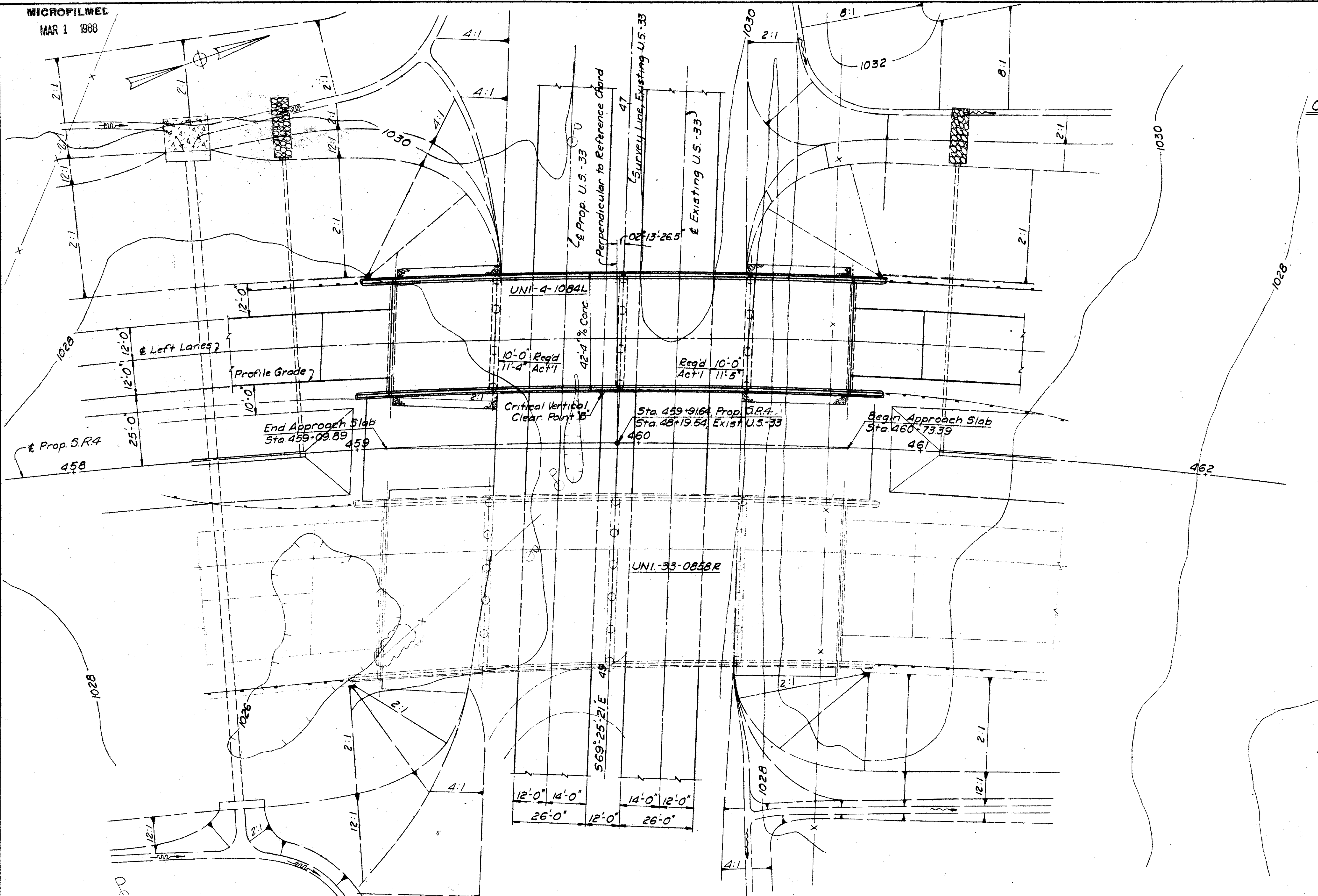


UNI-4-8.38



CURVE DATA PROP. S.R.4

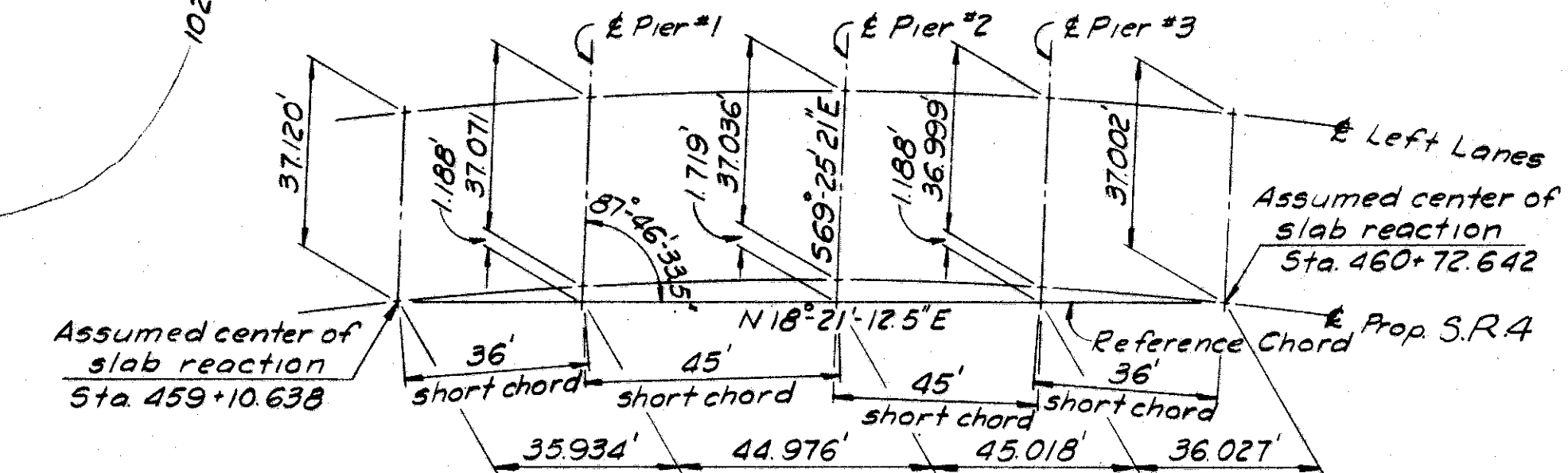
P.I. Sta. 464+70.96
 $\Delta = 61^{\circ}47'15''$
 $D_c = 3^{\circ}00'00''$
 $R = 1909.86'$
 $L_s = 400'$
 $S_s = 6^{\circ}00'00''$
 $L_c = 1659.58'$
 $T_s = 1344.76'$
 $E_s = 319.84'$
 $P = 3.49'$
 $K = 199.93'$
 T.S. Sta. 451+26.20
 S.C. Sta. 455+26.20
 C.S. Sta. 471+85.78
 S.T. Sta. 475+85.78

PROPOSED BRIDGE DATA

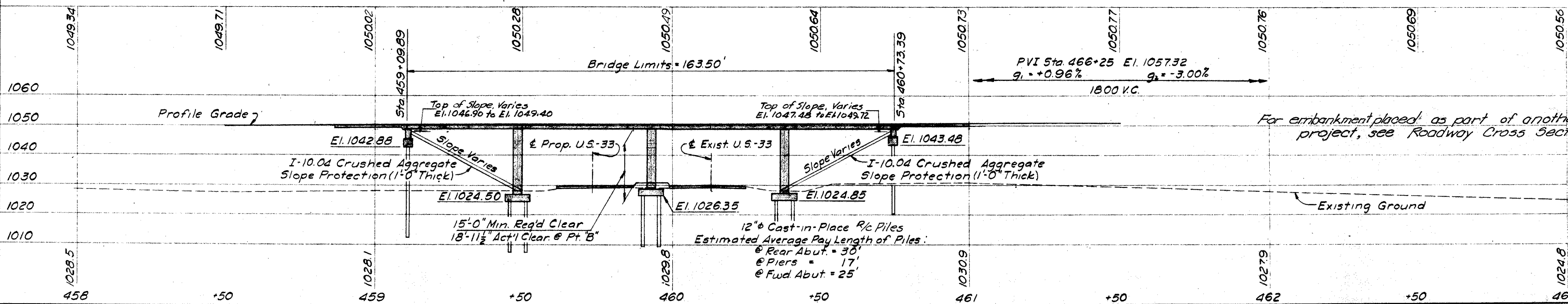
TYPE: Continuous Concrete Slab Bridge
 with Concrete Substructure
 SPANS: 36'-0" 45'-0" 45'-0" 36'-0"
 LOAD FREQUENCY: CF 2000 (57)
 ROADWAY: 40'-0" ft Parapet
 SKEW: $02^{\circ}13'26.5''$ Lt. Fwd.
 WEARING SURFACE: 1" Monolithic Concrete
 APPROACH SLABS: 45'-1-54 (25' Long)
 ALIGNMENT: 3"00' Curve Right
 RAILING: Concrete Parapet with
 Aluminum Railing and Posts
 SUPERELEVATION: 1" per ft.

1980 A.D.T. = 9,740

FOUNDATIONS 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



LOCATION DIAGRAM



BENCH MARK
 R.R. Spike West Side 24' Maple
 377' Rt. of Sta. 460+66, El. 1025.682

BARRETT ASSOCIATED ENGINEERS, LIMITED
 1500 W. FIRST AVE. COLUMBUS 12, OHIO

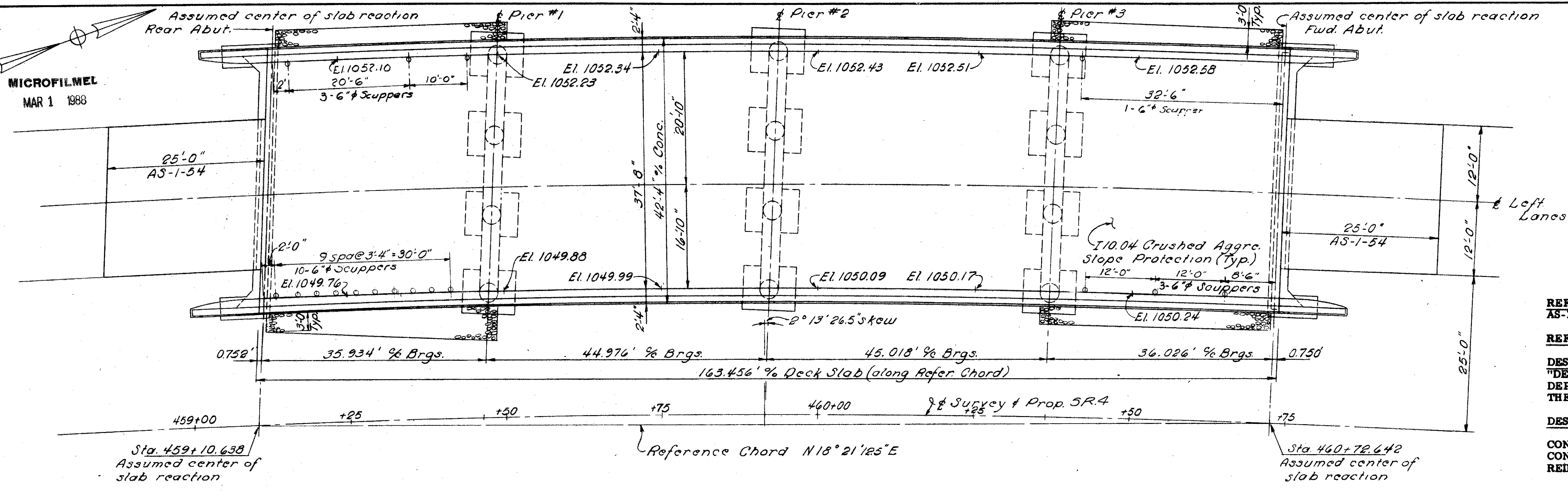
SITE PLAN
 BRIDGE No. UNI-4-1084L
 OVER EXISTING U.S.-33
 UNION COUNTY
 Sta. 459+09.89 to Sta. 460+73.39

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HM	WL		HM			

MICROFILMEL
MAR 1 1988

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

UNI-4-838



GENERAL NOTES

REFERENCE SHALL BE MADE TO STANDARD DRAWINGS AR-1-57 REVISED 4-2-62 AND AS-1-54 REVISED 7-5-62.

REFERENCE SHALL BE MADE TO SUPPLEMENTAL SPECIFICATION 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.

DESIGN LOADING - CF 2000 (57)

CONCRETE CLASS C - BASIC UNIT STRESS 1,333 P.S.I.
CONCRETE CLASS E - BASIC UNIT STRESS 1,133 P.S.I.
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.

EXCAVATION QUANTITY INCLUDES THE REMOVAL OF FILL MATERIAL REQUIRED FOR CONSTRUCTION OF THE ABUTMENTS AND PIERS.

PILES SHALL BE DRIVEN TO A MINIMUM BEARING CAPACITY OF 35 TONS PER PILE FOR THE ABUTMENTS AND PIERS.

CAMBER OF 1/800 OF THE SPAN SHALL BE PROVIDED IN EACH SPAN (IN ADDITION TO ANY REQUIRED FOR CONFORMANCE WITH THE PROFILE OF THE HIGHWAY) TO ALLOW FOR DEAD LOAD DEFLECTION. THIS IS THE AMOUNT OF CAMBER REQUIRED BEFORE FALSEWORK IS RELEASED. TO OBTAIN THIS, PROPER ALLOWANCE SHALL BE MADE FOR THE DEFLECTION OF FALSEWORK MEMBERS.

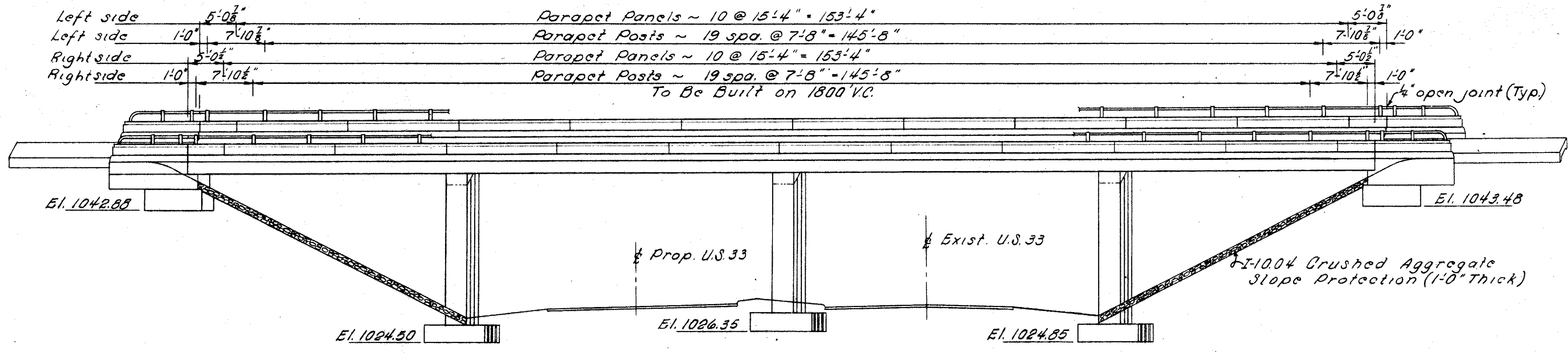
MACHINE FINISH: AT THE CONTRACTORS OPTION, THE CONCRETE DECK MAY BE FINISHED BY THE USE OF A FINISHING MACHINE.

UTILITY LINES: ALL EXPENSE INVOLVED IN RELOCATING (INSTALLING) 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 WILL BE HELD TO A MINIMUM.

MAINTENANCE AND PROTECTION OF TRAFFIC: TWO LANES OF TRAFFIC WITH A MINIMUM HORIZONTAL WIDTH OF 30'-0" SHALL BE MAINTAINED ON EXISTING U.S. 33 AT ALL TIMES. THE CONTRACTOR SHALL SAFEGUARD THE TRAVELING PUBLIC BY PROVIDING PLATFORMS, NETS OR OTHER SUITABLE PROTECTION ABOVE THE TRAVELED LANES. A MINIMUM VERTICAL CLEARANCE OF 12'-9" SHALL BE PROVIDED AT ALL TIMES.

PROCEDURE: THE EMBANKMENT SHALL BE PLACED AND COMPACTED UP TO THE FINISHED SPILL-THRU SLOPE AND TO THE LEVEL OF THE SUBGRADE FOR A DISTANCE OF 200 FEET BACK OF THE ABUTMENTS, AFTER WHICH EXCAVATION SHALL BE MADE FOR THE ABUTMENTS AND FOR PIERS THAT ARE SET IN THE FILLED AREA AND PILES DRIVEN. The embankment in this area is to be placed as part of another contract.

PLAN



ELEVATION (Piles not shown)

BARRETT ASSOCIATED ENGINEERS, LIMITED				
1500 W. FIRST AVE.		COLUMBUS 12, OHIO		
GENERAL PLAN AND GENERAL NOTES				
BRIDGE N° UNI-4-1084 L OVER EXISTING U.S. 33				
Union County				
Sta. 459+09.89 to Sta. 460+73.39				
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED
DM	K.F.B.		HM	

REINFORCING STEEL LIST

UNI-4-B.38

ABUTMENTS & WINGWALLS					PIERS					SUPERSTRUCTURE																			
Mark	No.	Length	Shape	Weight	Bending Diagrams					Mark	No.	Length	Shape	Weight	Bending Diagrams														
A1001	8	22'-0"	Str.	757						P1001	8	28'-6"	Bt.	981						S1101	111	29'-8"	Str.	17,496					
A1002	8	22'-0"	Bt.	757						P1002	8	24'-7"	Str.	846						S1102	54	14'-1"	"	4,041					
A801	16	23'-0"	Str.	983						P1003	16	24'-2"	"	1,664						S1103	54	9'-6"	"	2,726					
A802	8	9'-6"	"	203						P1004	16	23'-1"	"	1,589						S5001	172	43'-2"	Str.	31,948					
A803	8	8'-6"	"	182	P1005	8	26'-1"	Bt.	898	S5002	36	29'-11"	Bt.	4,634															
A804	8	7'-5"	"	158	P1006	8	22'-0"	Str.	757	S5003	40	26'-3"	Bt.	4,518															
A501	16	22'-7"	Str.	377	P1007	4	26'-10"	Bt.	462	S5004	36	26'-0"	Str.	4,028															
A502	128	6'-7"	Bt.	879	P1008	4	22'-11"	Str.	394	S5005	40	19'-10"	"	3,414															
A503	64	5'-8"	Bt.	378	P1009	8	22'-6"	"	775	S5006	30	24'-9"	"	3,195															
A504	8	21'-3"	Str.	177	P1010	8	21'-5"	"	737	S701	161	41'-8"	Bt.	13,712															
A505	4	26'-7"	"	111	P1011	4	24'-5"	Bt.	420	S601	36	23'-5"	Str.	1,266															
A506	6	6'-6"	"	41	P1012	4	20'-5"	Str.	351	S602	36	19'-5"	"	1,050															
A507	6	10'-6"	"	66	P901	12	9'-0"	Bt.	367	S603	94	41'-8"	Bt.	5,883															
A508	8	6'-8"	"	56	P902	21	41'-8"	"	2,975	S501	12	23'-5"	Str.	293															
A509	8	10'-8"	"	89	P903	9	40'-4"	Str.	1,234	S502	12	25'-10"	Str.	323															
A510	10	9'-7"	Bt.	100	P904	6	38'-4"	"	782	S503	374	6'-4"	Bt.	2,471															
A511	12	11'-1"	"	139	P501	42	8'-11"	Bt.	391	S504	374	2'-10"	"	1,105															
A512	10	12'-5"	"	130	P502	6	38'-0"	"	238	S505	236	5'-7"	"	1,374															
A513	10	8'-11"	"	93	P503	6	9'-2"	"	57	R501	16	4'-8"	Str.																
A514	16	13'-3"	"	221	P504	6	9'-5"	"	59	R502	80	15'-0"	"																
A515	26	6'-2"	"	167	F1001	96	6'-6"	Bt.	2,685	R503	16	10'-4"	"																
A516	20	5'-6"	Str.	115	F801	60	10'-4"	Bt.	1,655																				
A517	4	8'-6"	"	35	F701	54	9'-10"	Bt.	1,085																				
A518	4	7'-5"	"	31	F702	60	8'-4"	Bt.	1,022																				
A519	44	7'-1"	Bt.	325	F601	54	8'-0"	Bt.	649																				
A520	16	6'-2"	Bt.	103																									
A521	12	5'-10"	Str.	73																									
A522	40	10'-5"	"	435																									
A523	28	7'-1"	"	207																									
A524	8	2'-9"	"	23																									
A525	28	4'-7"	"	134																									
A526	8	3'-3"	"	27																									
A527	32	5'-11"	Bt.	197																									
A528	32	5'-3"	"	175																									
A529	16	4'-5"	"	74																									
A530	8	4'-1"	"	34																									
A531	8	3'-7"	"	30																									

ESTIMATED QUANTITIES

Item	Quant.	Unit	Description	Abut's	Piers	Super	General
E-2	334	Cu. Yds.	Unclassified Excavation	136	198		
S-1	458	Cu. Yds.	Class "C" Concrete, Superstructure and Pier Caps		20	438	
S-1	65	Cu. Yds.	Class "C" Concrete, Pier Columns		65		
S-1	80	Cu. Yds.	Class "E" Concrete, Abutments	80			
S-1	66	Cu. Yds.	Class "E" Concrete, Pier Footings		66		
S-4	139,077	Lbs.	Reinforcing Steel	8,082	27,518	103,477	
S-14	369.57	Lin. Ft.	Railing (Concrete Parapet w/ Type "A" Aluminum Railing & Supports)	42.67		326.90	
S-16	Lump Sum	L.S.	First Test Pile				Lump Sum
S-18	1,470	Lin. Ft.	12" Cast in Place Reinforced Concrete Piles	550	920		
S-29	10	Cu. Yds.	Porous Backfill	10			
S-29	17	Each	Scuppers, 6" Wrought Iron or Cast Iron Pipe			17	
I-10	450	Sq. Yds.	Crushed Aggregate Slope Protection (1'-0" Thick)				450
S-101	458	Each	Water-Reducing, Set-Retarding Admixture		20	438	

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, A700 IS A NO. 7 SIZE BAR AND A1014 IS A NO. 10 SIZE.

SPIRAL REINFORCING 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 IS THE "LENGTH" DIVIDED BY THE PITCH, PLUS 3 TURNS (TOTAL NUMBER OF CLOSED COILS), EXPRESSED AS THE NEAREST WHOLE NUMBER. SPIRAL REINFORCING BARS SHALL NOT HAVE DEFORMATIONS BUT SHALL IN OTHER RESPECTS CONFORM TO ITEM S-4. 1 1/2 CLOSED COILS SHALL BE PROVIDED AT THE ENDS OF EACH SPIRAL UNIT. 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.

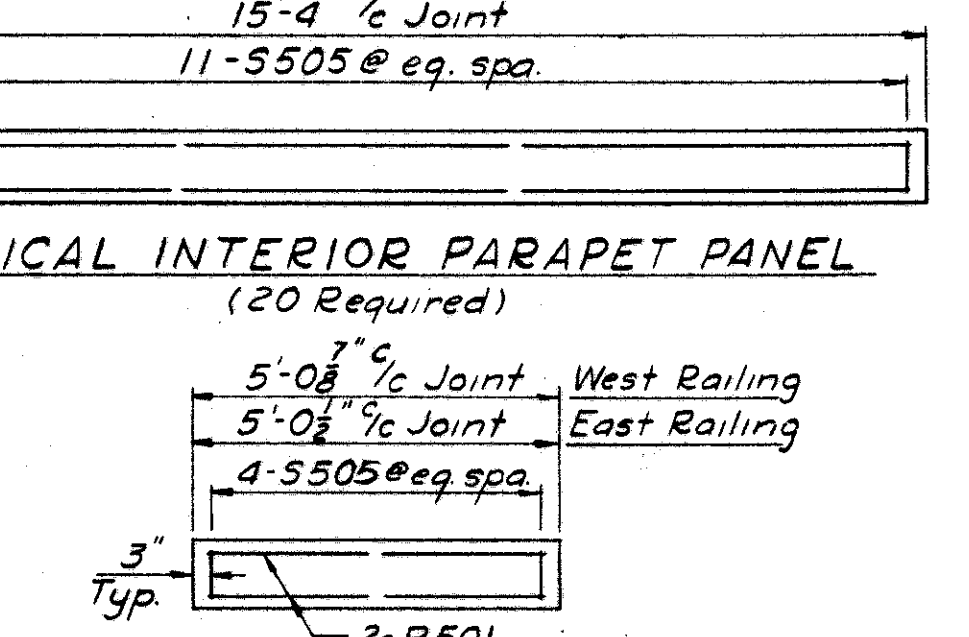
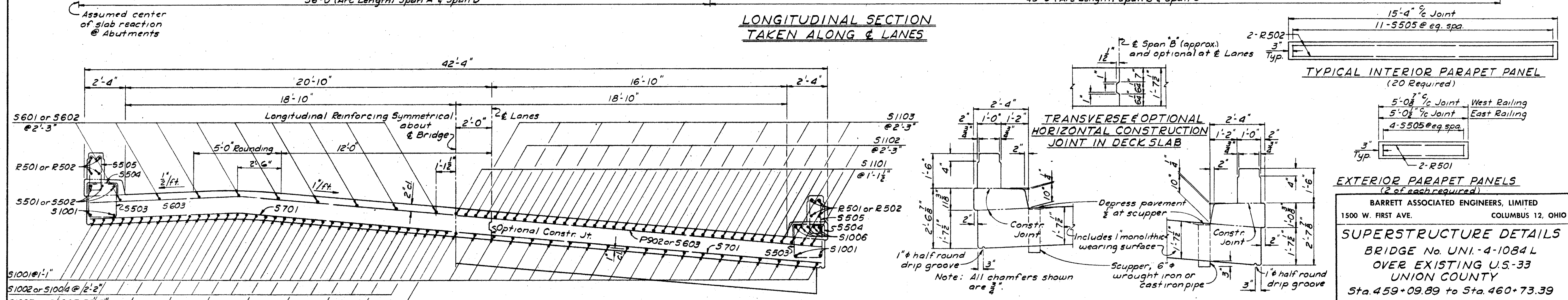
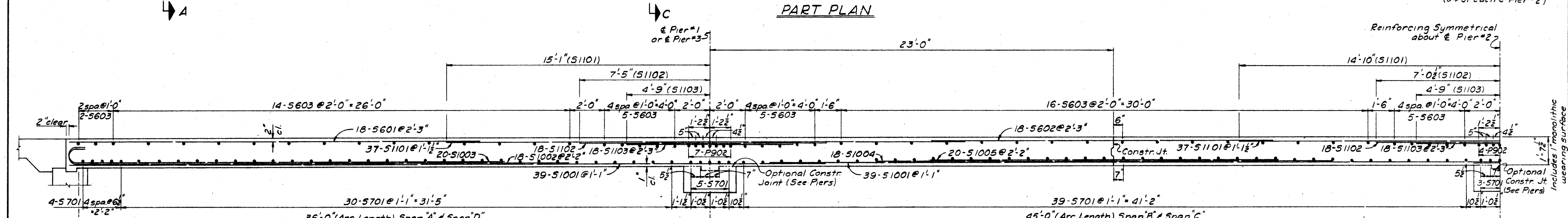
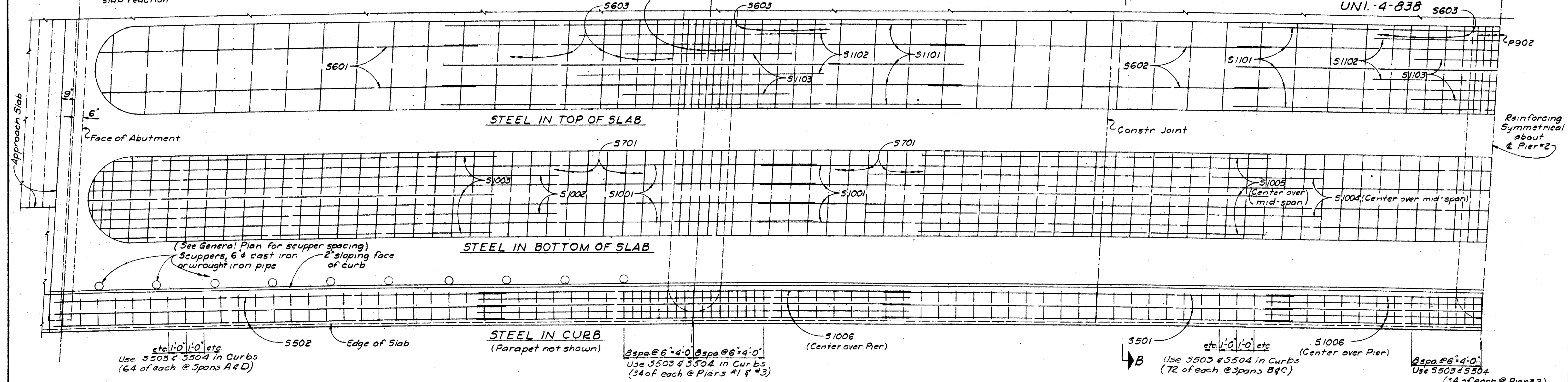
REPLACEMENT BARS

Mark	No.	Length	Shape
RE1101	2	7'-6"	Str.
RE1001	4	7'-2"	"
RE901	1	6'-10"	"
RE801	1	6'-6"	"
RE701	1	6'-2"	"
RE601	1	5'-11"	"
RE501	1	5'-7"	"

BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

ESTIMATED QUANTITIES & REINFORCING STEEL LIST
BRIDGE NO. UNI-4-1084L
OVER EXISTING U.S.-33
UNION COUNTY
Sta. 459+09.89 to Sta. 460+73.39

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
	WL		HM			



EXTERIOR PARAPET PANELS
(2 of each required)

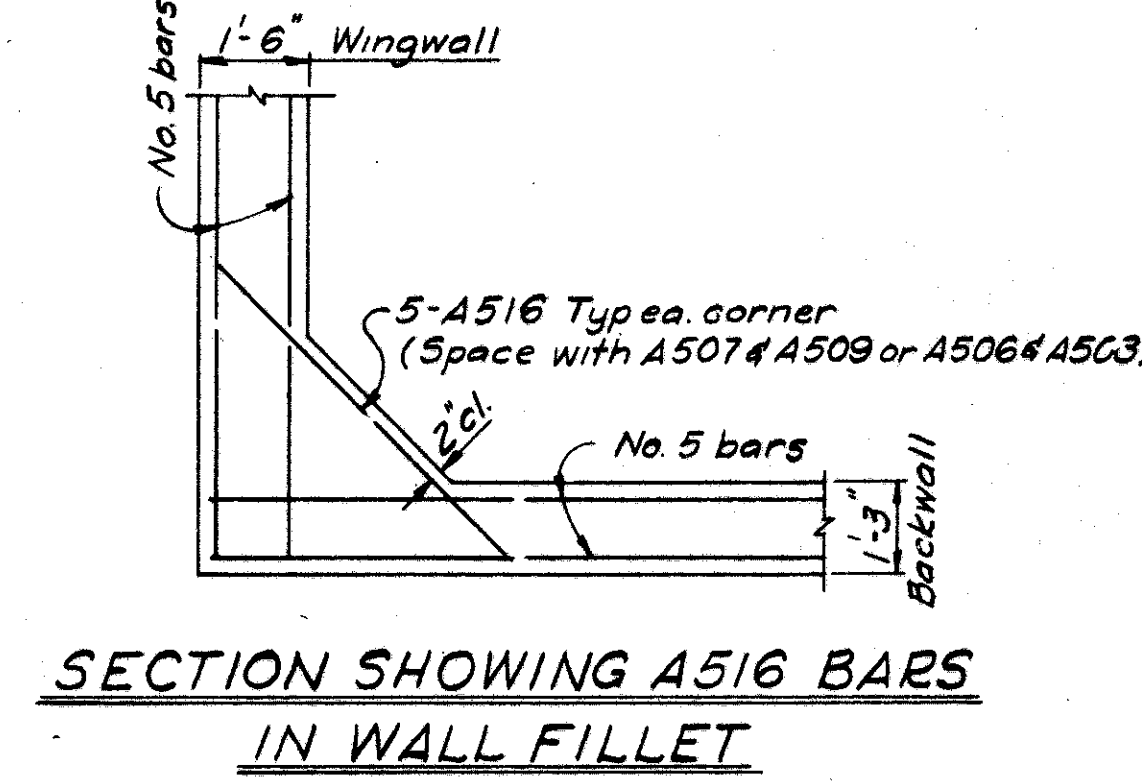
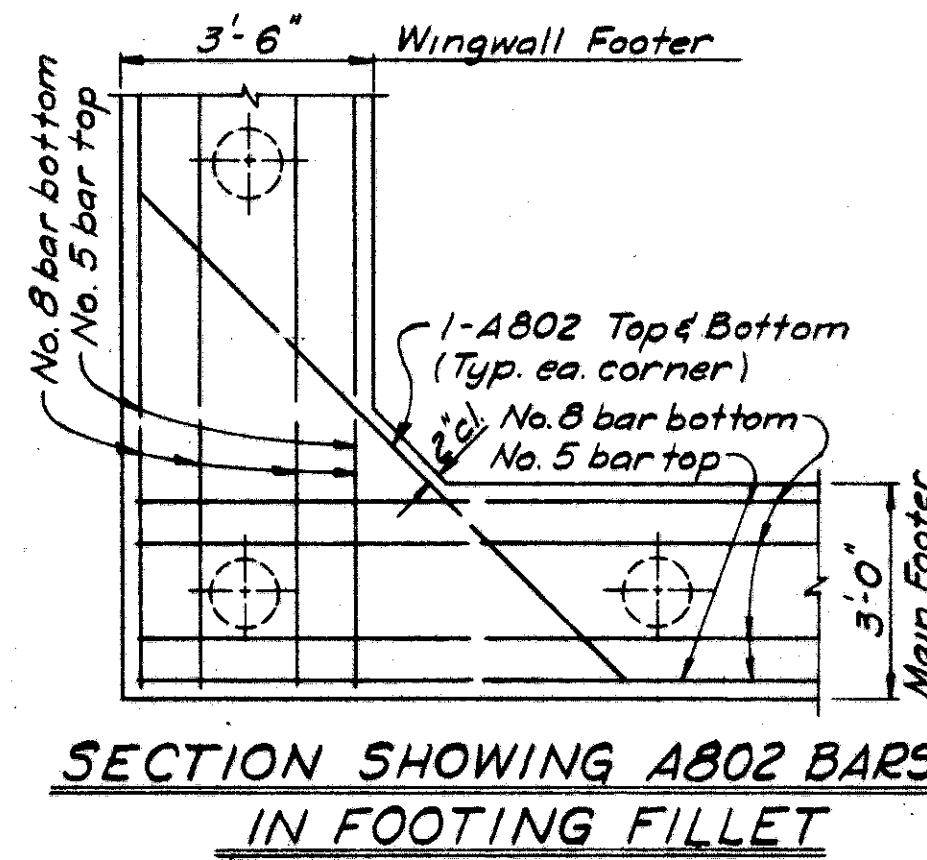
BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

SUPERSTRUCTURE DETAILS
BRIDGE No. UNI-4-1084 L
OVER EXISTING U.S. 33
UNION COUNTY
Sta. 459+09.89 to Sta. 460+73.39

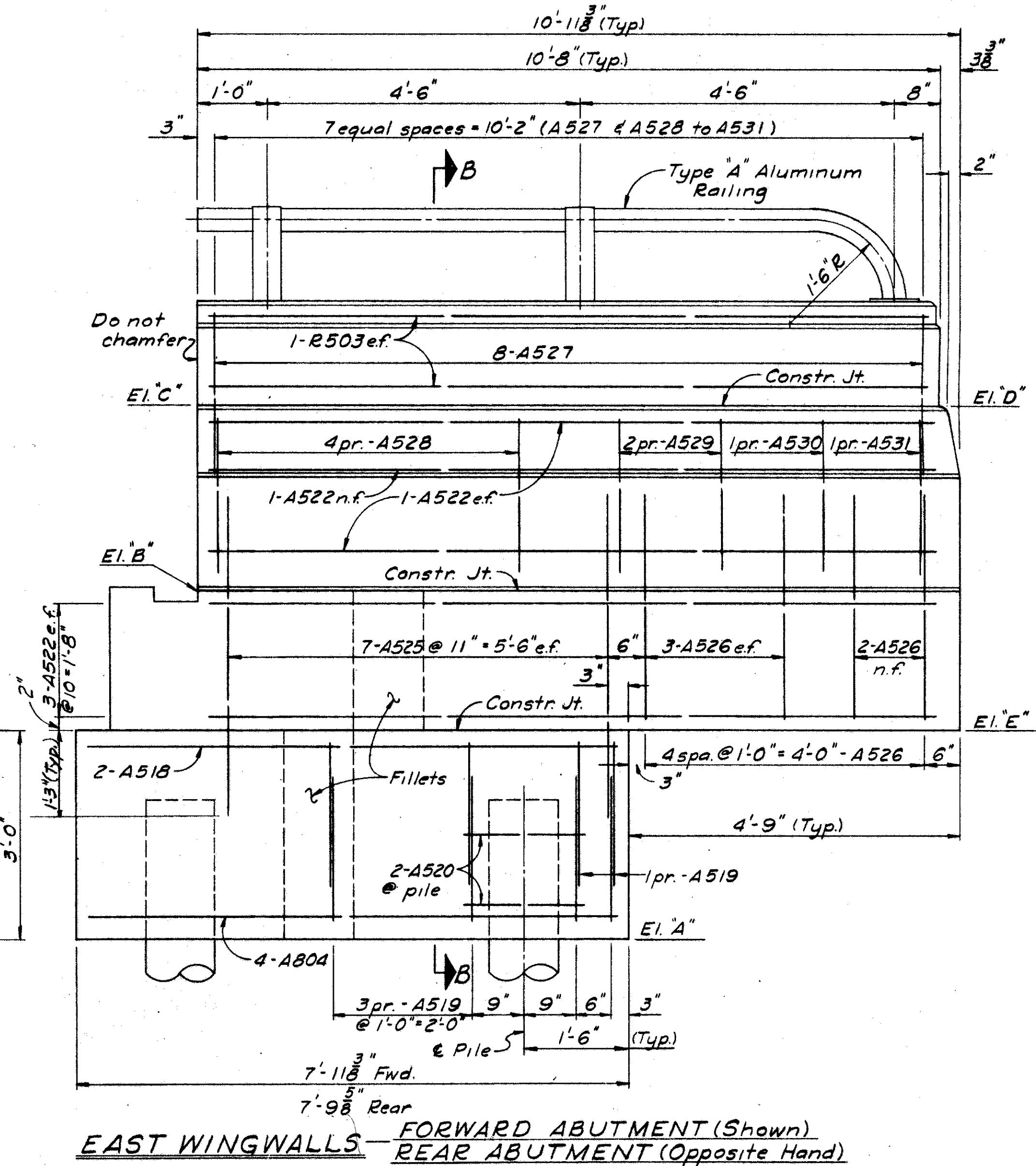
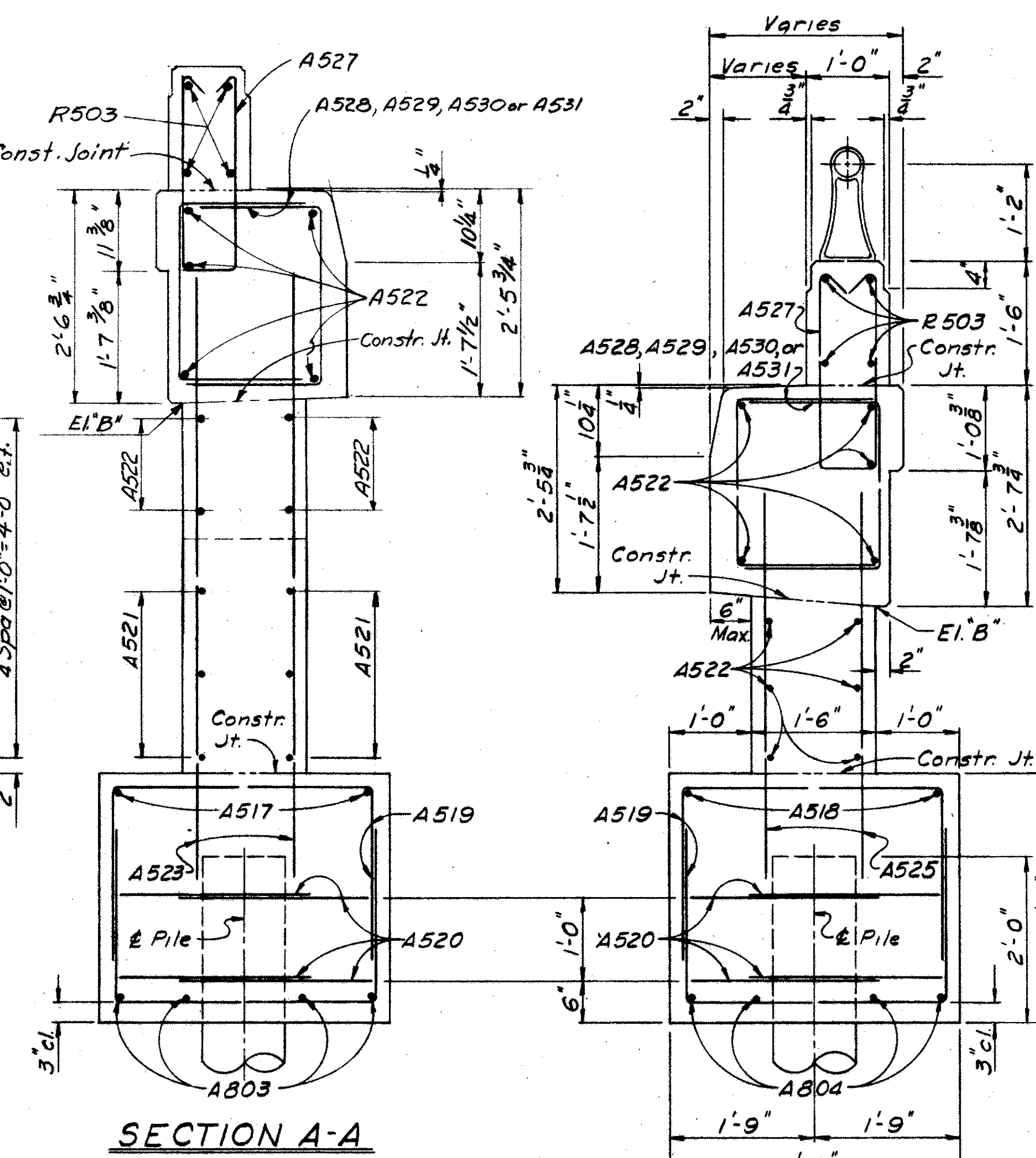
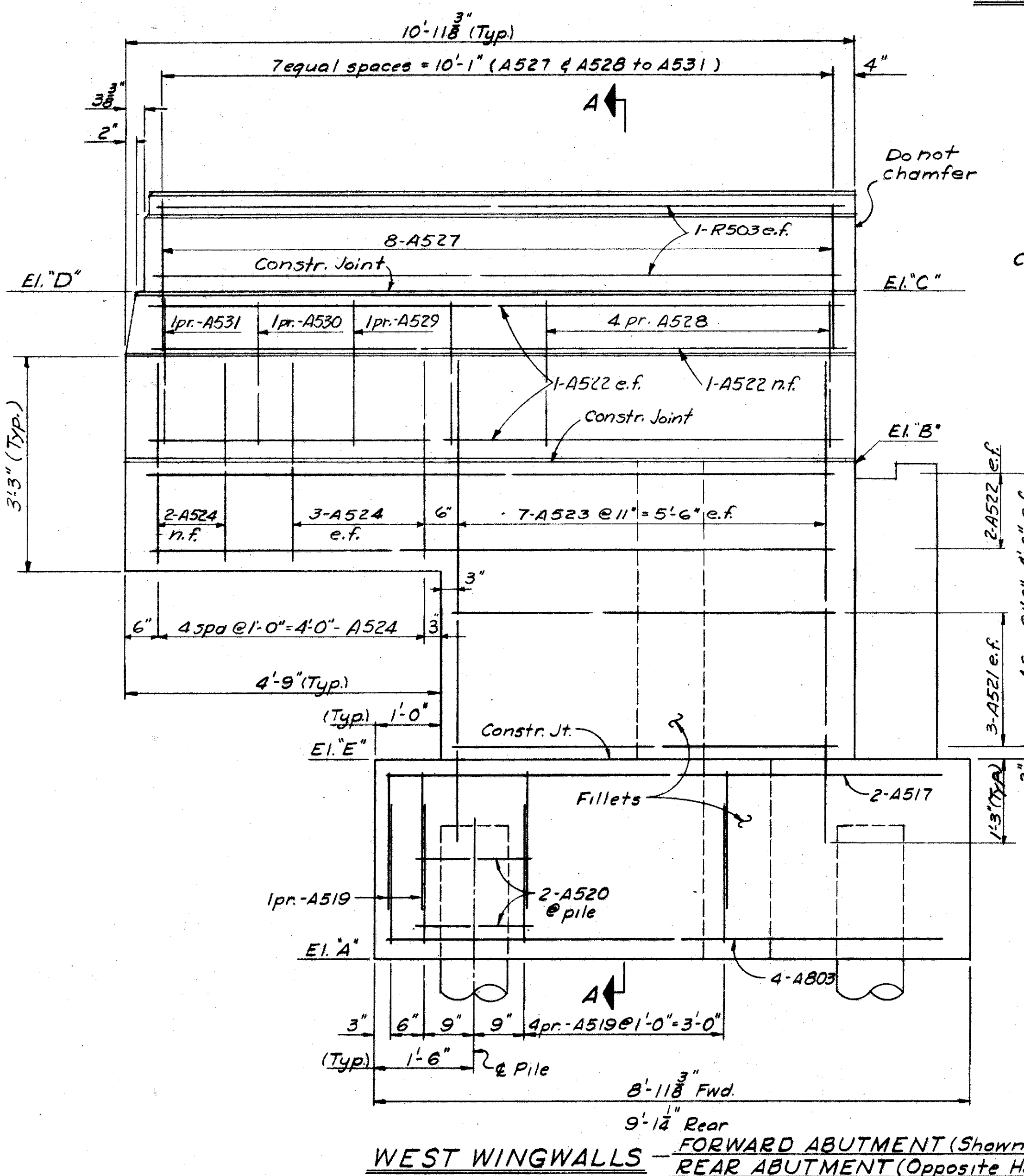
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISION
HM	WL		HM			

UNI-4-8.38

TABLE OF ELEVATIONS						
	Elevation	"A"	"B"	"C"	"D"	"E"
West Wingwalls	Forward Abut.	1043.48	1050.93	1053.49	1053.51	1046.48
	Rear Abutment	1042.88	1050.35	1052.91	1052.85	1045.88
East Wingwalls	Forward Abut.	1043.48	1048.49	1051.14	1051.16	1046.48
	Rear Abutment	1042.88	1047.89	1050.54	1050.48	1045.88



LEGEND
n.f. denotes near face
f.f. denotes far face
e.f. denotes each face



BARRETT ASSOCIATED ENGINEERS, LIMITED
1500 W. FIRST AVE. COLUMBUS 12, OHIO

WINGWALL DETAILS
BRIDGE No. UNI-4-1084 L
OVER EXISTING U.S. 33
UNION COUNTY
Sta. 459+09.89 to Sta. 460+73.39

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	DATE	REVISED
HM	WL		HM			

