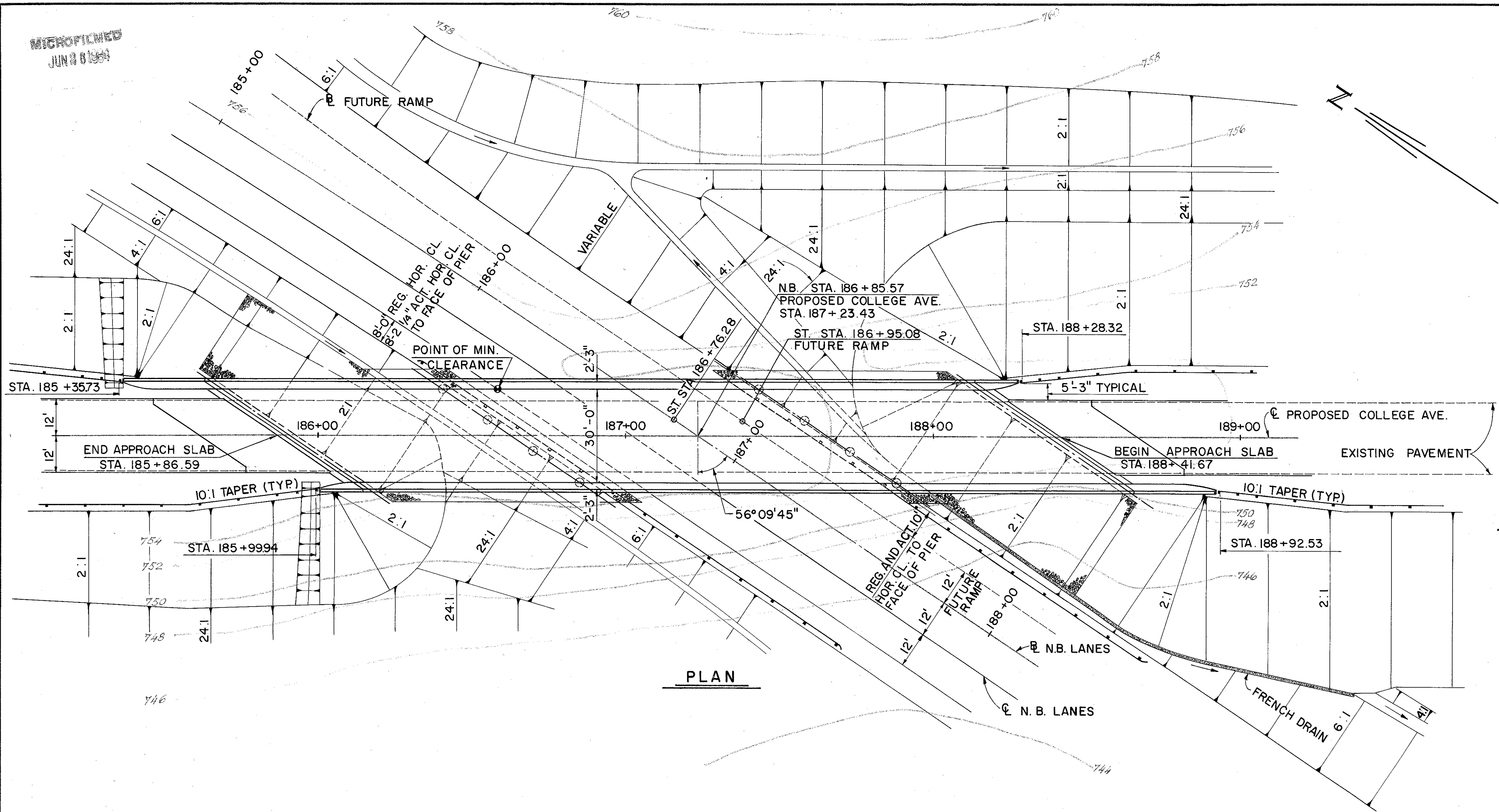


MICROFILMED  
JUN 2 1994

FED. RD. DIVISION	STATE	PROJECT	263 321
2	OHIO		

FRANKLIN COUNTY  
FRA. 33-22.46



PLAN

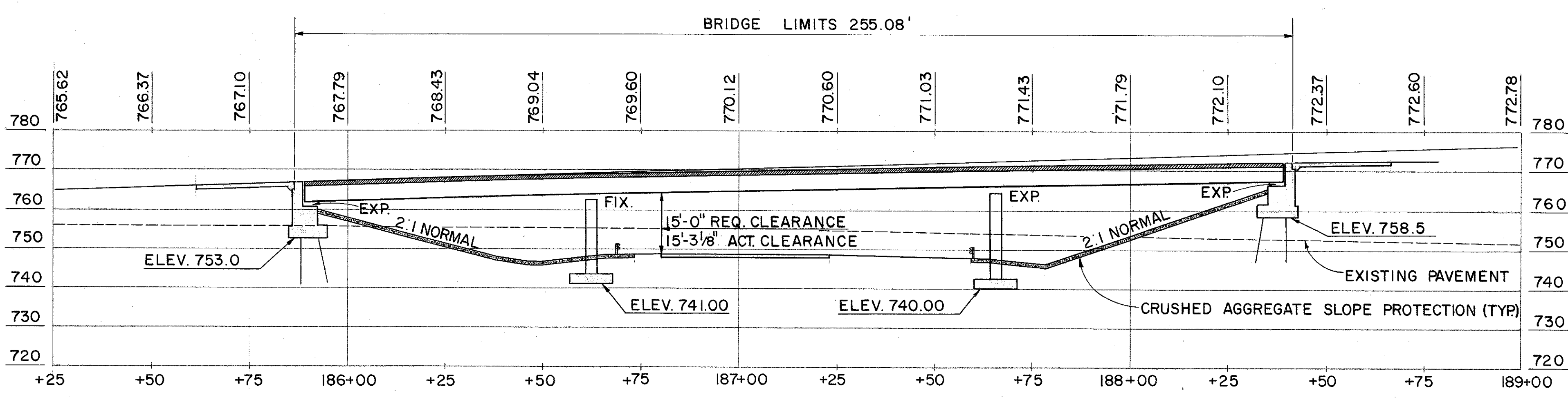
FOUNDATION SOUNDINGS.  
Foundation design and foundation quantities are based on a study of rod soundings and soil-sampling soundings made at the site. This sounding information may be inspected in the office of the Bureau of Bridges in Columbus or in the Division office, but the State does not guarantee the accuracy thereof.

VERTICAL CURVE DATA - COLLEGE AVE.

P.V.I. = STA. 190+00 ELEV. 779.87  
G<sub>1</sub> = +3.00% G<sub>2</sub> = -3.00%  
V.C. = 900'

HORIZONTAL CURVE DATA - N.B. LANES

Δ = 20° 50' 15"  
D<sub>c</sub> = 6° 00'  
R<sub>c</sub> = 954.93  
T<sub>c</sub> = 175.59  
L<sub>c</sub> = 347.29'  
L<sub>s</sub> = 400'



PROFILE ALONG C COLLEGE AVE.

All piles are 12" cast-in-place reinforced concrete piles.  
Estimated average pay length for piles: Abutment # 1 = 25'  
Abutment # 2 = 30'

PROPOSED STRUCTURE

TYPE: Continuous welded steel girder with reinforced concrete deck and substructure.  
SPANS: 72'-0", 103'-0" and 72'-0" center to center of bearings.  
ROADWAY: 30'-0" face to face of 2'-3" safety curbs.  
LOAD FREQUENCY: C.F. 400 (57).  
SKEW: 56° 09' 45" R.F.  
WEARING SURFACE: 1" monolithic concrete.  
ALIGNMENT: Tangent.  
APPROACH SLAB: AS-1-54, 25' long.

RACKOFF ASSOCIATES  
ENGINEERS COLUMBUS, OHIO

SITE PLAN

BRIDGE NO. FRA. 33-2309  
COLLEGE AVE. OVER NORTH BOUND LANE  
FRANKLIN COUNTY STA. 186 + 85.57

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
F. A.	G. M.		P. M.	bbb	9-20-61	



MICROFILMED  
JUN 28 1984

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

265  
321

FRANKLIN COUNTY  
FRA. 33-22.46

### GENERAL NOTES

REFERENCE shall be made to:

- Supplemental Specification S-207.10 dated 4-25-61.
- Supplemental Specification S-307 dated 8-23-60.
- Standard Drawing RB-1-55 revised 2-2-59.
- Standard Drawings CSB-2-56 sheet 1, 2 and 3 revised 2-2-59.
- Standard Drawing AR-1-57 revised 4-2-62.

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.

EXCAVATION: Quantity includes the removal of fill material between the surface of proposed embankment and the bottom of footings.

PILES shall be driven to a minimum bearing capacity of 36 tons per pile for the abutments.

FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 2 tons per sq. ft.

CONCRETE DECK PLACING: 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 parallel to transverse reinforcing steel and are located near the center of any span.

WELDING of structural steel shall be Class "A" except as otherwise shown. Welds shown as field welds may, at the option of the Contractor, be made in the shop.

CURING of superstructure concrete shall be in accordance with Sec. S-1.21 Method (a) using a continuous application of water. Plastic coated burlap or mats shall not be used.

GRAVEL, if used as the coarse aggregate, shall be in accordance with Sec. M-3.93 instead of M-3.92 for Class "C" concrete in the superstructure. Gravel meeting the requirements of Sec. M-3.93 also may be used for other concrete in this structure.

ERECTION PROCEDURE: The Contractor shall submit to the Director, for approval, three sets of prints showing his proposed erection procedure for the plate girders.

SHOP PAINTING STEEL: The surface preparation of all steel, requiring shop painting as per the Plans and Specification, shall be accomplished by blast cleaning or power tool cleaning, except as noted in the Specifications regarding the use of Chromate Primers.

SHEET LEAD shall conform to the requirements of A.S.T.M. Designation B 29 without restriction to the Common Desilverized type.

ESTIMATED QUANTITIES								AS BUILT	
ITEM	TOTAL	UNIT	DESCRIPTION	SUPER	ABUT.	PIER	GEN.		
E-2	739	cu.yds.	Unclassified excavation		435	304			
S-1	308	cu.yds.	Class "C" concrete, superstructure	308					
S-1	43	cu.yds.	Class "C" concrete, piers above footings			43			
S-1	71	cu.yds.	Class "E" concrete, piers footings			71			
S-1	180	cu.yds.	Class "E" concrete, abutments above footings		180				
S-1	116	cu.yds.	Class "E" concrete, abutment footings		116				
S-4	117,391	lbs.	Reinforcing steel	78,424	17,268	21,699			
S-7	288,200	lbs.	Structural steel	288,200					
S-8	288,200	lbs.	Field painting of structural steel	288,200					
S-14	581	lin.ft.	Railing (aluminum rail and supports, concrete parapet)	501	80				
S-16	Lump	sum	First test pile						
S-18	935	lin.ft.	12" cast-in-place reinforced concrete piles		935				
S-29	20	each	Scuppers	20					
S-29	61	cu.yds.	Porous backfill		61				
I-10	786	sq.yds.	Crushed aggregate slope protection				786		
Special	308	each	*Water reducing, set-retarding admixture	308					

\* See proposal note

### GENERAL NOTES

- ✓ SURFACE FINISH OF CONCRETE: The requirements of Sec. S-1.22, Rubbed Finish, shall apply to the following exposed concrete surfaces:
  - a. The entire superstructure except the top and bottom surfaces of sidewalks and roadways.
  - b. The entire surface of piers and abutments except bridge seats, backwalls and the face of spill-through abutments between outside girders.
- ✓ MACHINE FINISH: The concrete bridge deck shall be finished by the use of a finishing machine.

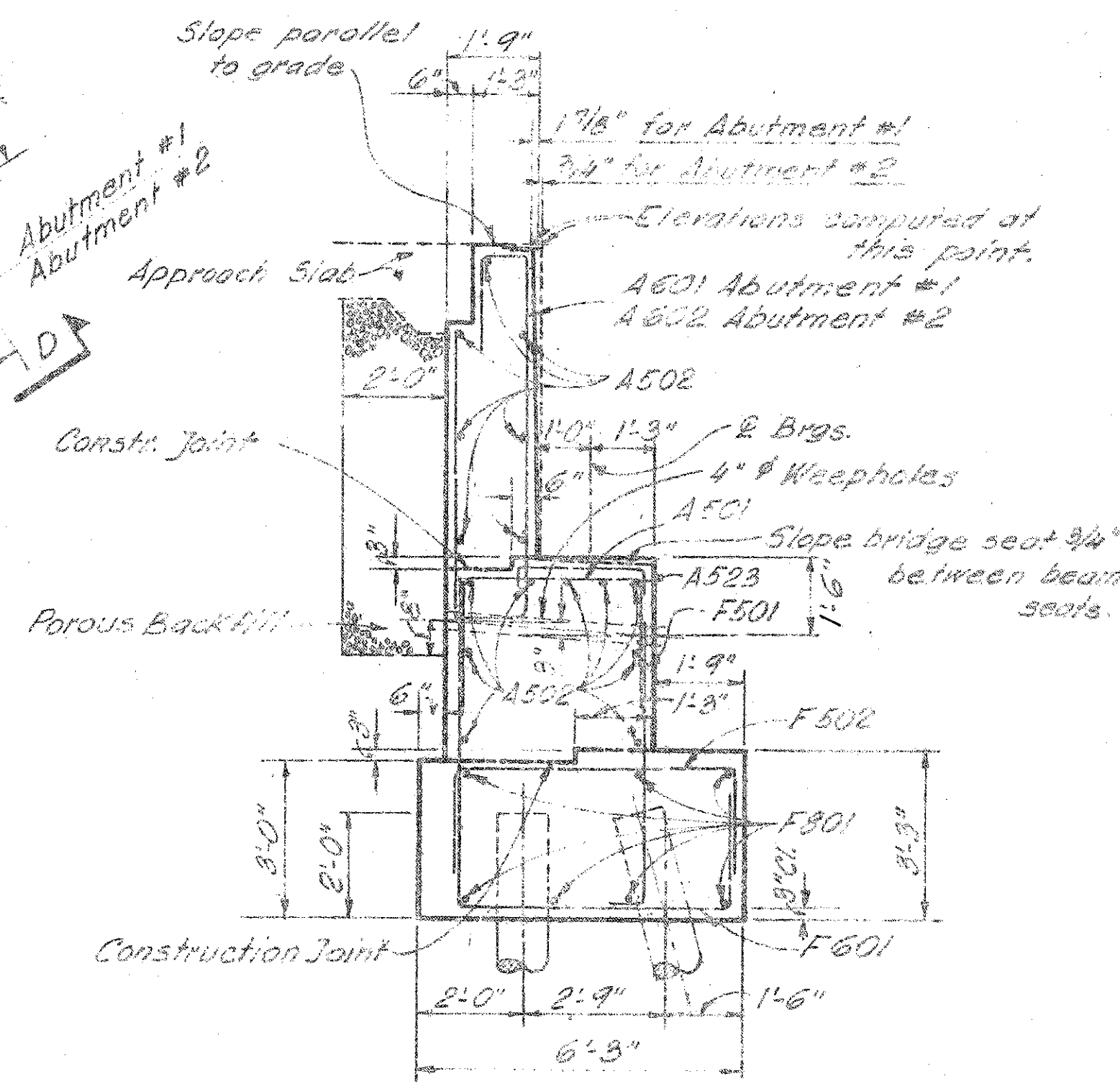
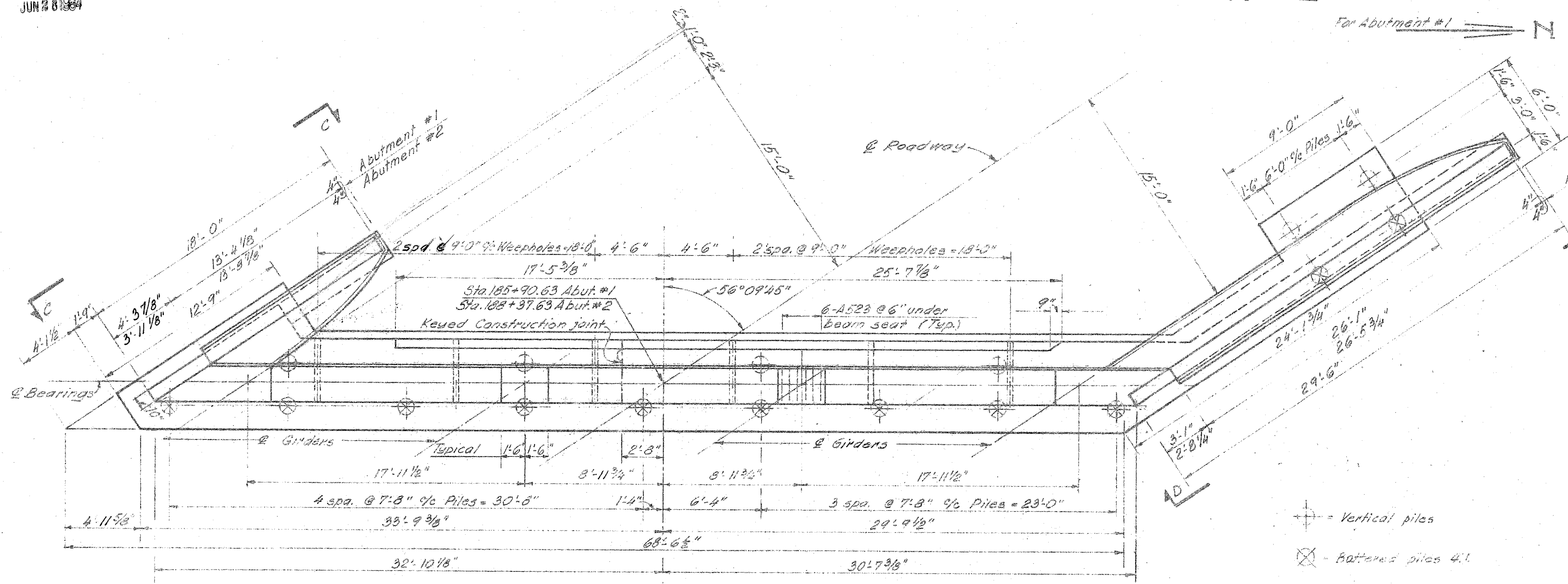
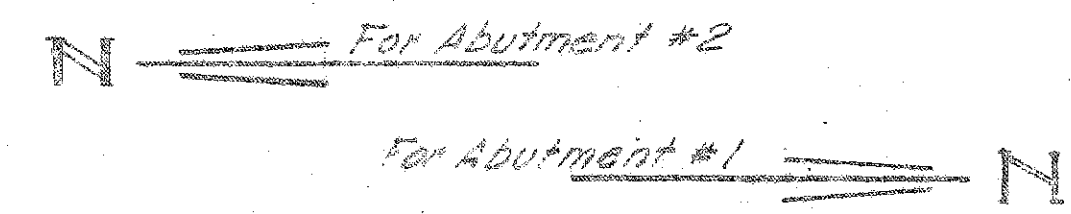
RACKOFF ASSOCIATES ENGINEERS COLUMBUS, OHIO						
<b>GENERAL NOTES AND ESTIMATED QUANTITIES</b>						
BRIDGE NO. FRA. 33-2309 COLLEGE AVE. OVER NORTH BOUND LANE FRANKLIN COUNTY STA. 186 + 85.57						
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
L.B.	G.M.		R.V.R.	<i>bb</i>	9-20-61	

MICROFILMED  
JUN 28 1964

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

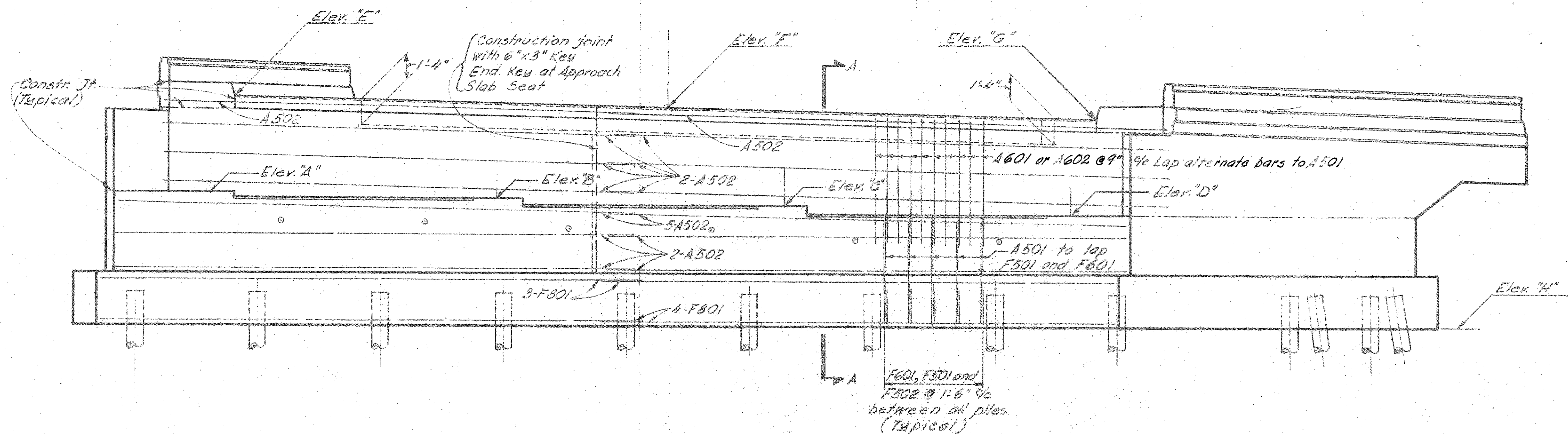
266  
321

FRANKLIN COUNTY  
FRA. 33 - 22.46



SECTION A-A

PLAN



ELEVATION

NOTES:

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 abutment, after which excavation shall be made for the abutments and piles driven.

Porous backfill, 2 ft. thick, full length of abutment shall extend up to the underside of the approach slab or to the finished ground surface. Excavation therefor, in excess of that required for the construction of the abutment, shall be considered as paid for in the price per cu. yd. paid for porous backfill.

Location	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
Abutment #1	761.89	761.66	761.25	760.67	767.84	767.48	766.61	753.0
Abutment #2	765.75	766.08	766.24	766.23	771.77	772.26	772.25	758.5

RACKOFF ASSOCIATES  
ENGINEERS COLUMBUS, OHIO

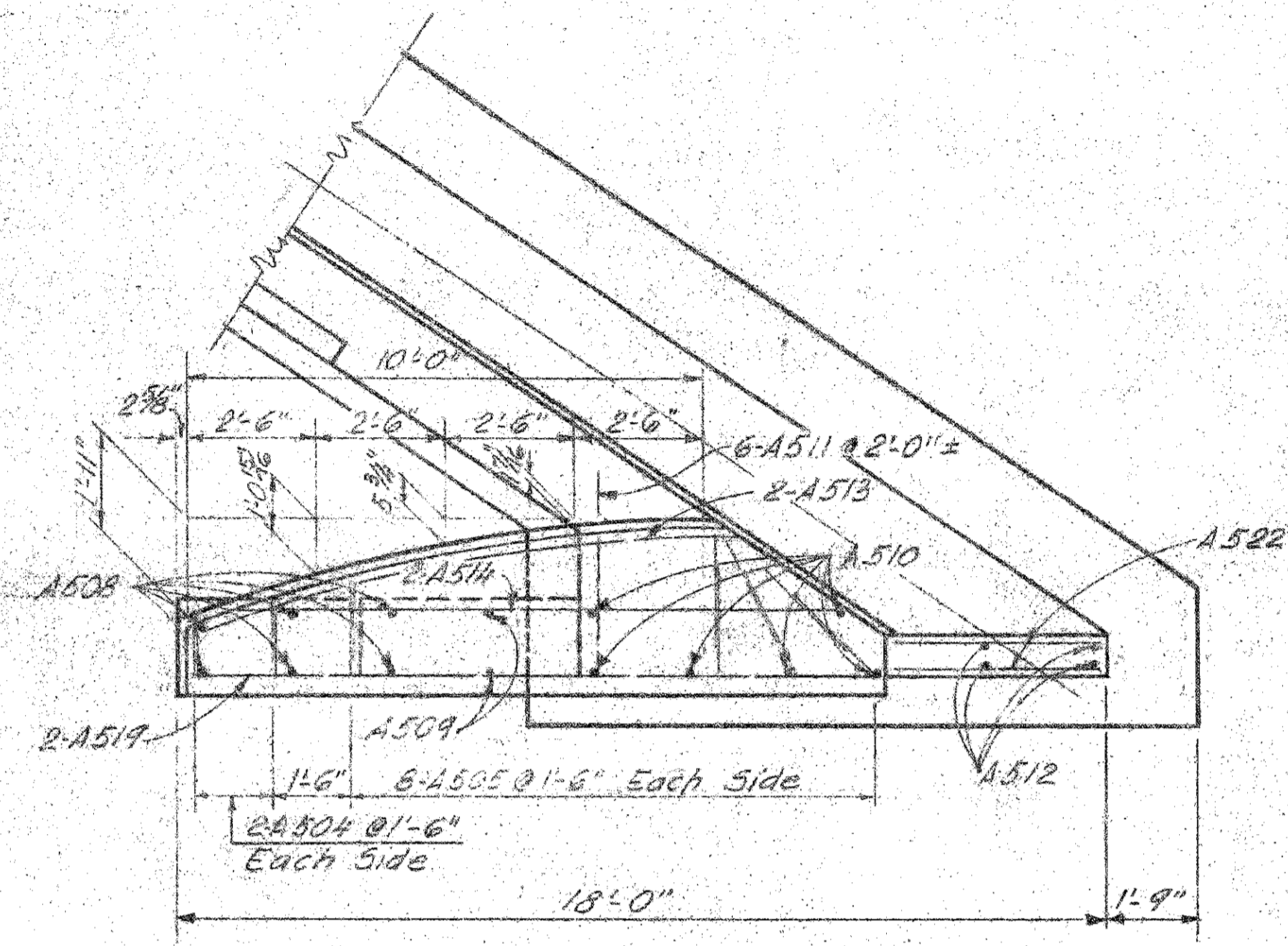
ABUTMENT DETAILS  
BRIDGE NO. FRA. 33 - 2309  
COLLEGE AVE. OVER NORTH BOUND LANE  
FRANKLIN COUNTY STA. 186 + 85.57

Designed	Drawn	Traced	Checked	Revised	Date	Revised
F. S.	G. M.		P. M.	llb	9-20-61	

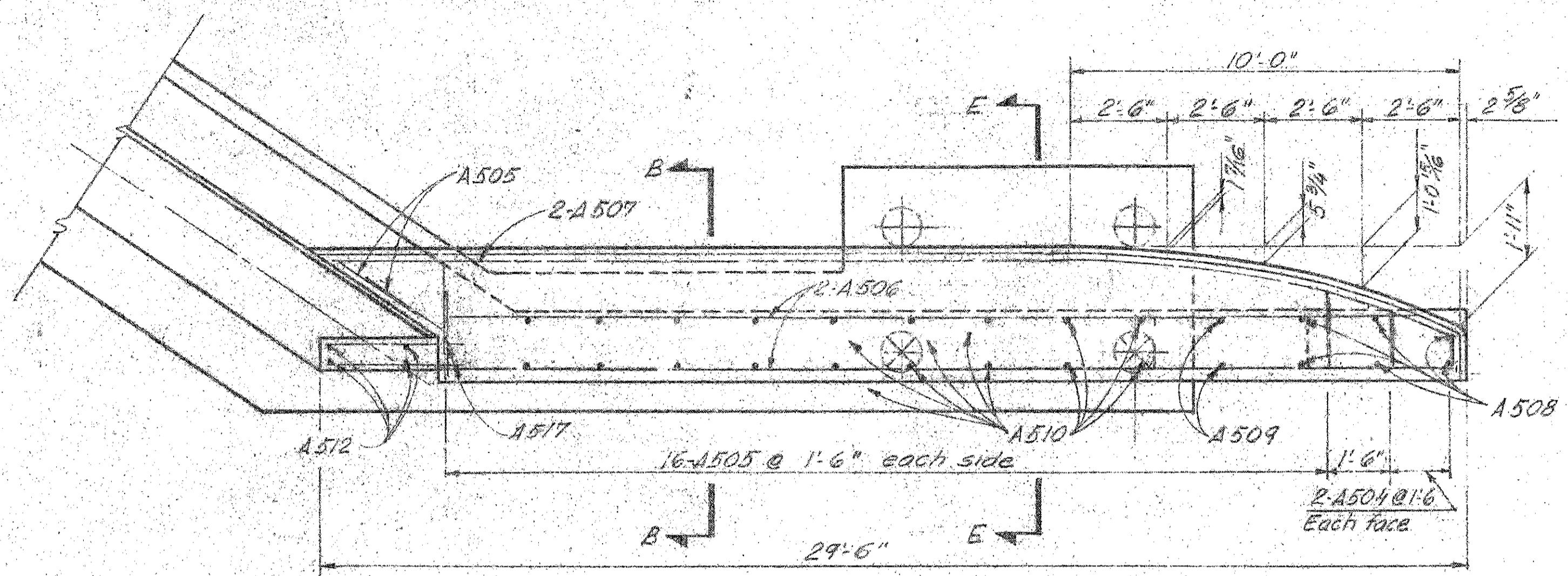
MICROFILMED  
JUN 28 1964

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS	267 321
2	OHIO			

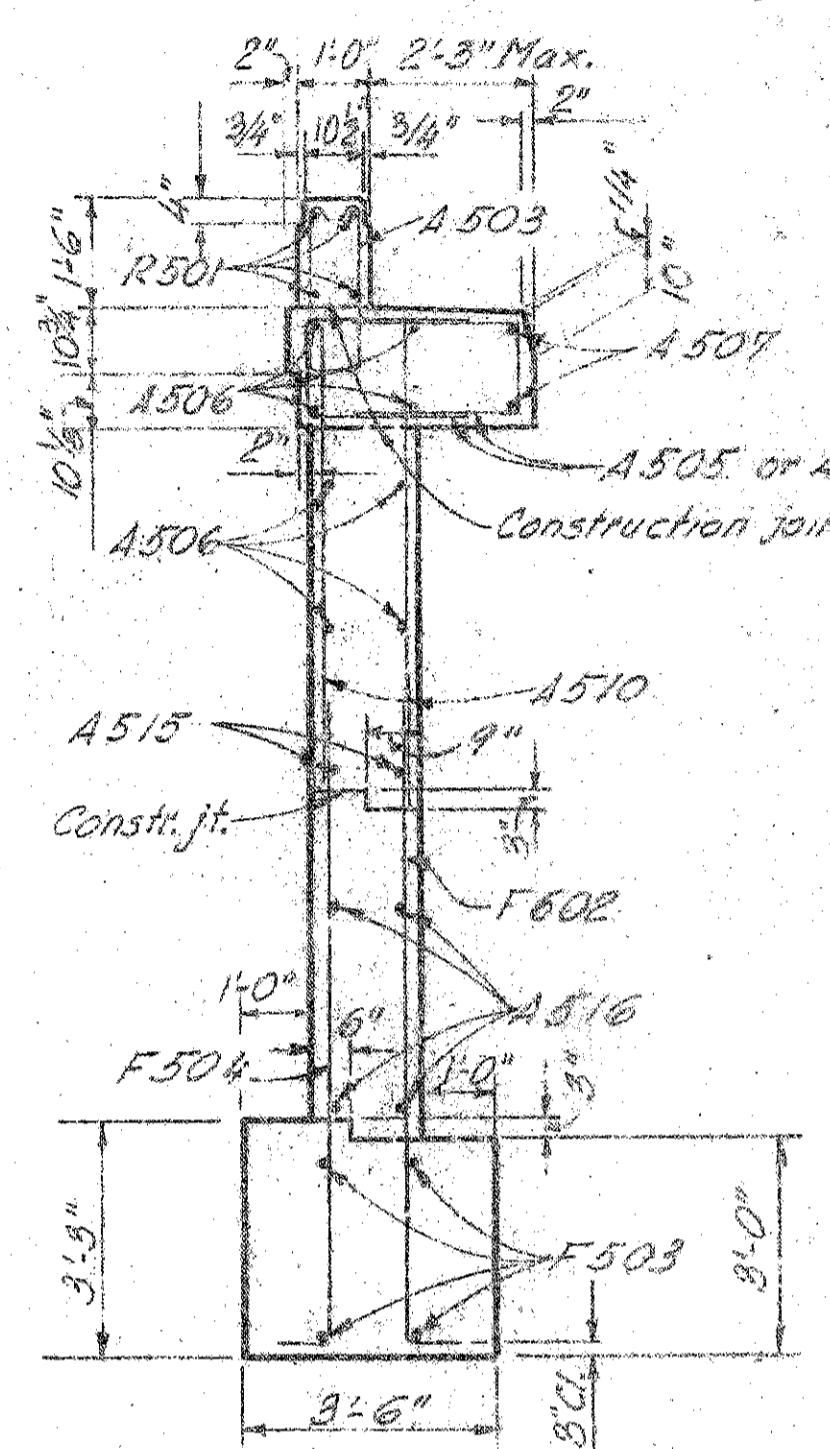
FRANKLIN COUNTY  
FRA. 33-22.46



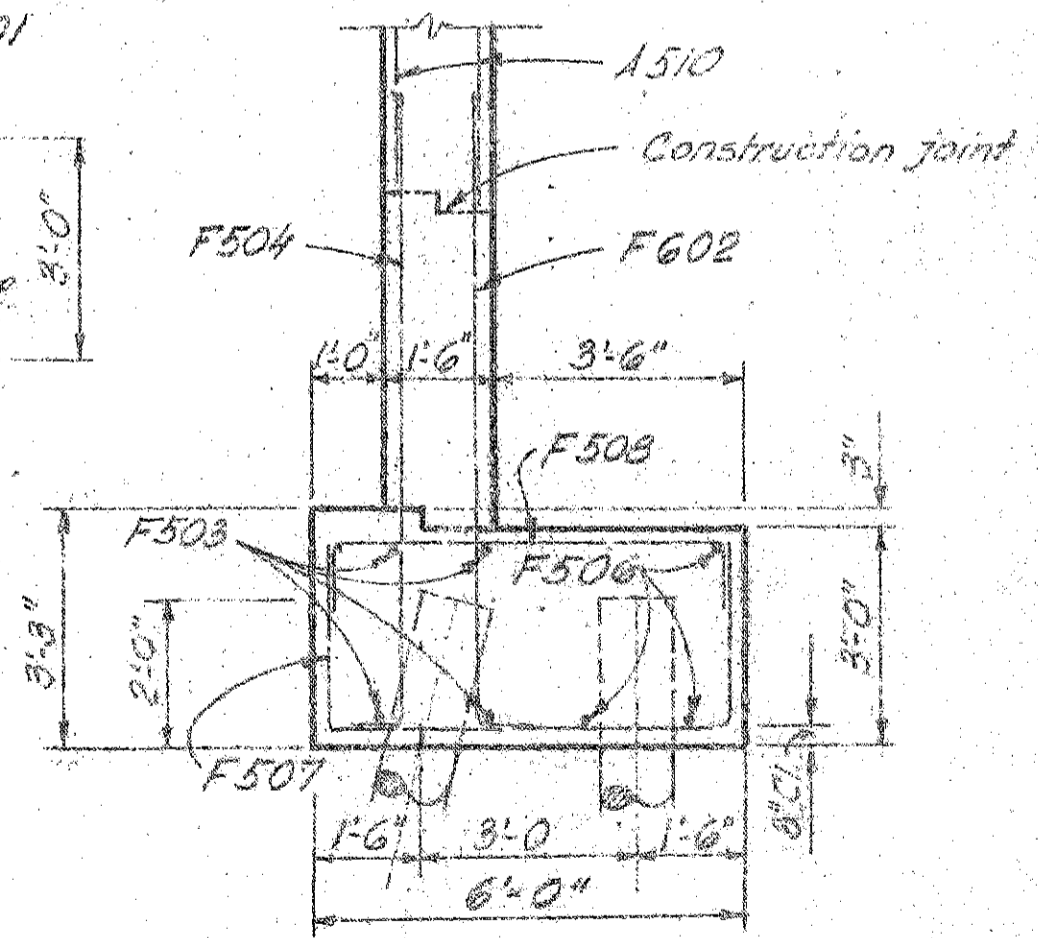
SAFETY CURB AND FILLET STEEL



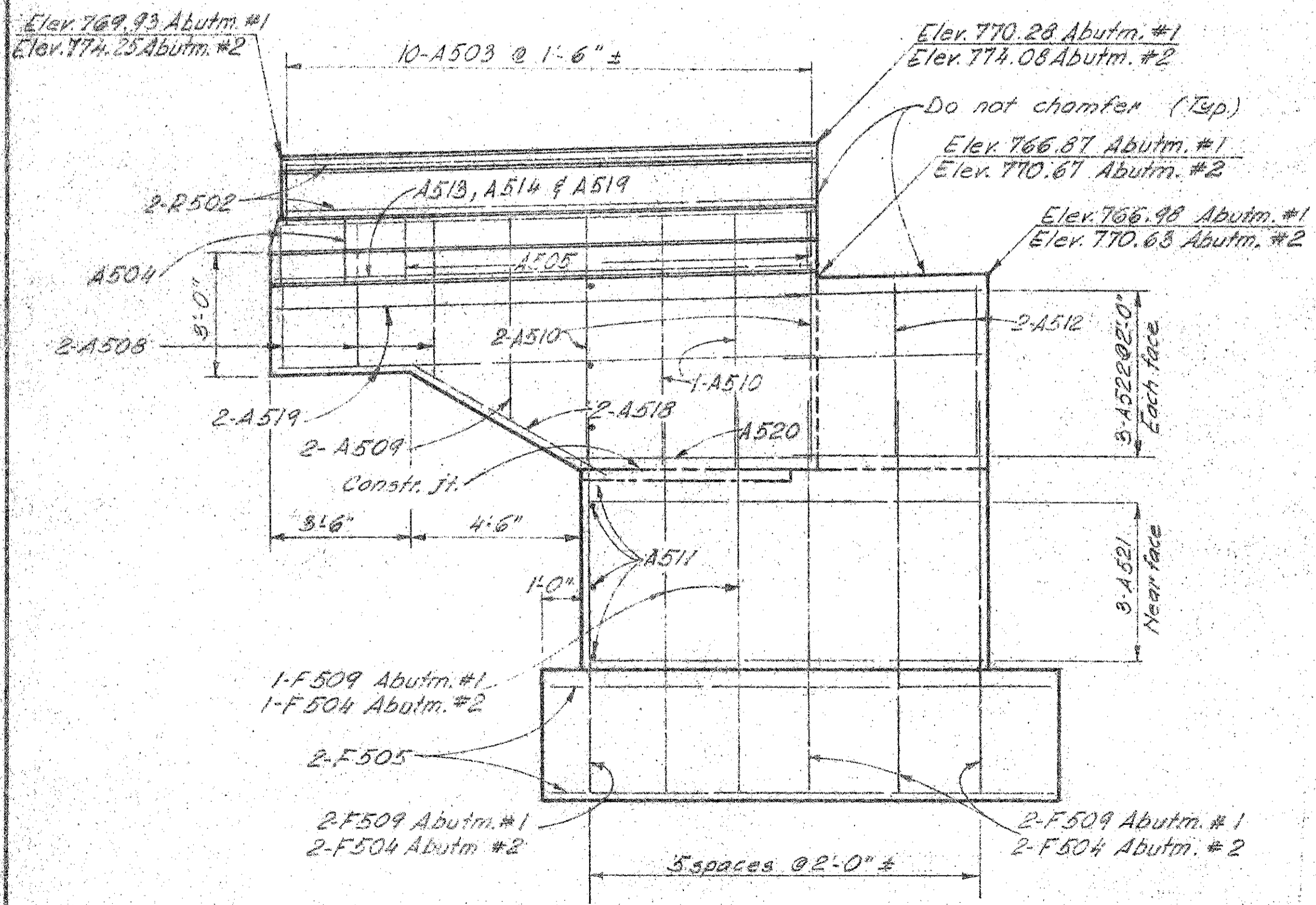
SAFETY CURB STEEL



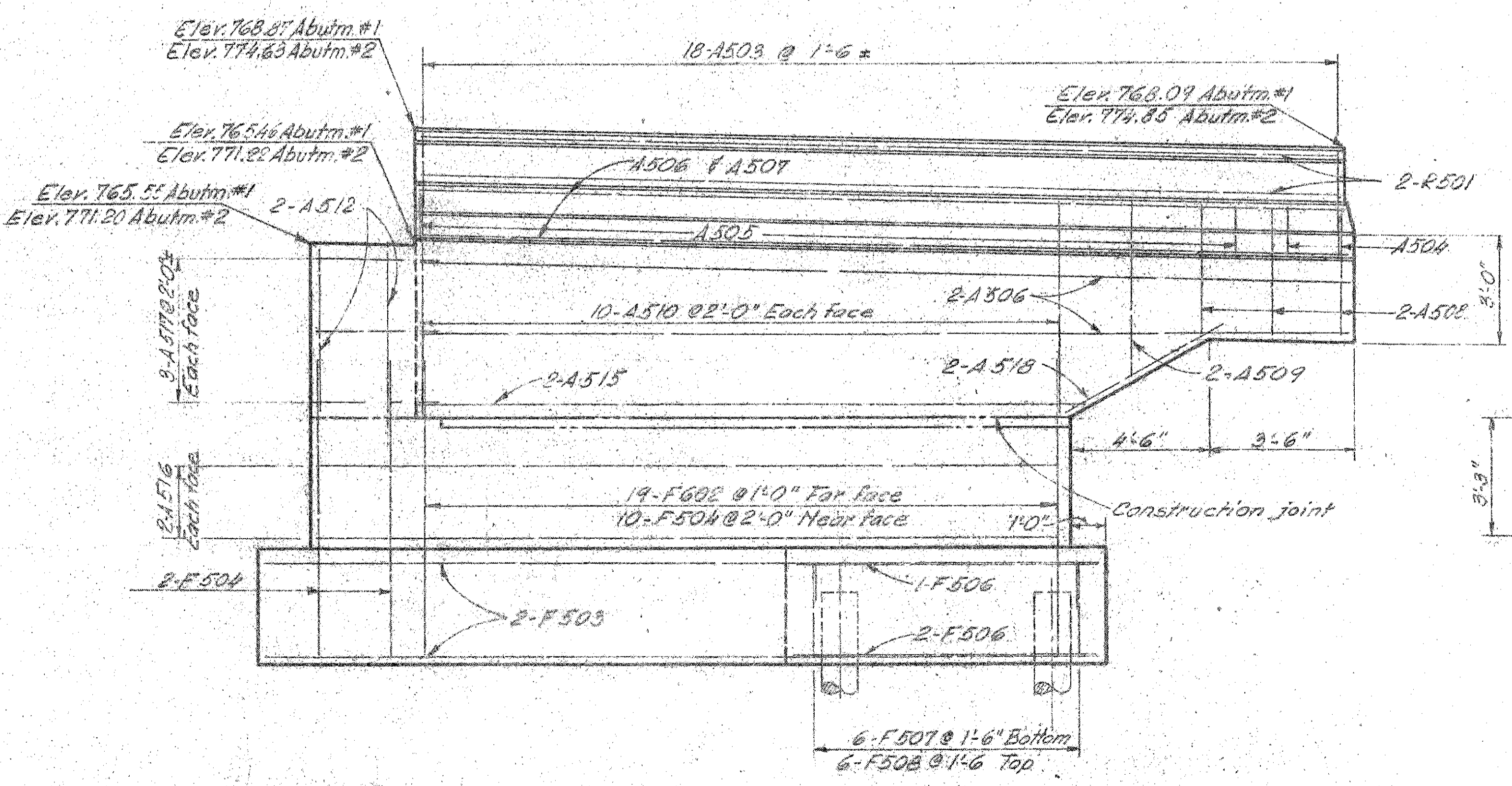
SECTION B-B



SECTION E-E  
Details not shown same as Section B-B



VIEW C-C



VIEW D-D

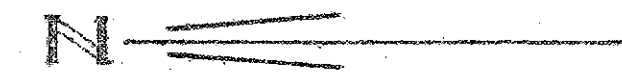
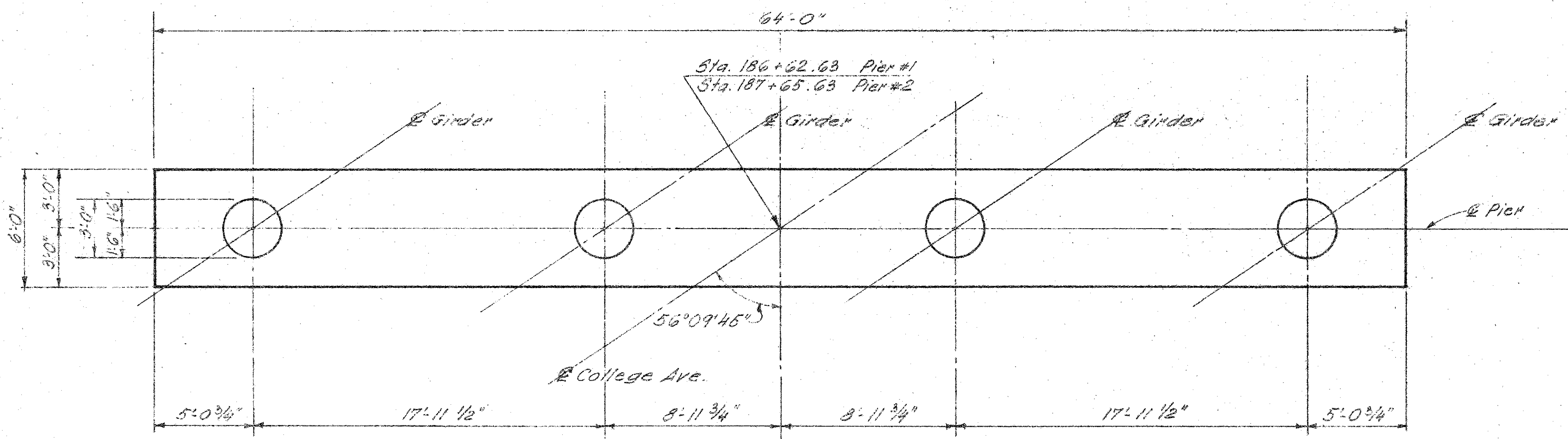
RACKOFF ASSOCIATES ENGINEERS COLUMBUS, OHIO					
ABUTMENT DETAILS BRIDGE NO. FRA. 33-2309 COLLEGE AVE. OVER NORTH BOUND LANE					
FRANKLIN COUNTY STA. 186 + 85.57					
Designed	Drawn	Traced	Checked	Reviewed	Date
F. S.	G. M.		P. M.	666	9-20-61

MICROFILMED  
JUN 28 1964

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

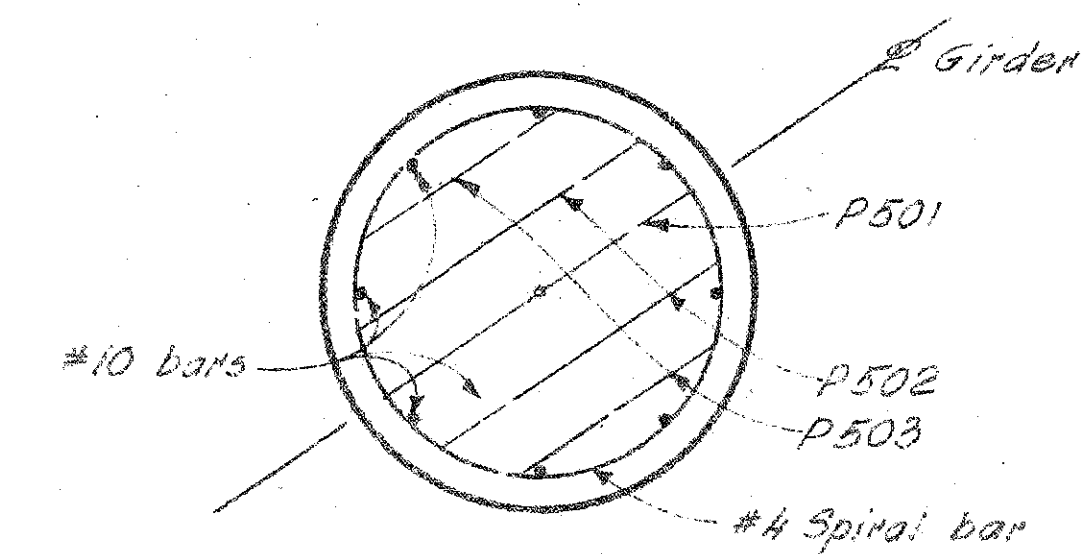
268  
321

FRANKLIN COUNTY  
FRA. 33 - 22.46



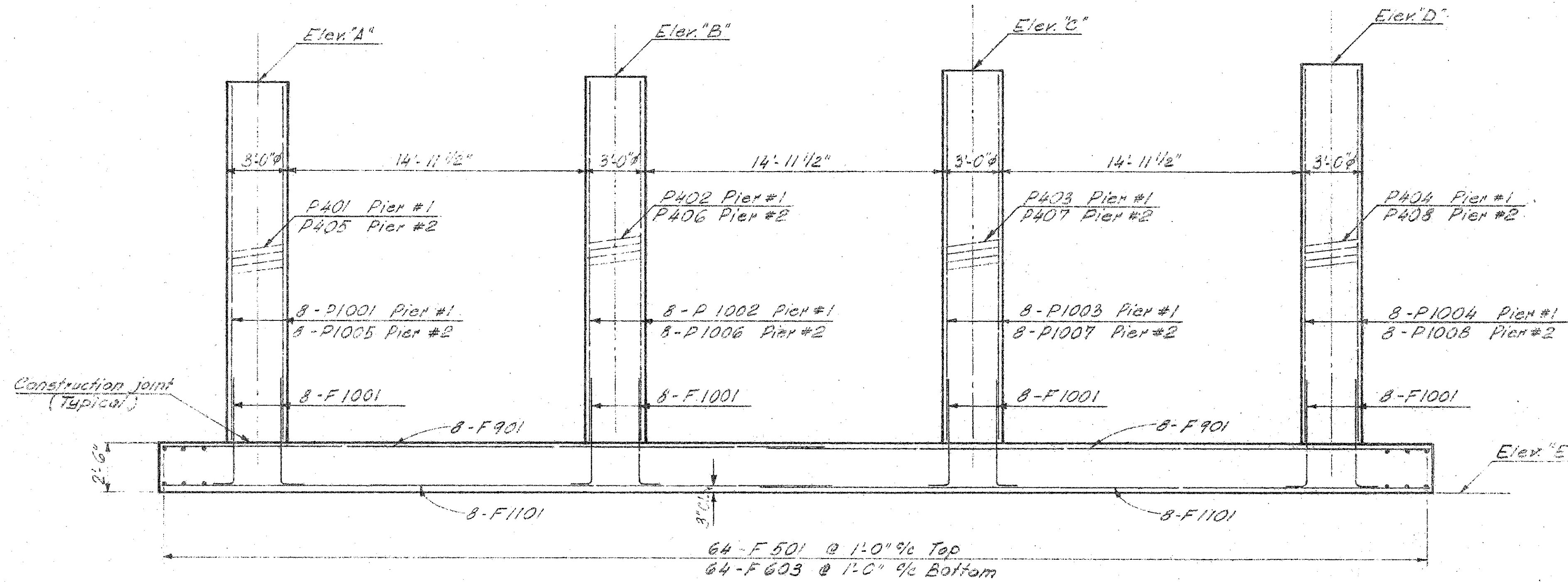
Location	"A"	"B"	"C"	"D"	"E"
Pier #1	761.90	762.41	762.75	762.91	741.00
Pier #2	764.02	764.43	764.66	764.72	740.00

PLAN

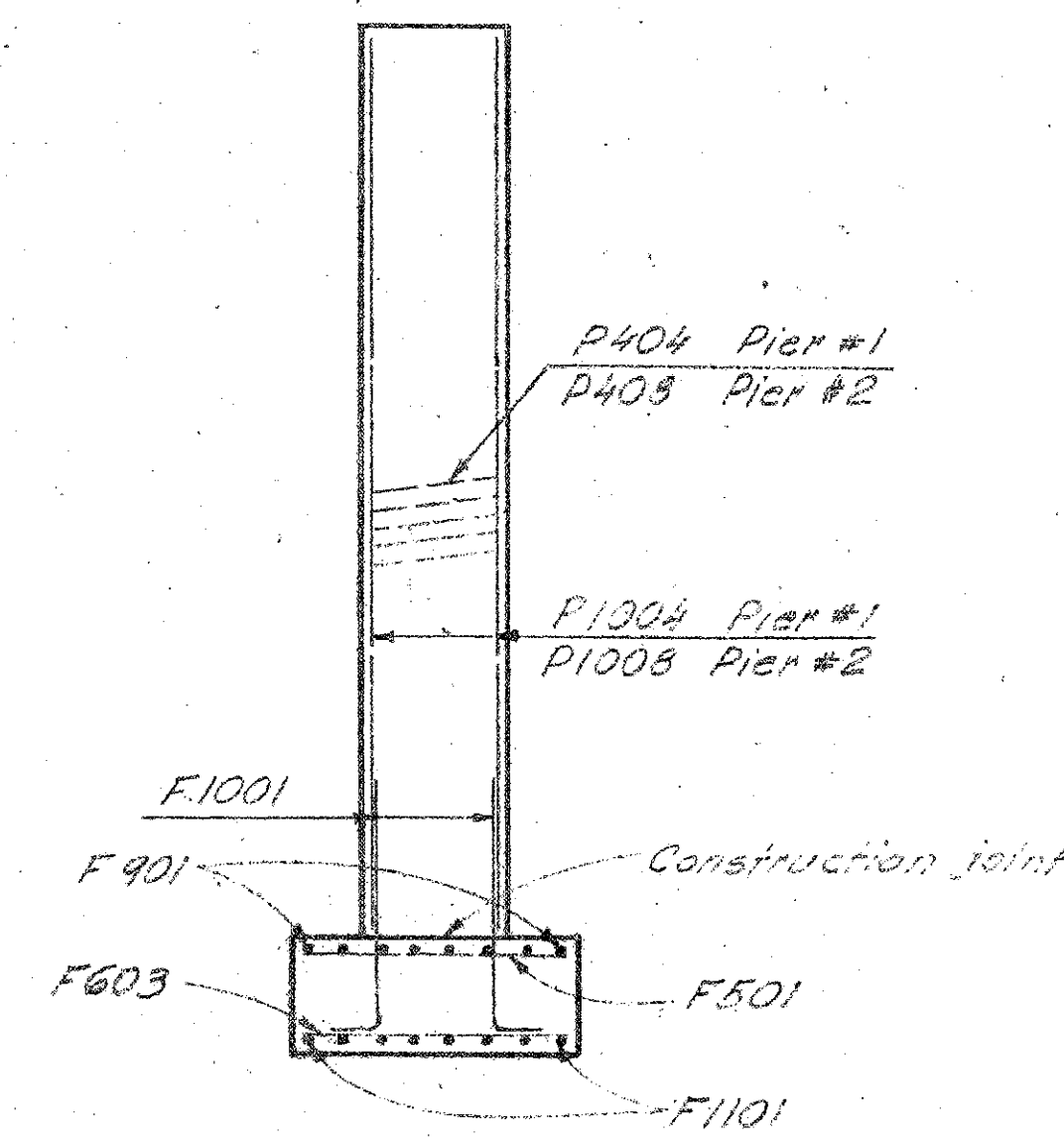


VIEW A-A  
Typical for all columns

Note:  
When placing reinforcing steel in top of column, special care shall be taken to allow clearance for the anchor bolts at Pier #1



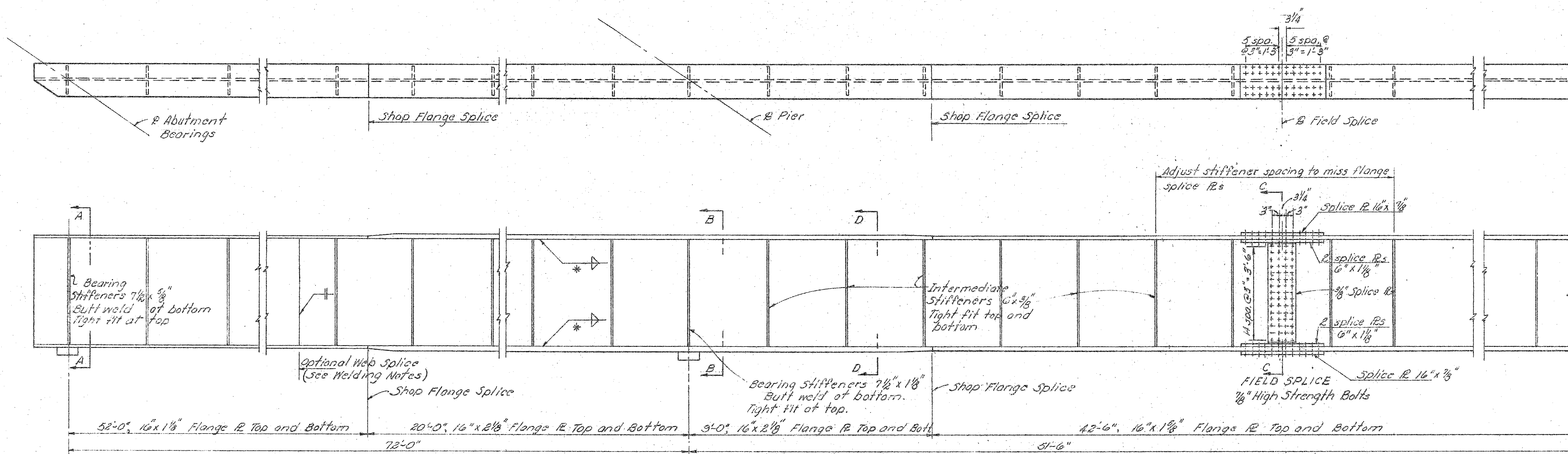
ELEVATION



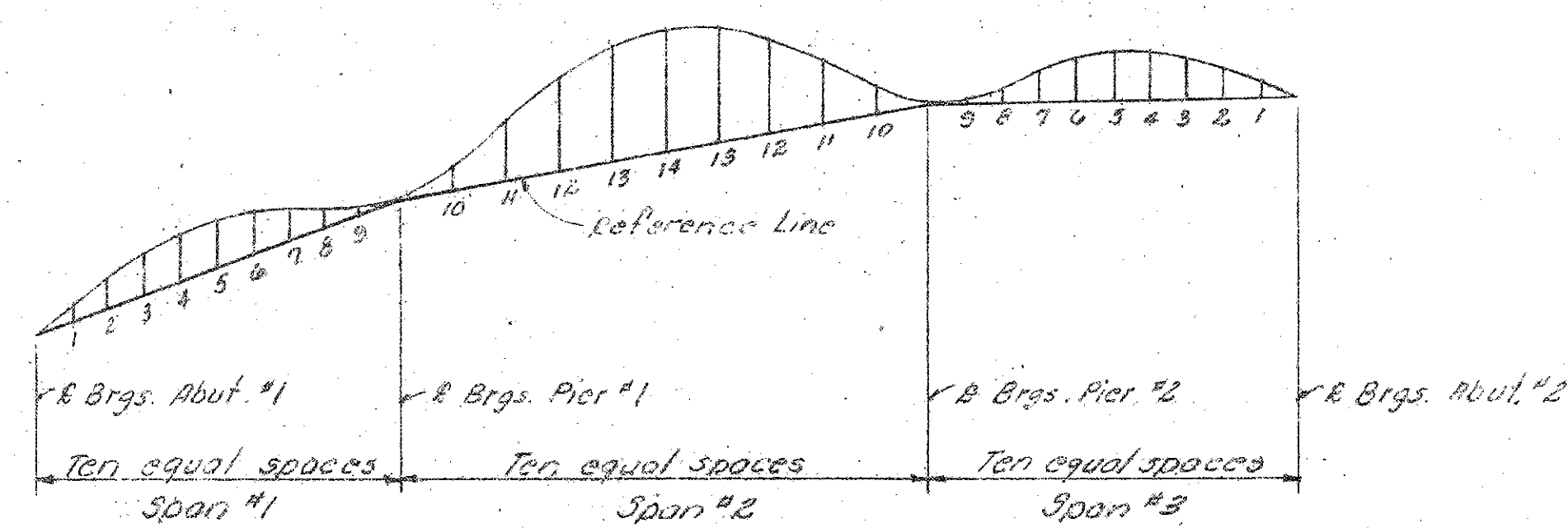
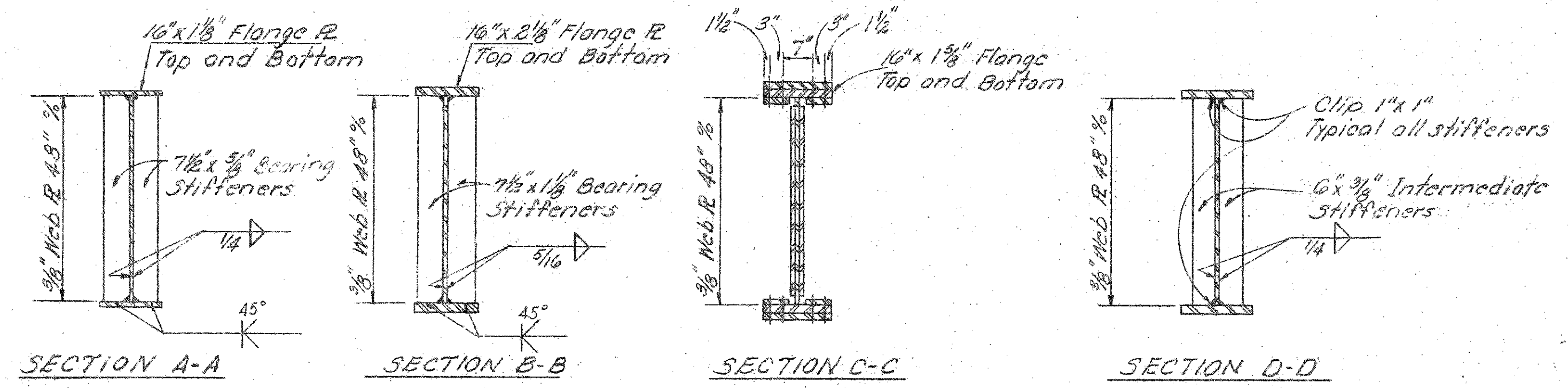
END ELEVATION

RACKOFF ASSOCIATES ENGINEERS		COLUMBUS, OHIO	
<b>PIER DETAILS</b>			
BRIDGE NO. FRA. 33 - 2309 COLLEGE AVE. OVER NORTH LANE			
FRANKLIN COUNTY		STA. 186 + 85.57	
Designed	Drawn	Traced	Checked
P.M.	G.M.	R.V.R.	dbb
		Reviewed	Date
			9-20-61



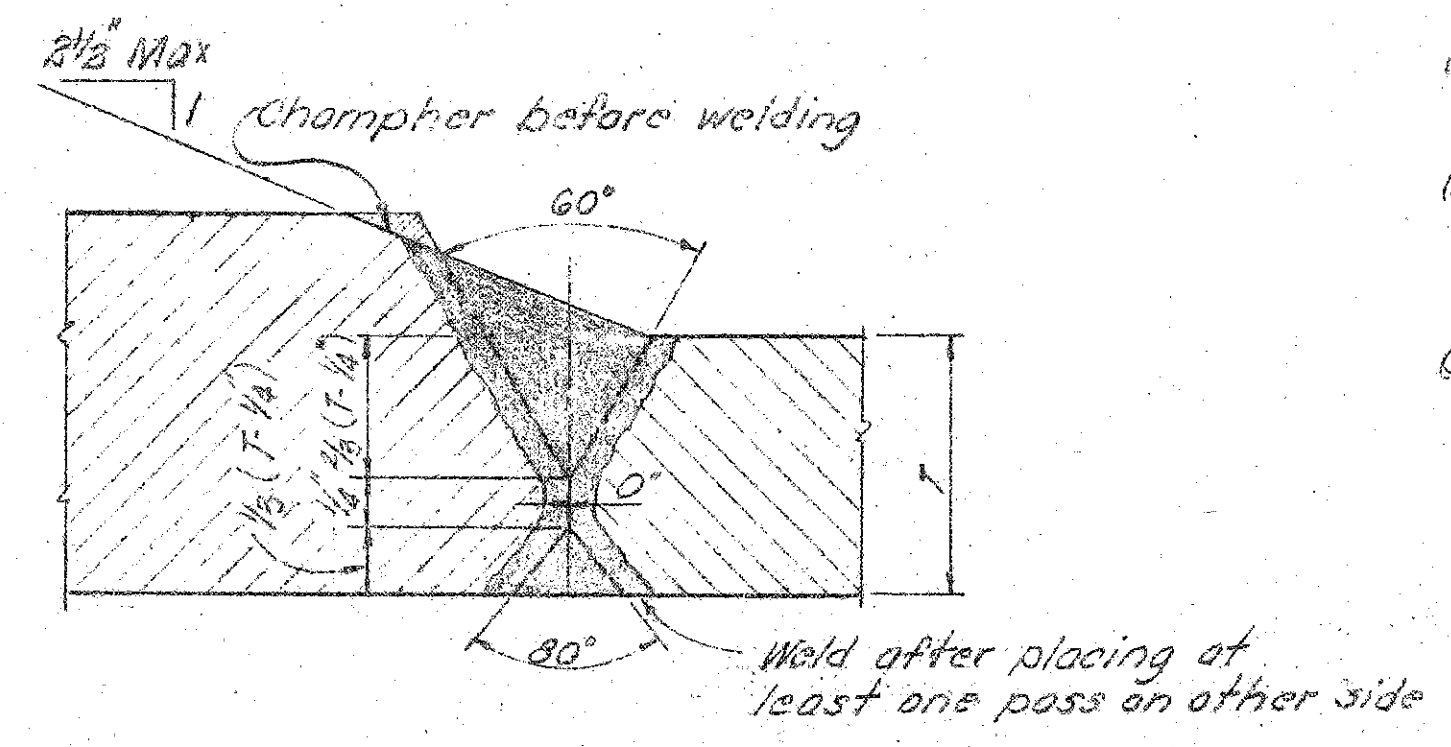


TYPICAL GIRDER ELEVATION



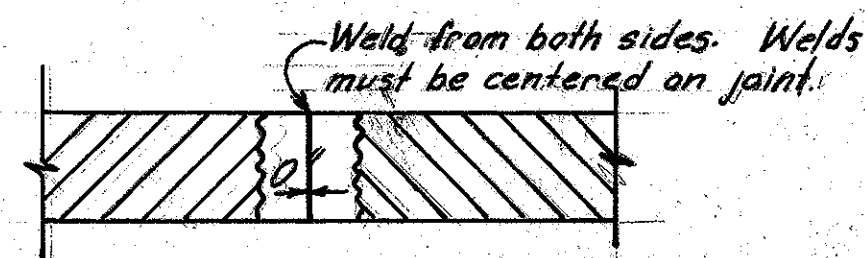
Notes: Deflection and camber measured from reference lines, which are straight lines between supports.  
Deflection and camber typical for all girders.

DEFLECTION AND CAMBER														
LOCATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14
DEFLECTION DUE TO WEIGHT OF STEEL	0	1/16	1/16	1/16	1/16	0	0	0	0	0	1/16	1/8	1/8	1/8
DEFLECTION DUE TO REMAINING DEAD LOAD	1/16	3/16	3/16	3/16	3/16	1/8	1/16	0	-1/16	1/16	1/8	1/16	3/16	1/16
CONVEXITY REQUIRED FOR VERTICAL CURVE	3/16	5/16	7/16	1/2	1/2	1/2	1/16	3/16	3/16	3/8	1/16	1/8	1	1 1/16
REQUIRED CAMBER (SUM OF DEFL. AND CONVEXITY)	1/16	3/16	1/16	3/8	3/8	1/8	1/16	3/16	1/8	1/16	1	1 1/16	1 1/16	1 1/4



DETAIL OF SHOP FLANGE SPLICE

- WELDING NOTES:
- (1) All flanges butt-welds shall be ground flush.
  - (2) Optional shop splices will be permitted in the webs and flanges of girders, but their location shall be submitted to the Director for approval.
  - (3) \* Size of web to flange fillet welds shall be following:
    - 1 1/8" flange plates - 3/16" fillet welds
    - 2 1/8" flange plates - 3/8" fillet welds
    - 1 3/8" flange plates - 3/8" fillet welds



DETAIL OF SHOP WEB SPLICE

**RACKOFF ASSOCIATES**  
ENGINEERS COLUMBUS, OHIO

**SUPERSTRUCTURE DETAILS**  
BRIDGE NO. FRA. 33-2309  
COLLEGE AVE. OVER NORTH BOUND LANE

FRANKLIN COUNTY STA. 186 + 85.57

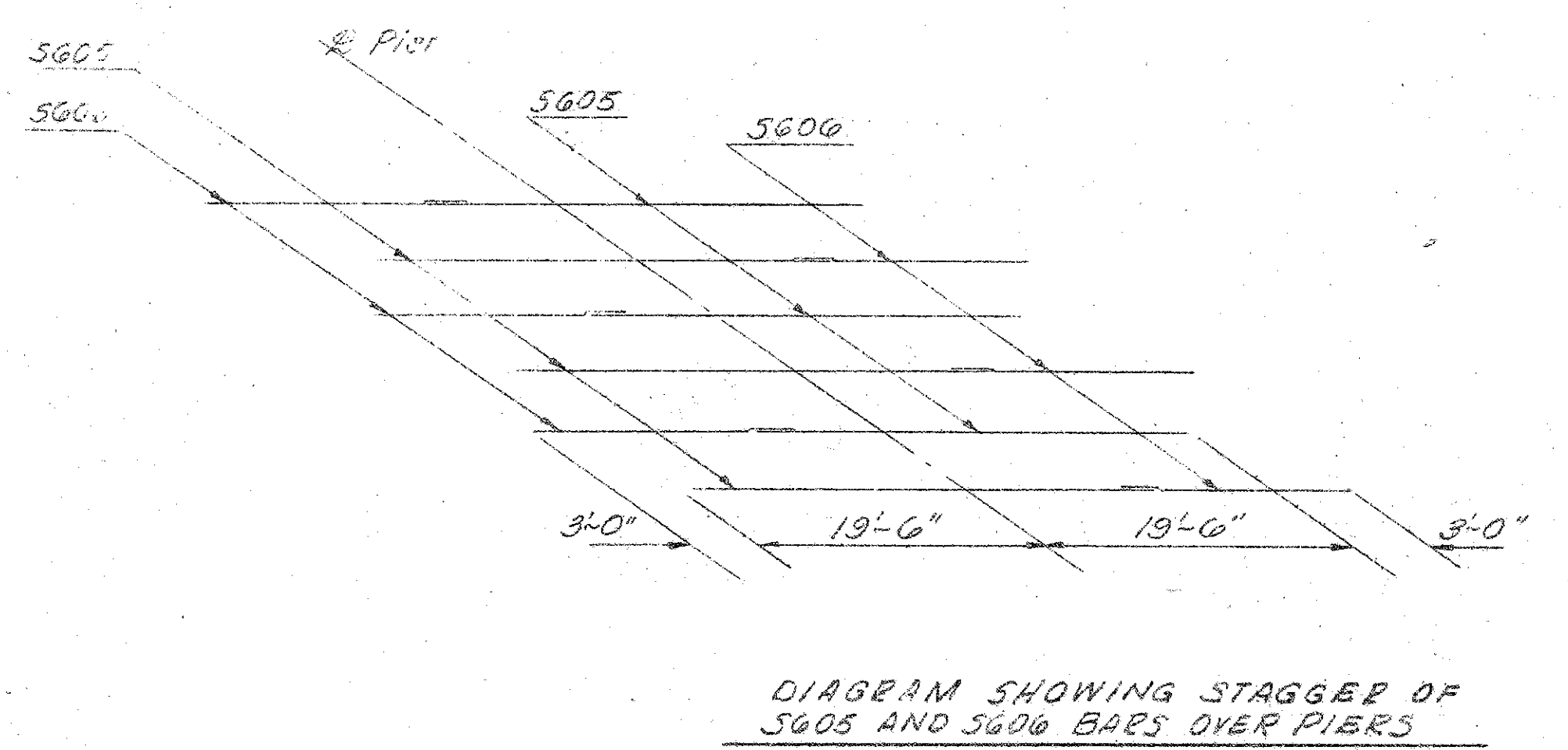
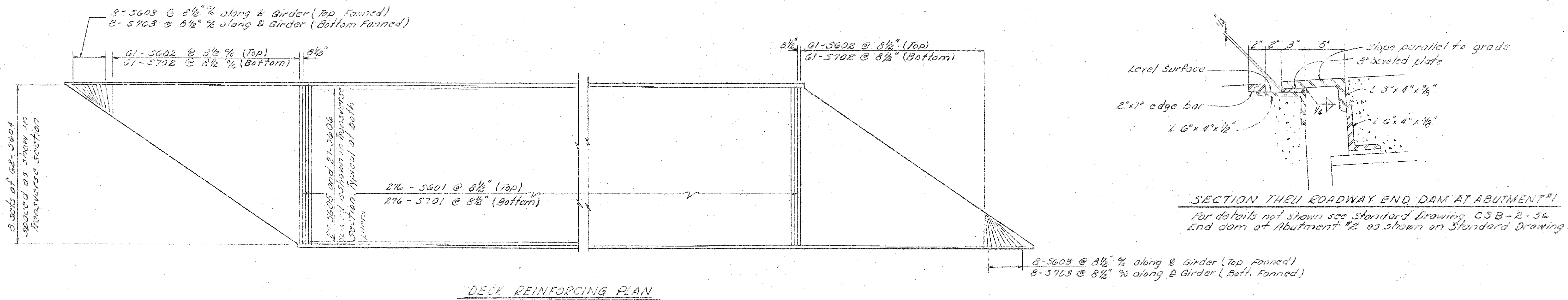
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
R.V.R.	E.D.A.		P.M.	666	9-20-61	

MICROFILMED  
JUN 28 1964

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

271  
321

FRANKLIN COUNTY  
FRA. 33-22.46



RACKOFF ASSOCIATES ENGINEERS COLUMBUS, OHIO						
SUPERSTRUCTURE DETAILS BRIDGE NO. FRA. 33-2309 COLLEGE AVE. OVER NORTH BOUND LANE						
FRANKLIN COUNTY					STA. 186+85.57	
Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
R.V.R.	E.D.A.		P.M.	bb	9-20-61	

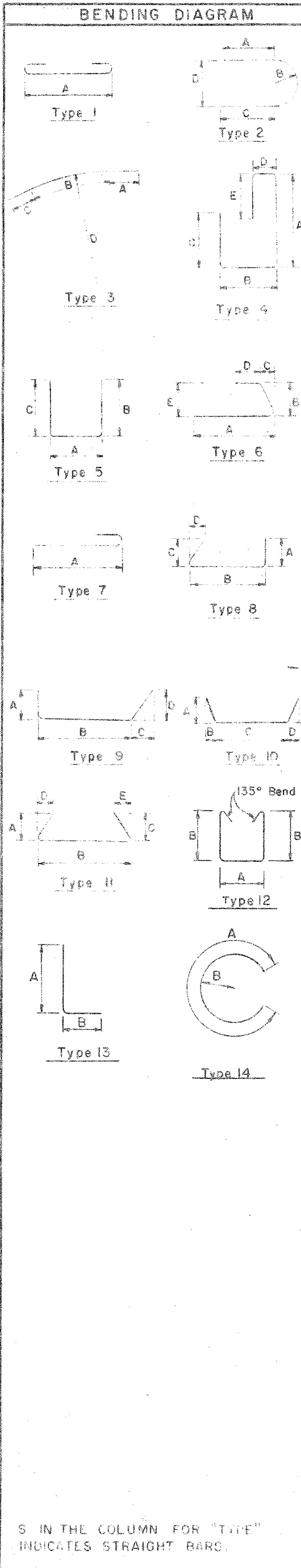
# REINFORCING

# STEEL

# LIST

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

FRANKLIN COUNTY  
FRA. 33 - 22.46



MARK	NO.	LENGTH	WEIGHT	TYPE	A	B	C	D	E	F
<b>ABUTMENTS</b>										
A501	80	9-5	786	5	3-8	3-0	3-0			
A502	64	33-0	2203	S						
A503	56	5-7	326	12	0-8	2-2				
A504	16	3-2	53	5	1-5	1-0	1-0			
A505	100	5-2	539	5	1-5	2-0	2-0			
A506	16	26-1	435	S						
A507	4	29-3	122	S						
A508	24	3-7	90	S						
A509	8	5-0	42	S						
A510	52	6-0	325	S						
A511	12	4-3	53	S						
A512	16	4-9	79	S						
A513	4	10-3	43	S						
A514	4	11-3	47	S						
A515	4	18-6	77	S						
A516	8	21-4	178	S						
A517	12	4-8	58	S						
A518	8	6-0	50	S						
A519	12	13-2	165	S						
A520	2	5-8	12	S						
A521	6	9-8	60	S						
A522	12	5-9	72	S						
A523	48	3-9	188	5	2-6	0-9	0-9			
A601	75	17-5	1982	4	7-6	1-3	6-0	0-9	2-6	
A602	75	17-7	1981	4	7-6	1-5	6-0	0-11	2-6	
<b>PIERS</b>										
F501	80	7-2	598	13	6-7	0-9				
F502	80	7-8	640	5	5-5	1-3	1-3			
F503	8	24-6	204	S						
F504	38	10-7	419	13	10-0	0-9				
F505	8	12-5	104	S						
F506	6	8-8	54	S						
F507	12	10-7	132	5	5-8	2-7	2-7			
F508	12	7-11	99	5	5-8	1-3	1-3			
F509	10	11-7	121	13	11-0	0-9				
F601	80	14-3	1712	5	5-5	2-7	6-7			
F602	38	10-7	604	13	10-0	0-9				
F801	28	35-3	2635	S						
R501	8	25-9	—	S						
R502	8	13-0	—	S						
<b>SUPERSTRUCTURE</b>										
S501	332	6-7	2280	4	2-9	1-5	0-9	1-5	0-9	
S502	332	4-0	1385	5	2-11	0-8	0-8			
S503	332	5-7	1933	12	0-8	2-2				
S601	276	36-2	14993	S						
S602	122	7-2 to 35-7 1/4	3919	S	Two each, vary by 5 11/16"					
S603	16	7-0	168	S						
S604	496	32-6	24212	S						
S605	54	30-0	2433	S						
S606	54	14-0	1136	S						
S701	276	36-2	20403	S						
S702	122	7-2 to 35-7 1/4	5333	S	Two each, vary by 5 11/16"					
S703	16	7-0	229	S						
R503	112	15-8	—	S	Included with railing for payment.					
R504	16	12-8	—	S						
<b>TOTAL</b>		<b>78424</b>								
<b>REPLACEMENT BARS</b>										
RE 401	1	5-3	—	14	5-3	1-4				
RE 501	1	5-7	—	S						
RE 601	3	5-11	—	S						
RE 701	2	6-3	—	S						
RE 901	1	6-6	—	S						
RE 901	1	6-10	—	S						
RE 1001	1	7-3	—	S						
RE 1101	1	7-7	—	S						

SPIRAL REINFORCEMENT							
MARK	NO.	LENGTH	CORE	PITCH	TURNS	SPACERS	WEIGHT
P401	1	18.23	32	4 1/2	52	4	337
P402	1	18.74	32	4 1/2	53	4	343
P403	1	19.08	32	4 1/2	54	4	350
P404	1	19.24	32	4 1/2	54	4	350
P405	1	21.35	32	4 1/2	60	4	389
P406	1	21.76	32	4 1/2	61	4	396
P407	1	21.99	32	4 1/2	62	4	402
P408	1	22.05	32	4 1/2	62	4	402
						<b>TOTAL</b>	<b>2969</b>

**NOTES**

BAR SIZE is indicated in bar mark. The first digit where three digits are used, and the first two where four are used, indicate the bar size number.

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 top of the column less 2". The "No. of Turns" shown is the "Length" divided by the pitch, plus three 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. 1/2 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.

S IN THE COLUMN FOR "TYPE" INDICATES STRAIGHT BARS.

RACKOFF ASSOCIATES  
ENGINEERS COLUMBUS, OHIO

REINFORCING STEEL LIST  
BRIDGE NO. FRA. 33-2309  
COLLEGE AVE. OVER NORTH BOUND LANE  
FRANKLIN COUNTY STA. 186+85.57

Designed	Drawn	Traced	Checked	Reviewed	Date	Revised
R.V.R.	ED.A.	G.M.	P.M.	bb	9-20-61	
F.S.						