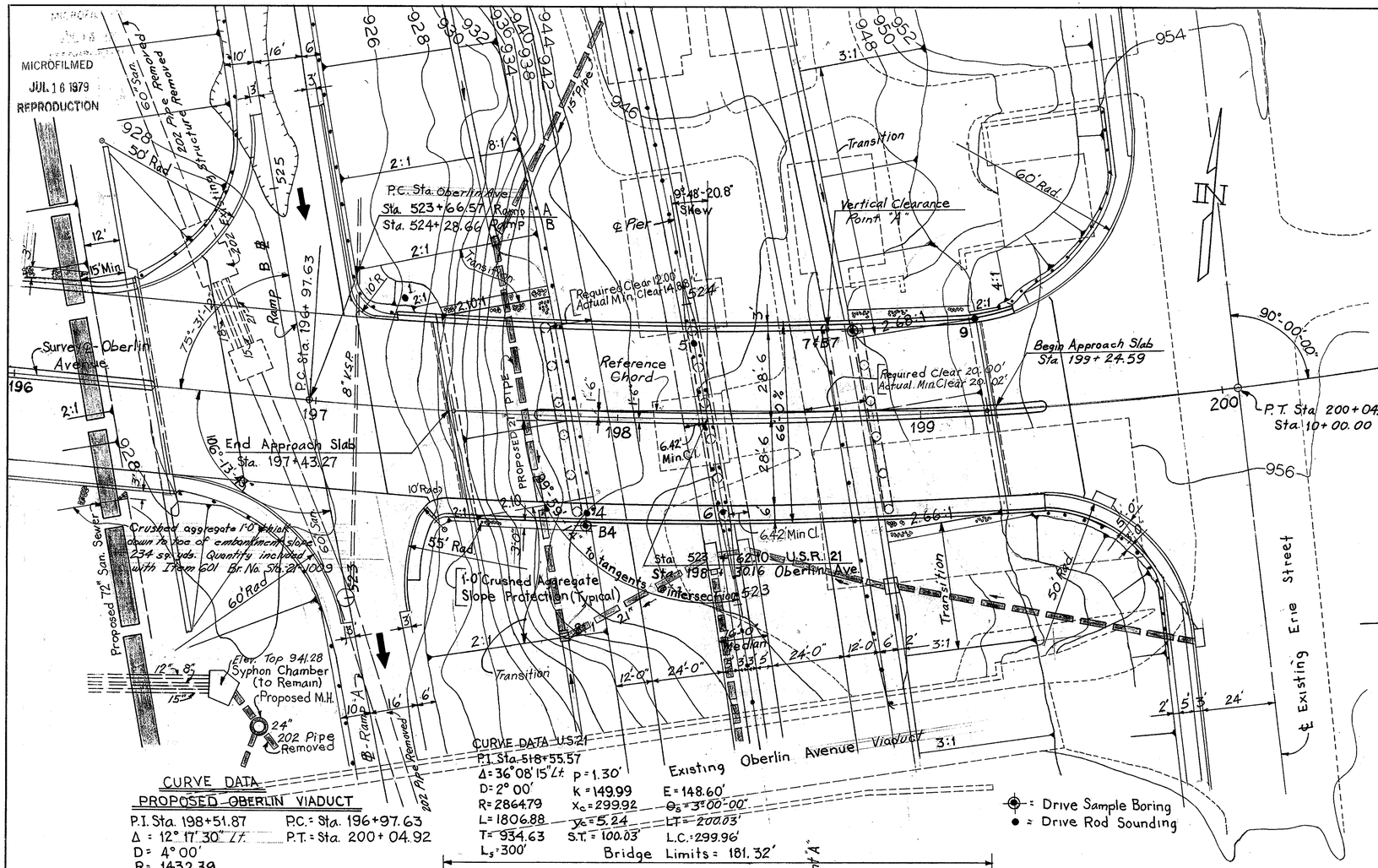
FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

214

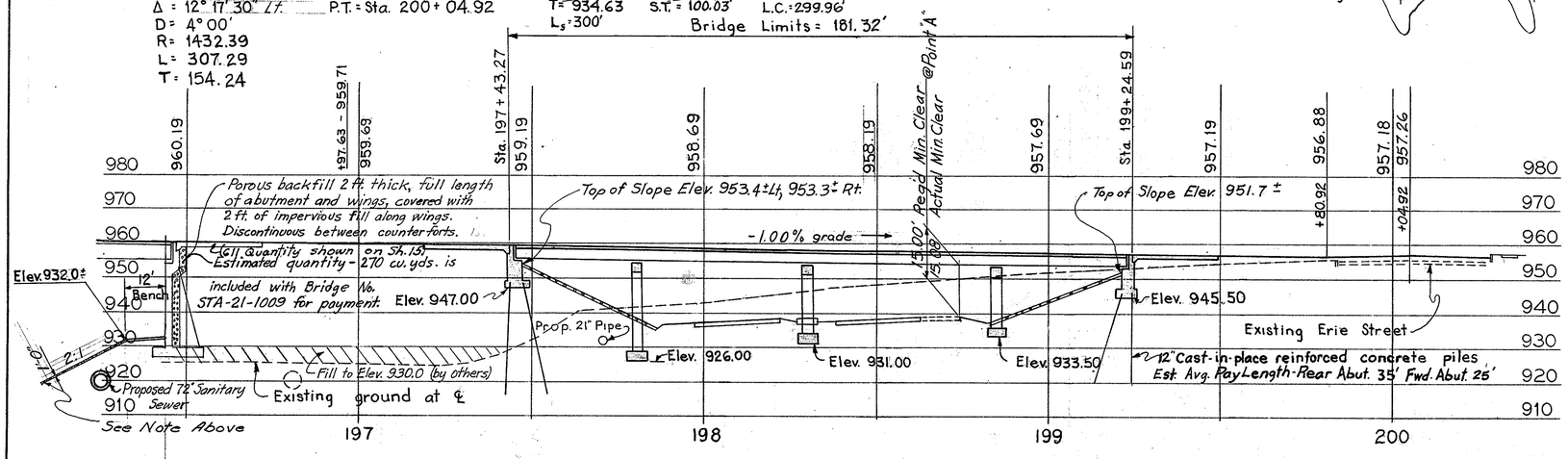
STARK COUNTY
STA-21-8.40



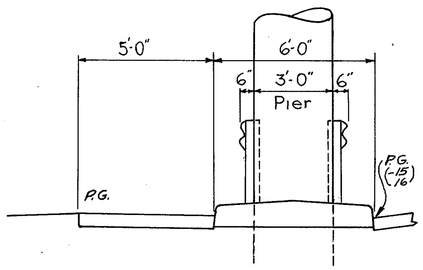
CURVE DATA
PROPOSED OBERLIN VIADUCT

P.I. Sta. 198+51.87 P.C. = Sta. 196+97.63
Δ = 12° 17' 30" Lt. P.T. = Sta. 200+04.92
D = 4° 00'
R = 1432.39
L = 307.29
T = 154.24

CURVE DATA US 21
P.I. Sta. 518+55.57
Δ = 36° 08' 15" Lt. p = 1.30'
D = 2° 00' k = 149.99 E = 148.60'
R = 2864.79 x_c = 299.92 θ_s = 3° 00' 00"
L = 1806.88 y_c = 5.24 LT = 200.03'
T = 934.63 S.T. = 100.03' L.C. = 299.96'
L_s = 300'



PROFILE ON ℄ PROPOSED OBERLIN VIADUCT



GUARD RAIL TREATMENT AT CENTER PIER

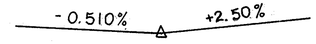
EXISTING STRUCTURE

LOCATION: 100'± south of proposed viaduct
TYPE: Deck trusses with conc. deck supported on floor-beams. Conc. T-beams for short spans.
SPANS: 20 variable spans; 22'± min. to 105'± max
5 piers
ROADWAY: 20'-0" ¾ curbs; 5'± walk south side
LENGTH: 990'±
LOADING: Unknown
DATE BUILT: Unknown
CONDITION: Very poor
(To Be Removed - See Sheet 204)

PROPOSED STRUCTURE

TYPE: Continuous steel beams with reinforced concrete deck and substructure.
SPANS: 35.00' - 49.50' - 54.25' - 38.00' % Bearings measured as chords on ℄
ROADWAY: 64'-0" ¾ parapets including 5'-0" sidewalk right, 2'-0" safety curb on left, and 3'-0" curbed median.
LOAD FREQUENCY: CF - 2000 (57)
SKEW: 9°48'-20.8" Right Forward from perp. to ref. chord
WEARING SURFACE: 1" Monolithic Concrete
APPROACH SLABS: Special - 25' long
ALIGNMENT: 4°00' Curve Left
SUPERELEVATION: None

GRADE DATA
U.S. 21



P.I. Sta. 524+60
Elev. 936.78
V.C. 320'

1980 ADT = 10800

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

SITE PLAN
BRIDGE NO STA-21-1009
OVER U.S. 21

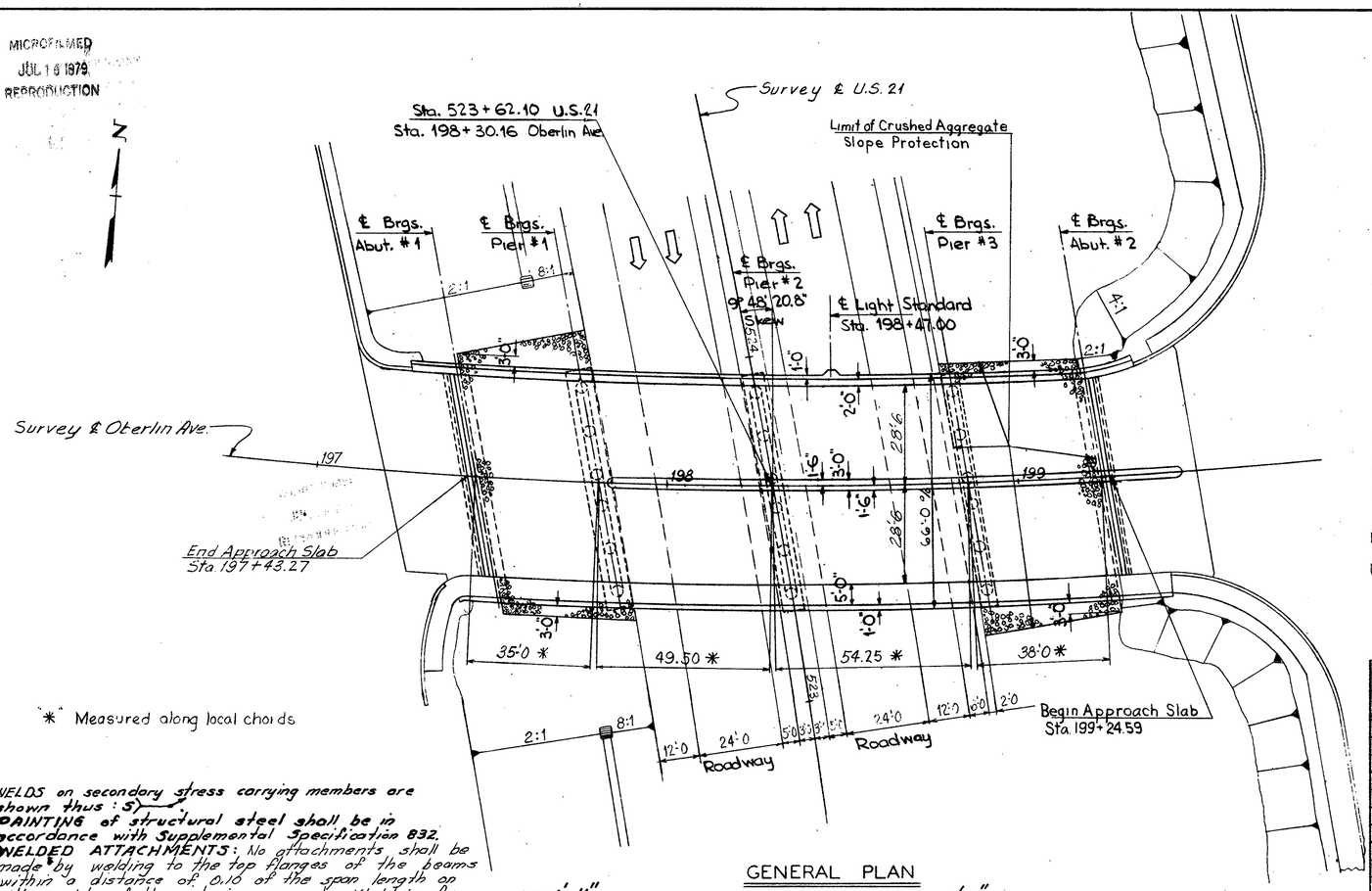
Sta 523+62.10

PRESENT TOPOGRAPHY		PROPOSED WORK			
SURVEYED	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
Aerial Survey	FWM	B.A.Dwr	FWM	LRD	L.G.H. 9-5-67

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

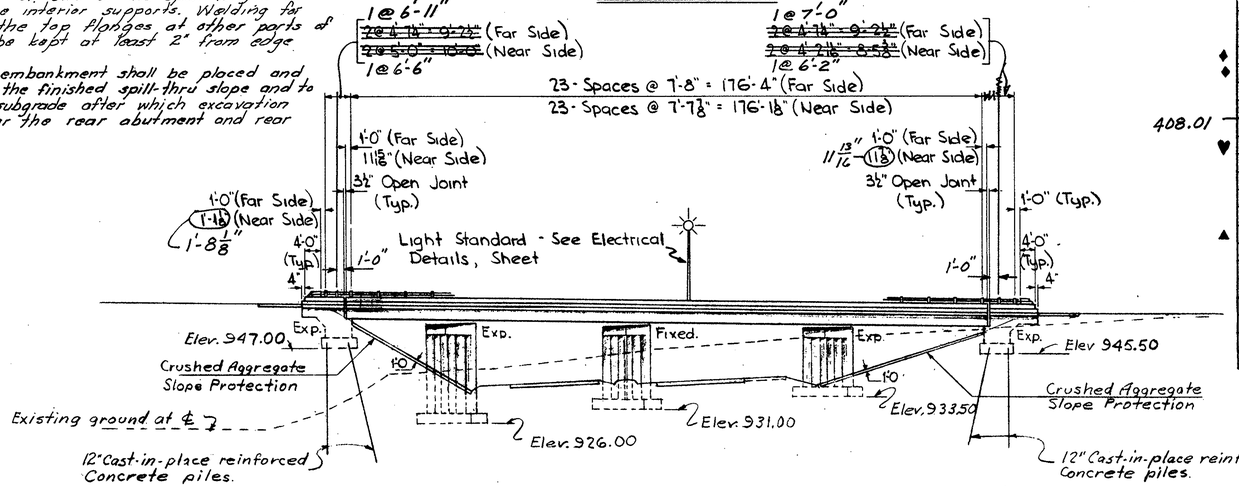
215

STARK COUNTY
STA. -21-8.40



* Measured along local chords

GENERAL PLAN



ELEVATION

WELDS on secondary stress carrying members are shown thus : S

PAINTING of structural steel shall be in accordance with Supplemental Specification 832.

WELDED ATTACHMENTS: No attachments shall be made by welding to the top flanges of the 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 at other parts of the spans shall be kept at least 2" from edge of flange.

PROCEDURE: The embankment shall be placed and compacted up to the finished spill-thru slope and to the level of the subgrade after which excavation shall be made for the rear abutment and rear pier.

GENERAL NOTES

REFERENCE shall be made to Standard Drawings AS-1-67 revised 1-11-68, BR-1-65, Sheet 2 of 2, revised 11-24-65; RB-1-55 revised 2-2-59; SD-1-65 Sheets 1, 2, and 3 of 3 dated 11-8-65 and Supplemental Specifications 808 dated 1-13-67; 811 dated 1-1-67; 825 dated 12-19-67, 828 dated 1-1-67, 832 dated 5-25-67 and 931 dated 5-25-67.

DESIGN SPECIFICATIONS: This structure conforms to the requirements of "Design Specifications of Highway Structures" of the State of Ohio, Department of Highways, dated 9-1-57, together with current revisions thereof.

DESIGN DATA

Design Loading	C.F. 2,000 (57)
Concrete Class "C"	basic unit stress 1,333 psi.
Concrete Class "E"	basic unit stress 1,133 psi.
Structural Steel	ASTM A-36 basic unit stress 20,000 psi.
Reinforcing Steel	ASTM A-15, A-16, A-160, Deformed, Intermediate or Hard Grade. Basic unit stress 20,000 psi, except spiral reinforcement may be plain structural grade with basic unit stress of 18,000 psi.

EXCAVATION QUANTITY includes the removal of fill material required for Construction of Abutment No. 1.

PILES shall be driven to a minimum bearing capacity of 40 tons per pile.

FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 3 tons per square foot.

MACHINE FINISH: The concrete deck shall be finished by the use of a finishing machine.

UTILITY LINES: All expense involved in relocating the affected utility lines shall be borne by the owners. The Contractor and owners are requested to arrange their work so that inconvenience to either will be held to a minimum.

Estimated Quantities Computed 2-24-67 by L.R.D.
Checked 3-3-67 by J.W.L. and H.J.B.

ESTIMATED QUANTITIES *Urban*

Item	Total	Unit	Description	Superstr.	Abut.	Piers	General
503	865	Cu.Yd.	Unclassified excavation		336	529	
503	Lump Sum	L.S.	Cofferdams, cribs and sheeting				Lump Sum
505	Lump Sum	L.S.	First test pile				Lump Sum
507	1080	Lin.Ft.	Reinforced concrete piles - 12" Cast-in-place		1080		
509	162,077	Lbs.	Reinforcing steel	103,863	15,663	42,551	
511	362	Cu.Yd.	Class "C" concrete - superstructure	362			
511	151	Cu.Yd.	Class "C" concrete - piers above footings			151	
511	248	Cu.Yd.	Class "E" concrete - abutments		248		
511	94	Cu.Yd.	Class "E" concrete - pier footings			94	
512	16	Lin.Ft.	Waterproofing, premolded sealing strip		16		
♦ 513	241,000	Lbs.	Structural Steel	241,000			
♦ 832	241,000	Lbs.	Field painting of structural steel	241,000			
516	59	Sq.Ft.	1" preformed expansion joint filler AASHO M153		59		
516	29	Lin.Ft.	Preformed elastic joint sealer (705.11)(Median)	29			
408.01 517	~~409.39~~	Lin.Ft.	Bridge railing - Type 2 356.42	~~360.58~~	~~48.81~~	51.59	
♥ 518	330	Cu.Yd.	Porous backfill		330		
518	13	Each	Scuppers, including supports	13			
518	130	Lin.Ft.	6" Perforated Helical C.M.P. (707.06) incl. specials		130		
518	80	Lin.Ft.	6" Helical C.M.P. (707.06) non-perforated		80		
▲ 601	874	Sq.Yd.	Crushed aggregate slope protection				874
625	**		Electrical lighting system, complete				
808	362	Units	Water-reducing, set-retarding admixture	362			
825	1445	Sq.Yd.	Concrete surface treatment				1445
828	130	Lin.Ft.	Joint sealer (End dam)	130			

** See General Lighting Summary, Sheet 195 for detailed description, units and quantity.

♦ Includes 210 lbs. chargeable to Ohio Bell Telephone Co. and 270 lbs chargeable to East Ohio Gas Co.

▲ Quantity includes 234 Sq. Yds. under East end of Oberlin Ave. Viaduct.

♥ Quantity includes 270 cu. yds. at east abutment of the Oberlin Ave. Viaduct - See Sheet 214.

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

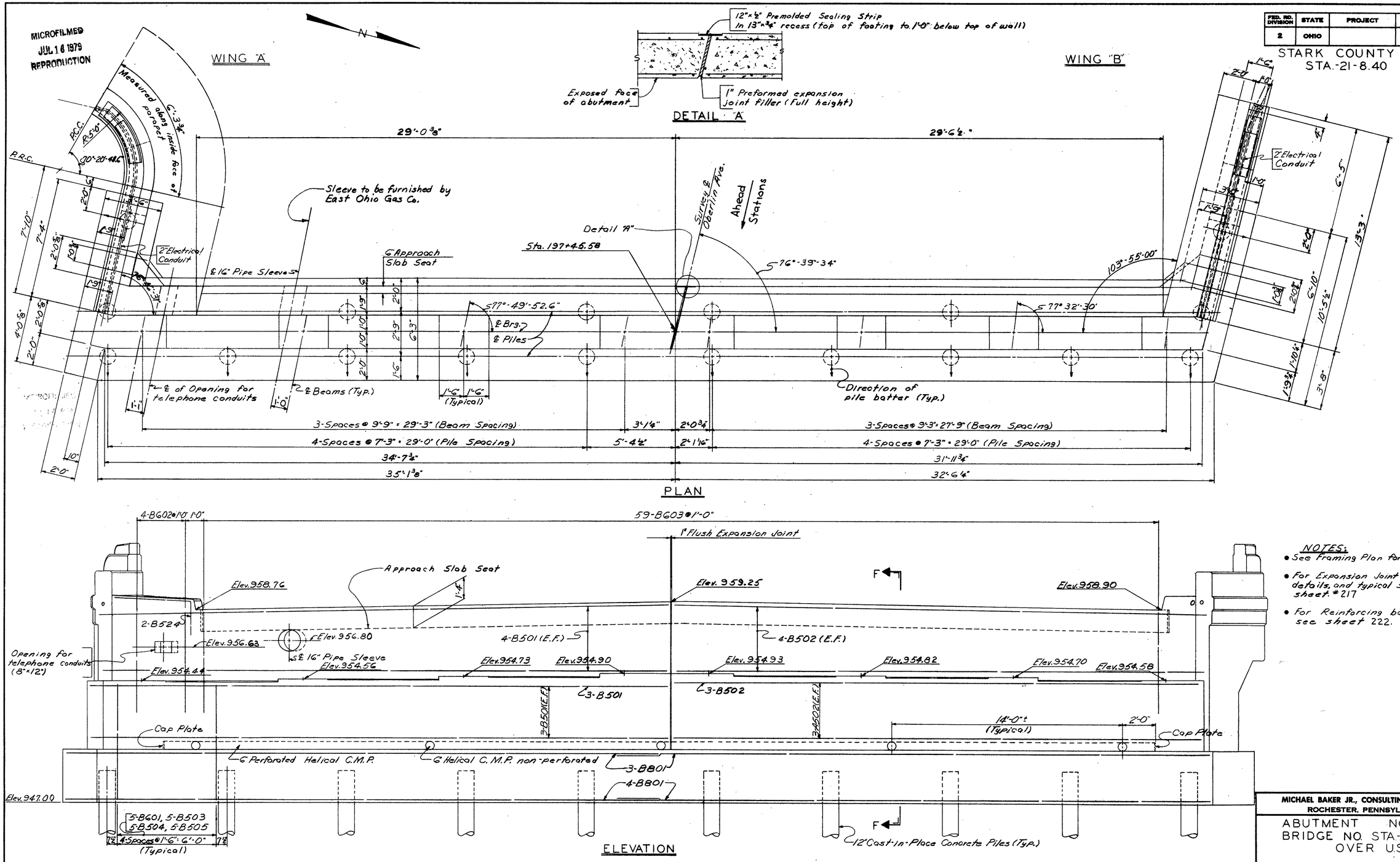
GENERAL PLAN & ELEVATION
BRIDGE NO. STA.- 21-1009
OBERLIN AVE. OVER U. S. 21
STA. 523+62.10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	F.O.		LRD	L.G.H. 9-5-67	4-9-69

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

216

STARK COUNTY
STA.-21-8.40



NOTES:
- See Framing Plan for location plan
- For Expansion Joint Detail, wing details, and typical section see sheet # 217
- For Reinforcing bar schedule see sheet 222.

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

ABUTMENT NO. 1
BRIDGE NO. STA-21-1009
OVER U.S. 21

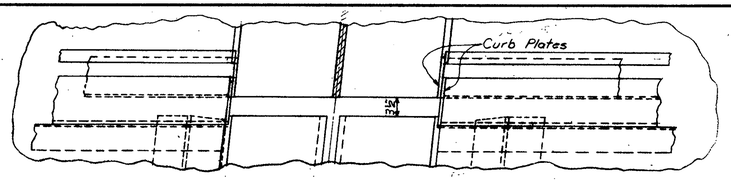
STA. 523+62.10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	R.J.P.		RD	L.G.H. 9-5-67	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

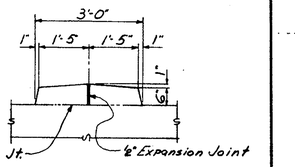
217

STARK COUNTY
STA-21-8.40

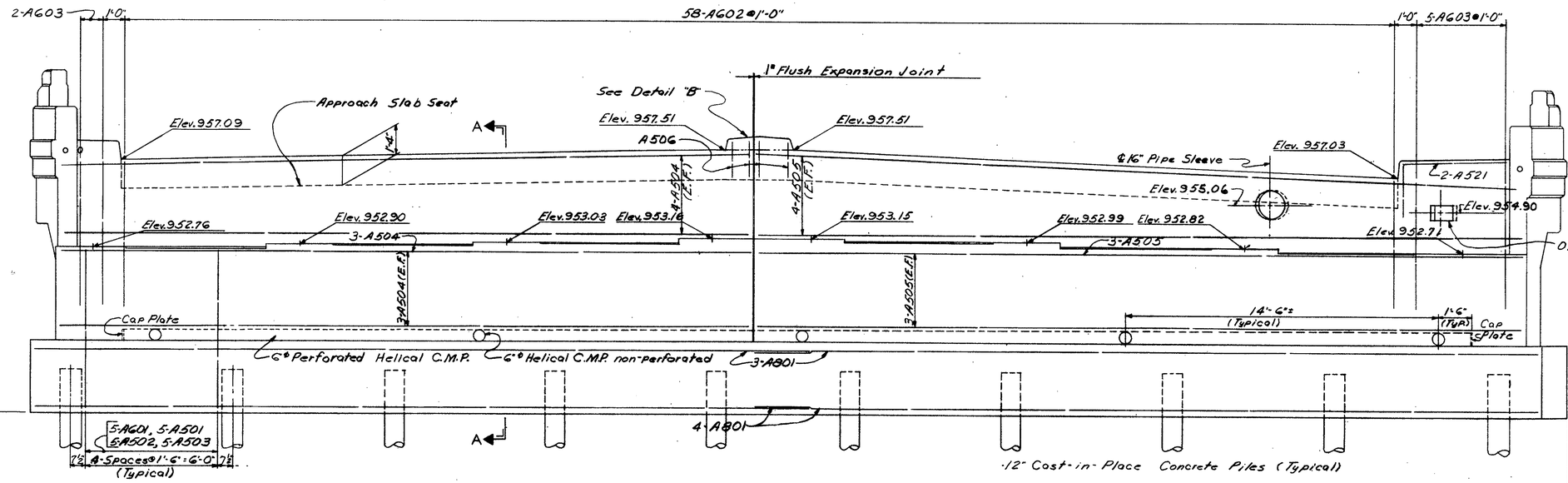


PLAN AT MEDIAN

PLAN



DETAIL "B"



ELEVATION

NOTES:
- See Framing Plan for location plan
- For Expansion Joint Detail, Wing Details & Typical Sections see sheet 217
- For Reinforcing bar schedule see sheet 222
- See sheet 215 for Detail "A"

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ROCHESTER, PENNSYLVANIA

ABUTMENT NO. 2
BRIDGE NO. STA-21-1009
OVER U.S. 21

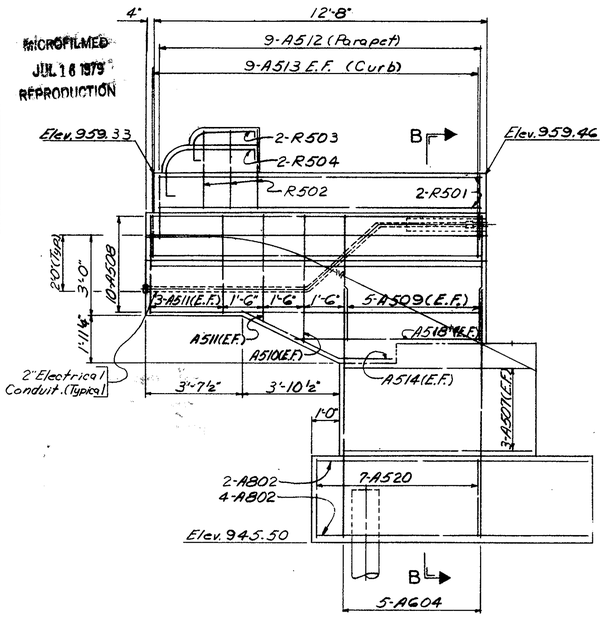
STA. 523+62.10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	RJP		LGD	L.G.H. 9-5-67	

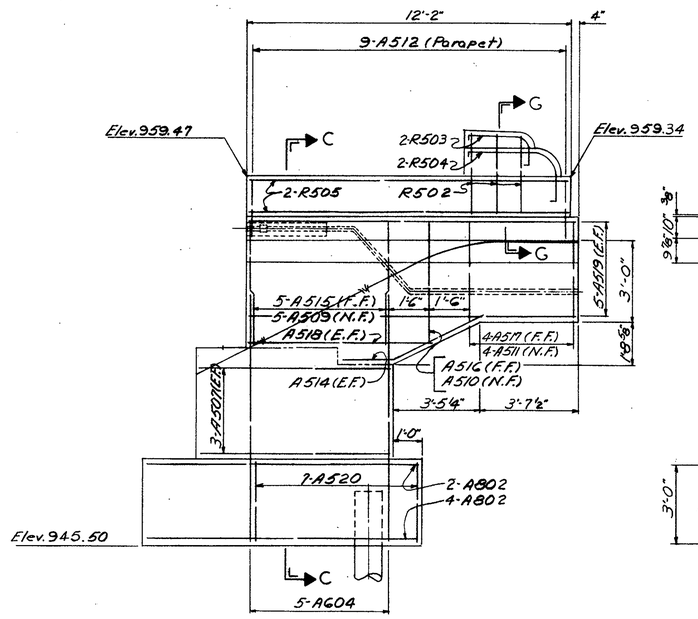
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

218

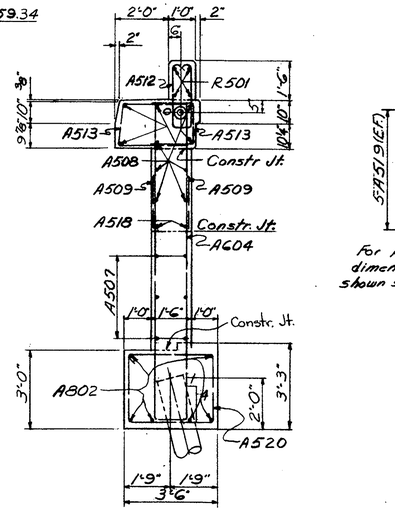
STARK COUNTY
STA.-21-8.40



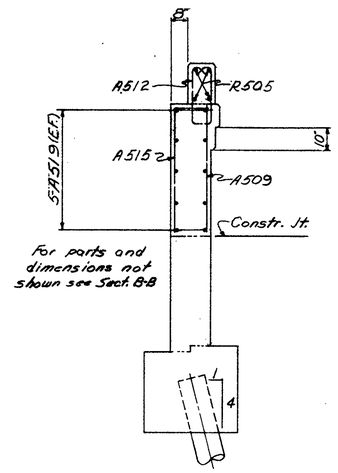
ELEVATION WING "C"



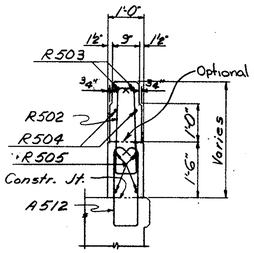
ELEVATION WING "D"



SECTION B-B (SHOWN)
SECTION E-E (SIMILAR)

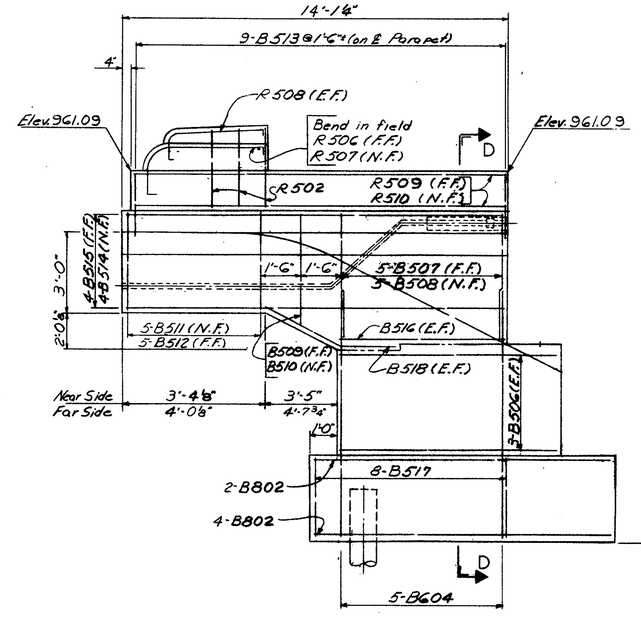


SECTION C-C (SHOWN)
SECTION D-D (SIMILAR)

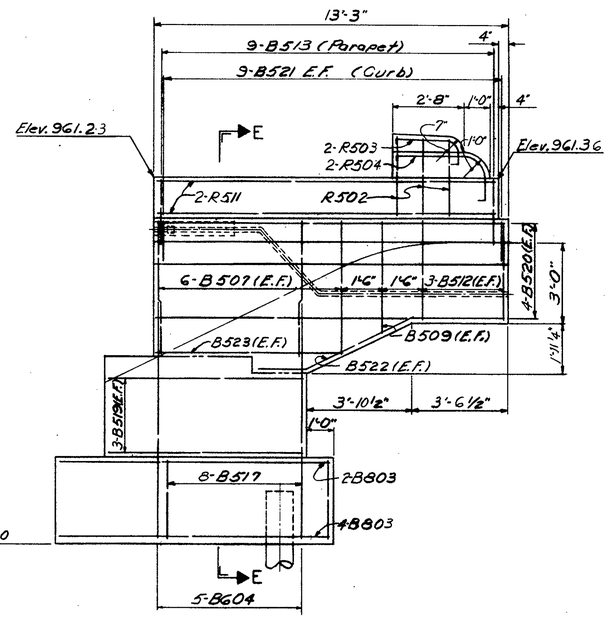


SECTION G-G

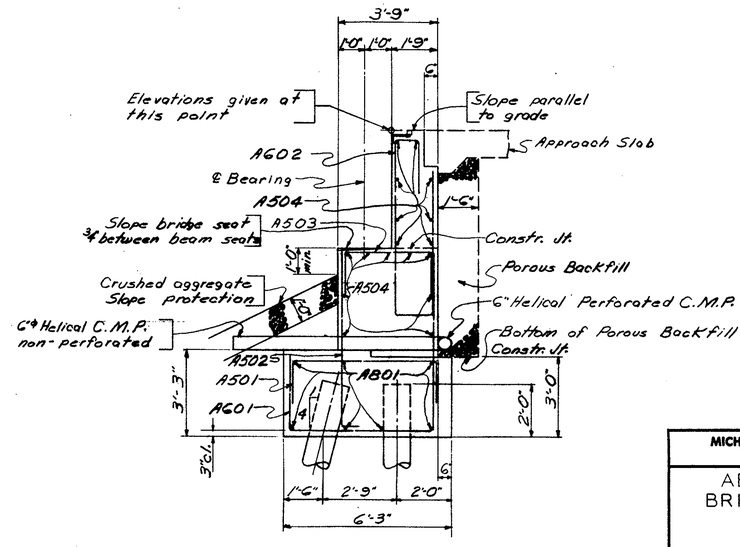
* For dimensions and details not shown see Section A-A



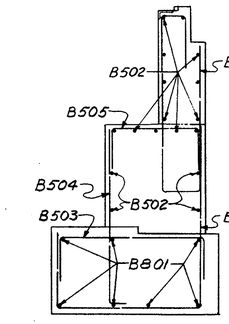
ELEVATION WING "A"
DEVELOPED



ELEVATION WING "B"



SECTION A-A



SECTION F-F*

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

ABUTMENT DETAILS
BRIDGE NO. STA.-21-1009
OVER U.S. 21

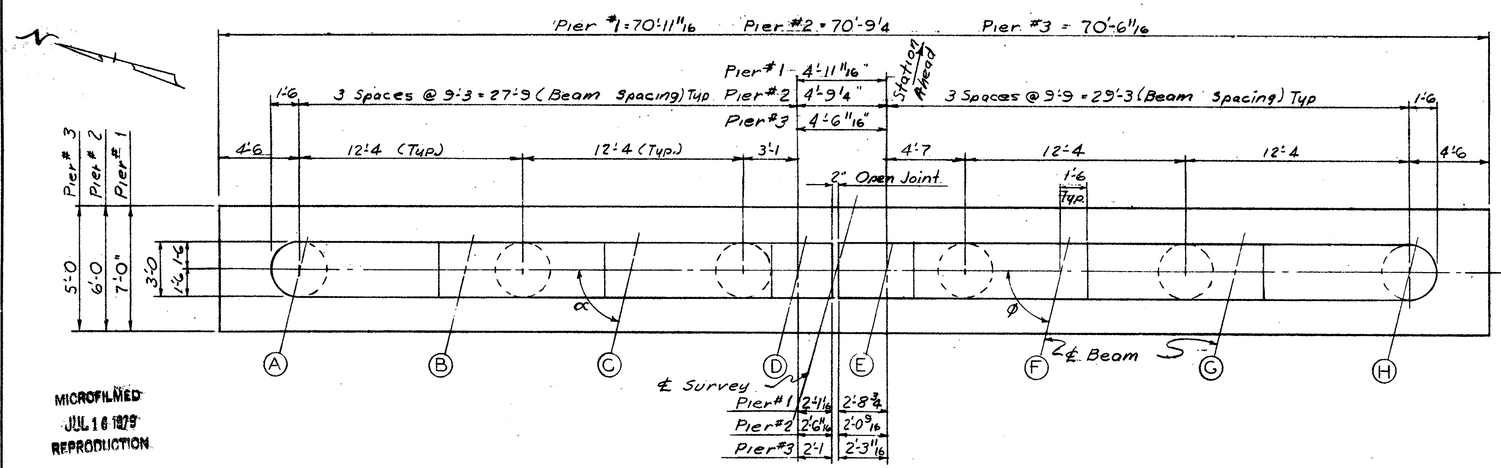
STA. 523+62.10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	RJP		LGD	L.G.H. 9-5-67	

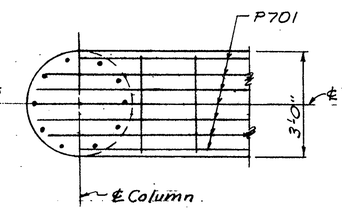
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

219

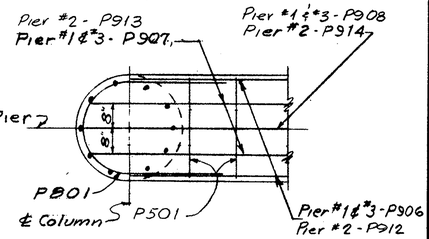
STARK COUNTY
STA-21-8.40



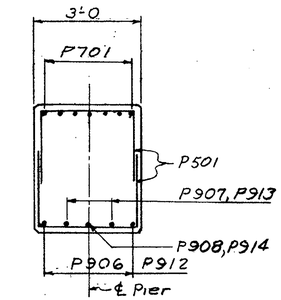
PLAN PIER NO. 1,2,& 3.



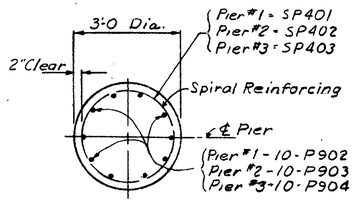
PLAN A-A



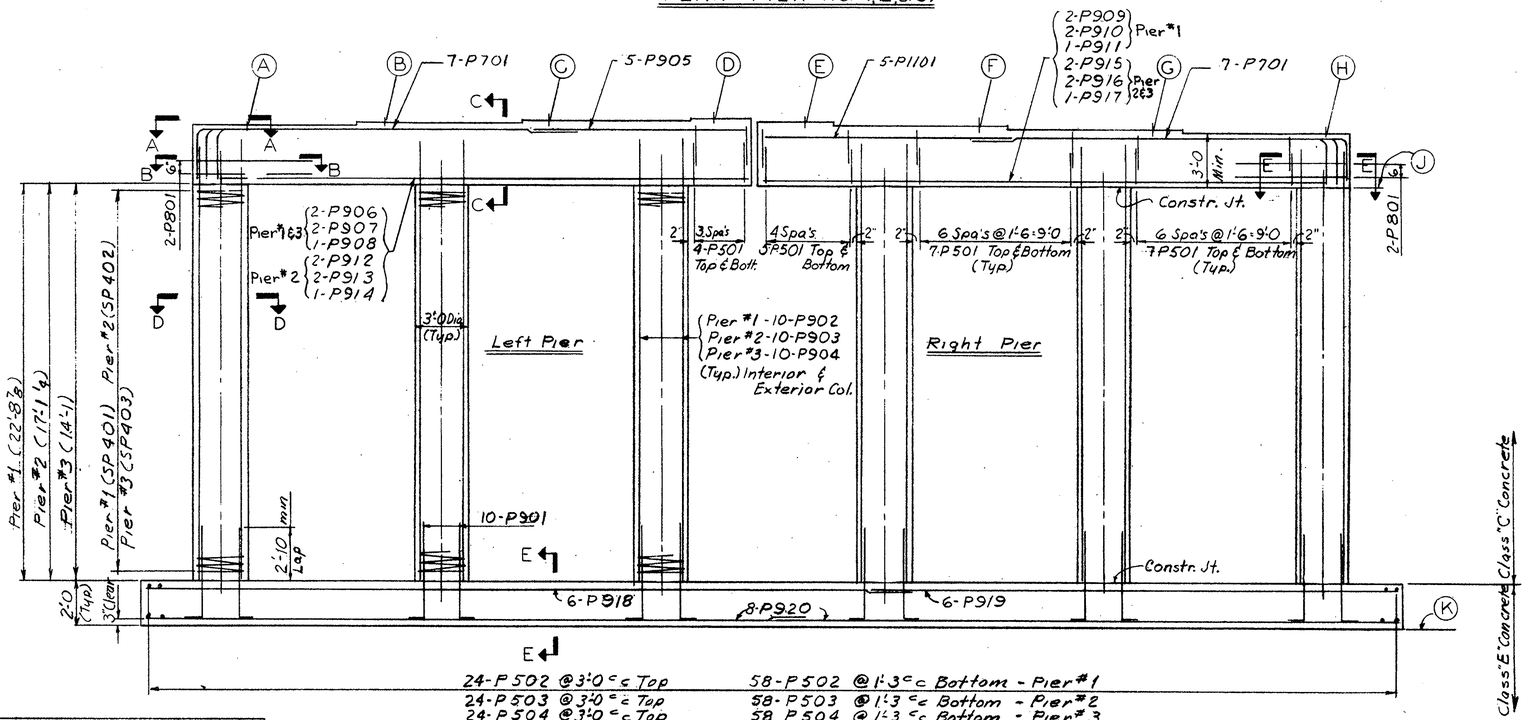
SECTION B-B
SECTION E-E (SIMILAR)



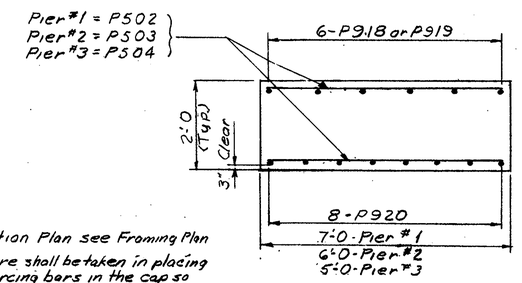
SECTION C-C



SECTION D-D



ELEVATION PIER NO. 1, 2 & 3



SECTION E-E

NOTE:
- For Location Plan see Framing Plan
- Special care shall be taken in placing the reinforcing bars in the cap so that they will not interfere with the bearing plate anchor bars - Pier 2 only.
- For reinforcing bar schedule see sheet #222.

Beam Angle	∝	ϕ
Pier # 1	77° 32' 30"	77° 49' 52.6"
Pier # 2	80° 06' 01.9	80° 19' 45.4"
Pier # 3	82° 44' 21.2"	82° 54' 22.3"

Pier Elevations

Pier No	A	B	C	D	E	F	G	H	J	K
1	953.91	954.03	954.15	954.27	954.20	954.03	953.87	953.74	950.74	926.00
2	953.19	953.32	953.44	953.57	953.56	953.39	953.23	953.10	950.40	931.00
3	952.65	952.78	952.91	953.04	953.03	952.86	952.70	952.58	949.58	933.50

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

PIER DETAILS
BRIDGE NO. STA.-21-1009
OVER US. 21

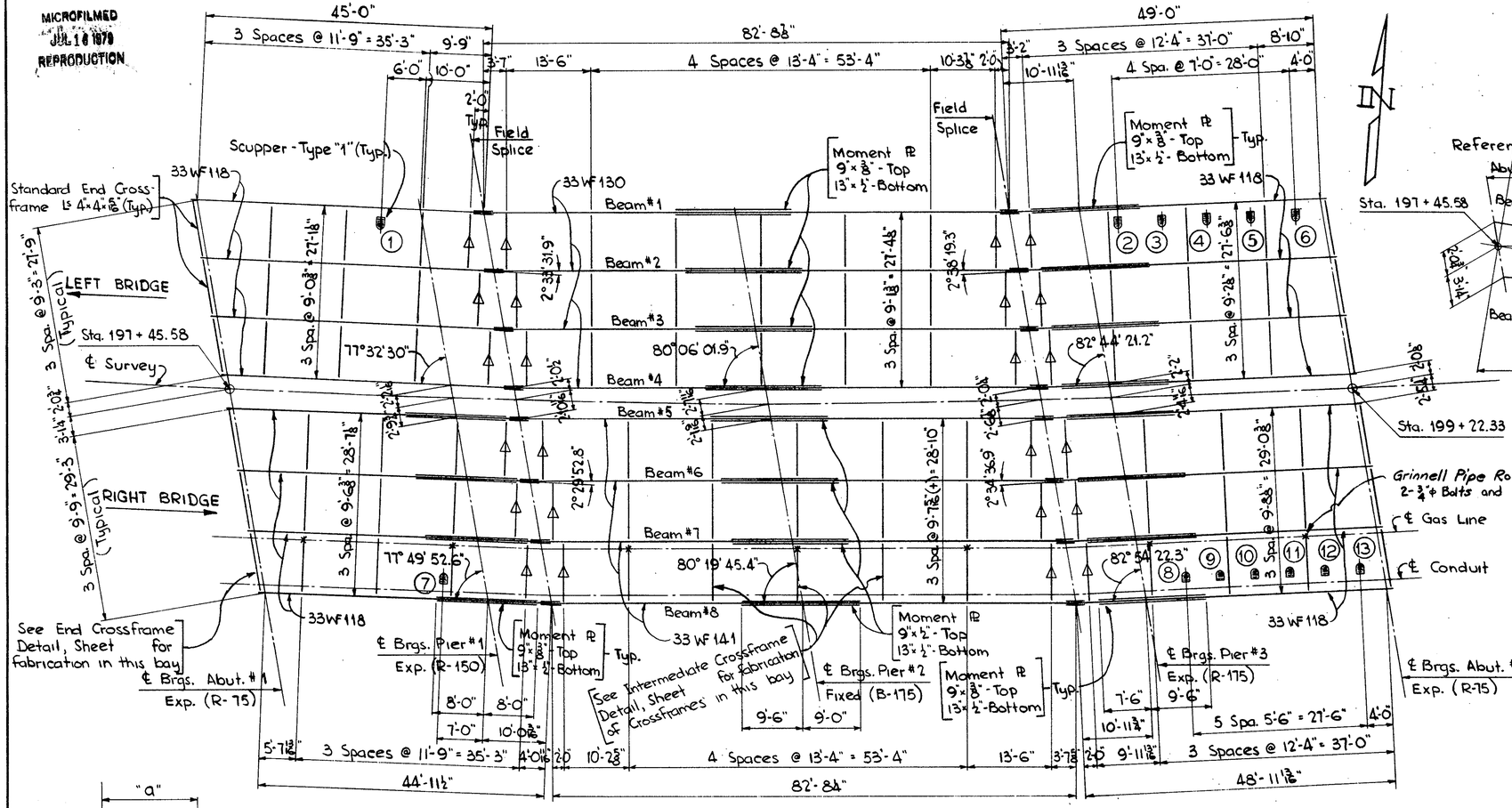
STA. 523+62.10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
R.E.B.	O.W.		LBB	L.G.H. 9-5-67	

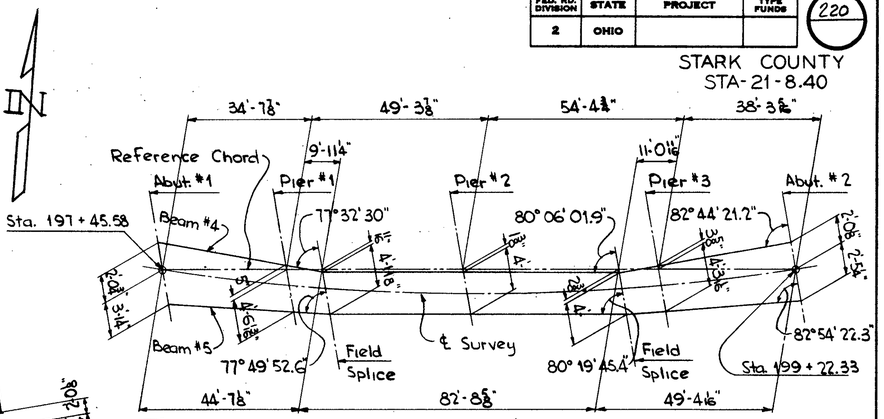
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

220

STARK COUNTY
STA-21-8.40



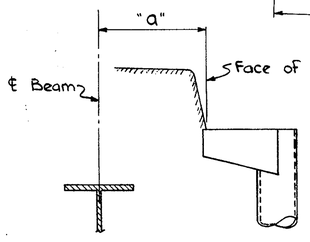
FRAMING PLAN



LOCATION PLAN

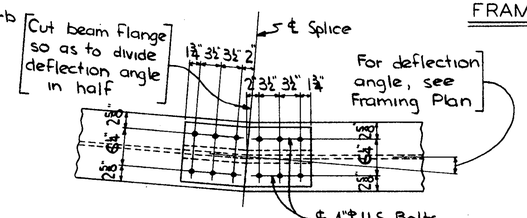
NOTES:

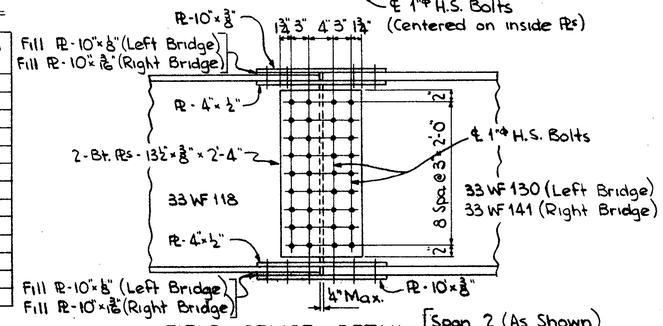
- Reference shall be made to Std. Dwg. SD-1-65 for details of crossframes, end dams, scupper details, field splice, moment plate welding and curb plates.
- Reference shall be made to Std. Dwg. RB-1-55, revised 2-2-59, for details of Rockers and Bolsters.
- Top horizontal L-3"×3"×5/16" shall be used only where shown thus: ⅄. See Typical Cross Section, Sheet 221.
- For Table of Overhangs, see Sheet 222.
- For Gutter Elevation, see Sheet 222.



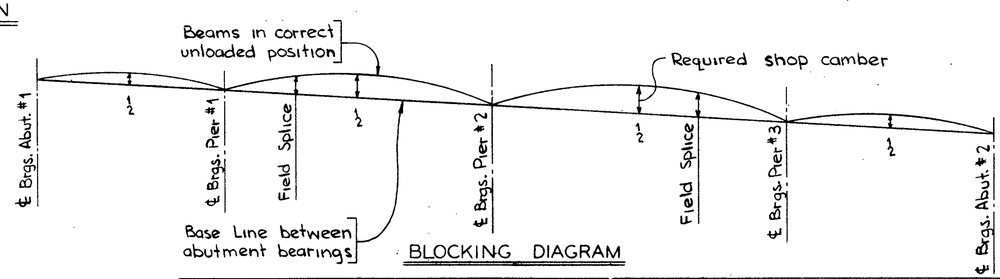
SCUPPER LAYOUT

Scupper No.	Dimension "a"
1	9 5/16"
2	1'-2⅜"
3	1'-2¾"
4	1'-2 13/16"
5	1'-3⅜"
6	1'-1⅝"
7	2'-10⅛"
8	2'-9¾"
9	2'-9 9/16"
10	2'-9⅜"
11	2'-9⅛"
12	2'-10½"
13	2'-11¼"





FIELD SPLICE DETAIL [Span 2 (As Shown) Span 3 (Similar)]



BLOCKING DIAGRAM

Location / Description	BEAM NO. 1 & 4 Span #1	Span #2		Span #3		Span #4
	½	Splice	½	½	Splice	½
Deflection due to weight of steel	0"	0"	0"	0"	0"	0"
Deflection due to remaining dead load	1/16"	1/16"	⅛"	3/16"	1/16"	1/16"
Required shop camber	1/16"	1/16"	⅛"	3/16"	1/16"	1/16"
	BEAM NO. 2 & 3					
Deflection due to weight of steel	0"	0"	0"	0"	0"	0"
Deflection due to remaining dead load	1/16"	1/16"	⅛"	¼"	⅛"	1/16"
Required shop camber	1/16"	1/16"	⅛"	¼"	⅛"	1/16"

Location / Description	BEAM NO. 5 & 8 Span #1	Span #2		Span #3		Span #4
	½	Splice	½	½	Splice	½
Deflection due to weight of steel	0"	0"	0"	0"	0"	0"
Deflection due to remaining dead load	1/16"	1/16"	⅛"	3/16"	1/16"	1/16"
Required shop camber	1/16"	1/16"	⅛"	3/16"	1/16"	1/16"
	BEAM NO. 6 & 7					
Deflection due to weight of steel	0"	0"	0"	0"	0"	0"
Deflection due to remaining dead load	⅛"	1/16"	⅛"	3/16"	1/16"	1/16"
Required shop camber	⅛"	1/16"	⅛"	3/16"	1/16"	1/16"

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

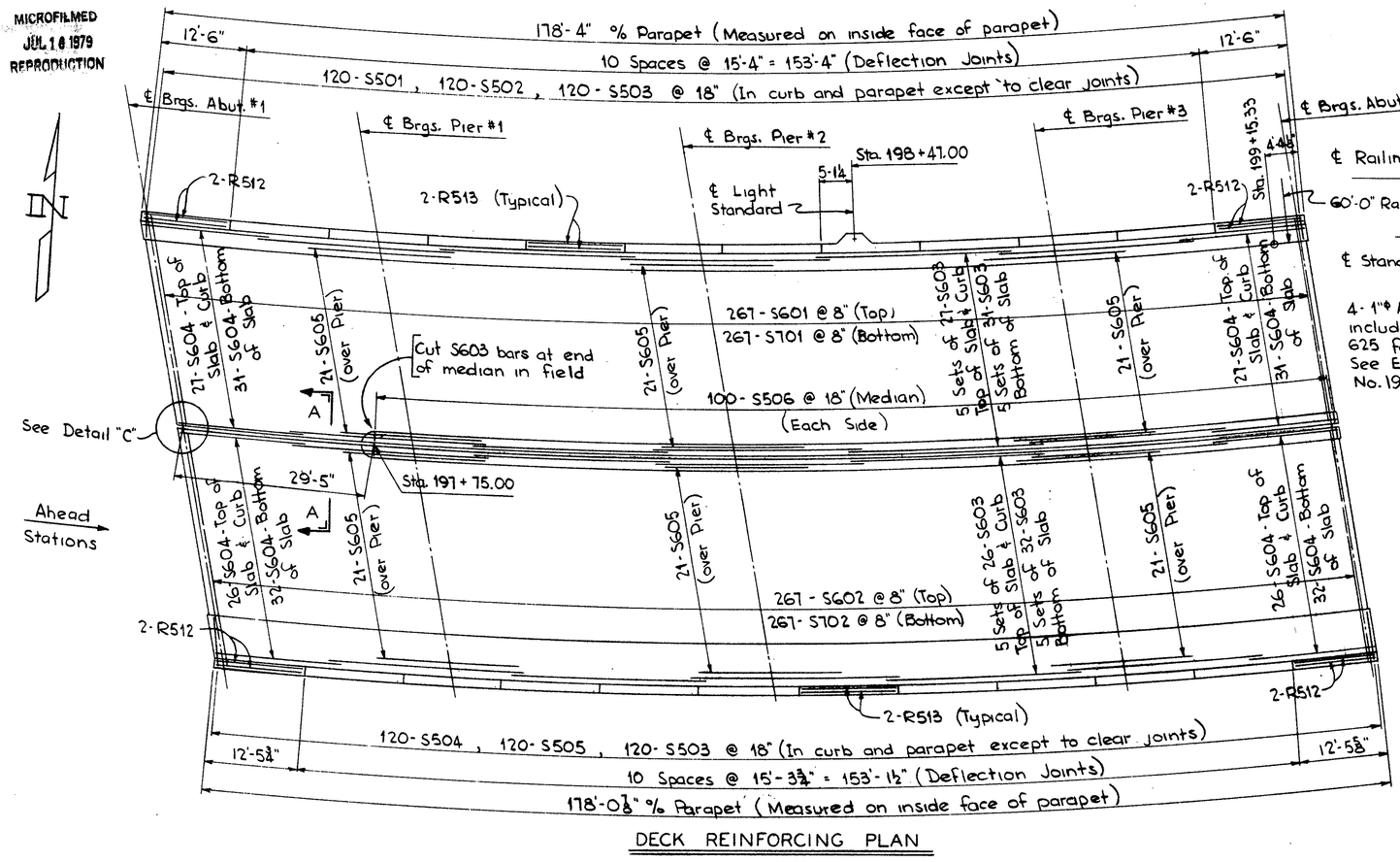
FRAMING PLAN
BRIDGE NO. STA-21-1009
OVER U.S. 21
Sta. 523 + 62.10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	FWM		REB	L.G.H. 9-5-67	

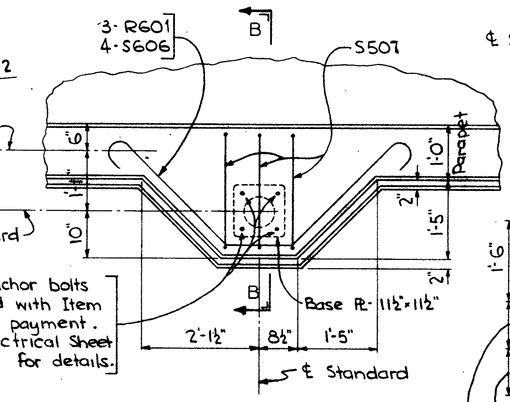
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

221

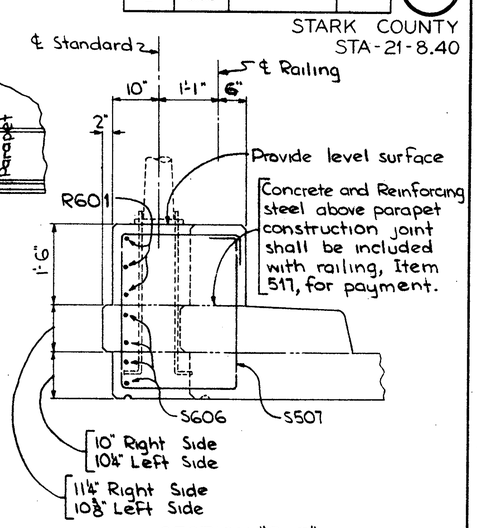
STARK COUNTY
STA-21-8.40



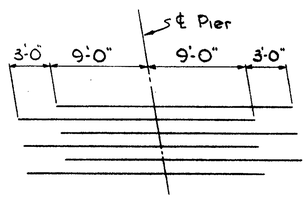
DECK REINFORCING PLAN



DETAIL OF PARAPET AT LIGHT STANDARD



SECTION "B-B"

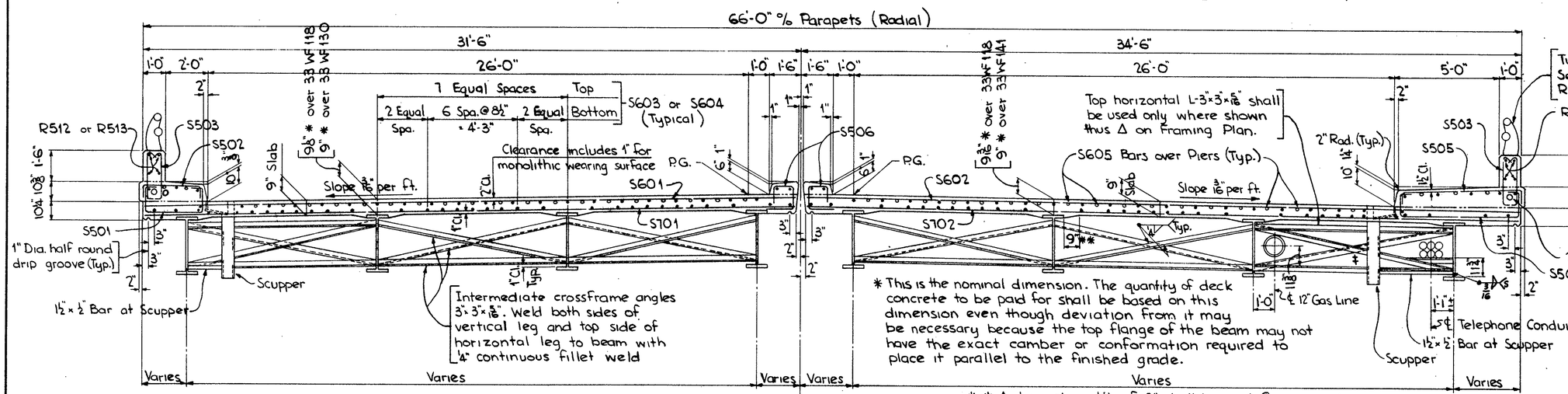


STAGGER OF S605 BARS

‡ Diagonals and Bottom Struts to be fabricated as shown in this bay only. (Required for support of gas line and telephone conduit.)

NOTES :

- All concrete shall be Class "C".
- Concrete and reinforcing steel above parapet construction joint shall be included with railing for payment.
- For scupper location, see Framing Plan, Sheet
- For Section "A-A", see Sheet 222.
- For Detail "C", see Sheet 222.



TYPICAL CROSS SECTION

* This is the nominal 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 conformation 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.

NOTE :

All longitudinal bars are S603 (center) or S604 (ends) unless otherwise noted.

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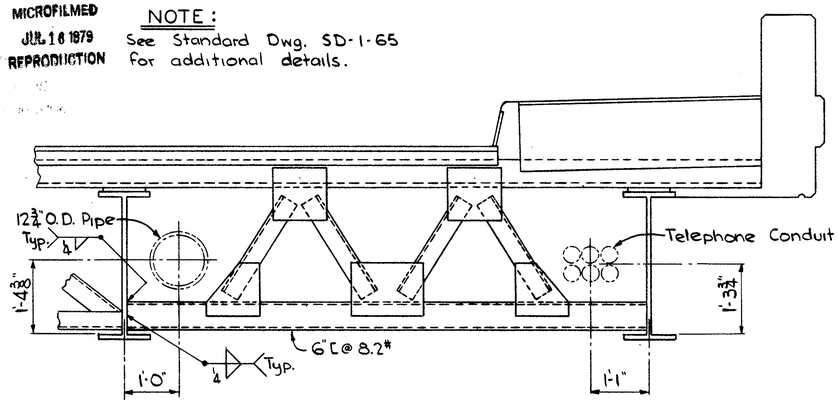
ROCHESTER, PENNSYLVANIA

DECK PLAN
BRIDGE NO. STA-21-1009
OVER U.S. 21
Sta. 523+62.10

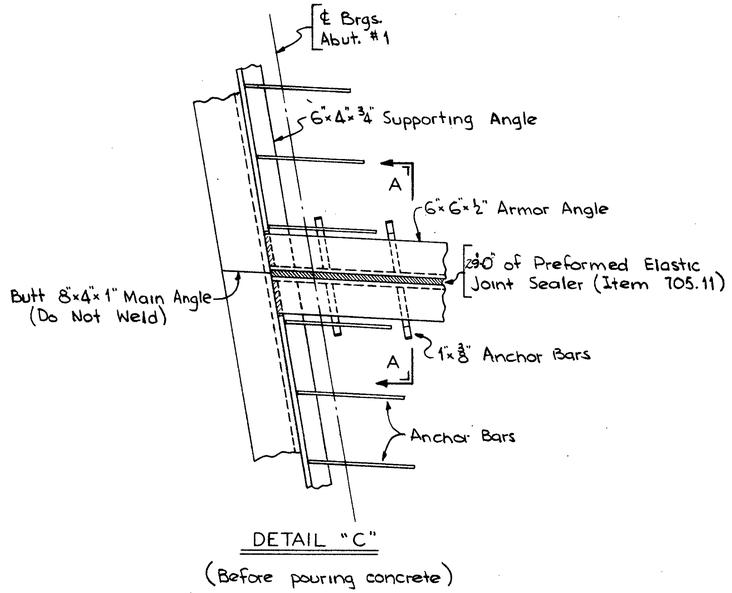
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	FWM		REB	L.G.H. 9-5-67	

NOTE:
See Standard Dwg. SD-1-65 for additional details.

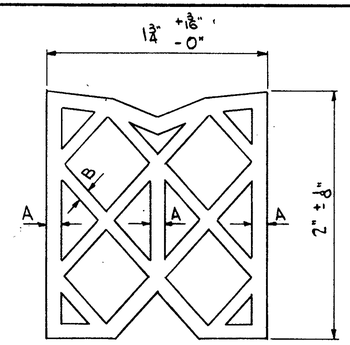


SPECIAL END CROSSFRAME AT ABUTMENT NO. 1

SPECIAL END CROSSFRAME AT ABUTMENT NO. 2 (SIMILAR)



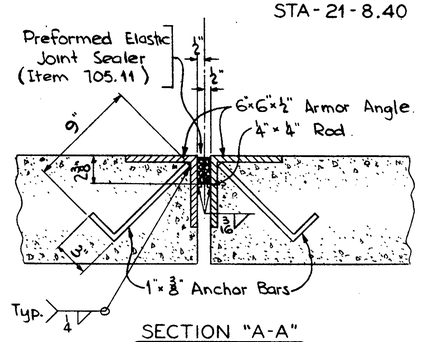
DETAIL "C"
(Before pouring concrete)



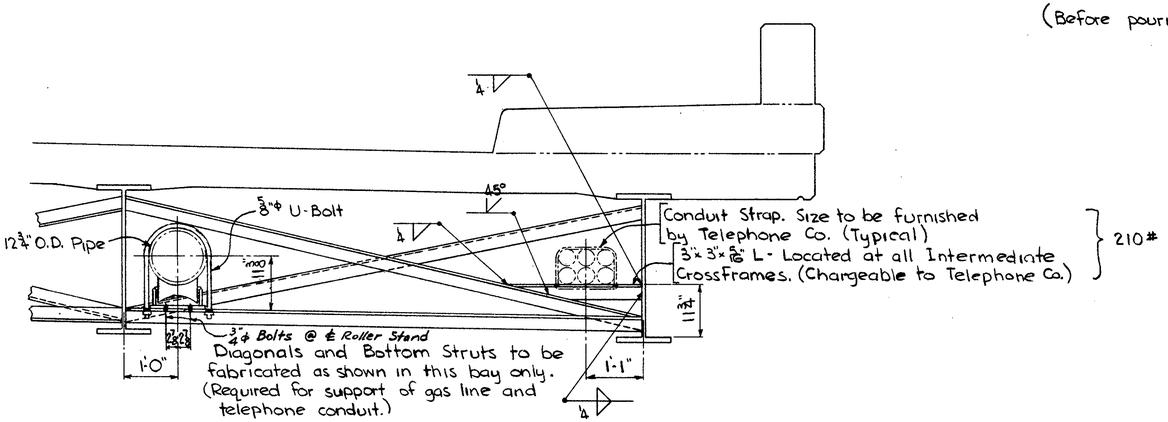
A = ⅛" +1/32" -1/64

B = 3½" +1/32" -1/64

DETAIL OF PREFORMED ELASTIC JOINT SEALER (Item 705.11)



SECTION "A-A"



SPECIAL INTERMEDIATE CROSSFRAME

Typical Section showing method of supporting gas line and telephone conduit.

TABLE OF OVERHANGS **				
Location	LEFT BRIDGE		RIGHT BRIDGE	
	Left Side	Right Side	Left Side	Right Side
℄ Abut. #1	2'-6¼"	2'-0"	3'-0¼"	3'-0"
Span 1 ½ pt.	2'-3¼"	2'-2"	2'-8⅞"	3'-1⅞"
℄ Pier #1	2'-2⅞"	2'-1½"	2'-9"	3'-1⅞"
Span 2 Splice	2'-3⅞"	2'-0"	2'-10"	3'-0"
Span 2 ½ pt.	1'-11"	2'-4¼"	2'-5⅞"	3'-4⅞"
℄ Pier #2	1'-7"	2'-7¼"	2'-1¼"	3-7
Span 3 ½ pt.	1'-8⅝"	2'-5⅞"	2'-1⅞"	3'-6⅞"
Span 3 Splice	2'-0½"	2'-0"	2'-6½"	3'-0"
℄ Pier #3	1'-10⅜"	2'-1¾"	2'-4½"	3'-1¾"
Span 4 ½ pt.	1'-9⅛"	2'-2⅜"	2'-3¼"	3-2⅜"
℄ Abut. #2	1'-11"	2'-0"	2'-5⅛"	3'-0"

** Overhangs shown are measured perpendicular to fascia beams

‡ Elevation given at ℄ Survey where median dose not exist.

GUTTER ELEVATIONS												
Location	LEFT BRIDGE						RIGHT BRIDGE					
	LEFT CURB			RIGHT CURB			LEFT CURB			RIGHT CURB		
	Station	Final Elev.	Constr. Elev. *	Station	Final Elev.	Constr. Elev. *	Station	Final Elev.	Constr. Elev. *	Station	Final Elev.	Constr. Elev. *
℄ Abut. #1	197+38.68	958.90	958.90	197+45.58	959.27‡	959.27‡	197+45.58	959.27‡	959.27‡	197+52.20	958.76	958.76
Span 1 ½ pt.	197+56.58	958.72	958.72	197+63.10	959.10‡	959.10‡	197+63.10	959.10‡	959.10‡	197+69.31	958.59	958.60
℄ Pier #1	197+74.43	958.54	958.54	197+80.26	958.90	959.90	197+80.90	958.90	958.90	197+86.49	958.42	958.42
Span 2 Splice	197+84.64	958.44	958.44	197+90.27	958.80	958.81	197+90.88	958.80	958.80	197+96.28	958.32	958.33
Span 2 ½ pt.	197+99.74	958.29	958.30	198+05.08	958.65	958.67	198+05.66	958.65	958.66	198+10.77	958.18	958.19
℄ Pier #2	198+24.97	958.03	958.03	198+29.81	958.41	958.41	198+30.34	958.40	958.40	198+34.98	957.93	957.93
Span 3 ½ pt.	198+52.70	957.76	957.77	198+57.01	958.14	958.15	198+57.48	958.13	958.15	198+61.61	957.67	957.68
Span 3 Splice	198+69.12	957.59	957.60	198+73.11	957.97	957.98	198+73.55	957.97	957.98	198+77.31	957.51	957.52
℄ Pier #3	198+80.35	957.48	957.48	198+84.12	957.86	957.86	198+84.53	957.86	957.86	198+88.15	957.40	957.40
Span 4 ½ pt.	198+99.76	957.29	957.29	199+03.16	957.67	957.68	199+03.53	957.67	957.68	199+06.79	957.22	957.22
℄ Abut. #2	199+19.14	957.09	957.09	199+22.17	957.48	957.48	199+22.50	957.48	957.48	199+25.40	957.03	957.03

* Construction Elevations adjusted for deflection due to dead load of concrete.

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

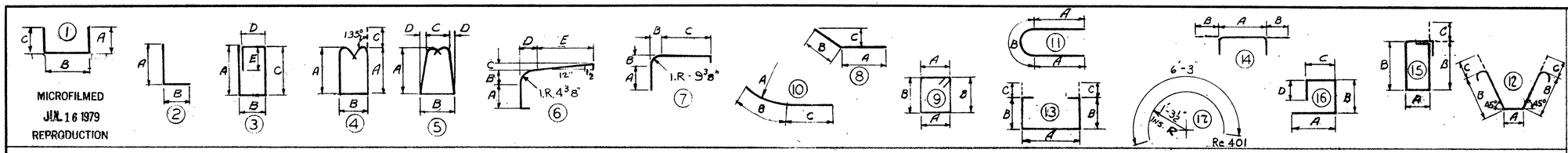
222

STARK COUNTY
STA-21-8.40

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

MISCELLANEOUS DETAIL
BRIDGE NO. STA-21-1009
OVER U.S. 21
Sta. 523+62.10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	FWM		H.J.B	L.G.H. 9-5-67	



FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

223

STARK COUNTY
STA.-21-8.40

BAR SCHEDULE

PIERS

Mark	No	Length	Type	A	B	C	D	E	Weight
P1101	15	14'-7	Str.						1162
P901	180	5'-6	2	4'-6	1'-0				3366
P902	60	25-2	Str.						5135
P903	60	19'-7							3994
P904	60	16'-7							3382
P905	15	12'-10"							654
P906	4	29'-8							404
P907	4	30'-8							417
P908	2	31'-0							211
P909	2	31'-10							216
P910	2	32'-11							224
P911	1	33'-1							112
P912	2	30'-2							205
P913	2	31'-2							212
P914	1	31'-5							107
P915	4	30'-11							421
P916	4	32'-3							439
P917	2	32'-5							220
P918	18	43'-3							2647
P919	18	30'-5							1862
P920	48	36'-9	Str.						5998
P801	12	8'-6	11	2'-3	4'-0				272
P701	42	24'-9	2	21'-4	2'-10				2060
P501	222	6'-11	1	2'-3	2'-8	2'-3			1602
P502	82	6'-6	Str.						556
P503	82	5'-6	Str.						470
P504	82	4'-6	Str.						385

ABUTMENT NO.1

Mark	No	Length	Type	A	B	C	D	E	Weight
B801	14	36'0	Str.						1346
B802	6	11'-0	Str.						176
B803	6	10'-0	Str.						160
B601	45	15'-1	1	7'-2	5'-5	2'-10			1019
B602	4	17'-9	3	6-2	1'-5	6'-2	1'-5	3'-3	107
B603	59	15'-11	3	4'-10	1'-5	6'-2	11"	3'-3	1411
B604	10	18'-10	1	9'-0	1'-2	9'-0			283
B501	17	35'0	Str.						621
B502	17	31'-6	Str.						559
B503	45	8'-4	1	1'-7	5'-5	1'-7			391
B504	45	7'-4	2	6"	7'-0				344
B505	45	7'-8	1	2'-3	3'-5	2'-3			360
B506	6	8'-0	Str.						50
B507	17	4'-9	Str.						84
B508	5	6'-0	2	1'-4	4'-9				31
B509	3	4'-1	Str.						13
B510	1	5'-3	2	1'-4	4'-1				5
B511	5	4'-8	2	1'-4	3'-6				24
B512	11	3'-6	Str.						40
B513	18	5'-7	4	2'-2	8"	5½"			105
B514	4	12'-8	10	4'-2	5'-0	7'-8			53
B515	4	14'-6	10	5'-8	6'-10	7'-8			60
B516	2	6'-0	Str.						13
B517	16	12'-1	9	3'-2	2'-8				202

ABUTMENT NO.1 (CONT.)

Mark	No	Length	Type	A	B	C	D	E	Weight
B518	2	5'-2	8	2'-0	3'-2	2'-0			11
B519	6	7'-4	Str.						46
B520	8	13'-0	Str.						108
B521	18	5'-9	1	2'-4	1'-4	2'-4			108
B522	2	6'-4	8	1'-10	4'-6	1'-11			13
B523	2	6'-6	Str.						14
B524	2	6'-11	2	2'-5	4'-8				14
R502	6	6'-1	5	2'-5	8"	5"	1½"		*
R503	2	4'-2	6	9"	5"	1"	4¾"	1'-11¼	
R504	2	5'-5	7	9"	10"	2'-6			
R506	1	5'-6	7	9"	10"	2'-7			
R507	1	5'-3	7	9"	10"	2'-4			
R508	2	4'-0	6	9"	5	1"	4¾	1'-9¼	
R509	2	13'-4	10	4'-10	5'-8	7'-8			
R510	2	12'-10	10	4'-2	5'-2	7'-8			
R511	4	12'-7	Str.						*

ABUTMENT NO.2

Mark	No	Length	Type	A	B	C	D	E	Weight
A801	14	36'-0	Str.						1346
A802	12	10'-0	Str.						320
A601	48	14'-6	1	6'-9	5'-5	2'-8			1045
A602	58	15'-11	3	4'-10	1'-5	6'-2	11"	3'-3	1387
A603	7	17'-9	3	6'-2	1'-5	6'-2	11"	3'-3	187
A604	10	18'-10	1	9'-0	1'-2	9'-0			283
A501	48	8'-4	1	1'-7	5'-5	1'-7			417
A502	48	7'-2	2	6'-9	7"				359
A503	48	7'-8	1	2'-3	3'-5	2'-3			384
A504	17	31'-2	Str.						553
A505	17	34'-1	Str.						604
A506	4	3'-9	1	1'-7	11"	1'-7			16
A507	12	7'-0	Str.						88
A508	10	12'-8	Str.						132
A509	15	4'-10	Str.						76
A510	3	4'-2	Str.						13
A511	12	3'-5	Str.						43
A512	18	5'-7	4	2'-2	8"	5½"			105
A513	18	5'-9	1	2'-4	1'-4	2'-4			108
A514	4	5'-11	8	1'-11	4'-0	1'-10			25
A515	5	6'-0	2	4'-10	1'-4				31
A516	1	5'-4	2	4'-2	1'-4				6
A517	4	4'-7	2	3'-5	1'-4				19
A518	4	6'-9	Str.						28
A519	10	12'-2	Str.						127
A520	14	12'-1	9	3'-2	2'-8				176
A521	2	6'-11	2	2'-5	4'-8				14
R501	4	12'-4	Str.						*
R502	6	6'-1	5	2'-5	8"	5"	1½"		
R503	4	4'-2	6	9"	5"	1"	4¾"	1'-11¼	
R504	4	5'-5	7	9"	10"	2'-6"			
R505	4	11'-10	Str.						*

SUPERSTRUCTURE

Mark	No	Length	Type	A	B	C	D	E	Weight
S701	267	31'-0	Str.						1698
S702	267	34'-0	Str.						1855
S601	267	31'-1	Str.						12.464
S602	267	34'-1	Str.						13,667
S603	580	30'-0	Str.						26135
S604	232	19'-3	Str.						6708
S605	126	21'-0	Str.						3974
S606	4	8'-3	12	1'-3	2'-10	8"			50
S501	120	5'-11	13	2'-6	1'-4	6"			741
S502	120	3'-6	14	2'-6	6"				438
S503	240	5'-7	4	2'-2	8"	5"			1397
S504	120	9'-1	13	5'-6	1'-5	6"			1136
S505	120	6'-6	14	5'-6	6"				814
S506	200	4'-0	16	1'-7	1'-0	1'-0	9½		834
S507	3	10'-5	15	2'-1	2'-10	6"			32
R601	3	8'-3	12	1'-3	2'-10	8"			*
R512	16	12'-1	Str.						*
R513	80	14'-11	Str.						*

SUPERSTRUCTURE (CONT.)

SPIRAL REINFORCING LIST

Mark	Reqd	Total	Length	Size	Pitch	Core Dia.	No. Turns	Weight
SP401	6	6	22'-6⅜	4	4½"	32"	63	2441
SP402	6	6	16'-11¼	4	4½"	32	48	1863
SP403	6	6	13'-11	4	4½"	32	41	1514

Replacement Bars

Mark	No.	Length	Weight	Shp
Re 1101	1	9'-7"		Str.
Re 901	2	8'-10"		Str.
Re 801	1	8'-6"		Str.
Re 701	1	8'-3"		Str.
Re 601	4	7'-11"		Str.
Re 501	1	7'-7"		Str.
Re 401	1	7'-3"		17.

NOTES:

- 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, S701 is a No. 7 size bar and P1101 is a No. 11 size bar.
- 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 in other respects conform to Item 509. 1½ closed coils shall be provided at the ends of each spiral unit. Four steel channels, Tee or angle spacers, weighing approximately 0.68 lbs. 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 lbs. of these spacers shall be based on 0.68 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantity of spiral bars.

* = Included in Item 517 for payment

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

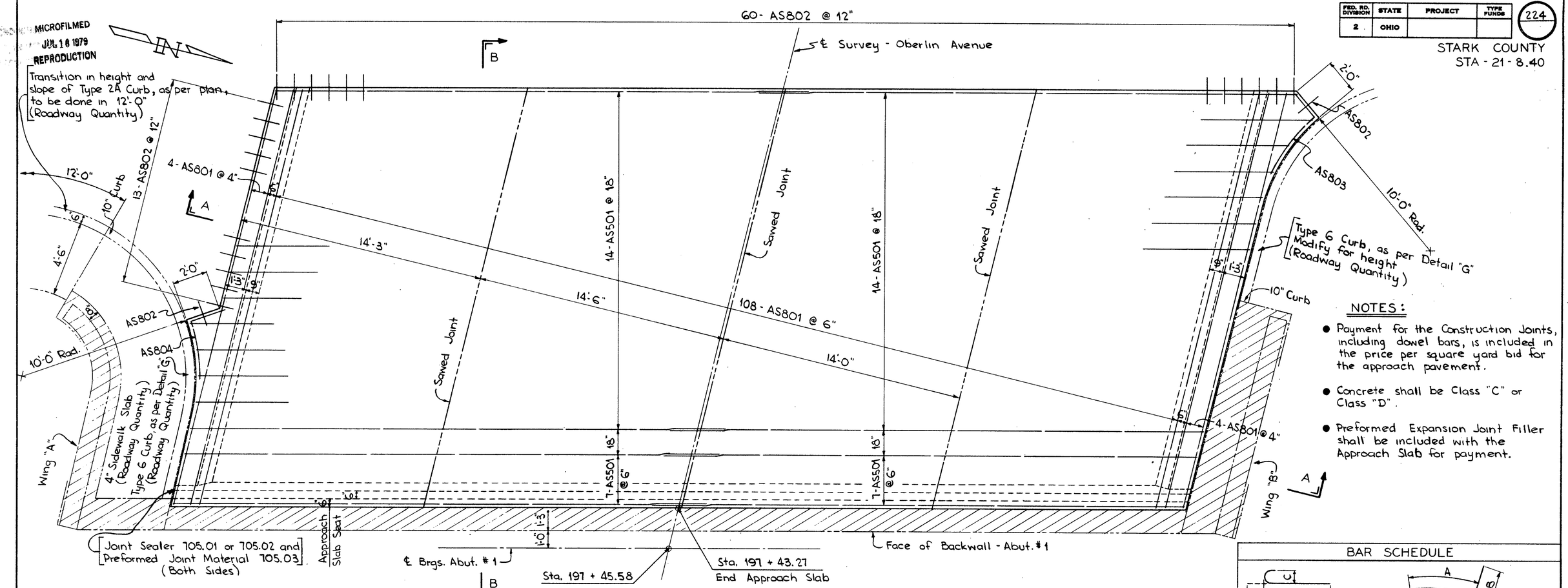
REINFORCING STEEL LIST
BRIDGE NO. STA-21-1009
OVER U.S. 21
Sta. 523 + 62.10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	OW		LGH	L.G.H. 9-5-67	

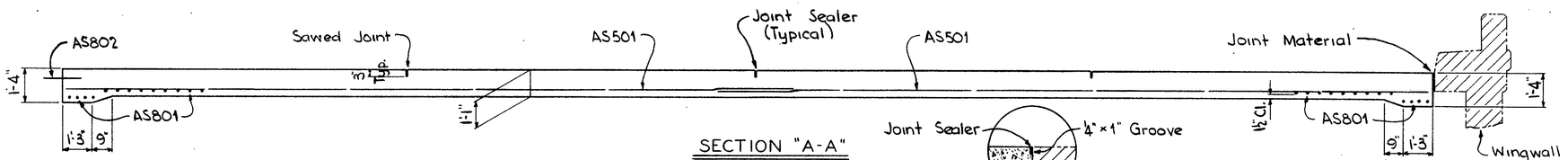
FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

224

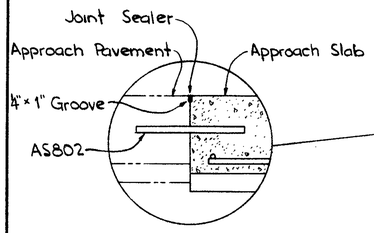
STARK COUNTY
STA - 21 - 8.40



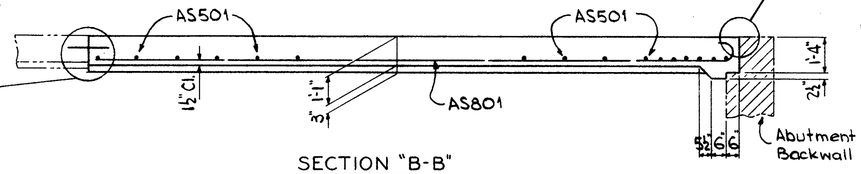
APPROACH SLAB (ABUTMENT NO. 1)



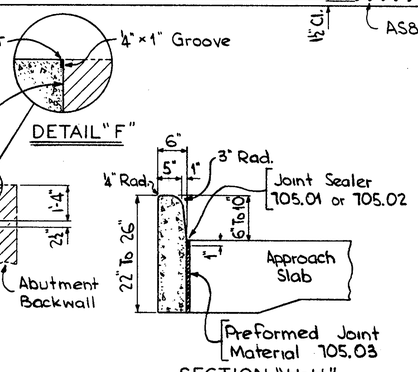
SECTION "A-A"



DETAIL "E"

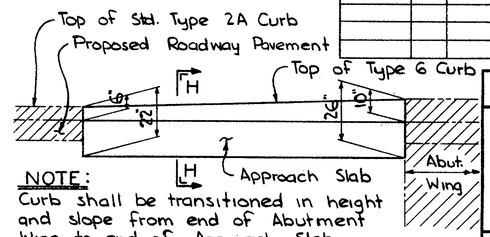


SECTION "B-B"



DETAIL "F"

SECTION "H-H"



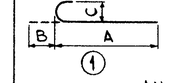
NOTE:
Curb shall be transitioned in height and slope from end of Abutment Wing to end of Approach Slab.

DETAIL "G"

NOTES:

- Payment for the Construction Joints, including dowel bars, is included in the price per square yard bid for the approach pavement.
- Concrete shall be Class "C" or Class "D".
- Preformed Expansion Joint Filler shall be included with the Approach Slab for payment.

BAR SCHEDULE



All dimensions given out to out of bars.

Mark	No.	Length	Type	A	B	C	D	Weight
AS801	116	25'-7"	1	24'-6"	1'-1"	9"		
AS802	75	1'-6"	Str.					
AS803	1	6'-1"	2	4'-6"	1'-10"	10'-2		
AS804	1	5'-2"	2	3'-5"	2'-0"	10'-2		
AS501	42	30'-9"	Str.					

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

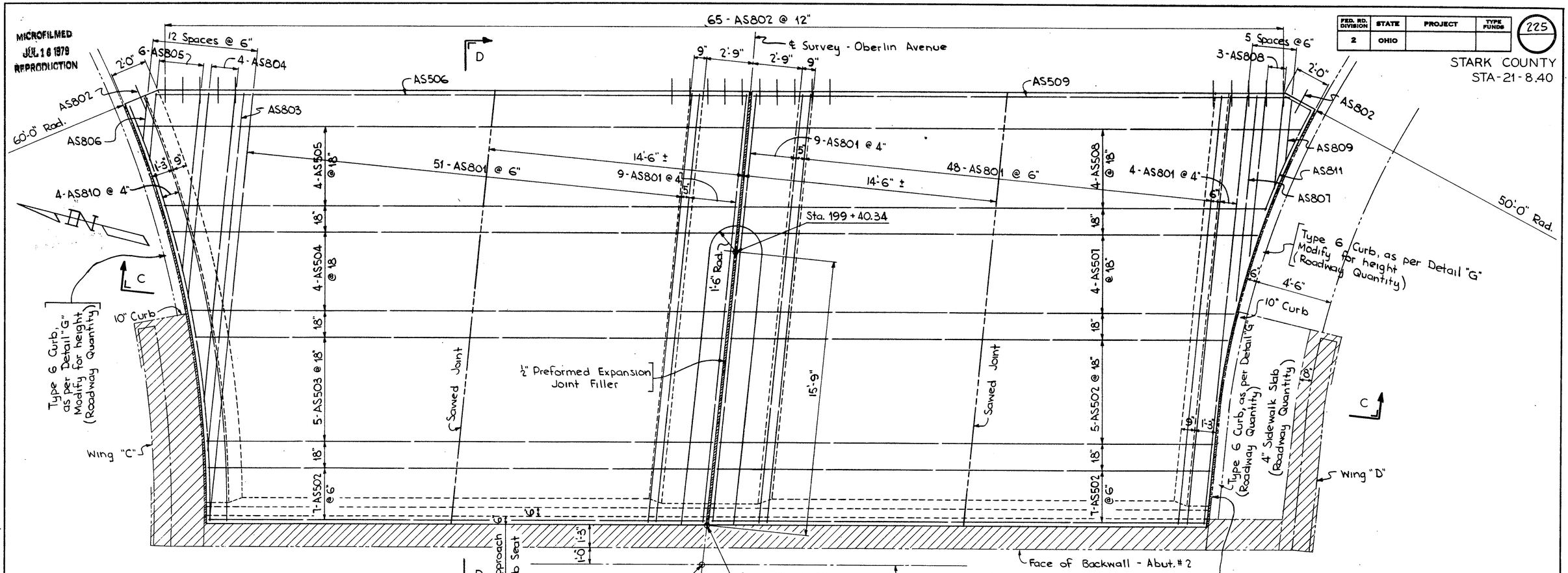
APPROACH SLAB
ABUTMENT NO.1
BRIDGE NO. STA-21-1009
OVER U.S. 21
Sta. 523 + 62.10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	FWM		H.J.B.	L.G.H. 9-5-67	

FED. RD. DIVISION	STATE	PROJECT	TYPE FUNDS
2	OHIO		

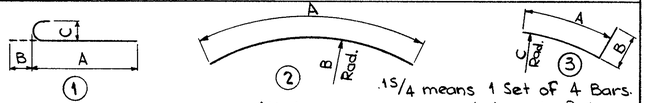
225

STARK COUNTY
STA-21-8.40



APPROACH SLAB (ABUTMENT NO. 2)

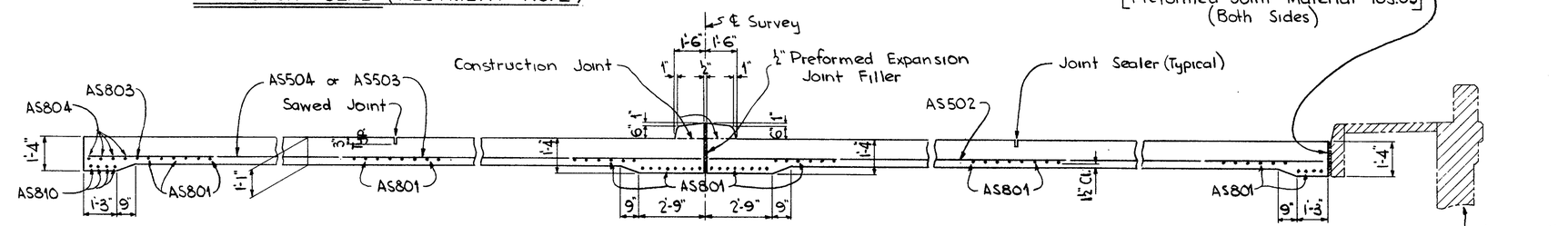
BAR SCHEDULE



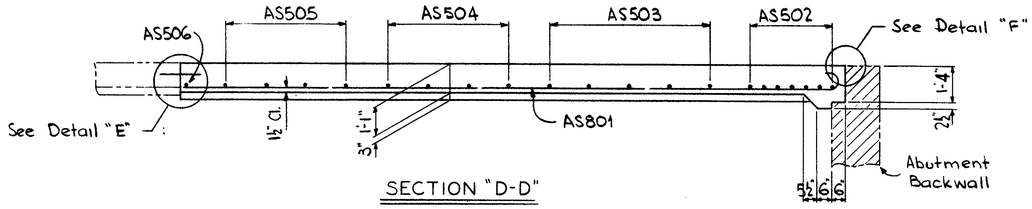
1S/4 means 1 Set of 4 Bars.
All dimensions given out to out of bars

Mark	No.	Length	Type	A	B	C	D	Remarks	Weight
AS801	121	25'-7"	1	24'-6"	1'-1"	9"			
AS802	67	1'-6"	Str.						
AS803	1	20'-2"	Str.						
AS804	1S/4	17'-10" To 11'-7"	Str.					Vary ea. bar by 2'-1"	
AS805	1S/6	10'-3" To 3'-7"	Str.					Vary ea. bar by 1'-4"	
AS806	1	2'-5"	Str.						
AS807	1	11'-10"	Str.						
AS808	1S/3	8'-11" To 5'-3"	Str.					Vary ea. bar by 1'-10"	
AS809	1	3'-6"	Str.						
AS810	4	25'-0"	2	25'-0"	60°-2"				
AS811	1	8'-0"	3	6'-5"	1'-10"	50°-2"			
AS502	19	28'-3	Str.						
AS503	1S/5	30'-1" To 28'-10"	Str.					Vary ea. bar by 3½"	
AS504	1S/4	32'-0" To 30'-6"	Str.					Vary ea. bar by 6"	
AS505	1S/4	34'-8" To 32'-8"	Str.					Vary ea. bar by 8"	
AS506	1	33'-10"	Str.						
AS507	1S/4	29'-4" To 28'-7"	Str.					Vary ea. bar by 3"	
AS508	1S/4	31'-5" To 29'-11"						Vary ea. bar by 6"	
AS509	1	30'-6"							

BEAVER VALLEY ENGINEERING SUPPLIES CO. REORDER A-30734



SECTION "C-C"



SECTION "D-D"

NOTE :

- For Detail "E", Detail "F" and Notes, see Sheet 224
- For Detail "G", see Sheet 224

MICHAEL BAKER JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

APPROACH SLAB
ABUTMENT NO. 2
BRIDGE NO. STA-21-1009
OVER U.S. 21
Sta. 523 + 62.10

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED DATE	REVISED
	FWM		H.J.B	L.G.H. 9-5-67	