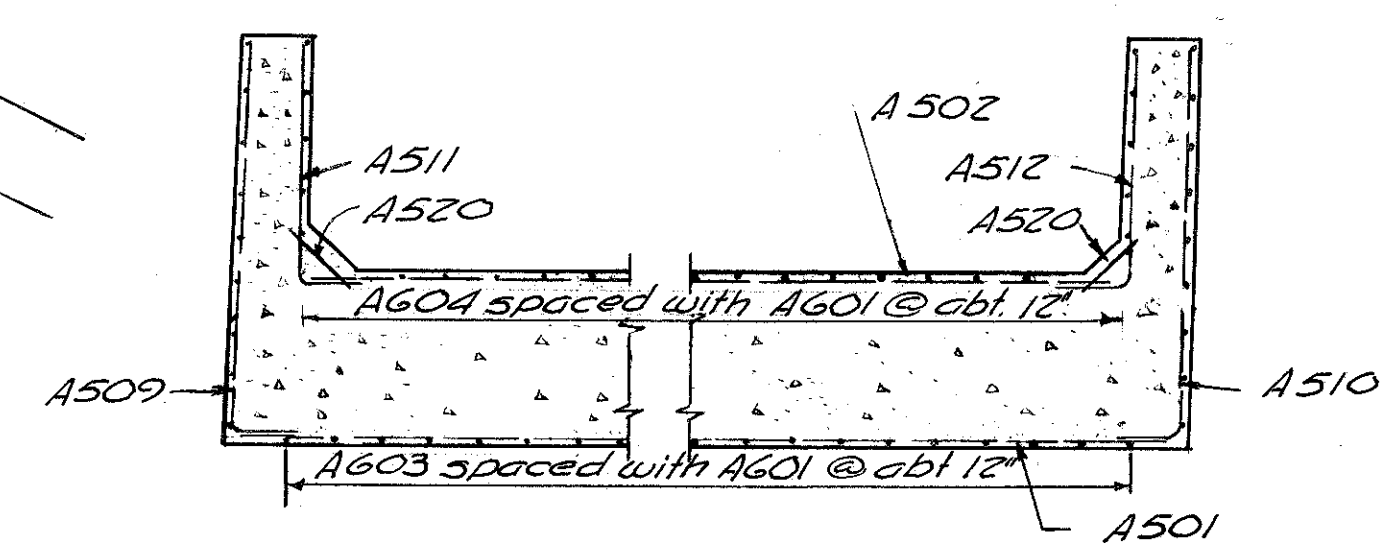
FOOTING PLAN



ELEVATION F-F



SECTION E-E



SECTION D-D

Parapet concrete included with 5-14 for payment.

EF - Each Face
FF - For Face
NF - Near Face

CHARLES L. BARBER AND ASSOCIATES
HARRY BALKE ENGINEERS
TOLEDO, OHIO

ABUTMENT DETAILS

BRIDGE NO. ATB-1-0138
SR 1 UNDER VAN PELT RD.
ASHTABULA CO. SR 1
STA. 73+04.80

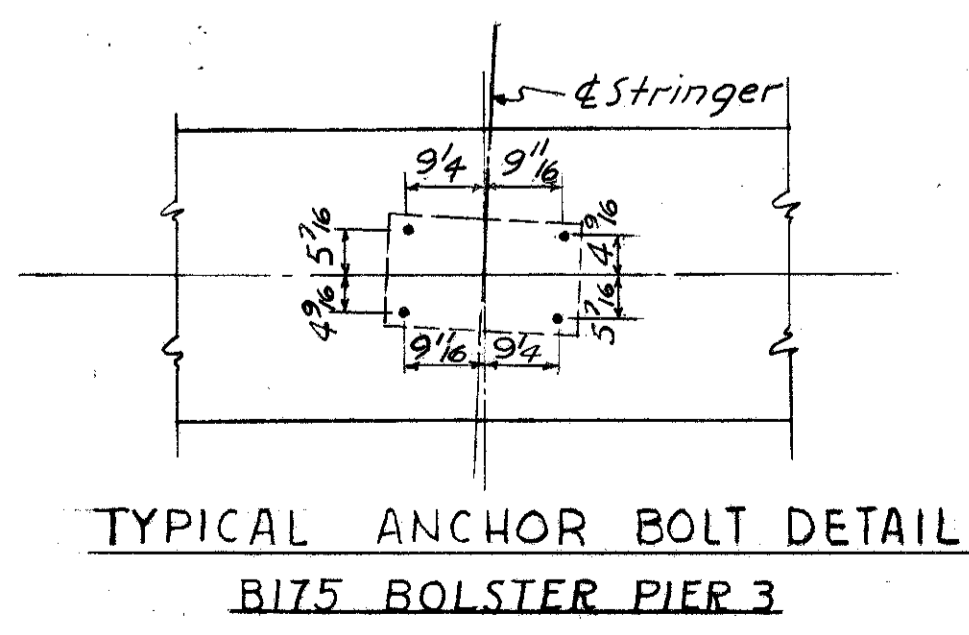
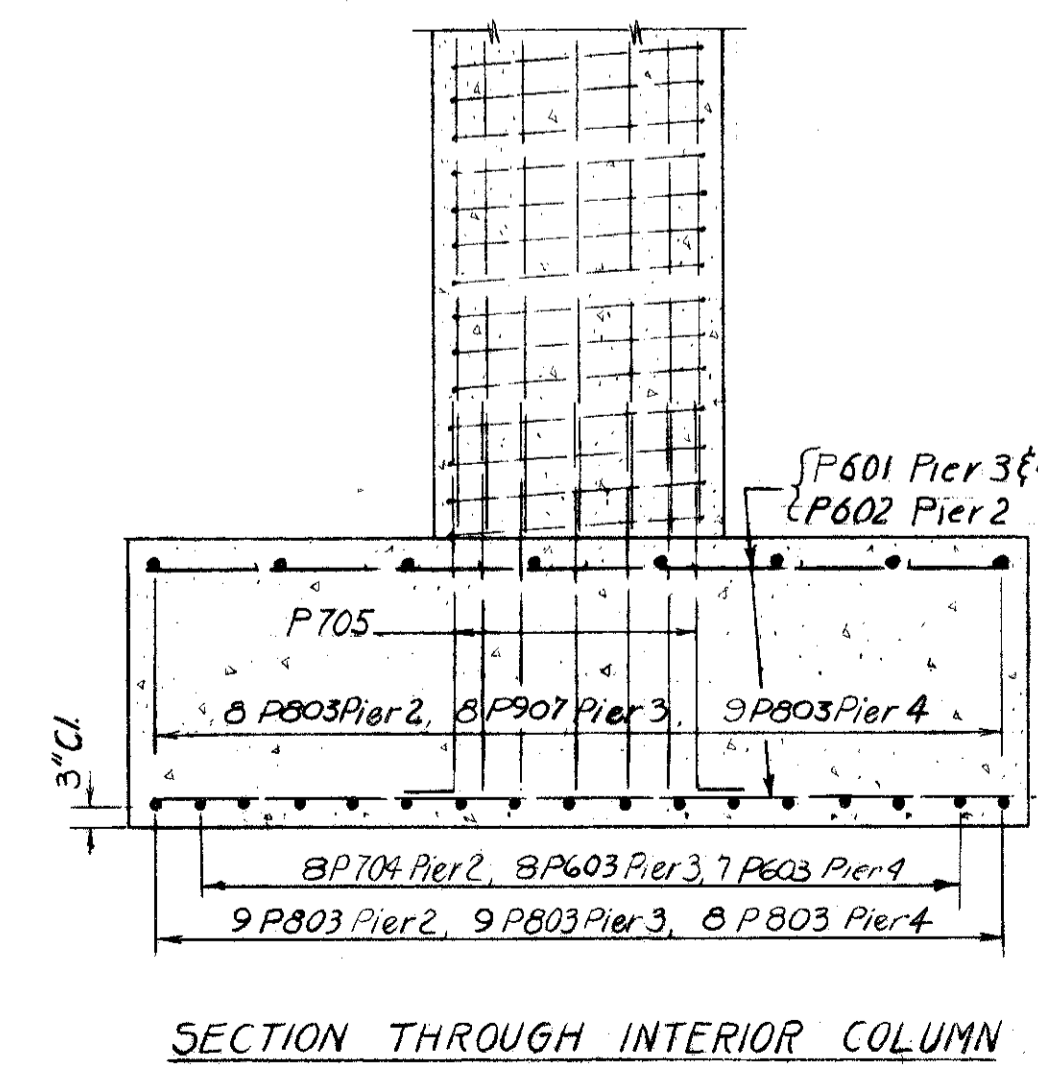
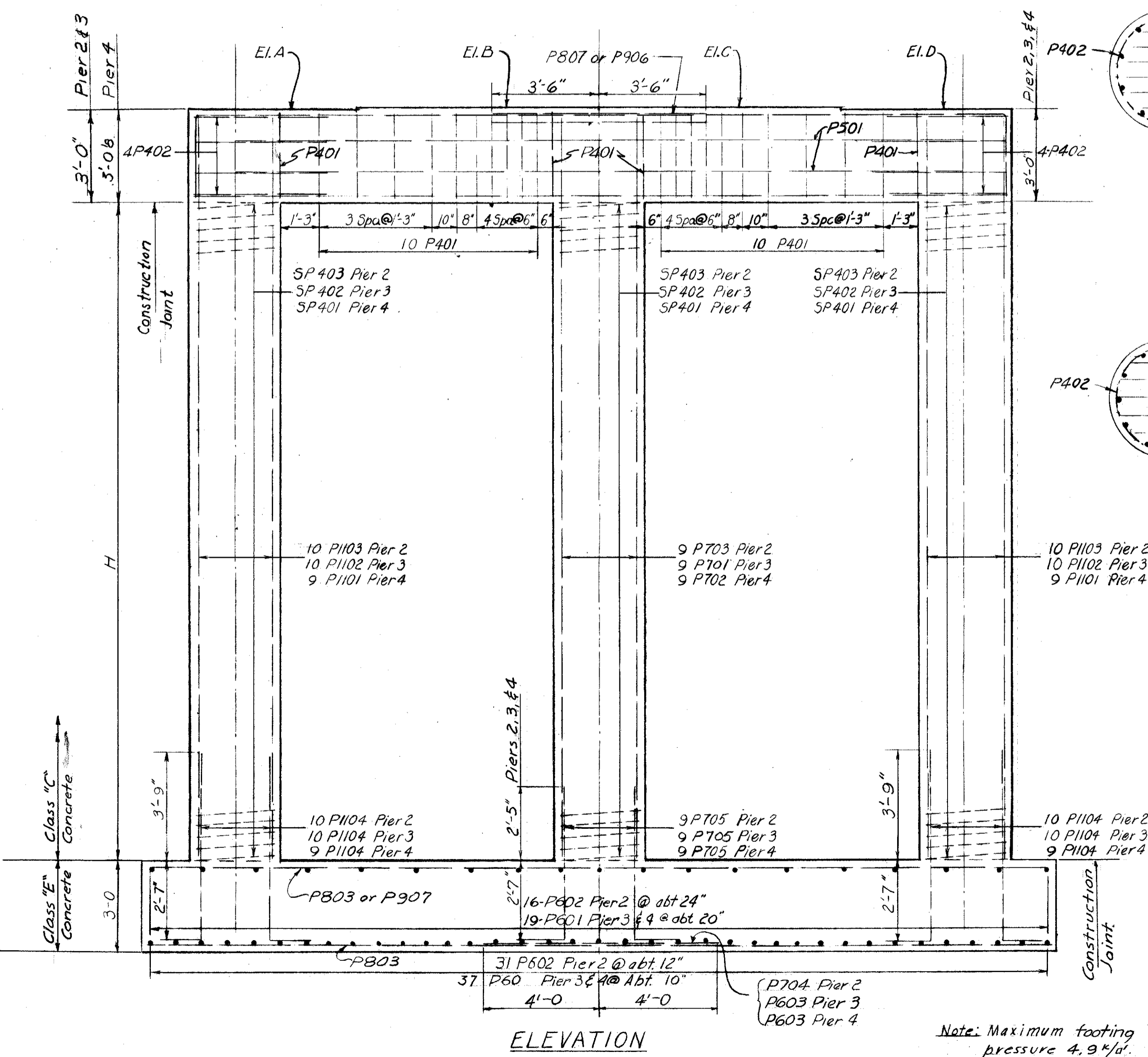
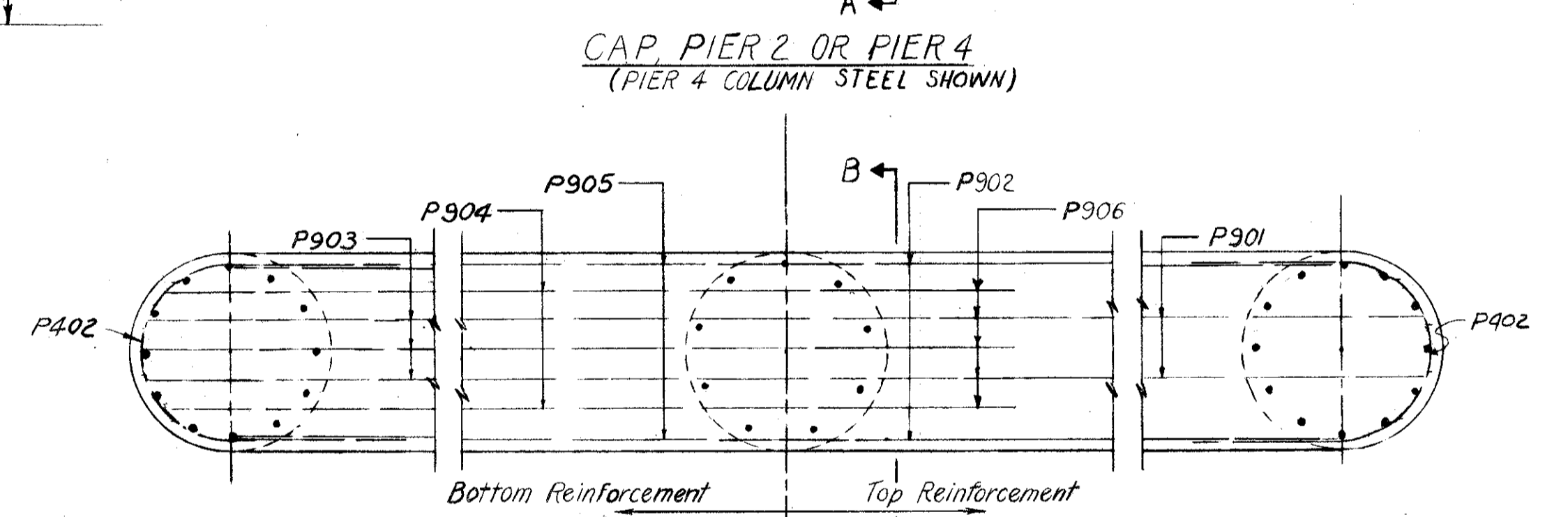
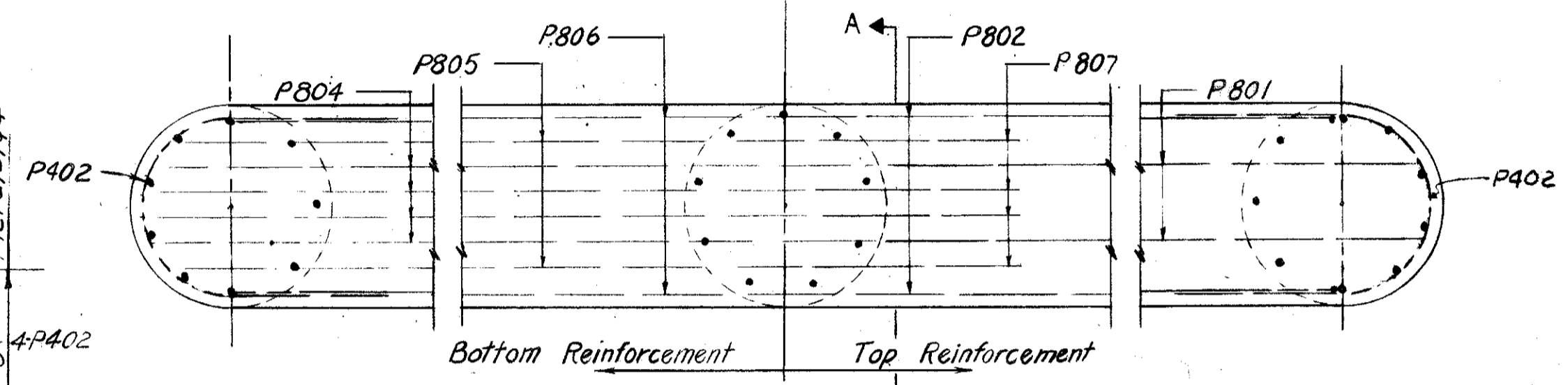
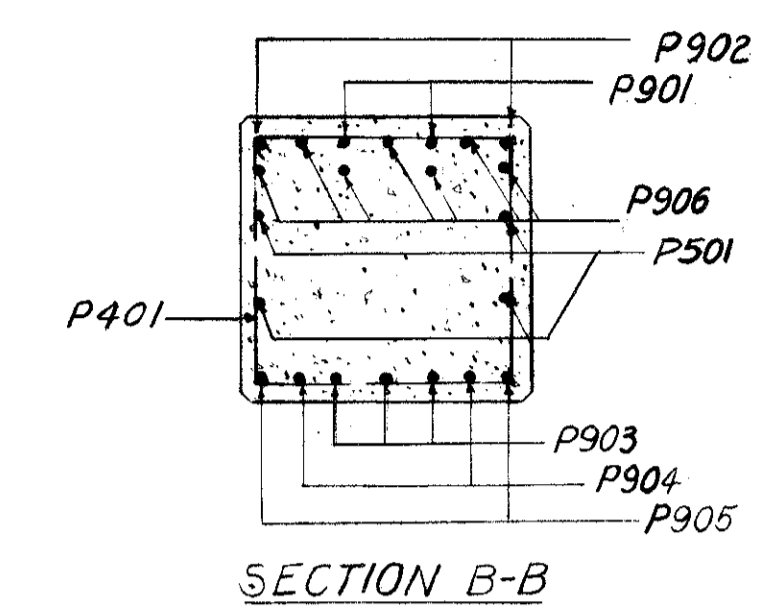
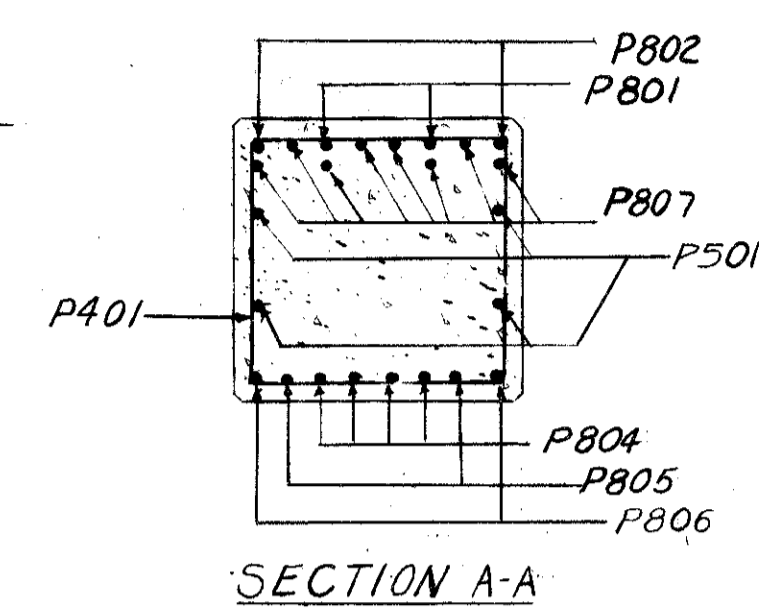
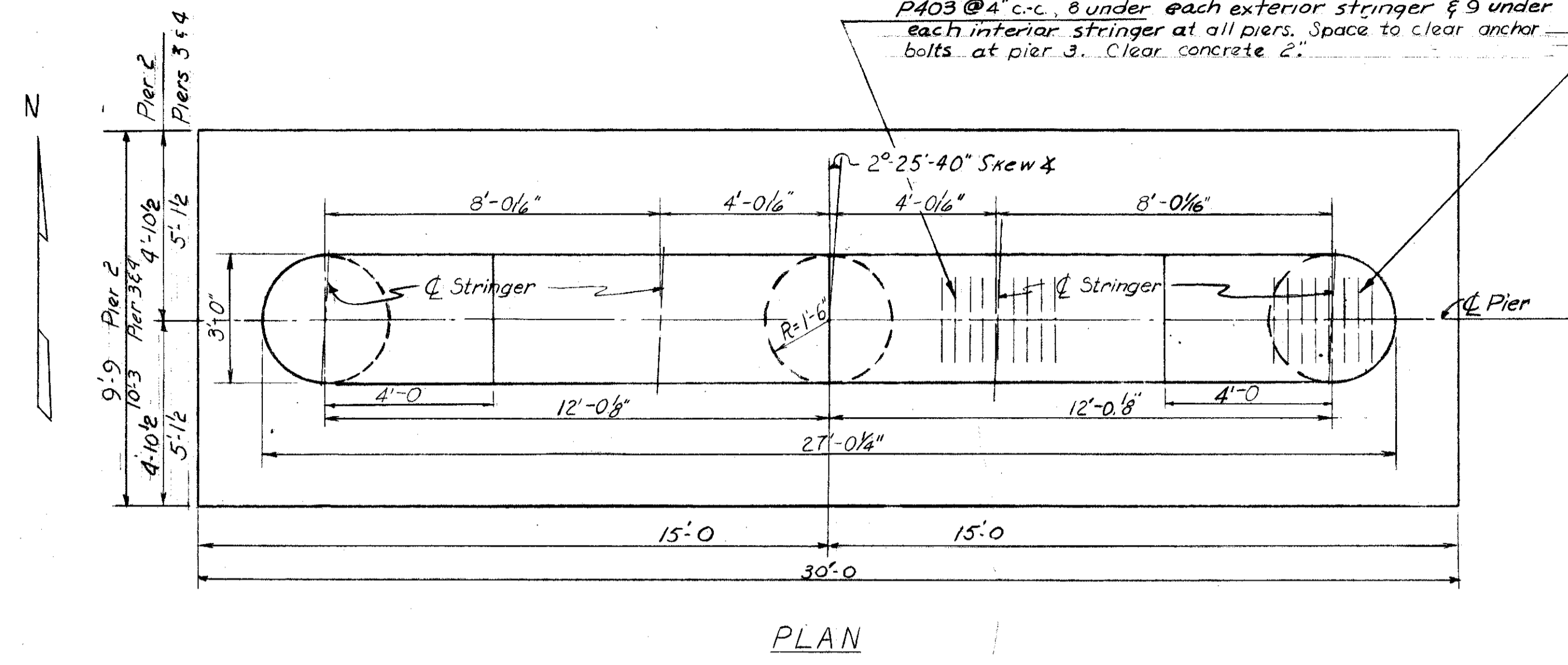
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CTL	EFS		JFR	ACA	8/28/57	

LAKE COUNTY
LAK-1-26.51
ASHTABULA COUNTY
ATB-1-000

	Elev. A	Elev. B	Elev. C	Elev. D	El. Bott. Ftg.	H
Pier 2	813.47	813.59	813.60	813.47	791.00	16'-5 3/8"
Pier 3	813.53	813.65	813.65	813.53	789.00	18'-6 3/8"
Pier 4	813.13	813.25	813.25	813.12	788.00	19'-1 1/2"

Note:
Reinforcing steel shall clear the face of the concrete by 2" unless otherwise noted.

Note:
P403 @ 4" c.c. 8 under each exterior stringer & 9 under each interior stringer at all piers. Space to clear anchor bolts at pier 3. Clear concrete 2".



REINFORCING STEEL LIST					THREE PIERS	
MR	Length	Shape	No	Weight	Bending Schedule	
P401	11'-6"	Bent	72	553		
P402	10'-2"	Bent	24	163		
P403	2'-0"	Str.	102	136		
P501	24'-0"	Str.	12	300		
P701	21'-2"	Str.	9	389		
P702	21'-10"	Str.	9	402		
P703	19'-2"	Str.	9	353		
P704	8'-0"	Str.	8	131		
P705	5'-5"	Bent	27	299		
P801	32'-0"	Bent	4	342		
P802	29'-4"	Bent	4	313		
P803	29'-8"	Str.	43	3406		
P804	26'-8"	Str.	8	570		
P805	26'-0"	Str.	4	278		
P806	24'-0"	Str.	4	256		
P807	7'-0"	Str.	16	299		
P907	29'-8"	Str.	8	807		
P901	32'-0"	Bent	2	218		
P902	29'-4"	Bent	2	199		
P903	26'-8"	Str.	3	272		
P904	26'-0"	Str.	2	177		
P905	24'-0"	Str.	2	163		
P906	7'-0"	Str.	7	167		
P1101	21'-10"	Str.	18	2088		
P1102	21'-2"	Str.	20	2249		
P1103	19'-2"	Str.	20	2037		
P1104	7'-1"	Bent	58	2183		
P601	9'-11"	Str.	112	1668		
P602	9'-5"	Str.	47	665		
P603	8'-0"	Str.	15	180		
		Total		21,263		

SPIRAL REINFORCING LIST							
Mark	No.	Size	Core dia.	Length	Pitch	No. of Turns	Weight
SP401	3	1/2"	2'-8"	19.12	4 1/2"	54	1063
SP402	3	1/2"	2'-8"	18.33	4 1/2"	52	1024
SP403	3	1/2"	2'-8"	16.97	4 1/2"	47	924
						Total	3011

Notes:
Spiral reinforcing bars shall not have deformations but shall in other respects conform to item S-4.
Four steel channel, tee or angle spacers, weighing approximately 0.68 lb. per lin. ft. of spacer, shall be provided for each spiral unit. They shall be equally spaced along the periphery of the coil. The number of pounds of these spacers, based on 0.68 lb. per lin. ft., will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.
The "Length" shown in the steel list for the spiral bars is the distance from the top of the footing to the bottom of the pier cap.
The "No. of Turns" shown in the steel list for the spiral bars is the "Length" divided by the "Pitch", plus 3 turns (total number of closed coils), expressed as the nearest whole number.
1/2 closed coils shall be provided at the ends of each spiral unit.

CHARLES L. BARBER AND ASSOCIATES
HARRY BALKE ENGINEERS
TOLEDO, OHIO

PIER DETAILS

BRIDGE No ATB-1-0138
SR1 UNDER VAN PELT RD.
ASHTABULA CO. SR1
STA. 73+04.80

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
DMS	CTL		JB	A.C.A.	8/28/57	

Note: Maximum footing pressure 4.9 k/sq. ft.

FED. RD. DIVISION	STATE	FED. AID PROJECT	FISCAL YEAR	150
2	OHIO	1-1103 (15)		176

LAKE COUNTY
LAK-1-26.51
ASHTABULA COUNTY
ATB-1-000

REINFORCING STEEL LIST

Superstructure				
Mark	Length	Shape	No.	Weight
S401	5'-2"	Bent	526	1815
S402	4'-10"	Bent	532	1718
S403	1'-4"	Bent	532	474
S404	2'-6"	Bent	526	878
S405	16'-6"	Str.	112	1234
S406	13'-2"	Str.	16	141
S407	30'-4"	Str.	54	1094
S501	30'-0"	Str.	393	12,297
S601	30'-0"	Str.	394	17,754
S602	28'-0"	Str.	240	10,093
S603	30'-11"	Str.	207	9,612
S604	27'-0"	Str.	52	2,109
S605	35'-6"	Str.	26	1,386
			Total	60,605

REPLACEMENT BARS

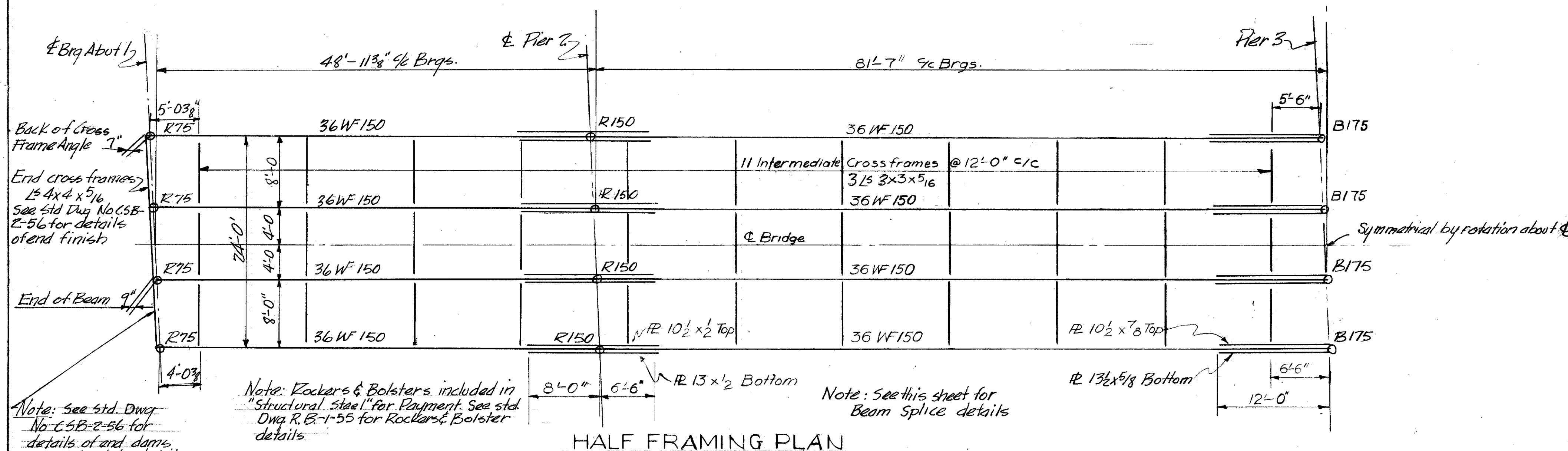
Mark	Length	Shape	No.
RB401	5'-3"	Str.	1
RB501	5'-7"	Str.	1
RB601	5'-11"	Str.	3
RB701	6'-3"	Str.	1
RB801	6'-6"	Str.	1
RB901	6'-10"	Str.	1
RB1101	7'-7"	Str.	1

Note: 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.

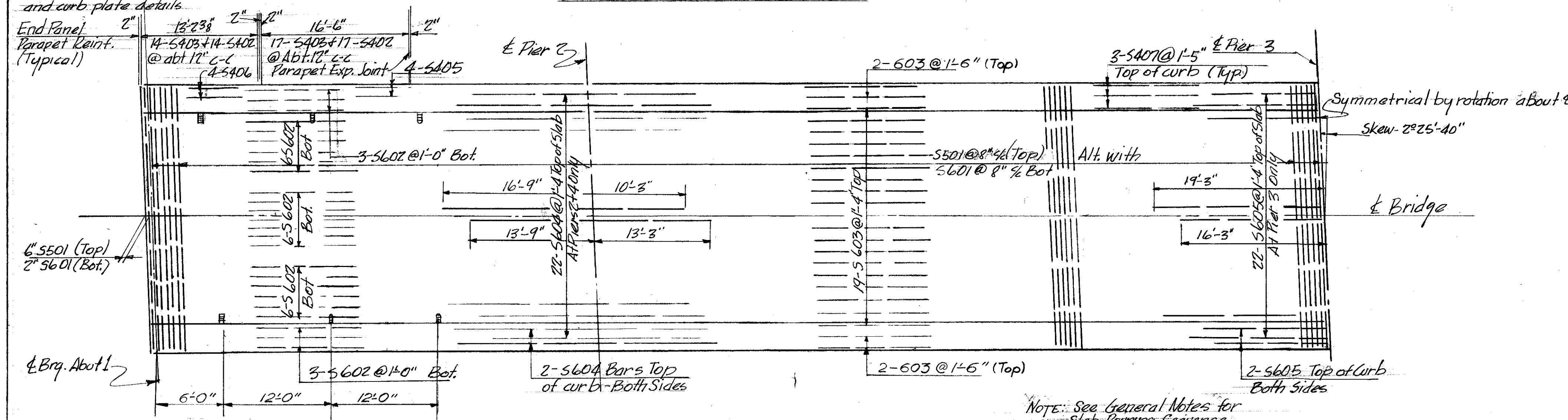
DEFLECTION AND CAMBER

Location	Outside Beam				Inside Beam			
	Span 1	Span 2	Span 3	Span 4	Span 1	Span 2	Span 3	Span 4
Deflection due to weight of steel	0	1/8	1/8	0	0	1/8	1/8	0
Deflection due to remaining dead load	1/16	1/16	1/16	1/16	0	1/2	1/2	0
Convexity required for vertical curve	7/16	1 3/16	1 3/16	7/16	7/16	1 3/16	1 3/16	7/16
Sum of deflection and convexity	1/2	2 3/8	2 3/8	1/2	7/16	1 3/16	1 3/16	7/16
Required camber	0	2 3/8	2 3/8	0	0	1 3/16	1 3/16	0

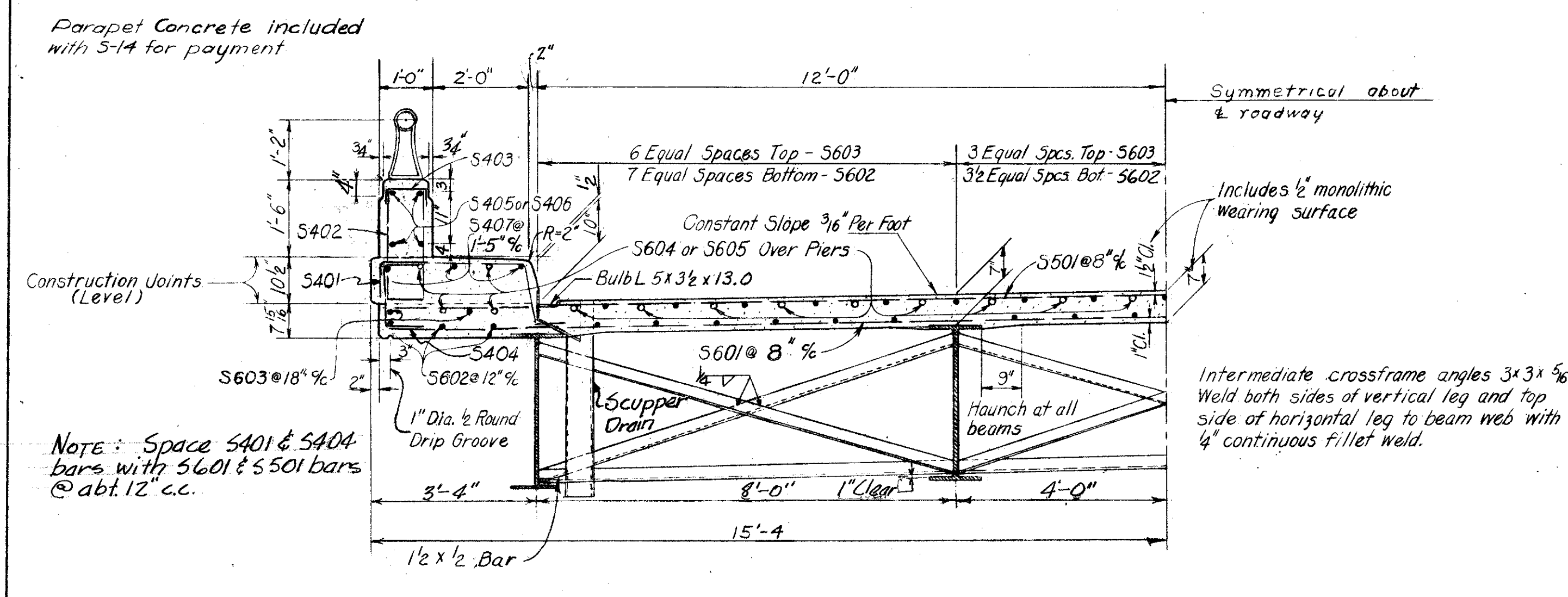
Where no camber is required, the beams shall be so fabricated that any curved beam will be placed with convex flange up.



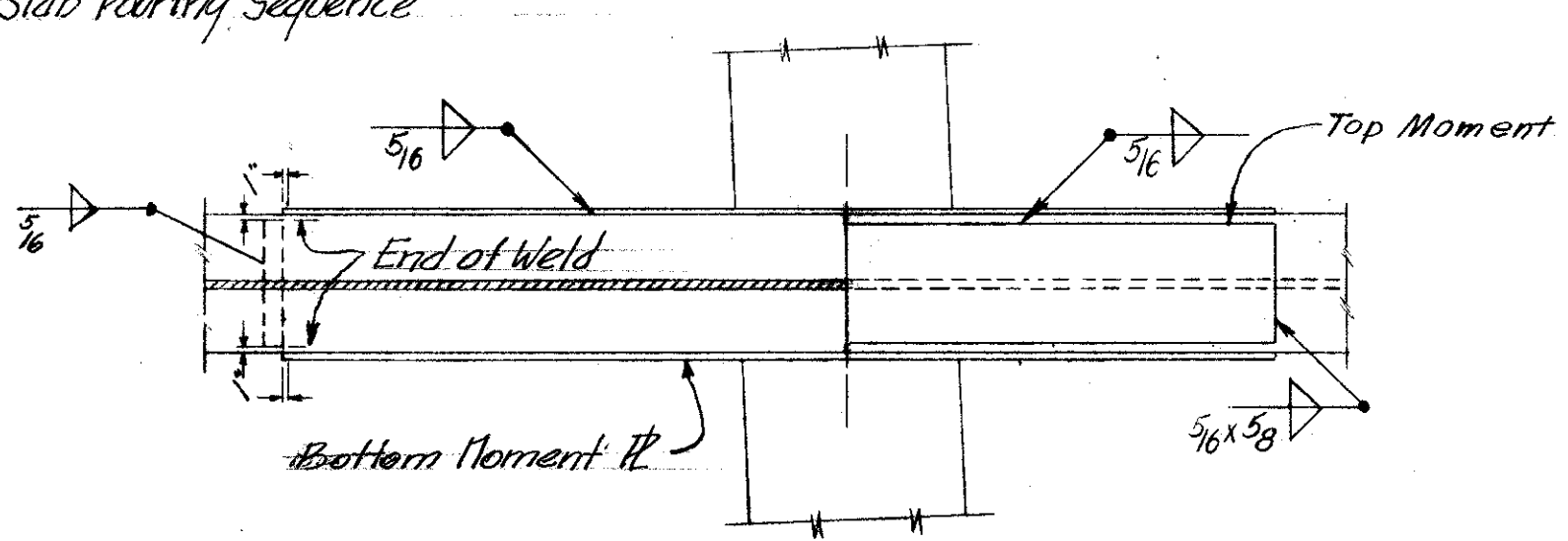
HALF FRAMING PLAN



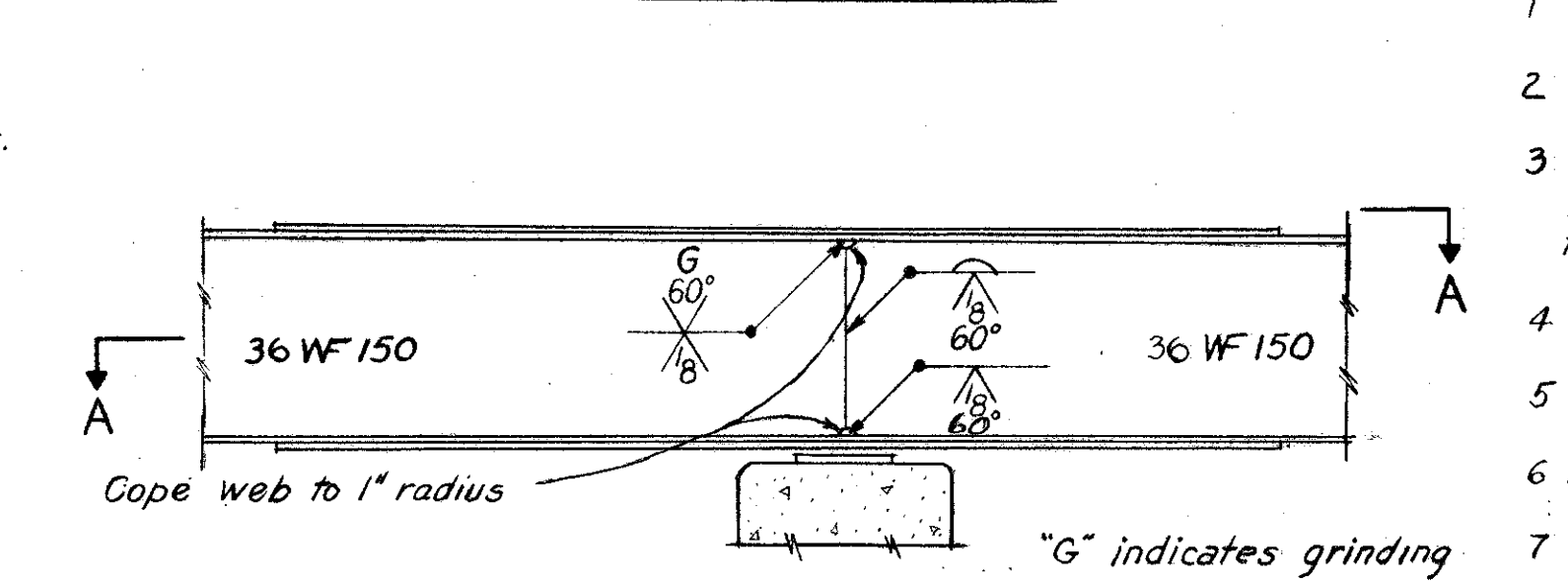
HALF SLAB PLAN



HALF CROSS SECTION



SECTION A-A



BEAM SPLICE DETAIL

BEAM SPLICE WELDING PROCEDURE

- Erect span 2 and 3 beams first.
- Raise the pier no. 2 end of span no. 2 beams 3 3/4".
- Butt weld the beam flanges and webs at pier no. 3 using the following sequence: Make one pass on each flange, then one on the web; repeat until welds are complete.
- Weld the bottom and top moment plates.
- Lower the pier no. 2 end of span no. 2 to the final position.
- Raise the abutment end of span no. 1 3/4".
- Repeat steps 3 and 4 at pier no. 2.
- Lower abutment end of span no. 1 to final position.
- Repeat steps 3, 4, 6, & 8 at pier no. 4 and abutment no. 5.

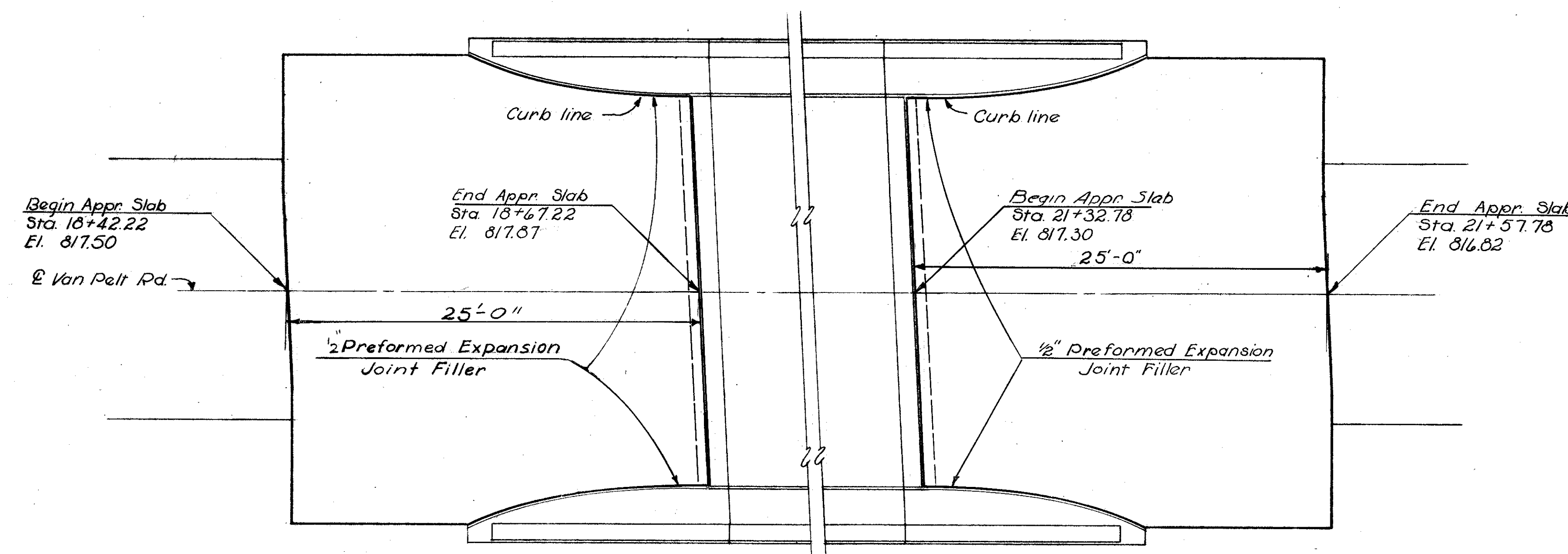
CHARLES L. BARBER AND ASSOCIATES
HARRY BALKE ENGINEERS
TOLEDO, OHIO

SUPERSTRUCTURE DETAILS

BRIDGE NO. ATB-1-0138
SR 1 UNDER VAN PELT RD
ASHTABULA CO. SR 1
STA. 73+04.80

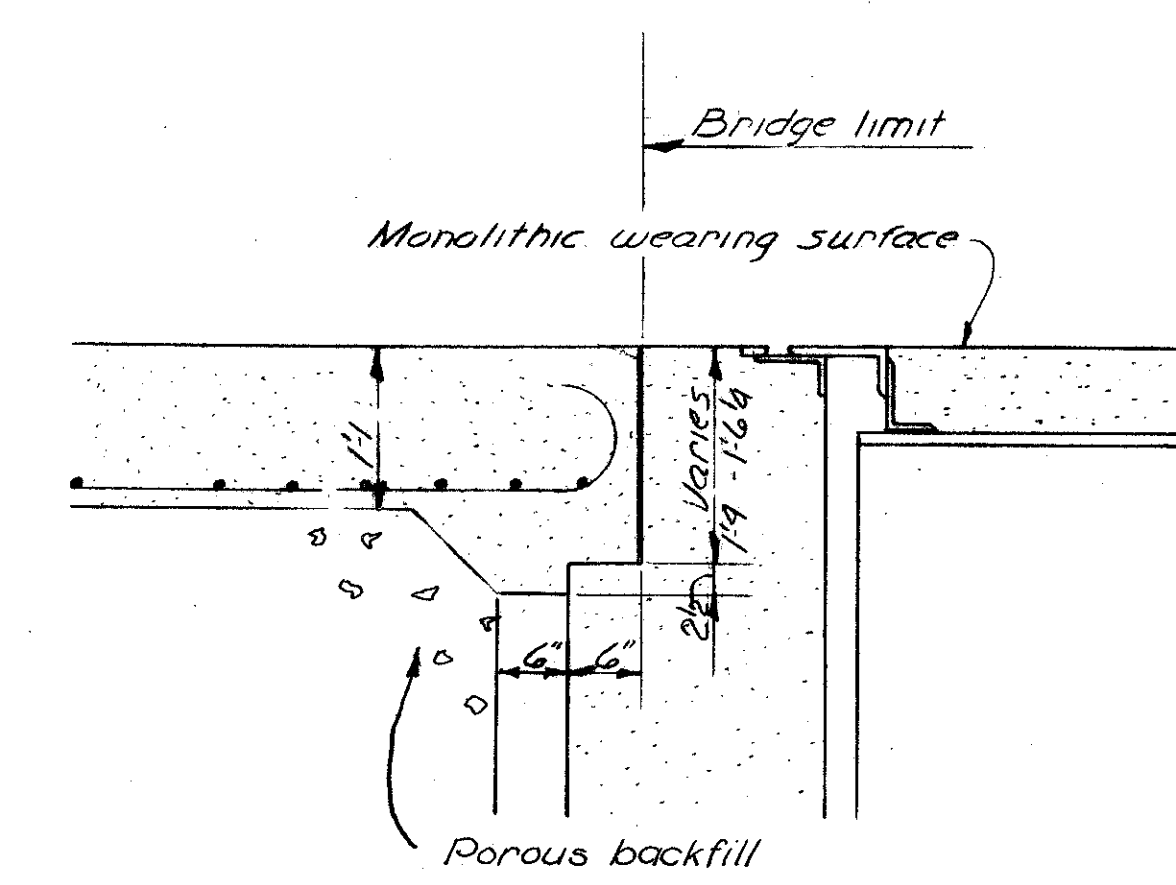
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
CTL	JB		RGE	ACA	8/28/57	

LAKE COUNTY
LAK-1-26.51
ASHTABULA COUNTY
ATB-1-0.00



GENERAL PLAN

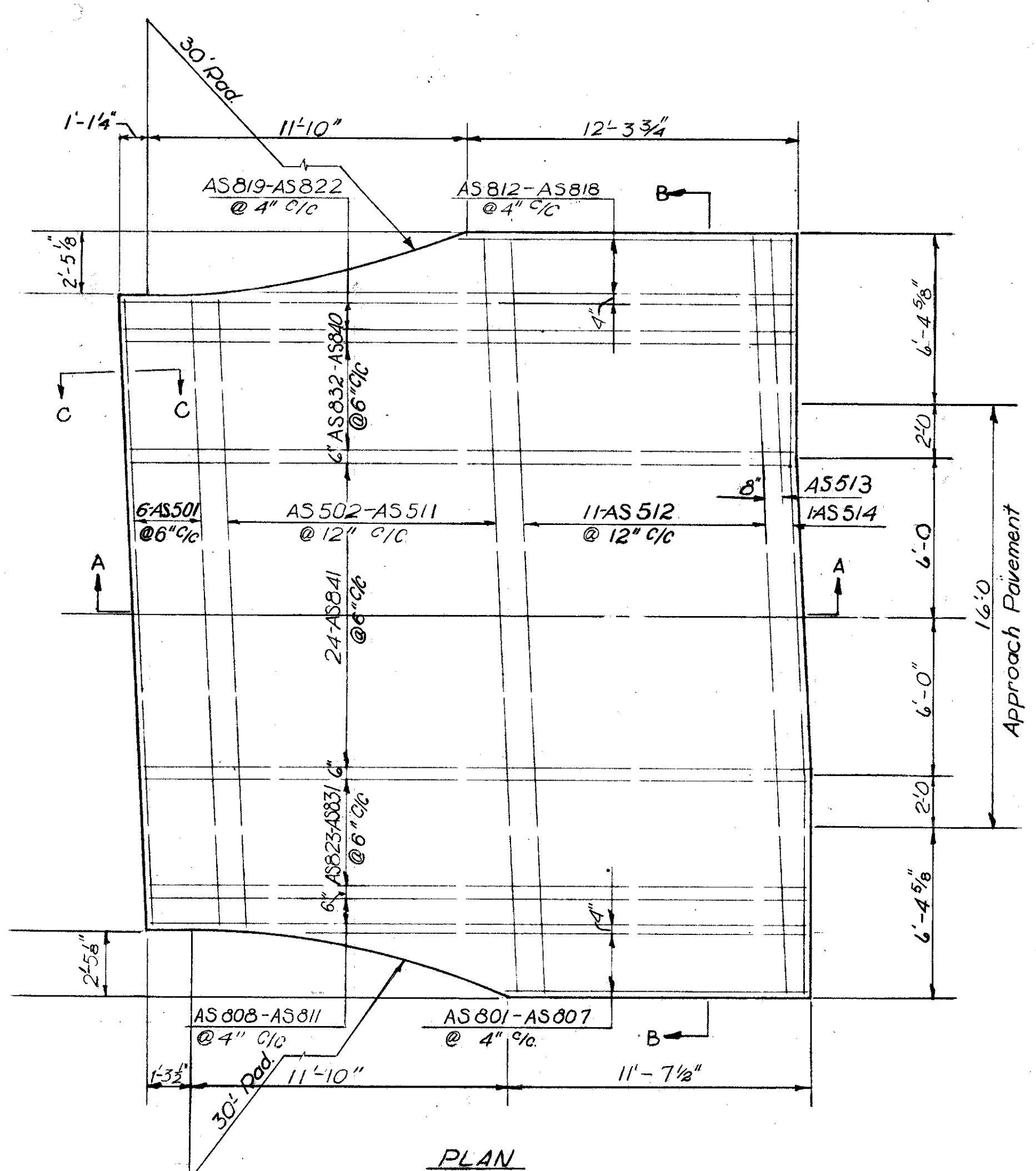
Note: 1/2" Preformed expansion joint filler included in Item I-7 for payment.



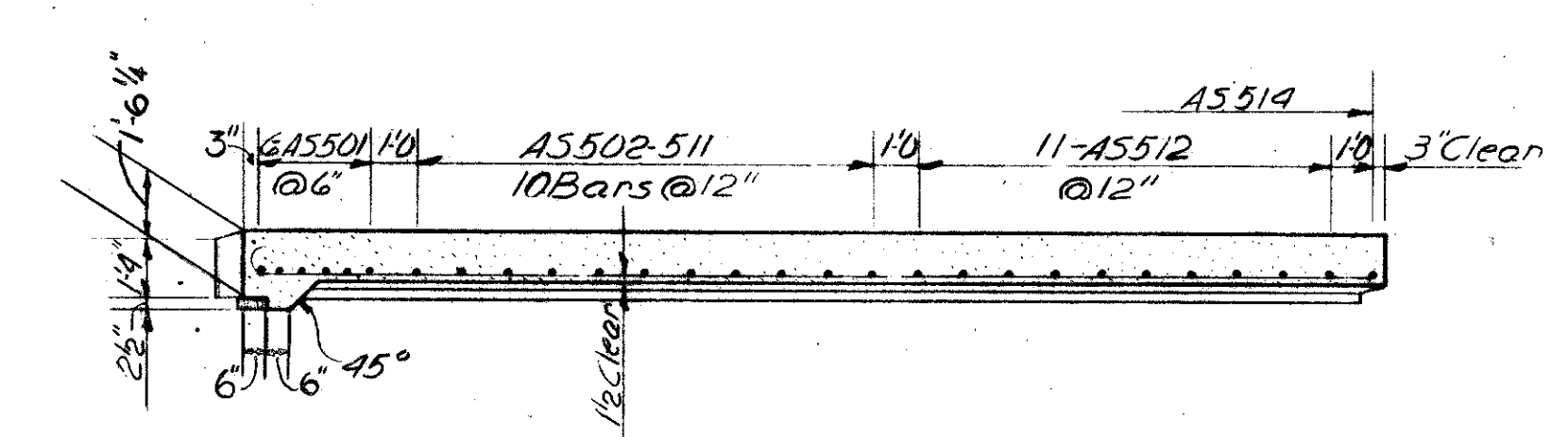
SECTION C-C

Notes: Approach Slabs to be class "C" Concrete. In the reinforcing steel bar marks, the numeral following the second letter is the Bar Number which indicates the size of the bar.

REINFORCING STEEL LIST					BOTH APPROACH SLABS	
Mark	Length	Shape	No.	Wt.		
AS 501	23'-7"	Str.	12	295		
AS 502	23'-9"	"	2	50		
AS 503	23'-11"	"	2	50		
AS 504	24'-3"	"	2	51		
AS 505	24'-7"	"	2	51		
AS 506	25'-1"	"	2	52		
AS 507	25'-7"	"	2	53		
AS 508	26'-1"	"	2	54		
AS 509	26'-9"	"	2	56		
AS 510	27'-5"	"	2	57		
AS 511	28'-4"	"	2	59		
AS 512	28'-4"	"	22	650		
AS 513	8'-0"	"	2	17		
AS 514	28'-4"	Bent	2	59		
AS 801	11'-9"	Str.	2	63		
AS 802	12'-8"	"	2	68	AS 808 - AS 811	a = 24'-2"
AS 803	13'-8"	"	2	73	AS 819 - AS 822	a = 24'-9"
AS 804	14'-10"	"	2	79	AS 823	a = 24'-3"
AS 805	16'-2"	"	2	86	AS 824	a = 24'-4"
AS 806	17'-6"	"	2	93	AS 825	a = 24'-4"
AS 807	19'-11"	"	2	106	AS 826	a = 24'-4"
AS 808 - AS 811	25'-3"	Bent	8	539	AS 827	a = 24'-5"
AS 812	19'-10"	Str.	2	106	AS 828	a = 24'-5"
AS 813	18'-3"	"	2	97	AS 829	a = 24'-5"
AS 814	16'-11"	"	2	90	AS 830	a = 24'-6"
AS 815	15'-6"	"	2	83	AS 831	a = 24'-6"
AS 816	14'-6"	"	2	77	AS 832	a = 24'-6"
AS 817	13'-6"	"	2	72	AS 833	a = 24'-6"
AS 818	12'-6"	"	2	67	AS 834	a = 24'-7"
AS 819 - AS 822	25'-10"	Bent	8	552	AS 835	a = 24'-7"
AS 823	25'-4"	"	2	135	AS 836	a = 24'-7"
AS 824	25'-5"	"	2	136	AS 837	a = 24'-8"
AS 825	25'-5"	"	2	136	AS 838	a = 24'-8"
AS 826	25'-5"	"	2	136	AS 839	a = 24'-8"
AS 827	25'-6"	"	2	136	AS 840	a = 24'-9"
AS 828	25'-6"	"	2	136	AS 841	a = 24'-6"
AS 829	25'-6"	"	2	136		
AS 830	25'-7"	"	2	137		
AS 831	25'-7"	"	2	137		
AS 832	25'-7"	"	2	137		
AS 833	25'-7"	"	2	137		
AS 834	25'-8"	"	2	137		
AS 835	25'-8"	"	2	137		
AS 836	25'-8"	"	2	137		
AS 837	25'-9"	"	2	138		
AS 838	25'-9"	"	2	138		
AS 839	25'-9"	"	2	138		
AS 840	25'-10"	"	2	138		
AS 841	25'-7"	"	48	3279		
Total				9546		

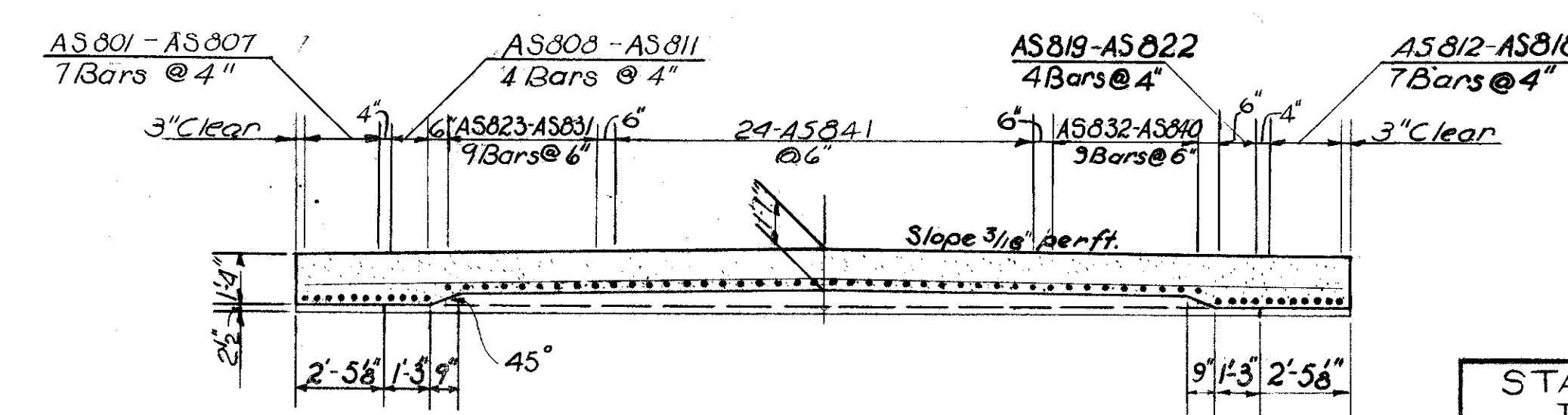


PLAN



SECTION A-A

* Note: This reinforcing steel is included in the item "Reinforced Concrete Approach Slab Item I-7" and is not paid for separately.



SECTION B-B

STATION TO STATION	REINFORCED CONCRETE APPROACH SLABS ITEM I-7
18+42.22 to 18+67.22	76 Sq. yd.
21+32.78 to 21+57.78	76 Sq. yd.
TOTAL	152 Sq. yd.

CHARLES L. BARBER AND ASSOCIATES
HARRY BALKE ENGINEERS
TOLEDO, OHIO

APPROACH SLAB DETAILS

BRIDGE NO. ATB-1-0138
SRI UNDER VANPELT RD.
ASHTABULA CO. SRI
STA. 73+04.80

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
R.T.S.	M.S.		J.P.R.	ACA	8/28/57	