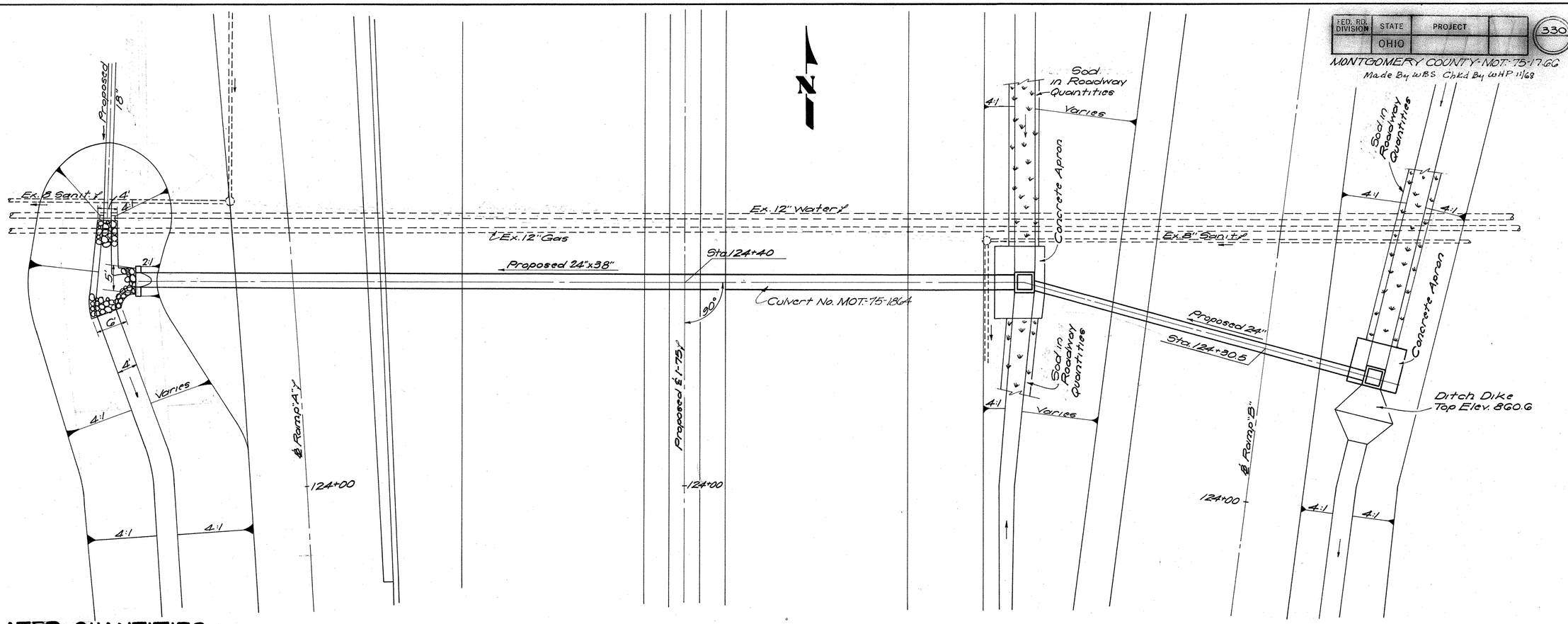
FED. RD. DIVISION	STATE	PROJECT		330
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66
Made By WBS Chkd By WHP 11/68

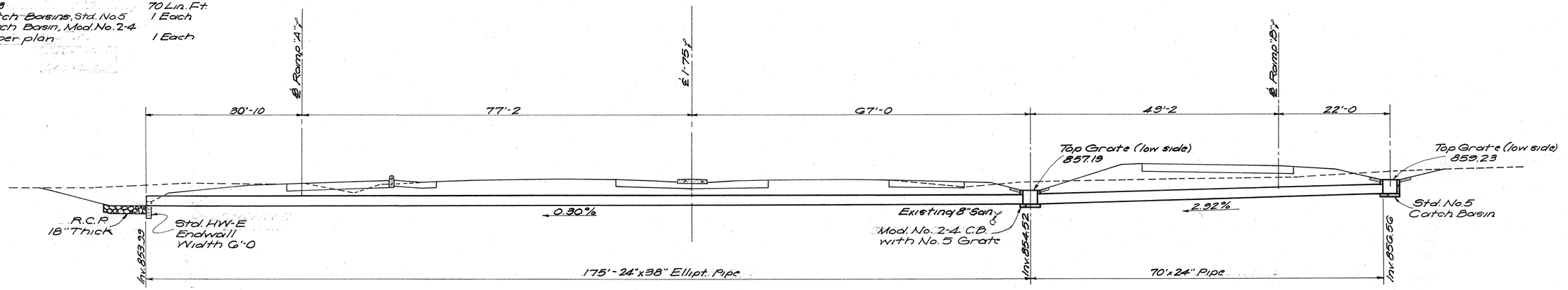


PLAN

Scale 1" = 10'

ESTIMATED QUANTITIES

203 - Excavation	1 Cu.Yd.
601 - Rock Channel Protection Type B	8.4 Cu.Yds.
602 - Concrete Masonry	0.7 Cu.Yds.
603 - 24"x38" Conduit, Type "A", 706.04 Class HE II	175 Lin. Ft.
603 - 24" Conduit, Type "A", 706.02 or 706.08	70 Lin. Ft.
604 - Catch Basins, Std. No. 5	1 Each
604 - Catch Basin, Mod. No. 2-4 as per plan	1 Each



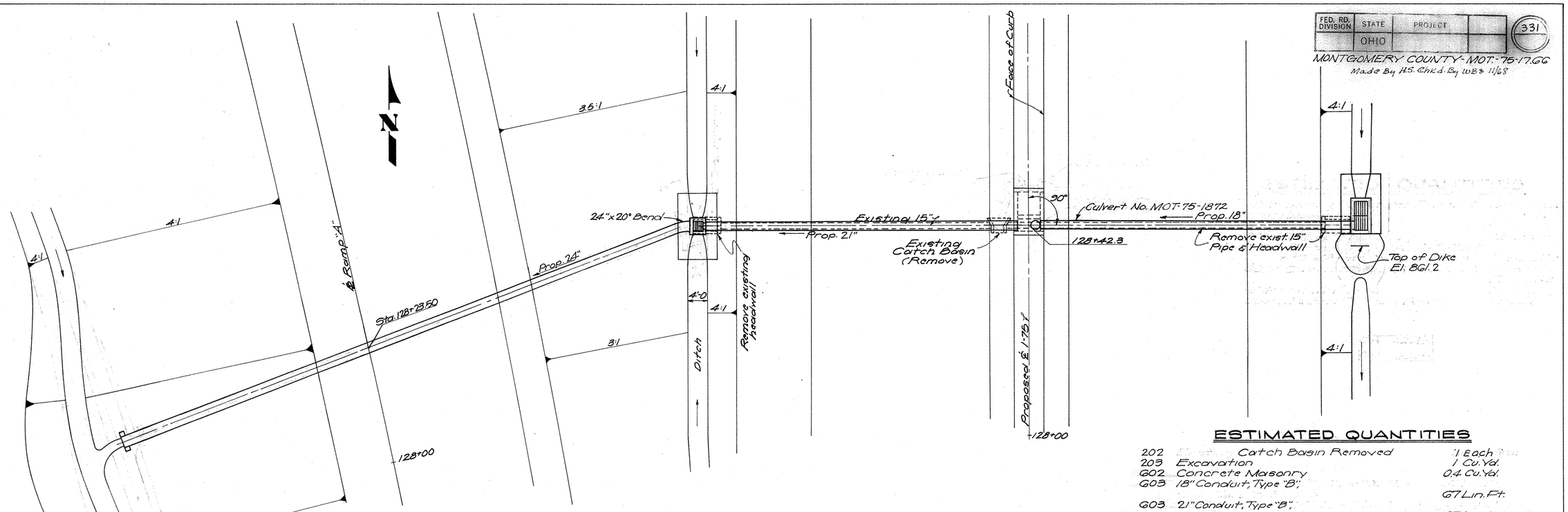
SECTION ON ℄ PIPE

STORM SEWER STA. 124+40

FED. RD. DIVISION	STATE	PROJECT		331
	OHIO			

MONTGOMERY COUNTY - MOT.-75-17.66

Made By H.S. Chk'd. By WBS 11/68

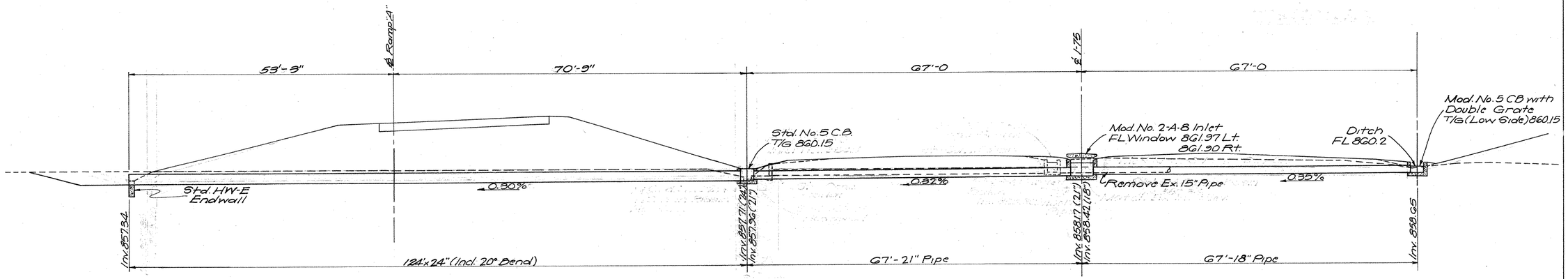


PLAN

Scale: 1"=10'

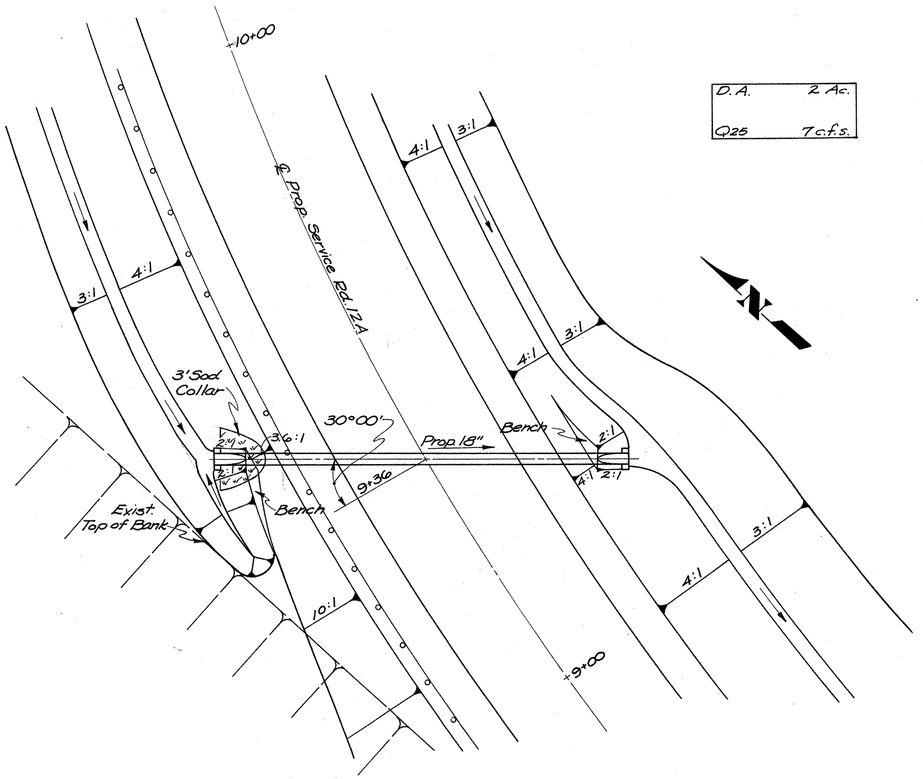
ESTIMATED QUANTITIES

202	Catch Basin Removed	1 Each
203	Excavation	1 Cu. Yd.
602	Concrete Masonry	0.4 Cu. Yd.
603	18" Conduit, Type "B",	67 Lin. Ft.
603	21" Conduit, Type "B",	67 Lin. Ft.
603	24" Conduit, Type "B", 706.02 Class III or 706.08	120 Lin. Ft.
604	Catch Basin, Std. No. 5	1 Each
604	Catch Basin, Mod. No. 5 as per plan "Y"	1 Each
604	Inlet, Mod. No. 2-A-B	1 Each
	24" x 20° Pipe Bend	1 Each

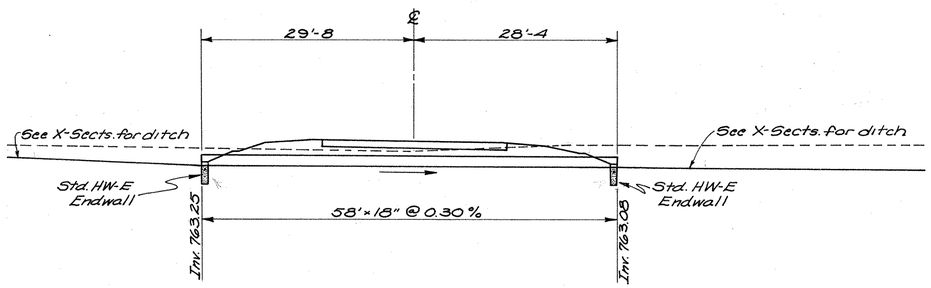


SECTION ON ℄ PIPE

STORM SEWER STA. 128+42.3



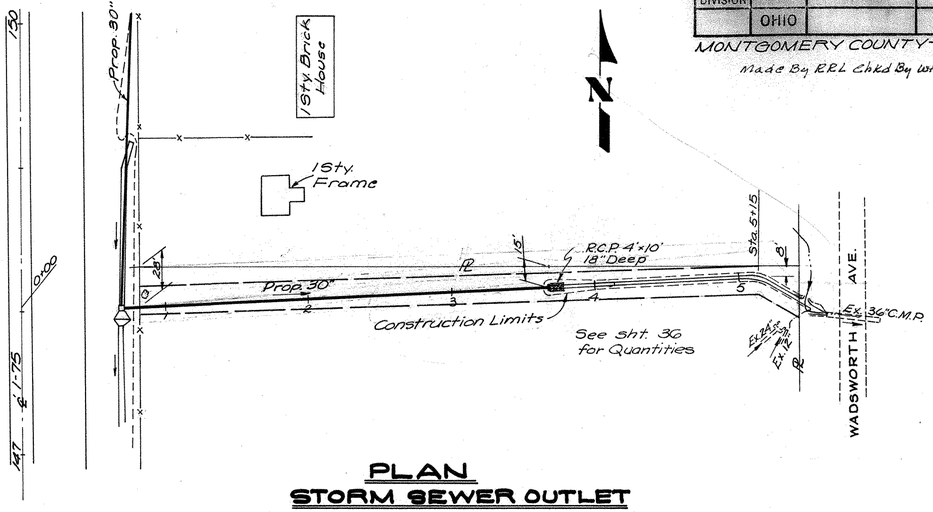
PLAN
Scale: 1"=10'



SECTION ON ℄ PIPE
Scale: 1"=10'

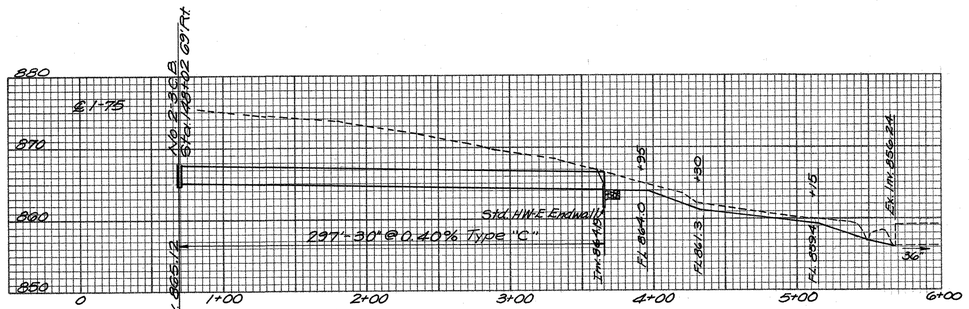
ESTIMATED QUANTITIES

602	Concrete Masonry	0.60 C.Y.
603	18" Conduit Type "A" 706.01, 706.02 or 706.08	58 Lin. Ft.
660	Sodding	45 S.Y.



PLAN
STORM SEWER OUTLET
STA. 148+02 Rt.
Scale 1"=50'

$\frac{2}{45} \times 4 \times 10 = \frac{80}{27} = 2.8$ 3



PROFILE STORM SEWER OUTLET
STA. 148+02 Rt.

STORM SEWER STA. 148+02 I-75
PIPE CULVERT STA. 9+36 SERVICE RD. NO. 12A

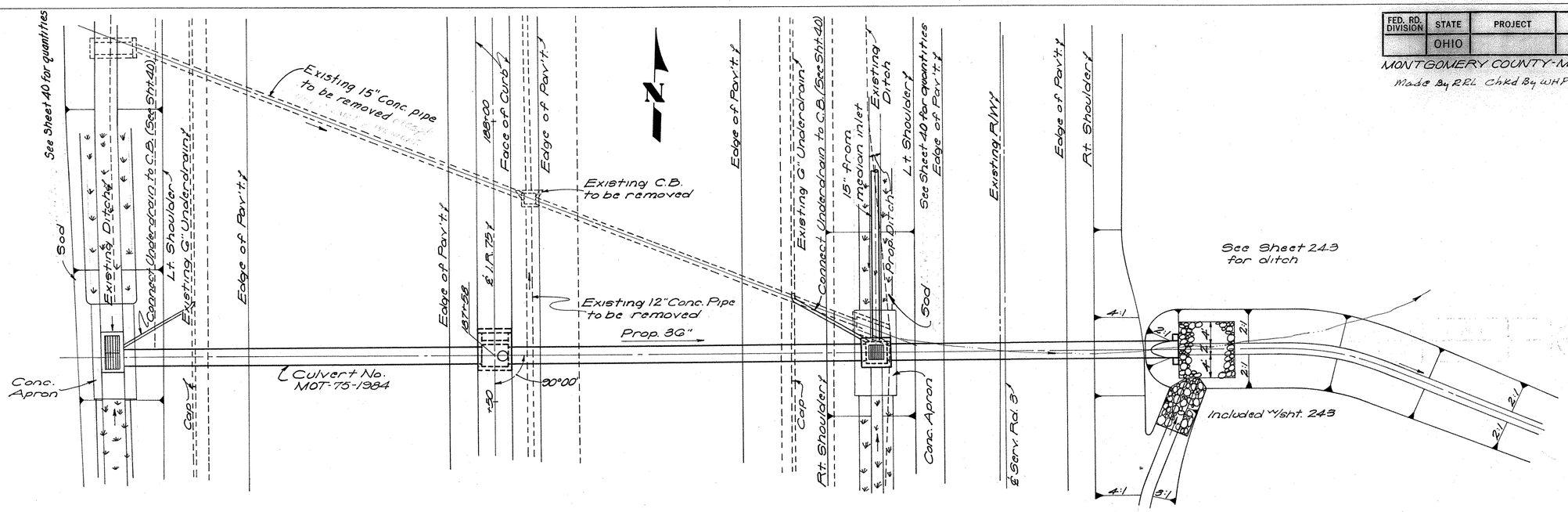
FED. RD. DIVISION	STATE	PROJECT		331-A
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66
Made By R.R.L. Chkd By W.H.P. 11/68

FED. RD. DIVISION	STATE	PROJECT		332
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66

Made By RRL Chkd By WHP 11/68



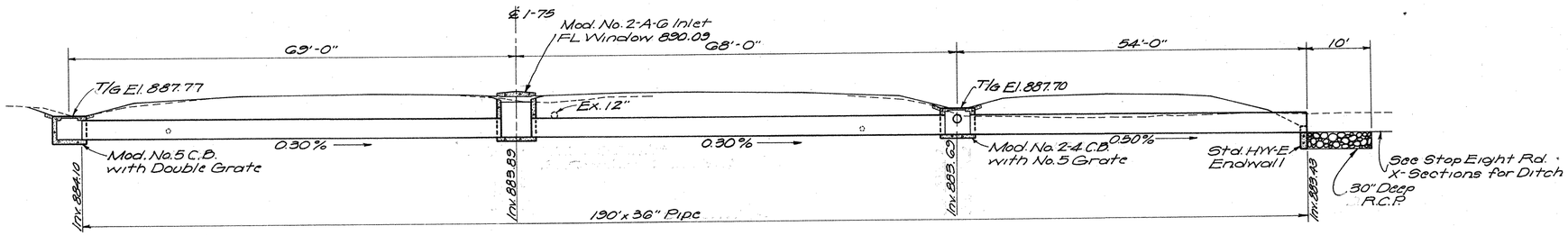
PLAN

Scale 1"=10'

DA	33 Ac.
Q50	46 c.f.s.

ESTIMATED QUANTITIES

G01	Type B Rock Channel Protection	11.1 Cu. Yds.
G02	Concrete Masonry	0.6 Cu. Yds.
G03	36" Conduit, Type "A", 706.02 or 706.08	190 Lin. Ft.
G04	Inlet, Mod. No. 2-A-G as per plan	1 Each
G04	Catch Basin Mod. 2-4 as per plan "X"	1 Each
G04	Catch Basin (Mod. No. 5 as per plan "Y"	1 Each

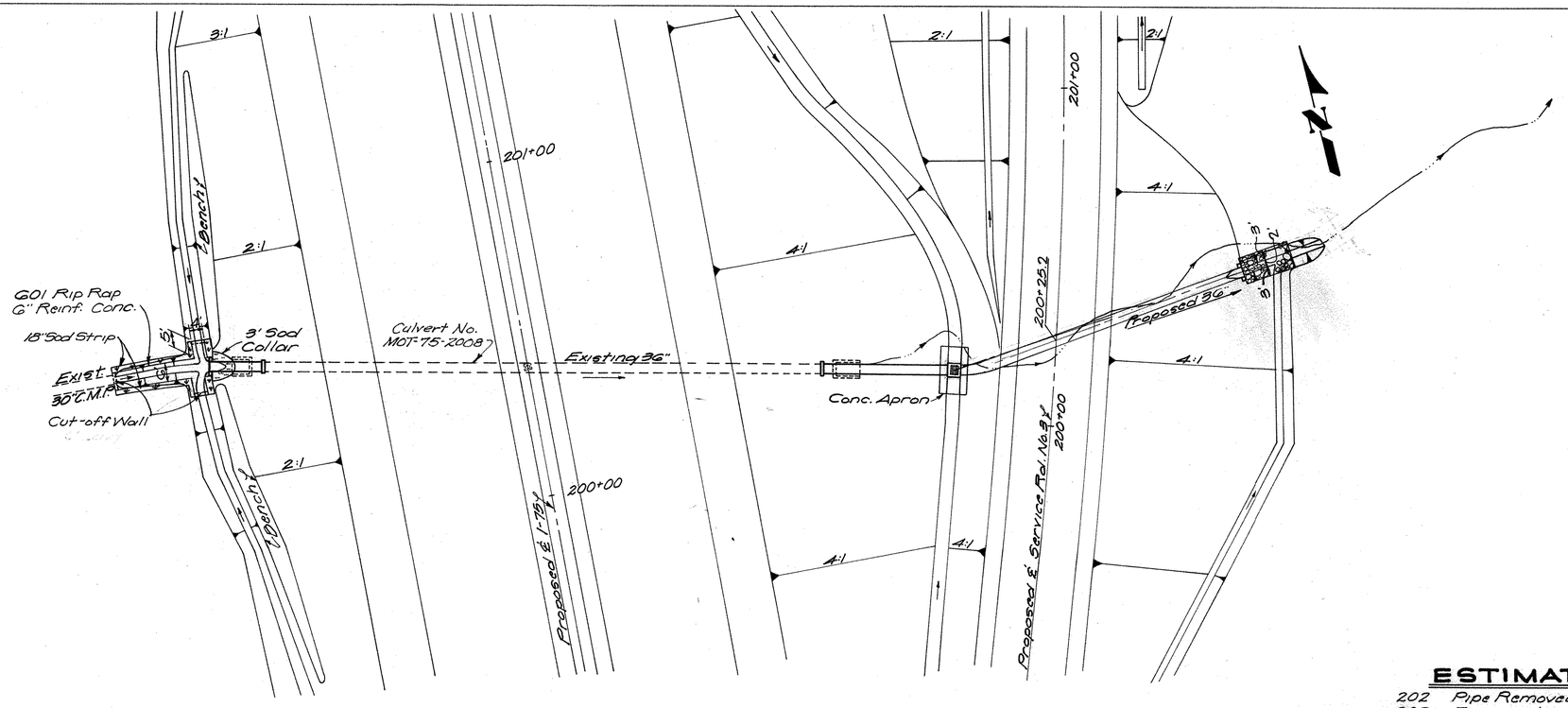


SECTION ALONG ℄ PIPE

PIPE CULVERT STA. 187+58

MONTGOMERY COUNTY-MOT-75-17.66

Made By RRL Chkd By WHP 11/68



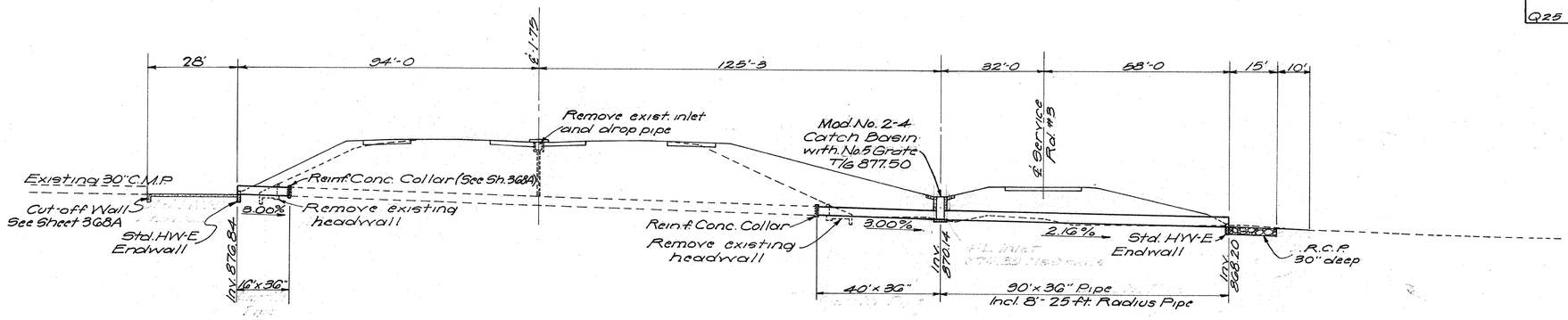
PLAN

Scale 1" = 20'

ESTIMATED QUANTITIES

202	Pipe Removed over 24"	8 Lin. Ft.
203	Excavation	3 Cu. Yds.
601	Rip Rap Using 6" Reinf. Conc.	19 Sq. Yds.
601	Type B Rock Channel Protection	14 Cu. Yds.
602	Concrete Masonry	1.2 Cu. Yds.
603	36" Conduit, Type "A" 706.02 or 706.08	138 Lin. Ft.
603	36" Conduit, Type "A" 706.02, 25' Radius	8 Lin. Ft.
604	Catch Basin, 2-4 Modified as per plan	1 Each
660	Sodding	11 Sq. Yds.
202	Inlets Removed	1 Each

DA	32 Ac.
Q25	63 c.f.s.



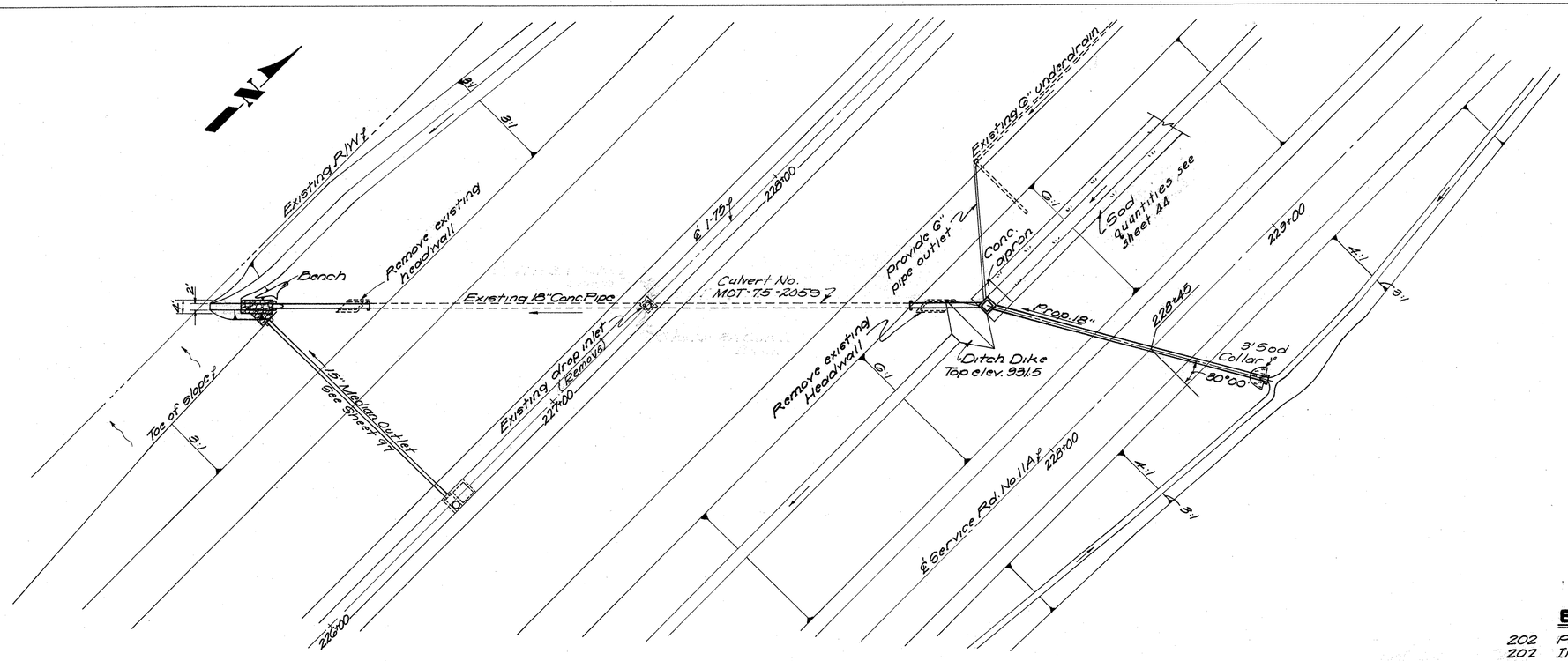
SECTION ALONG ℄ PIPE

PIPE CULVERT STA. 200+38

FED. RD. DIVISION	STATE	PROJECT		334
	OHIO			

MONTGOMERY COUNTY-MOT-75-1766

Made By H.S. Chkd By WHP 11/68



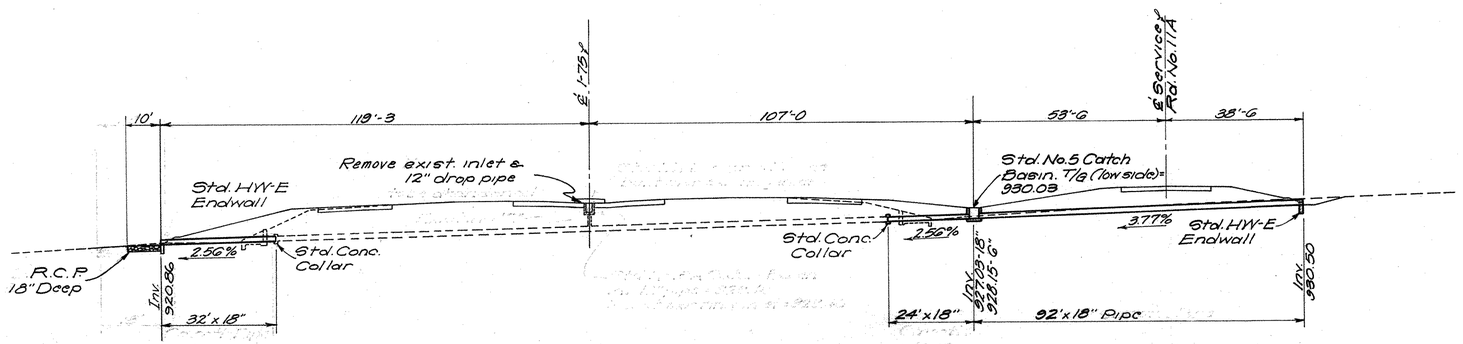
ESTIMATED QUANTITIES

202	Pipe Removed 24" and under	8 Lin. Ft.
202	Inlets Removed	1 Each
601	Type B Rock Channel Protection	3.5 Cu. Yds.
602	Concrete Masonry	0.6 Cu. Yds.
603	18" Conduit, Type "A" 706.01, 706.02 or 706.08	148 Lin. Ft.
604	Catch Basins, Std. No. 5	1 Each
660	Sodding	38 Sq. Yds.

DA	6 Ac.
Q25	18 c.f.s.

PLAN

Scale 1"=20'



SECTION ALONG ℄ PIPE

32
24
92
148

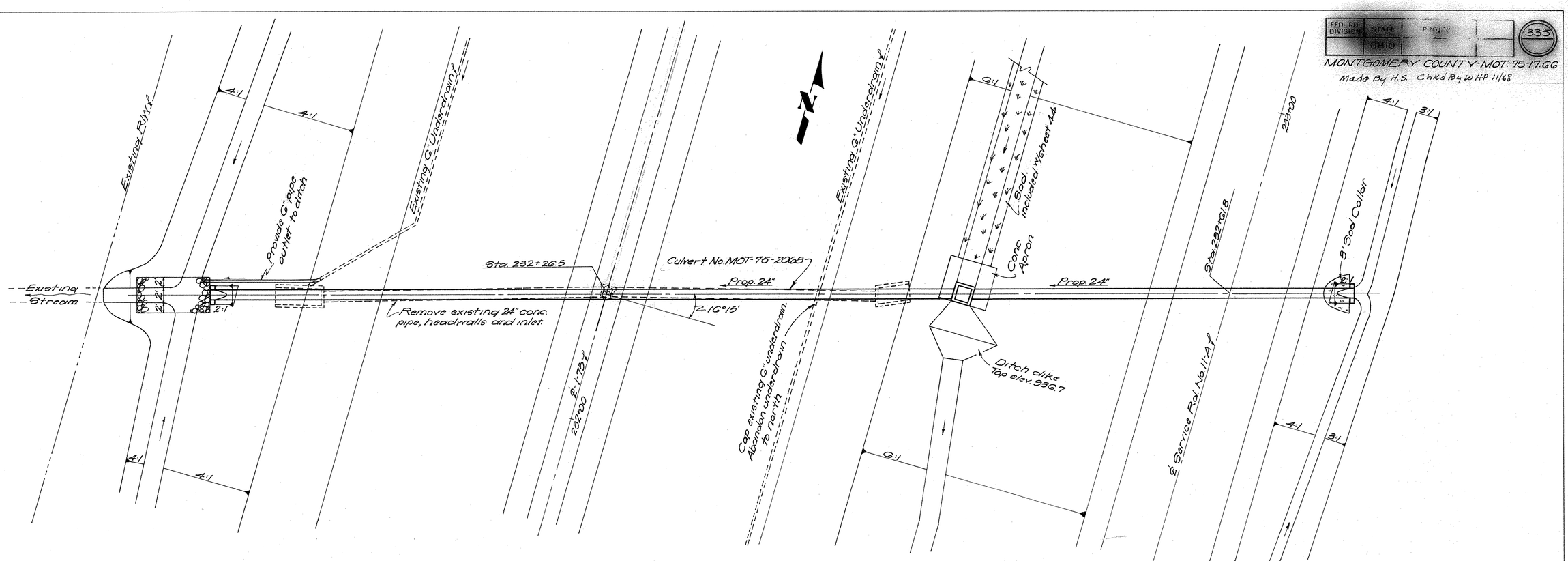
PIPE CULVERT STA. 227+43 I-75

STA. 228+45 SERVICE RD. NO. 11A

FED. RD. DIVISION	STATE	PROJECT	335
	OHIO		

MONTGOMERY COUNTY-MOT-75-17.66

Made By H.S. Chkd. By W.H.P. 11/68



ESTIMATED QUANTITIES

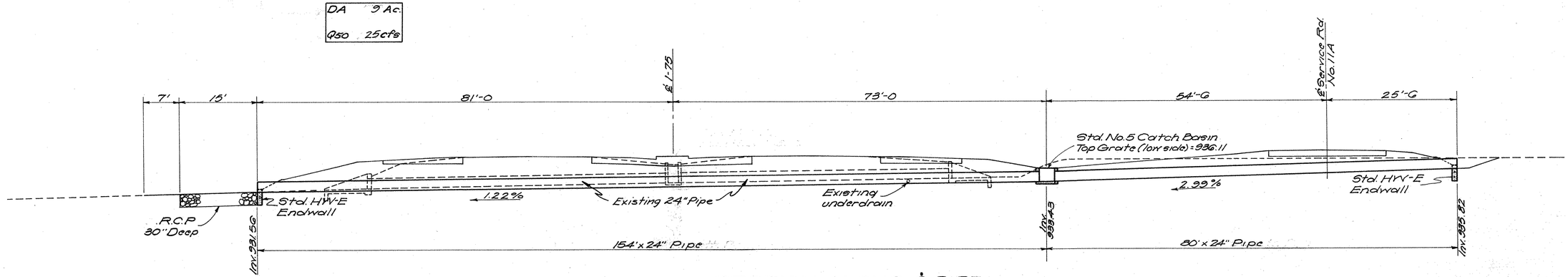
202	Pipe Removed 24" and under	114 Lin. Ft.
203	Excavation	2 Cu. Yds.
601	Type B Rock Channel Protection	10 Cu. Yds.
602	Concrete Masonry	0.8 Cu. Yds.
608	24" Conduit, Type "A" 706.02 or 706.08	234 Lin. Ft.
604	Catch Basins, Std. No. 5	1 Each
660	Sodding	3 Sq. Yds.
202	Inlets Removed	1 Each

DA	9 Ac.
Q50	25 cfs

PLAN

Scale 1" = 10'

DA	7 Ac.
Q25	18 cfs



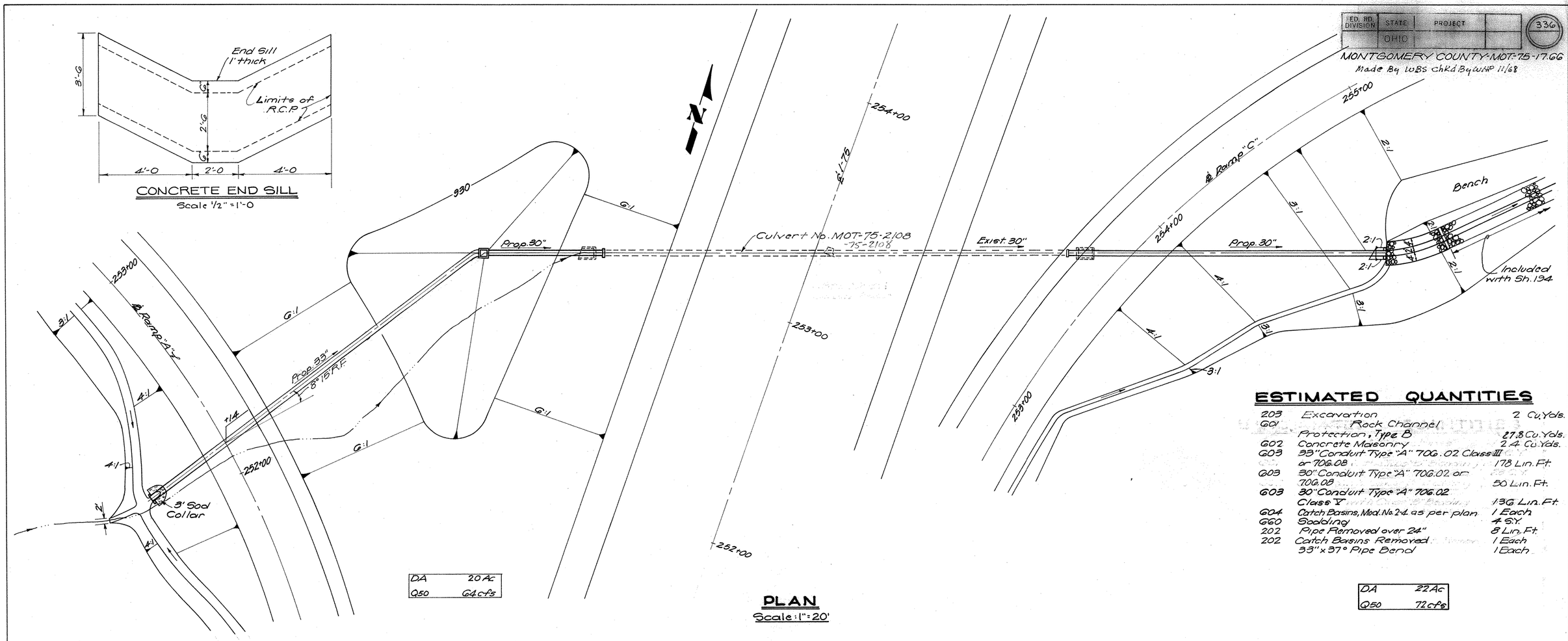
SECTION ALONG ℄ PIPE

PIPE CULVERT STA. 232+26.5 I-75 & STA. 232+61.8 SERVICE RD. NO. 11-A

FED. RD. DIVISION	STATE	PROJECT		336
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66
Made By WBS chkd By WHP 11/68

CONCRETE END SILL
Scale 1/2" = 1'-0



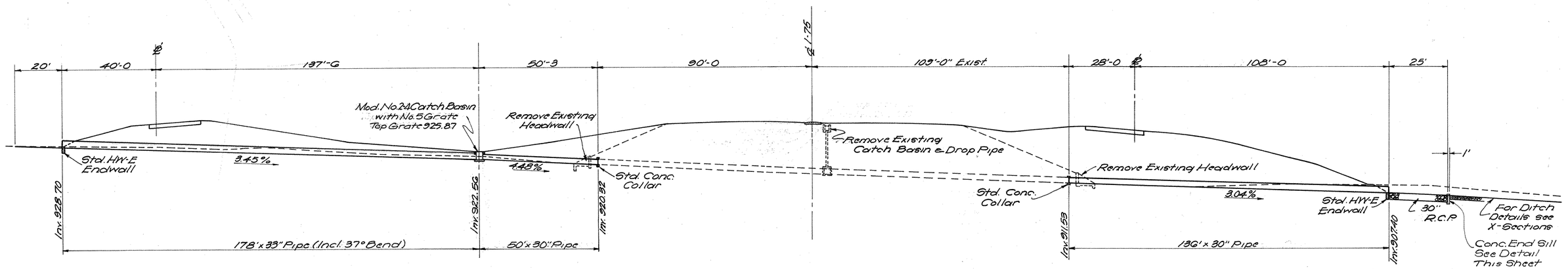
DA	20 Ac
Q50	64 cfs

DA	22 Ac
Q50	72 cfs

PLAN
Scale: 1" = 20'

ESTIMATED QUANTITIES

203	Excavation Rock Channel	2 Cu.Yds.
601	Protection, Type B	27.8 Cu.Yds.
602	Concrete Masonry	2.4 Cu.Yds.
603	33" Conduit Type "A" 706.02 Class III or 706.08	178 Lin. Ft.
603	30" Conduit Type "A" 706.02 or 706.08	50 Lin. Ft.
603	30" Conduit Type "A" 706.02 Class V	136 Lin. Ft.
604	Catch Basins, Mod. No. 24 as per plan	1 Each
660	Seeding	4 S.Y.
202	Pipe Removed over 24"	8 Lin. Ft.
202	Catch Basins Removed 33" x 37° Pipe Bend	1 Each 1 Each



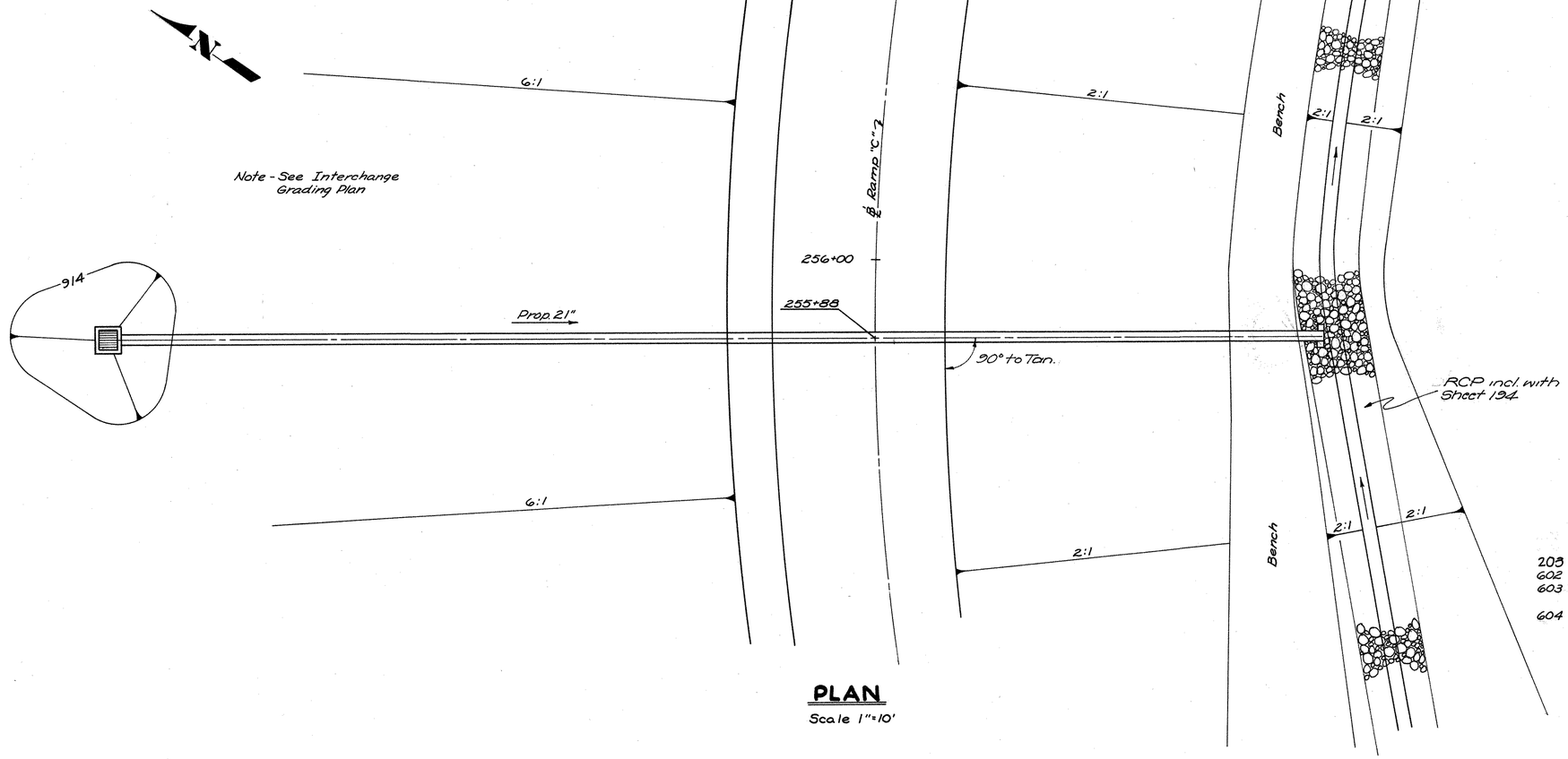
SECTION ON ℄ PIPE

PIPE CULVERT STA. 253+31.5

FED. ROAD DIVISION	STATE	PROJECT		337
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66

Made By WBS Chkd By WHP 11/68



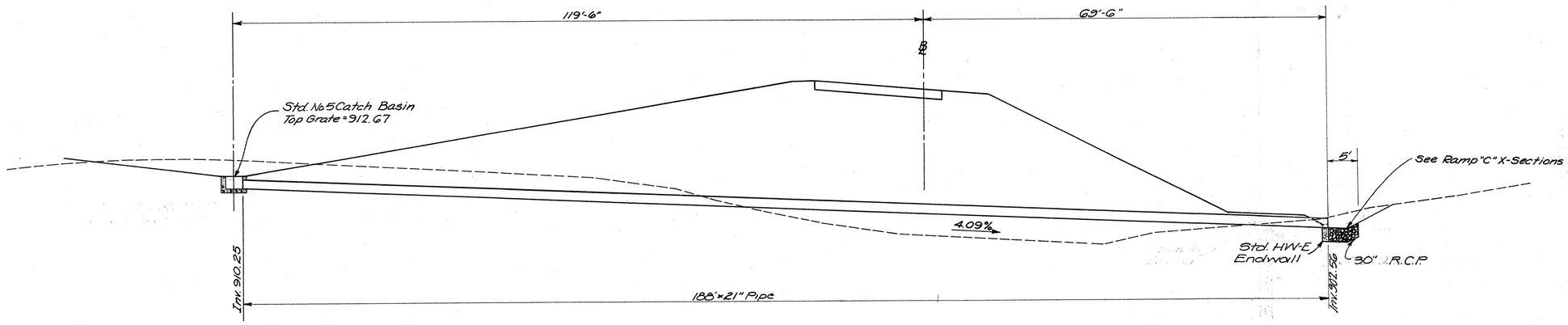
PLAN

Scale 1"=10'

ESTIMATED QUANTITIES

203	Excavation	2 C.Y.
602	Concrete Masonry	04 C.Y.
603	21" Conduit Type "A" 706.02 Class IV	188 L.F.
604	Catch Basin, Std. No. 5	1 Each

DA	30Ac.
Q50	15c.f.s.



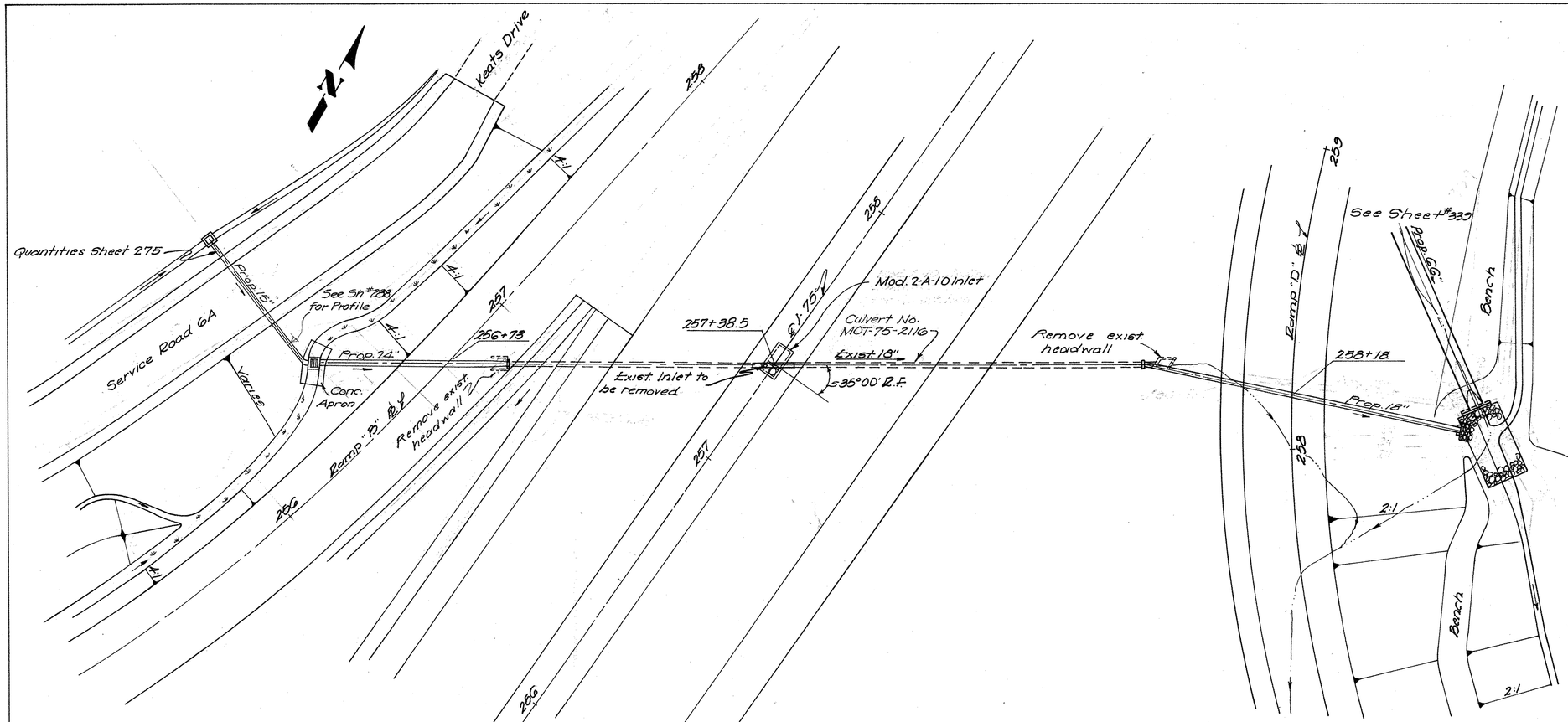
SECTION ALONG ℄ PIPE

PIPE CULVERT STA. 255+88 RAMP "C"

FED. RD. DIVISION	STATE	PROJECT		338
	OHIO			

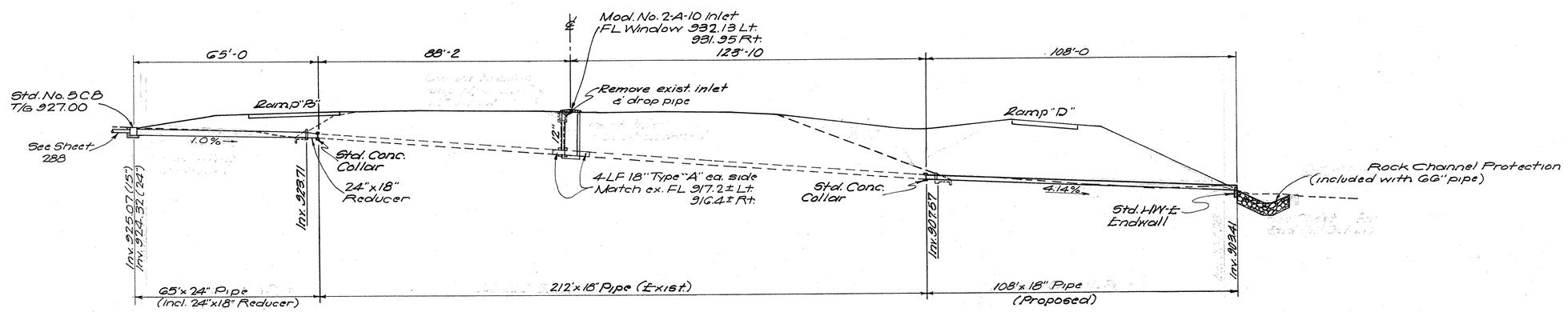
MONTGOMERY COUNTY-MOT-75-17.66

Made By WBS Ckd By WHP 11/68



PLAN

Scale: 1" = 20'



65
108
173

SECTION ON ℄ PIPE

ESTIMATED QUANTITIES

202-Existing Structures Removed	Lump Sum
602-Concrete Masonry	0.6 C.Y.
608-24" Conduit Type "A" 706.02 or 706.08	65 L.F.
18" Conduit Type "A" 706.02 Class V	116 L.F.
660-Sodding	45 Y.
202-Pipe Removed 24" and under	8 Lin. Ft.
202-Inlets Removed	1 Each
604-Mod. 2-A-10 Inlet as per plan	1 Each

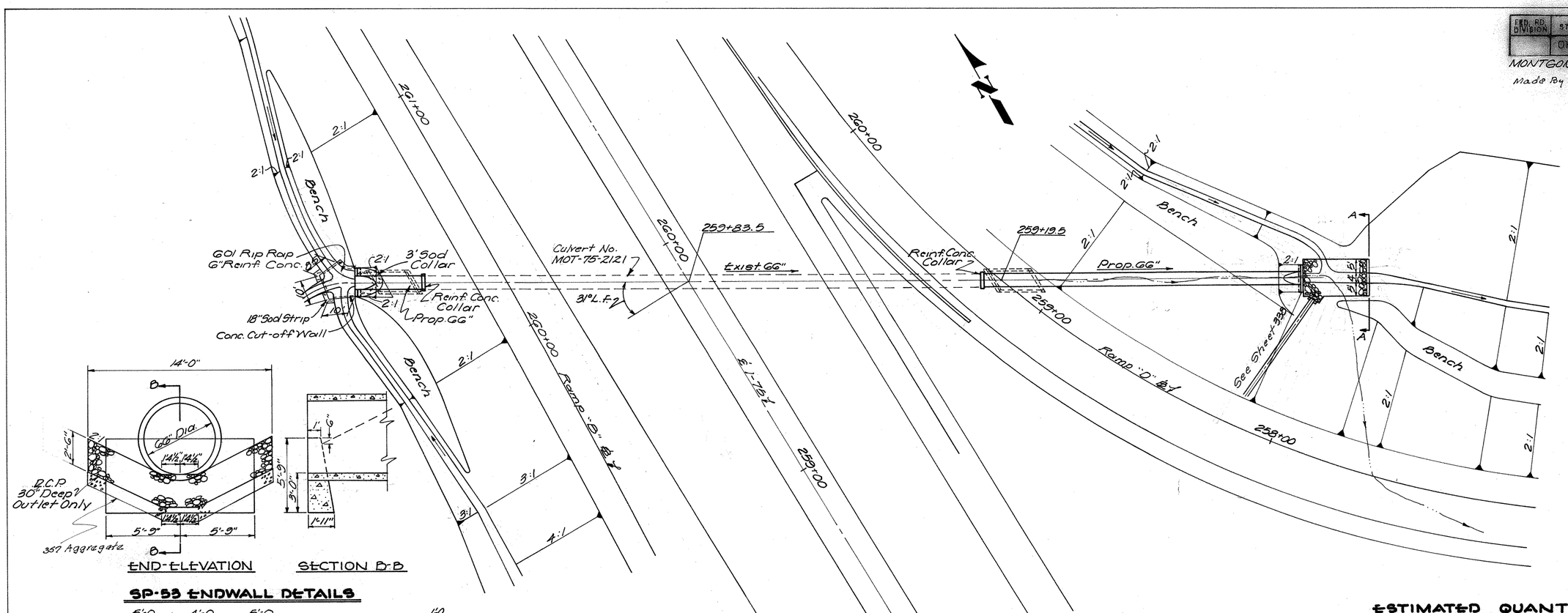
D.A.	4 Ac.
Q25	18 c.f.s

PIPE CULVERT STA. 256+73 RAMP "B"
PIPE CULVERT STA. 257+38.5 I-75
PIPE CULVERT STA. 258+18 RAMP "D"

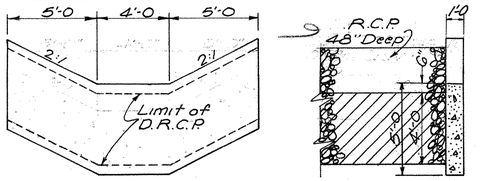
FED. RD. DIVISION	STATE	PROJECT		339
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66

Made By W.B.S Chkd By W.H.P 11/68



SP-53 ENDWALL DETAILS



PLAN

Scale: 1"=20'

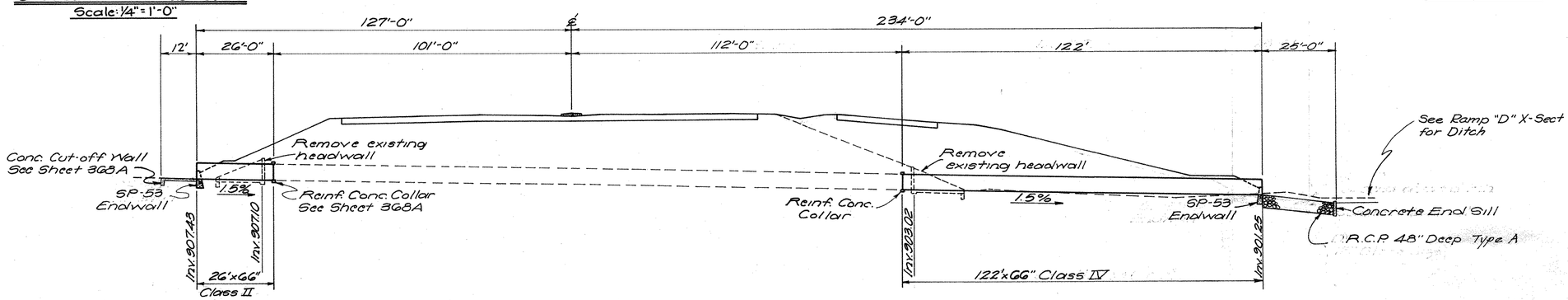
ESTIMATED QUANTITIES

202	Pipe Removed over 24"	8 Lin.Ft.
601	Rock Channel Protection Type A	583 C.Y.
601	Rip Rap using 6" Reinf. Conc.	16 S.Y.
602	Concrete Masonry	8.2 C.Y.
603	66"Conduit Type "A" 706.02 Class II	122 L.F.
	66"Conduit Type "A" 706.02	26 L.F.
660	Sodding	11 S.Y.

D.A.	137Ac.
Q50	234c.f.s.

CONCRETE END SILL

Scale: 1/4" = 1'-0"



SECTION ON ℄ PIPE

PIPE CULVERT STA. 259+19.5 RAMP "D"

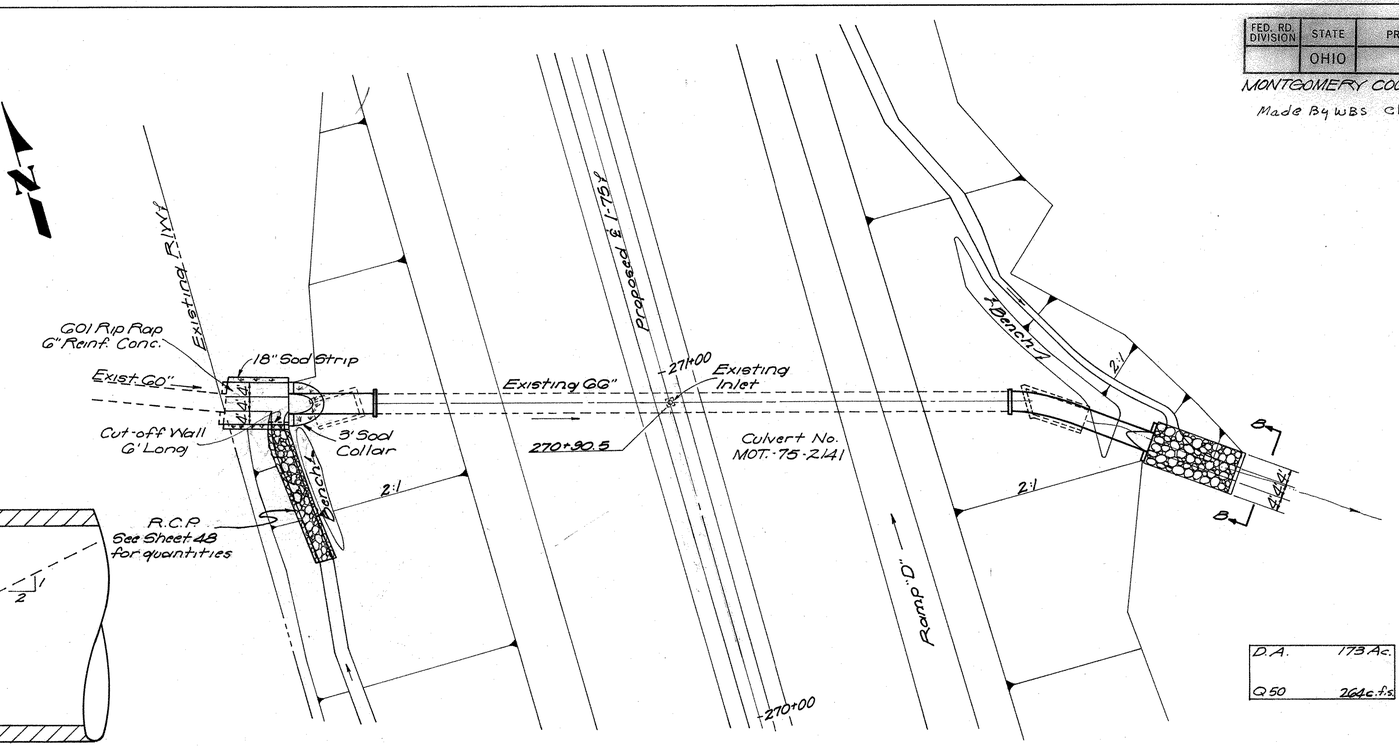
& PIPE CULVERT STA. 259+83.5 I-75

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

340

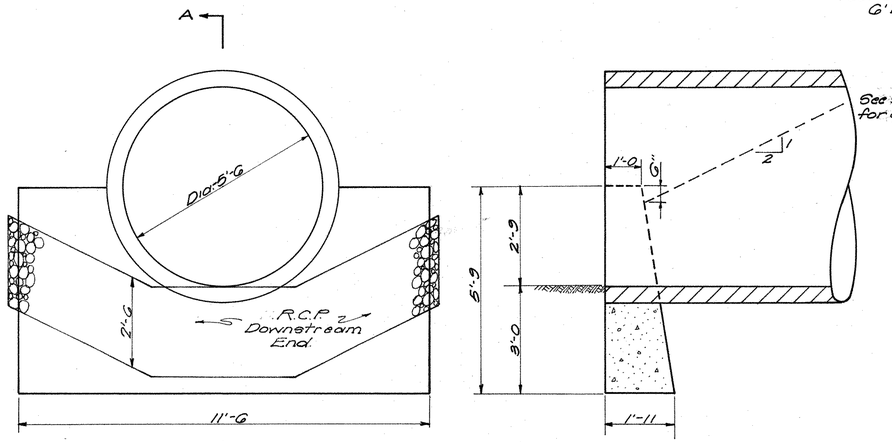
MONTGOMERY COUNTY-MOT.-75-17.66

Made By WBS Chkd By WHP 11/68



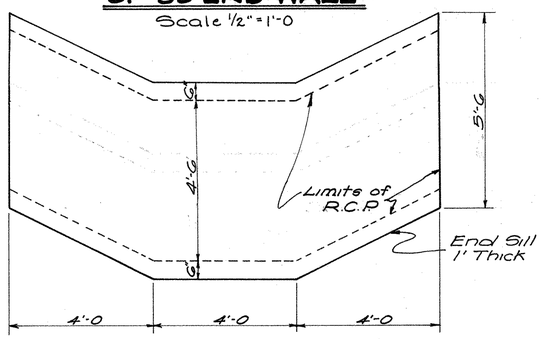
PLAN

Scale 1"=20'



SP-53 END WALL

Scale 1/2"=1'-0

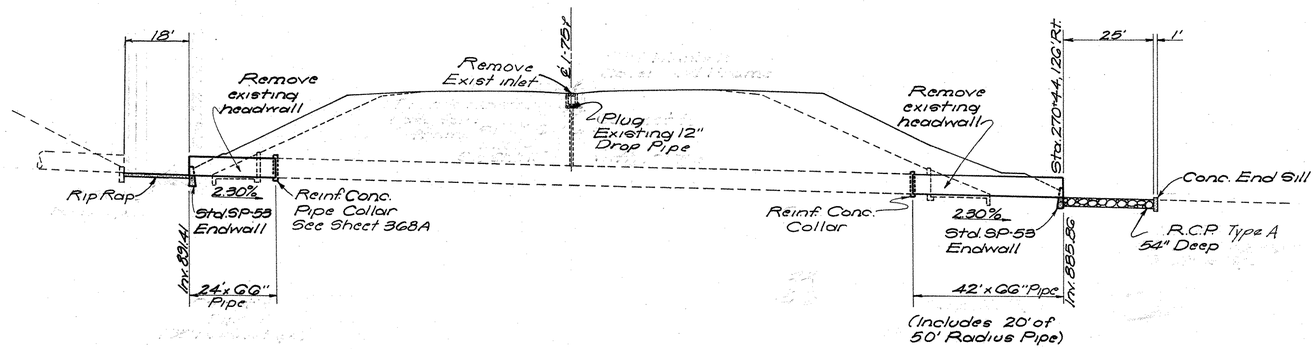


SECTION B-B
CONCRETE END SILL

SECTION A-A

ESTIMATED QUANTITIES

203	Excavation	1 Cu.Yd.
601	Rock Channel Protection Type A	556 Cu.Yds.
601	Rip Rap Using 6" Reinf. Concrete	24 Sq.Yds
602	Concrete Masonry	80 Cu.Yds.
609	66" Conduit, Type "A" 706.02, 50' Radius with Class "B" Bedding	20 Lin. Ft.
603	66" Conduit, Type "A" 706.02 with Class "B" Bedding	46 Lin. Ft.
660	Sodding	1/ Sq. Yds.
202	Pipe Removed over 24"	8 Lin. Ft.
202	Inlets Removed	1 Each

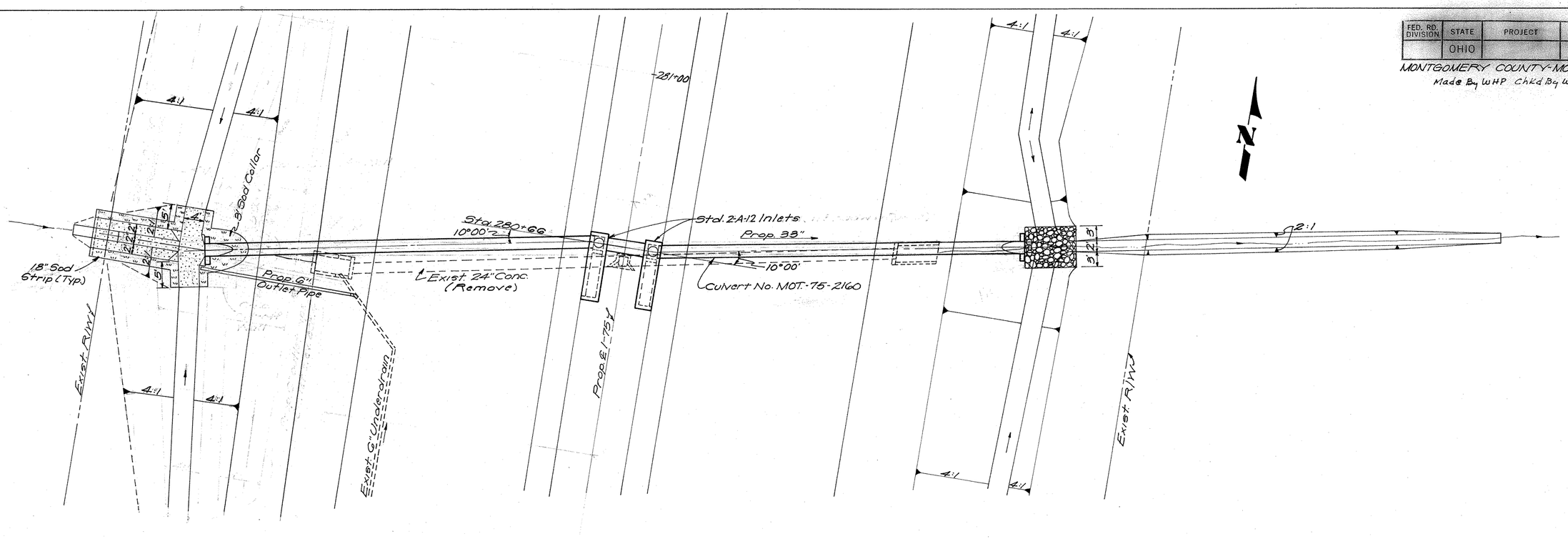


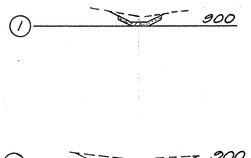
SECTION ALONG ℄ PIPE

PIPE CULVERT STA. 270+90.5

FED. RD. DIVISION	STATE	PROJECT		341
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66
Made By WHP Chkd By WBS 11/68

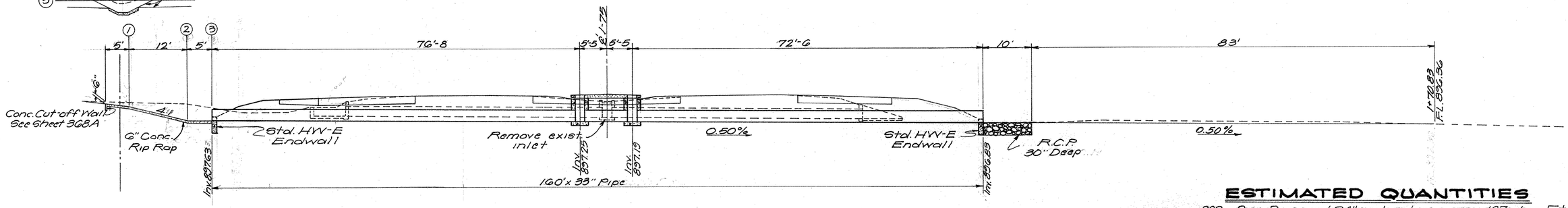




EXCAVATION			
Section	Area-ft.²	Dist.	Vol.-ft.³
	0		
1	2.5	9	11
2	30	12	195
3	20	5	25

331 x 1/27 = 12.2 C.Y.

PLAN
Scale 1" = 10'



SECTION ALONG ℄ PIPE

DA	8.5 Ac.
Q50	38 c.f.s.

ESTIMATED QUANTITIES

202	Pipe Removed 24" and under	107 Lin. Ft.
202	Inlets Removed	1 Each
203	Excavation	15 Cu. Yds.
204	Std. 2-12 Inlets	2 Each
G01	Rip Rap using 6" Reinf. Conc.	19 Sq. Yds.
G01	Type B - Rock Channel Protection	8.9 Cu. Yds.
G02	Concrete Masonry	1.1 Cu. Yds.
G03	33" Conduit, Type "A" 706.02 or 706.08 with Class "B" Bedding	160 Lin. Ft.
G60	Sodding	13 Sq. Yds.

PIPE CULVERT STA. 280+66

FED. ROAD DIVISION	STATE	PROJECT	
	OHIO		

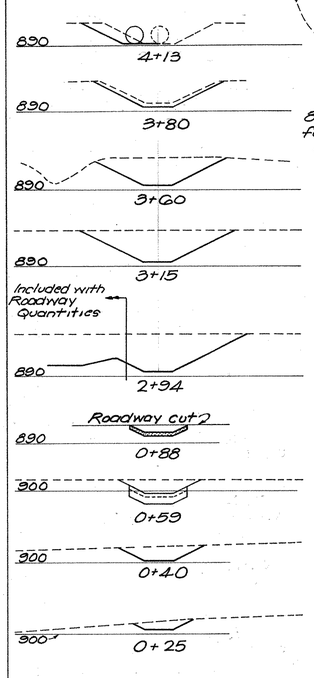
342

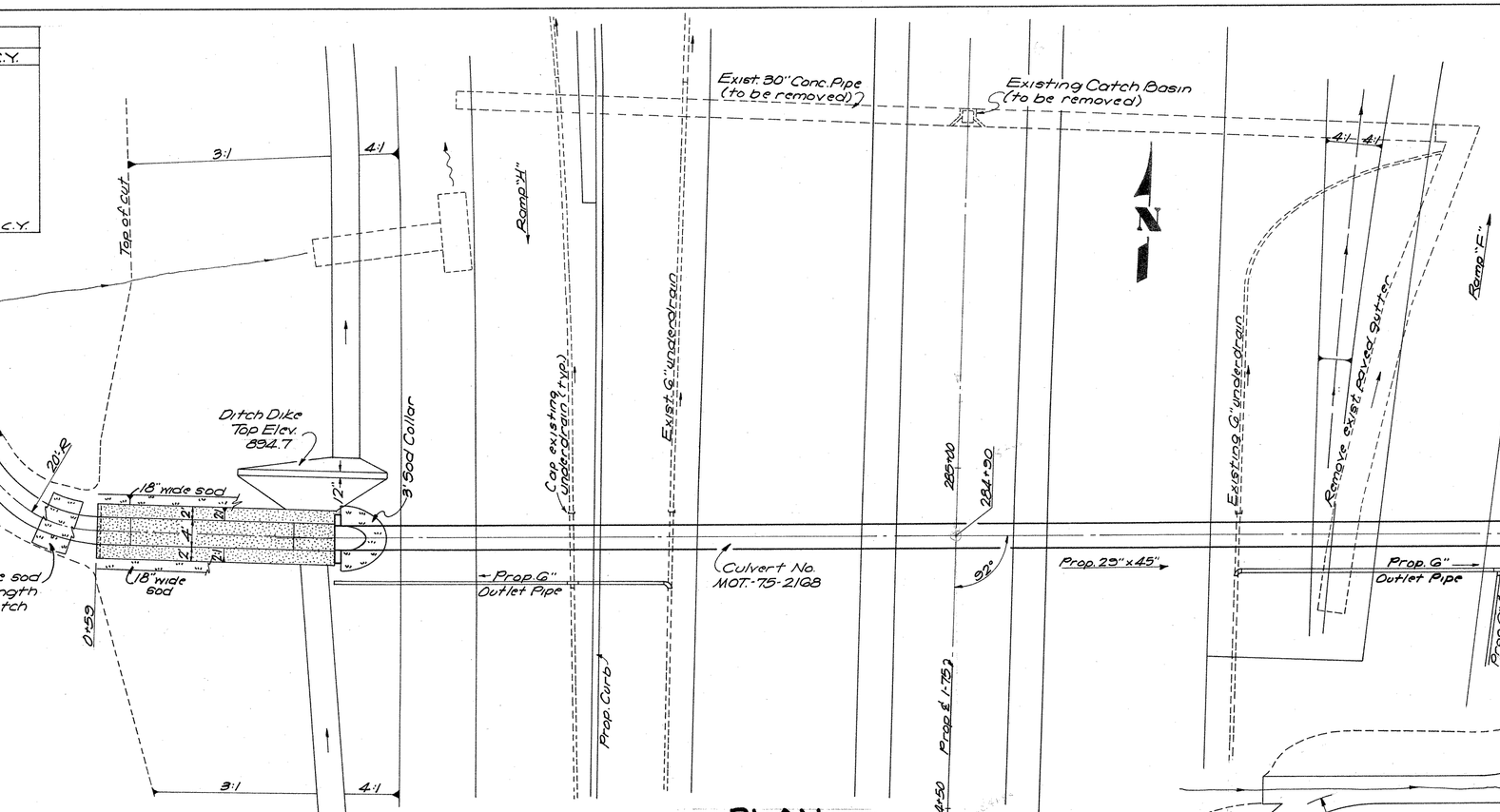
MONTGOMERY COUNTY- MOT-75-17.66

Made By WBS Chkd By WHP 10/68

EXCAVATION

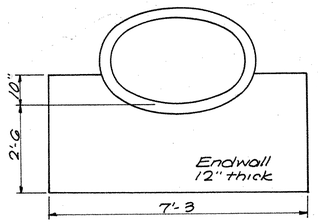
Sta.	End Area	Distance	Vol.- C.Y.
0+00	0	25	10
0+25	7	15	6
0+40	15	19	11
0+59	15	29	23
0+88	6		
2+94	51	21	41
3+15	54	45	83
3+60	46	20	20
3+80	9	33	21
4+13	8		
		Total	215 C.Y.





PLAN

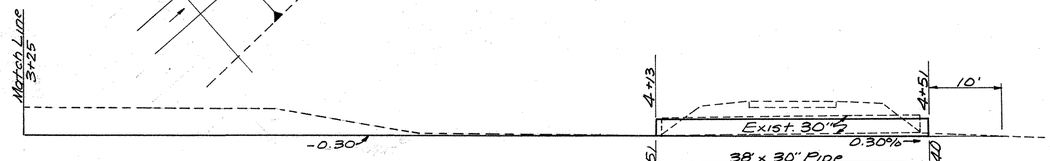
Scale 1"=10'

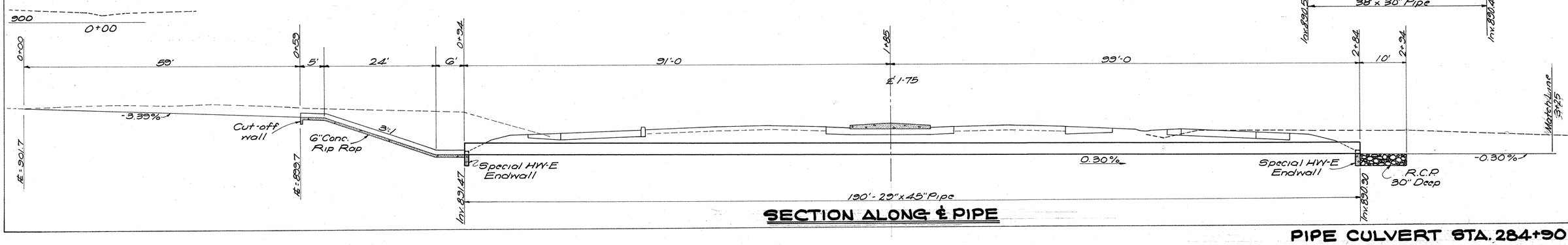


HW-E ENDWALL

ESTIMATED QUANTITIES

203	Excavation	215 Cu. Yds.
601	Type B Rock Channel Protection	8.9 Cu. Yds.
602	Concrete Masonry	1.5 Cu. Yds.
603	29"x45" Conduit, Type "A" 706.04 Class HE II	190 Lin. Ft.
603	30" Conduit, Type "D"	38 Lin. Ft.
601	Rip Rap using 6" Reinf. Conc.	32 Sq. Yds.
660	Sodding	68 Sq. Yds.





SECTION ALONG £ PIPE

PIPE CULVERT STA. 284+90

FED. RD. DIVISION	STATE	PROJECT		343
	OHIO			

MONTGOMERY COUNTY- MOT-75-17.66

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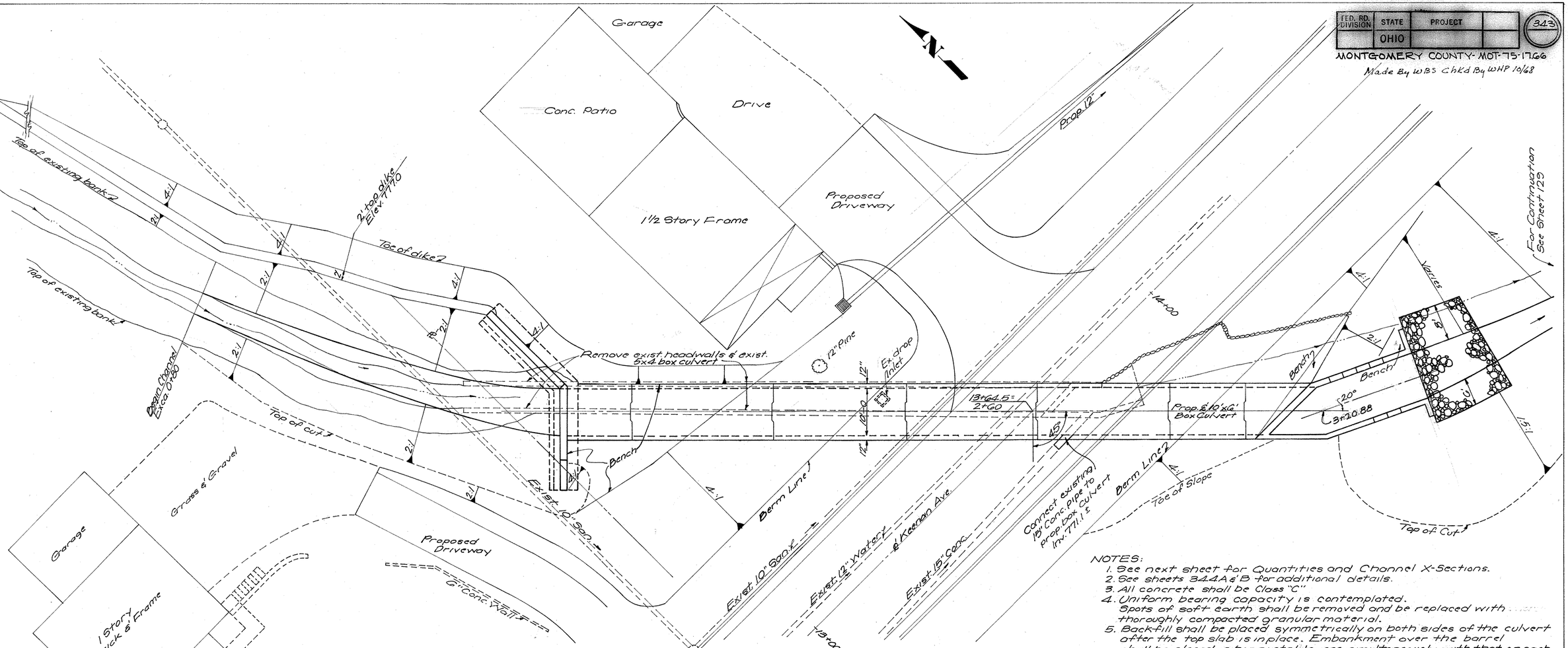
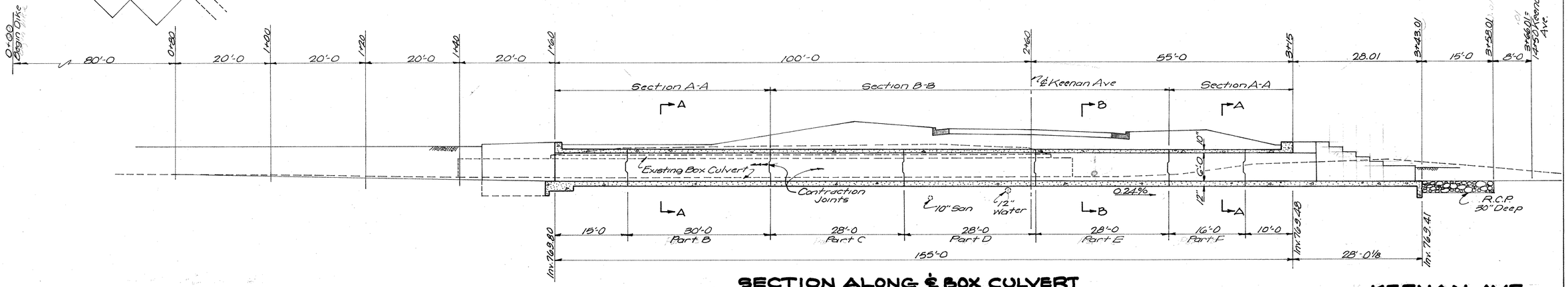


NOTES:

1. See next sheet for Quantities and Channel X-Sections.
2. See sheets 344A & B for additional details.
3. All concrete shall be Class "C".
4. Uniform bearing capacity is contemplated. Spots of soft earth shall be removed and be replaced with thoroughly compacted granular material.
5. Back-fill shall be placed symmetrically on both sides of the culvert after the top slab is in place. Embankment over the barrel shall be placed in horizontal layers simultaneously with that on each side of culvert.

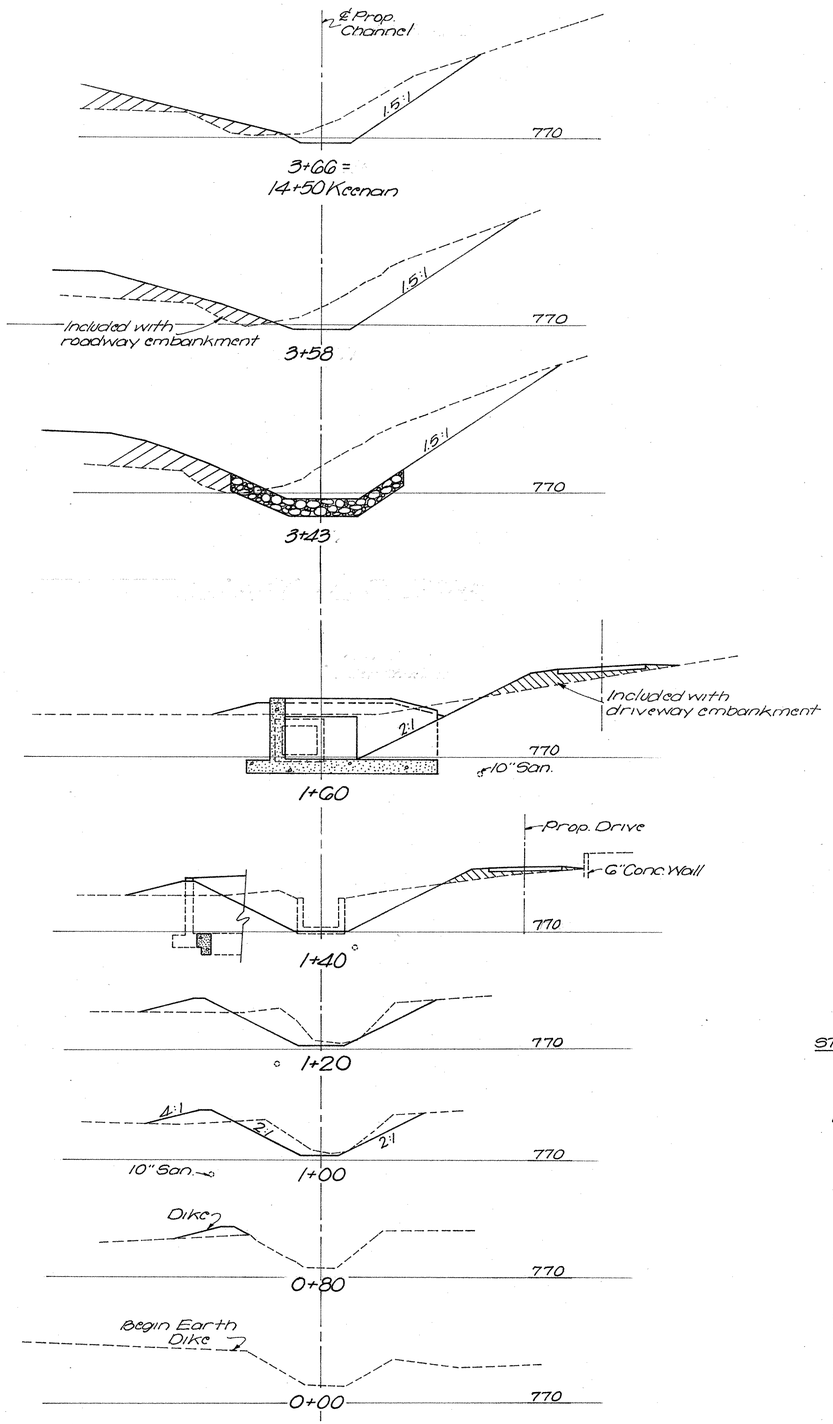
PLAN



SECTION ALONG ℄ BOX CULVERT

KEENAN AVE.

BOX CULVERT STA. 13+64.5



CHANNEL X-SECTIONS

REINFORCING STEEL SCHEDULE

MARK	NO.	LENGTH	TYPE	WEIGHT
Part A				
B703	3	12'-0	Bt.	74
B704	3	12'-1	↑	74
B705	4	12'-3		100
B706	3	12'-4		76
B707	3	12'-6		77
B708	3	12'-7		77
B709	1	11'-10		24
B710	1	11'-6	↓	24
B711	1	11'-1	Bt.	23
BG01	14	18'-2	Bt.	382
BG02	13	11'-6	St.	225
TG01	14	13'-9	Bt.	289
TG02	14	11'-6	St.	242
TG03	2	12'-8	Bt.	38
B501	12	4'-0	Bt.	50
B502	15	4'-0	↑	63
B503	2	9'-3		20
B504	1	9'-10		10
B505	2	10'-0		21
B506	1	10'-1		11
B507	2	10'-3		21
B508	2	10'-4		22
B509	1	9'-7	↓	10
B510	1	8'-10	Bt.	9
B511	6	22'-6	St.	141
B512	6	21'-4	St.	134
B513	6	3'-2	Bt.	20
T501	54	7'-4	Bt.	413
T502	12	6'-3	St.	78
T506	8	5'-2	Bt.	43
T507	8	3'-9	Bt.	31
T510	15	16'-7	St.	259
T511	15	14'-2	St.	222
T512	4	14'-10	Bt.	62
T513	4	15'-9	Bt.	66
T514	4	16'-8	Bt.	70
T515	4	15'-9	Bt.	66
T516	10	2'-8	Bt.	28
T517	10	21'-8	St.	226
T518	10	11'-0	St.	115
T519	2	23'-4	Bt.	49
T520	2	21'-4	Bt.	45
B401	13	16'-11	Bt.	147
T401	13	11'-6	St.	100
Part B				
BG01	30	18'-2	Bt.	819
BG02	29	11'-6	St.	501
TG01	30	13'-10	Bt.	623
TG02	29	11'-6	St.	501
B501	24	4'-0	Bt.	100
T501	118	7'-4	Bt.	903
T502	24	6'-3	St.	156
T504	46	2.9'-8	St.	1423
T506	8	5'-2	Bt.	43
T507	8	3'-9	Bt.	31
T508	4	6'-2	Bt.	26
T509	4	5'-0	Bt.	21
B401	29	16'-11	Bt.	328
T401	29	11'-6	St.	223
Parts C, D & E				
B701	87	18'-1	Bt.	3216
B702	87	11'-6	St.	2045
TG01	87	13'-10	Bt.	1808
TG02	87	11'-6	St.	1503
B501	72	4'-0	Bt.	300
T501	348	7'-4	Bt.	2662
T502	72	6'-3	St.	469
T503	138	27'-8	St.	3982
T506	24	5'-2	Bt.	129
T507	24	3'-9	Bt.	94
T508	12	6'-2	Bt.	77
T509	12	5'-0	Bt.	63
B401	87	16'-11	Bt.	983
T401	87	11'-6	St.	668
Part F				
BG01	16	18'-2	Bt.	437
BG02	15	11'-6	St.	259
TG01	16	13'-10	Bt.	332
TG02	15	11'-6	St.	259
B501	14	4'-6	Bt.	58
T501	62	7'-4	Bt.	474
T502	14	6'-3	St.	91
T505	46	15'-8	St.	752
T506	8	5'-2	Bt.	43
T507	8	3'-9	Bt.	31
T508	4	6'-2	Bt.	26
T509	4	5'-0	Bt.	21
B401	15	16'-11	Bt.	170
T401	15	11'-6	St.	115
Part G				
T701	3	18'-2	Bt.	111
BG01	36	18'-2	Bt.	982
BG02	36	11'-6	St.	622
BG03	1	10'-6	St.	16
BG04	1	13'-6	Bt.	20
BG05	6	7'-3	St.	65
BG06	6	10'-3	Bt.	92
TG02	10	11'-6	St.	173
TG04	10	13'-4	Bt.	200
TG05-20	16	Varies*	St.	160
TG21-36	16	Varies#	St.	156
B501	40	4'-0	Bt.	167
B514	12	3'-9	Bt.	47
B515	3	19'-4	St.	60
B516	10	6'-5	St.	67
T501	39	7'-4	Bt.	298
T502	10	6'-3	St.	65
T508	4	6'-2	Bt.	26
T509	4	5'-0	Bt.	21
T521	6	18'-2	Bt.	114
T522	6	18'-4	Bt.	115
T523	6	16'-3	Bt.	102
T524	6	16'-5	Bt.	103
T525	11	18'-0	St.	207
T526	11	24'-0	St.	275
T527	6	22'-8	St.	142
T528	1	14'-10	Bt.	15
T529	1	15'-8	Bt.	16
T530	4	16'-7	St.	69
T531	2	13'-7	↑	28
T532	2	10'-7		22
T533	51	8'-1		430
T534	10	7'-9		81
T535	6	6'-5		40
T536	2	6'-1		13
T537	6	4'-8		29
T538	2	4'-4		9
T539	24	3'-0	↓	75
T540	6	2'-8	St.	17
T541	3	5'-10	Bt.	18
T542	3	4'-6	Bt.	14
T543	3	4'-5	Bt.	14
T544	3	4'-10	Bt.	15
	See sheet 344B for additional reinforcing & total weight			

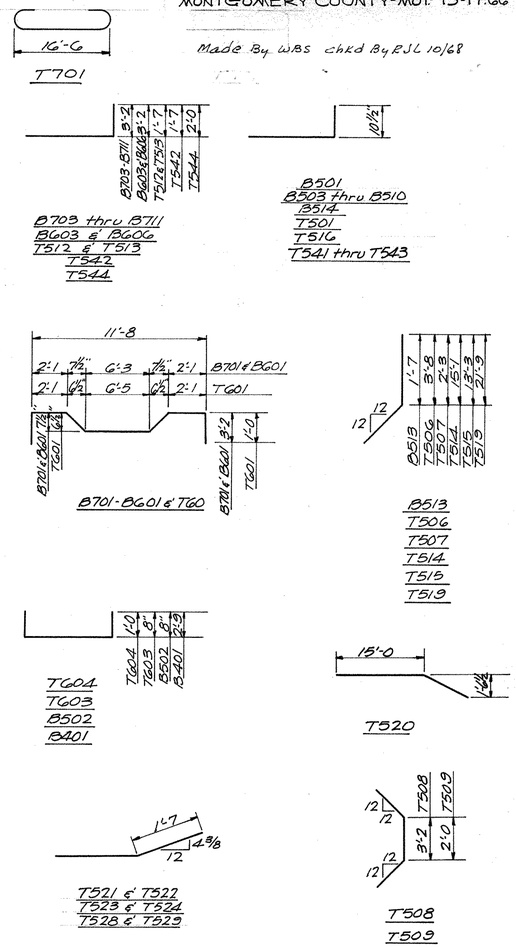
* Varies 10'-5 to 2'-11
\# Varies 10'-3 to 2'-9

CHANNEL EARTHWORK

STATION	LENGTH	END AREA (Sq.Ft.) CUT	END AREA (Sq.Ft.) FILL	VOLUME (Cu.Yds.) CUT	VOLUME (Cu.Yds.) FILL
0+00		0	0		
	80'			0	10
0+80		0	7		
	20'			12	7
1+00		32	12		
	20'			25	10
1+20		38	16		
	20'			36	14
1+40		60	21		
	20'			50	11
1+60		74	8		
3+20		0	0		
	23'			69	0
3+43		161	0		
	15'			70	0
3+58		91	0		
	8'			23	0
3+66		65	0		
TOTAL				284	52

ESTIMATED QUANTITIES

ITEM	DESCRIPTION	UNITS
202	Existing Structures Removed	Lump Sum
203	Excavation not including embankment-Construction	284 Cu.Yds.
203	Embankment	52 Cu.Yds.
503	Unclassified excavation	589 Cu.Yds.
509	Reinforcing steel	37,276 Lbs.
511	Class "C" concrete	268 Cu.Yds.
G01	Rock Channel Protection Type B	418 Cu.Yds.
G03	15" Conduit Type "B"	4 Lin.Ft.

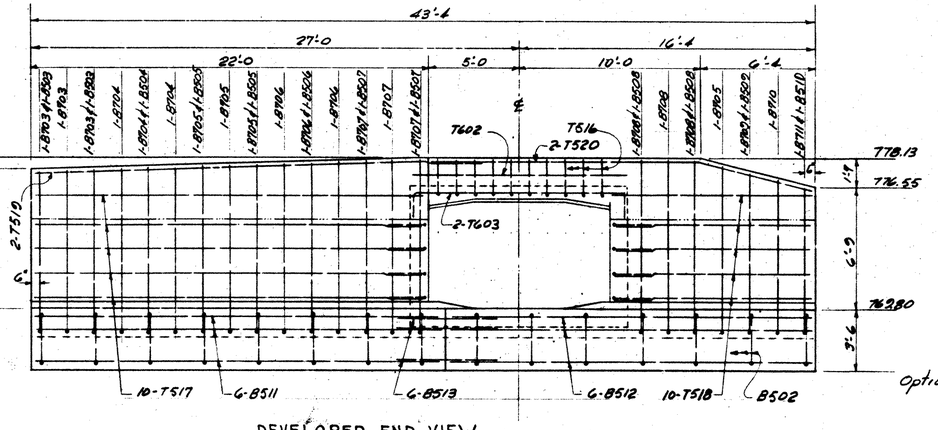


BOX CULVERT DETAILS

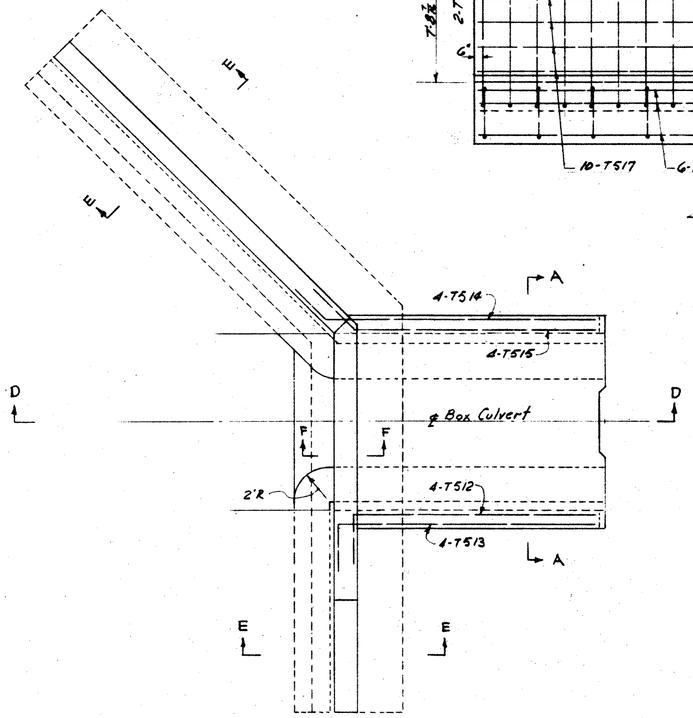
FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

MONTGOMERY COUNTY-MOT-75-17.66

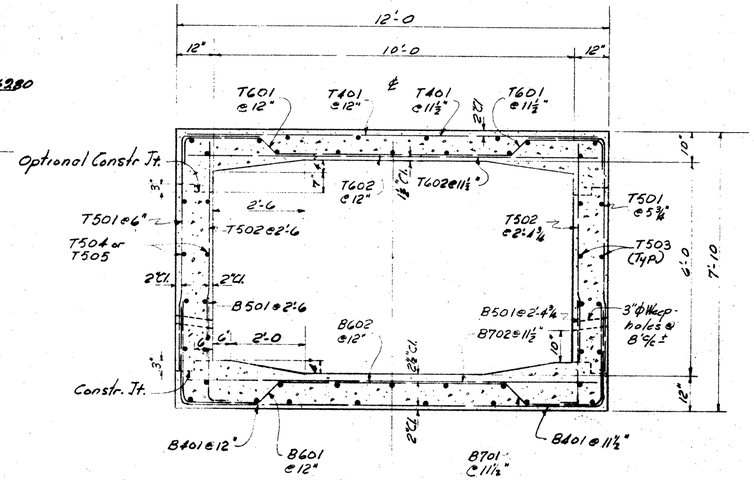
Made By WBS Chkd By RJL 10/68



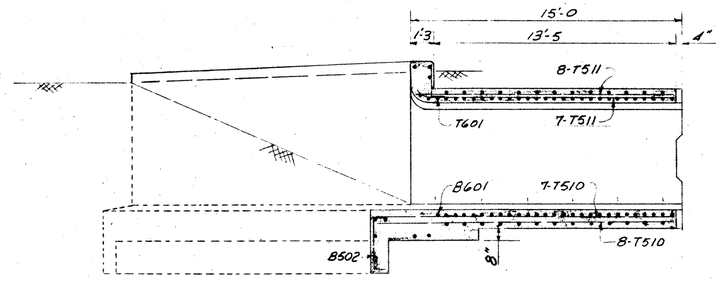
DEVELOPED END VIEW



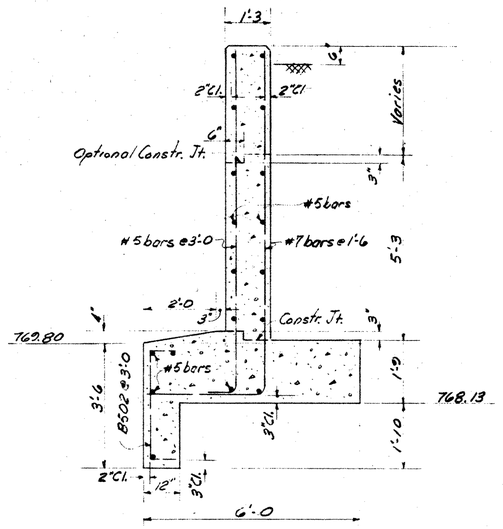
PLAN - PART A



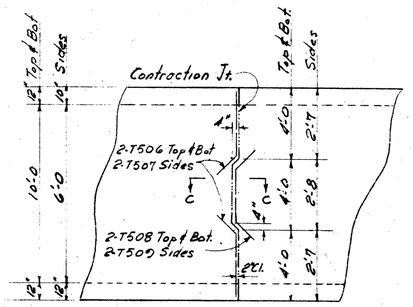
HALF SECTION A-A HALF SECTION B-B



SECTION D-D

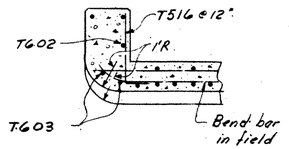


SECTION E-E



CONTRACTION JOINT DETAIL

SECTION C-C



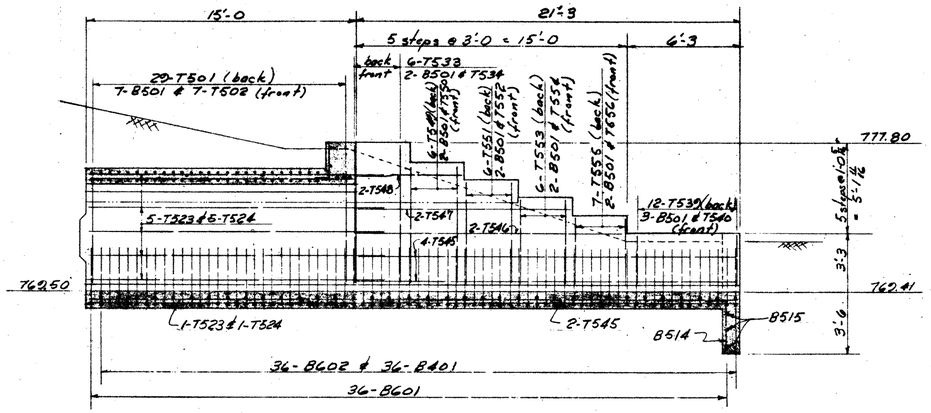
SECTION F-F

BOX CULVERT DETAILS

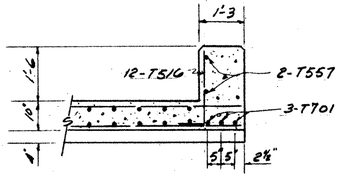
FED. RD. DIVISION	STATE	PROJECT		345
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66

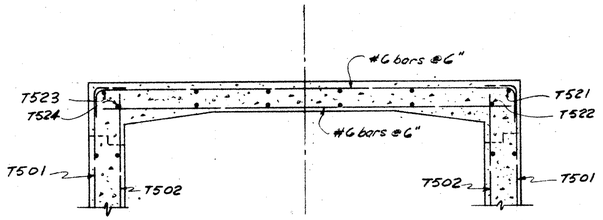
Made By WBS Chkd By RJL 10/68



SECTION G-G

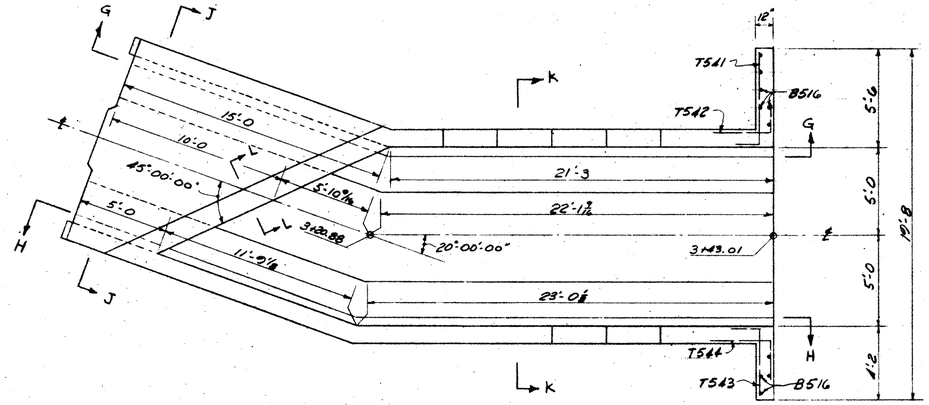


SECTION L-L

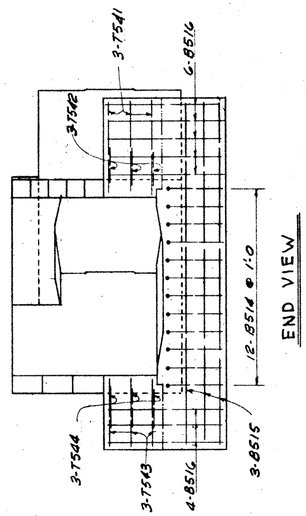


SECTION J-J

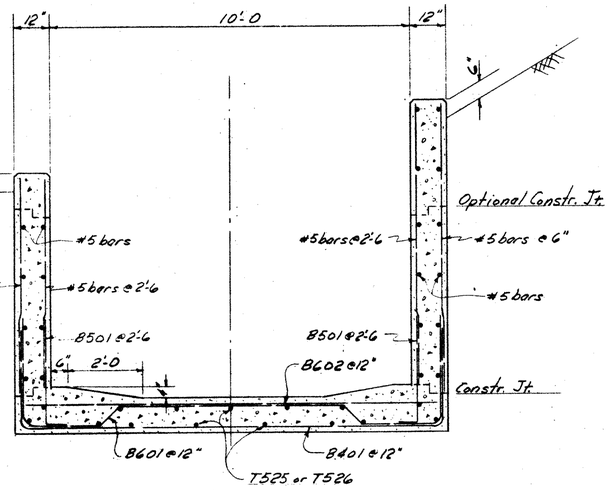
(See Section A-A for additional details)



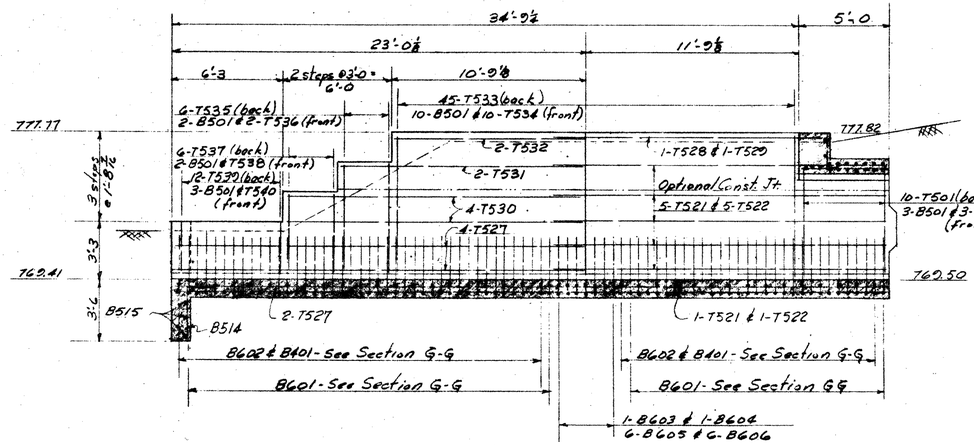
PLAN - PART G



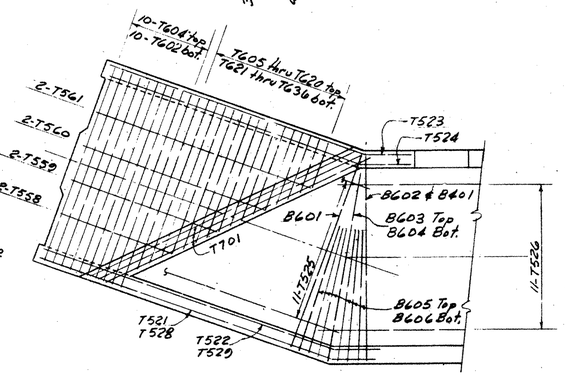
END VIEW



SECTION K-K



SECTION H-H



PART PLAN

(Showing reinforcing steel)

REPLACEMENT BARS

R401 - 1 bar G'-3 long
R501 - 1 bar G'-7 long
R601 - 1 bar G'-11 long
R701 - 1 bar 7'-3 long

REINFORCING STEEL SCHEDULE

MARK	NO.	LENGTH	TYPE	WEIGHT	MARK	NO.	LENGTH	TYPE	WEIGHT
T545	6	20'-11	St.	131	T555	7	4'-0	St.	29
T546	2	12'-8	↓	13	T556	2	3'-8	↑	8
T547	2	11'-8		24	T557	3	16'-6		52
T548	2	5'-8		12	T558	2	6'-8		14
T549	6	7'-1		44	T559	2	8'-8		18
T550	2	6'-9		14	T560	2	10'-8	↓	22
T551	6	6'-0		38	T561	2	12'-8	St.	26
T552	2	5'-8		12	B401	36	16'-11	Bt.	407
T553	6	5'-0	↓	31					
T554	2	4'-8	St.	10	Total Weight				3727G

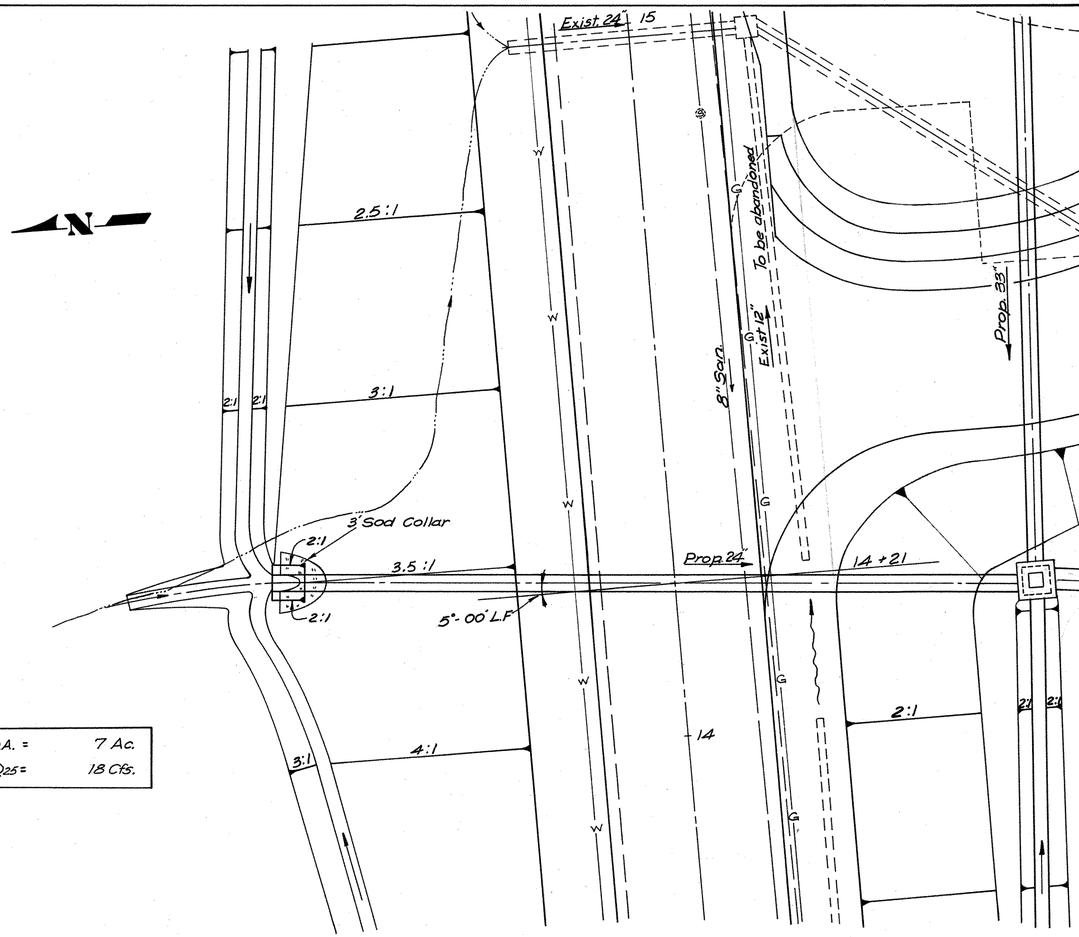
BOX CULVERT DETAILS

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

346

MONTGOMERY COUNTY-MOT-75-17.66

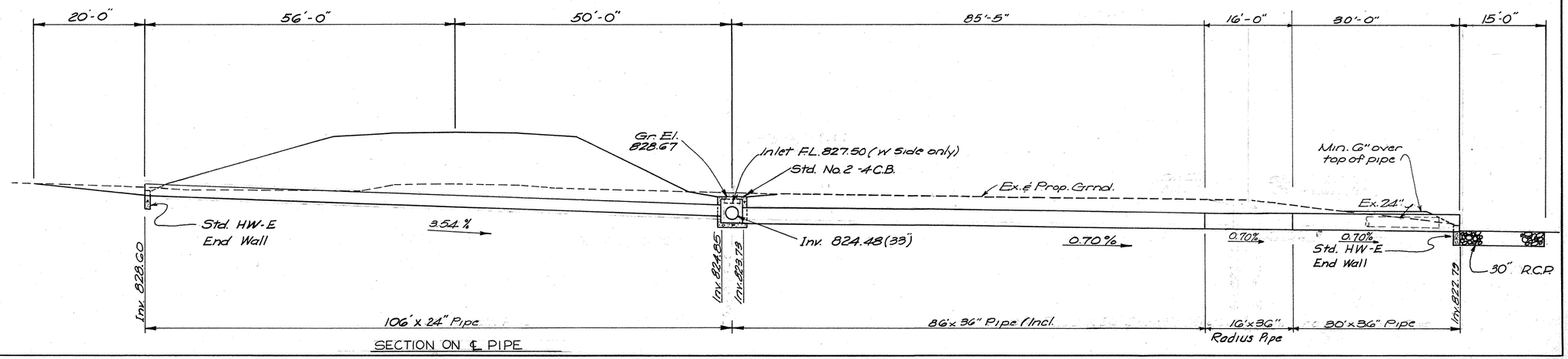
Made By H.S. Chkd By WHP 11/68



PLAN
Scale 1" = 10'

ESTIMATED QUANTITIES

203	Excavation	3 C.Y.
601	Rock Channel Protection Type B	10 C.Y.
602	Concrete Masonry	1.1 C.Y.
603	24" Conduit Type "A" 706.02 Cl. III or 706.08	106 L.F.
603	36" Conduit Type "A" 706.02 or 706.08, 25' Radius	16 L.F.
603	36" Conduit Type "A" 706.02 or 706.08	116 L.F.
604	Catch Basin, Std. No. 2-4	1 Each
660	Seeding	5 SY



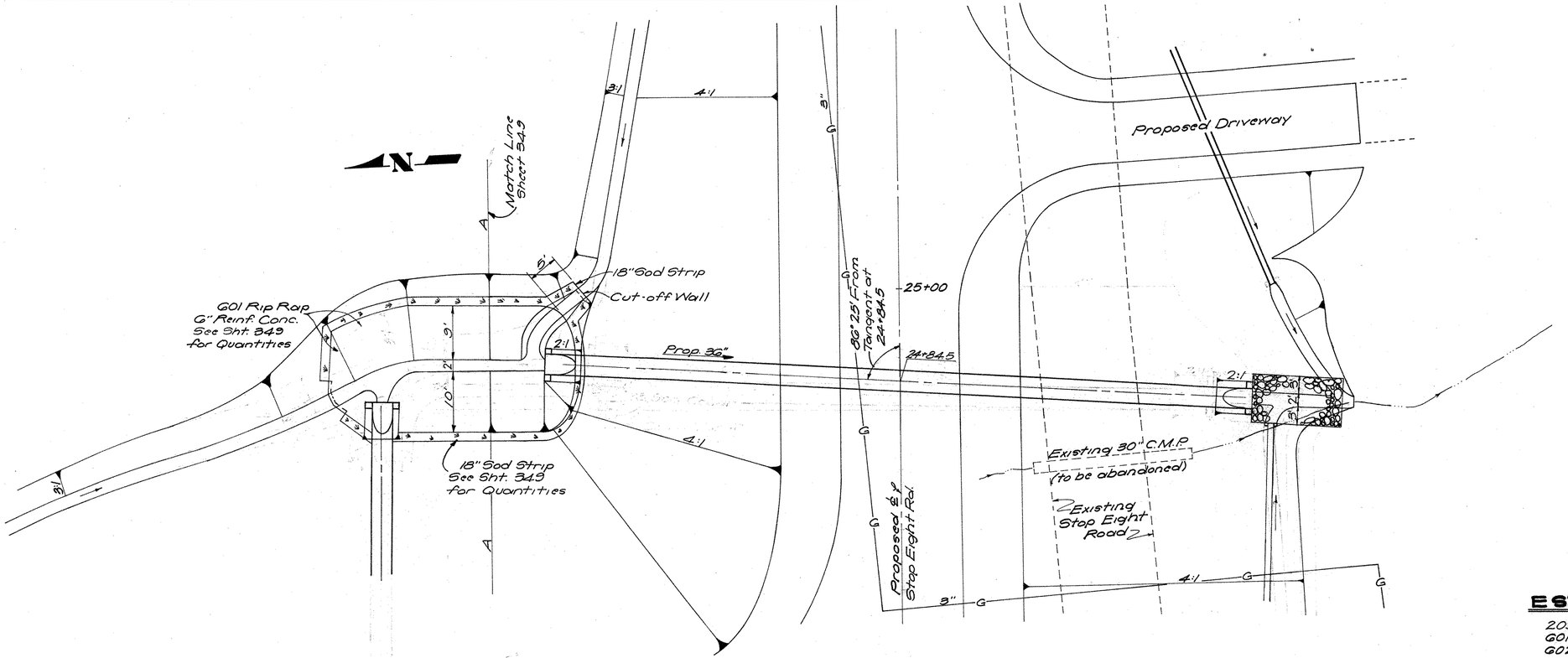
SECTION ON ℄ PIPE

PIPE CULVERT STA. 14+21 TIMBER LN

FED. RD. DIVISION	STATE	PROJECT		347
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66

Made By W.B.S. Chkd By W.H.P. 11/68



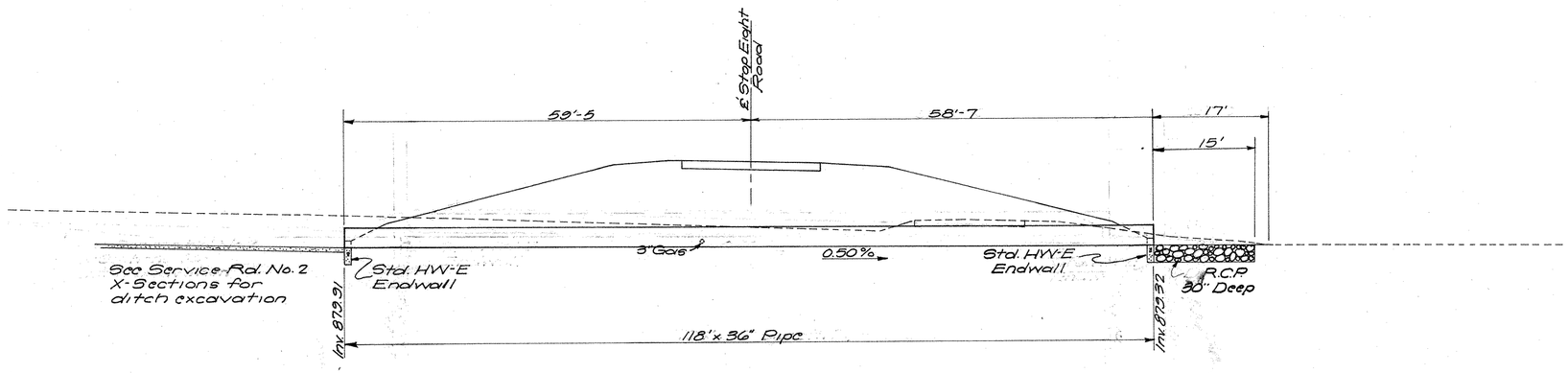
PLAN

Scale 1"=10'

ESTIMATED QUANTITIES

203	Excavation	1 Cu. Yd.
601	Type B Rock Channel Protection	13 Cu. Yds.
602	Concrete Masonry	1.2 Cu. Yds.
603	36" Conduit, Type "A", 706.02 or 706.08 with Class "B" Bedding	118 Lin. Ft.

D.A.	4.2 Ac.
Q25	46 c.f.s.



SECTION ALONG ℄ PIPE

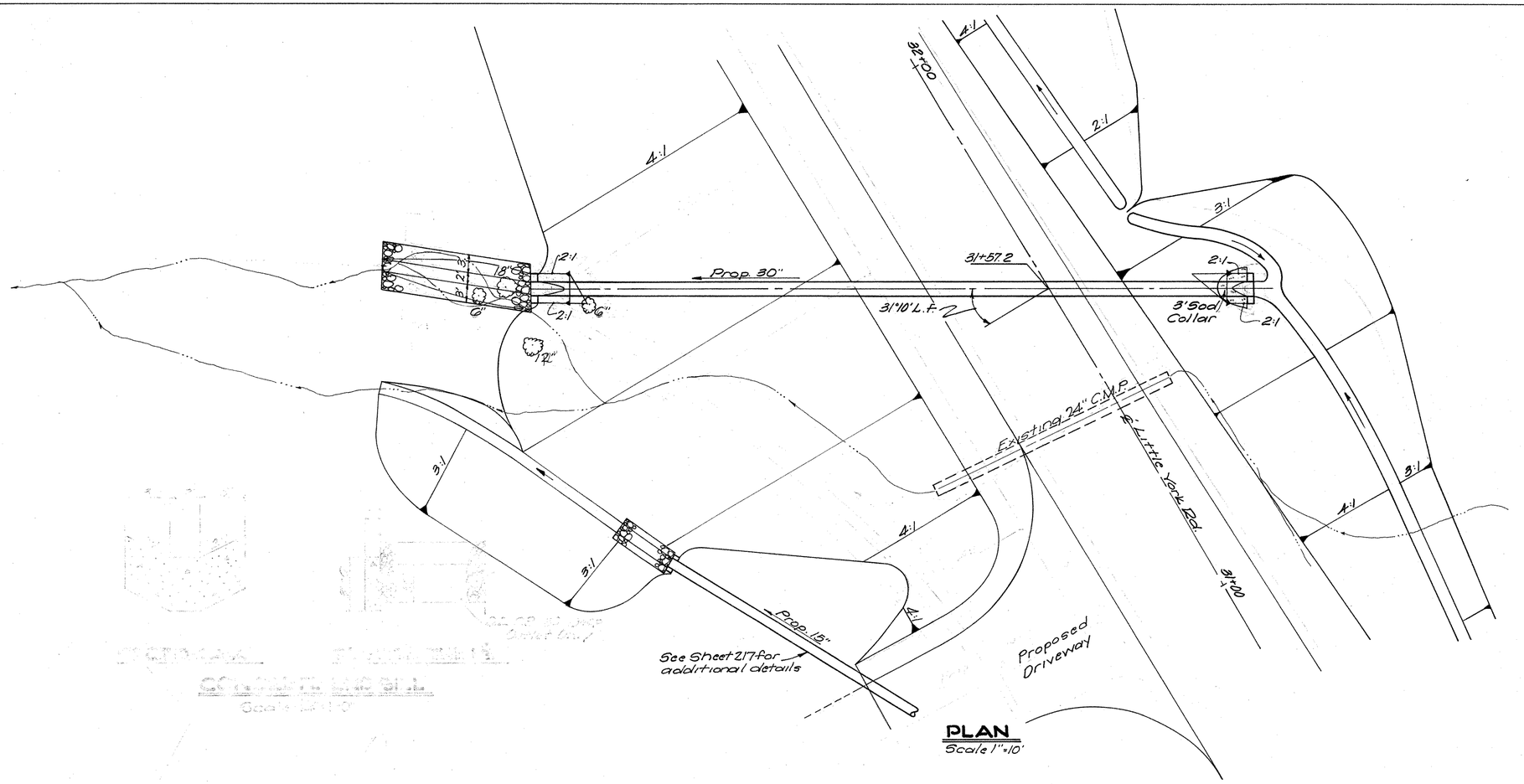
PIPE CULVERT STA. 24+84.5 STOP EIGHT RD

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

348

MONTGOMERY COUNTY-MOT.-75-1766

Made By WBS Chkd. By WHP 11/68



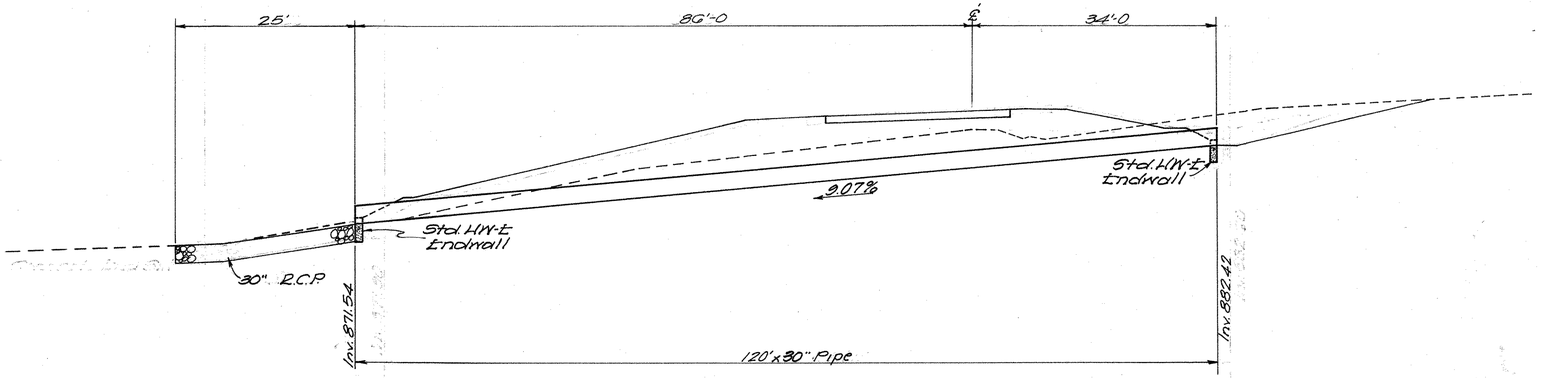
PLAN

Scale 1"=10'

ESTIMATED QUANTITIES

203 - Excavation	2 C.Y.
601 - Rock Channel Protection Type B	22.2 C.Y.
602 - Concrete Masonry	2 C.Y.
608 - 30" Conduit Type "A" 707.05	120 L.F.
660 - Sodding	6 S.Y.

D.A.	3 Ac.
Q25	34 cfs



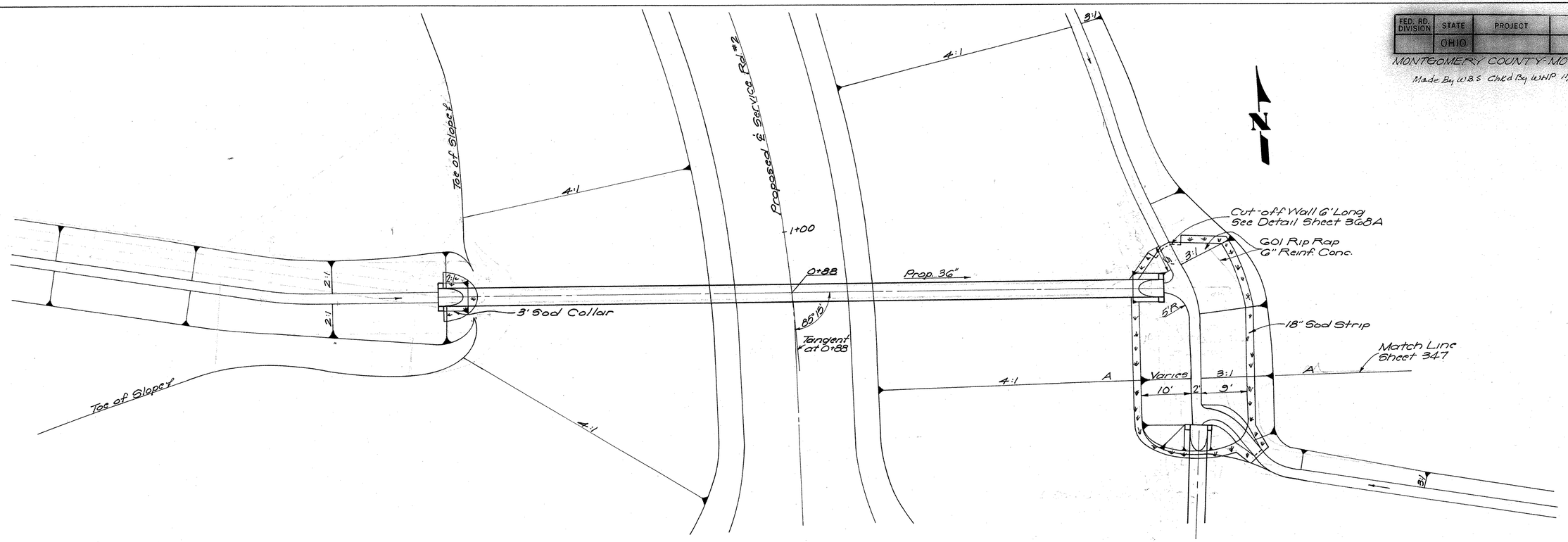
SECTION ON ℄ PIPE

PIPE CULVERT STA. 31+57.2 LITTLE YORK RD.

FED. RD. DIVISION	STATE	PROJECT		349
	OHIO			

MONTGOMERY COUNTY-MOT.-75-17.66

Made By W.B.S. Chkd By W.H.P. 11/68



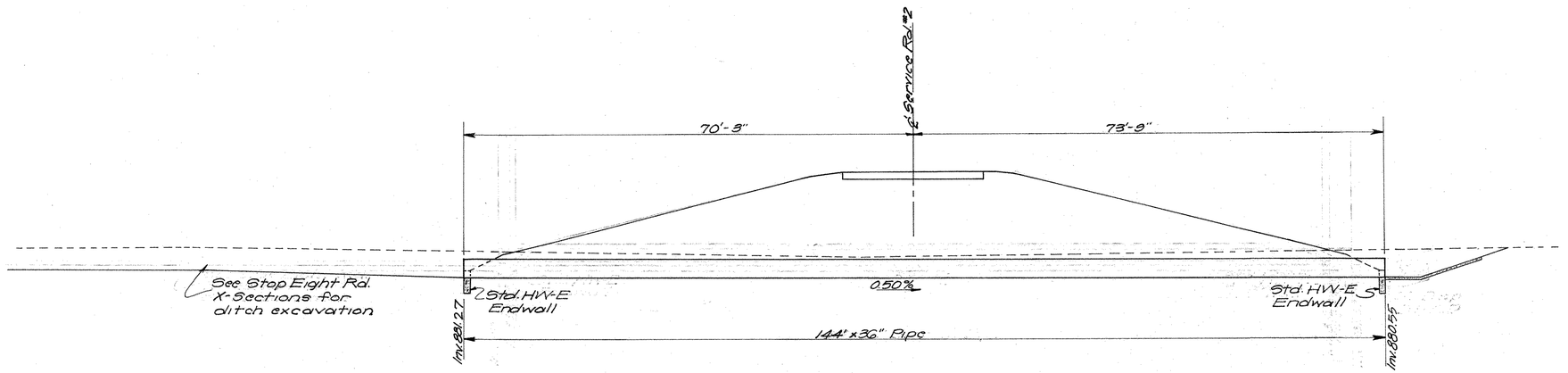
PLAN

Scale 1" = 10'

ESTIMATED QUANTITIES

203	Excavation	1 Cu. Yd.
601	Rip Rap Using 6" Reinf. Conc.	83 Sq. Yds.
602	Concrete Masonry	1.2 Cu. Yd.
603	36" Conduit, Type "A", 706.02 Cl. III or 706.03	144 Lin. Ft.
660	Sodding	23 Sq. Yds.

D.A.	38 Ac.
Q25	42 c.f.s.



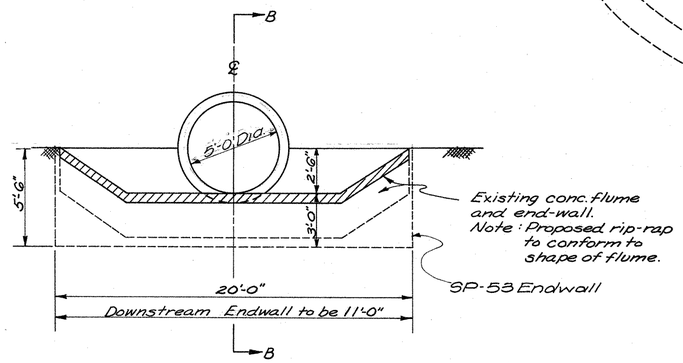
SECTION ALONG ℄ PIPE

PIPE CULVERT STA. 0+88 SERVICE RD. NO.

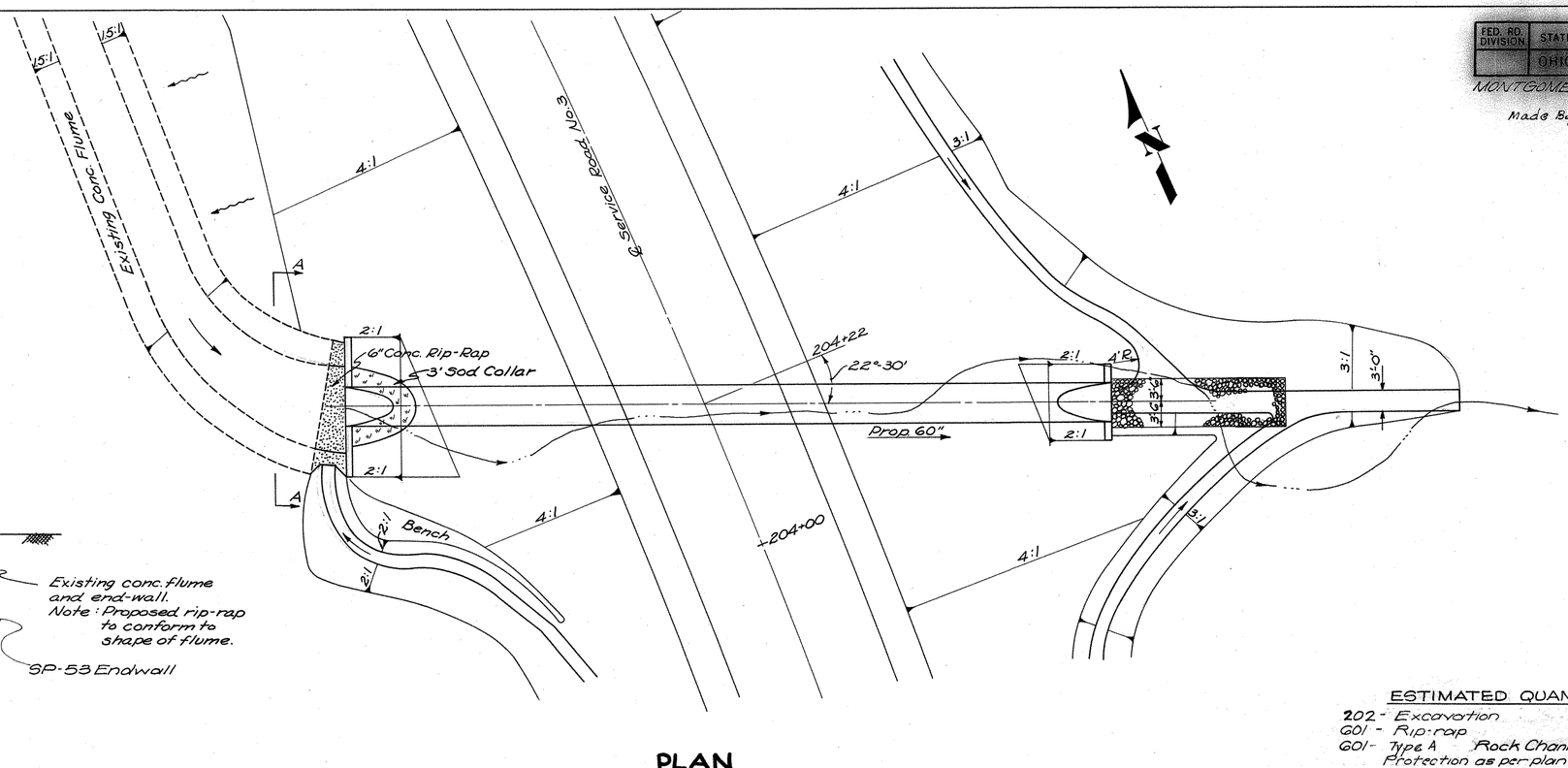
FED. RD. DIVISION	STATE	PROJECT		350
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66

Made By H.S. Chkd By WHP 11/68



SECTION A-A
Scale - ¼"=1'-0"

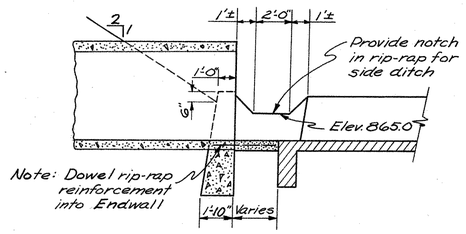


PLAN
Scale - 1"=10'

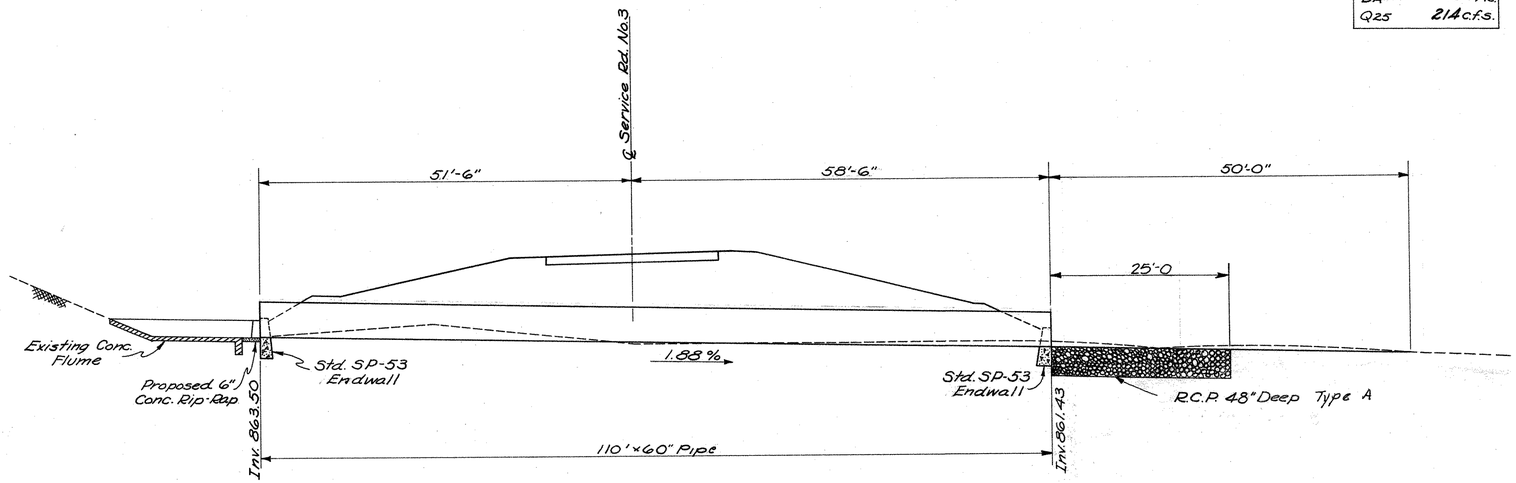
ESTIMATED QUANTITIES

202 - Excavation		3 Cu. Yds.
601 - Rip-rap		7 Sq. Yds.
601 - Type A	Rock Channel Protection as per plan	29.2 Cu. Yds.
602 - Concrete Masonry		86 Cu. Yds.
603 - 60" Conduit, Type A, 706.02		110 Lin. Ft.
660 - Sodding		5 Sq. Yds.

DA	154 Ac.
Q25	214 c.f.s.



SECTION B-B
Scale - ¼"=1'-0"



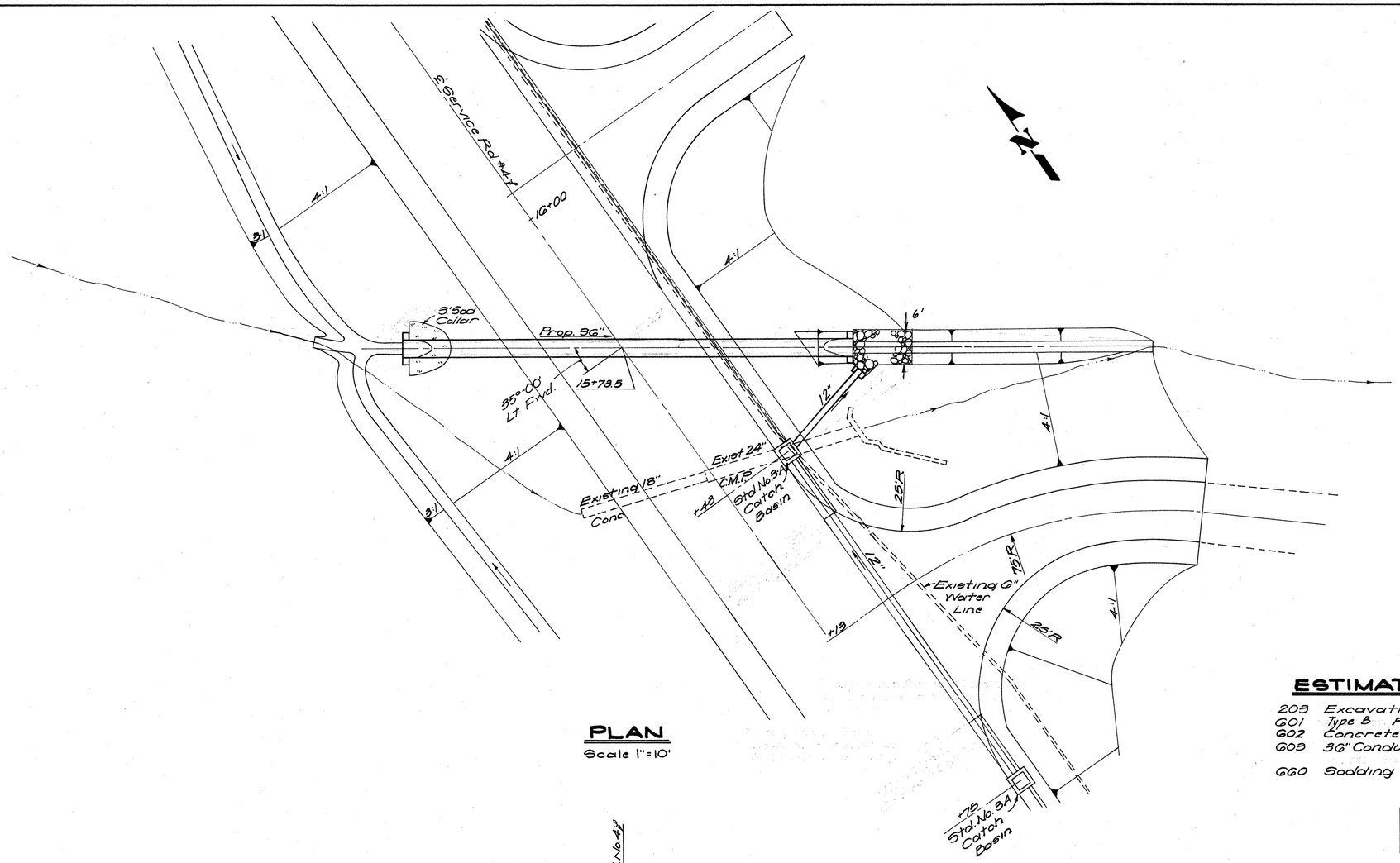
SECTION ALONG ℄ PIPE

PIPE CULVERT STA. 204+22 SERVICE RD. #3

FED. RD. DIVISION	STATE	PROJECT		351
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66

Made By WBS Chkd By WHP 11/68



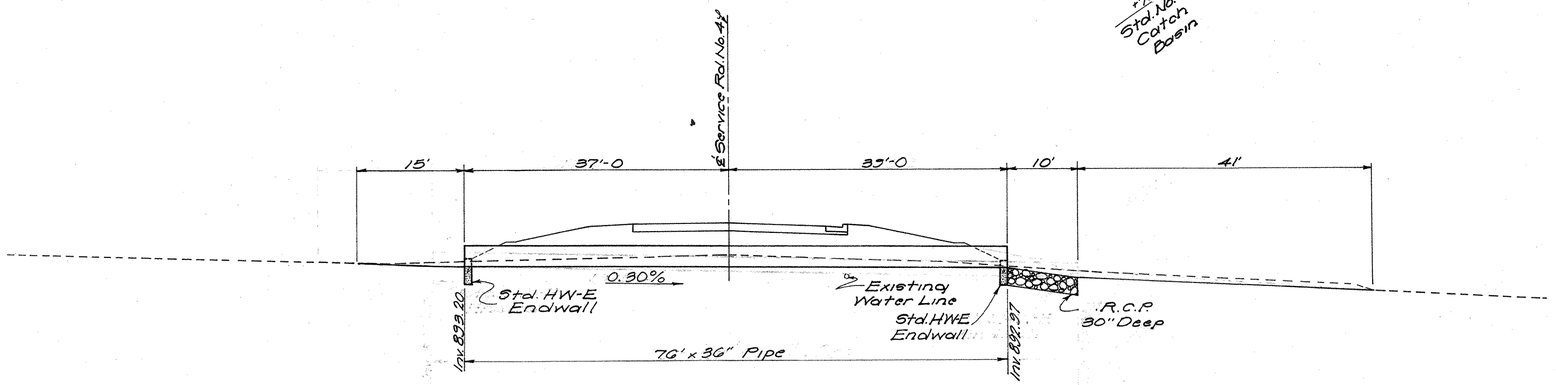
PLAN

Scale 1"=10'

ESTIMATED QUANTITIES

203	Excavation	5 Cu. Yds.
G01	Type B Rock Channel Protection	6.7 Cu. Yds.
G02	Concrete Masonry	1.2 Cu. Yds.
G03	36" Conduit Type 'A', 706.02 or 706.08	76 Lin. Ft.
G60	Sodding	4 Sq. Yds.

D.A.	23 Ac.
Q25	54 c.f.s.



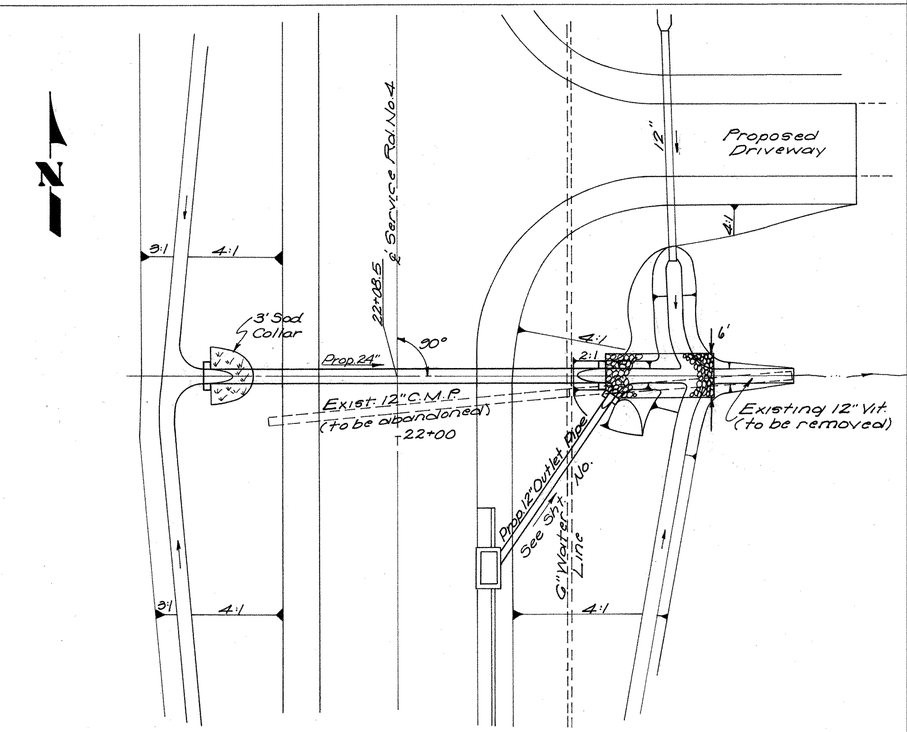
SECTION ALONG ℄ PIPE

PIPE CULVERT STA. 15+73.5 SERVICE RD. NO. 4

FED. RD. DIVISION	STATE	PROJECT		352
	OHIO			

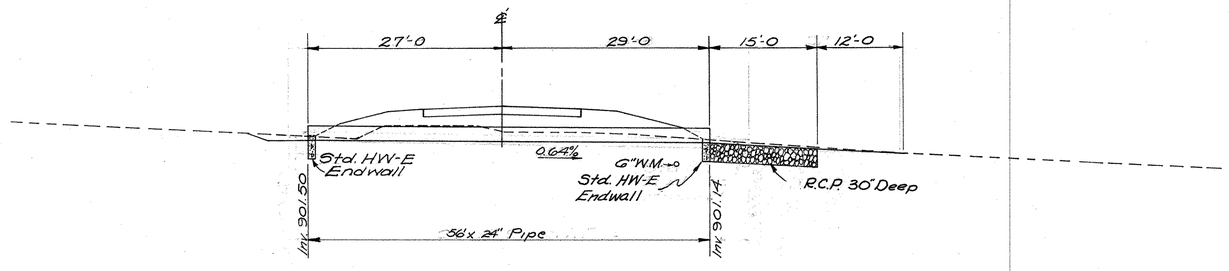
MONTGOMERY COUNTY-MOT-75-17.66

Made By H.S. Chkd By WHP 10/68



PLAN

Scale 1"=10'



SECTION ALONG ℄ PIPE

ESTIMATED QUANTITIES

202	Pipe Removed 24" & under	74 Lin. Ft.
203	Excavation	2 Cu. Yds.
G01	Type B Rock Channel Protection	10 Cu. Yds.
G02	Concrete Masonry	0.8 Cu. Yds.
G03	24" Conduit, Type "A"; 706.02 or 706.08	56 Lin. Ft.
G60	Sodding	3 Sq. Yds.

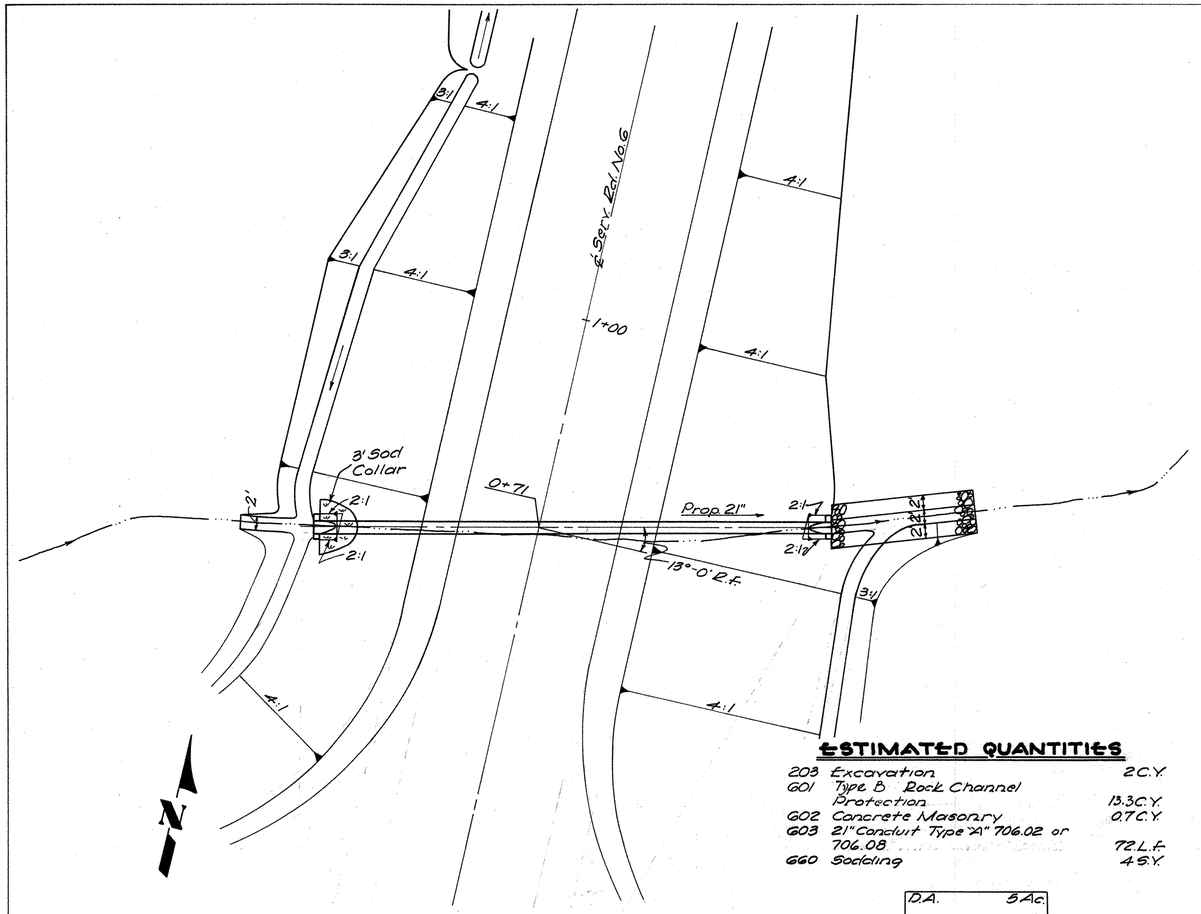
D.A.	7 Ac.
Q25	22 c.f.s.

PIPE CULVERT STA. 22+08.5 SERVICE RD. NO

FED. RD. DIVISION	STATE	PROJECT		353
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66

Made By WBS Ckkd By WHP 10/68



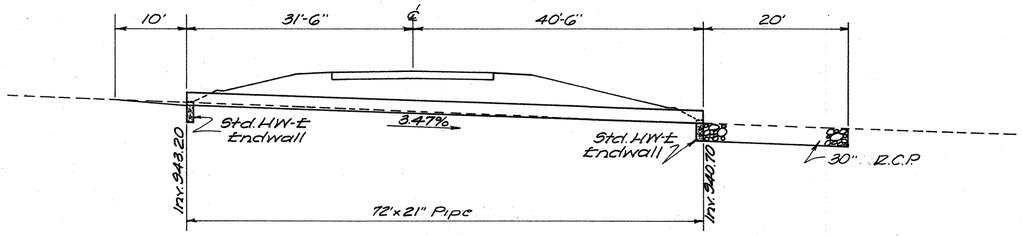
ESTIMATED QUANTITIES

203	Excavation	2 C.Y.
601	Type B Rock Channel Protection	13.3 C.Y.
602	Concrete Masonry	0.7 C.Y.
603	21" Conduit Type "A" 706.02 or 706.08	72 L.f.
660	Sodding	45 Y.

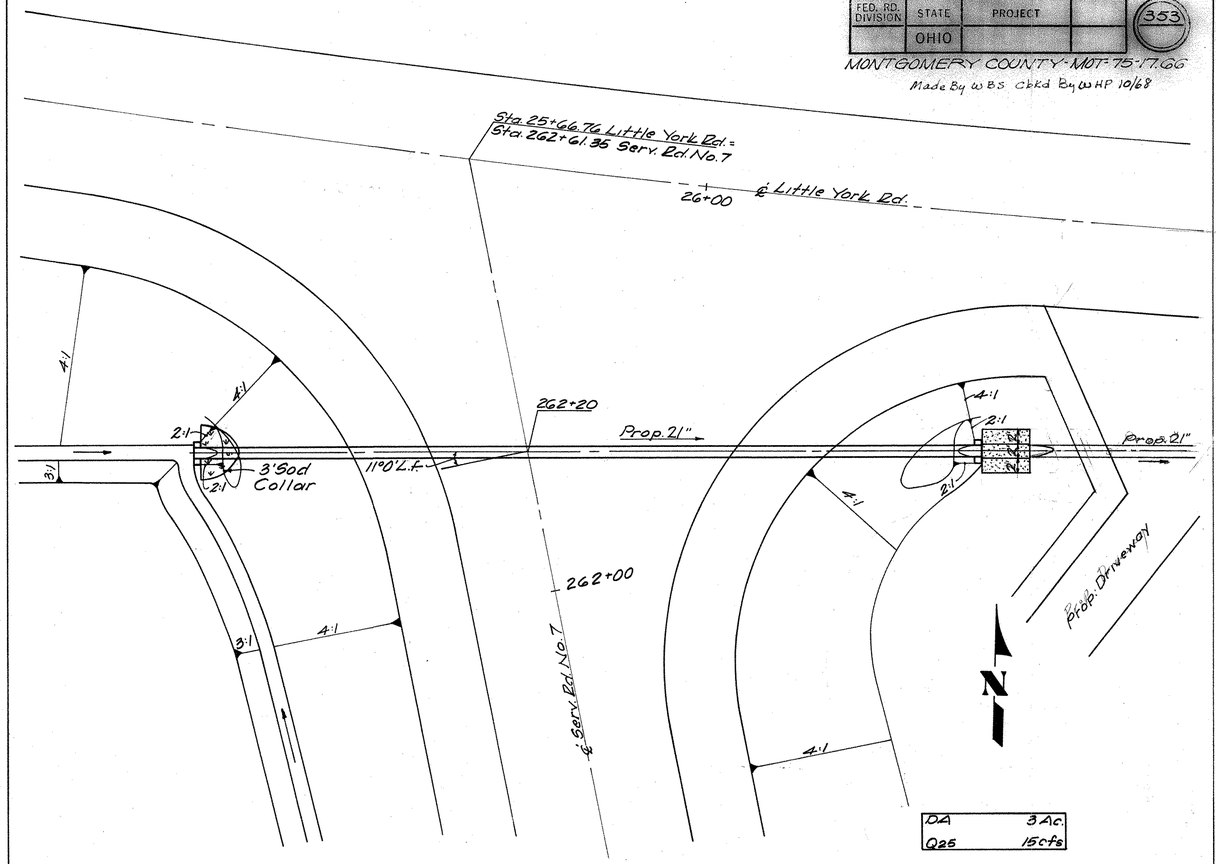
D.A.	5 Ac.
Q25	20 c.f.s.

PLAN

Scale: 1" = 10'



SECTION ON ℄ PIPE



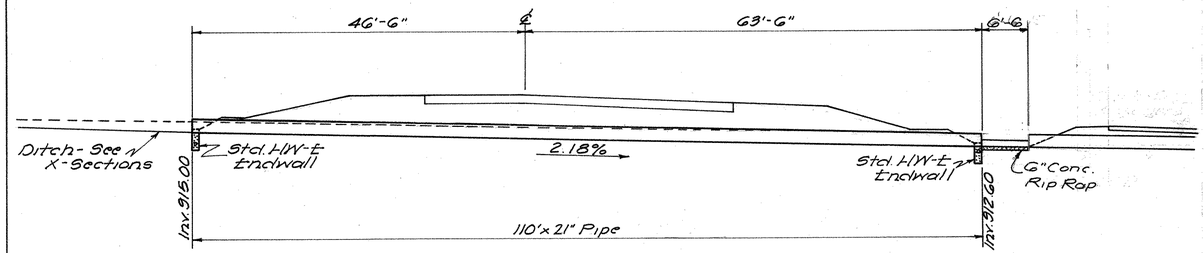
D.A.	3 Ac.
Q25	15 c.f.s.

ESTIMATED QUANTITIES

601	Rip Rap using 6" Reinf. Conc.	5 S.Y.
602	Concrete Masonry	0.6 C.Y.
603	21" Conduit Type "A" 706.02 or 706.08	110 L.f.
660	Sodding	45 Y.

PLAN

Scale: 1" = 10'



SECTION ON ℄ PIPE

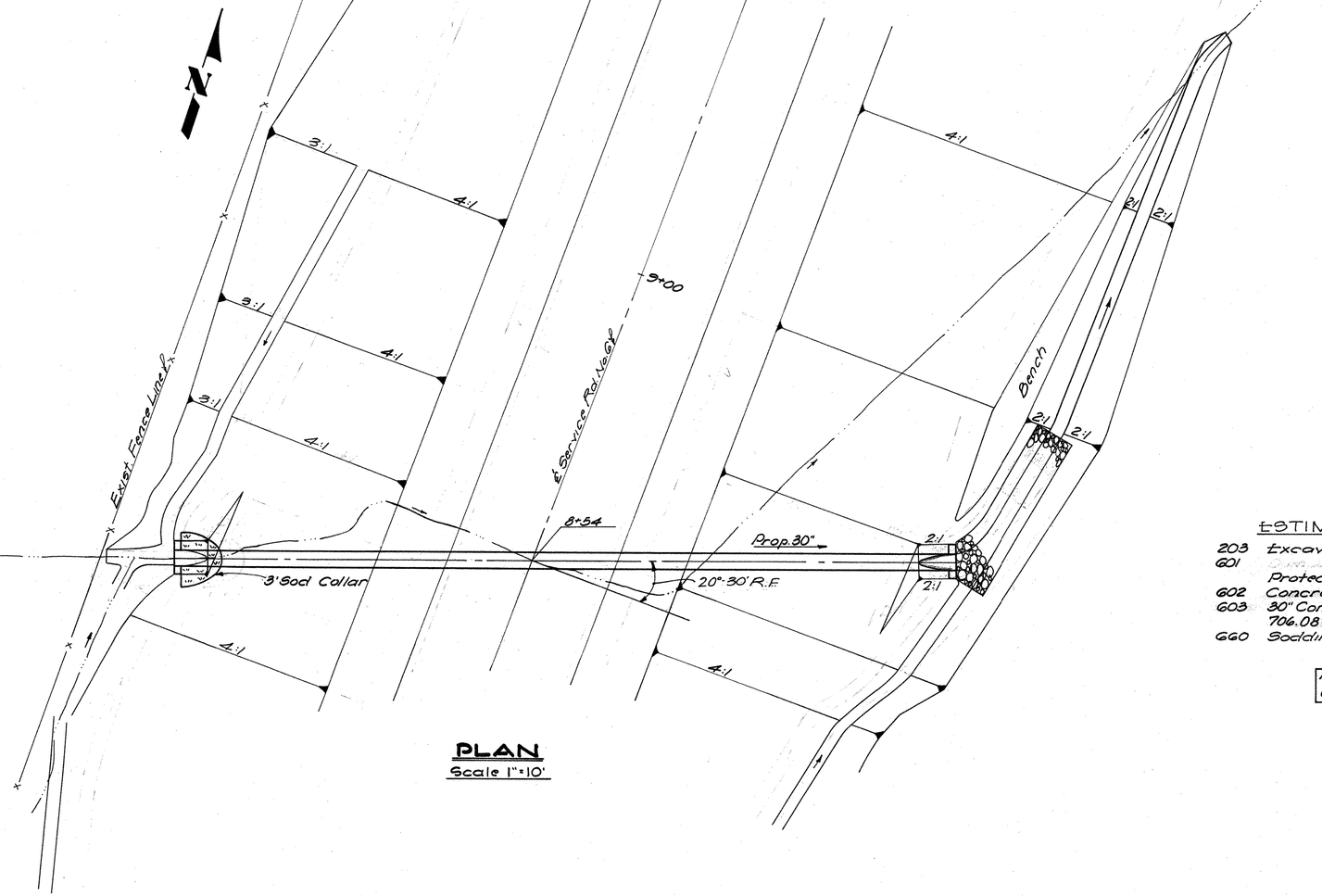
PIPE CULVERTS STA. 0+71 SERV. RD. NO. 6 & STA. 262+20 SERV. RD. NO.

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

334

MONTGOMERY COUNTY-MOT.-75-17.66

Made By H.S. Chkd By W.H.P. 10/68



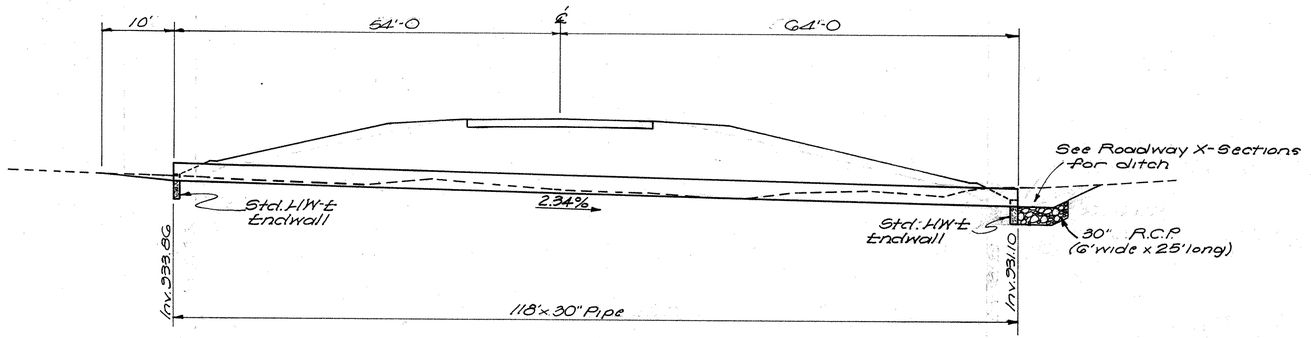
PLAN

Scale 1"=10'

ESTIMATED QUANTITIES

203	Excavation	2 C.Y.
601	Rock Channel Protection	16.7 C.Y.
602	Concrete Masonry	1 C.Y.
603	30" Conduit Type "A" 706.02 or 706.08	118 L.F.
660	Sodding	55 Y.

DA	16 Ac.
Q 25	46 cfs



SECTION ON ℄ PIPE

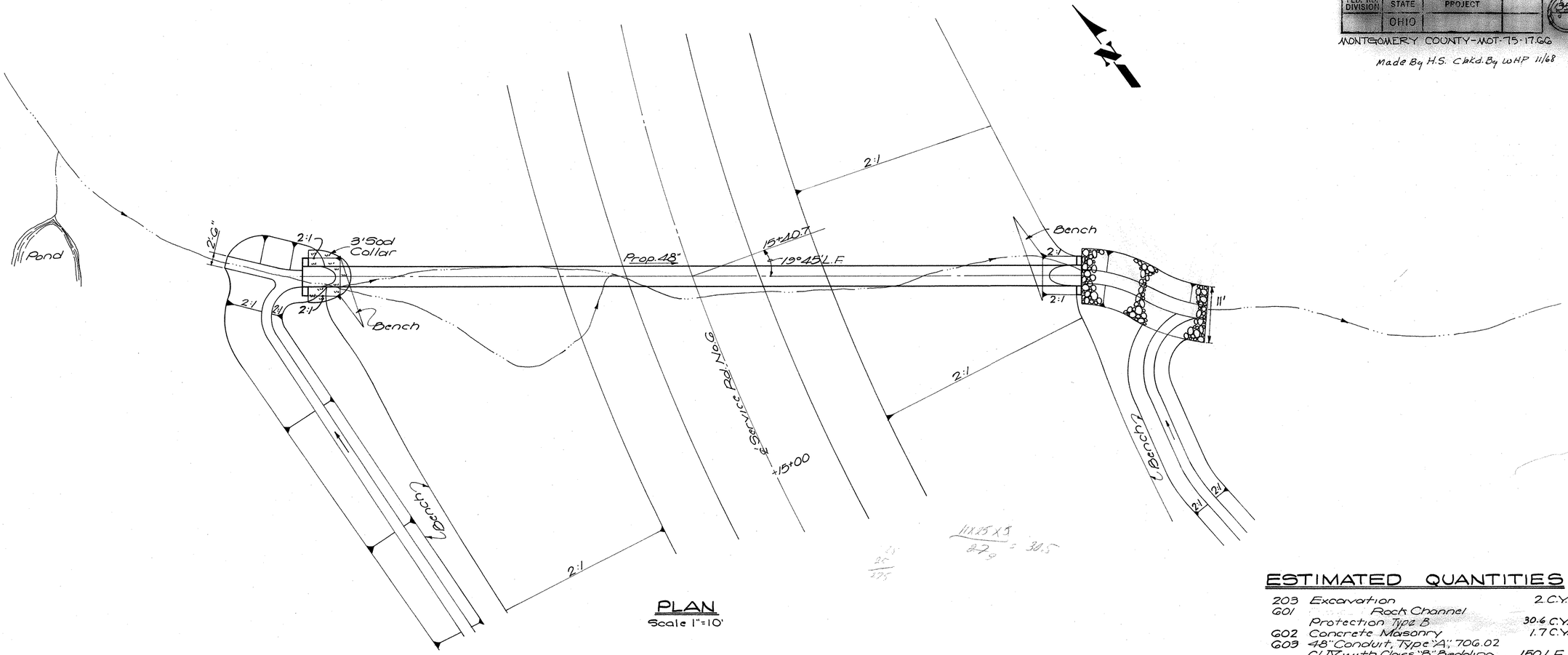
PIPE CULVERT STA. 8+54 SERV. RD. NO. 6

FED. RD. DIVISION	STATE	PROJECT
	OHIO	

355

MONTGOMERY COUNTY-MOT-75-17.66

Made By H.S. Ckkd. By W.H.P. 11/68



PLAN

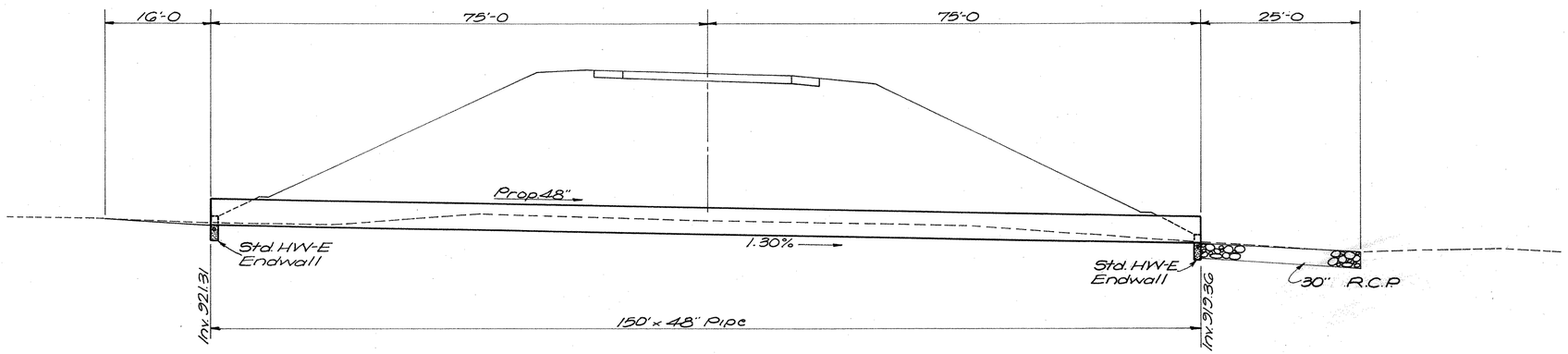
Scale 1"=10'

ESTIMATED QUANTITIES

203	Excavation	2 C.Y.
601	Rock Channel Protection Type B	30.6 C.Y.
602	Concrete Masonry	1.7 C.Y.
603	48" Conduit, Type "A", 706.02 Cl. IV with Class "B" Bedding	150 L.F.
660	Sodding	5 S.Y.

DA 101 Ac.

Q25 160 cfs



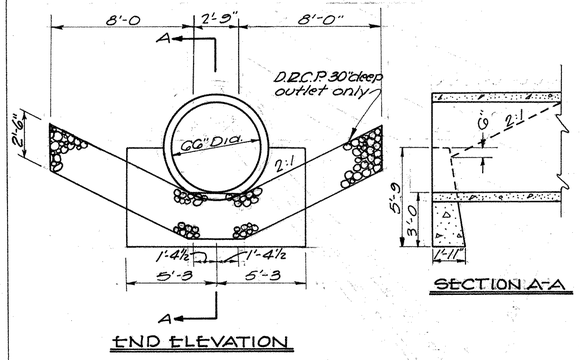
SECTION ON ℄ PIPE

PIPE CULVERT STA. 15+40.7 SERVICE RD. NO. 6

FED. RD. DIVISION	STATE	PROJECT		356
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66

Made By WBS Chkd By WHP 11/68

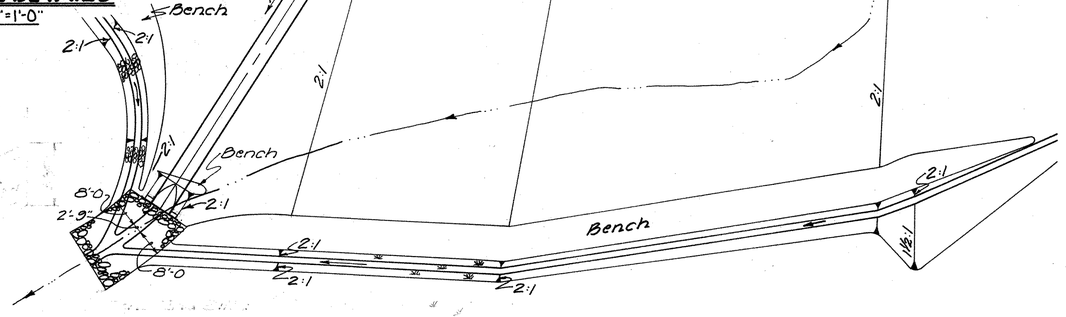


END ELEVATION

SECTION A-A

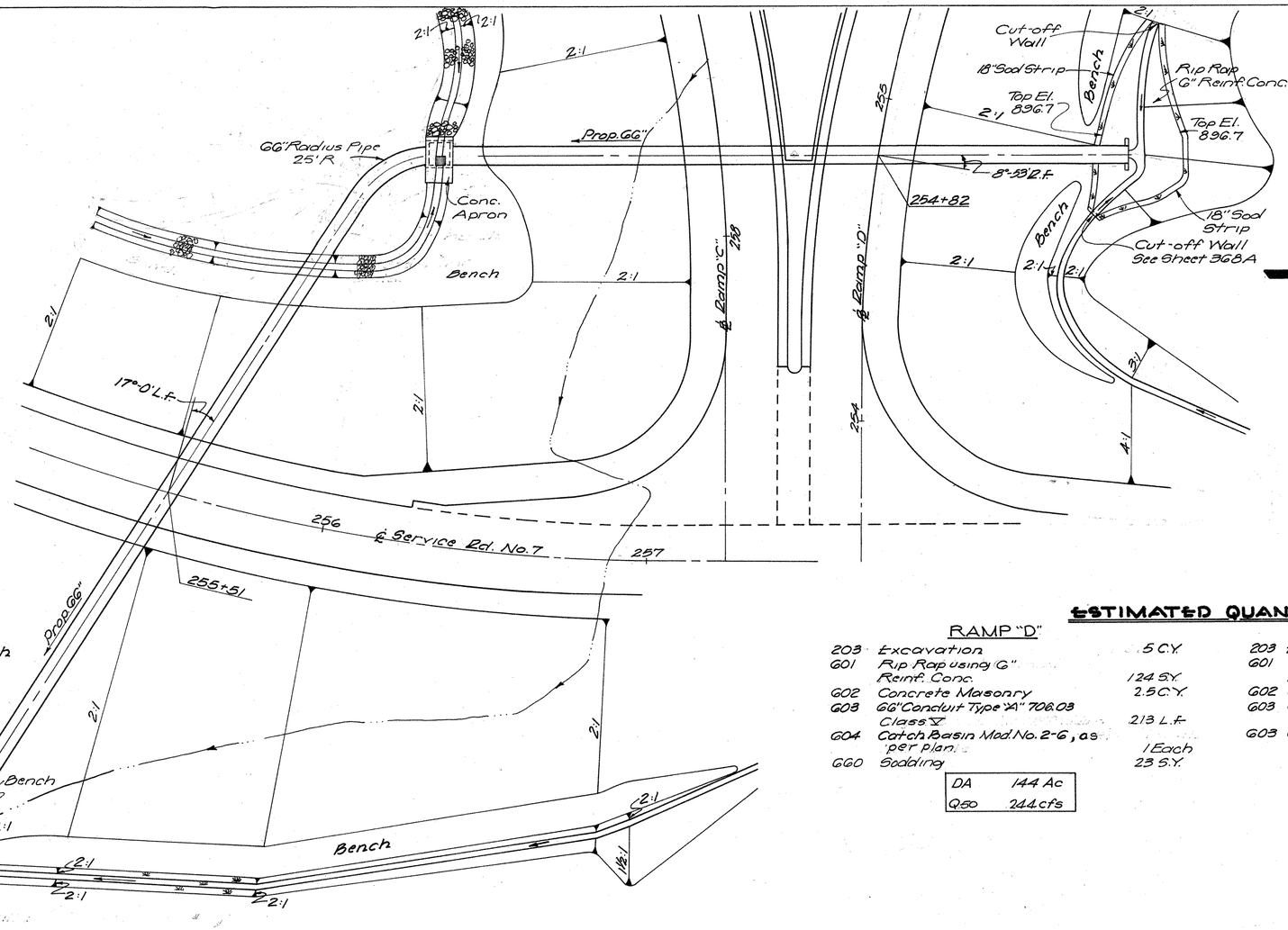
SP-53 ENDWALL DETAILS

Scale: ¼"=1'-0"



PLAN

Scale 1"=20'



ESTIMATED QUANTITIES

RAMP "D"

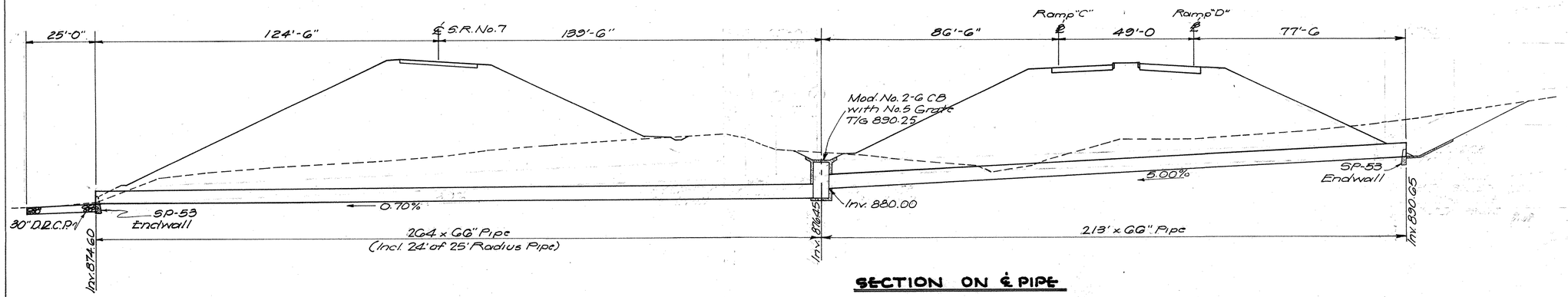
203	Excavation	5 C.Y.
601	Rip Rap using 'G' Reinf. Conc.	124 S.Y.
602	Concrete Masonry	2.5 C.Y.
603	66" Conduit Type "A" 706.03 Class V	213 L.f.
604	Catch Basin Mod. No. 2-6, as per plan.	1 Each
660	Sodding	23 S.Y.

DA	144 Ac
Q50	244 cfs

SERVICE RD. NO. 7

203	Excavation	2 C.Y.
601	Rock Channel Protection Type B	52 C.Y.
602	Concrete Masonry	2.5 C.Y.
603	66" Conduit Type "A" 706.03 Class V	240 L.f.
603	66" Conduit Type "A", 706.02 Class IV, 25' Radius	24 L.F.

DA	169 Ac
Q25	227 cfs



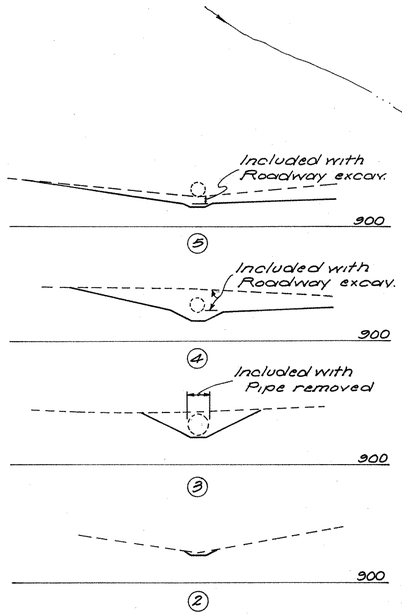
SECTION ON ℄ PIPE

PIPE CULVERTS STA. 255+51 SERVICE RD. NO. 7 & STA. 254+82 RAMP "D"

FED. RD. DIVISION	STATE	PROJECT		358
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66

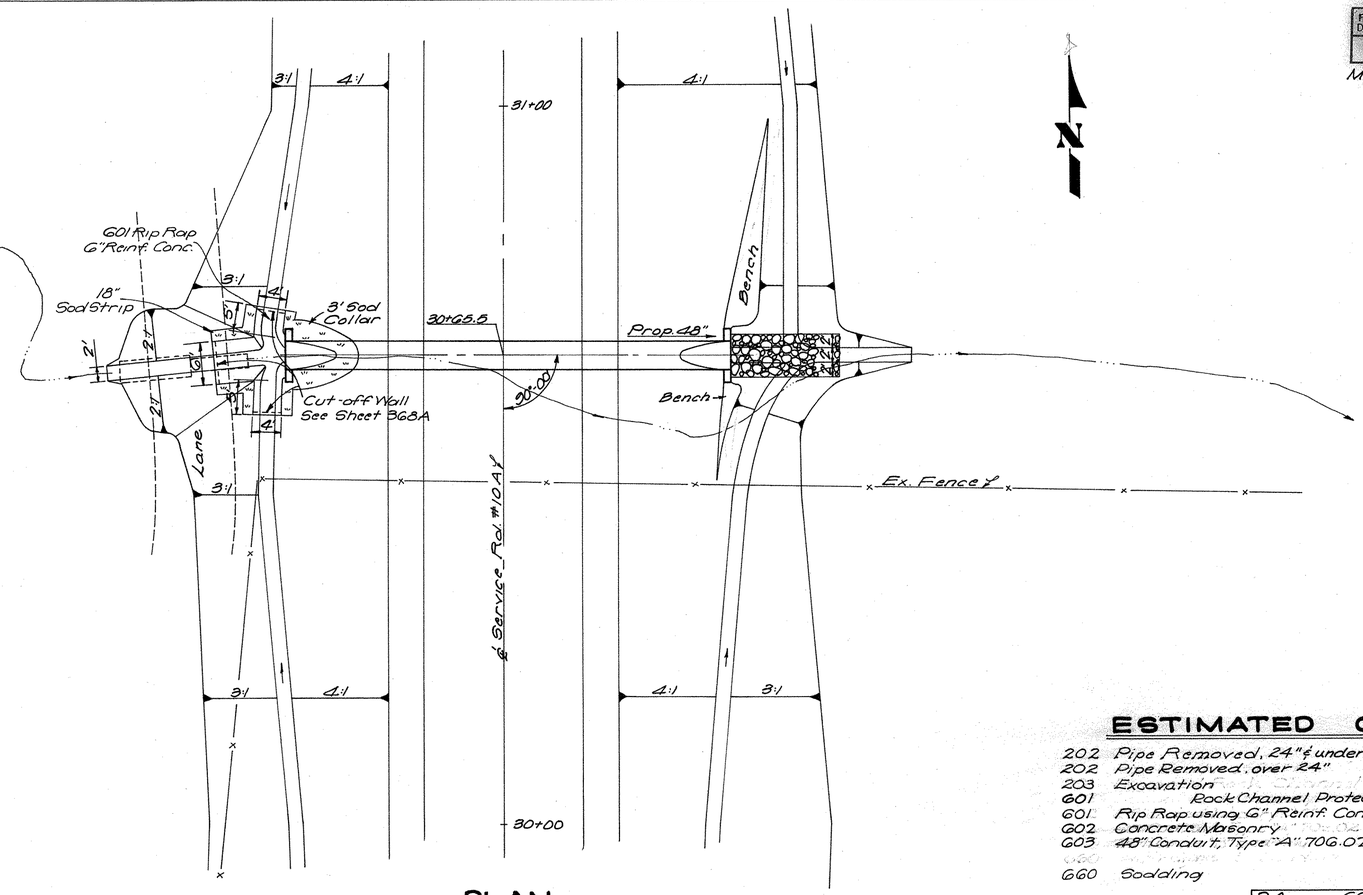
Made By WBS Chkd By WHP 11/68



INLET DITCH X-SECTIONS

Scale 1"=10'

Section	End Area	Length	Vol. (Cu. Ft.)
1	0		
		3	3
2	2		
		4	48
3	22		
		10	145
4	7		
		3	14
5	2		
		5	5
6	0		
		Sub-Total	215
	Outlet ditch 3×10×½		15
		Total	230
			9 Cu. Yds.



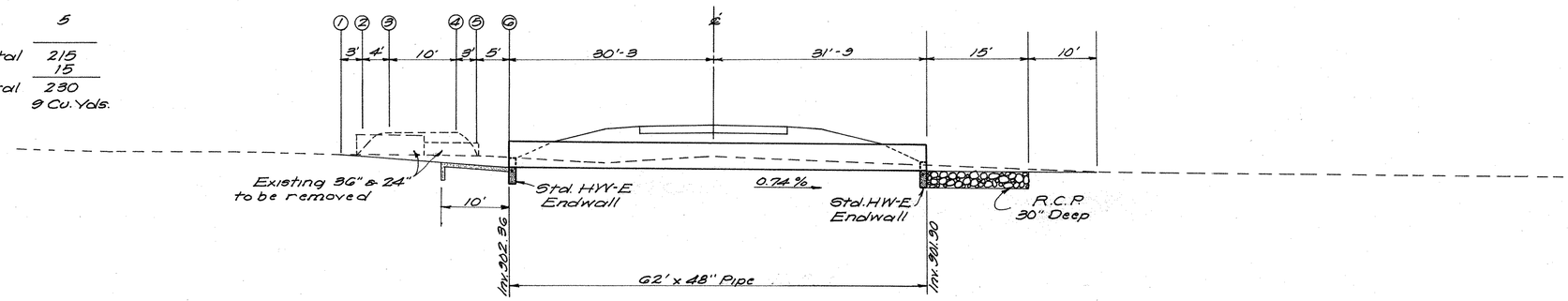
PLAN

Scale 1"=10'

ESTIMATED QUANTITIES

202	Pipe Removed, 24" & under	8 Lin. Ft.
202	Pipe Removed, over 24"	10 Lin. Ft.
203	Excavation	9 Cu. Yds.
601	Rock Channel Protection Type B	10 Cu. Yds.
601	Rip Rap using 6" Reinf. Conc.	11 Sq. Yds.
602	Concrete Masonry	1.7 Cu. Yds.
603	48" Conduit, Type "A" 706.02	
		62 Lin. Ft.
660	Sodding	9 Sq. Yds.

DA	66 Ac.
Q25	102 c.f.s.



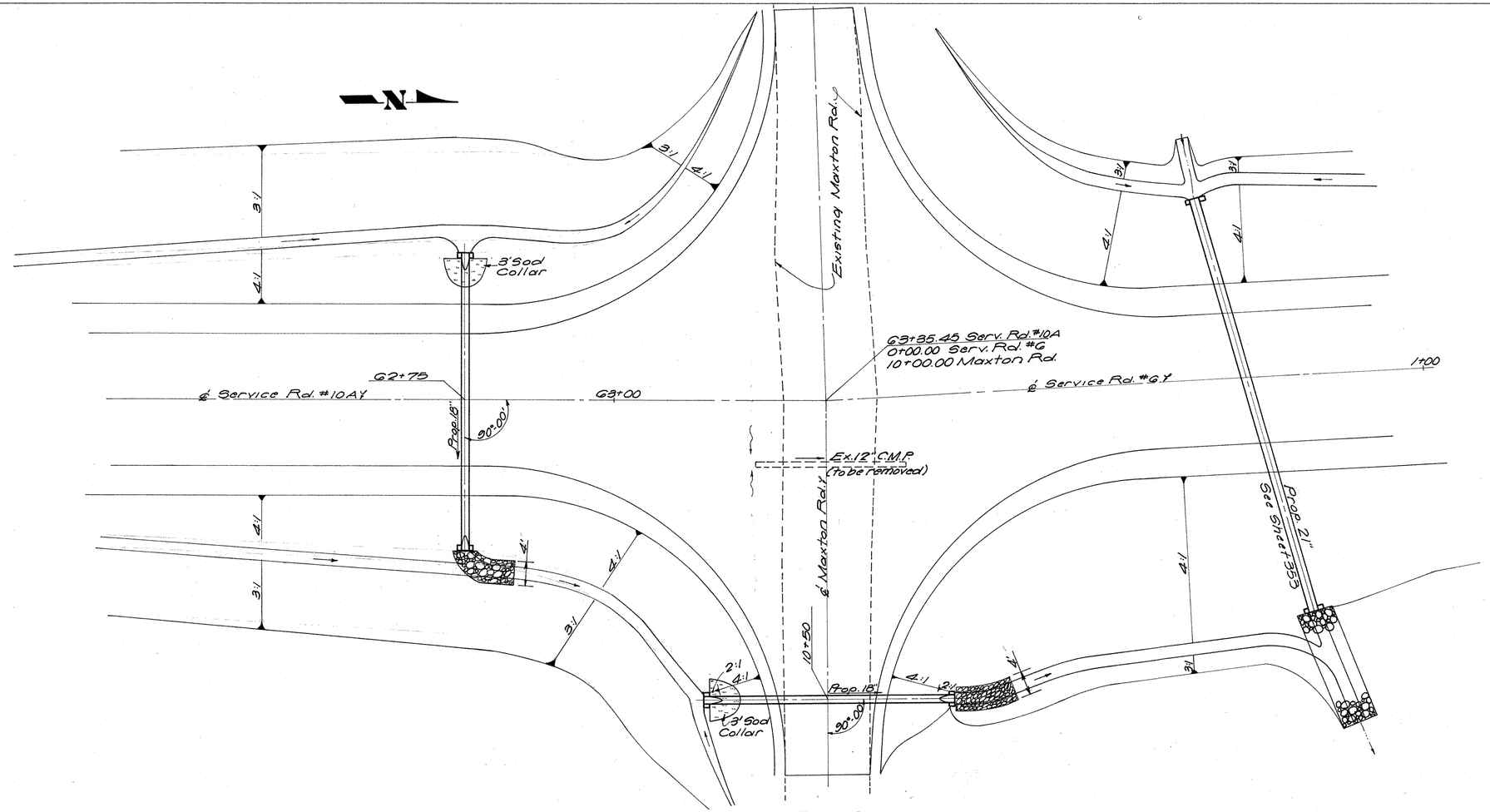
SECTION ALONG ℄ PIPE

PIPE CULVERT STA. 30+65.5 SERVICE RD. NO. 10A

FED. RD. DIVISION	STATE	PROJECT		339
	OHIO			

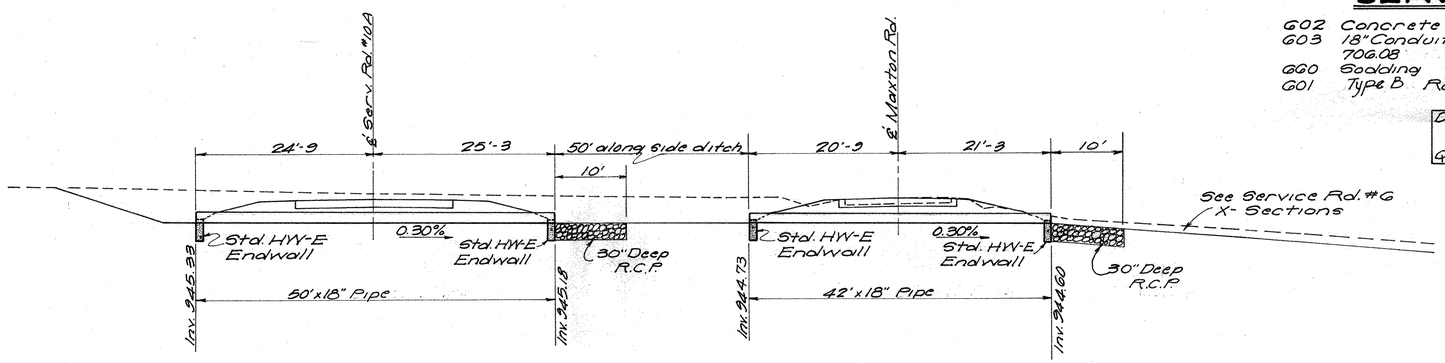
MONTGOMERY COUNTY-MOT-75-17.66

Made By WBS Chkd By WHP 11/68



PLAN

Scale 1"=10'



SECTION ALONG ℄ PIPE

ESTIMATED QUANTITIES

SERVICE RD. NO. 10A

602	Concrete Masonry	0.5 Cu. Yds.
603	18" Conduit, Type "A", 706.01, 706.02 or 706.08	50 Lin. Ft.
660	Sodding	3 Sq. Yds.
601	Type B Rock Channel Protection	4.4 Cu. Yds.

DA	1 Ac.
Q25	5 c.f.s.

MAXTON RD.

602	Concrete Masonry	0.5 Cu. Yds.
603	18" Conduit Type "A", 706.01, 706.02 or 706.08	42 Lin. Ft.
660	Sodding	3 Sq. Yds.
601	Type B Rock Channel Protection	4.4 Cu. Yds.

D.A.	2 Ac.
Q25	7 c.f.s.

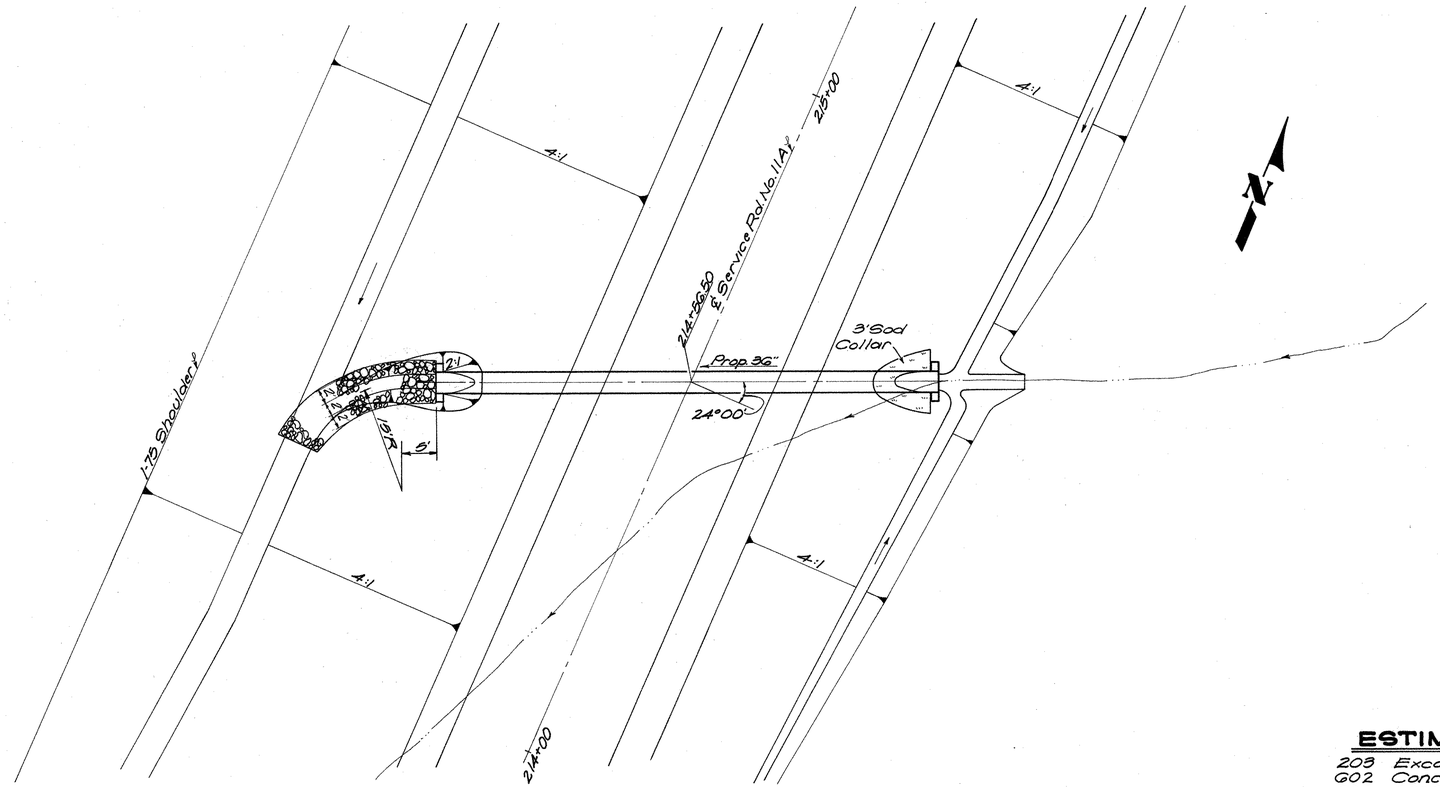
PIPE CULVERT STA. 62+75 SERVICE RD. NO. 10A

PIPE CULVERT STA. 10+50 MAXTON RD.

FED. RD. DIVISION	STATE	PROJECT		360
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66

Made By H.S. Chkd. By W.H.P. 11/68



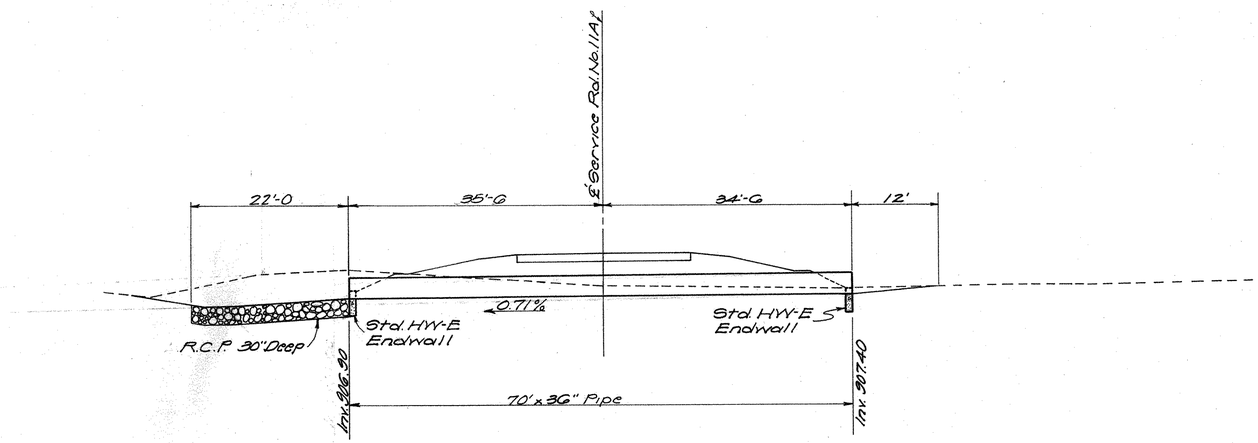
PLAN

Scale 1"=10'

ESTIMATED QUANTITIES

203	Excavation	5 Cu. Yds.
602	Concrete Masonry	1.2 Cu. Yds.
603	36" Conduit, Type "A" 706.02 or 706.08	70 Lin. Ft.
660	Sodding	5 Sq. Yds.
601	Type B Rock Channel Protection	14.7 Cu. Yds.

DA	29 Ac.
Q25	59 c.f.s.



SECTION ALONG ℄ PIPE

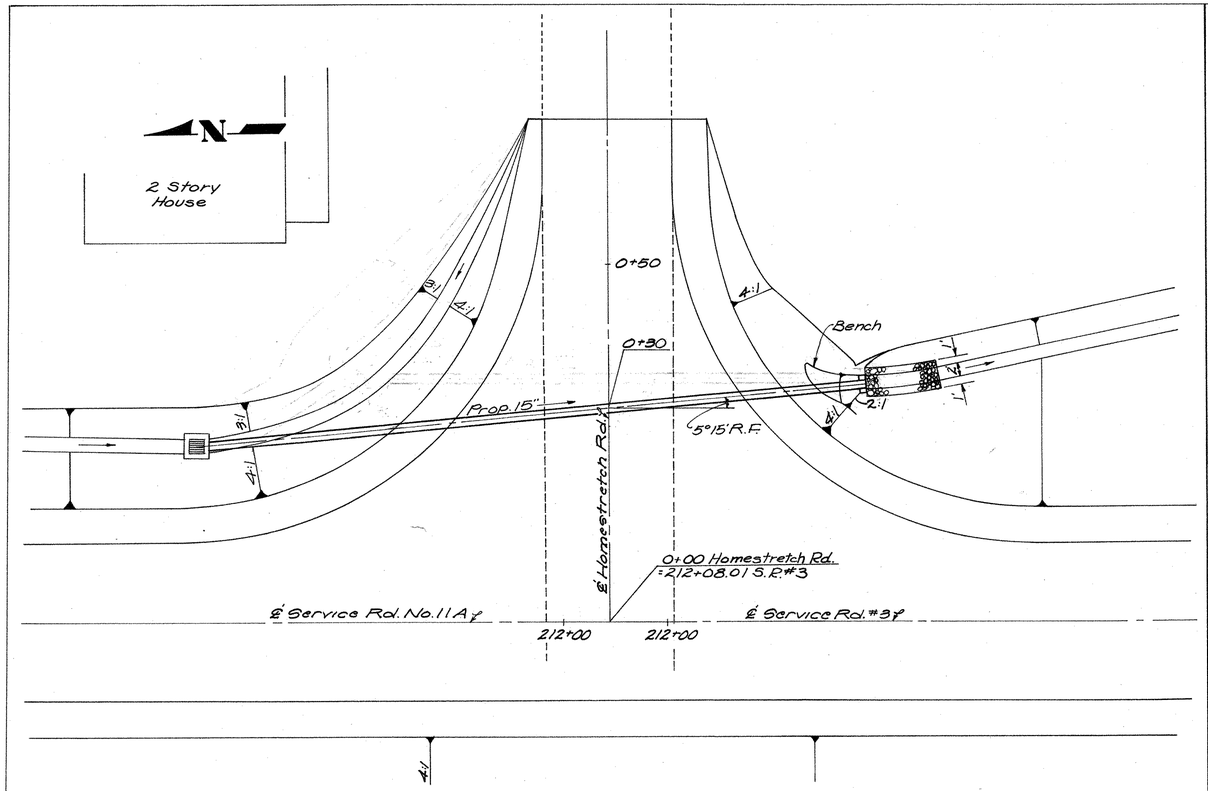
PIPE CULVERT STA. 214+56.5 SERVICE RD. NO. 11A

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

361

MONTGOMERY COUNTY-MOT-75-17.66

Made By H.S. Chkd By WHP 11/68



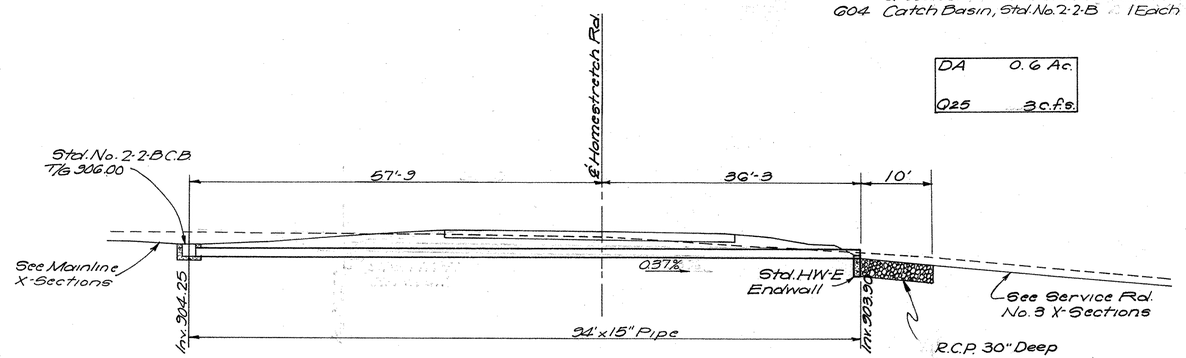
PLAN

Scale 1"=10'

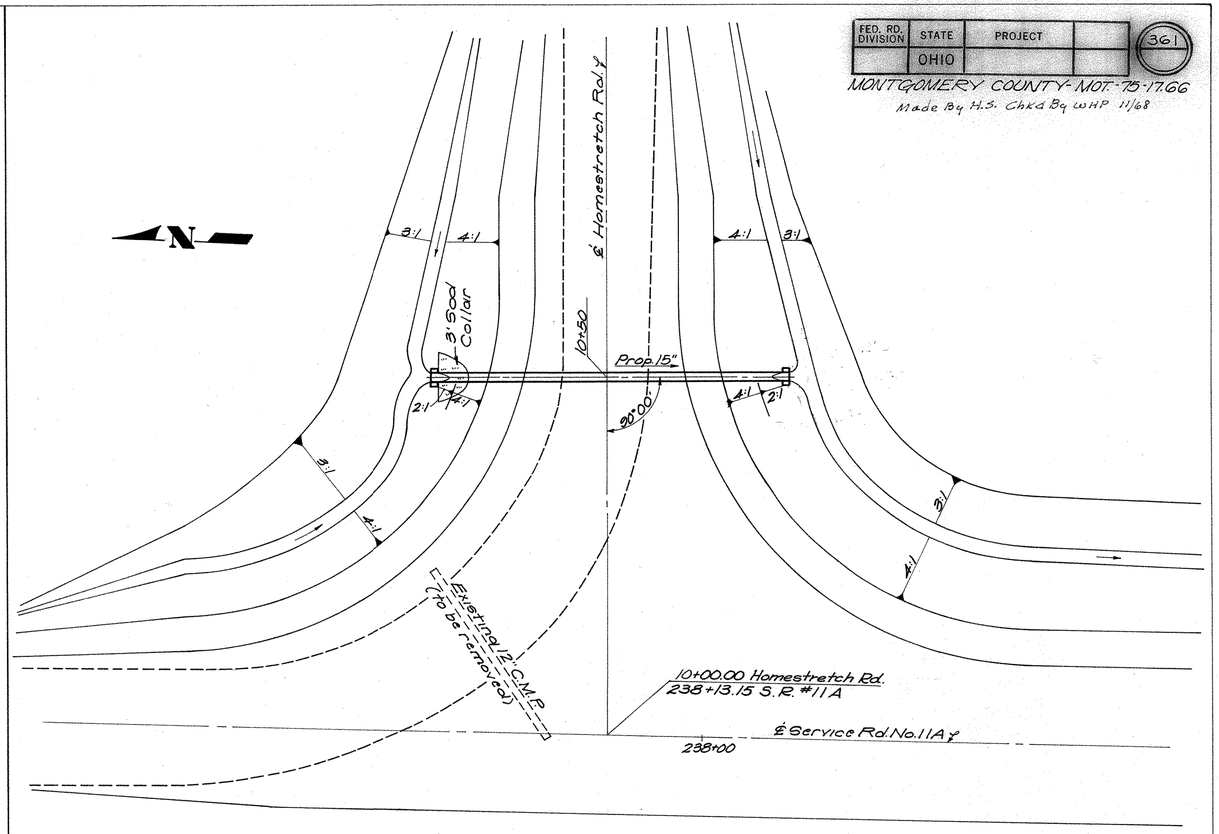
ESTIMATED QUANTITIES

G01	Rock Channel Protection Type B	44 Cu.Yds.
G03	15" Conduit, Type "B" 706.01, 706.02 or 706.08	34 Lin. Ft.
G04	Catch Basin, Std. No. 2-2-B	1 Each

DA	0.6 Ac.
Q25	3 c.f.s.



SECTION ALONG ℄ PIPE



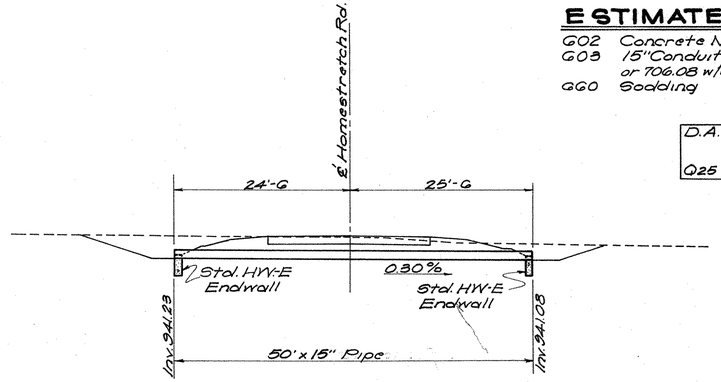
PLAN

Scale 1"=10'

ESTIMATED QUANTITIES

G02	Concrete Masonry	0.5 Cu.Yds.
G03	15" Conduit, Type "A" 706.01, 706.02 or 706.08 w/Class "B" Bedding	50 Lin. Ft.
G00	Seeding	2 Sq. Yds.

D.A.	0.5 Ac.
Q25	2 c.f.s.



SECTION ALONG ℄ PIPE

STORM SEWER STA. 0+30 HOMESTRETCH RD.

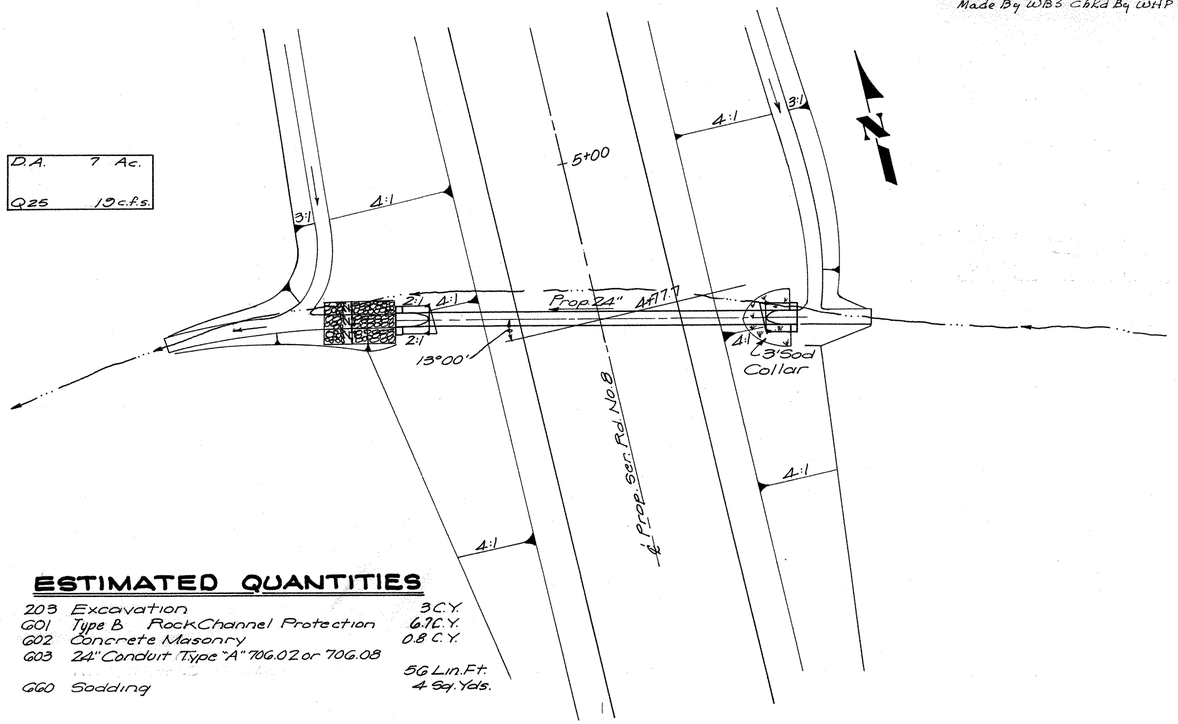
PIPE CULVERT STA 10+50 HOMESTRETCH RD.

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

3G2

MONTGOMERY COUNTY-MOT-75-17.66

Made By WBS Chkd By WHP 11/68

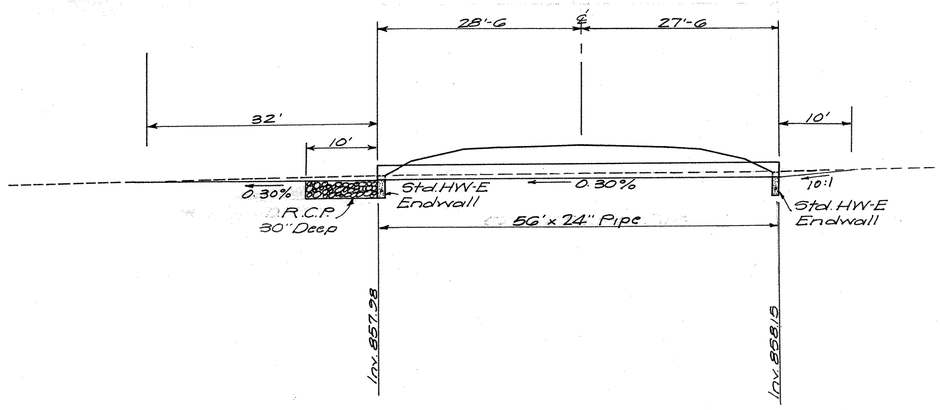


ESTIMATED QUANTITIES

203	Excavation	3 C.Y.
G01	Type B Rock Channel Protection	6.7 C.Y.
G02	Concrete Masonry	0.8 C.Y.
G03	24" Conduit Type "A" 706.02 or 706.08	56 Lin. Ft.
G60	Sodding	4 Sq. Yds.

PLAN

Scale 1"=10'



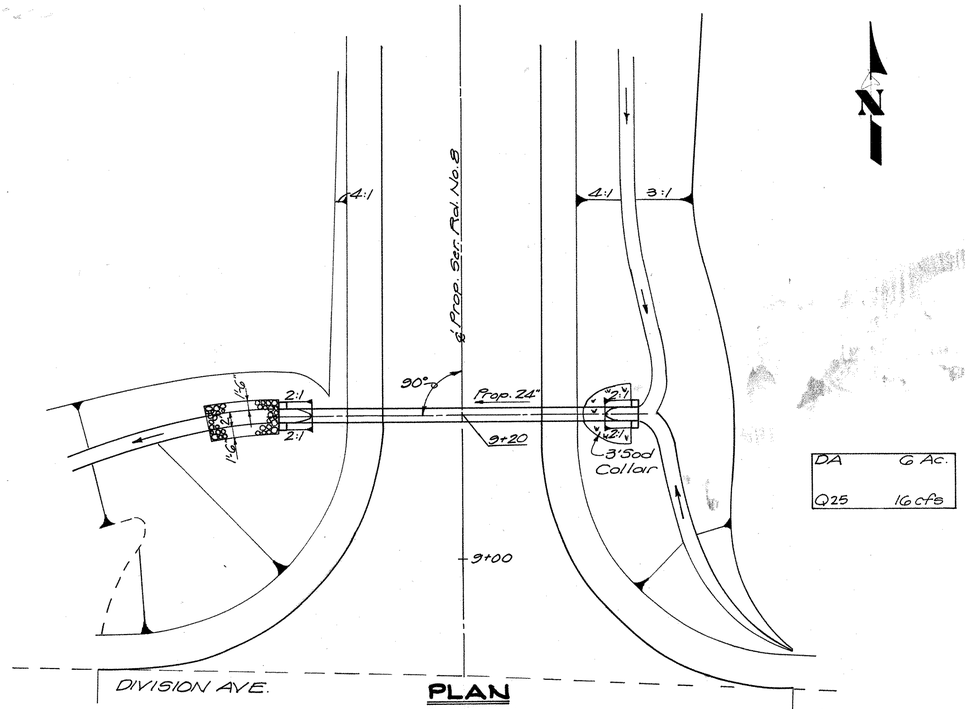
SECTION ALONG ℄ PIPE

PIPE CULVERT STA. 4+77.7 SERVICE ROAD NO. 8

FED. RD. DIVISION	STATE	PROJECT		363
	OHIO			

MONTGOMERY COUNTY-MOT-75-17.66

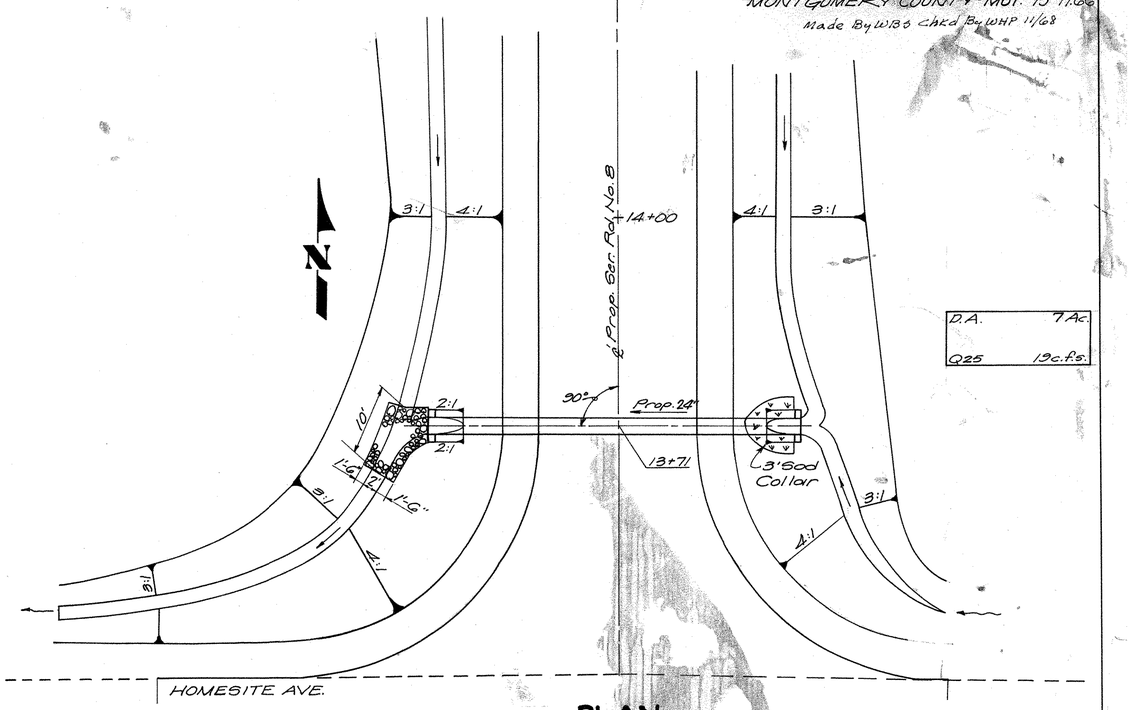
Made By WBS Chkd By WHP 11/68



DA	6 Ac.
Q25	16 cfs

PLAN

Scale 1"=10'



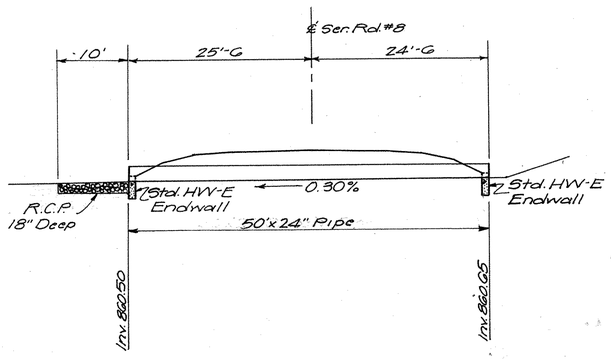
D.A.	7 Ac.
Q25	19 c.f.s.

PLAN

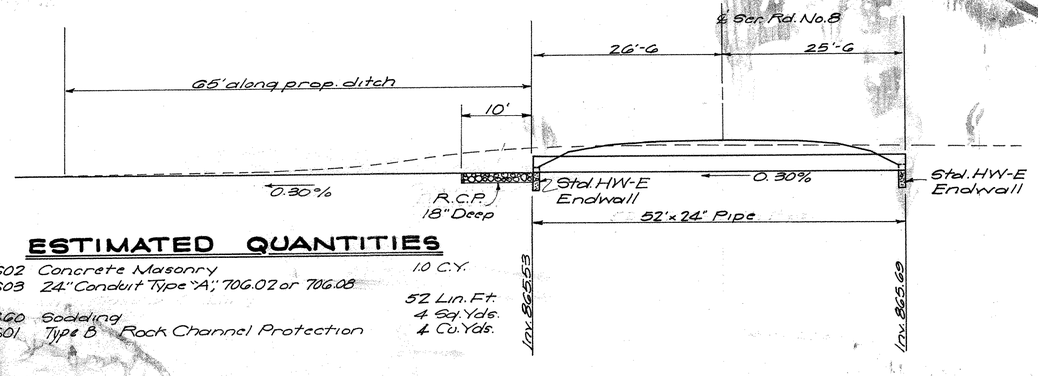
Scale 1"=10'

ESTIMATED QUANTITIES

G02	Concrete Masonry	0.8 C.Y.
G03	24" Conduit Type "A" 706.02 or 706.08	50 Lin. Ft.
G60	Sodding	4 Sq. Yds.
G01	Type B Rock Channel Protection	3.7 Cu. Yds.



SECTION ALONG ℄ PIPE



ESTIMATED QUANTITIES

G02	Concrete Masonry	1.0 C.Y.
G03	24" Conduit Type "A" 706.02 or 706.08	52 Lin. Ft.
G60	Sodding	4 Sq. Yds.
G01	Type B Rock Channel Protection	4 Cu. Yds.

SECTION ALONG ℄ PIPE

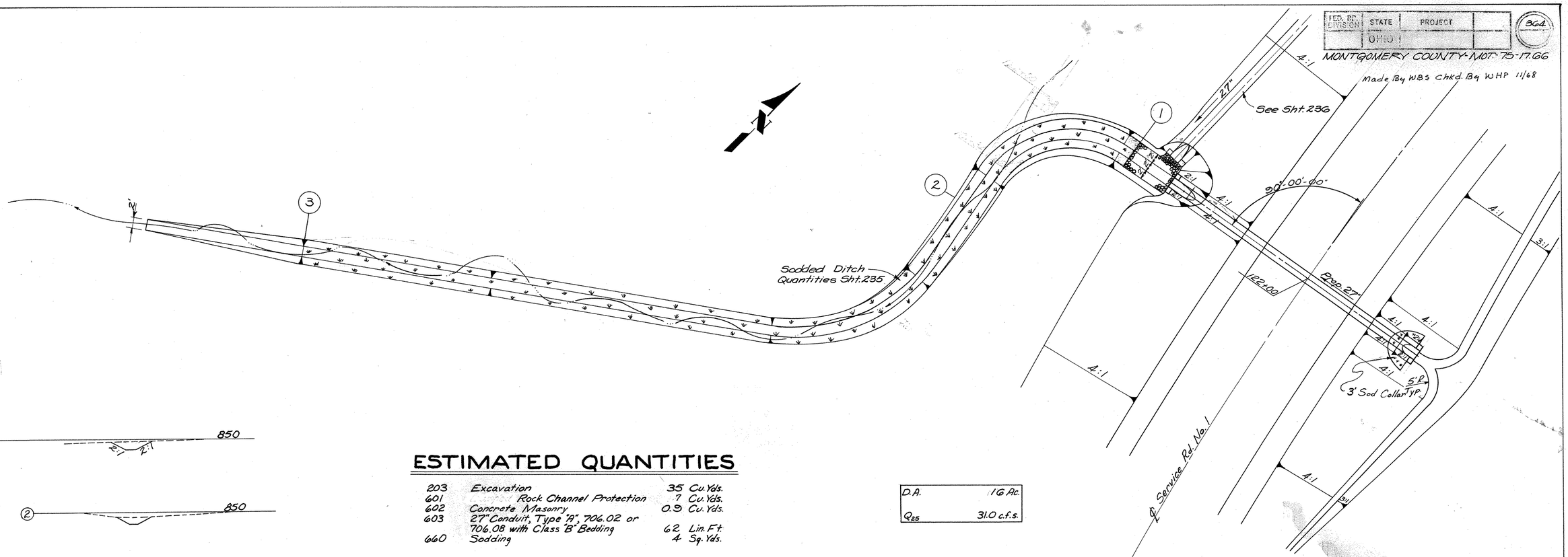
PIPE CULVERT STA. 9+20 SERVICE ROAD NO. 8

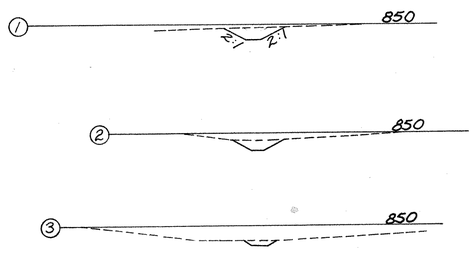
PIPE CULVERT STA. 13+71 SERVICE ROAD NO. 8

FED. RD. DIVISION	STATE	PROJECT		364
	OHIO			

MONTGOMERY COUNTY-MOT.-75-17.66

Made By WBS Chkd. By WHP 11/68



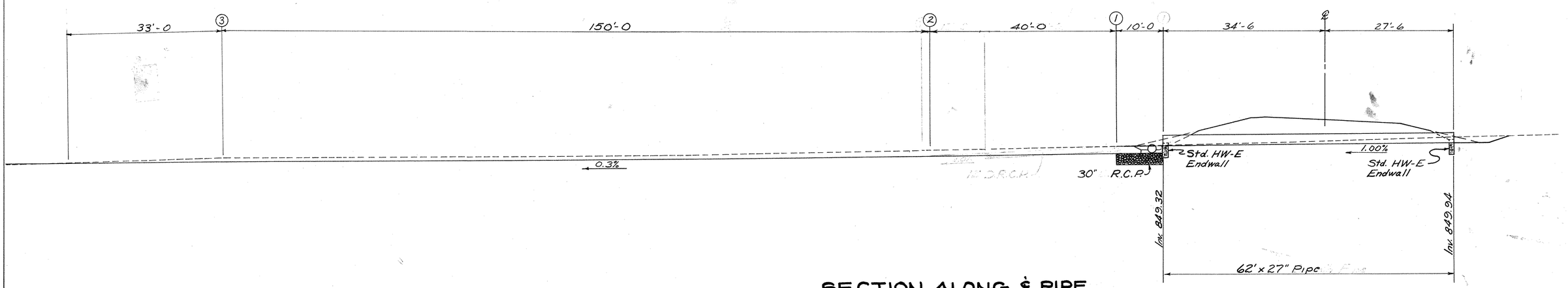


ESTIMATED QUANTITIES

203	Excavation	35 Cu. Yds.
601	Rock Channel Protection	7 Cu. Yds.
602	Concrete Masonry	0.9 Cu. Yds.
603	27" Conduit, Type "A", 706.02 or 706.08 with Class "B" Bedding	62 Lin. Ft.
660	Sodding	4 Sq. Yds.

PLAN

Scale 1"=10'



SECTION ALONG ℄ PIPE

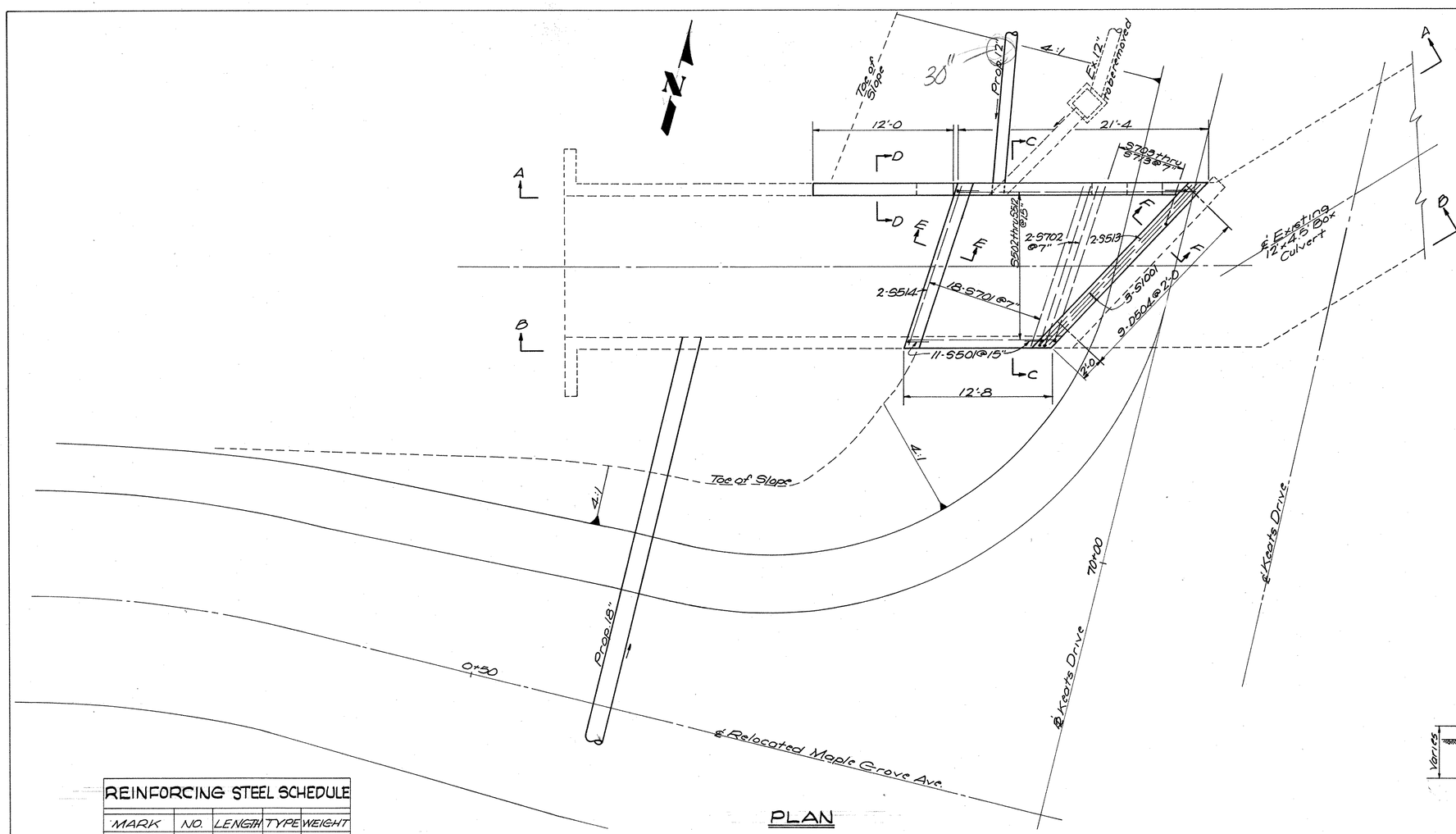
PIPE CULVERT STA. 122+00 SERVICE RD. NO. 1

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

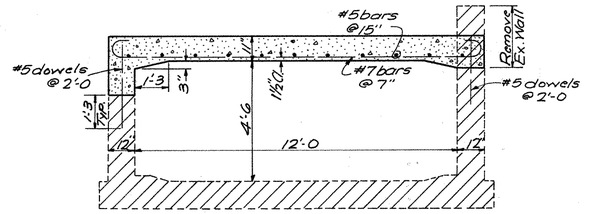
325

MONTGOMERY COUNTY-MOT-75-17.66

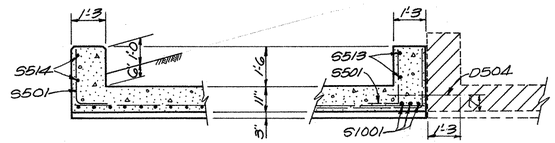
Drawn By L.F. Chkd By W.B.S. 11/68



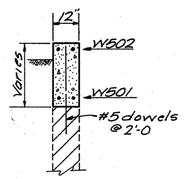
PLAN



SECTION C-C



SECTION E-E SECTION F-F



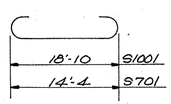
SECTION D-D

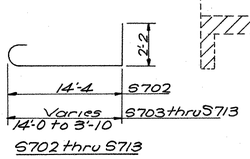
D.A. 507 Ac.
Q50 475 c.f.s.

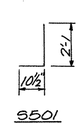
REINFORCING STEEL SCHEDULE

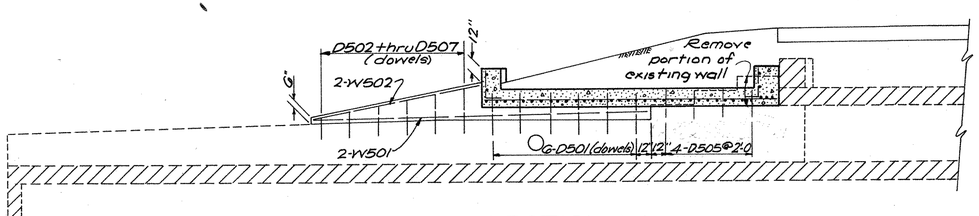
MARK	NO.	LENGTH	TYPE	WEIGHT
S1001	3	22'-1	Bt.	285
S701	18	16'-0	Bt.	589
S702	2	17'-2	Bt.	70
S703 thru S713	11	Varies*	Bt.	264
S501	22	2'-10	Bt.	65
S502 thru S512	11	Varies#	St.	190
S513	2	18'-10	St.	39
S514	2	14'-4	St.	30
W501	2	23'-4	St.	49
W502	2	11'-8	St.	24
D501	6	3'-1	St.	19
D502	1	3'-5	↓	4
D503	1	3'-0		3
D504	10	2'-8		28
D505	10	2'-3		23
D506	1	2'-0		2
D507	1	1'-8	St.	2
R701	1	9'-6	St.	**
R501	1	6'-7	St.	**
Total Weight				1686

* Length Varies 16'-10 to 6'-8
\# Length Varies 20'-6 to 12'-8
** Replacement Bars

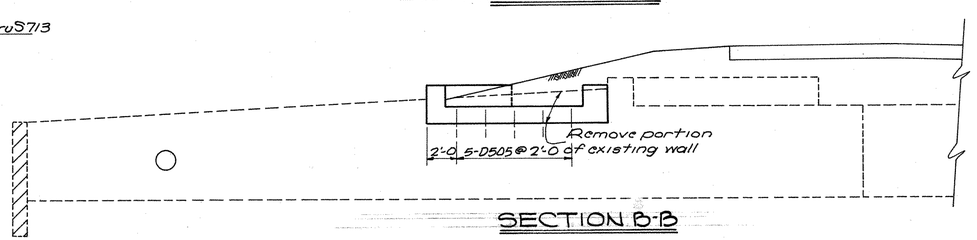








SECTION A-A



SECTION B-B

ESTIMATED QUANTITIES

202	Portions of existing structures removed	Lump Sum
509	Reinforcing steel	1686 Lbs.
510	Dowel holes	38 Lin. Ft.
511	Class "C" concrete	12 Cu. Yds.

BOX CULVERT STA. 70+26
KEATS DR. AT MAPLE GROVE

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

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MONTGOMERY COUNTY-MOT-75-17.66

ESTIMATED QUANTITIES

SUB-SUMMARY

SHEET NUMBER

ITEM	330	331	331A	332	333	334	335	336	337	338	339	340	341	342	344	345	347	348	349	350	351	352	353	354	355	356	358	359	360	361	362	363	364	365	ITEM	TOTAL TO GENERAL SUMMARY	UNIT	DESCRIPTION
202																																		L.S.	202	Lump Sum	Lump Sum	Portions of existing structures removed
202										L.S					L.S.																				202	Lump Sum	Lump Sum	Existing structures removed
202					8			8			8	8															10								202	42	L.F.	Pipe removed over 24"
202						8	114			8			107									74					8								202	319	L.F.	Pipe removed 24" and under
202		1					1	1																											202	3	Each	Catch basins removed
202					1	1				1		1	1																						202	5	Each	Inlets Removed
203	1	1			3		2	2	2			1	15	25		3	1	2	1	3	5	2	2	2	2	7	9		5		3		35		203	134	C.Y.	Excavation
203															52																				203	52	C.Y.	Embankment
601					19						16	24	19	18					89	7			5			124	11								601	332	S.Y.	Riprap using 6" reinforced concrete slab
601	8.4			11.1	14	3.5	10	27.8					8.9	8.9	41.8	10	13.3	22.2			6.7	10	13.3	16.7	30.6	52.7	10	8.8	14.7	4.4	6.7	7.7	7		601	368.6	C.Y.	Rock channel protection, Type B
601											58.3	55.6								29.2															601	143.1	C.Y.	Rock channel protection, Type A
602	0.7	0.4	0.6	0.6	1.2	0.6	0.8	2.4	0.4	0.6	8.2	8.0	1.1	1.5		1.1	1.2	2.0	1.2	8.6	1.2	0.8	1.3	1.0	1.7	5.0	1.7	1.0	1.2	0.8	0.5	1.8	0.9		602	60.1	C.Y.	Concrete Masonry
603																																						
603																										453									603	453	L.F.	66" Conduit, Type "A" 706.03 Class V with Class "B" bedding
603																										24									603	24	L.F.	66" Conduit, Type "A" 706.02 Class IV, 25' Radius with Class "B" bedding
603											26	46																							603	72	L.F.	66" Conduit, Type "A" 706.02 with Class "B" bedding
603												20																							603	20	L.F.	66" Conduit, Type "A" 706.02, 50' Radius w/ Class "B" bedding
603											122																								603	122	L.F.	66" Conduit, Type "A" 706.02 Class IV with Class "B" bedding
603																				110															603	110	L.F.	60" Conduit, Type "A" 706.02 with Class "B" bedding
603																											62								603	62	L.F.	48" Conduit, Type "A" 706.02 with Class "B" bedding
603														190																					603	190	L.F.	29"x45" Conduit, Type "A" 706.04 Class HE II with Class "B" bedding
603																									136										603	136	L.F.	48" Conduit, Type "A" 706.02 Class IV with Class "B" bedding
603																			144																603	144	L.F.	36" Conduit, Type "A" 706.02 or 706.08 Class III with Class "B" bedding
603					8											16																			603	24	L.F.	36" Conduit, Type "A" 706.02 or 706.08, 25' Radius with Class "B" bedding
603	175																																		603	175	L.F.	24"x38" Conduit, Type "A" 706.04 Class HE II with Class "B" bedding
603				190	138											116	118				76								70						603	708	L.F.	36" Conduit, Type "A" 706.02 or 706.08 with Class "B" bedding
603								178																											603	178	L.F.	33" Conduit, Type "A" 706.02 or 706.08 Class III with Class "B" bedding
603													160																						603	160	L.F.	33" Conduit, Type "A" 706.02 or 706.08 with Class "B" bedding
603								50																118											603	168	L.F.	30" Conduit, Type "A" 706.02 or 706.08 with Class "B" bedding
603																		120																	603	120	L.F.	30" Conduit, Type "A" 707.05 with Class "B" bedding
603								136																											603	136	L.F.	30" Conduit, Type "A" 706.02 Class V with Class "B" bedding
603																																	62		603	62	L.F.	27" Conduit, Type "A" 706.02 or 706.08 with Class "B" bedding
603	70						234			65												56									56	102			603	583	L.F.	24" Conduit, Type "A" 706.02 or 706.08 with Class "B" bedding
603																106																			603	106	L.F.	24" Conduit, Type "A" 706.02 or 706.08 Class III with Class "B" bedding
603									188																										603	188	L.F.	21" Conduit, Type "A" 706.02 Class IV with Class "B" bedding
603																							182												603	182	L.F.	21" Conduit, Type "A" 706.02 or 706.08 with Class "B" bedding
603			58			148																						92							603	298	L.F.	18" Conduit, Type "A" 706.01, 706.02 or 706.08 with Class "B" bedding
603										116																									603	116	L.F.	18" Conduit, Type "A" 706.02 Class V with Class "B" bedding
603																														50					603	50	L.F.	15" Conduit, Type "A" 706.01, 706.02 or 706.08 with Class "B" bedding
603														38																					603	38	L.F.	30" Conduit, Type "D"
510																																		38	510	38	L.F.	Dowel Holes
603		120																																	603	120	L.F.	24" Conduit, Type "B" 706.02 Class III or 706.08
603		67																																	603	67	L.F.	21" Conduit, Type "B"
603		67																																	603	67	L.F.	18" Conduit, Type "B"
603															4															94					603	98	L.F.	15" Conduit, Type "B"
503															589																				503	589	C.Y.	Unclassified Excavation
509															37,276																			1686	509	38962	Lbs.	Reinforcing Steel
511															268																			12	511	280	C.Y.	Class "C" Concrete
604																														1					604	1	Each	Catch Basins, Std. No. 2-2-B
604		1		1																															604	2	Each	Catch Basins, Mod. No. 5 as per plan
604																1																			604	1	Each	Catch Basins, Std. No. 2-4
604																										1									604	1	Each	Catch Basins, Mod. No. 2-6 as per plan
604	1	1				1	1		1																										604	5	Each	Catch Basins, Std. No. 5
604	1			1	1			1																											604	4	Each	Catch Basins, Mod. No. 2-4 as per plan
604				1																															604	1	Each	Inlets, Mod. No. 2-A-6 as per plan
604										1																									604	1	Each	Inlets, Mod. No. 2-A-10 as per plan
604													2																						604	2	Each	Inlets, Std. No. 2-A-12
604		1																																	604	1	Each	Inlets, Mod. No. 2-A-8 as per plan
660			4		11	3	3	4		4	11	11	13	68		5		6	23	5	4	3	8	5	5	23	9	6	5	2	4	8	4		660	257	S.Y.	Sodding
		1																																		1	Each	24"x20° Bend
								1																												1	Each	33"x37° Bend

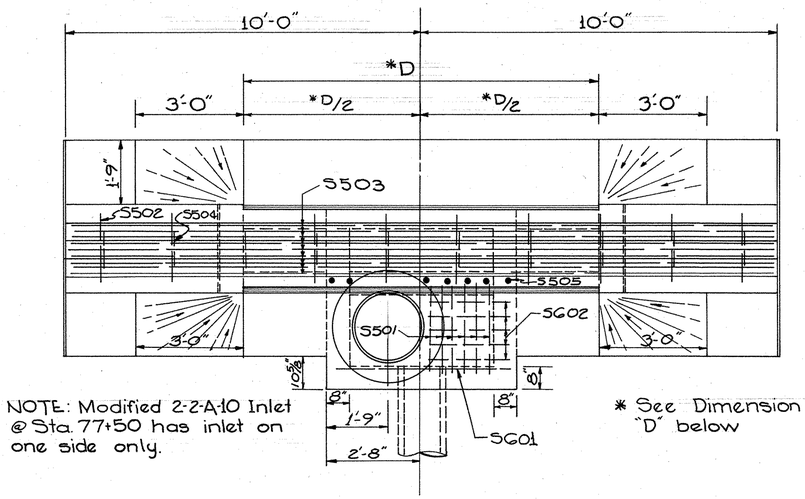
Made By WBS 10/68
Chkd By WCG 11/68

Orig By WHP Chkd By WCG 11/68 PIPE CULVERT SUB-SUMMARY

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

367

MOT-75-17.66



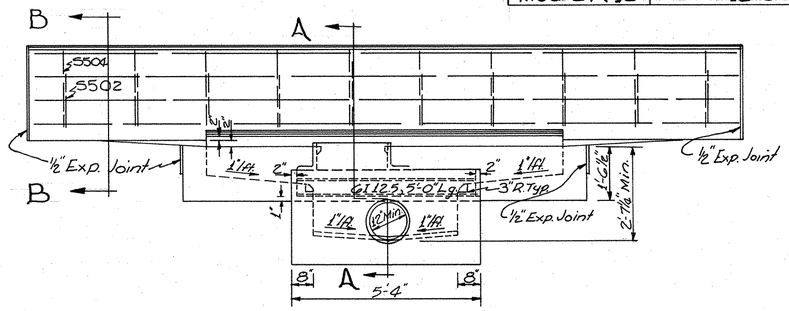
NOTE: Modified 2-2-A-10 Inlet @ Sta. 77+50 has inlet on one side only.

* See Dimension "D" below

PLAN

TABLE FOR DIMENSION "D"

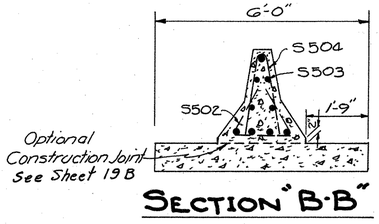
INLET	DIMENSION "D"
Mod. 2-A-6	6'-0"
Mod. 2-A-8	8'-0"
Mod. 2-A-10	10'-0"
Mod. 2-A-12	12'-0"



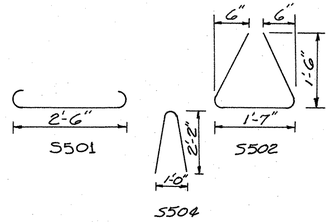
ELEVATION

NOTES: Portion above inlet to be paid for as Concrete Median Barrier Type A.
Furnish and install steps 12" c/c in inlets which are deeper than 4 feet.
For detail of Manhole Casting see Std. Drawing M.H.-1 and for notes not shown see Std. Drawing I-2A.

WALLS: The sections between the base and the upper permissible construction joint may be built of brick, concrete block or cast-in-place concrete, if basin is less than 12' deep. The unit above the upper permissible construction joint may be precast as an alternate to cast-in-place. Concrete for precast or cast-in-place construction shall meet the requirements of Section 511 Class C of the material specifications.
If a skewed pipe protrudes more than 2" inside a wall, the pipe shall be trimmed flush and finished to produce a neat appearance.
If basin is deeper than 12', it shall be built of class C concrete reinforced by placing ½" ϕ bars 12" c/c both Vertically and Horizontally, with a 2" clearance from inside face of wall.



SECTION "B-B"

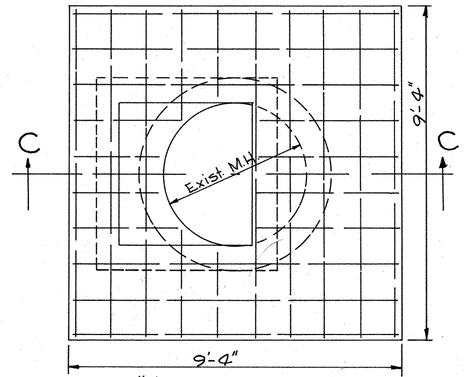


REINFORCING STEEL

Mark	Shape	Length	Nº	Weight
S501	Bent	3'-8"	6	23
S502	Bent	4'-11"	10	51
S503	Str.	19'-8"	9	184
S504	Bent	4'-2"	10	43
S505	Str.	1'-2"	7	9
S506	Str.	6'-4"	1	10
S507	Str.	2'-4"	5	18

Total 338 lbs.

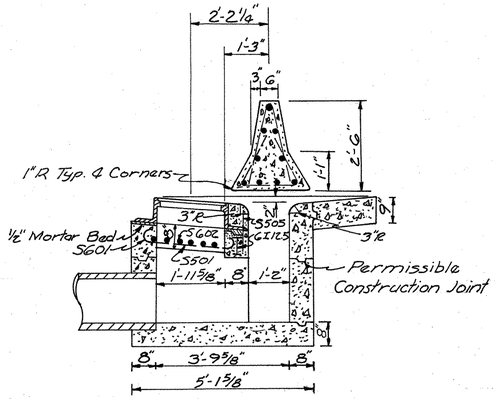
NOTE: Payment for furnishing & placing reinforcing steel shall be included in the unit price bid for Concrete Median Barrier Type A.



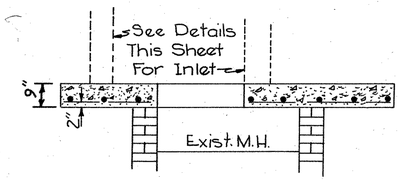
NOTE: Use ½" ϕ bars each way. Payment for furnishing & placing reinforcing steel shall be included in unit price bid for Modified Inlets.

PLAN

KEY JOINT



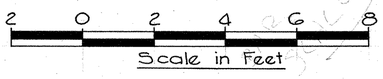
SECTION "A-A"



NOTE: Remove existing M.H. down to where it reaches its full diameter.

SECTION "C-C"

MODIFIED INLETS AT STA. 140+00 & 145+00

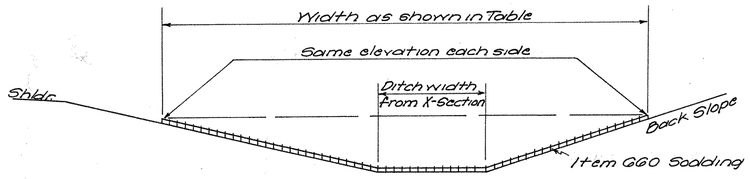


MODIFIED 2-A-6, 2-A-8, 2-A-10 & 2-A-12 INLETS

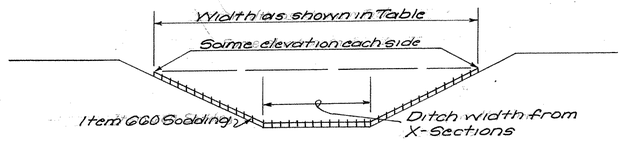
FED. RD. DIVISION	STATE	PROJECT		368
	OHIO			

MONTGOMERY COUNTY - MOT - 75 - 17.60

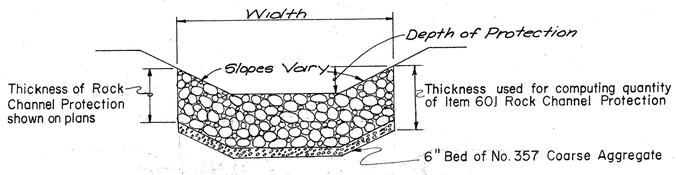
Drawn By T.R. Chkd By W.M.P. 11/68



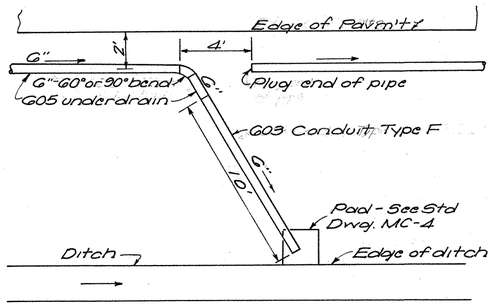
STD. SHOULDER DITCH



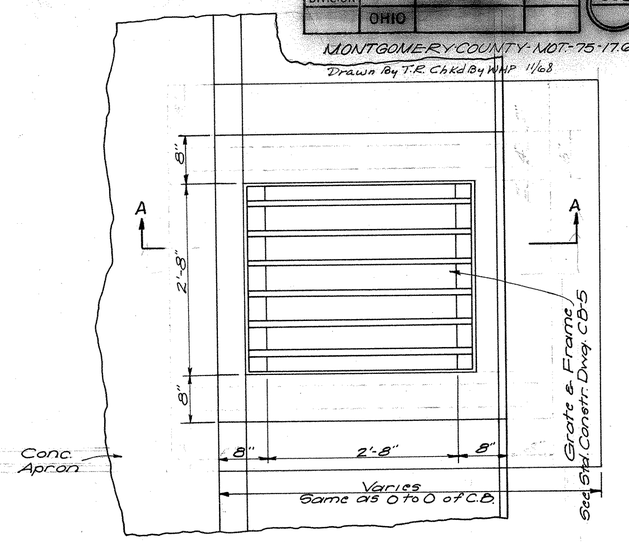
SPECIAL DITCH



DETAIL OF ROCK CHANNEL PROTECTION

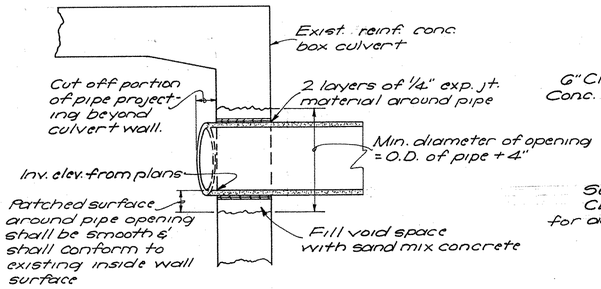


UNDERDRAIN OUTLET TO SIDE DITCH



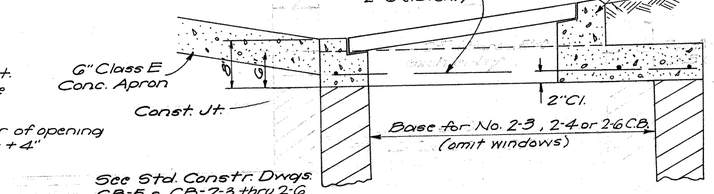
PLAN

Scale 1" = 1'-0"



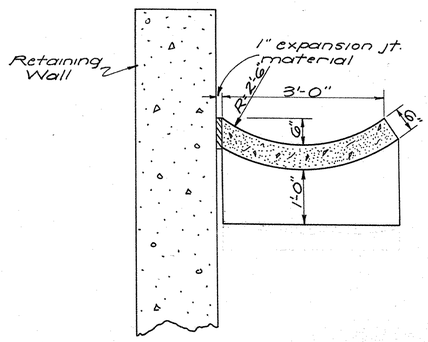
DETAIL PIPE CONNECTION TO EXISTING BOX CULVERT

No Scale



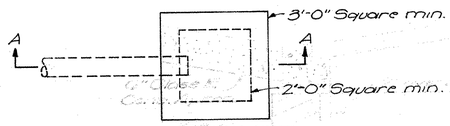
SECT. A-A

MODIFIED NO. 2-3, 2-4, 2-6 CATCH BASIN WITH NO. 5 C.B. TOP

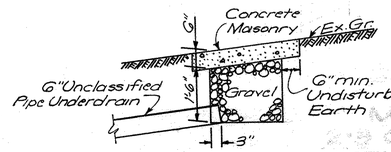


MODIFIED TYPE 2 PAVED GUTTER - PLAN-Y

Scale 3/4" = 1'-0"



PLAN



SECT. A-A

SPRING DRAIN DETAILS

Scale 1/2" = 1'-0

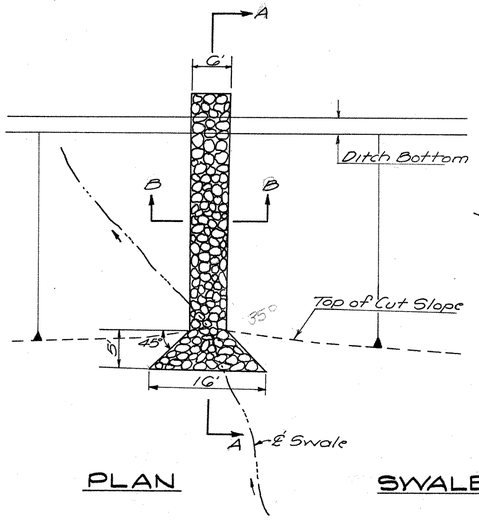
DRAINAGE DETAILS

FED. RD. DIVISION	STATE	PROJECT
	OHIO	

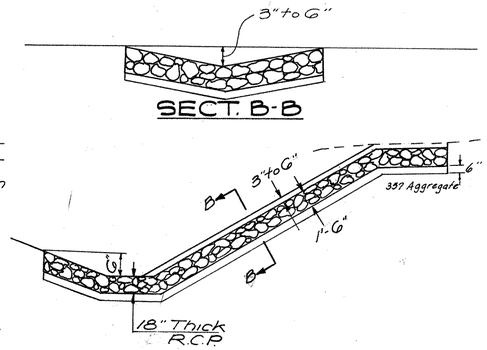
368A

MONTGOMERY COUNTY-MOT-75-17.66

Drawn By T.R. Chk'd By WHP

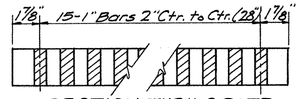


PLAN



SWALE INTERCEPTOR DETAIL

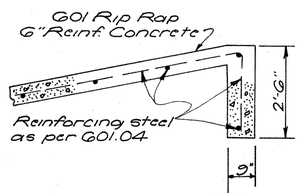
No Scale



All other dimensions & details same as C-B-5

PLAN X

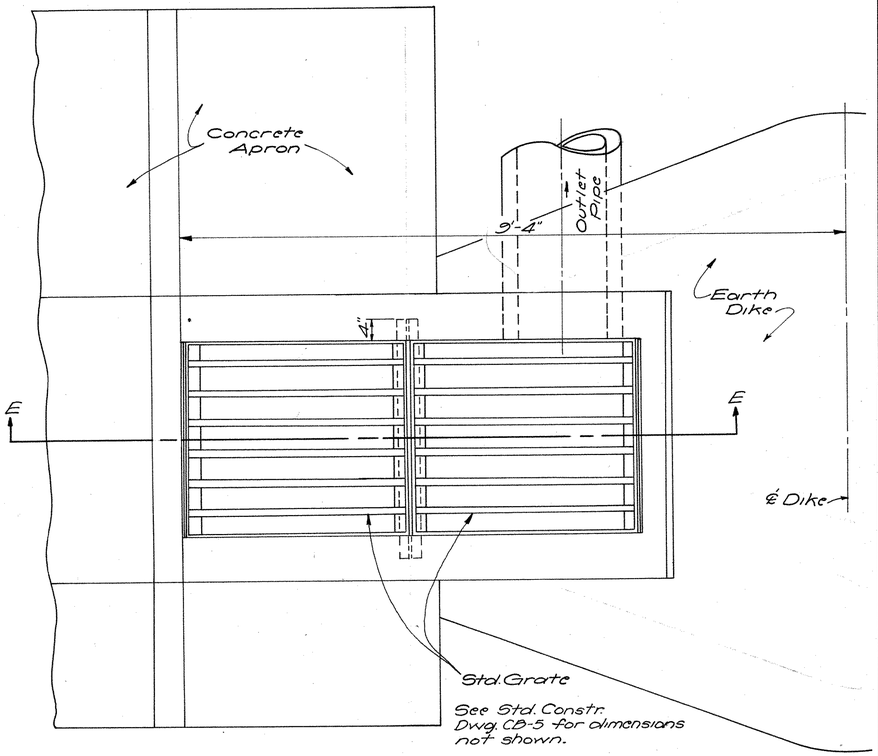
MODIFIED NO. 5 CATCH BASIN

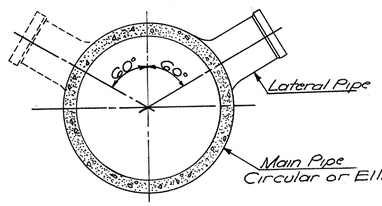


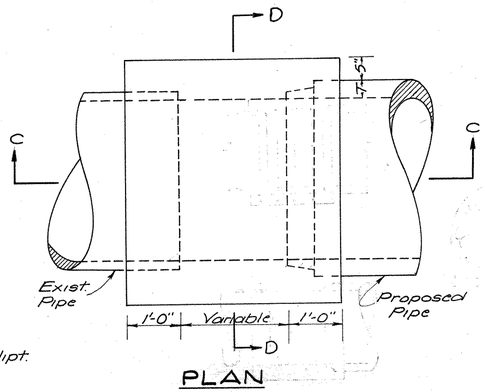
PAVED INLET

CUT-OFF WALL DETAIL

Scale ½" = 1'-0"



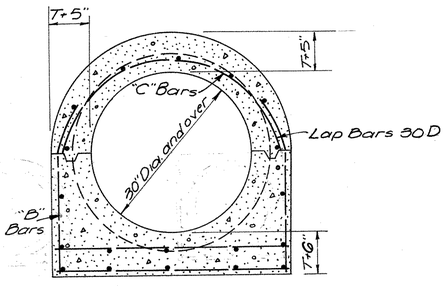




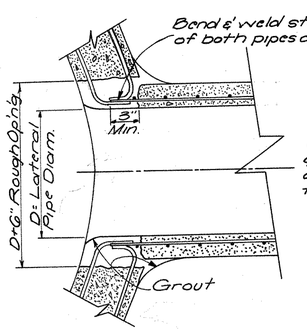
PLAN

REINFORCED CONCRETE COLLAR

Scale 3/4" = 1'-0"



ALT. SECT. D-D

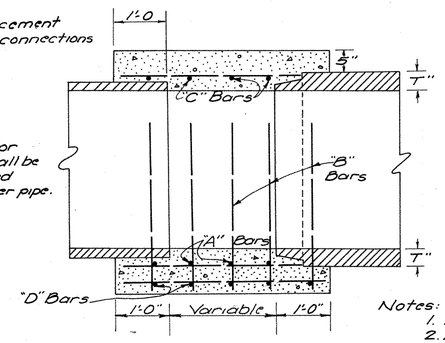


Concrete for grouting shall be as specified for stronger pipe.

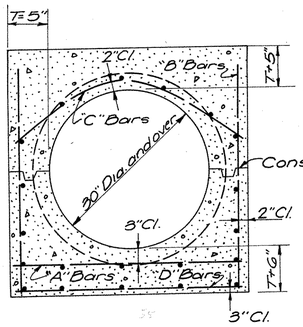
TYPICAL PREFABRICATED

"T" CONNECTION

No Scale



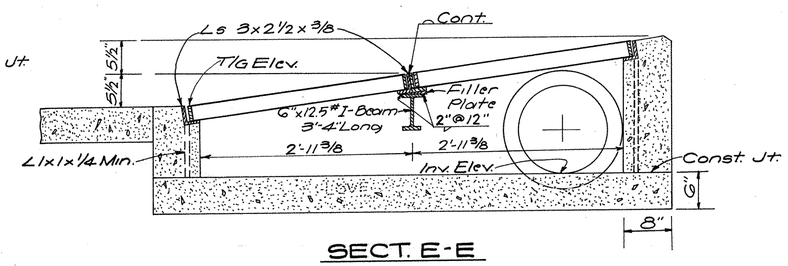
SECT. C-C



SECT. D-D

Notes:

1. A, B, C, & D bars @ 12" c-c
2. A, B & C bars #5 for 30" to 60" pipe
   #6 for 66" to 78" pipe
   #7 for 84" to 108" pipe
   D bars #5 for all pipe sizes
3. Longitudinal bars #5 @ 18" c-c
4. No less than 3 transverse bars in any gap.



SECT. E-E

PLAN-Y

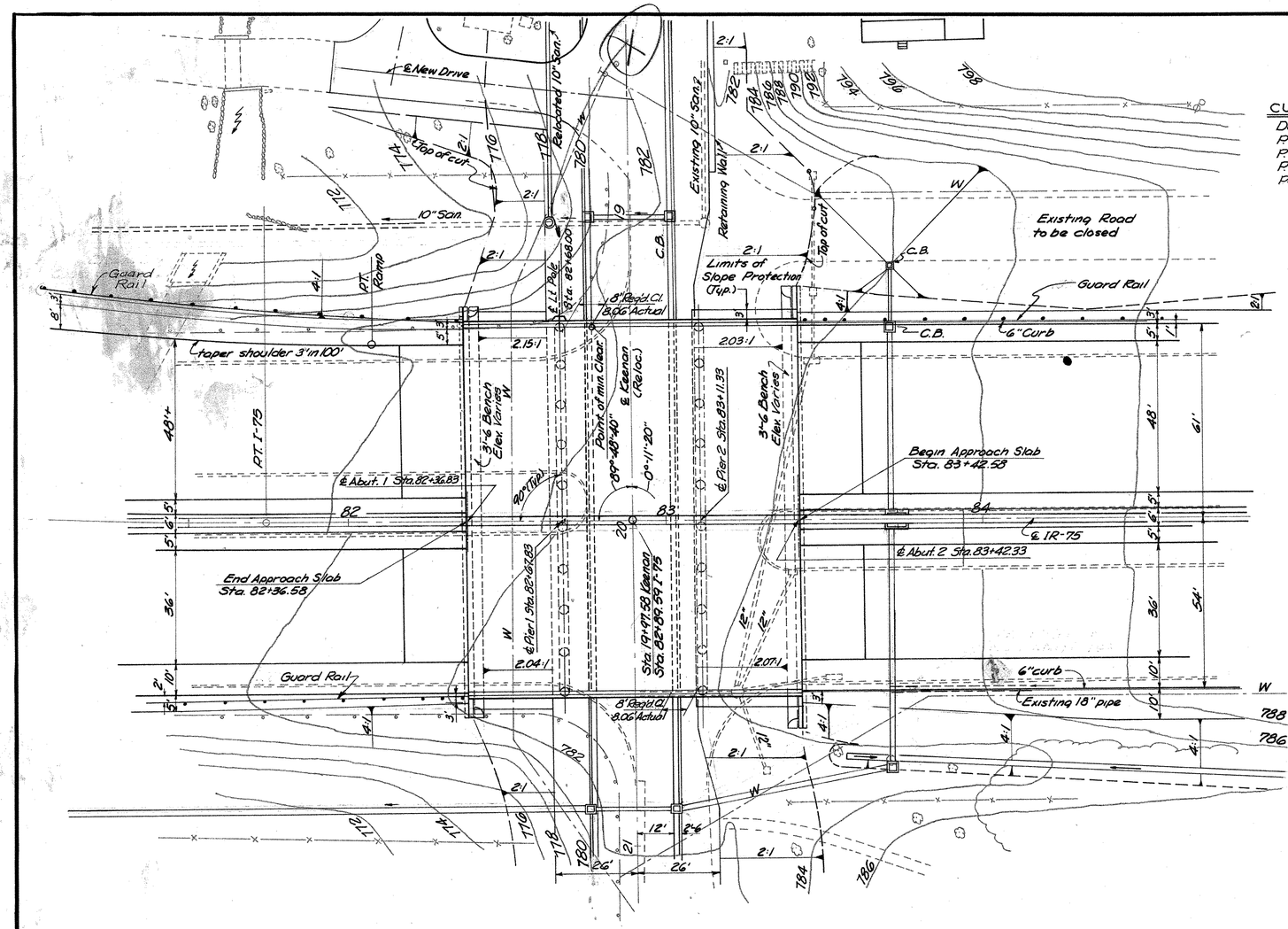
MODIFIED NO. 5 CATCH BASIN

WITH DOUBLE GRATE

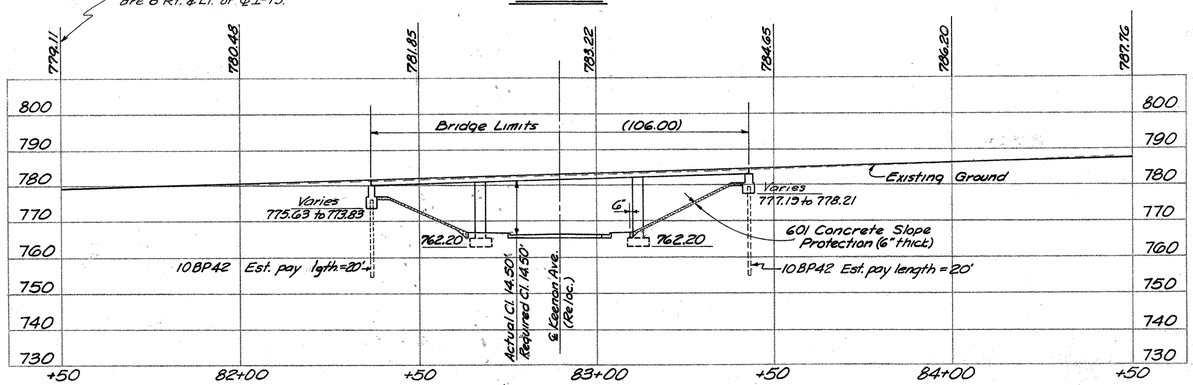
Scale: 1" = 1'-0"

FED. RD DIVISION	STATE	PROJECT		368
	OHIO			

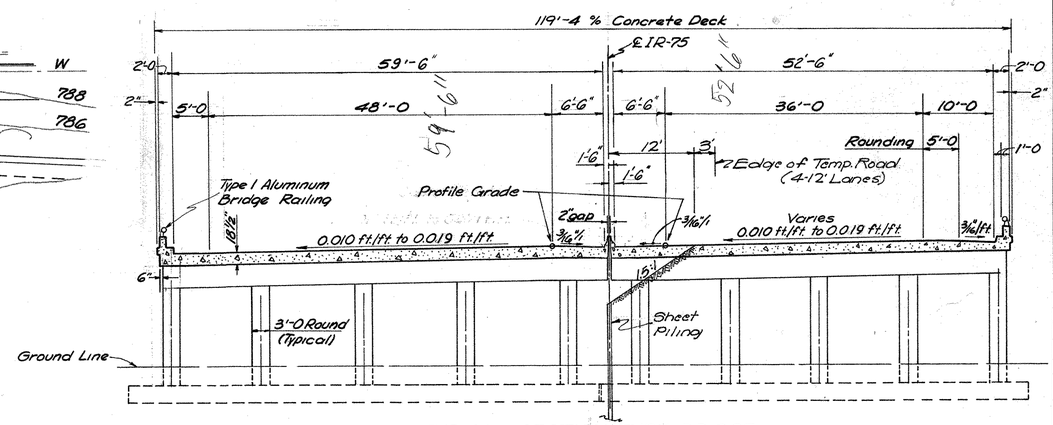
MOT.-75-17.66



PLAN



℄ PROFILE



TYPICAL SECTION THRU BRIDGE

CURVE DATA

Dc = 1°30'00"
P.C. = 72+61.70
P.I. = 77+19.60
P.T. = 81+73.14 ℄ Angle Point 0°02'13" Lt.

NOTE: 4 lanes of traffic to be maintained during construction of bridge. Keenan Ave. traffic to be detoured during construction of Keenan Ave.

PROPOSED STRUCTURE

TYPE: Continuous reinforced concrete slab with reinforced concrete substructure
SPANS: 30'-6", 43'-6", 30'-6"
ROADWAY: 117'-0 face to face of parapets including a 3' median barrier and 2-1'-0" safety curbs.

LOAD FREQUENCY: CF=2000(57)(Adequate for AASHO alternate loading)
SKEW: 0°-00'-00"
WEARING SURFACE: 1" Monolithic Concrete
APPROACH SLAB: 20' long (AS-1-67)
ALIGNMENT: Tangent

B.M. Elev. 780.612
2" □ Cut in E. side of ditch inlet structure. 79' Rt. of Sta. 83+32

AVERAGE DAILY TRAFFIC

A.D.T. (1975) ..... 40500 *
Type "B" (Estimated) 2015

* From an Engineering Report prepared by Division 8, March, 1962. Traffic count made by Bureau of Planning and Survey

NOTE: All piers and abutments are parallel and 90° to proposed ℄ I-75.

Grades worked out graphically see sheet 10

Note: West half of bridge to be built first. Four lanes of traffic to be carried on east half of I-75 during this period. Use sheet piling as indicated.

SHAW, LENZ & ASSOCIATES ENGINEERS
CINCINNATI OHIO
1/11

SITE PLAN

BRIDGE NO. MOT-75-17.88
I-R-75 OVER KEENAN AVENUE
STA. 82+36.58 to
MONTGOMERY COUNTY STA. 83+42.58

PRESENT	TOPO	PROPOSED		WORK	
SURVEYOR	DRAWN	DESIGNED	DRAWN	CHECKED	REVISED
B.H.S.	W.B.S.	W.B.S.	T.J.P.	R.L. G-27-GG	

035455(0)

FED. RD. DIVISION	STATE	PROJECT		370
	OHIO			

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	LEFT BRIDGE						RIGHT BRIDGE					
				ABUTMENTS	PIERS	SUPER-STRUCTURE	GENERAL			ABUTMENTS	PIERS	SUPER STRUCTURE	GENERAL		
503	587	Cu. Yds.	Excavation for Structures, unclassified	144	154					132	157				
505	Lump	Lump Sum	First Test Pile	Lump											
507	800	Lin. Ft.	Steel Piles (10 BP 42)	420						380					
509	229,666	Lbs.	Reinforcing Steel	8,388	24,124	89,227				7,519	20,631	79,777			
511	758	Cu. Yds.	Class "C" Concrete - Superstructure			401						357			
511	125	Cu. Yds.	Class "C" Concrete - Piers above Footings		63						62				
511	130	Cu. Yds.	Class "C" Concrete - Abutments	68						62					
517	212	Lin. Ft.	Bridge Railing, Type I			106						106			
518	68	Cu. Yds.	Porous Backfill	35						33					
518	24	Each	Scuppers, 6" cast iron pipe as per plan			12						12			
512	6	Lin. Ft.	Premolded Sealing Strip	3						3					
516	38	Sq. Ft.	1" Preformed Expansion Joint Filler,	13		6				13		6			
601	875	Sq. Yds.	6" thick Concrete Slope Protection				462						413		
808	808	Unit of Units	Water-reducing, set-retarding admixture		26	401					24	357			
511	115	Cu. Yds.	Class "C" Concrete - Pier Footings		61						54				
503	Lump	Lump Sum	Cofferdams, cribs and sheeting				Lump								
625			See lighting plan.												

GENERAL NOTES

REFERENCE shall be made to the following
Standard Drawings: BR-1-65, sheet1, revised 11-24-65
AS-1-67 Dated 6-12-69

Supplemental Specifications: 808 dated 1-1-69
836 dated 6-17-69

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 = 1333 p.s.i. for superstructure.
Class "C" basic unit stress = 1133 p.s.i. for substructure.

REINFORCING STEEL: ASTM, A615, A616, A617, Deformed Intermediate or Hard Grade. Basic unit stress = 20,000 p.s.i. Spiral reinforcement shall be plain, A306 or A499

MACHINE FINISH: The concrete bridge slab is to be finished by the use of a finishing machine.

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

FIRST TEST PILE: Payment will be made for only one first test pile. It may be driven for either the Right or Left bridge.

PILES shall be driven to a minimum bearing capacity of 32 tons per pile for the abutments.

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

MAINTENANCE OF TRAFFIC: Four lanes of traffic are to be maintained on U.S. 25 during construction of the bridges. Keenan Avenue traffic shall be detoured during construction of Keenan Avenue.

SHAW, LENZ & ASSOCIATES ENGINEERS 2/11
CINCINNATI OHIO

ESTIMATED QUANTITIES & GENERAL NOTES

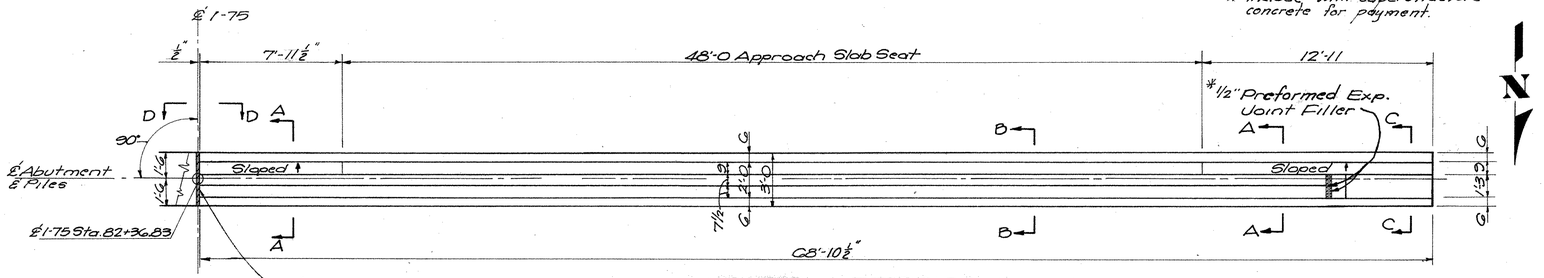
BRIDGE NO. MOT-75-1783
IR-75 OVER KEENAN AVENUE

MONTGOMERY COUNTY STA. 82+36.58 to STA. 83+42.58

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	W.T.R.	R.J.L. 6-28-66		

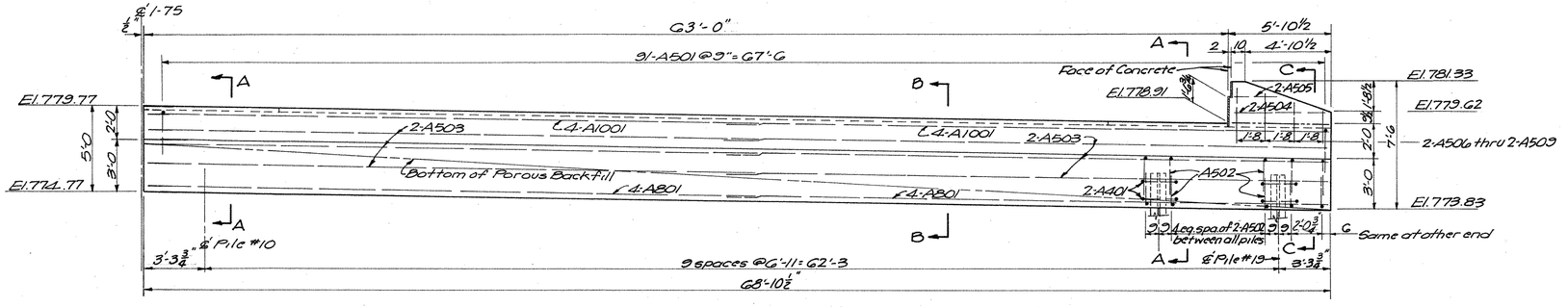
FED. RD. DIVISION	STATE	PROJECT		371
	OHIO			

* Include with superstructure concrete for payment.



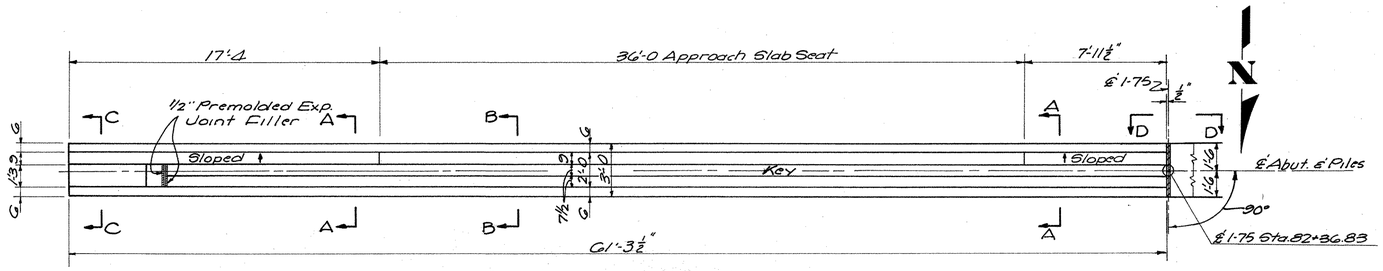
PLAN - LEFT BRIDGE

Note: Slab is a constant thickness of 18½" except over abutment seats and piers.

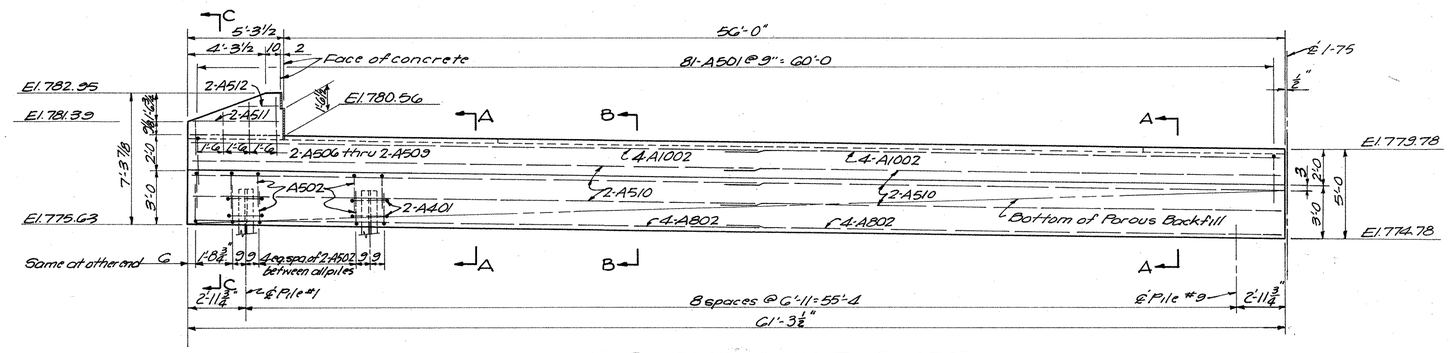


ELEVATION - LEFT BRIDGE

(Looking South)

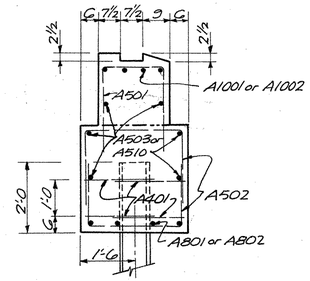


PLAN - RIGHT BRIDGE

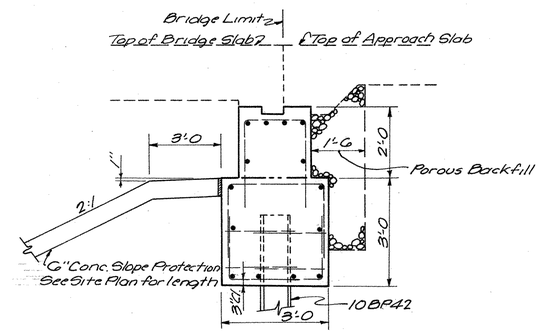


ELEVATION - RIGHT BRIDGE

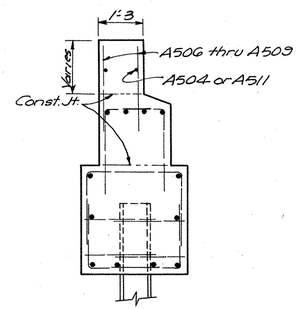
(Looking South)



SECTION A-A



SECTION B-B



SECTION C-C

NOTE:
For Section D-D and additional Notes, see Sheet 4.

SHAW, LENZ & ASSOCIATES ENGINEERS — 3/11
CINCINNATI — OHIO

ABUTMENTS NO. 1

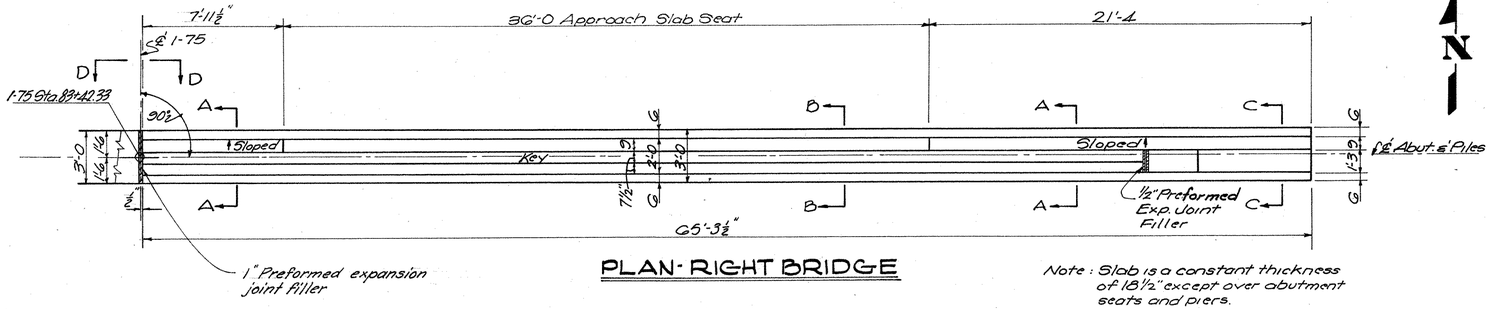
BRIDGE NO. MOT-75-1783

IR-75 OVER KEENAN AVENUE

MONTGOMERY COUNTY STA. 82+36.58 to STA. 83+42.58

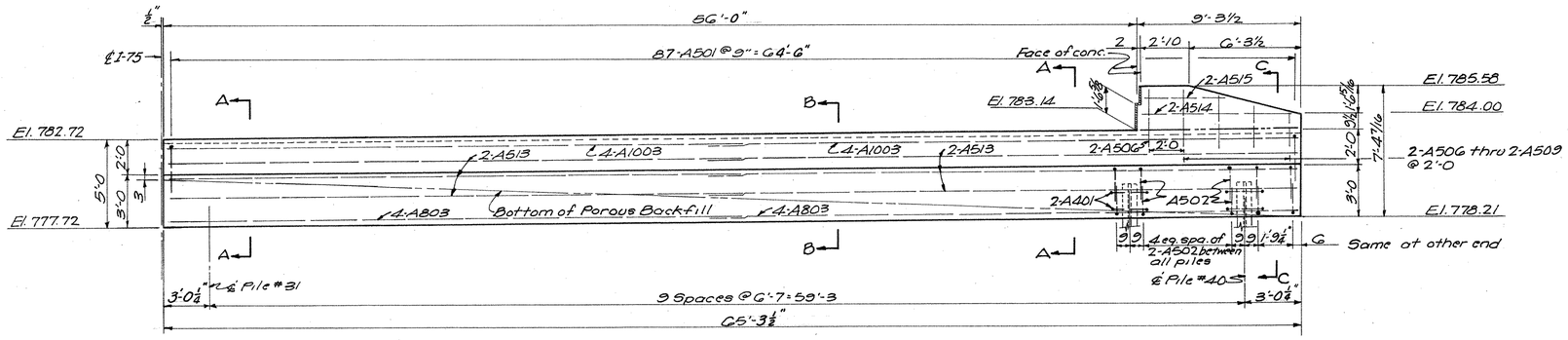
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	W.T.R.	R.J.L. 6-20-66		

FED. RD. DIVISION	STATE	PROJECT		372
	OH10			

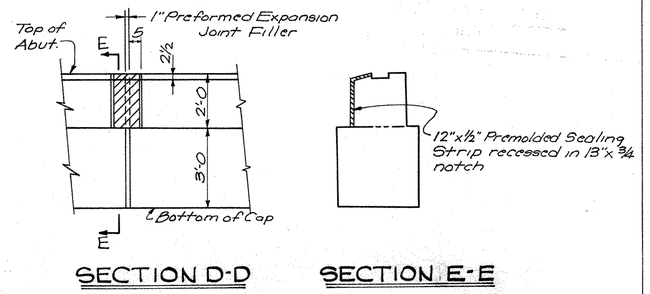


PLAN - RIGHT BRIDGE

Note : Slab is a constant thickness of 18½" except over abutment seats and piers.



ELEVATION - RIGHT BRIDGE

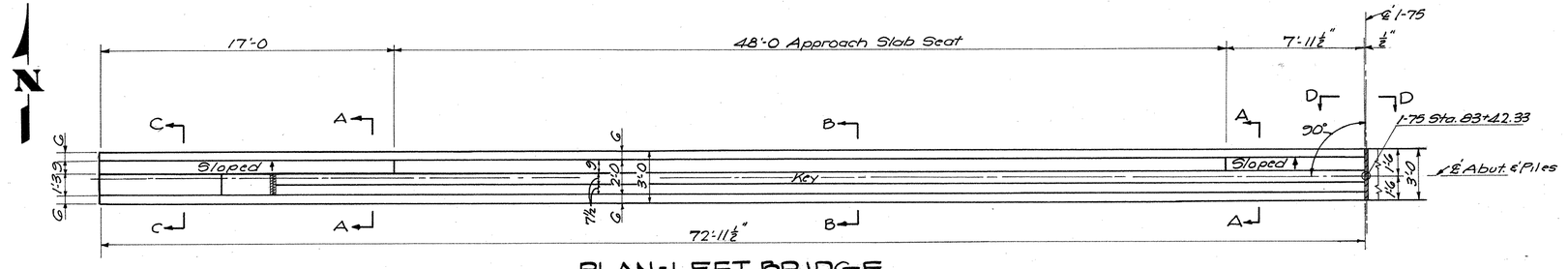


SECTION D-D

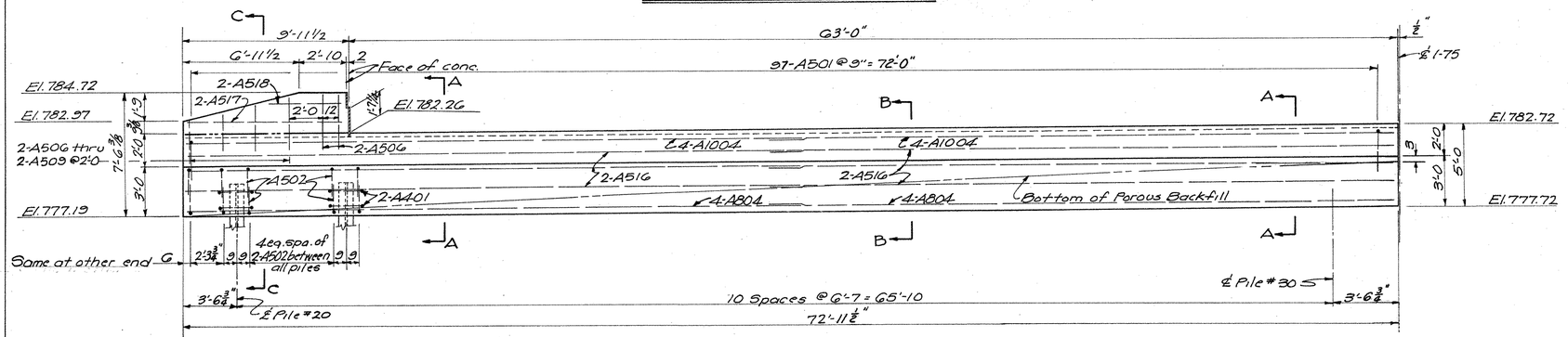
SECTION E-E

TOP OF PILE ELEV.

ABUTMENT NO.1		ABUTMENT NO. 2	
Pile No.	Top of Pile Elev.	Pile No.	Top of Pile Elev.
1	777.58	20	779.21
2	777.49	21	779.26
3	777.39	22	779.31
4	777.30	23	779.36
5	777.20	24	779.41
6	777.11	25	779.46
7	777.01	26	779.51
8	776.91	27	779.55
9	776.82	28	779.60
10	776.73	29	779.65
11	776.64	30	779.70
12	776.54	31	779.75
13	776.44	32	779.80
14	776.35	33	779.85
15	776.25	34	779.89
16	776.16	35	779.94
17	776.06	36	779.99
18	775.97	37	780.04
19	775.87	38	780.09
		39	780.14
		40	780.19



PLAN - LEFT BRIDGE



ELEVATION - LEFT BRIDGE

NOTES:

1. For Sections A-A, B-B, & C-C, see Sheet 3.
2. Porous backfill shall extend upward to the approach slab and to the surface of the earth shoulders and outward to the surface of the embankment slopes. Excavation therefore, in excess of that required for construction of the footing, shall be considered as paid for in the bid price per cu.yd. paid for porous backfill.
3. Excavation quantity includes the removal of material bounded on the bottom by the bottom plane of the footing, on the top by the surface of the roadway cut and the removal of material above the level of the earth bench.
4. Falsework for bridge slab may be supported on the footing.

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CINCINNATI OHIO

ABUTMENTS NO.2

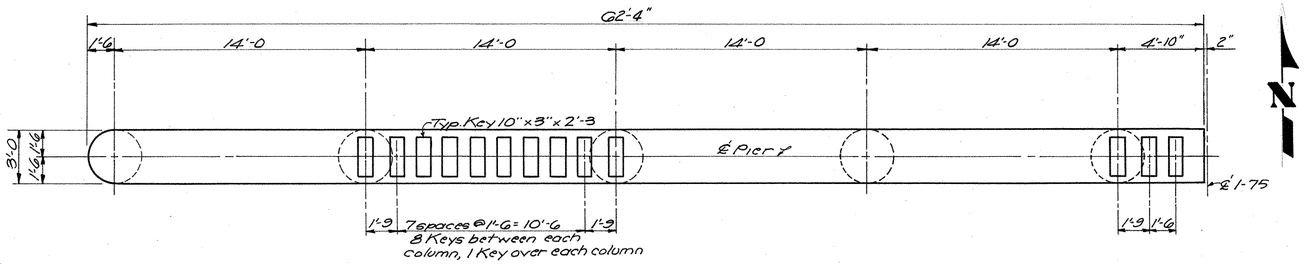
BRIDGE NO. MOT-75-1783

I R-75 OVER KEENAN AVENUE

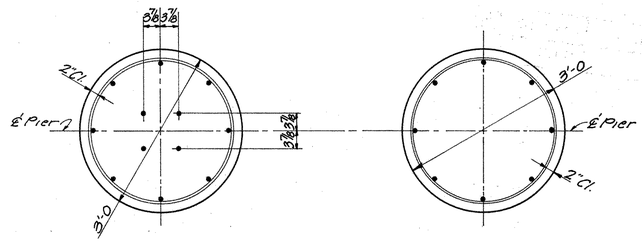
MONTGOMERY COUNTY STA. 82+36.58 to STA. 83+42.58

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S	R.R.L.	W.T.R.	R.J.L. 6-20-66		

FED. RD. DIVISION	STATE	PROJECT		373
	OHIO			

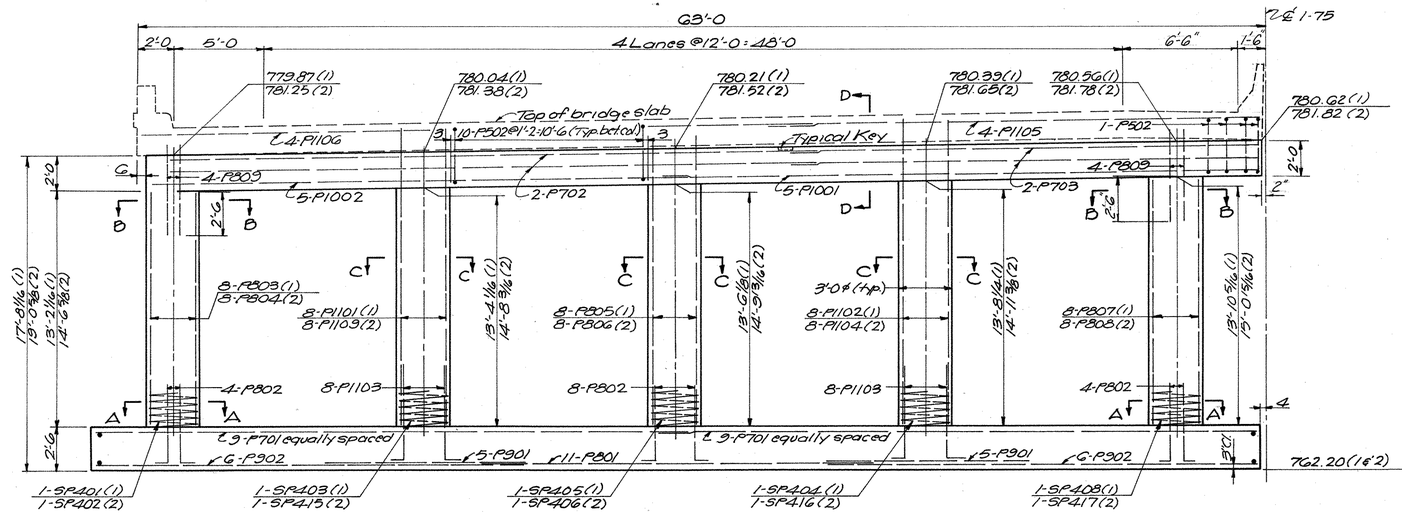


CAP PLAN

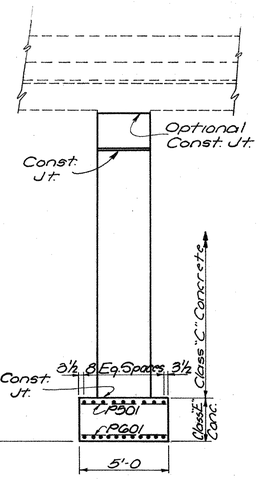


SECTION A-A & B-B

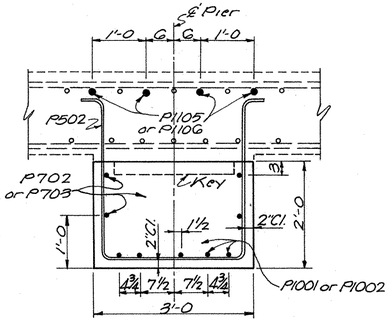
SECTION C-C



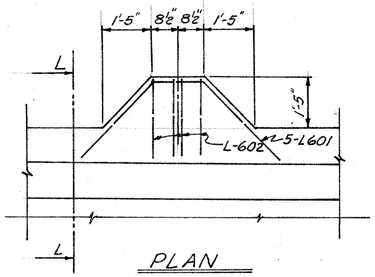
ELEVATION
(Looking North)



END VIEW



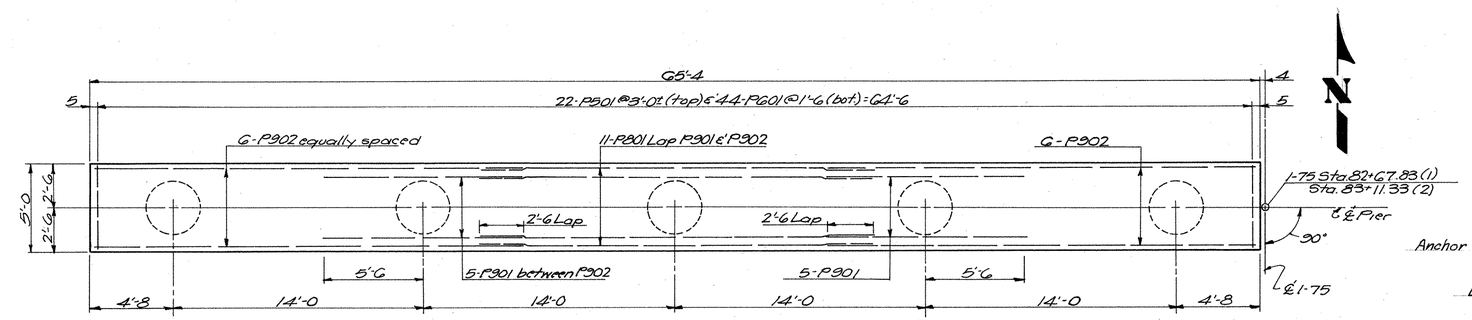
SECTION D-D



PLAN

LIGHT POLE SUPPORT

For details not shown see Lighting details.

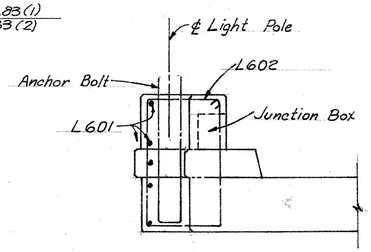


Top Longitudinal reinforcing shown in elevation view.

FOOTING PLAN
(Bottom Reinf. Steel Shown)

LEGEND
(1) - Pier #1
(2) - Pier #2

For Notes, see sheet G



SECTION L-L

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI
5/11
OHIO

PIERS NO. 1 & NO. 2
LEFT BRIDGE

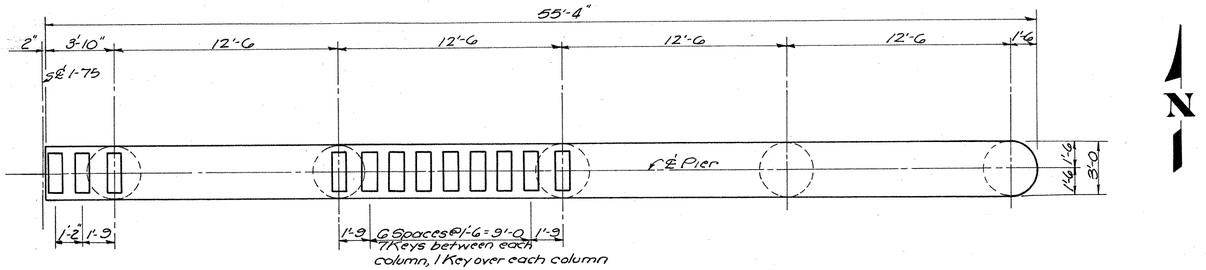
BRIDGE NO. MOT-1783

1-75 OVER KEENAN AVENUE

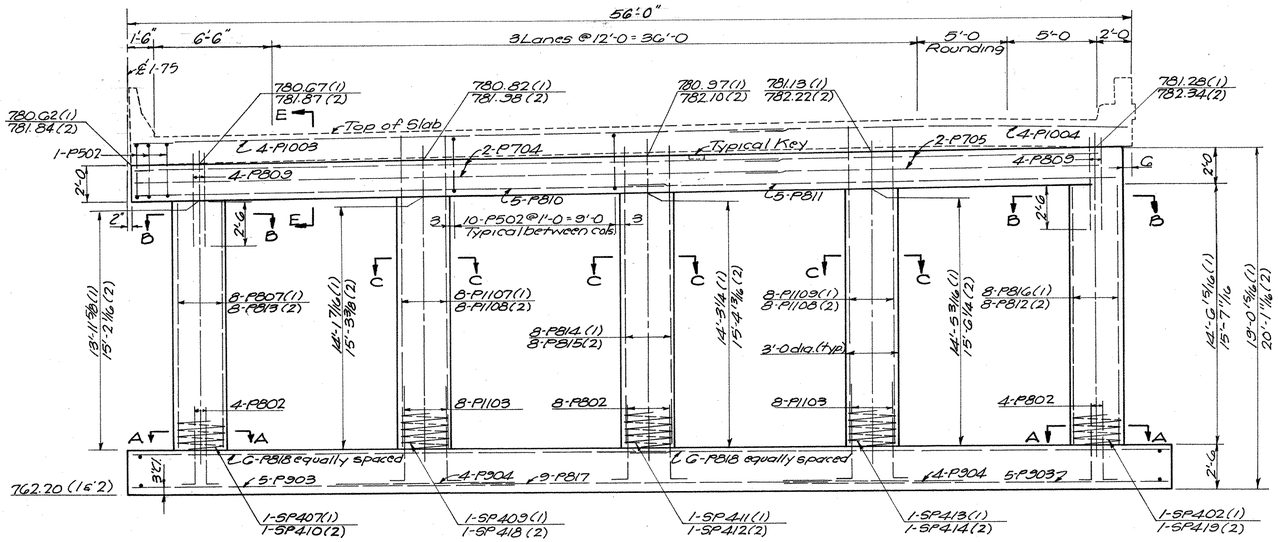
MONTGOMERY COUNTY STA. 82+36.58 to STA. 83+42.58

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	W.T.R.	R.J.L. 6-21-66		

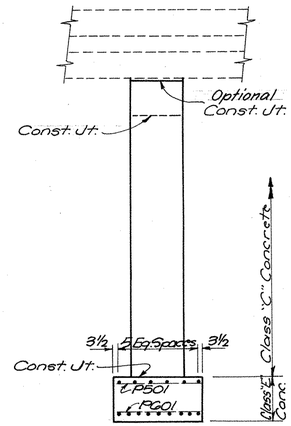
FED. RD. DIVISION	STATE	PROJECT		374
	OHIO			



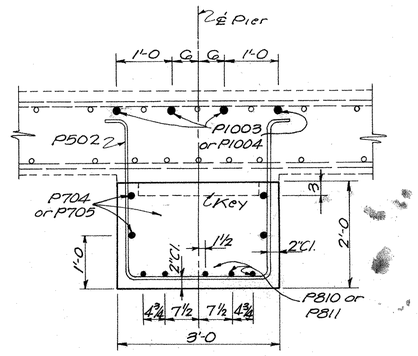
CAP PLAN



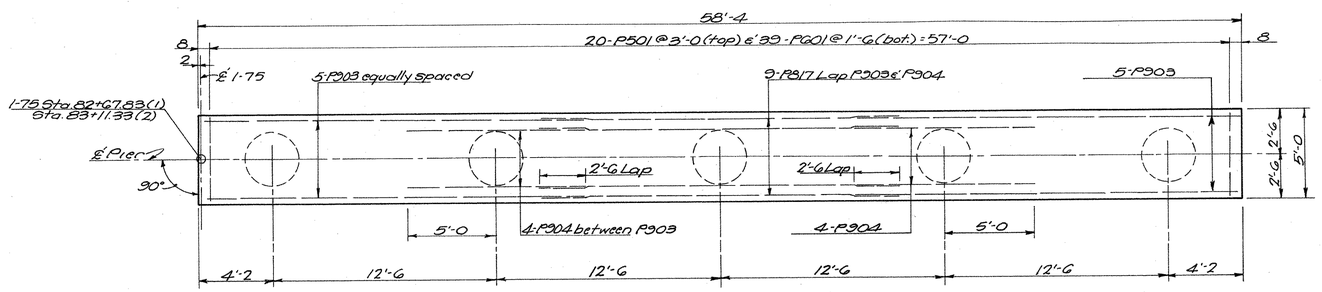
ELEVATION
(Looking North)



END VIEW



SECTION E-E



FOOTING PLAN
(Bottom Reinf. Steel Shown)

Top Longitudinal reinforcing shown in elevation view.

LEGEND
(1) - Pier #1
(2) - Pier #2

NOTES
1. For Sections A-A, B-B, & C-C, see Sheet 5.
2. The Pier Cap shall not be used to support falsework for the deck slab.
3. The construction joint, including shear keys, between the pier cap and slab is optional.

SHAW, LENZ & ASSOCIATES 6/11
ENGINEERS
CINCINNATI OHIO

PIERS NO. 1 & NO. 2
RIGHT BRIDGE

BRIDGE NO. MOT-75-1783

I-75 OVER KEENAN AVENUE

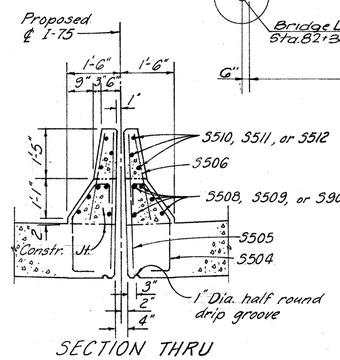
MONTGOMERY COUNTY STA. 82+36.58 to STA. 83+42.58

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	L.G.W.	R.J.L. 6-21-66		

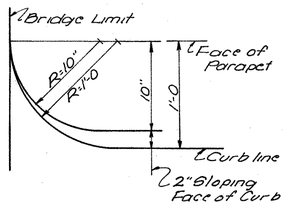
FED. RD. DIVISION	STATE	PROJECT		375
	OHIO			

106'-0% Concrete Slab
13 Railing Posts @ 7'-4 = 95'-4
6 Interior Parapet Panels @ 14'-8 = 88'-0
43-5502 @ 2'-6 (in slab) & 43-5503 @ 2'-6 (in curb) = 105'-0
5'-4 | 9'-0 | 5'-4 | 9'-0
C" | C"
3" | 7-5501 @ 1'-5 = 8'-6 | 3" | Typ. End Panel
3" | 11-5501 @ 1'-5 = 14'-2 | 3"
℄ Lt. Pole Sta 82+68
3-5508 (in curb)
4-R502
2" Conduit
3-5904 (in curb)
4-R501
Railing End Post See detail sheet 8
3-5508 (in curb)
See Detail "A" below
3-5509 (in curb
3-5904 (in curb)
5'-4 | 6 Scuppers @ 4'-3 = 21'-3 | 4'-8
4'-8 | 4 Scuppers @ 7'-0 = 21'-0 | 5'-7
2"
Curb
G9-5604 (top) Spaced as shown in Section A-A
101-5702 (bot.) Spaced as shown in Section A-A
Required Const. Jt.
Optional Const. Jt.
G9-5603 (top) Spaced as shown in Section A-A
101-5701 (bot.) Spaced as shown in Section A-A
29'-0
59'-6" Curb line to curb line
30'-6"
34-5601 (top) Spaced as shown in Sect. B-B
G3-5901, 29-5902, 28-5903 (bot.) Spaced as shown in Sect. B-B
G6-5001, 29-5002, 29-5003 (top-over Pier) Spaced as shown in Sect. C-C
G3-5602 (top) Spaced as shown in Sect. D-D
G3-5004, 29-5005, 28-5006 (bot.) Spaced as shown in Sect. D-D
G6-5001, 29-5002, 29-5003 (top-over Pier) Spaced as shown in Sect. C-C
34-5601 (top) Spaced as shown in Sect. B-B
G3-5901, 29-5902, 28-5903 (bot.) Spaced as shown in Sect. B-B
Deflection joint spacing
See Detail "B" Sheet 8
5'-4 | 5-5508 (in median) 2 spa. @ 12'-9" = 25'-6" | 5-5904 (in median) 5'-9" | 5'-9" | 5-5509 (in median) 2 spa. @ 16'-0" = 32'-0" | 5'-9" | 5-5904 (in median) 5'-9" | 4'-8 | 5-5508 (in median) 2 spa. @ 12'-9" = 25'-6"
1'-45"
Proposed ℄ I-75
Bridge Limit Sta. 82+36.58
℄ Pier #1 Sta. 82+67.83
3-5510 in 16'-0" panels, 3-5511 in 12'-9" panels, 3-5512 in 5'-9" panels
℄ Pier #2 Sta. 83+11.33
Bridge Limit Sta. 83+42.58
See Detail "B" Sheet 8
G" | 5504, 5505, & 5506, 105 spa. @ 1'-0" = 105'-0" (Shift where necessary to clear deflection joints) | G"

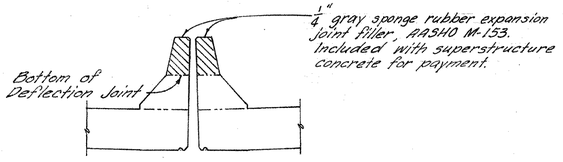
PLAN - LEFT BRIDGE



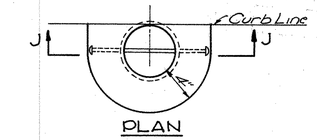
SECTION THRU MEDIAN BARRIER



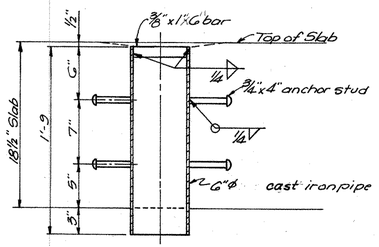
DETAIL "A"



SECTION THRU MEDIAN BARRIER DEFLECTION JOINT

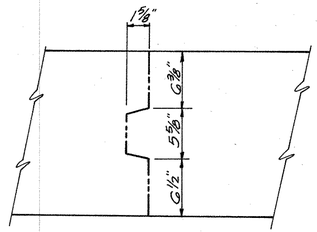


PLAN



SECTION J-J

SCUPPER DETAIL



SECTION H-H
(Construction Joint)

NOTES:

1. The concrete slab thickness of 18½" includes a 1" monolithic wearing surface. The concrete quantity has been computed on this basis.
2. See next sheet and Standard Dwg. BR-1-65, sheet 1, for railing details.
3. See sheet 9 for concrete slab sections.
4. See sheet 10 for bridge slab and screed elevations. A camber for concrete dead load deflection has been included in the screed elevations. 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.
5. Curbs & median shall be placed after the shoring under the slab has been released sufficiently to permit the slab spans to attain full dead load deflection.
6. For light pole support detail see sheet 373.

SHAW, LENZ & ASSOCIATES ENGINEERS 7/11
CINCINNATI OHIO

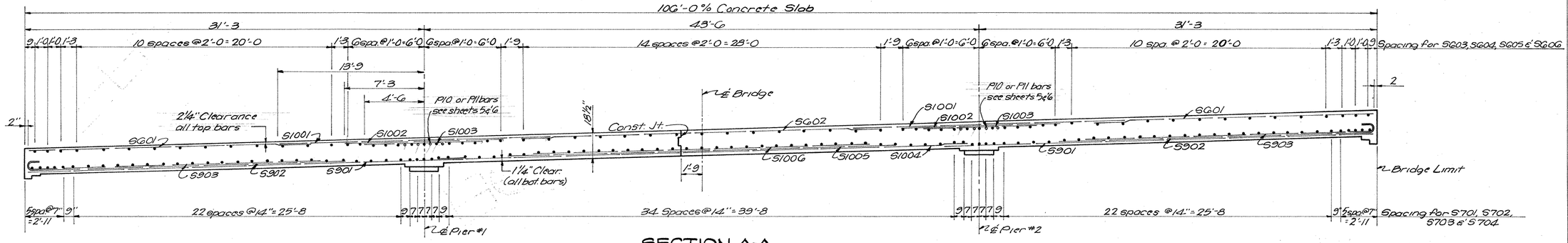
SUPERSTRUCTURE SLAB LEFT BRIDGE

BRIDGE NO. MOT-75-1763 1636
IR-75 OVER KEENAN AVENUE
MONTGOMERY COUNTY STA. 82+36.58 to STA. 83+42.58

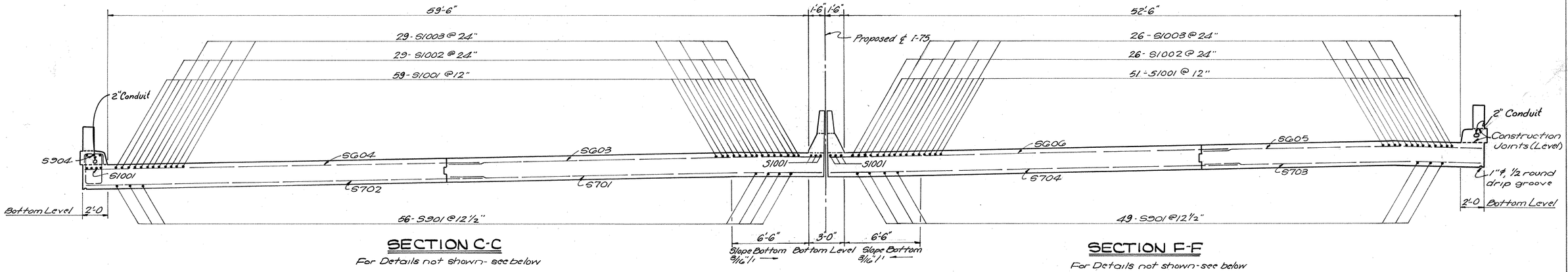
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	W.T.R.	R.J.L. 6-22-66		


FED. RD. DIVISION
STATE
OHIO
PROJECT
376
5504, 5505, & 5506, 105 spa. @ 1'-0" = 105'-0" (Shift where necessary to clear deflection joints)
2 spa. @ 12'-9" = 25'-6"
5'-9"
5'-9"
2 spa. @ 16'-0" = 32'-0"
5'-9"
5'-9"
2 spa. @ 12'-9" = 25'-6"
Deflection joint spacing
Bridge Limit Sta. 82+36.58
℄ Pier #1 Sta. 82+67.83
3-S510 in 16'-0" panels, 3-S511 in 12'-9" panels, 3-S512 in 5'-9" panels
℄ Proposed I-75
℄ Pier #2 Sta. 83+11.33
Bridge Limit Sta. 83+42.58
See Detail "B" Below
See Detail "B" Below
5'-4
6 Scuppers @ 4'-3 = 21'-3
4'-8
5-S509 (in median)
5-S904 (in median)
5-S508 (in median)
5-S904 (in median)
4'-8
4-Scuppers @ 7'-0 = 21'-0
5'-7
5-S508 (in median)
Req'd. Const. Jt.
69-S606 (top) Spaced as shown in Section A-A
101-S704 (bot.) Spaced as shown in Section A-A
Optional Const. Jt.
69-S605 (top) Spaced as shown in Section A-A
101-S703 (bot.) Spaced as shown in Section A-A
30'-6"
52'-6" Curb line to Curb line
22'-0
See Detail "A" Sheet 7
3-S508 (in curb)
4-R502
2" Conduit
3-S904 (in curb)
4-R501
3-S509 (in curb)
3-S904 (in curb)
3-S508 (in curb)
7-S501 @ 1'-5 = 8'-6 Typ. End Panel
11-S501 @ 1'-5 = 14'-2
48-S502 @ 2'-6 (in slab) & 43-S503 @ 2'-6 (in curb) = 105'-0
6 Interior Parapet Panels @ 14'-8 = 88'-0
13 Railing Posts @ 7'-4 = 95'-4
106'-0 ± Concrete Slab
PLAN - RIGHT BRIDGE
Proposed ℄ I-75
GWF-25 steel post galvanized as provided in Sec. 711.02
Deep Beam Rail
5/8" φ button head, oval shoulder bolt with hex nut (both galvanized) two req'd. per post
Galvanized ℄ 8 x 1 3/8 x 10 1/2
Level surface under post
1" φ, 1/2 round drip groove
1 1/4" φ x 2'-6 bar, thread 4" length and provide one hex head nut per bar (Four per post). Bar and nut shall be galvanized.
SECTION K-K
Galvanized ℄ 8 x 1 3/8 x 10 1/2
1 7/16" holes
℄ I-75
SECTION L-L
MEDIAN GUARD RAIL DETAIL
Bridge Limit Edge of Slab
1/4" gray sponge rubber expansion joint filler, AASHO M-153 full depth of median barrier. Included with superstructure concrete for payment.
℄ Proposed I-75
DETAIL "B" (PLAN)
1 1/4" φ x 1-8" anchor bolts and nuts, ASTM A325. Bolts are threaded 3" and embedded 1'-6". Galv. nuts & 6" min. of the threaded end of the bolts. (Included with bridge railing for payment)
Guard Rail Connector Bolts (Typ. S.W., S.E. & N.W. corners)
Top of Curb
RAILING END POST DETAIL
For additional details See Std. Dwg. BR-1-65, Sheet 1.
Proposed ℄ I-75
1" Preformed expansion joint filler
Top 2" hot poured joint sealer. Cost of this sealer included with joint material.
SECTION "M-M"
SHAW, LENZ & ASSOCIATES ENGINEERS
8/11
CINCINNATI
OHIO
SUPERSTRUCTURE SLAB RIGHT BRIDGE
BRIDGE NO. MOT-75-1783
IR-75 OVER KEENAN AVENUE
MONTGOMERY COUNTY STA. 82+36.58 to STA. 83+42.58
DESIGNED W.B.S.
DRAWN R.R.L.
TRACED W.T.R.
CHECKED R.J.L. 6-22-66
REVIEWED
REVISED

FED. RD. DIVISION	STATE	PROJECT		377
	OHIO			



SECTION A-A

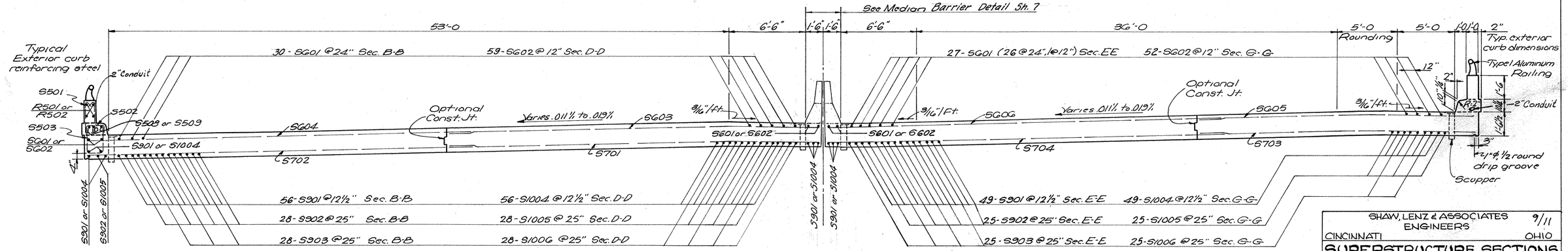


SECTION C-C

For Details not shown - see below

SECTION F-F

For Details not shown - see below



SECTIONS B-B & D-D

SECTIONS E-E & G-G

SHAW, LENZ & ASSOCIATES ENGINEERS — 9/11

CINCINNATI — OHIO

SUPERSTRUCTURE SECTIONS LEFT & RIGHT BRIDGES

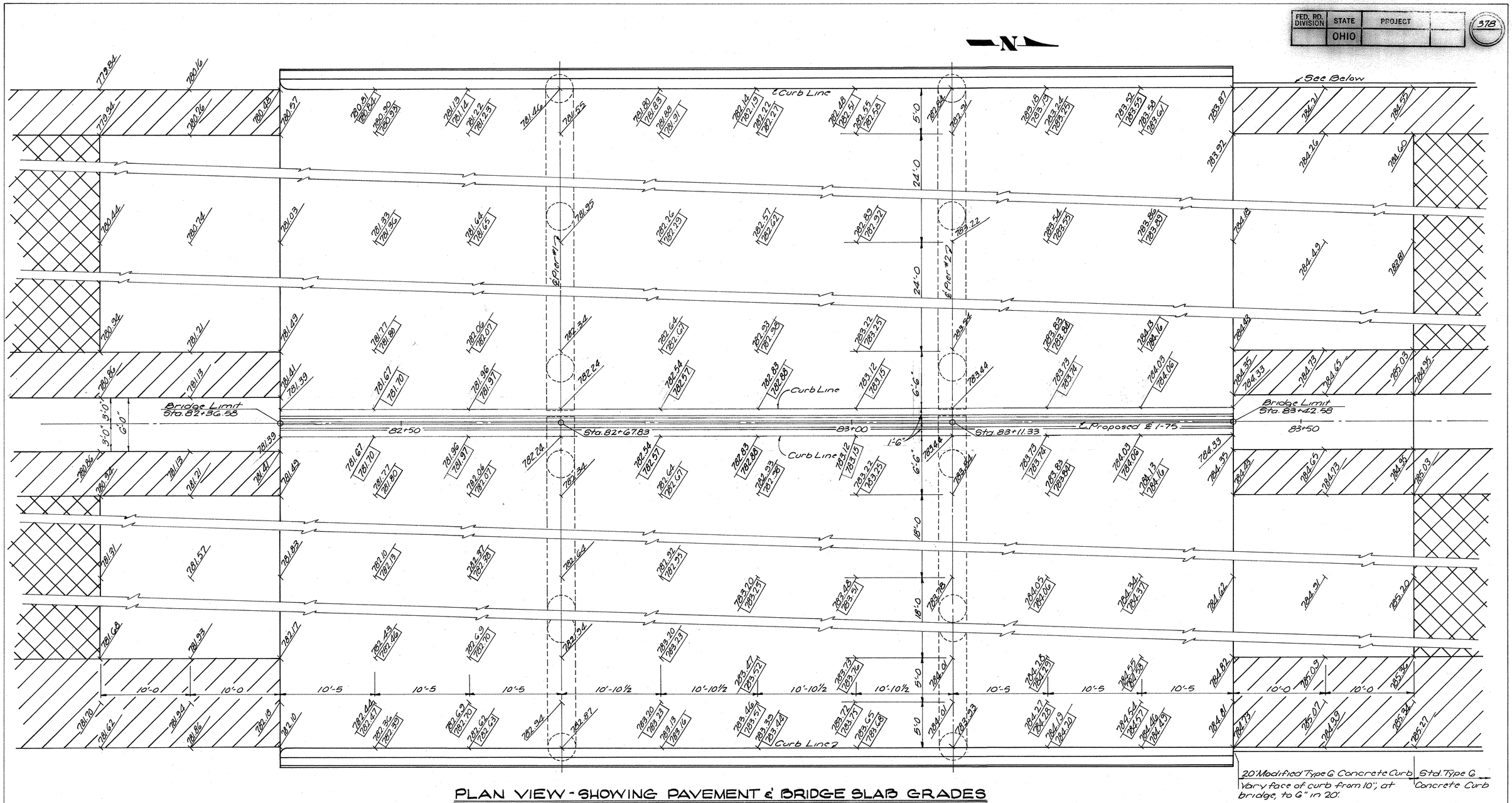
BRIDGE NO. MOT-75-1783

IR-75 OVER KEENAN AVENUE

MONTGOMERY COUNTY STA. 82+36.58 to STA. 83+42.58

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	W.B.S.	W.T.R.	R.J.L. 6-22-66		

FED. RD. DIVISION	STATE	PROJECT		378
	OHIO			



PLAN VIEW - SHOWING PAVEMENT & BRIDGE SLAB GRADES

NOTE: Screed elevations allow for dead load deflections. To obtain this proper allowance shall be made for the deflection of falsework members.

LEGEND:

- Concrete Surface
- Shoulder Pavement
- Traveled Pavement
- Required Finished Grade
- Screed Elevation (782.64 / 782.22)

SHAW, LENZ & ASSOCIATES ENGINEERS 10/11
CINCINNATI OHIO

CONCRETE SLAB ELEVATIONS

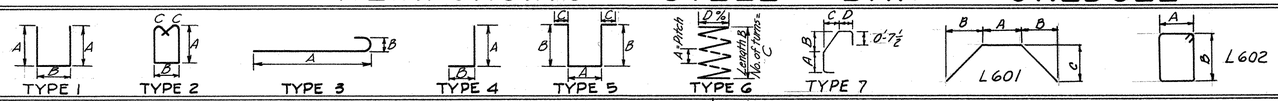
BRIDGE NO. MOT-75-1783

IR-75 - OVER KEENAN AVENUE

MONTGOMERY COUNTY STA. 82+36.58 to STA. 83+42.58

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	W.B.S.	W.T.R.	R.J.L. 6-16-66		

REINFORCING STEEL BAR SCHEDULE



FED. RD DIVISION	STATE	PROJECT	
	OHIO		

379

MOT.-75-17.66

MARK	NO. LT.	NO. RT.	LENGTH	TYPE	A	B	C	D	WEIGHT	LOCATION
				BRIDGE SLAB						
S1001	132	116	24'-7	Str.					26,234	Over Piers, L&R
S1002	58	52	13'-4	↕					6,311	"
S1003	58	52	8'-6	↕					4,023	"
S1004	63	56	40'-0	↕					20,482	L&R
S1005	29	26	27'-10	↕					6,587	"
S1006	28	25	21'-0	Str.					4,789	"
S901	126	112	35'-9	Str.					28,929	L&R
S902	58	52	25'-1	3	23'-10	0'-11¼			9,381	"
S903	56	50	21'-11	3	20'-8	0'-11¼			7,899	"
S904	16	16	21'-0	Str.					2,285	Median
S701	101		31'-8	Str.					6,537	Left
S702	101		33'-1	↕					6830	"
S703		101	23'-10	↕					4920	Right
S704		101	34'-0	Str.					7019	"
S601	68	62	13'-3	Str.					3759	L&R
S602	63	56	25'-8	↕					4,588	"
S603	69		31'-8	↕					3282	Left
S604	69		32'-3	↕					3334	"
S605		69	23'-10	↕					2470	Right
S606		69	33'-3	Str.					3489	"
S501	80	80	5'-7	2	2'-2	0'-8	0'-7		932	Curbs, L&R
S502	43	43	2'-7	1	0'-8	1'-6			232	"
S503	43	43	4'-11	1	1'-10	1'-6			441	Below Curbs, L&R
S504	106	106	3'-10	7	1'-5	0'-11½	0'-8	0'-5	848	Median
S505	106	106	3'-11	Str.					866	Median
S506	106	106	2'-5	Str.					534	Median
S508	16	16	22'-2	Str.					740	Median
S509	8	8	25'-8	Str.					428	Median
* R2501	24	24	14'-4	Str.						Int. Parapets, L&R
* R2502	8	8	8'-8	Str.						End Parapets, L&R
* R2503	6	6	See Std. Dwg. BR-1-65,							End Posts, L&R
* R2504	4	4	Sheet 1, for details.							"
				ABUTMENTS						
A1001	8		35'-11	Str.					1236	Abut. #1, Left
A1002		8	32'-1	↕					1104	Abut. #1, Right
A1003		8	34'-0	↕					1170	Abut. #2, Right
A1004	8		37'-11	Str.					1305	Abut. #2, Left
A801	8		35'-7	Str.					760	Abut. #1, Left
A802		8	31'-9	↕					678	Abut. #1, Right
A803		8	33'-8	↕					719	Abut. #2, Right
A804	8		37'-7	Str.					803	Abut. #2, Left
A501	188	168	7'-11	1	3'-3	1'-8			2940	Abut. #1 & #2, L&R
A502	206	186	6'-7	1	2'-1	2'-8			2692	"
A503	12		35-2	Str.					440	Abut. #1, Left
A504	2		5'-7	↕					12	"
A505	2		2'-9	↕					6	"
A506	8	6	3'-6	↕					51	Abut. #1 & #2, L&R
A507	4	4	3'-0	↕					25	"
A508	4	4	2'-6	↕					21	"
A509	4	4	2'-0	↕					17	"
A510		12	31'-4	↕					392	Abut. #1, Right
A511		2	5'-0	↕					10	"
A512		2	2'-5	↕					5	"
A513		12	33'-4	↕					417	Abut. #2, Right
A514		2	9'-0	Str.					19	"

MARK	NO. LT.	NO. RT.	LENGTH	TYPE	A	B	C	D	WEIGHT	LOCATION
A515		2	4'-10	Str.					10	Abut. #2, Right
A516	12		37'-2	↕					465	Abut. #2, Left
A517	2		9'-8	↕					20	"
A518	2		5'-3	Str.					11	"
A401	84	76	5'-5	1	1'-11	1'-9			579	Abuts. #1 & #2, L&R
				PIERS						
P1101	8		16'-8	Str.					708	Col, Pier #1-L
P1102	8		17'-0	Str.					723	Col., Piers #1-L
P1103	32	32	7'-2	4	5'-10	1'-7			2437	Pier Ftgs.
P1104	8		18'-3	Str.					776	Col, Pier #2-L
P1105	8		27'-6	↕					1169	Slab, over Piers #1-L & #2-L
P1106	8		38'-7	↕					1640	"
P1107		8	17'-5	↕					740	Col., Pier #1-R
P1108		16	18'-7	↕					1580	Col, Pier #2-R
P1109	8	8	17'-9	Str.					1509	Col., Piers #1-R & #2-L
P1001	10		34'-3	Str.					1474	Cap, Piers #1-L & #2-L
P1002	10		31'-0	↕					1334	"
P1003		8	36'-6	↕					1256	Slab, over Piers #1-R & #2-R
P1004		8	22'-3	Str.					766	"
P901	20		11'-0	Str.					748	Ftgs., Piers #1-L & #2-L
P902	24		23'-11	↕					1952	"
P903		20	21'-6	↕					1462	Ftgs., Piers #1-R & #2-R
P904		16	10'-0	Str.					544	"
P801	22		22'-0	Str.					1292	Ftgs., Piers #1-L & #2-L
P802	32	32	5'-4	4	4'-9	9			911	Pier Ftgs.
P803	8		13'-2	Str.					281	Col, Pier #1-L
P804	8		14'-6	↕					310	Col, Pier #2-L
P805	8		16'-0	↕					342	Col, Pier #1-L
P806	8		17'-3	↕					368	Col, Pier #2-L
P807	8	8	13'-10	↕					591	Col, Pier #1-L & #R
P808	8		15'-1	↕					322	Col, Pier #2-L
P809	16	16	5'-0	↕					427	Pier, Cols.
P810		10	30'-2"	↕					805	Cap, Piers #1-R & #2-R
P811		10	27'-7	↕					736	"
P812		8	15'-7	↕					333	Col, Pier #2-R
P813		8	15'-2	↕					324	Col, Pier #2-R
P814		8	16'-7	↕					354	Col, Pier #1-R
P815		8	17'-10	↕					381	Col, Pier #2-R
P816		8	14'-7	↕					312	Col, Piers #1-R
P817		18	20'-0	↕					961	Ftgs, Piers #1-R & #2-R
P818		24	30'-3	Str.					1938	"
P701	36		33'-8	Str.					2477	Ftgs, Piers #1-L & #2-L
P702	8		35'-5	↕					579	Cap, Piers #1-L & #2-L
P703	8		27'-5	↕					448	"
P704		8	33'-4	↕					545	Cap, Piers #1-R & #2-R
P705		8	22'-6	Str.					368	"
P601	88	78	4'-8	Str.					1164	Pier Ftgs.
P501	44	40	4'-8	Str.					409	Pier Ftgs.
P502	86	86	8'-11	5	2'-8	3'-0	0'-5		1600	Pier Caps
				SUPERSTRUCTURE (Continued)						
S510	6	6	15'-8	Str.					196	Median
S511	12	12	12'-5	Str.					311	"
S512	12	12	5'-5	Str.					136	"
L601	5		7'-0"	Bt.	1'-3"	2'-1"	2'-1"		53	Light Pole
L602	4		11'-8"	Bt.	2'-1"	3'-6"			70	"

MARK	NO. LT.	NO. RT.	LENGTH	TYPE	A	B	C	D	WEIGHT	LOCATION
SP401	1		13'-2	6	4½"	13'-2	38	2'-8	245	
SP402	1	1	14'-7	↕	↕	14'-7	42	↕	542	
SP403	1		13'-4	↕	↕	13'-4	39	↕	252	
SP404	1		13'-8	↕	↕	13'-8	39	↕	252	
SP405	1		13'-6	↕	↕	13'-6	39	↕	252	
SP406	1		14'-9	↕	↕	14'-9	40	↕	257	
SP407		1	13'-11	↕	↕	13'-11	40	↕	258	
SP408	1		13'-10	↕	↕	13'-10	40	↕	258	
SP409		1	14'-1	↕	↕	14'-1	41	↕	265	
SP410		1	15'-2	↕	↕	15'-2	43	↕	278	
SP411		1	14'-3	↕	↕	14'-3	41	↕	265	
SP412		1	15'-4	↕	↕	15'-4	44	↕	284	
SP413		1	14'-5	↕	↕	14'-5	41	↕	265	
SP414		1	15'-6	↕	↕	15'-6	44	↕	284	
SP415	1		14'-8	↕	↕	14'-8	42	↕	271	
SP416	1		14'-11	↕	↕	14'-11	43	↕	278	
SP417	1		15'-1	↕	↕	15'-1	43	↕	278	
SP418		1	15'-3	↕	↕	15'-3	44	↕	284	
SP419		1	15'-7	6	4½"	15'-7	45	2'-8	291	
				REPLACEMENT BARS						
RE1101	1		8'-7	Str.						
RE1001	2	2	8'-3	↕						
RE901	2	1	7'-10	↕						
RE801	1		7'-6	↕						
RE701	1	1	7'-3	↕						
REG01	1	1	6'-11	↕						
RE501	1		6'-7	↕						
RE401	1		6'-3	Str.						

NOTES:

1. All dimensions are out to out of bar.
2. Radius dimensions are to outside of bar.
3. The length of bent bars is measured along centerline.
4. 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 indicates the bar size.
5. Four steel channel, 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 pounds of these spacers, based on 0.68 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantities for 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 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 509.

   1½ closed coils shall be provided at the ends of each spiral unit.

* These bars are included with Item 517 for payment.

SHAW, LENZ & ASSOCIATES 11/11
ENGINEERS
CINCINNATI OHIO

REINFORCING STEEL DETAILS

BRIDGE NO. MOT.-75-1783

IR-75-OVER KEENAN AVENUE.

MONTGOMERY COUNTY STA.82+36.58 to STA.83+42.58

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	W.T.R.	R.J.L. 6-27-66		

FED. RD. DIVISION	STATE	PROJECT		380

MONTGOMERY COUNTY
MOT. - 75 - 17.66

Red 370

PROPOSED STRUCTURE

Type: Continuous steel beam with reinf conc. deck and substructure.
Spans: 35'-0", 49'-0", 59'-9", 59'-9", 49'-0", 35'-0".
Roadway: 30'-0" f/f curbs with one 2'-0" safety curb and one 6'-0 sidewalk
Load Frequency: CF = 130 (57)
Skew: 0°
Wearing Surface: 1" monolithic conc.
Approach Slabs: AS-1-67 (25' long)
Alignment: Tangent

AVERAGE DAILY TRAFFIC

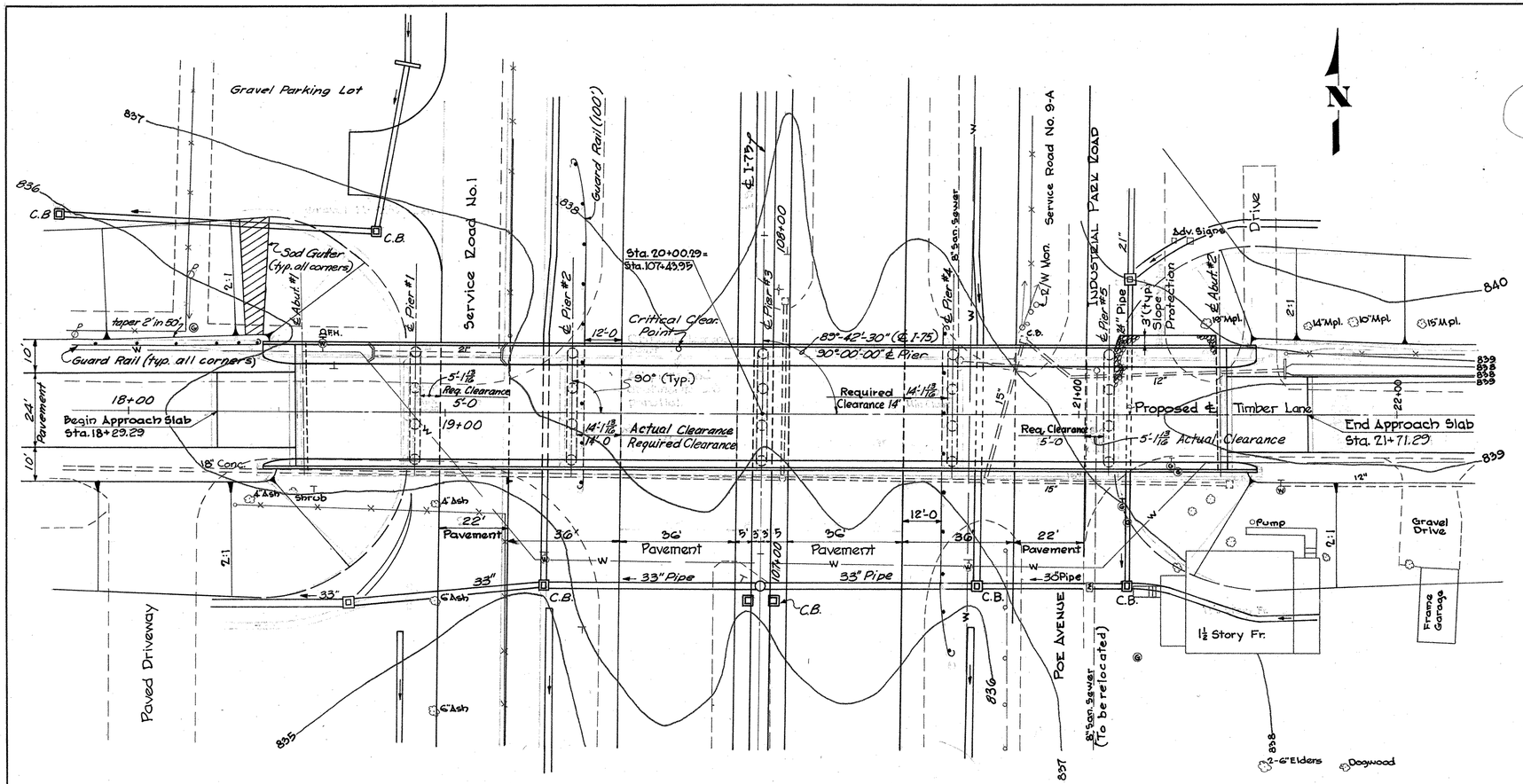
A.D.T. (1975) 1520
TYPE "B" (Estimated) 152

PEDESTRIAN TRAFFIC

Two hour morning count (7:00 to 9:00 12
1½ hour afternoon count (2:30 to 4:00 48
Total count (April, 1965) ..... 60 *
Estimated daily traffic (1965) 80
Estimated daily traffic (1975) 135

* Includes a count of 24 from Coronette Ave. which is to be closed.

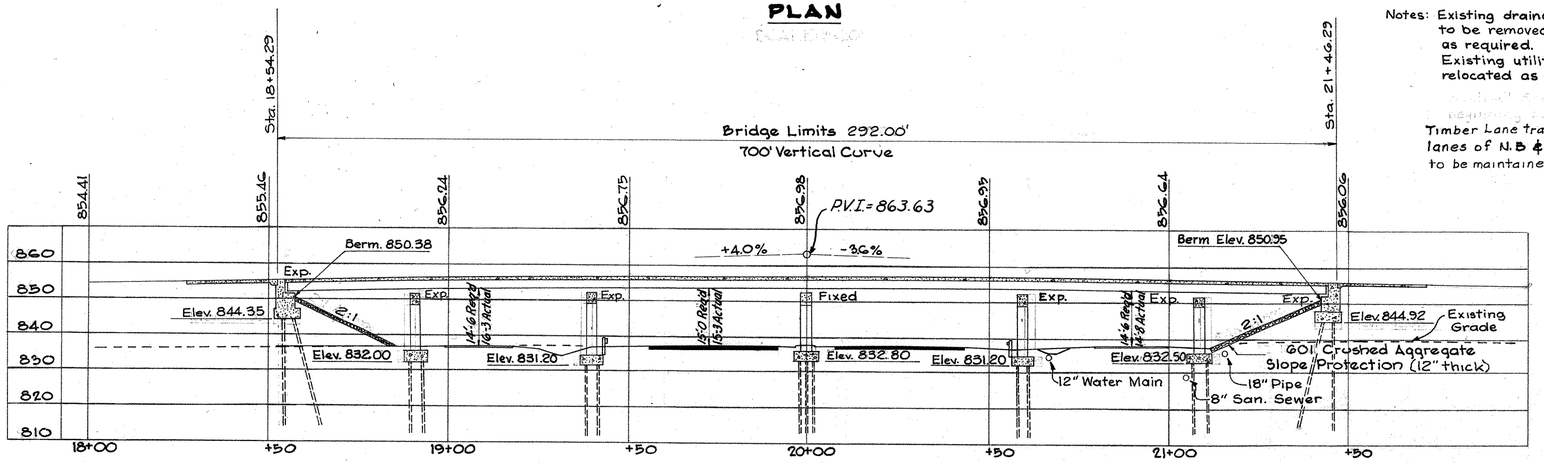
Bench Mark Elev. 833.410
2" □ cut in W. side ditch
inlet structure
108' Rt. of Sta. 103+82



PLAN

Notes: Existing drainage structures to be removed or abandoned as required.
Existing utilities to be relocated as required.

Timber Lane traffic to be detoured. Two lanes of N.B ℄ two lanes of S.B traffic to be maintained on I-75



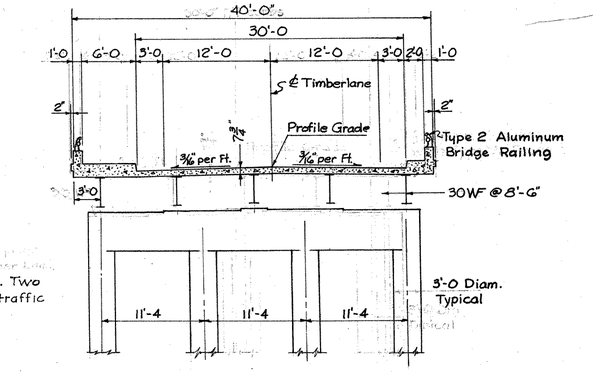
SECTION ALONG ℄ TIMBER LANE

Note: All piles are 12"ϕ cast-in-place concrete piles.

Estimated pay lengths:
Piers = 20'
Abuts. = 30'

Note: Footing size and type to be determined after soil borings are made.

All piers and abutments are parallel and 90° to ℄ of Timberlane.



SECTION - BRIDGE DECK

SHAW, LENZ & ASSOCIATES ENGINEERS
CINCINNATI OHIO
1/10

SITE PLAN

BRIDGE NO. MOT. - 75 - 18 31
TIMBER LANE OVER I - 75
MONTGOMERY CO. I-75
Scale: As Shown STA. 107 + 25.78

PRESENT TOPO		PROPOSED WORK			
SURVEYOR	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
B.H.S.	C.M.R.	E.R.B.	C.M.R.	W.B.S. 8-30-66	

1

FED. RD. DIVISION	STATE	PROJECT		381
	OHIO			

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER-STRUCTURE	GENERAL		
503	535	Cu.Yds.	Excavation for Structures, unclassified	183	352				
505	Lump	Lump Sum	First Test Pile				Lump		
507	2360	Lin.Ft.	12" ϕ Cast-in-Place Reinforced Concrete Piles	720	1640				
509	154,201	Lbs.	Reinforcing Steel	9498	48,984	95,719			
511	381	Cu.Yds.	Class "C" Concrete - Superstructure			381			
511	140	Cu.Yds.	Class "C" Concrete - Piers above footings		140				
511	81	Cu.Yds.	Class "C" Concrete - Abutments above footings	81					
511	176	Cu.Yds.	Class "C" Concrete - Footings	66	110				
513	200,724	Lbs.	Structural Steel			200,724			
514	200,724	Lbs.	Field Painting of structural steel			200,724			
517	625	Lin.Ft.	Bridge Railing, Type 2	47		578			
518	28	Cu.Yds.	Porous Backfill	28					
518	12	Each	Scuppers, including supports			12			
518	65	Lin.Ft.	6" Perforated Helical CMP, including specials 707.01	65					
518	50	Lin.Ft.	6" Non-perforated Helical CMP, 707.01	50					
601	378	Sq.Yds.	Crushed Aggregate Slope Protection				378		
808	381	Units	Water-reducing, Set-retarding admixture			381			

GENERAL NOTES

REFERENCE shall be made to the following:
Standard Drawings: BR-1-65 sheet 2 revised 11-24-65
RB-1-55 revised 2-2-59
SD-1-65 sheets 1, 2 & 3 dated 11-8-65
AS-1-67 Dated 1-11-68
Supplemental Specifications: 808 dated 1-1-69
811 dated 1-1-69
836 dated 6-17-69

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 = 130(57)

CONCRETE: Class "C" basic unit stress = 1333 p.s.i. for superstructure
Class "C" basic unit stress = 1133 p.s.i. for substructure

STRUCTURAL STEEL: ASTM A-36 - basic unit stress = 20,000 p.s.i.

SCUPPERS including support angles shall be galvanized in accordance with 711.02

REINFORCING STEEL: ASTM, A615, A616, A617, Deformed Intermediate or Hard. Basic unit stress = 20,000 p.s.i. Spiral reinforcement shall be plain A306 or A499.

PILES shall be driven to a minimum bearing capacity of 25 tons per pile for the abutments and 35 tons per pile for the piers.

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

UTILITY LINES: All expenses involved in relocating the affected utility lines shall be borne by the owners. The Contractors and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either is held to a minimum.

EXCAVATION QUANTITY includes the removal of fill materials required for construction of the abutments.

JOINT SEALER: Item 828 joint sealer including bond breaker, shown in Section A-A of Std. Dwg. SD-1-65, sheet No. 1 shall be omitted.

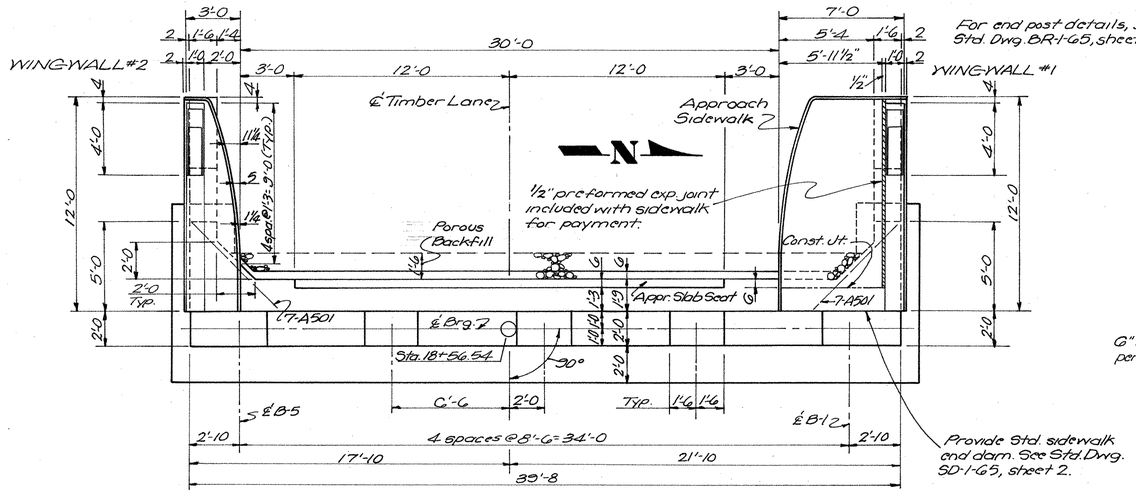
WELDS: Non-stress carrying welds are indicated thus: N

SHAW, LENZ & ASSOCIATES 2/10
ENGINEERS
CINCINNATI OHIO

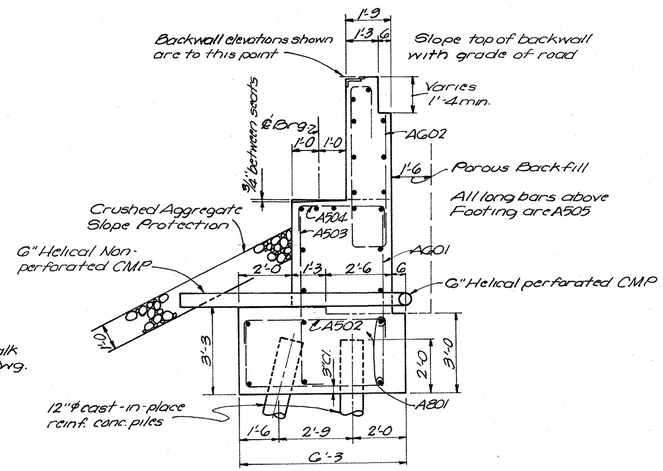
QUANTITIES & GENERAL NOTES
BRIDGE NO. MOT-75-18.31
TIMBER LANE OVER I-75
I-75
MONTGOMERY CO. STA. 107+25.78

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
R.R.L.	R.R.L.	W.T.R.	R.J.L. 8-30-66		

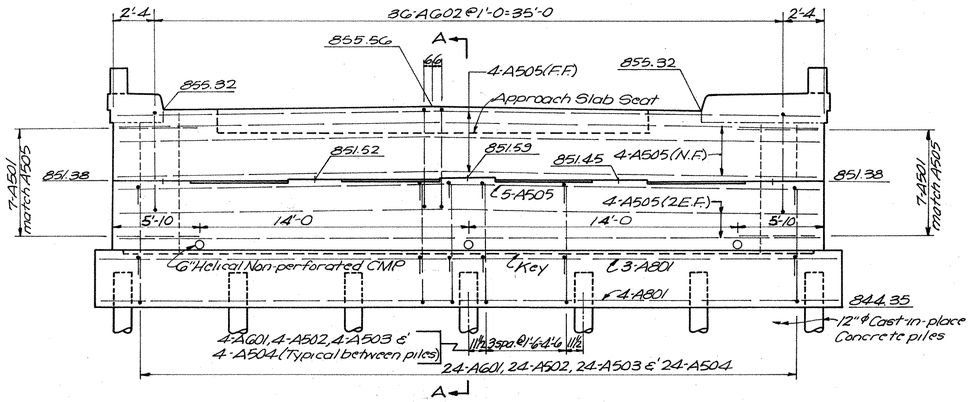
FED. RD. DIVISION	STATE	PROJECT		39.2
	OHIO			



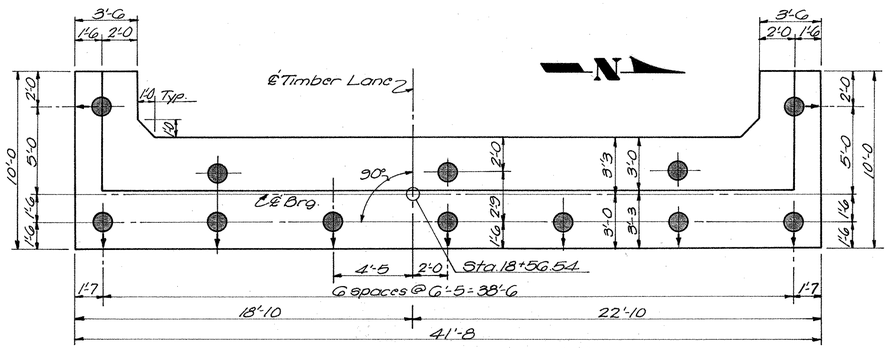
PLAN



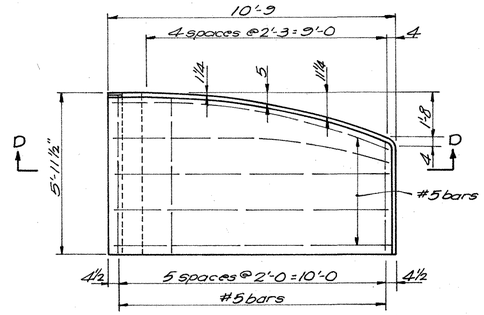
SECTION A-A



ELEVATION

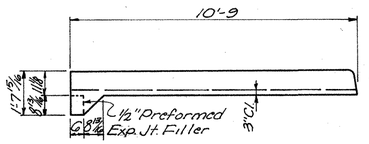


FOOTING PLAN



Approach Sidewalk included with roadway quantities.

APPROACH SIDEWALK DETAIL



SECTION D-D

NOTES:

1. For Wingwall elevation views and wingwall sections, see sheet 4.
2. For curb plate and end dam details, see Std. Dwg. SD-1-65, sheets 1 & 2.
3. For bearing details, see Std. Dwg. RB-1-55
4. For details of supported end post, see Std. Dwg. BR-1-65, sheet 2.
5. All roadway embankments 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 in back of the abutments, after which excavation shall be made for the abutments and piles driven.

LEGEND:

- 12" ϕ cast-in-place concrete pile.
- 12" ϕ cast-in-place concrete pile battered 1:4 in direction shown by arrow.

N.F. - Near Face
F.F. - For Face
E.F. - Each Face

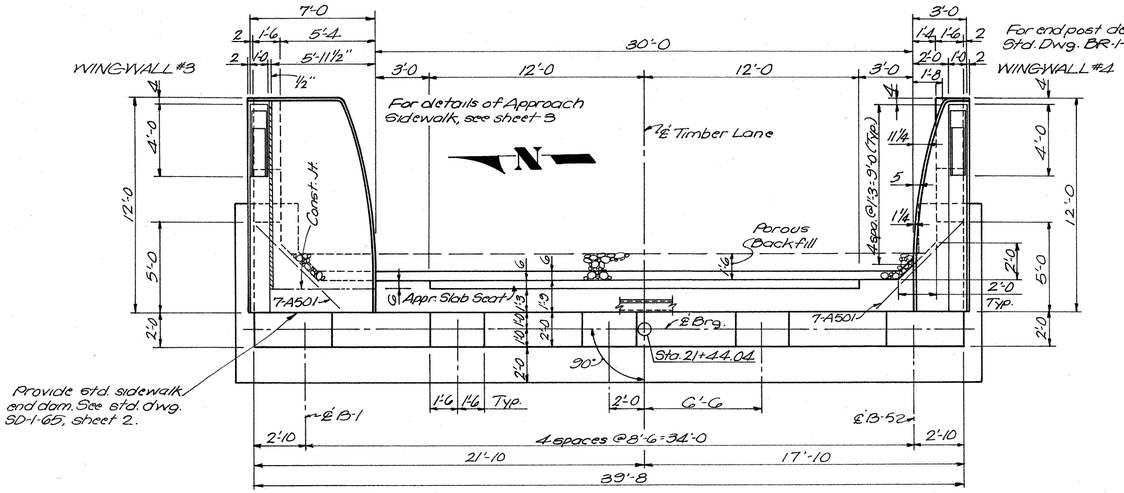
SHAW, LENZ & ASSOCIATES ENGINEERS 3/10
CINCINNATI OHIO

ABUTMENT NO. 1

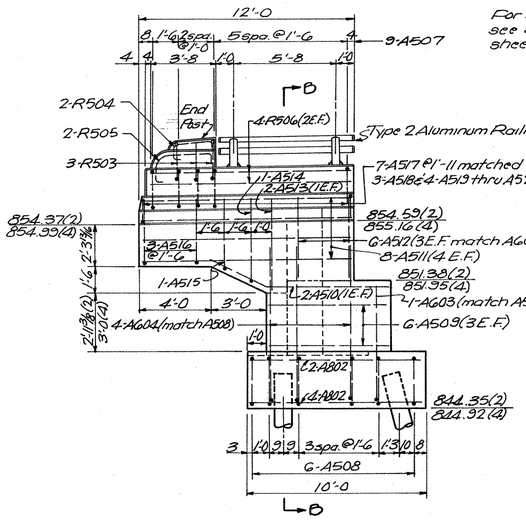
BRIDGE NO. MOT-75-1831
TIMBER LANE OVER I-75
I-75
MONTGOMERY CO. STA. 107+25.78

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	W.T.R.	R.J.L. 8-18-66		

FED. RD. DIVISION	STATE	PROJECT		383
	OHIO			

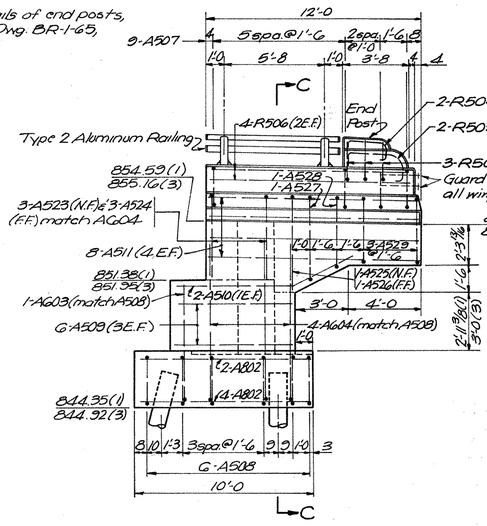


PLAN



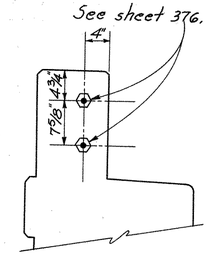
WINGWALLS NO.2 & NO.4

Wingwall #2 is shown, Wingwall #4 is opposite hand.

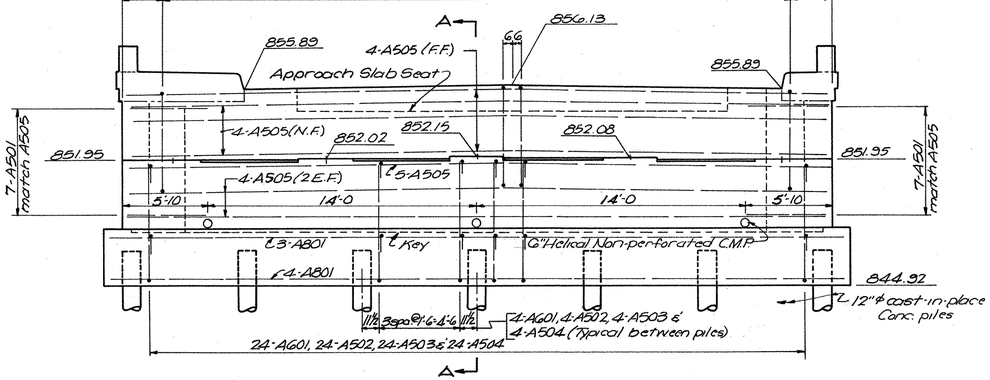


WINGWALLS NO.1 & NO.3

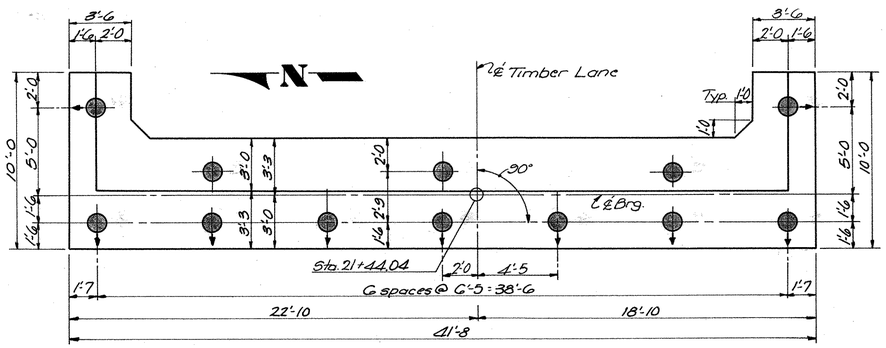
Wingwall #1 is shown, Wingwall #3 is opposite hand.



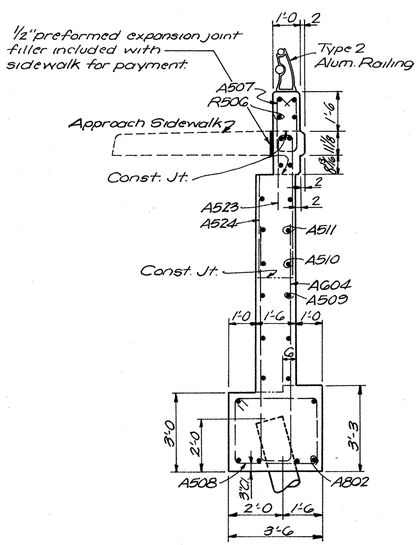
GUARD RAIL CONNECTOR



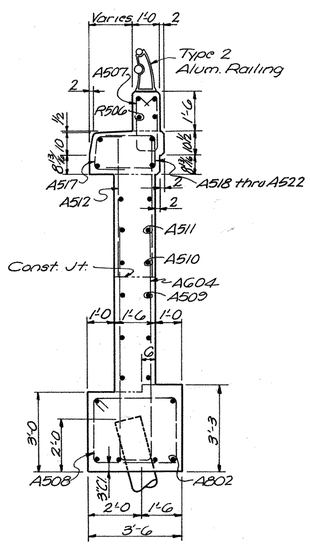
ELEVATION



FOOTING PLAN



SECTION C-C



SECTION B-B

NOTES:

1. For notes, see sheet 3.
2. For Legend, see sheet 3.
3. For wingwall locations, see this sheet and sheet 3.
4. For end post details, see Std. Dwg. BR-1-65, sh. 2.
5. For Section A-A, and approach sidewalk detail, see sheet 3.
6. For aluminum railing details, see Std. Dwg. BR-1-65, sheet 2.
7. For curb plate and end dam details see Std. Dwg. SD-1-65, sheets 1 & 2.

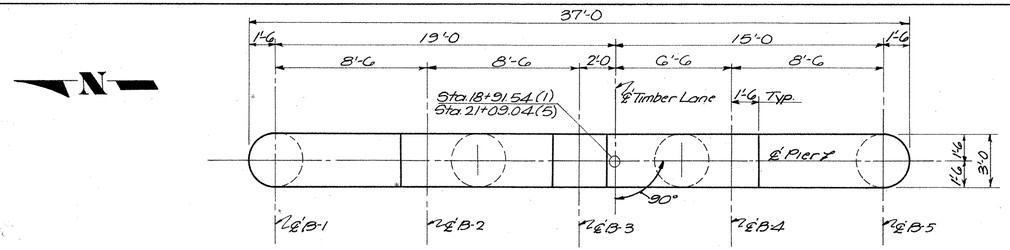
SHAW, LENZ & ASSOCIATES ENGINEERS 4/10
CINCINNATI OHIO

ABUTMENT NO.2

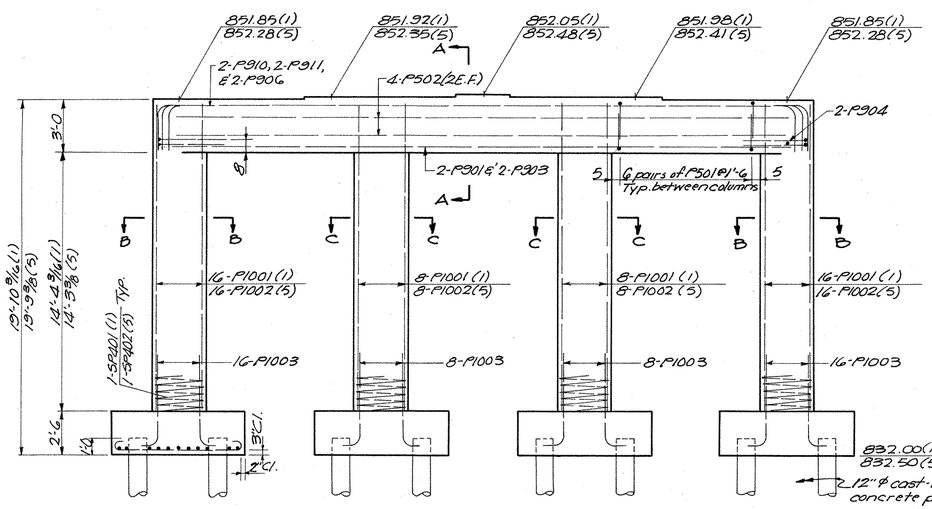
BRIDGE NO. MOT-75-1831
TIMBER LANE OVER I-75
I-75
MONTGOMERY CO. STA. 107+25.78

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.P.S.	R.R.L.	W.T.R.	R.J.L. 8-18-66		

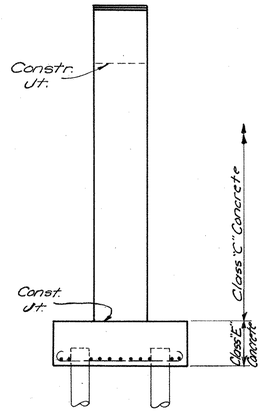
FED. RD. DIVISION	STATE	PROJECT		334
	OHIO			



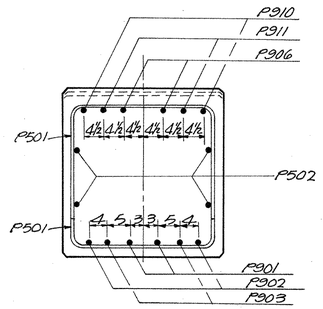
CAP PLAN



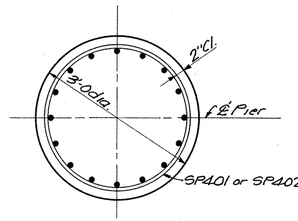
ELEVATION



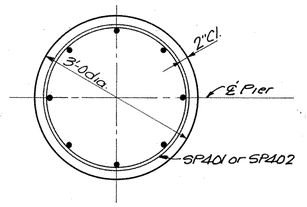
END VIEW



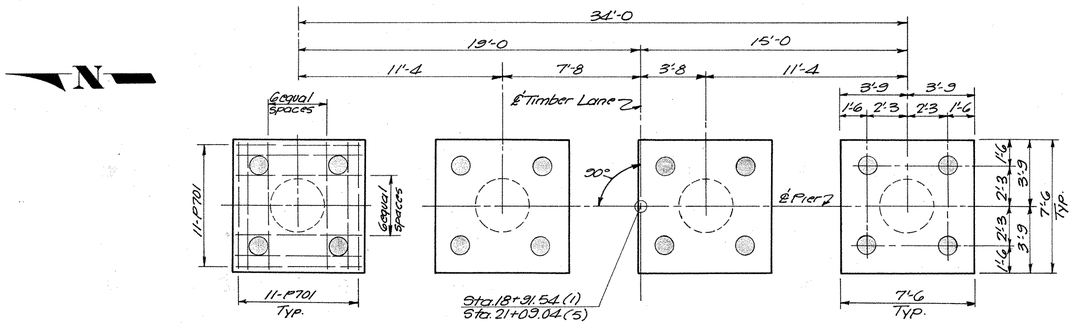
SECTION A-A



SECTION B-B



SECTION C-C



FOOTING PLAN

SHAW, LENZ & ASSOCIATES ENGINEERS 5/10
CINCINNATI OHIO

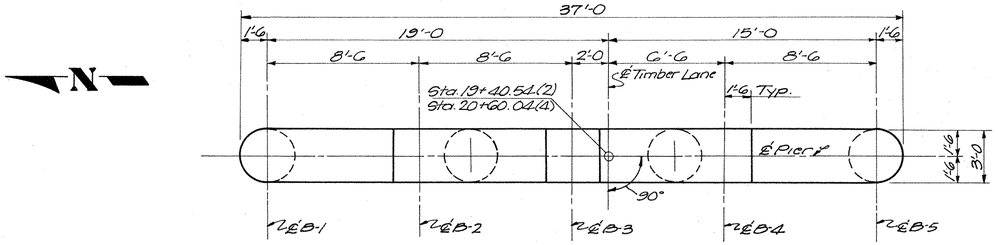
PIERS NO. 1 & NO. 5

BRIDGE NO. MOT-75-1831
TIMBER LANE OVER I-75

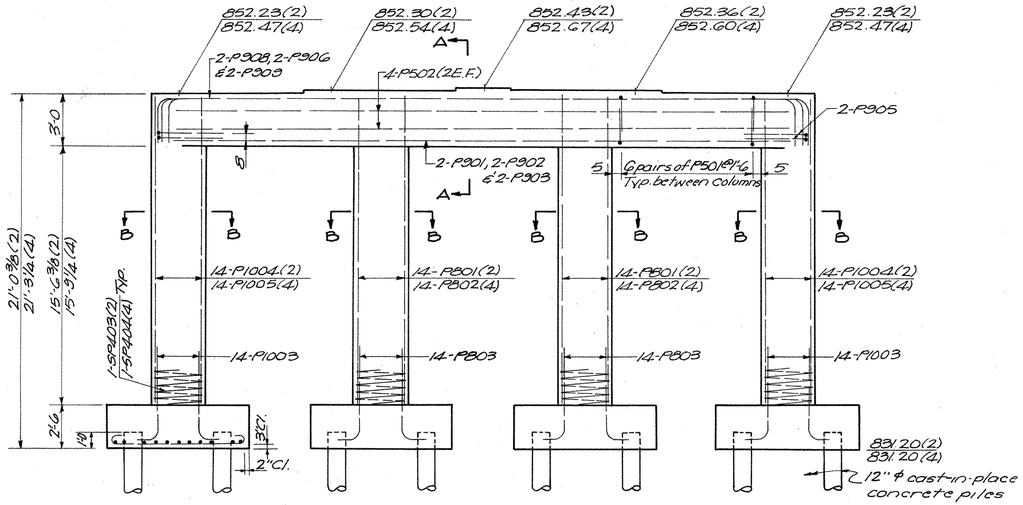
I-75
MONTGOMERY CO. STA. 107+25.78

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
WBS.	R.R.L.	L.G.W.	R.J.L. 8-30-66		

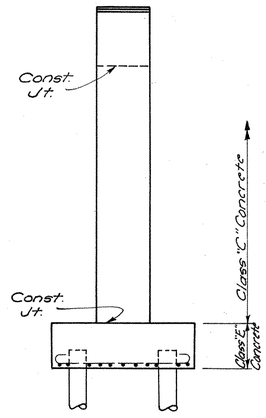
FED. RD. DIVISION	STATE	PROJECT		385
	OHIO			



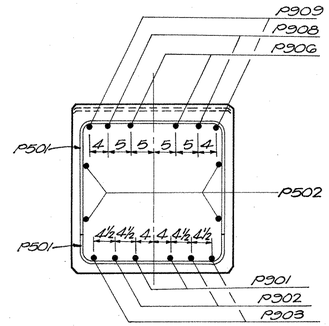
CAP PLAN



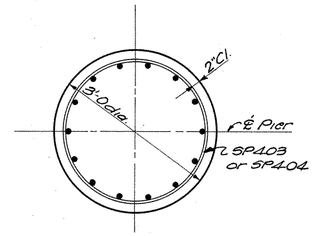
ELEVATION



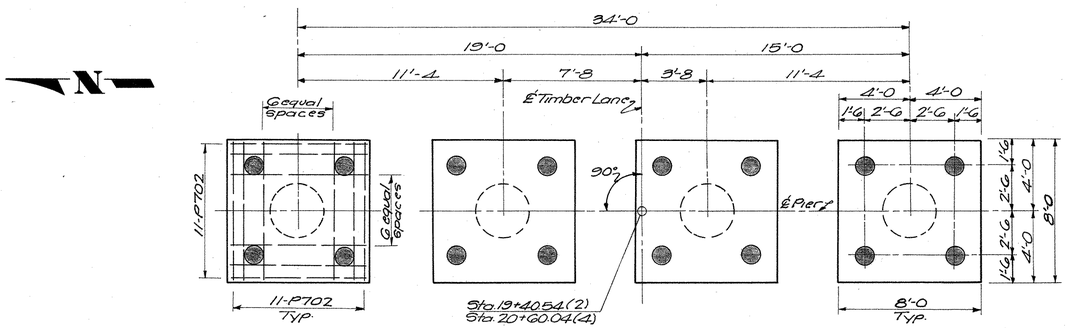
END VIEW



SECTION A-A



SECTION B-B



FOOTING PLAN

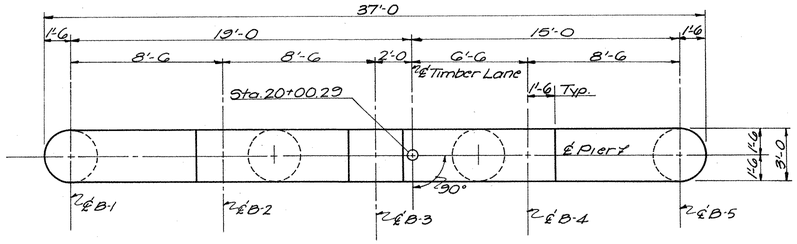
SHAW, LENZ & ASSOCIATES ENGINEERS 6/10
CINCINNATI OHIO

PIERS NO. 2 & NO. 4

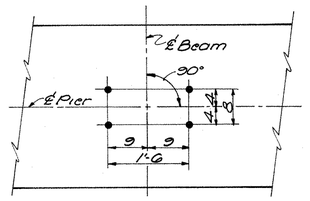
BRIDGE NO. MOT-75-1831
TIMBER LANE OVER I-75
I-75
MONTGOMERY CO. STA. 107+25.78

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	L.G.W.	R.J.L. 8-30-66		

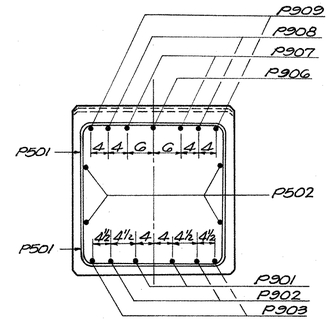
FED. RD. DIVISION	STATE	PROJECT		386
	OHIO			



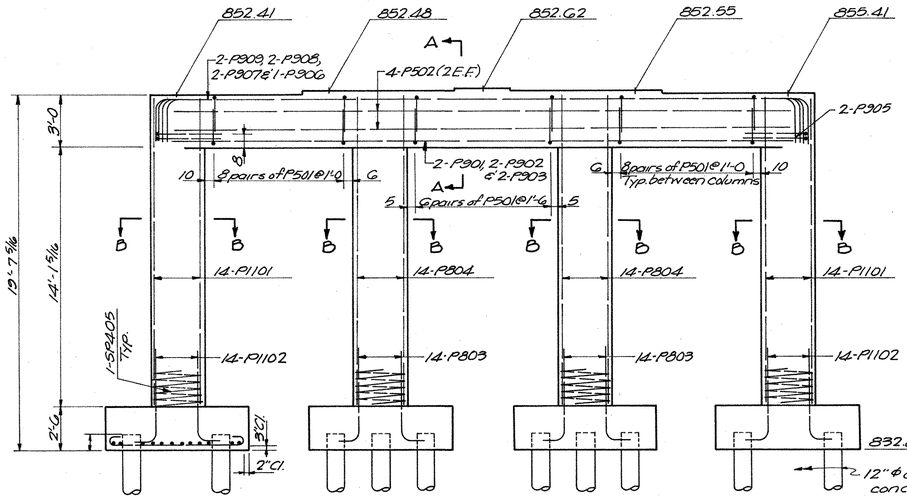
CAP PLAN



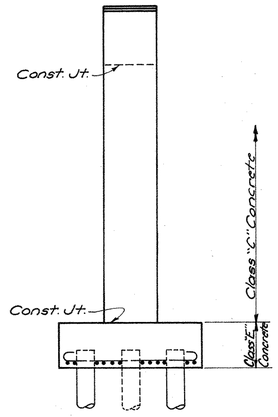
ANCHOR BOLT LAYOUT



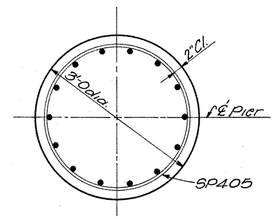
SECTION A-A



ELEVATION



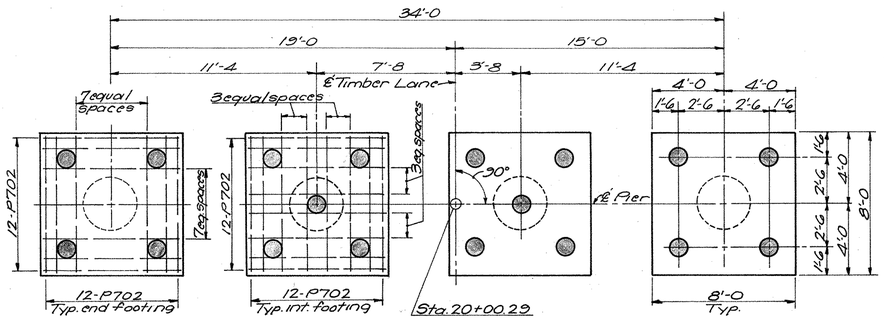
END VIEW



SECTION B-B

NOTES:

Special care shall be taken in placing reinforcing steel in top of pier cap so as to avoid interference with the drilling of anchor rod holes.



FOOTING PLAN

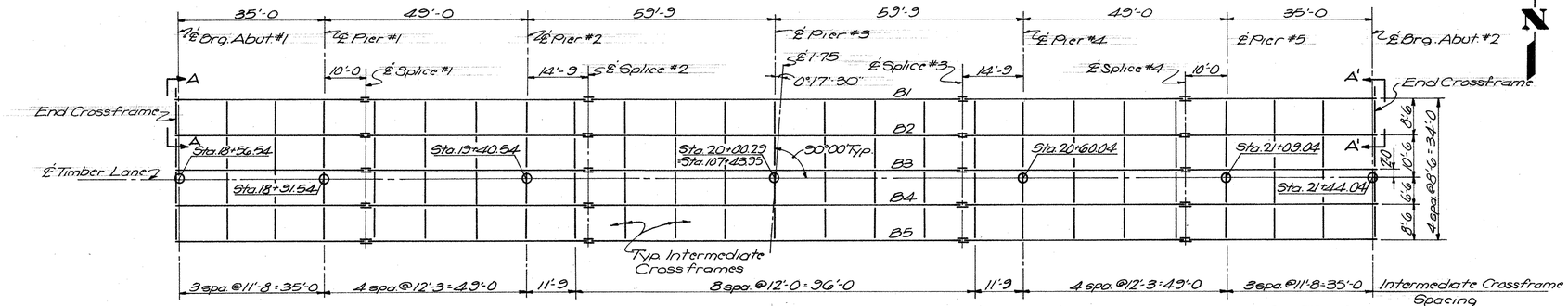
SHAW, LENZ & ASSOCIATES ENGINEERS 7/10
CINCINNATI OHIO

PIER NO. 3

BRIDGE NO. MOT-75-1831
TIMBER LANE OVER I-75
I-75
MONTGOMERY CO. STA. 107+25.78

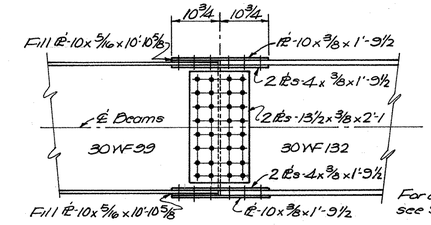
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	W.T.R.	R.J.L. 8-30-66		

FED. RD. DIVISION	STATE	PROJECT		387
	OHIO			



Note: Dimensions for Crossframes are to back of diagonals

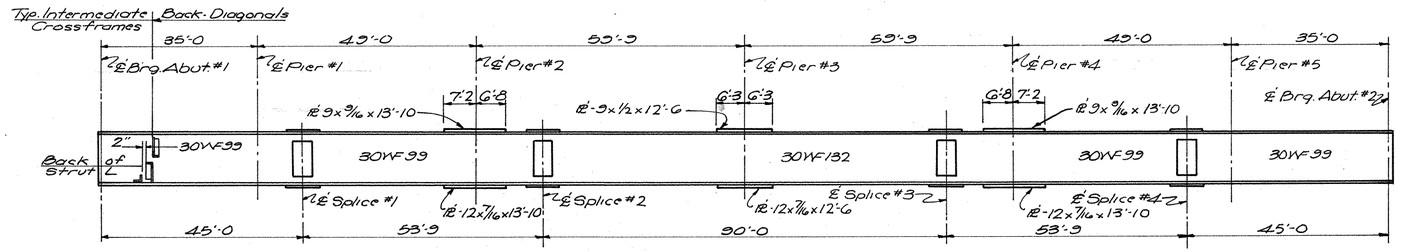
FRAMING PLAN



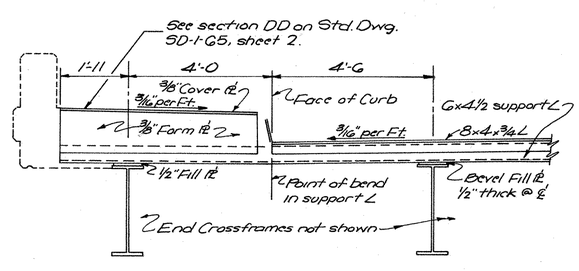
For details and dimensions, see Std. Dwg. SD-1-65 sh. 3

Splices #2 & #3 shown, splices #1 & #4 are same w/ ½ fill ℓs.

SPLICE DETAIL



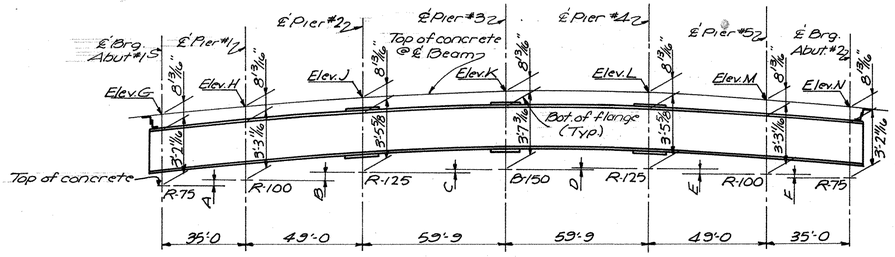
TYPICAL BEAM ELEVATION



SECTION A-A

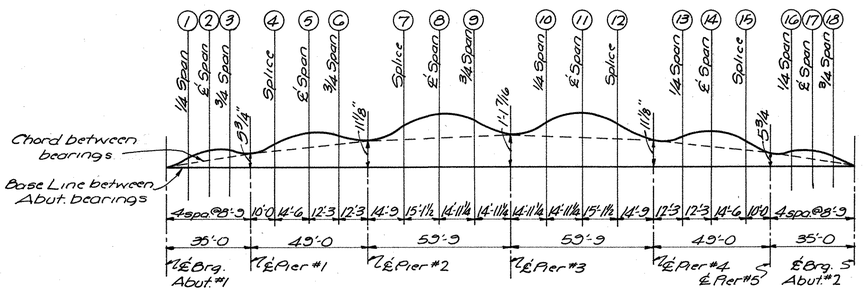
(Section A'-A' similar)

Note: Grade @ Abut. #1 = +1.77%
Grade @ Abut. #2 = -1.37%



ELEVATION LAYOUT

Beam	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E	Dim. F	El. G	El. H	El. J	El. K	El. L	El. M	El. N
B-1	5 5/16	4 5/16	2¼	5/8	2¼	3 5/16	855.34	855.89	856.43	856.75	856.67	856.32	855.91
B-2	5 5/16	4 11/16	2⅛	5/8	2¼	3 5/16	855.41	855.96	856.51	856.82	856.74	856.33	855.98
B-3	5 5/16	4 11/16	2⅛	5/8	2¼	3 5/16	855.54	856.09	856.64	856.95	856.87	856.52	856.11
B-4	5 5/16	4 11/16	2⅛	5/8	2¼	3 5/16	855.47	856.02	856.57	856.88	856.80	856.45	856.04
B-5	5 5/16	4 3/16	2¼	5/8	2¼	3 5/16	855.34	855.89	856.43	856.75	856.67	856.32	855.91



Beam	Location	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
B1	Deflection due to D.L. Beam	0	0	0	0	1/32	0	1/32	1/16	1/32	1/32	1/16	1/32	0	1/32	0	0	0	0
	Deflection due to remaining D.L.	3/32	3/32	1/32	3/32	3/16	3/32	7/32	3/8	3/16	3/16	3/8	7/32	3/32	3/16	3/32	1/32	3/32	5/32
	Vertical Curve Correction	5/32	3/16	5/32	1/4	13/32	5/32	7/16	19/32	7/16	7/16	19/32	7/16	9/32	13/32	1/4	5/32	5/16	5/32
	Required Shop Camber	1/4	5/16	3/16	3/8	5/8	3/8	11/16	1 1/16	11/16	1 1/16	1 1/16	11/16	3/8	5/8	3/8	3/16	5/16	1/4
B2	Deflection due to D.L. Beam	0	0	0	0	1/32	0	1/32	1/16	1/32	1/32	1/16	1/32	0	1/32	0	0	0	0
B3	Deflection due to remaining D.L.	3/32	3/32	1/32	3/32	5/32	1/16	3/16	1/32	3/16	3/16	1/32	3/16	1/16	5/32	3/32	1/32	3/32	3/32
B4	Vertical Curve Correction	5/32	3/16	5/32	1/4	13/32	9/32	7/16	19/32	7/16	7/16	13/32	7/16	9/32	13/32	1/4	5/32	3/16	5/32
B5	Required Shop Camber	1/4	5/16	3/16	3/8	5/8	3/8	1/16	1"	1 1/16	1 1/16	1"	1 1/16	3/8	5/8	3/8	3/16	5/16	1/4

DEFLECTION & CAMBER DIAGRAM

NOTES:

For Scupper details, see Std. Dwg. SD-1-65, sheet 2.

For Scupper locations, see sheet 9

For end cross frames, roadway end dam, sidewalk end dam, and curb plate details, see Std. Dwg. SD-1-65, sheets 1 & 2

For details of Rockers and Bolsters, see Std. Dwg. RB-1-55.

For intermediate crossframes see sheet 9

For shop welding of moment plates, see Std. Dwg. SD-1-65 sheet 2.

SHAW, LENZ & ASSOCIATES ENGINEERS 8/10
CINCINNATI OHIO

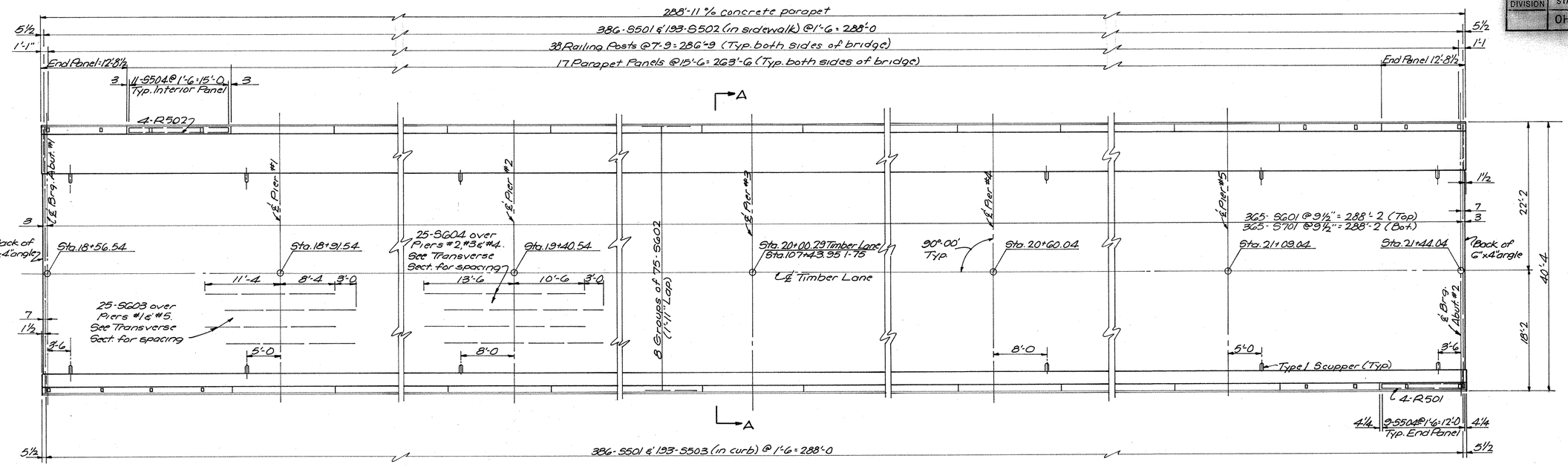
FRAMING PLAN

BRIDGE NO. MOT.-75-1831
TIMBER LANE OVER I-75

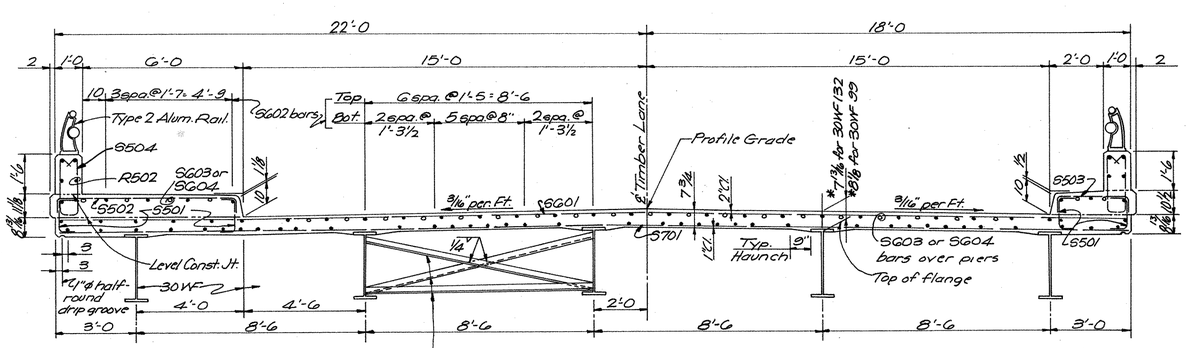
I-75
MONTGOMERY CO. STA. 107+25.78

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	W.T.R.	R.J.L. 8-30-76	W.B.S.	

FED. RD. DIVISION	STATE	PROJECT		383
	OHIO			



PLAN

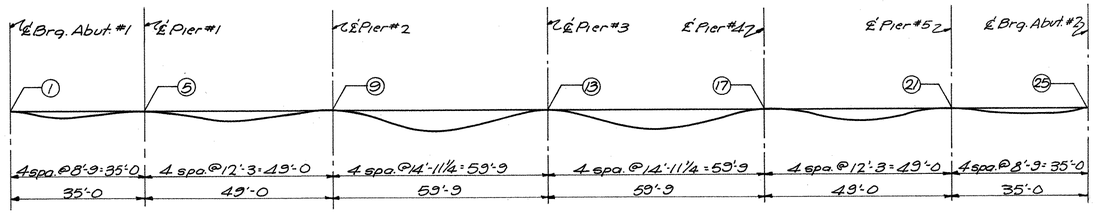


TRANSVERSE SECTION A-A

Intermediate crossframe angles 3x3x5/16. Weld both sides of vertical leg and top side of horizontal leg to beam with ⅛" continuous fillet weld.

DECK SLAB HAUNCH: The haunch in the deck slab adjacent to the top of steel beams, which is shown as 9" wide, may vary from this dimension between the limits of 6" and 12", except that the maximum slope shall not exceed 3 inches per foot. Payment for deck slab concrete shall be based on the 9" width.

* This is a 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.



SCREED ELEVATION DIAGRAM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
A	18+ 56.54	18+ 65.29	18+ 74.04	18+ 82.79	18+ 91.54	19+ 00.79	19+ 16.04	19+ 28.29	19+ 40.54	19+ 55.48	19+ 70.42	19+ 85.35	20+ 00.29	20+ 15.23	20+ 30.16	20+ 45.10	20+ 60.04	20+ 72.29	20+ 84.54	20+ 96.79	21+ 09.04	21+ 17.79	21+ 26.54	21+ 35.29	21+ 44.04
B	855.576	855.724	855.867	856.000	856.124	856.285	856.429	856.557	856.669	856.783	856.873	856.939	856.981	856.998	856.991	856.960	856.904	856.841	856.761	856.665	856.555	856.462	856.364	856.257	856.142
C	855.347	855.492	855.633	855.746	855.890	856.051	856.195	856.323	856.439	856.543	856.633	856.705	856.747	856.764	856.757	856.726	856.670	856.607	856.527	856.431	856.319	856.228	856.130	856.023	855.908
D	0.000	0.007	0.008	0.003	0.000	0.009	0.014	0.006	0.000	0.017	0.027	0.014	0.000	0.014	0.027	0.017	0.000	0.006	0.014	0.009	0.000	0.003	0.008	0.007	0.000
E	855.34	855.50	855.64	855.77	855.89	856.06	856.21	856.33	856.44	856.56	856.67	856.72	856.75	856.78	856.78	856.74	856.67	856.61	856.54	856.44	856.32	856.23	856.14	856.03	855.91
F	0.000	0.007	0.008	0.003	0.000	0.009	0.014	0.006	0.000	0.017	0.028	0.015	0.000	0.015	0.028	0.017	0.000	0.006	0.014	0.009	0.000	0.003	0.008	0.007	0.000
G	855.34	855.50	855.64	855.77	855.89	856.06	856.21	856.33	856.44	856.56	856.67	856.72	856.75	856.78	856.79	856.74	856.67	856.61	856.54	856.44	856.32	856.23	856.14	856.03	855.91

A = ℄ Station
B = ℄ Profile Grade
C = Gutter Elev. 15' Rt. & Lt.
D = Concrete D.L. Defl. Rt. Gutter
E = Screed Setting Elev. Rt. Gutter
F = Concrete D.L. Defl. Lt. Gutter
G = Screed Setting Elev. Lt. Gutter

NOTES

1. Slab thickness includes 1" monolithic wearing surface.
2. Spread longitudinal reinforcing steel in slab to clear scuppers.
3. For Scupper details, see Std. Dwg. SD-1-65, sheet 2.
4. For Railing and Parapet joint details, see Std. Dwg. BR-1-65, sheet 2.
5. For End Dam and curb plate details, see Std. Dwg. SD-1-65 sheets 1 & 2.

SHAW, LENZ & ASSOCIATES ENGINEERS — 9/10
CINCINNATI — OHIO

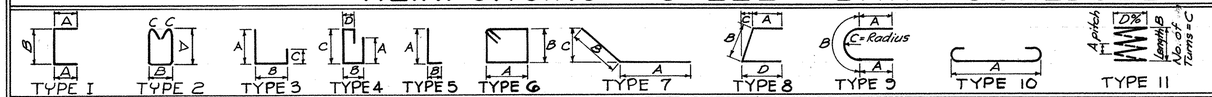
SUPERSTRUCTURE SLAB

BRIDGE NO. MOT-75-1831
TIMBER LANE OVER I-75

I-75
MONTGOMERY CO. — STA. 107+25.78

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	W.T.R.	R.J.L. 8-30-66	W.B.S.	

REINFORCING STEEL BAR SCHEDULE



MARK	NO.	SIZE	LENGTH	TYPE	A	B	C	D	WEIGHT	LOCATION
				SUPERSTRUCTURE						
S701	365		39'-8	Str.					29594	Slab
S601	365		39'-8	Str.					21746	Slab
S602	600		37'-9	Str.					34020	Slab, sidewalk & curb
S603	50		19'-8	Str.					1477	" " "
S604	75		24'-0	Str.					2704	" " "
S501	772		2'-1	1	0'-6	1'-4			1677	Slab, sidewalk & curb
S502	193		7'-3	1	0'-6	6'-6			1459	Sidewalk
S503	193		3'-3	1	0'-6	2'-6			654	Curb
S504	410		5'-7	2	2'-2	0'-8	0'-5		2388	Curb, sidewalk & parapet
*P501	16		12'-4	Str.						Parapet
*P502	136		15'-2	Str.						Parapet
				ABUTMENTS						
A801	14		41'-4	Str.					1545	Ftgs.
A802	24		9'-8	Str.					619	"
A601	48		14'-3	3	6'-7	5'-5	2'-7		1027	Ftgs.
A602	72		14'-4	4	4'-8	1'-5	6'-0	0'-11	1550	Backwall
A603	4		14'-0	1	6'-7	1'-2			84	Ftgs.
A604	16		18'-2	1	8'-8	1'-2			437	"
A501	28		6'-6	Str.					130	Abut. Corners
A502	48		7'-2	1	1'-0	5'-5			359	Ftgs.
A503	48		7'-5	5	6'-7	1'-2			371	Seats & Ftgs.
A504	48		5'-2	1	1'-0	3'-5			259	Seats
A505	34		39'-4"	Str.					1395	Seats & Backwalls
A507	36		5'-7	2	2'-2	0'-8			210	Curbs & Sidewalks
A508	24		12'-3	6	3'-2	2'-7			307	Ftgs.
A509	24		6'-8	Str.					167	Wingwalls
A510	8		11'-7	7	6'-10	3'-4	1'-6		97	"
A511	32		11'-8	Str.					389	"
A512	12		4'-7	Str.					57	Wingwalls #2 & #4
A513	4		5'-4	Str.					22	"
A514	2		10'-3	1	4'-8	1'-2			21	"
A515	2		8'-11	1	4'-0	1'-2			19	"
A516	6		8'-1	1	3'-7	1'-2			51	"
A517	14		3'-2	8	1'-0	1'-4	0'-2	1'-2	46	Curbs, Wingwalls #2 & #4
A518	6		6'-1	1	2'-6	1'-4			38	Wingwalls #2 & #4
A519	2		5'-9	1	2'-4	↕			12	"
A520	2		5'-1	1	2'-0	↕			11	"
A521	2		4'-1	1	1'-6	↕			9	"
A522	2		3'-1	1	1'-0	1'-4			6	"
A523	6		7'-7	3	4'-7	0'-6	2'-9		47	Wingwalls #1 & #3
A524	6		3'-0	Str.					19	"
A525	2		8'-4	3	5'-4	0'-6	2'-9		17	"
A526	2		3'-9	Str.					8	"
A527	2		12'-0	4	3'-0	1'-2	4'-8	0'-6	25	"
A528	2		10'-8	4	2'-4	1'-2	4'-0	0'-6	22	"
A529	6		9'-10	4	1'-11	1'-2	3'-7	0'-6	62	"
* R503	12		See Std. Dwg. BR-1-65, sheet 2, for details							Parapets & end posts
* R504	8									end posts
* R505	8									Parapets & end posts
* R506	16		11'-4							Parapets

MARK	NO.	SIZE	LENGTH	TYPE	A	B	C	D	WEIGHT	LOCATION
				PIERS						
P1101	28		16'-10	Str.					2504	Cols., Pier #3
P1102	28		7'-2	5	5'-8	1'-9			1066	Ftgs., Pier #3
P1001	48		17'-1	Str.					3528	Cols, Pier #1
P1002	48		17'-0	Str.					3511	Cols., Pier #5
P1003	152		6'-6	5	5'-4	1'-5			4251	Ftgs, Piers #1, 2, 4 & 5
P1004	28		18'-3	Str.					2199	Cols., Pier #2
P1005	28		18'-6	Str.					2229	Cols., Pier #4
P901	10		36'-7	Str.					1244	Caps
P902	10		36'-3	Str.					1233	"
P903	10		35'-6	Str.					1207	"
P904	8		8'-10	9	2'-10	3'-2	1'-0 3/16		240	Cap, Piers #1 & 5
P905	12		9'-1	9	↕	3'-5	1'-1 3/16		371	Cap, Piers #2, 3 & 4
P906	9		41'-7	1	↕	36'-4			1272	Cap, Piers #1, 2, 3, 4 & 5
P907	2		41'-3	1	↕	36'-0			281	Cap, Pier #3
P908	6		40'-11	1	↕	35'-8			835	Cap, Piers # 2, 3 & 4
P909	6		39'-8	1	↕	34'-5			809	"
P910	4		40'-1	1	↕	34'-10			545	Cap, Piers #1 & 5
P911	4		41'-1	1	2'-10	35'-10			559	"
P801	28		18'-3	Str.					1364	Cols, Pier #2
P802	28		18'-6	Str.					1383	Cols, Pier #4
P803	84		5'-5	5	4'-7	1'-0			1215	Ftgs, Piers #2, 3 & 4
P804	28		16'-10	Str.					1258	Cols., Pier #3
P701	176		8'-10	10	7'-2				3178	Ftgs, Piers #1 & 5
P702	272		9'-4	10	7'-8				5189	Ftgs, Piers #2, 3 & 4
P501	188		6'-9	1	2'-2	2'-8			1324	Caps
P502	20		34'-0	Str.					709	"
SP401	4		14'-4 3/16	11	4 1/2"	14'-4 3/16	41	2'-8	1060	Cols., Pier #1
SP402	4		14'-3 3/8	11	↕	14'-3 3/8	41	↕	1060	Cols., Pier #5
SP403	4		15'-6 3/8	11	↕	15'-6 3/8	44	↕	1136	Cols., Pier #2
SP404	4		15'-3 1/4	11	↕	15'-3 1/4	45	↕	1164	Cols., Pier #4
SP405	4		14'-1 5/16	11	4 1/8"	14'-1 5/16	41	2'-8	1060	Cols., Pier #3

REPLACEMENT BARS			
MARK	NO.	LENGTH	TYPE
RE1101	1	8'-7	Str.
RE1001	1	8'-3	"
RE901	1	7'-10	"
RE801	1	7'-6	"
RE701	2	7'-3	"
RE601	4	6'-11	"
RE501	1	6'-7	"
RE401	1	6'-3	"

NOTES:

1. All dimensions are out to out of bar
2. Radius dimensions are to outside of bar.
3. The length of bent bars is measured along centerline.
4. 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 indicates the bar size.
5. Four steel channel, 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 pounds of these spacers, based on 0.68 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantity for spiral bars.
   The "length" shown in the steel list for the spiral bars is the distance from the top of the footings 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 509. 1½ closed coils shall be provided at the ends of each spiral unit.

* Included with Item 517 for payment.

FED. RD DIVISION	STATE	PROJECT		389
	OHIO			

MONTGOMERY COUNTY
MOT. -75 - 17.66

SHAW, LENZ & ASSOCIATES ENGINEERS 10/10
CINCINNATI OHIO

REINFORCING STEEL DETAILS

BRIDGE NO. MOT.-75-1831
TIMBER LANE OVER I-75
I-75
MONTGOMERY CO. STA. 107+25.78

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
R.R.L.	R.R.L.	—	R.J.L. 8-30-66		

FED. RD. DIVISION	STATE	PROJECT		330
	OHIO			

MONTGOMERY COUNTY-MOT.-75-17.66

PROPOSED STRUCTURE

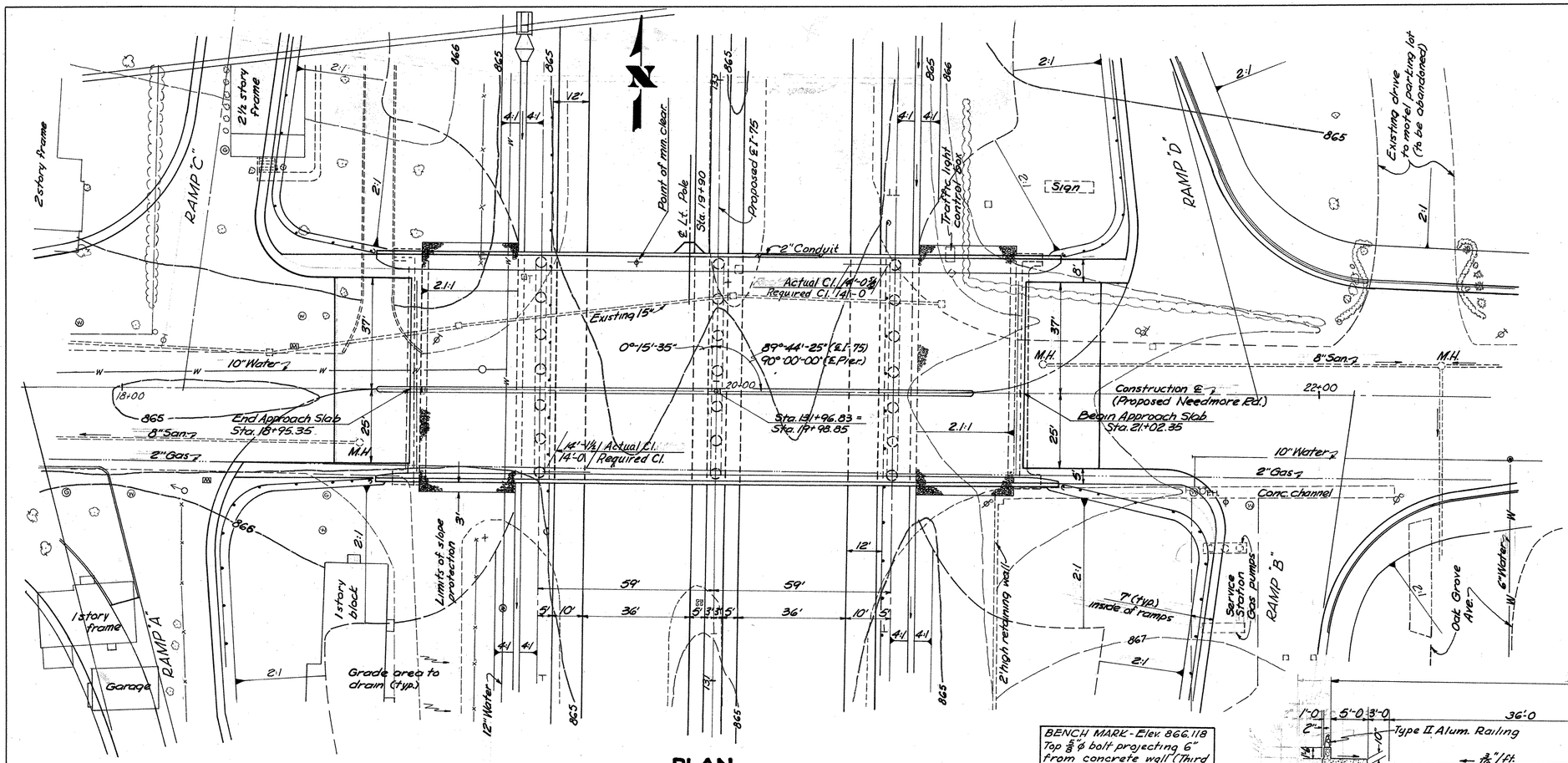
Type: Continuous steel beam with reinf. concrete deck & substructure.
Spans: 41'-6", 59'-9", 59'-9", & 41'-6".
Roadway: 68'-0" f/f curbs, 2 lanes Eastbound, 3 lanes Westbound with 2'-0" traffic divider & 1'-2"-0" safety curb & 1'-5"-0" sidewalk.
Load Frequency: CF=2000 (57)
Skew: 0°-00'-00"
Wearing Surface: 1" monolithic concrete
Approach Slab: AS-1-67 (25' long)
Alignment: Tangent

AVERAGE DAILY TRAFFIC - 1975

A.D.T. ..... 42,708 *
Type "B" (Estimated) 2,135

*Based on System 10-5 traffic survey prepared by Vogt-Ivers & Assoc.-Feb. 1964.

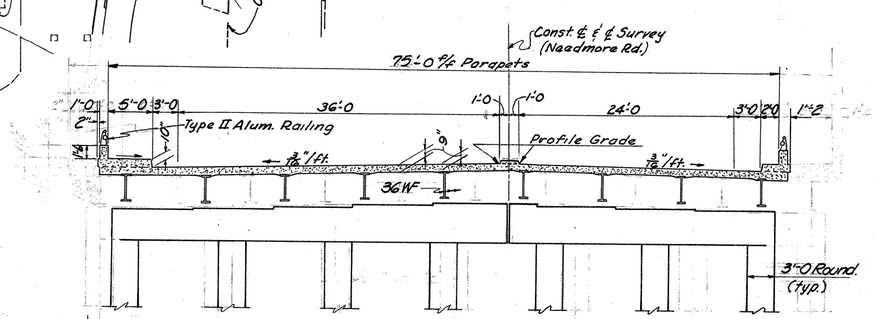
Estimated pedestrian traffic 1975
60 persons per day.



PLAN

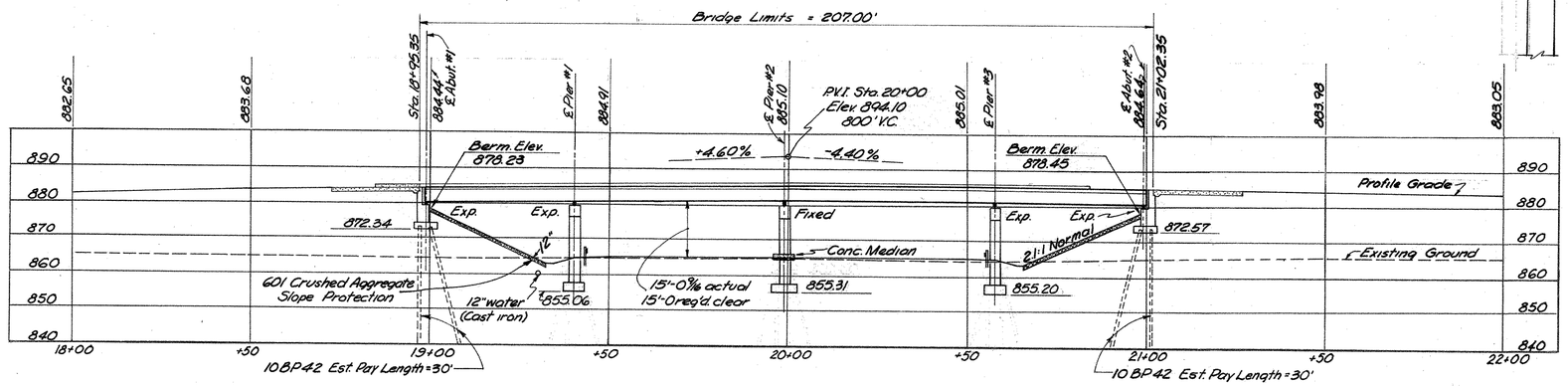
SCALE: 1"=20'

BENCH MARK - Elev. 866.118
Top ⅝"ø bolt projecting 6" from concrete wall (Third bolt from N.) 92' Rt. Sta 131+38.5



SECTION - BRIDGE DECK

SCALE: ½" = 1'-0



SECTION ALONG ℄ NEEDMORE RD.

SCALE: 1"=20'

All piers and abutments are parallel and 90° to centerline of Needmore Road.

SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO

1/12

SITE PLAN

BRIDGE NO. MOT-75-1887
NEEDMORE RD. OVER I-75
MONTGOMERY CO.
SCALE: As Shown

PRESENT TOPO		PROPOSED WORK			
SURVEYOR	DRAWN	DESIGNED	DRAWN	CHECKED	REVIEWED
B.H.S.	E.R.B	W.B.S.	T.J.P.	R.D.L.	

FED. RD. DIVISION	STATE	PROJECT		351
	OHIO			

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER STRUCTURE	GENERAL		
503	1,042	Cu.Yds.	Unclassified Excavation	305	737				
503	Lump	Lump Sum	Coffer dams, Cribs and Sheeting		Lump				
505	Lump	Lump Sum	First Test Pile	Lump					
507	1,140	Lin.Ft.	Steel Piles (10BP42)	1,140					
509	211,481	Lbs.	Reinforcing Steel	16,445	61,184	133,622			
511	510	Cu.Yds.	Class "C" Concrete - Superstructure			510			
511	134	Cu.Yds.	Class "C" Concrete - Piers above footing		134				
511	150	Cu.Yds.	Class "C" Concrete - Abutments above footings	150					
511	267	Cu.Yds.	Class "C" Concrete - Footings	122	145				
512	14	Lin.Ft.	Premolded Sealing Strip	14					
513	330,575	Lbs.	Structural Steel			330,575			
514	330,575	Lbs.	Field Painting of structural steel			330,575			
517	459	Lin.Ft.	Bridge Railing Type 2	51		408			
518	51	Cu.Yds.	Porous Backfill	59					
518	189	Lin.Ft.	6" Perforated helical C.M.P. including specials 707.01	139					
518	100	Lin.Ft.	6" Non-perforated helical C.M.P. 707.01	100					
518	16	Each	Scuppers (including supports)			16			
601	662	Sq.Yds.	Crushed Aggregate Slope Protection				662		
625			See lighting plans.						
808	510	Units	Water-reducing set-retarding admixture			510			

GENERAL NOTES

REFERENCE shall be made to the following:
Standard Drawings: BR-1-65 sheet 2 revised 11-24-65
RB-1-55 revised 2-2-59
SD-1-65 sheets 1, 2 & 3 dated 11-8-65
AS-1-67 Dated 1-11-68
Supplemental Specifications: 808 dated 1-1-69
811 dated 1-1-69
836 dated 6-17-69

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 = 1333 p.s.i. for superstructure
Class "C" basic unit stress = 1133 p.s.i. for substructure

STRUCTURAL STEEL: ASTM A-36 - basic unit stress = 20,000 p.s.i.

SCUPPERS including support angles, shall be galvanized in accordance with 711.02

REINFORCING STEEL: ASTM, A615, A616, A617, Deformed Intermediate or Hard. Basic unit stress 20,000 p.s.i. Spiral reinforcement shall be plain, A306 or A499

PILES shall be driven to a minimum bearing capacity of 35 tons per pile for the abutments.

FOUNDATION BEARING PRESSURE: Pier footings are designed for a maximum bearing pressure of 2.5 tons per sq. ft.

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

UTILITY LINES: All expenses involved in relocating the affected utility lines shall be borne by the owners. The Contractors and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either is held to a minimum.

EXCAVATION QUANTITY includes the removal of fill materials required for construction of the abutments.

JOINT SEALER: Item 828 joint sealer including bond breaker, shown in Section A-A of Std. Dwg. SD-1-65, Sheet No. 1 shall be omitted.

WELDS: Non-stress carrying welds are indicated thus: N

SHAW, LENZ & ASSOCIATES 2/12
ENGINEERS
CINCINNATI OHIO

QUANTITIES & GENERAL NOTES

BRIDGE NO. MOT-75-1887
NEEDMORE RD. OVER I-75

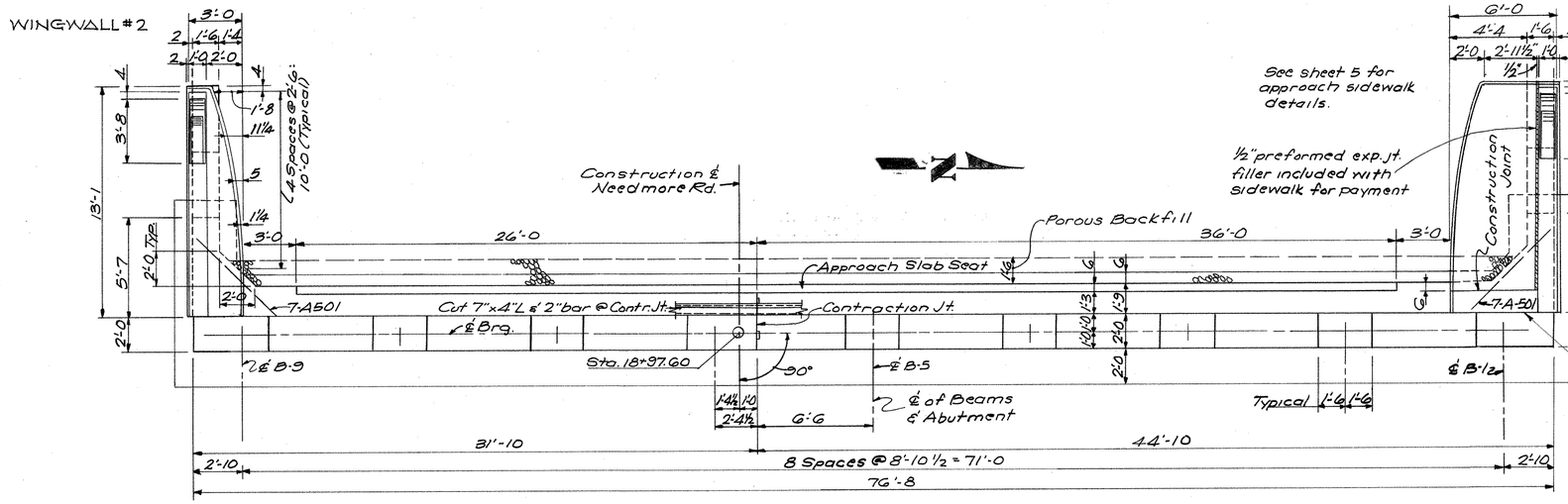
I-75

MONTGOMERY CO. STA. 135+65.66

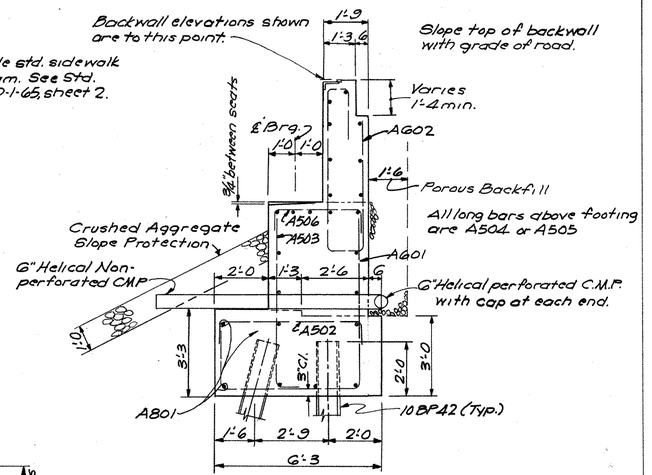
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	W.T.R.		W.B.S. 8-5-66		

FED. RD. DIVISION	STATE	PROJECT		
	OHIO			

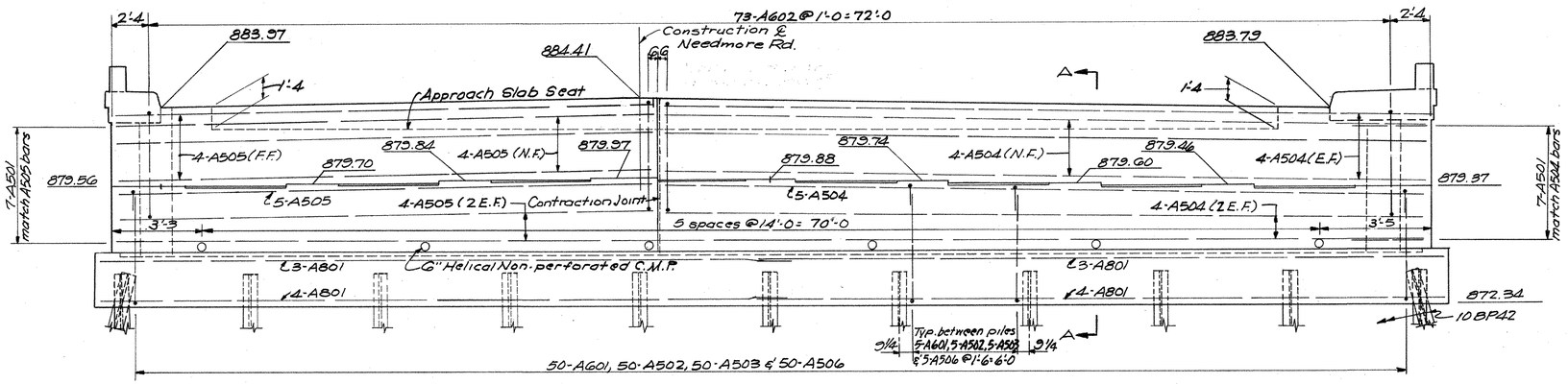
392



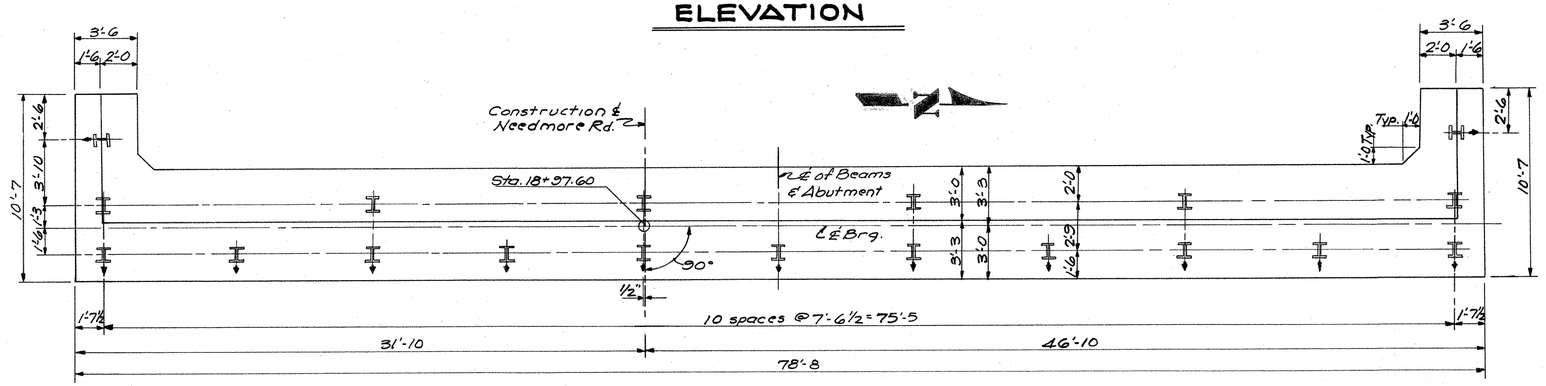
PLAN



SECTION A-A



ELEVATION



FOOTING PLAN

NOTES:

1. For Legend see sheet 4.
2. For Wingwall elevation views, wingwall section, contraction joint detail, sidewalk detail and median curb detail see sheet 3.
3. For curb plates and end dam details see Std. Dwg. SD-1-65, sheets 1 & 2.
4. For bearing details see Std. Dwg. RB-1-55.
5. For details of supported end post see Std. Dwg. BR-1-65, sheet 2.
6. All roadway embankments 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 piles driven.
7. For aluminum railing details see Std. Dwg. BR-1-65, sheet 2.

SHAW, LENZ & ASSOCIATES ENGINEERS 3/12
CINCINNATI OHIO

ABUTMENT NO. 1

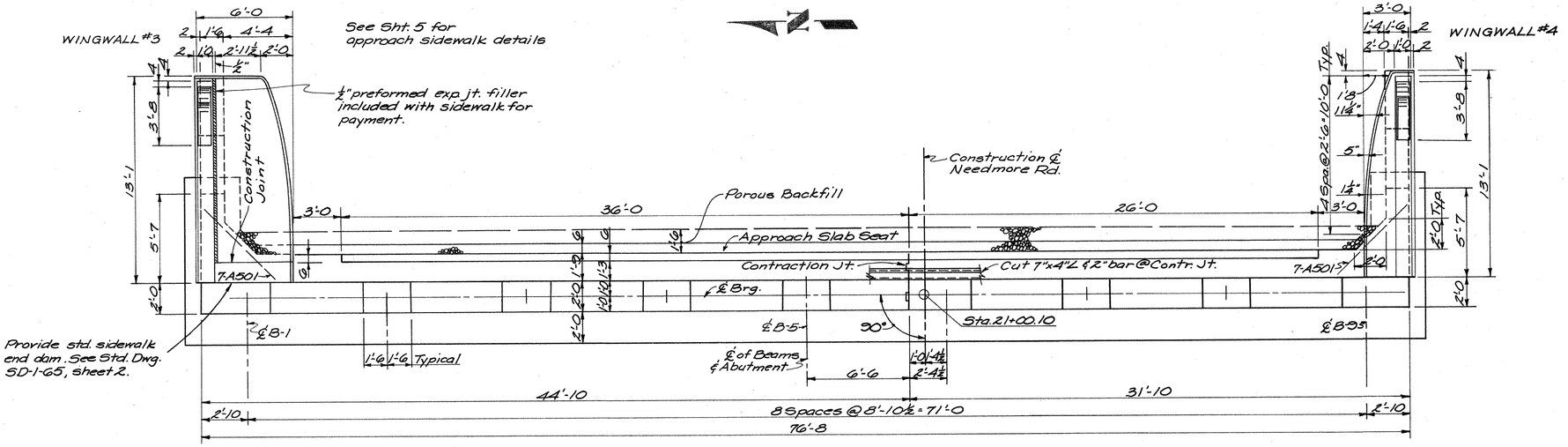
BRIDGE NO. MOT-75-1887
NEEDMORE RD. OVER I-75

I-75
MONTGOMERY CO. STA. 135+65.66

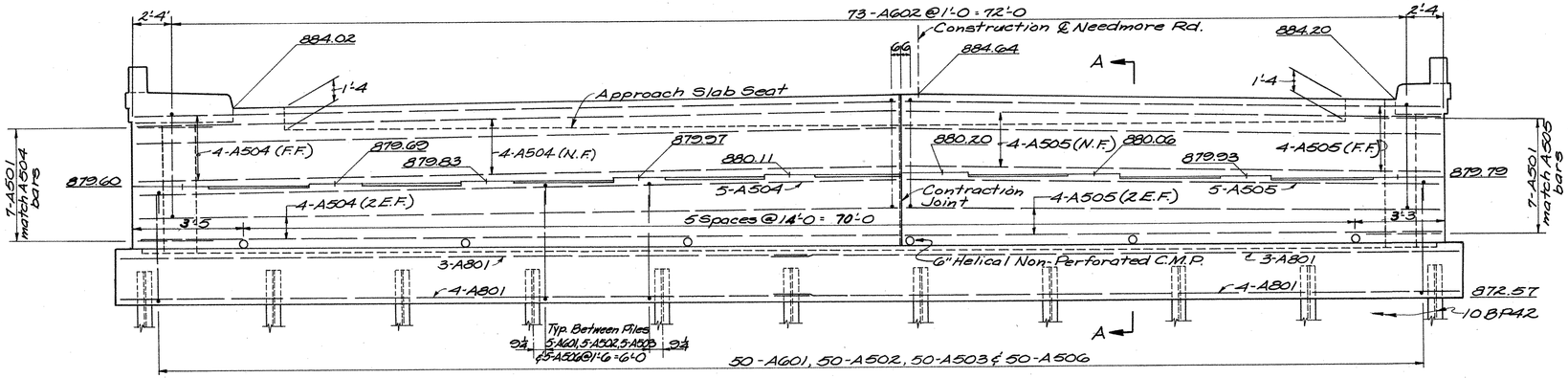
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	W.T.R.	R.J.L. 8-4-66		

FED. RD. DIVISION	STATE	PROJECT		
	OHIO			

393



PLAN



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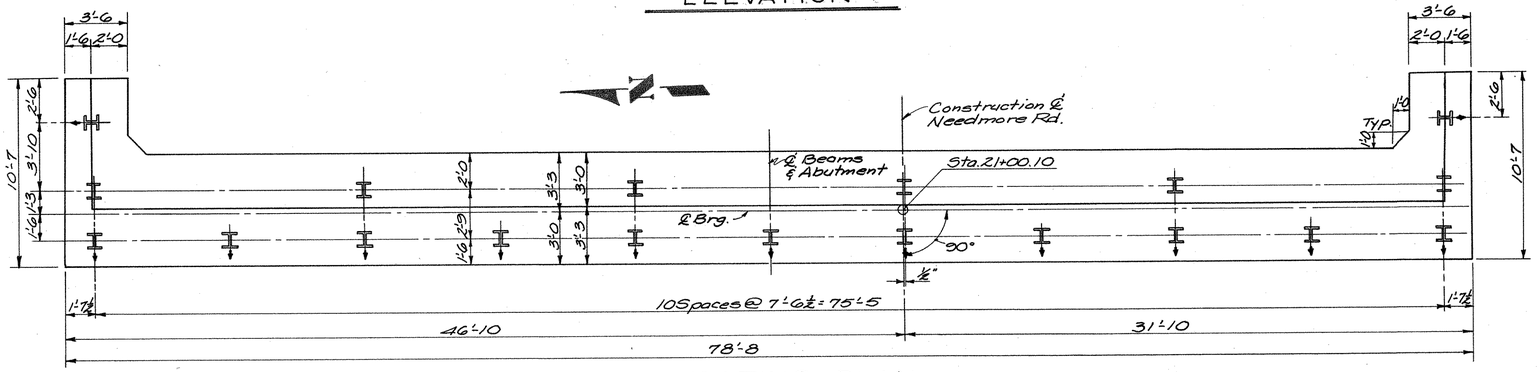
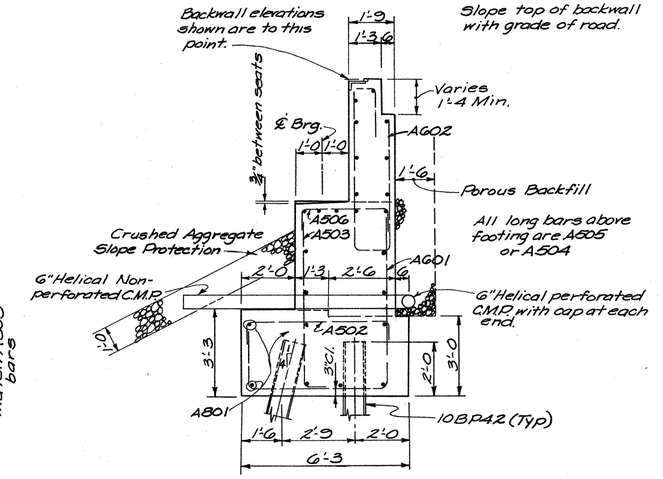


FOOTING PLAN



SECTION A-A

NOTES:
1. For notes see Sheet 3.
2. For Wingwall elevation views, wingwall section, contraction joint detail, and sidewalk detail see Sheet 5.

LEGEND
- 10 BP 42 bearing pile
- 10 BP 42 bearing pile battered 1:4 in direction shown by arrow

N.F. - Near Face
F.F. - Far Face
E.F. - Each Face

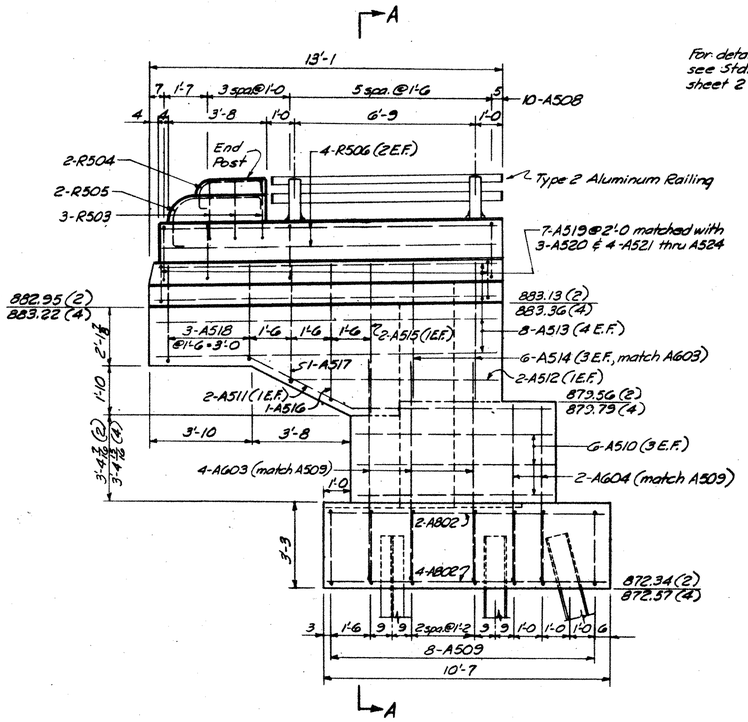
SHAW, LENZ & ASSOCIATES ENGINEERS 4/12
CINCINNATI OHIO

ABUTMENT NO. 2
BRIDGE NO. MOT-75-1887
NEEDMORE RD. OVER I-75
I-75
MONTGOMERY CO. STA. 135+65.66

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	L.R.F.	R.J.L. 8-4-66		

4

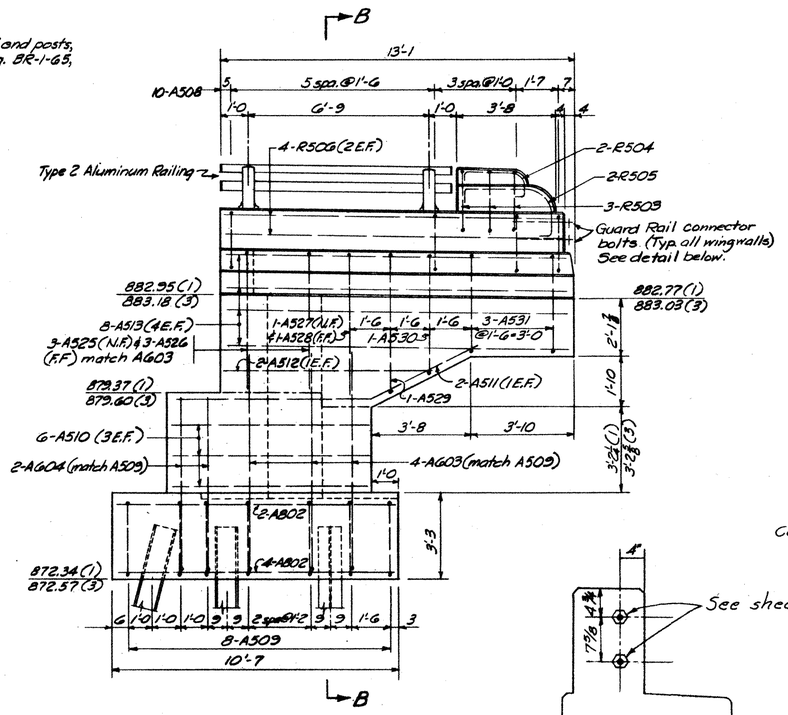
FED. RD. DIVISION	STATE	PROJECT		394
	OHIO			



WINGWALLS NO.2 & NO.4

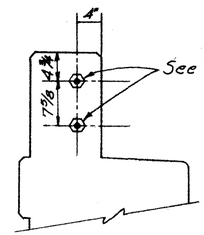
Wingwall #2 shown, Wingwall #4 is opposite hand

For details of end posts, see Std. Dwg. BR-1-65, sheet 2

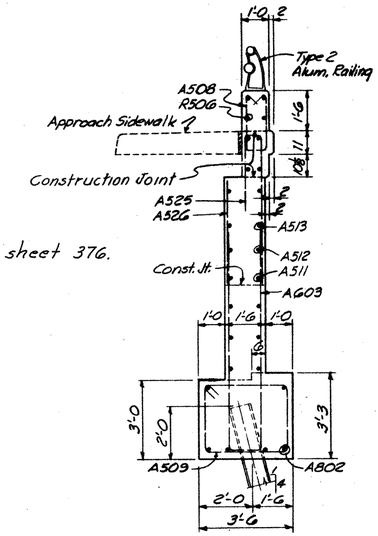


WINGWALLS NO.1 & NO.3

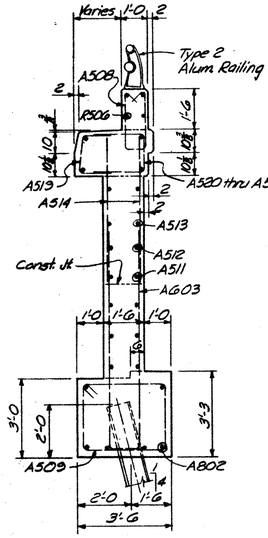
Wingwall #1 shown, Wingwall #3 is opposite hand



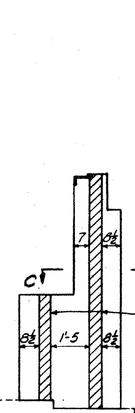
GUARD RAIL CONNECTOR



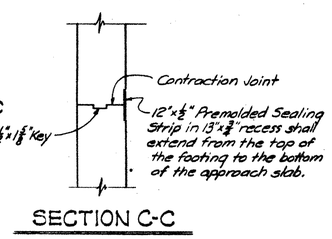
SECTION B-B



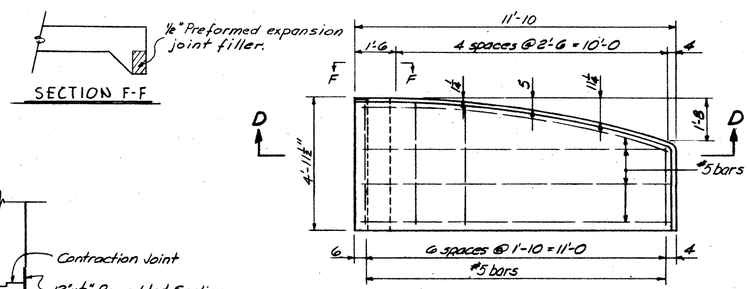
SECTION A-A



CONTRACTION JOINT DETAIL

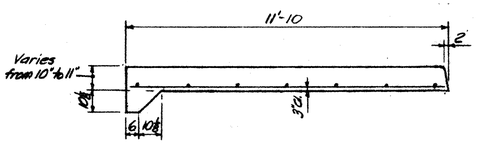


SECTION C-C



Approach Sidewalk included with Roadway Quantities

APPROACH SIDEWALK DETAIL



SECTION D-D

SECTION F-F

½" Preformed expansion joint filler.

NOTES :

1. For location of Wingwalls, see sheets 3 & 4.
2. For end post details, see Std. Dwg BR-1-65, sheet 2.

SHAW-LENZ & ASSOCIATES ENGINEERS 5/12

CINCINNATI OHIO

WINGWALLS & DETAILS

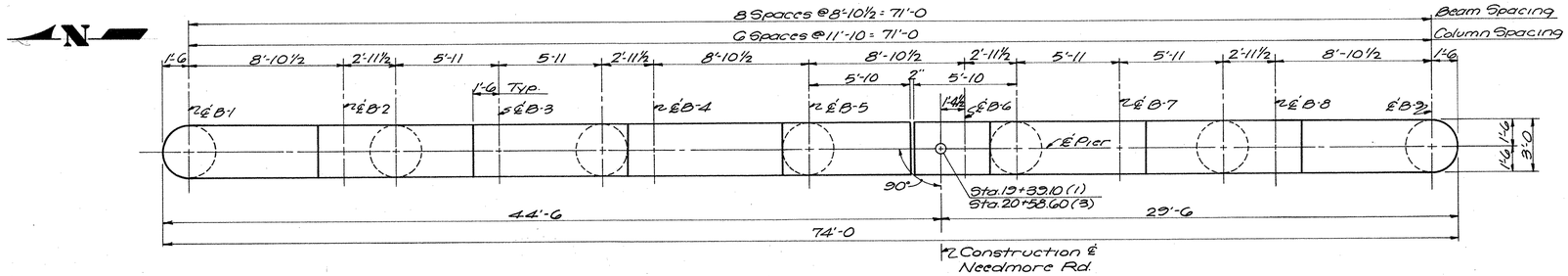
BRIDGE NO. MOT-75-1887

NEEDMORE RD OVER I-75

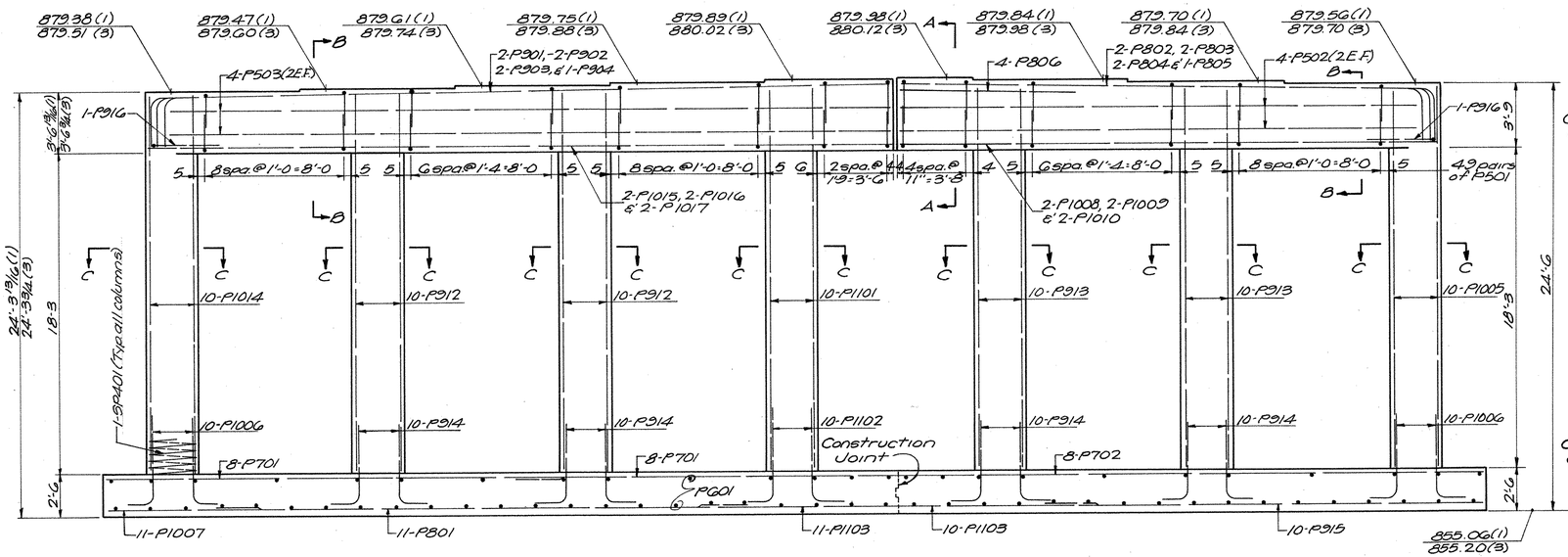
MONTGOMERY CO. I-75 STA. 135+65.66

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	—	R.J.L. 8-4-66		

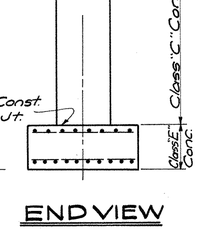
FED. RD. DIVISION	STATE	PROJECT		395
	OHIO			



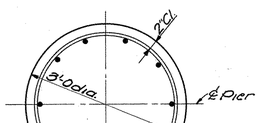
CAP PLAN



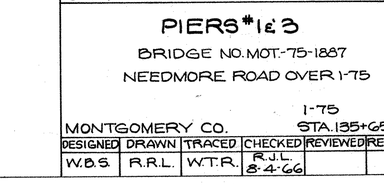
ELEVATION



END VIEW

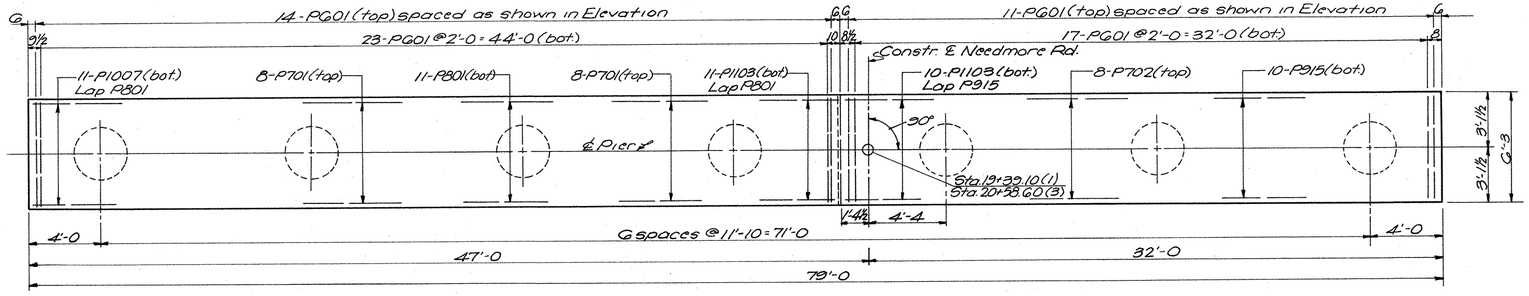


SECTION A-A



SECTION B-B

SECTION C-C



FOOTING PLAN

SHAW, LENZ & ASSOCIATES 6/12
ENGINEERS
CINCINNATI OHIO

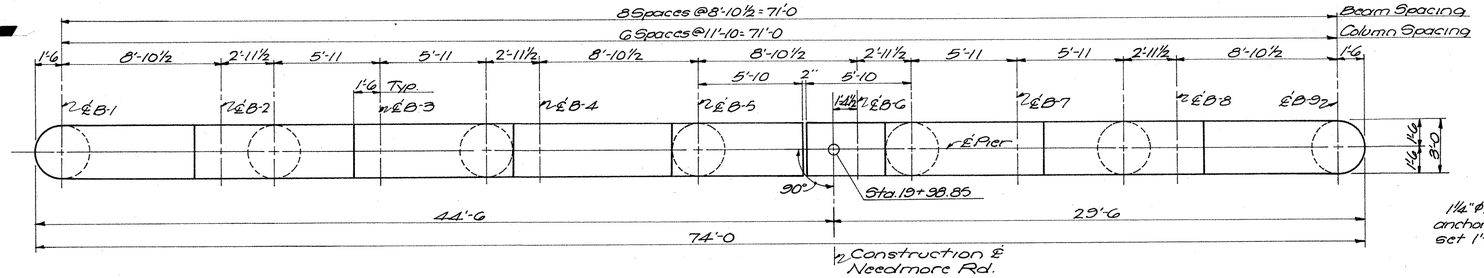
PIERS #1 & 3

BRIDGE NO. MOT.-75-1887
NEEDMORE ROAD OVER I-75

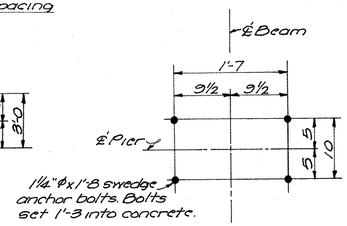
I-75
MONTGOMERY CO. STA. 135+65.66

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	W.T.R.	R.J.L. 8-4-66		

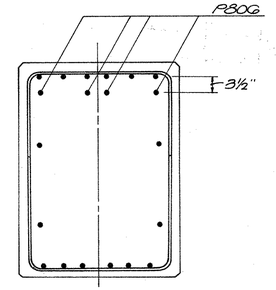
FED. RD. DIVISION	STATE	PROJECT		
	OHIO			



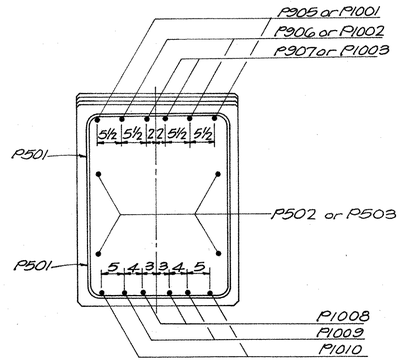
CAP PLAN



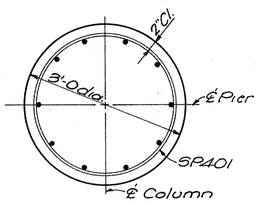
ANCHOR BOLT LAYOUT



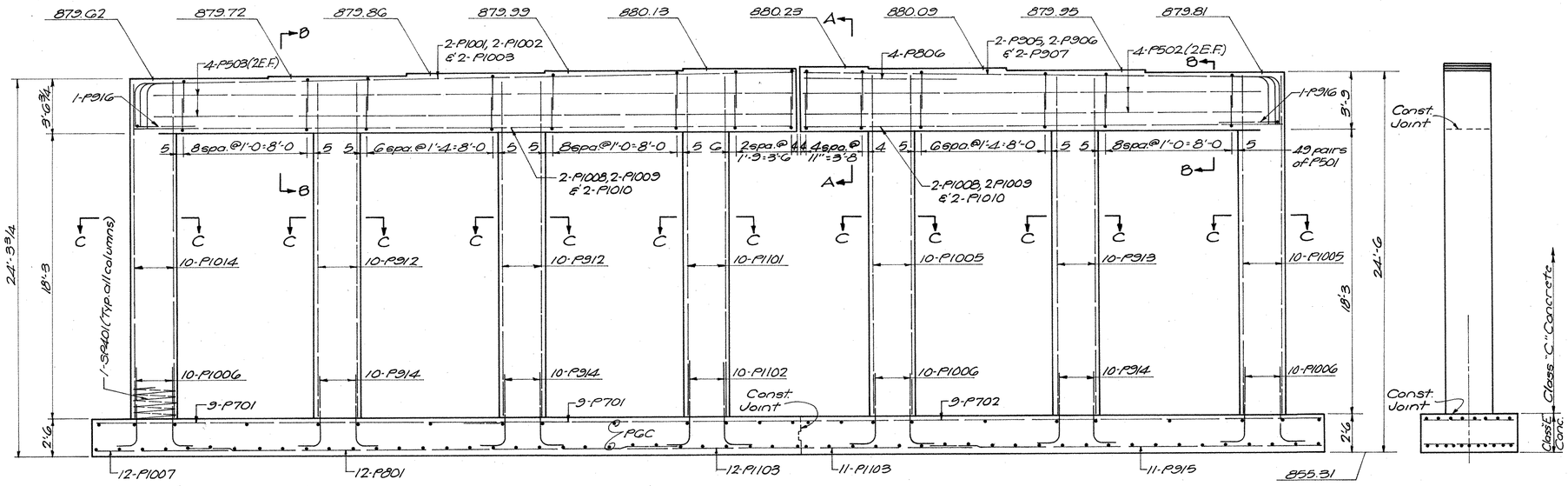
SECTION A-A



SECTION B-B

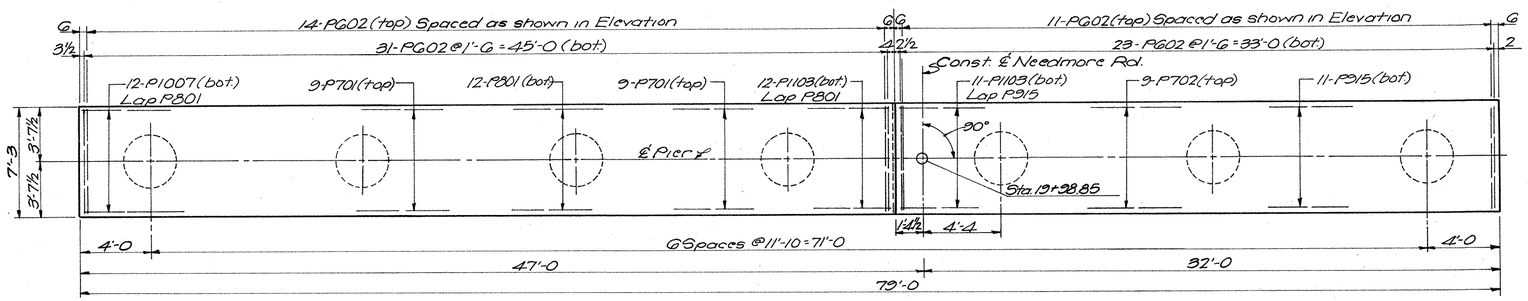


SECTION C-C



ELEVATION

END VIEW



FOOTING PLAN

SHAW, LENZ & ASSOCIATES ENGINEERS
CINCINNATI OHIO
7/12

PIER #2

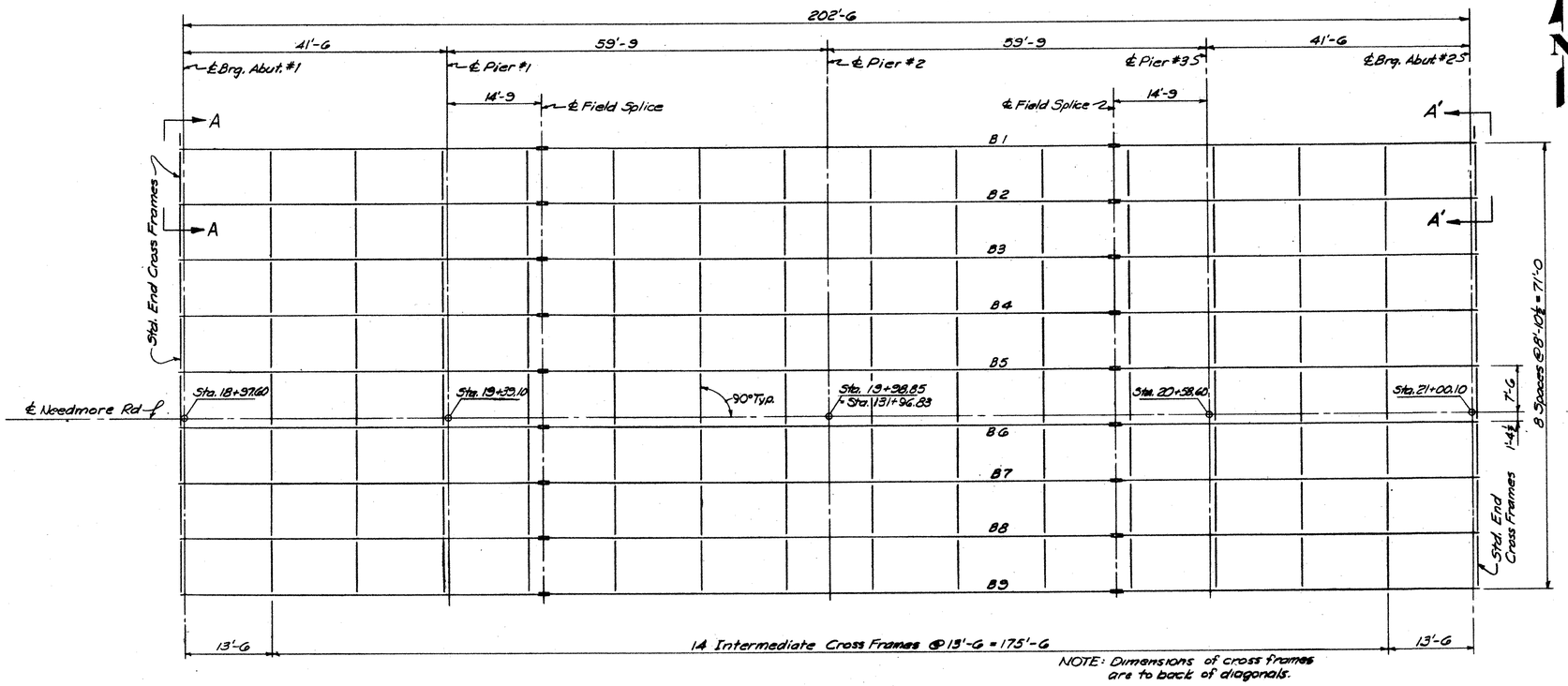
BRIDGE NO. MOT.-75-1887

NEEDMORE ROAD OVER I-75

I-75
MONTGOMERY CO. STA. 135+65.66

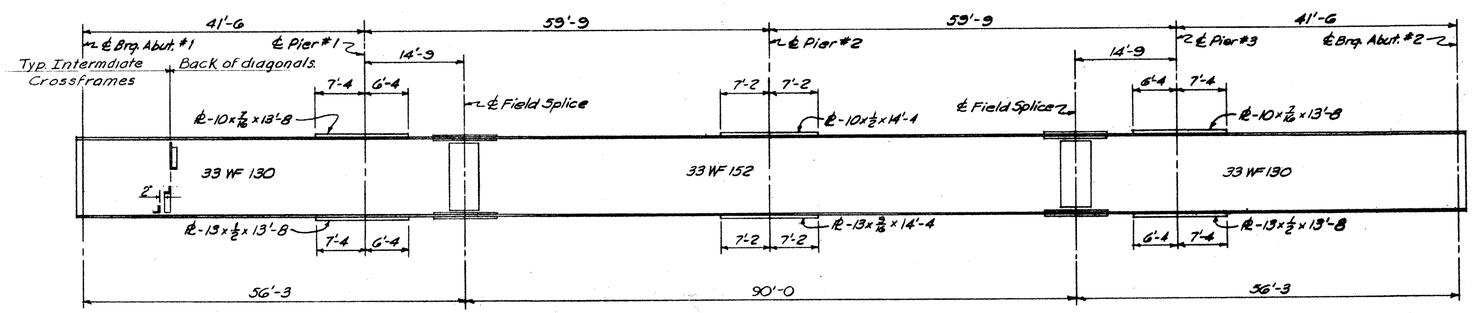
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	W.T.R.	R.J.L. 8-4-66		

FED. RD. DIVISION	STATE	PROJECT		397
	OHIO			

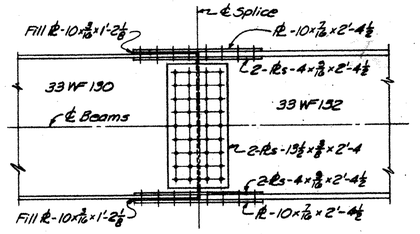


NOTE: Dimensions of cross frames are to back of diagonals.

FRAMING PLAN

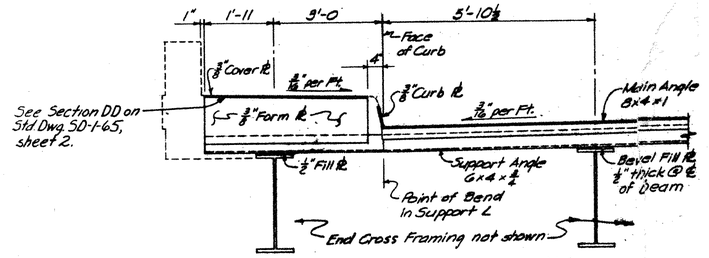


TYPICAL BEAM ELEVATION



SPLICE DETAIL

For additional details and dimensions, see Std. Dwg. SD-1-65, sheet 3.



Note:
Grade @ Abut. #1 = +1.26 %
Grade @ Abut. #2 = -1.04 %

SECTION A-A

(Section A'-A' similar)

NOTES:
For location of scuppers see sheet
For scupper details see Std. Drwg. SD-1-65 sheet 2.
For end crossframes, roadway end dam, sidewalk end dam, & curb plate details see Std. Drwg. SD-1-65, sheets 1 & 2.
For details of rockers & bolsters see Std. Drwg. 228-1-55.
Omit keeper plates from rockers and bolsters carring the fascia beams.
For intermediate cross frame details see sheet
For shop welding of moment plates see Std. Drwg. SD-1-65, sheet 2.

SHAW, LENZ & ASSOCIATES ENGINEERS 8/12
CINCINNATI OHIO

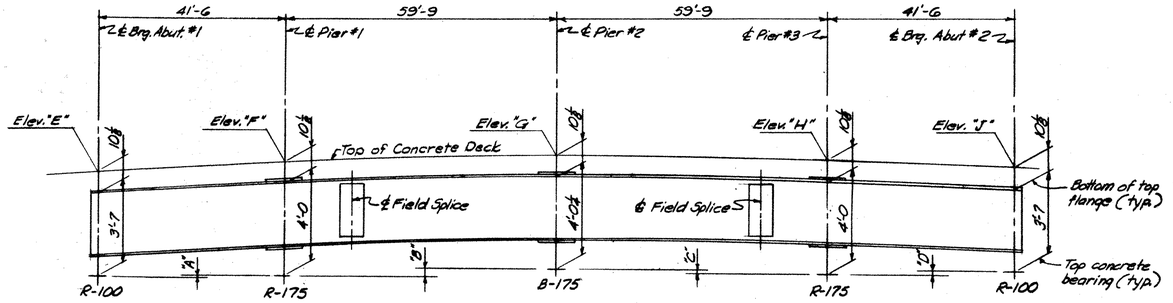
FRAMING PLAN
BRIDGE NO. MOT-75-1887
NEEDMORE RD. OVER I-75

MONTGOMERY CO. I-75 STA. 135+65.66

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	—	R.J.L. 8-4-66		

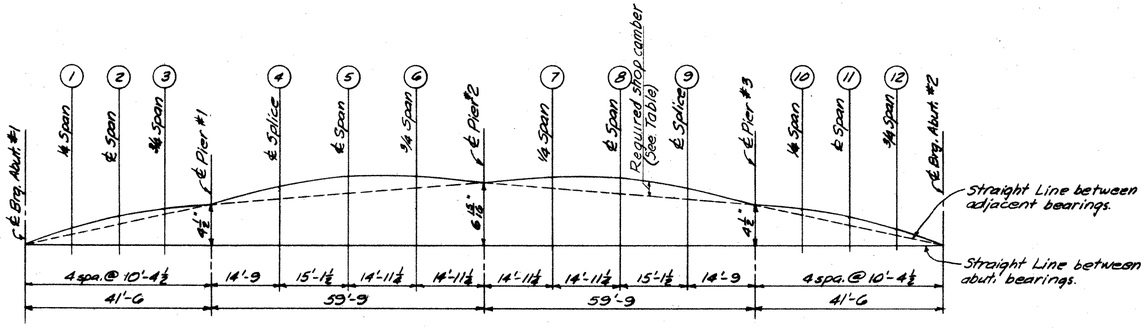
FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

398



ELEVATION LAYOUT

BEAM	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"	Elev. "E"	Elev. "F"	Elev. "G"	Elev. "H"	Elev. "J"
B-1	1/8"	2 7/8"	1 5/16"	1 1/16"	883.80	884.22	884.49	884.36	884.03
B-2	1/8"	3"	1 7/16"	1 1/16"	883.89	884.31	884.58	884.45	884.12
B-3	1/8"	3"	1 7/16"	1 1/16"	884.03	884.45	884.72	884.59	884.26
B-4	1/8"	2 7/8"	1 5/16"	1 1/16"	884.17	884.59	884.86	884.73	884.40
B-5	1/8"	2 7/8"	1 7/16"	1 1/16"	884.31	884.73	885.00	884.86	884.53
B-6	1/8"	3"	1 7/16"	15/16"	884.40	884.82	885.09	884.96	884.63
B-7	0"	3"	1 5/16"	15/16"	884.26	884.69	884.95	884.82	884.49
B-8	0"	3"	1 5/16"	1 1/16"	884.12	884.55	884.82	884.68	884.35
B-9	0"	3"	1 5/16"	1 1/16"	883.99	884.41	884.68	884.54	884.21



DEFLECTION & CAMBER DIAGRAM

Beam		1	2	3	4	5	6	7	8	9	10	11	12
B-1	Deflection due to D.L. Beam	0	0	0	1/32	1/32	1/32	1/32	1/32	1/32	0	0	0
	Deflection due to remaining D.L.	3/32	3/32	1/32	5/32	9/32	5/32	5/32	9/32	5/32	1/32	3/32	3/32
	Vertical Curve Adjustment	7/32	9/32	7/32	7/16"	19/32"	7/16"	7/16"	19/32"	7/16"	7/32	9/32	7/32
	Shop Camber Req'd.	5/16"	3/8"	1/4"	5/8"	15/16"	5/8"	5/8"	15/16"	5/8"	1/4"	3/8"	5/16"
B-2 thru B-9	Deflection due to D.L. Beam	0	0	0	1/32	1/32	1/32	1/32	1/32	1/32	0	0	0
	Deflection due to remaining D.L.	3/32	3/32	1/32	5/32	1/4	1/8	1/8	1/4	5/32	1/32	3/32	3/32
	Vertical Curve Adjustment	7/32	9/32	7/32	7/16"	19/32"	7/16"	7/16"	19/32	7/16"	7/32	9/32	7/32
	Shop Camber Req'd.	5/16"	3/8"	1/4"	5/8"	7/8"	5/8"	5/8"	7/8"	5/8"	1/4"	3/8"	5/16"

SHAW, LENZ & ASSOCIATES ENGINEERS
CINCINNATI OHIO
9/12

STEEL DETAILS

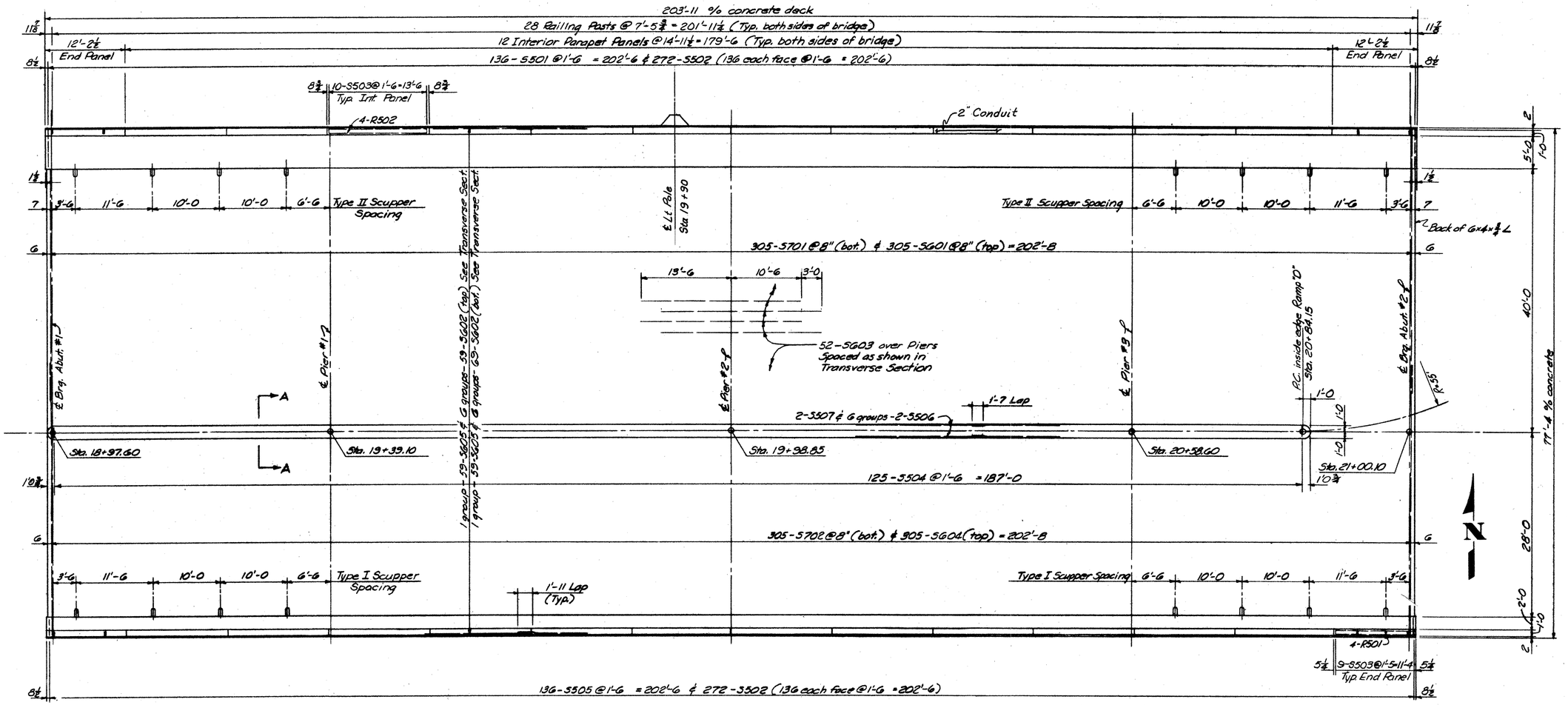
BRIDGE NO. M.O.T.-75-1887

NEEDMORE ROAD OVER I-75

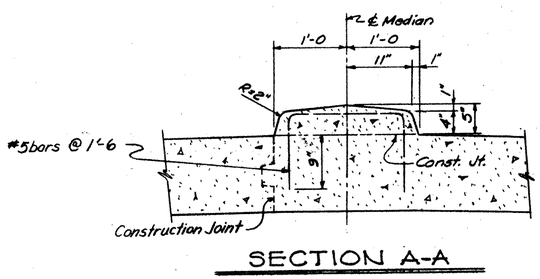
MONTGOMERY CO. I-75 STA. 135+65.66

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.P.L.		R.J.L. 8-4-66		

FED. RD. DIVISION	STATE	PROJECT		399
	OHIO			



PLAN



SECTION A-A

NOTES:

1. Slab thickness includes 1" monolithic wearing surface.
2. Spread or cut longitudinal reinforcing steel in slab to clear scuppers.
3. For scupper details, see Std. Dwg. SD-1-65, sheet 2.
4. For end crossframe & end dam details, see Std. Dwg. SD-1-65, sheet 1.
5. For aluminum railing details, see Std. Dwg. BR-1-65, sheet 2.
6. For sidewalk end dam details & curb plate details, see Std. Dwg. BR-1-65, sheet 2.
7. For pavement screed elevations, see sheet
8. For railing and parapet joint details, see Std. Dwg. BR-1-65, Sheet 1.
9. For light pole support details see sheet 373.

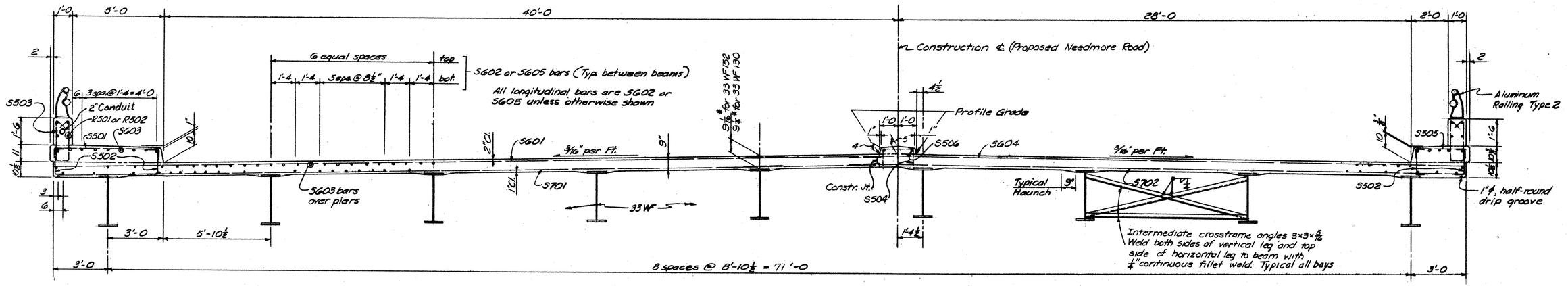
SHAW, LENZ & ASSOCIATES ENGINEERS — 10/12
CINCINNATI — OHIO

SUPERSTRUCTURE SLAB

BRIDGE NO. MOT-75-1887
NEEDMORE ROAD OVER I-75
I-75
MONTGOMERY CO. STA. 131+65.66

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	—	R.J.L. 8-4-66		

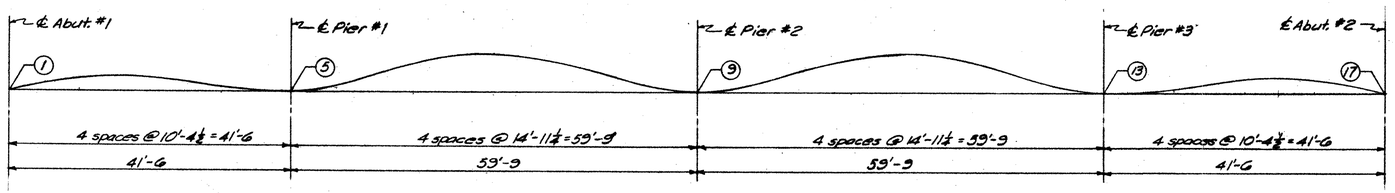
FED. RD. DIVISION	STATE	PROJECT		400
	OHIO			



TRANSVERSE SECTION

DECK SLAB HAUNCH: The haunch in the deck slab adjacent to the top of the steel beams, which is shown as 9" wide, may vary from this dimension between the limits of 6" and 12", except that the maximum slope shall not exceed 3 inches per foot. Payment for deck slab concrete shall be based on the 9" width.

* This is a 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.



SCREED ELEVATION DIAGRAM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
℄ Station	18+97.60	19+07.98	19+18.35	19+28.72	19+39.10	19+54.04	19+68.98	19+83.91	19+98.85	20+13.79	20+28.72	20+43.66	20+58.60	20+68.98	20+79.35	20+89.72	21+00.10
℄ Profile Grade	884.408	884.532	884.643	884.743	884.830	884.995	885.015	885.069	885.099	885.103	885.082	885.036	884.965	884.901	884.825	884.737	884.636
Gutter Elev. 28' Rt.	883.986	884.110	884.221	884.321	884.409	884.513	884.593	884.648	884.677	884.681	884.660	884.615	884.544	884.479	884.403	884.315	884.215
Concrete D.L. Defl. Rt. Gutter	0.000	0.007	0.008	0.002	0.000	0.013	0.021	0.011	0.000	0.011	0.021	0.013	0.000	0.002	0.008	0.007	0.000
Screed Setting Elev. Rt. Gutter	883.99	884.12	884.23	884.32	884.41	884.53	884.61	884.66	884.68	884.69	884.68	884.63	884.54	884.48	884.41	884.32	884.22
Gutter Elev. 40' Lt.	883.798	883.922	884.034	884.134	884.221	884.326	884.406	884.460	884.489	884.494	884.473	884.427	884.356	884.292	884.216	884.128	884.087
Concrete D.L. Defl. Lt. Gutter	0.000	0.008	0.008	0.002	0.000	0.013	0.022	0.012	0.000	0.012	0.022	0.013	0.000	0.002	0.008	0.008	0.000
Screed Setting Elev. Lt. Gutter	883.80	883.93	884.04	884.14	884.22	884.34	884.43	884.47	884.49	884.51	884.50	884.44	884.36	884.29	884.22	884.14	884.03

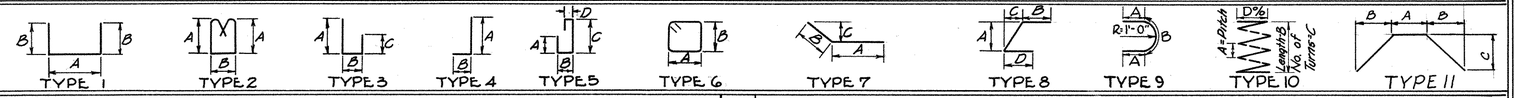
SHAW, LENZ & ASSOCIATES
ENGINEERS
CINCINNATI OHIO
11/12

SUPERSTRUCTURE SLAB

BRIDGE NO. MOT-75-1887
NEEDMORE ROAD OVER I-75
I-75
MONTGOMERY CO. STA. 131+65.66

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.	—	R.J.L. 8-4-66		

REINFORCING STEEL BAR SCHEDULE



MARK	NO.	SIZE	LENGTH	TYPE	A	B	C	D	WEIGHT	LOCATION
				SUPERSTRUCTURE						
S701	305		44'-8	Str.					27,846	Slab
S702	305		34'-3	Str.					21,352	"
S601	305		44'-8	Str.					20,462	Slab
S602	768		30'-0	↕					34,606	"
S603	156		24'-0						5,623	Slab, over Piers
S604	305		33'-11						15,338	Slab
S605	59		35'-1	Str.					3,109	"
S501	136		6'-7	1	5'-6	0'-8			934	Sidewalk
S502	544		2'-5	1	1'-4	0'-8			1,371	Curb & Sidewalk
S503	276		5'-7	2	2'-2	0'-8			1,607	"
S504	125		2'-10	1	1'-7	0'-9			369	Slab, under Median
S505	136		3'-7	1	2'-6	0'-8			508	Curb
S506	12		30'-0	Str.					375	Median Curb
S507	2		17'-9	"					37	" "
L601	5		7'-0	11	1'-3"	2'-1"	2'-1"		53	Light Pole
* R501	16		11'-11	Str.						End Parapet Panels
* R502	96		14'-8	Str.						Int. Parapet Panels
L602	4		10'-4"	6	2'-1"	2'-10"			62	Light Pole
				ABUTMENTS						
A801	28		40'-5	Str.					3,022	Ftgs.
A802	24		10'-3	"					657	"
A601	100		14'-3	3	6'-7	5'-5	2'-7		2,140	Ftgs.
A602	146		14'-4	5	4'-8	1'-5	6'-0	0'-11	3,143	Backwall
A603	16		18'-2	1	1'-2	8'-8			437	Wingwalls
A604	8		14'-0	1	1'-2	6'-7			168	"
A501	28		6'-6	Str.					190	Abut. Corners
A502	100		7'-2	1	5'-5	1'-0			747	Ftgs.
A503	100		7'-5	4	6'-7	1'-0			774	Seats & Ftgs.
A504	34		44'-6	Str.					1578	Seats & Backwalls
A505	34		31'-6	Str.					1117	"
A506	100		5'-2	1	3'-5	1'-0			539	Seats
A508	40		5'-7	2	2'-2	0'-8			233	Curbs
A509	32		12'-3	6	3'-2	2'-7			409	Ftgs.
A510	24		7'-3	Str.					181	Wingwalls
A511	8		11'-10	7	7'-5	4'-6	2'-0		99	"
A512	8		7'-11	Str.					66	"
A513	32		12'-9	Str.					426	"
A514	12		5'-2	Str.					65	Wingwalls #2 & #4
A515	4		5'-8	Str.					24	"
A516	2		11'-1	1	1'-2	5'-1			23	"
A517	2		9'-7	1	1'-2	4'-4			20	"
A518	6		8'-1	1	1'-2	3'-7			51	"
A519	14		3'-4	8	1'-4	1'-0	0'-2	1'-2	49	Curbs, Wingwalls #2 & 4
A520	6		6'-1	1	↕	2'-6			38	"
A521	2		5'-9	1		2'-4			12	"
A522	2		5'-1	1		2'-0			11	"
A523	2		4'-1	1	↓	1'-6			9	"
A524	2		3'-1	1	1'-4	1'-0			6	"
A525	6		8'-2	3	5'-2	0'-6	2'-9		51	Wingwalls #1 & #3
A526	6		3'-3	Str.					20	"
A527	2		8'-8	3	5'-8	0'-6	2'-9		18	"
A528	2		3'-9	Str.					8	"
A529	2		12'-11	5	3'-4	1'-2	5'-2	0'-6	27	"
A530	2		11'-4	5	2'-7	1'-2	4'-4	0'-6	24	"
A531	6		9'-10	5	1'-10	1'-2	3'-7	0'-6	62	"

MARK	NO.	SIZE	LENGTH	TYPE	A	B	C	D	WEIGHT	LOCATION
* R503	12		See Std. Dwg. BP-1-65							Parapets
* R504	8		Sheet 2, for details							"
* R505	8									"
* R506	16		12'-5	Str.						"
				PIERS						
P1101	30		22'-0	Str.					3507	
P1102	30		7'-2	4	5'-8	1'-9			1142	
P1103	65		11'-0	Str.					3799	
P1001	2		44'-5	4	41'-5	3'-3			382	
P1002	2		45'-1	4	42'-1	3'-3			388	
P1003	2		45'-4	4	42'-4	3'-3			390	
P1005	40		21'-9	Str.					3744	
P1006	70		6'-6	4	5'-4	1'-5			1958	
P1007	34		8'-6	Str.					1244	
P1008	8		30'-7	↕					1053	
P1009	8		30'-6						1050	
P1010	8		29'-3						1007	
P1014	30		21'-6						2775	
P1015	4		42'-5						730	
P1016	4		42'-4	↓					729	
P1017	4		41'-1	Str.					707	
P901	4		44'-6	4	41'-5	3'-3			605	
P902	4		45'-2	4	42'-1	3'-3			614	
P903	4		45'-5	4	42'-4	3'-3			618	
P904	2		45'-4	4	42'-3	3'-3			308	
P905	2		32'-10	4	29'-9	3'-3			223	
P906	2		33'-6	4	30'-5	3'-3			228	
P907	2		33'-9	4	30'-8	3'-3			230	
P912	60		21'-7	Str.					4403	
P913	50		21'-10	Str.					3712	
P914	110		5'-8	4	4'-11	0'-11			2119	
P915	31		24'-11	Str.					2626	
P916	6		8'-10	9	2'-10	3'-2			180	
P801	34		30'-10	Str.					2799	
P802	4		32'-10	4	29'-9	3'-3			351	
P803	4		33'-6	4	30'-5	3'-3			358	
P804	4		33'-9	4	30'-8	3'-3			360	
P805	2		33'-8	4	30'-7	3'-3			180	
P806	12		10'-0	Str.					320	
P701	50		24'-0	Str.					2453	
P702	25		33'-0	Str.					1686	
P601	130		5'-11	Str.					1155	
P602	79		6'-11	Str.					821	
P501	294		7'-9	1	2'-8	2'-8			2376	
P502	12		29'-4	Str.					367	
P503	12		41'-2	Str.					515	
SP401	21		18'-3	10	4 1/2"	18'-3	51	2'-8	6972	

* Included with Item 517 for payment.

NOTES:

1. All dimensions are out to out of bar.
2. Radius dimensions are to outside of bar.
3. The length of bent bars is measured along centerline.
4. Bar size is indicated in the bar mark. The first digit where three digits are used the first two digits where four are used indicates the bar size.
5. Four steel channel, 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 pounds of these spacers, based on 0.68 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantity for spiral bars.

   The "Length" shown in the steel list for the spiral bars is the distance from the top of the footings 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 509. 1½ closed coils shall be provided at the ends of each spiral unit.

REPLACEMENT BARS			
MARK	NO.	LENGTH	TYPE
RE401	1	6'-3	Str.
RE501	1	6'-7	↕
RE601	3	6'-11	
RE701	3	7'-3	
RE801	1	7'-6	
RE901	1	7'-10	
RE1001	1	8'-3	↓
RE1101	1	8'-7	Str.

SHAW, LENZ & ASSOCIATES ENGINEERS 12/12
CINCINNATI OHIO

REINFORCING STEEL DETAILS

BRIDGE NO. MOT-75-1887
NEEDMORE ROAD OVER I-75
I-75
MONTGOMERY CO. STA. 135+63.66

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
R.R.L.	R.R.L.	W.T.R.	R.J.L. 8-4-66		

FED. RD. DIVISION	STATE	PROJECT		402
	OHIO			

371 Recd

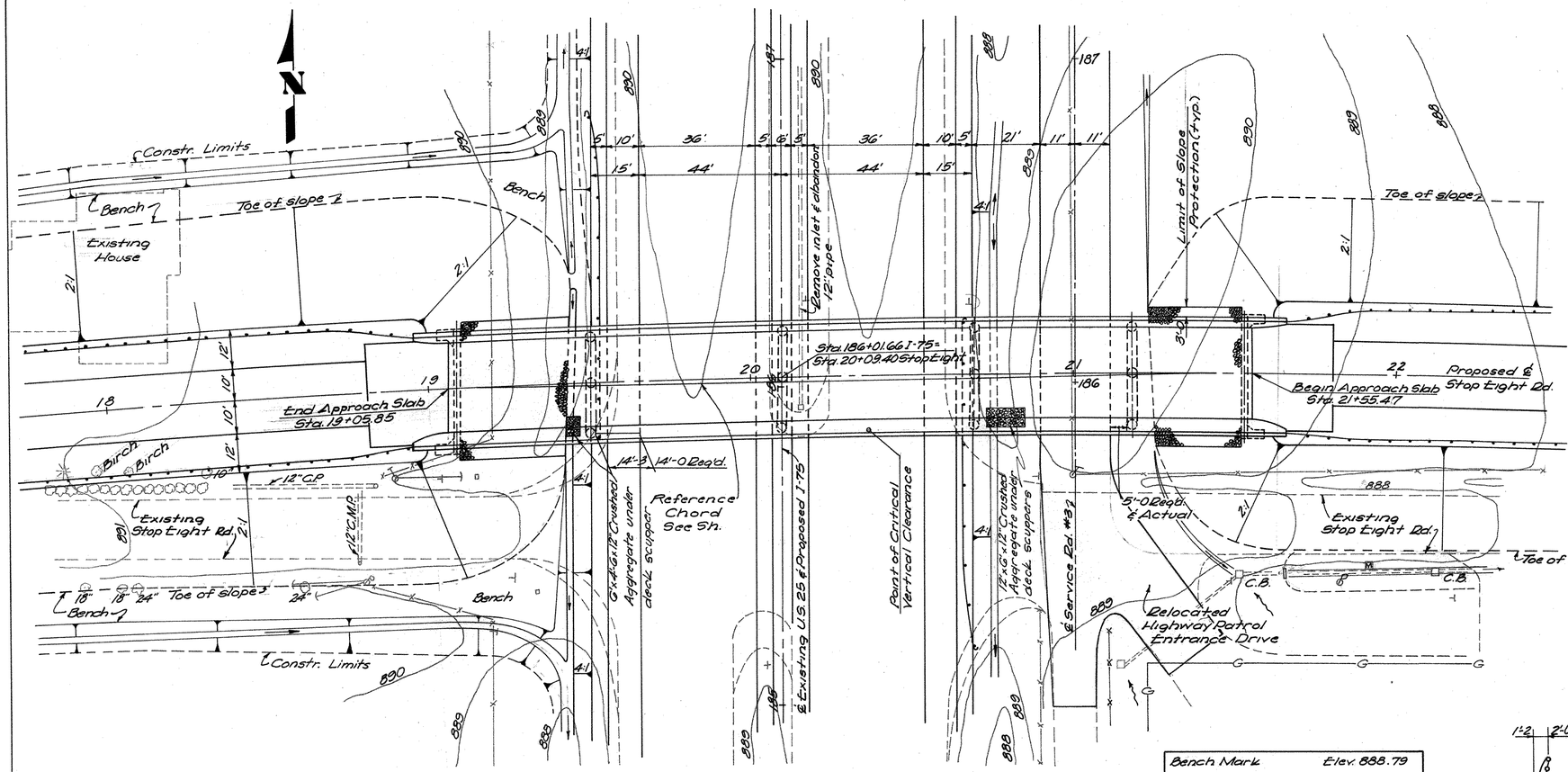
PROPOSED STRUCTURE

TYPE: Continuous steel beam with reinforced concrete deck and substructure.
SPANS: 41'-6, 59'-9, 59'-9, 49'-1, and 35'-0 (measured along chord between abutments)
ROADWAY: 28'-0 f/f curbs with one 2'-0 safety curb and one 4'-0 sidewalk.
DESIGN LOAD: AASHO-HS20-44
SKEW: 1°-02'-30" Lt forward (chord between abutments).
WEARING SURFACE: 1" monolithic concrete.
APPROACH SLAB: AS-1-67 (25' long)
ALIGNMENT: 1°20' Curve to right.

AVERAGE DAILY TRAFFIC

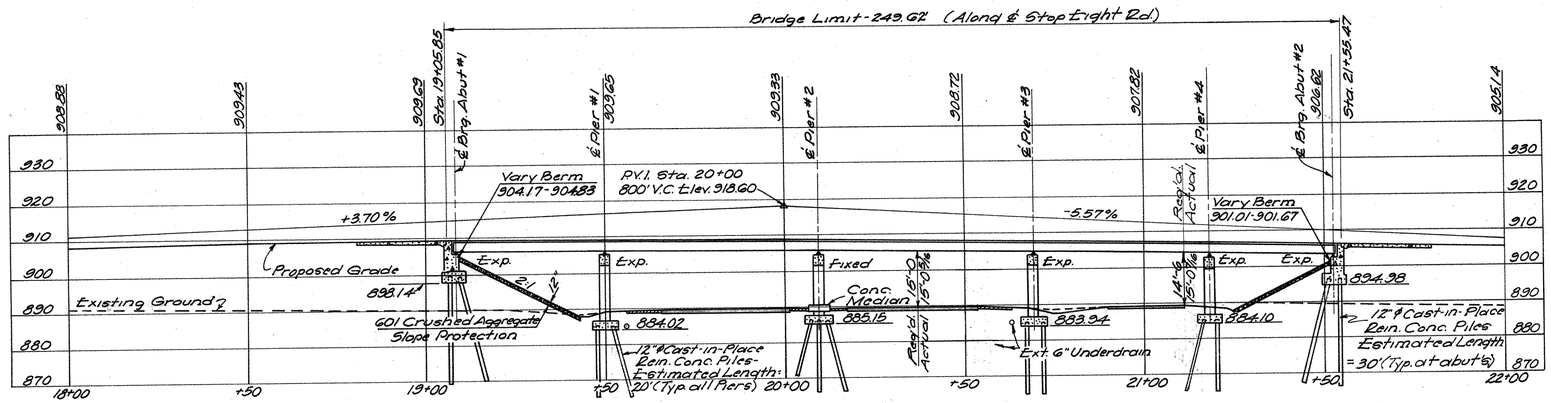
A.D.T. (1975).....960*
Type "B" (Estimated).....48

*from Ohio Dept of Highways Division of Planning and Programming Bureau of Planning Survey - Feb. 1966.

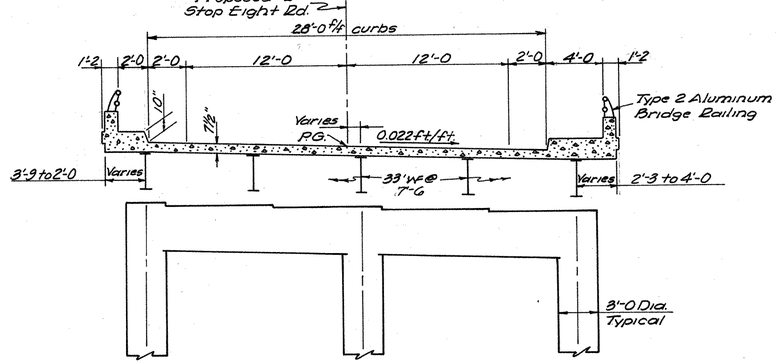


Bench Mark Elev. 888.79
2" cut in top of concrete headwall 64' 12+ Sta. 187+64

PLAN



SECTION ALONG ℄ PROPOSED STOP EIGHT ROAD



SECTION THRU BRIDGE DECK

SHAW, LENZ & ASSOCIATES ENGINEERS 1/13
CINCINNATI OHIO

SITE PLAN

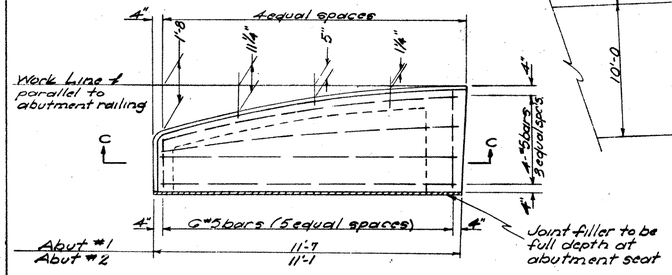
BRIDGE NO. MOT-75-1979
STOP EIGHT OVER I-75

MONTGOMERY COUNTY STA. 185+82.43

PRESENT TOPO		PROPOSED WORK			
Surveyor	Drawn	Designed	Drawn	Checked	Reviewed
B.H.S.	W.T.R.	W.B.S	W.T.R.	R.J.L. 12-29-67	

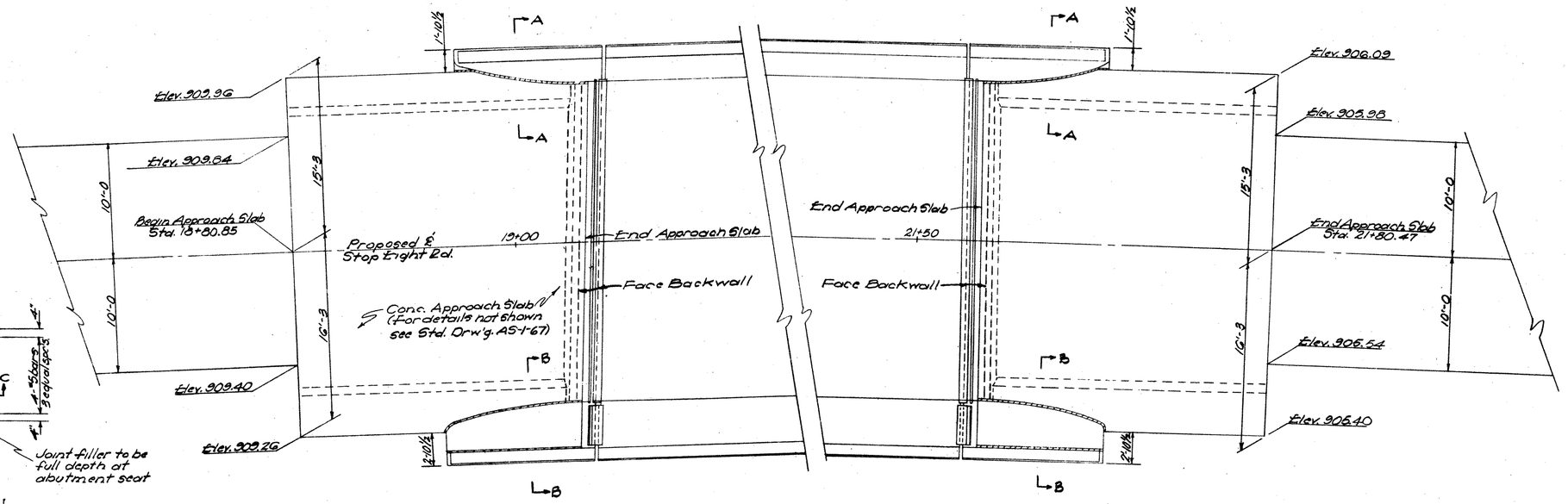
FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

403

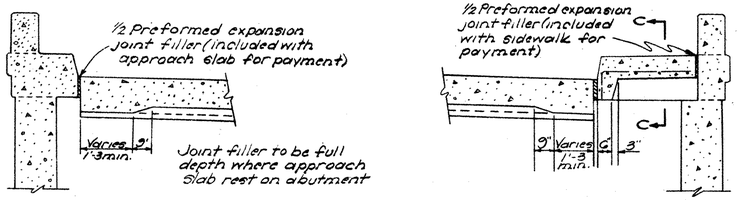


APPROACH SIDEWALK DETAIL

Sidewalk included with roadway quantities

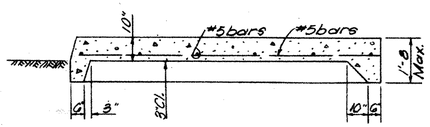


BRIDGE APPROACH PLAN

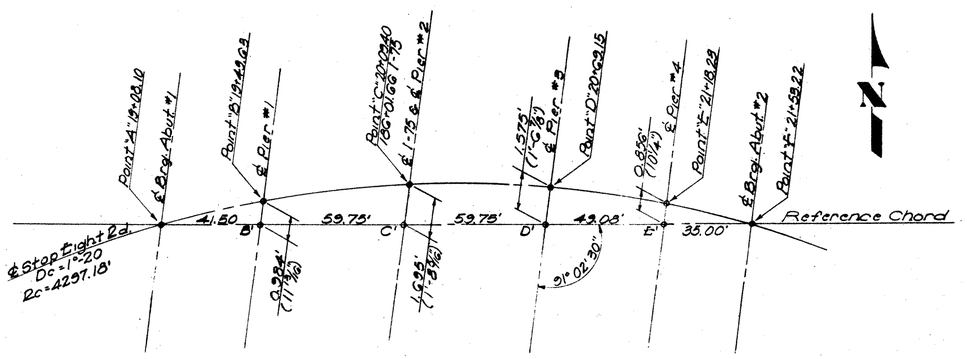


SECTION A-A

SECTION B-B



SECTION C-C



GEOMETRIC LAYOUT

(No Scale)

SHAW, LENZ & ASSOCIATES 2/13
ENGINEERS
CINCINNATI OHIO

GEOMETRIC LAYOUT & APPROACH DETAILS

BRIDGE NO. MOT-75-1978
STOP LIGHT OVER I-75

MONTGOMERY COUNTY STA. 85+82.49

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	W.B.S.	W.T.R.	R.J.L. 12-29-67		

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER STRUCTURE	GENERAL		
503	355	Cu.Yds.	Excavation for structures, unclassified	179	176				
505	Lump	Lump Sum	First Test Pile				Lump		
507	1640	Lin.Ft.	12" ϕ Cast-in-Place Reinforced Concrete Piles	600	1040				
509	113,086	Lbs.	Reinforcing Steel	8,409	26,872	77,805			
511	279	Cu.Yds.	Class "C" Concrete - Superstructure			279			
511	91	Cu.Yds.	Class "C" Concrete - Piers above footings		91				
511	78	Cu.Yds.	Class "C" Concrete - Abutments above footings	78					
511	121	Cu.Yds.	Class "C" Concrete - Footings	60	61				
513	189,355	Lbs.	Structural Steel			189,355			
517	542	Lin.Ft.	Bridge Railing, Type 2	49		493			
518	25	Cu.Yds.	Porous Backfill	25					
518	7	Each	Scuppers, Type 2 (including supports)			7			
518	53	Lin.Ft.	6" Perforated Helical C.M.P. including specials 707.01	53					
518	49	Lin.Ft.	6" Non-perforated Helical C.M.P. 707.01	49					
601	336	Sq.Yds.	Crushed Aggregate Slope Protection				336		
808	279	Units	Water-reducing, Set-retarding admixture			279			
514	189,355	Lbs.	Field Painting of Structural Steel			189,355			

GENERAL NOTES

REFERENCE shall be made to the following:

Standard Drawings: BR-1-65 sheet 2 revised 11-24-65
RB-1-55 revised 2-2-59
SD-1-65 sheets 1, 2 & 3 dated 11-8-65
AS-1-67 dated 1-11-68

Supplemental Specifications: 808 dated 1-1-69
811 dated 1-1-69
836 dated 6-17-69

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 LOADING: AASHO - HS 20-44

CONCRETE: unit stress 1200 p.s.i. for superstructure
unit stress 1333 p.s.i. for substructure

STRUCTURAL STEEL: ASTM A-36 - basic unit stress = 20,000 p.s.i.

WELDS on Non-stress carrying members are shown thus: N

JOINT SEALER: Item 828 joint sealer including bond breaker, shown in Section A-A of Std. Dwg. SD-1-65, sheet No. 1, shall be omitted.

REINFORCING STEEL: ASTM A615, A616, A617, Deformed, Intermediate or Hard Grade. Unit stress 20,000 p.s.i. Spiral reinforcement shall be plain bars, A306 or A499.

PILES shall be driven to a minimum bearing capacity of 30 tons per pile for the abutments and 40 tons per pile for the piers.

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

UTILITY LINES: All expenses involved in relocating the affected utility lines shall be borne by the owners. The Contractors and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either is held to a minimum.

EXCAVATION QUANTITY includes the removal of fill materials required for construction of the abutments.

WELDED ATTACHMENTS No attachments shall be made by field welding to the top flanges or flange plates of continuous beams or plate girders 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: All roadway embankments 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 in back of the abutments, after which excavation shall be made and piles driven for both abutments and piers 1 and 4.

SCUPPERS including support angles, shall be galvanized in accordance with 711.02

SHAW, LENZ & ASSOCIATES 3/13
ENGINEERS
CINCINNATI OHIO

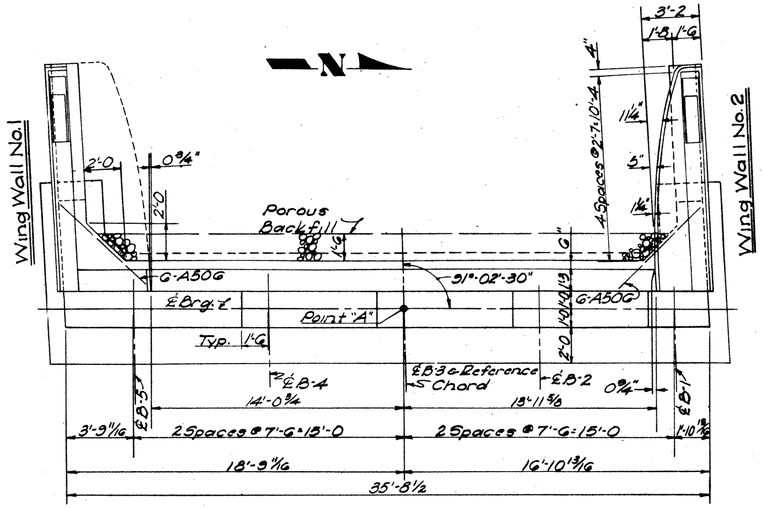
QUANTITIES & GENERAL NOTES

BRIDGE NO. MOT-75-1979
STOP EIGHT OVER I-75

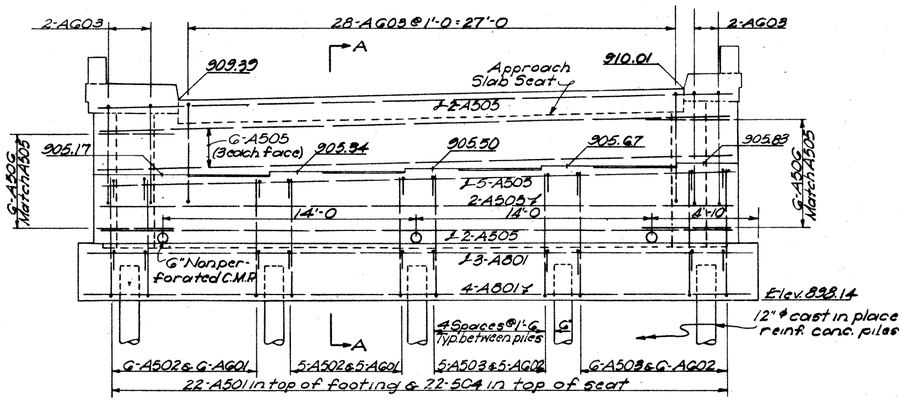
MONTGOMERY CO. STA. 185+82.49

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	W.B.S.	W.T.R.	R.J.L. 12-29-67		

FED. RD. DIVISION	STATE	PROJECT		405
	OHIO			



PLAN



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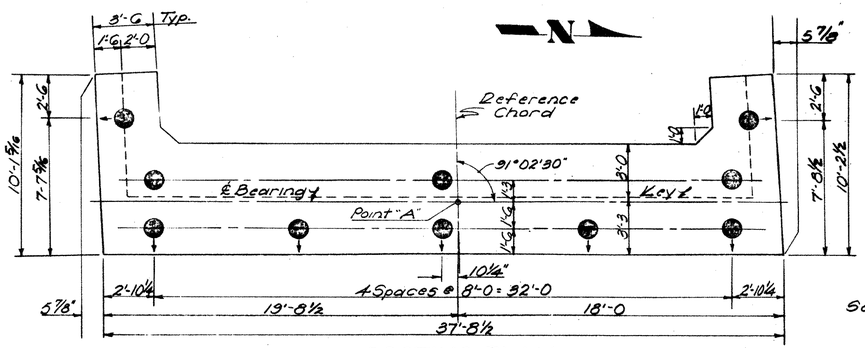
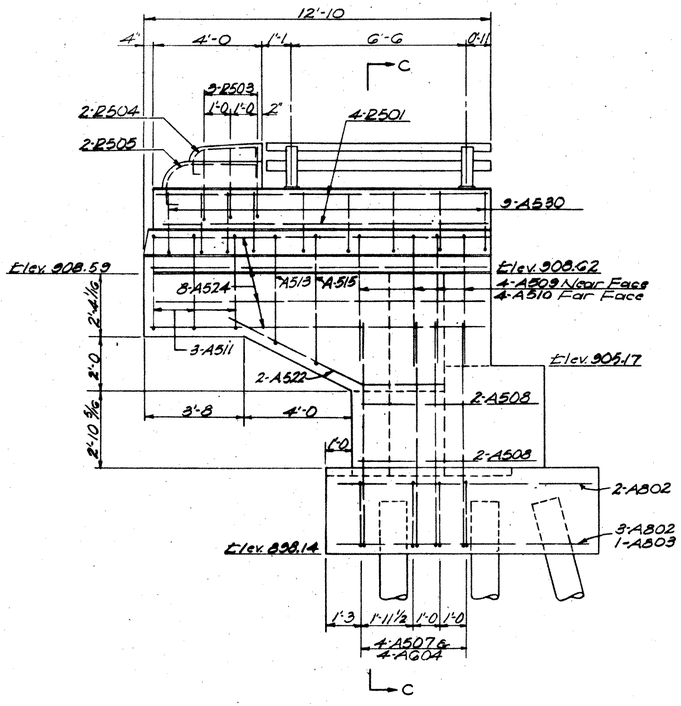
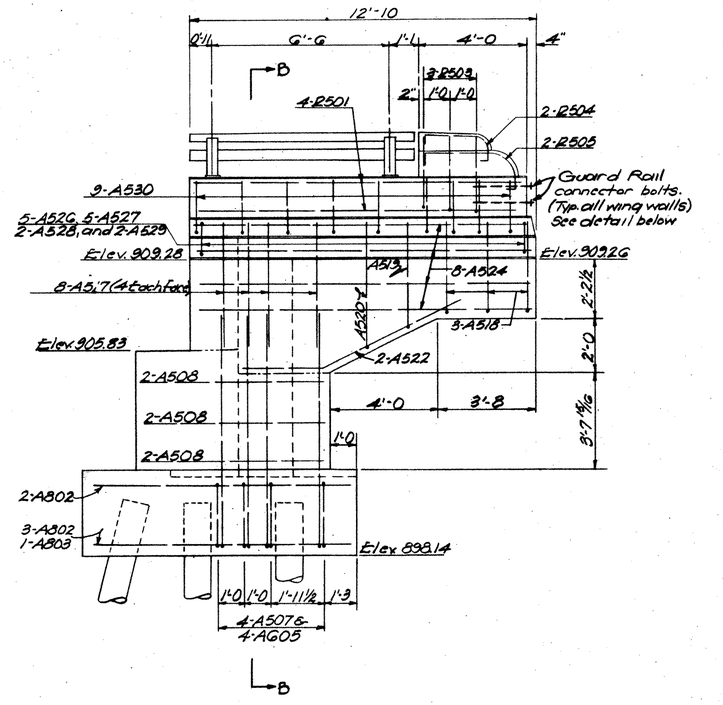


FOOTING PLAN

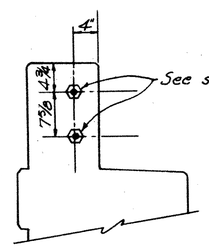
See Legend on next sheet.



WING WALL NO.1

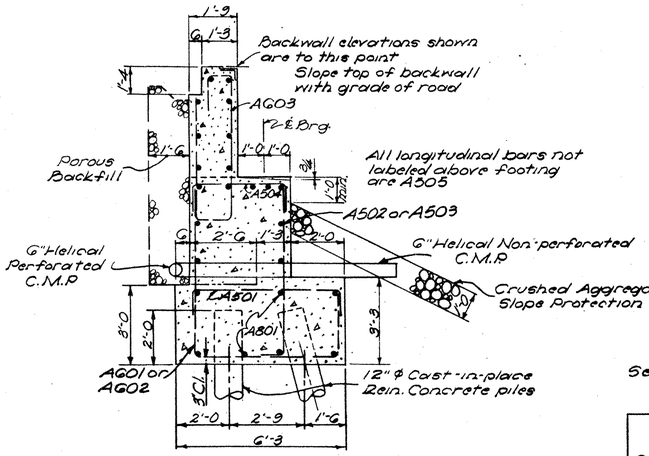


WING WALL NO. 2



See sheet 376.

GUARD RAIL CONNECTOR



SECTION A-A

Note: For Sections B-B and C-C and additional notes see next sheet.

See notes sheet 5

SHAW, LENZ & ASSOCIATES ENGINEERS 4/13
CINCINNATI OHIO

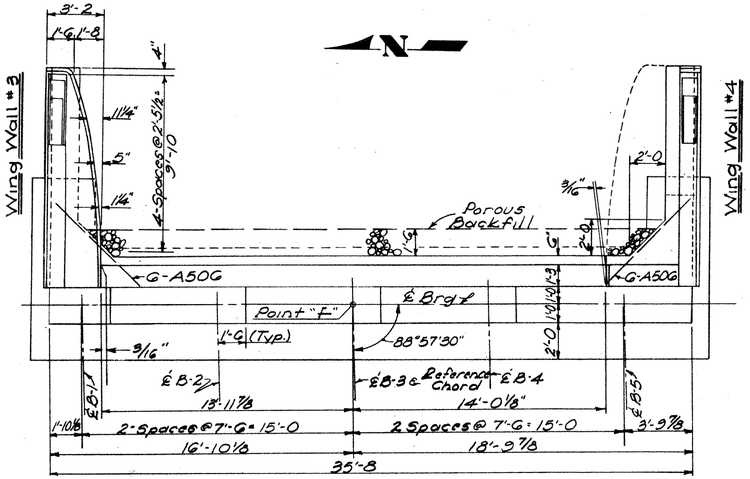
ABUTMENT NO.1

BRIDGE NO. MOT-75-1979
STOP EIGHT OVER I-75

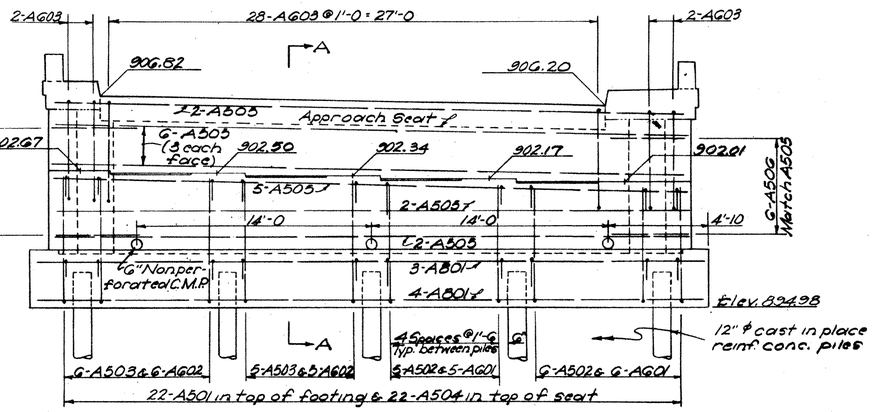
MONTGOMERY CO. STA. 185+82.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	W.B.S	W.T.R.	R.J.L. 12-29-67		

FED. RD. DIVISION	STATE	PROJECT		406
	OHIO			



PLAN



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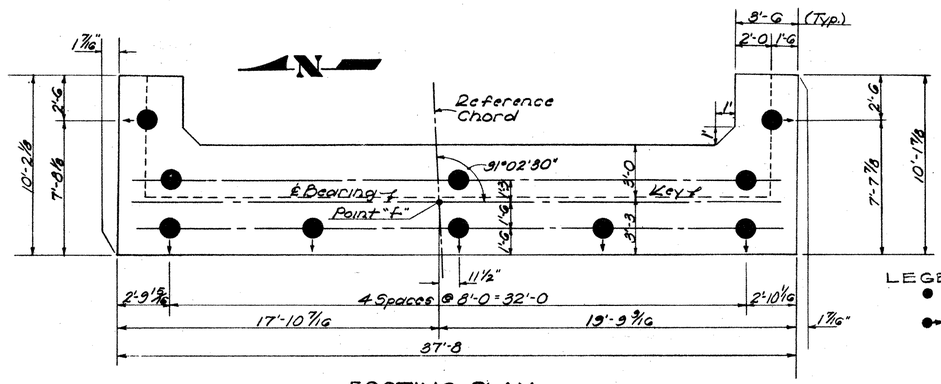
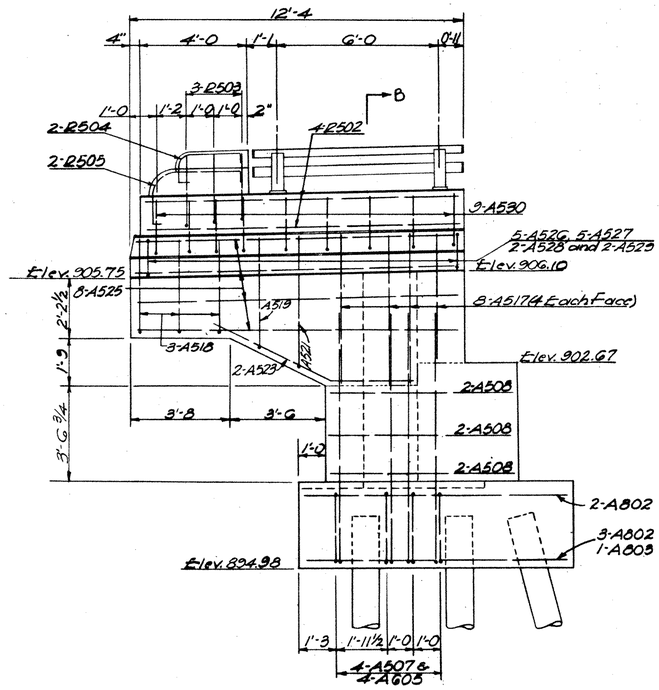
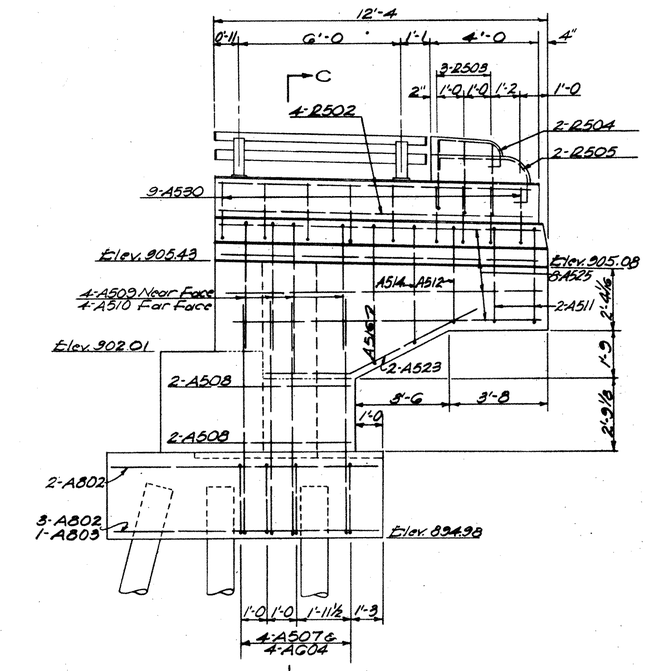


FOOTING PLAN

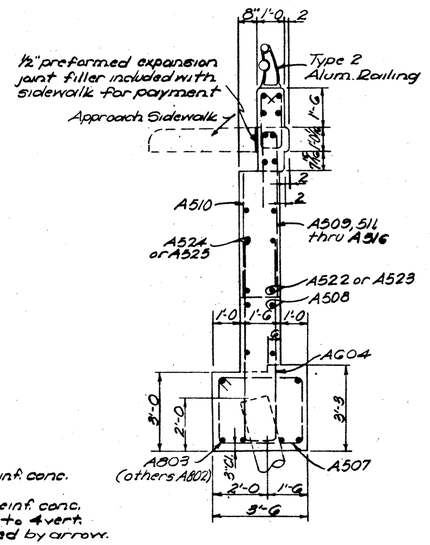
LEGEND
- 12" ϕ cast-in-place reinf. conc. pile driven vertical.
- 12" ϕ cast-in-place reinf. conc. pile battered 1 horiz. to 4 vert. in direction indicated by arrow.



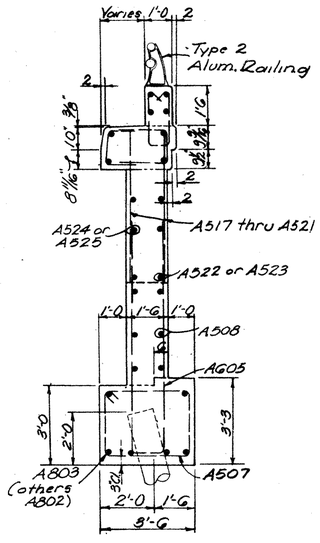
WING WALL #3



WING WALL #4



SECTION C-C



SECTION B-B

NOTES:
1. For location of Points "A" & "F" see Geometric Layout on Sht. 2.
2. For approach slab and approach sidewalk see Sht.
3. For Section A-A see Sht. 4.
4. For railing and supported end posts see Std. Drwg. BR-1-65 Sheet 2.
5. For bearing details see Std. Drwg. BR-1-55.
6. For curb plate and end dam details see Std. Drwg. SD-1-65 Sheets 1 & 2. Use a load-frequency of CF = 2000.

SHAW, LENZ & ASSOCIATES 5/13
ENGINEERS
CINCINNATI OHIO

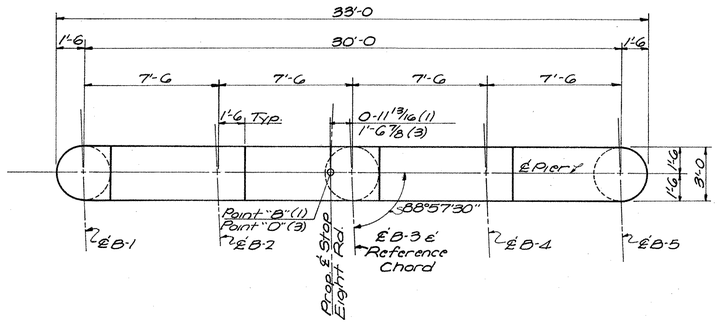
ABUTMENT NO. 2

BRIDGE NO. MOT-75-1979
STOP EIGHT OVER I-75

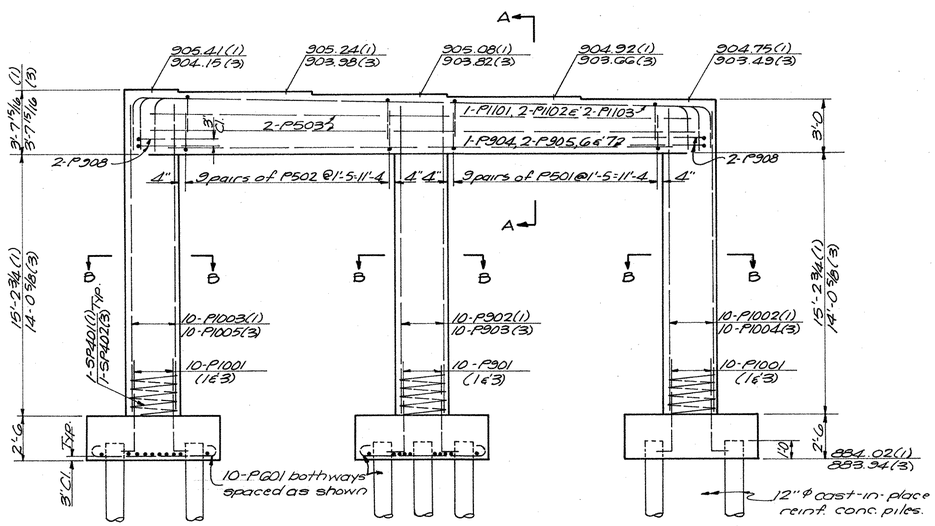
MONTGOMERY CO. STA. 185+82.49

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	W.B.S.	W.T.R.	12-23-27		

FED. RD. DIVISION	STATE	PROJECT			407
	OHIO				



PLAN



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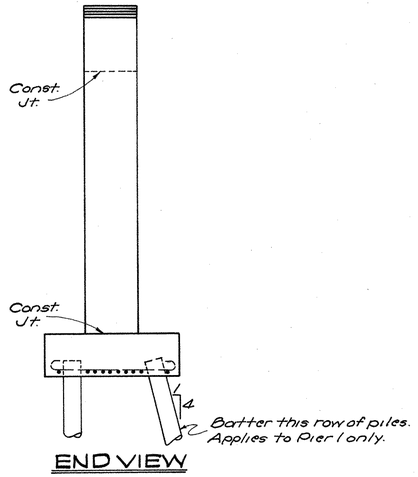
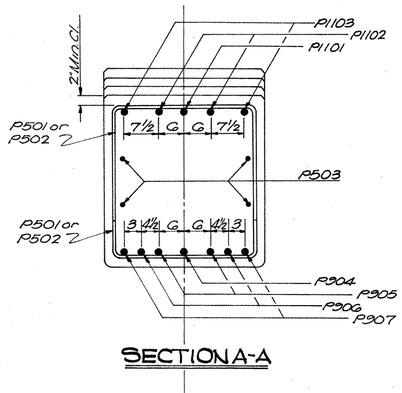
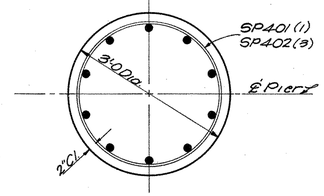


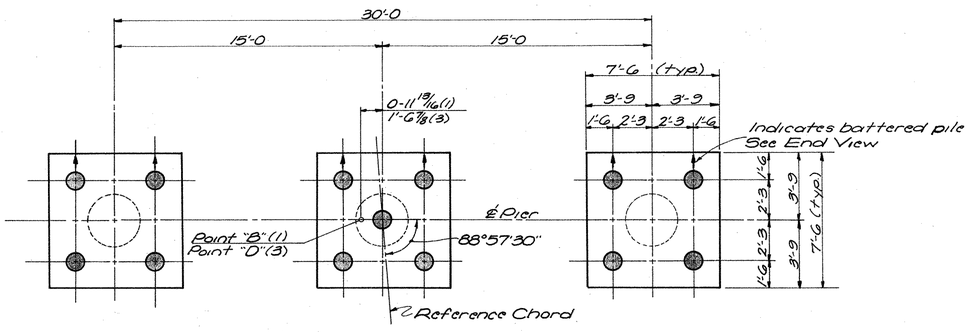
END VIEW



SECTION A-A



SECTION B-B



FOOTING PLAN

Notes - For location of points "B" and "D" see Geometric Layout on Sht.
(1) Refers to Pier 1
(3) Refers to Pier 3

Column steel must be placed as shown to avoid interference with cap steel.

SHAW, LENZ & ASSOCIATES ENGINEERS 6/13
CINCINNATI OHIO

PIERS 1 & 3

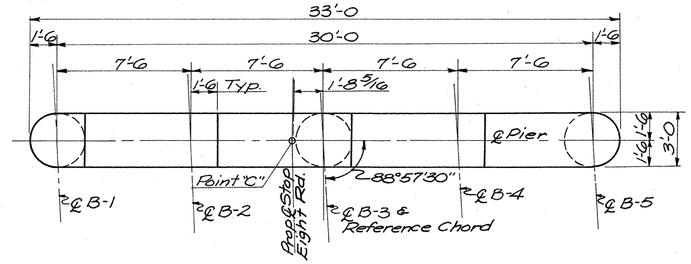
BRIDGE NO. MOT-75-1979
STOP EIGHT OVER I-75

MONTGOMERY CO. STA. 185+82.43

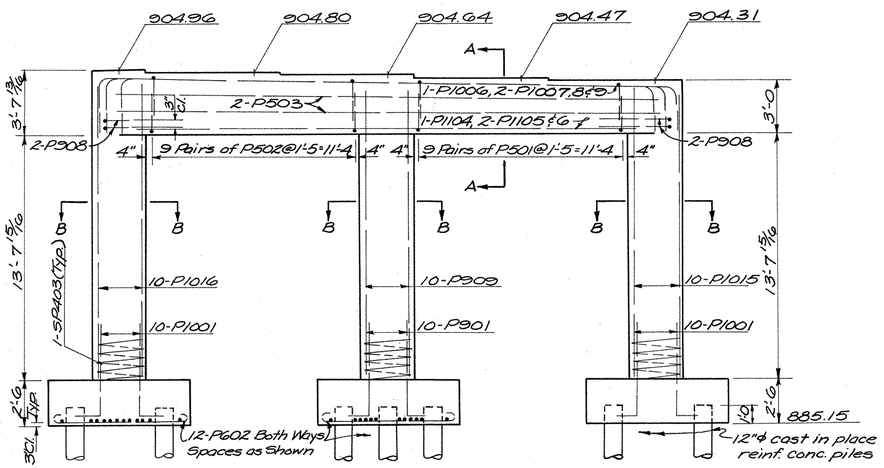
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	W.B.S.	W.T.R.	R.J.L. 12-29-67		

FED. RD. DIVISION	STATE	PROJECT		
	OHIO			

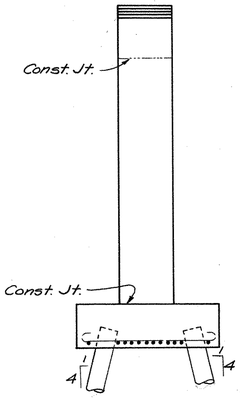
408



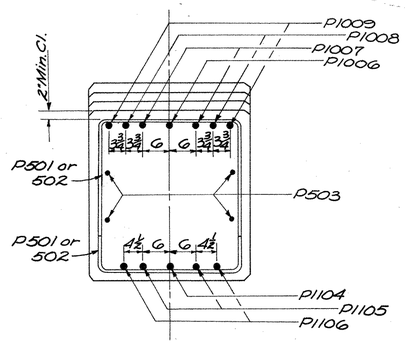
PLAN



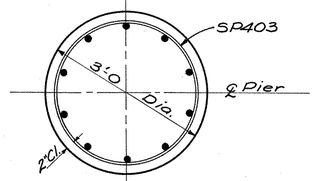
ELEVATION



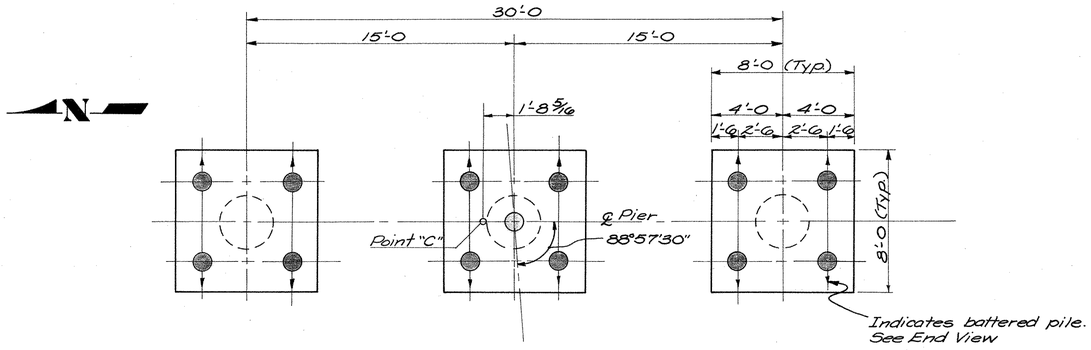
END VIEW



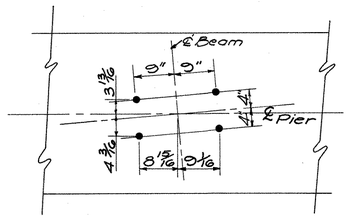
SECTION A-A



SECTION B-B



FOOTING PLAN



ANCHOR BOLT LAYOUT

Notes: For location of Point "C" see Geometric Layout on Sht. 403.

Special care shall be taken in placing reinforcing steel in top of pier cap so as to avoid interference with the drilling of anchor rod holes.

Column steel must be placed as shown to avoid interference with cap steel.

SHAW, LENZ & ASSOCIATES ENGINEERS 7/13
CINCINNATI OHIO

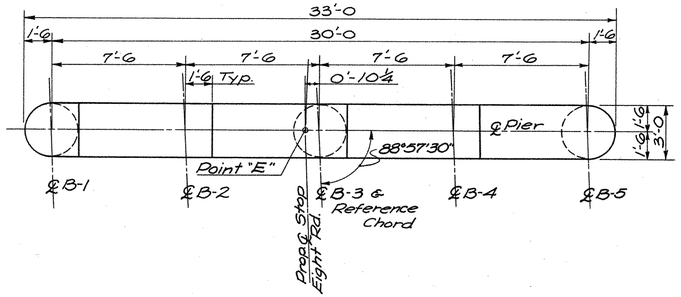
PIER 2

BRIDGE NO. MOT-75-1979
STOP EIGHT OVER I-75

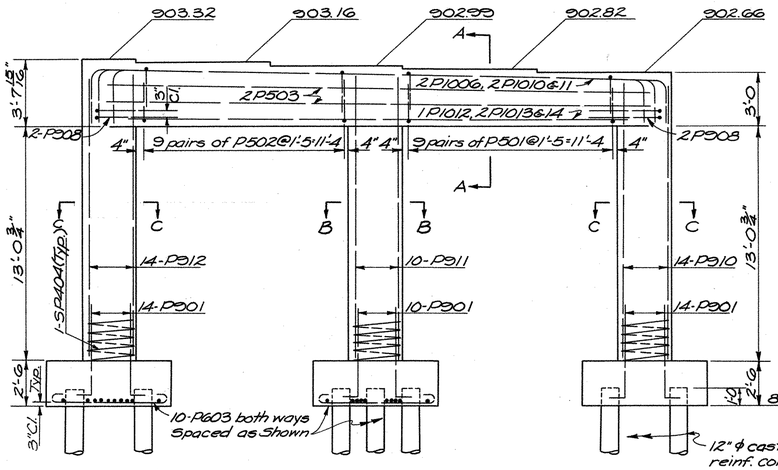
MONTGOMERY CO. STA. 185+82.49

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	W.B.S.	W.T.R.	R.J.L. 12-29-67		

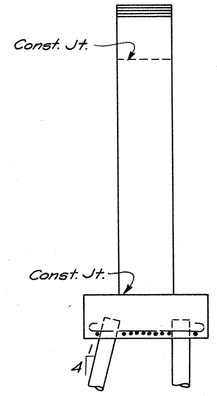
FED. RD. DIVISION	STATE	PROJECT		409
	OHIO			



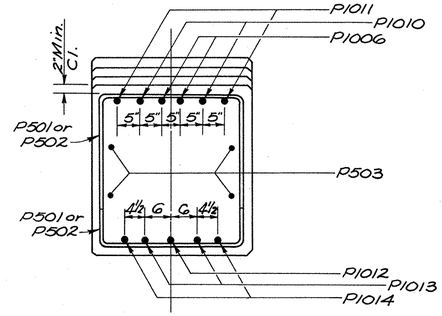
PLAN



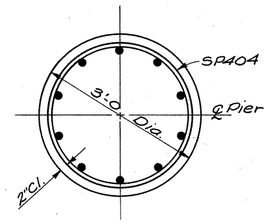
ELEVATION



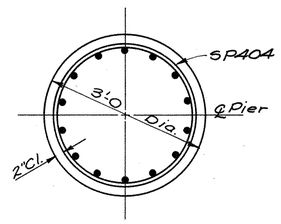
END VIEW



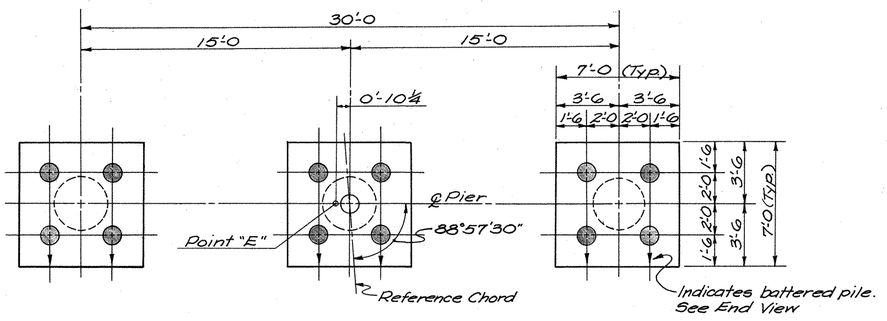
SECTION A-A



SECTION B-B



SECTION C-C

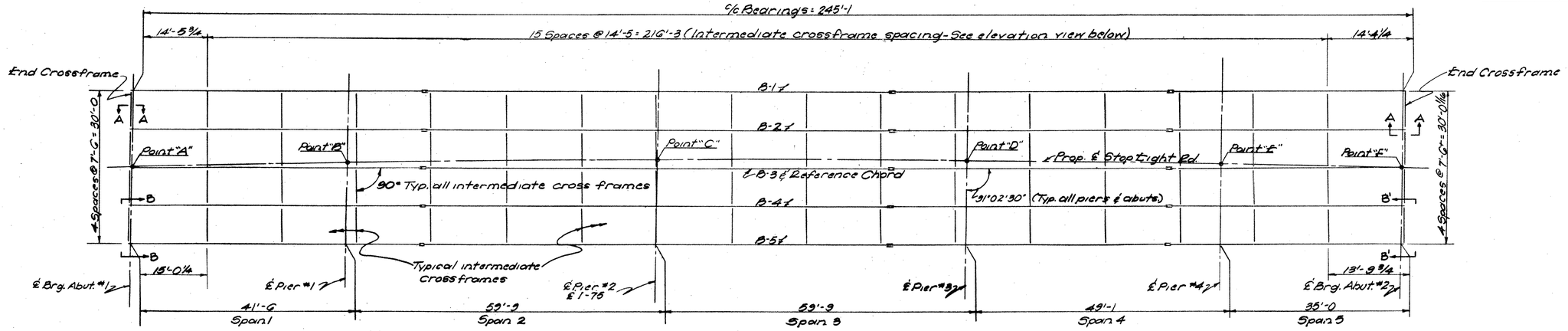


FOOTING PLAN

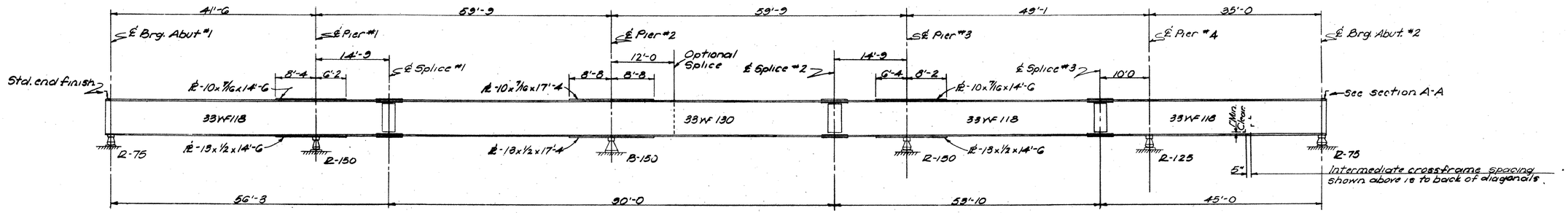
SHAW, LENZ & ASSOCIATES ENGINEERS						8/13
CINCINNATI					OHIO	
PIER 4						
BRIDGE NO. MOT-75-1979 STOP EIGHT OVER I-75						
MONTGOMERY CO.				STA. 185+82.49		
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED	
W.B.S.	W.B.S.	W.T.R.	R.J.L. 12-29-67			

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

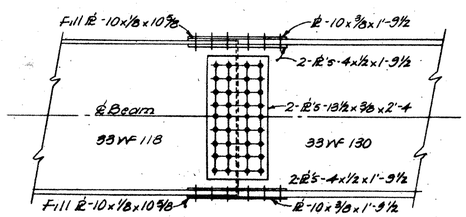
410



FRAMING PLAN

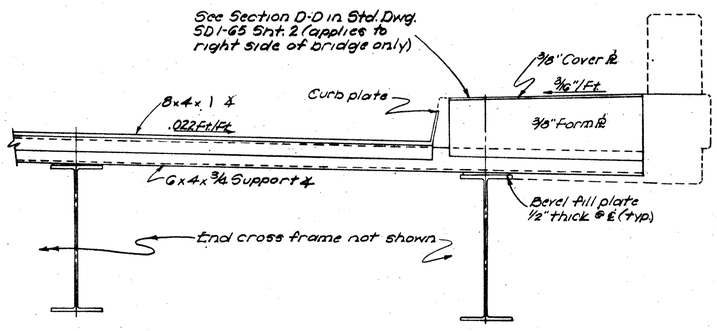


TYPICAL BEAM ELEVATION



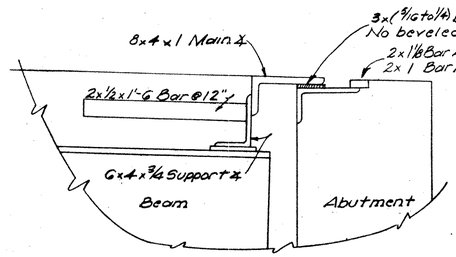
SPLICE DETAIL

For details and dimensions not shown see Std. Dwg. SD1-65 Sht. 3
Flange fill plates used @ splices #1 & #2 only.
Optional splice shall conform to std. splice for a 33 WF 130 beam. Material for optional splice is not a pay item.



SECTION B-B

(Section B'-B' Similar)



SECTION A-A

* Use same size beveled bar at sidewalk with a 1x1/2 end bar

Notes: For location of Points "A" thru "F" see Geometric Layout on Sht. 2.
See next sheet for additional notes and details.

SHAW, LENZ & ASSOCIATES 9/13
ENGINEERS
CINCINNATI OH.10

FRAMING PLAN

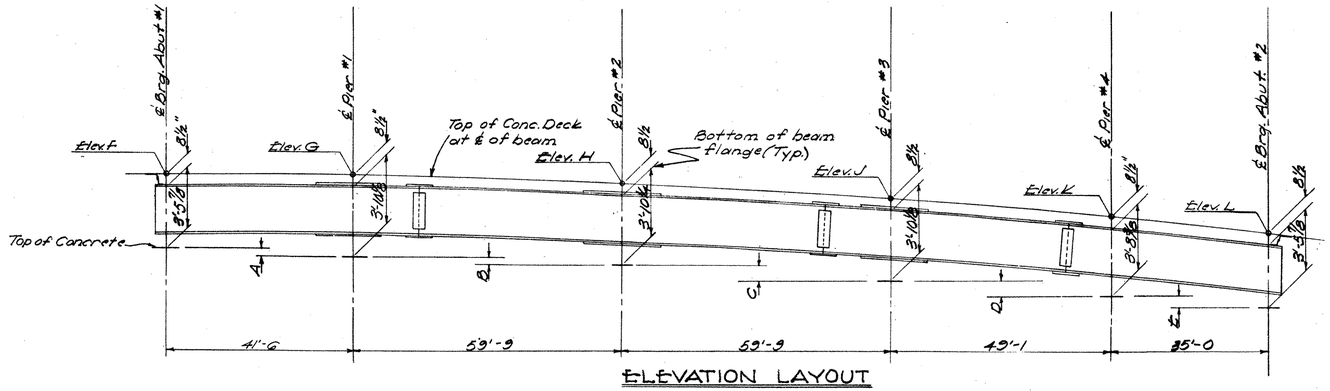
BRIDGE NO. MOT-75-1979
STOP LIGHT OVER I-75

MONTGOMERY COUNTY STA. 185+82.45

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	W.B.S.	W.T.B.	R.J.L. 12-29-67		

9

FED. RD. DIVISION	STATE	PROJECT		411
	OHIO			

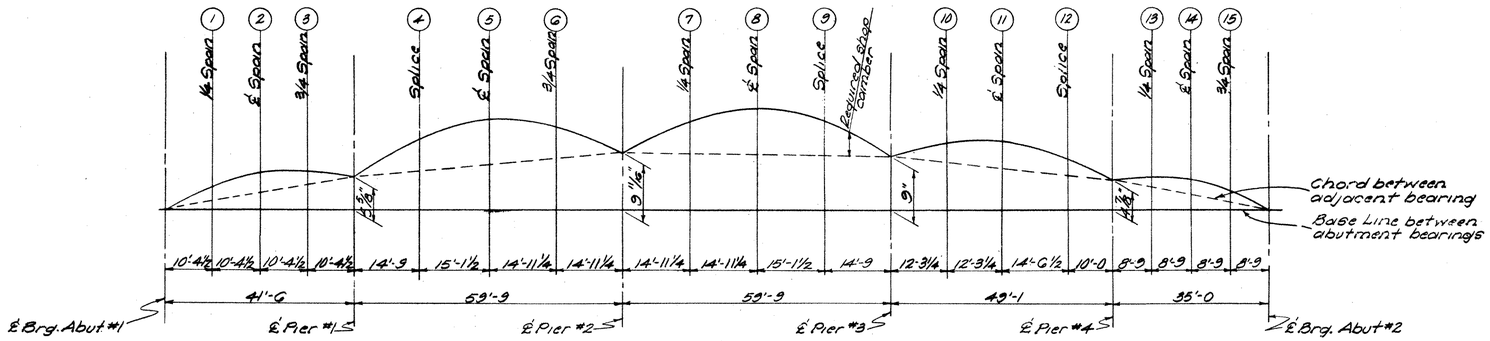


ELEVATION LAYOUT

Beam	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E	Elev. F	Elev. G	Elev. H	Elev. J	Elev. K	Elev. L
B-1	5⅛"	5 3/16"	9 13/16"	9 15/16"	7 7/8"	910.03*	909.96*	909.53	908.70	907.73*	906.87*
B-2	5 1/16"	5 9/16"	9 13/16"	9 13/16	7 13/16"	909.87	909.80	909.36	908.54	907.56	906.70
B-3	5 1/16"	5 9/16"	9 13/16"	9 13/16"	7 13/16"	909.70	909.63	909.20	908.37	907.40	906.54
B-4	5 1/16"	5 5/16"	9 13/16"	10"	7 13/16"	909.53	909.47	909.04	908.21	907.23	906.37
B-5	5"	5 5/16"	9 13/16"	10"	7 7/8"	909.37*	909.30*	908.87*	908.04*	907.07*	906.20*

* These elevations are on top of conc. deck beyond curbline.

Notes: 1. For scupper details see Std. Drwg. SD-1-65, Sheet 2.
2. For scupper locations see Sht. 11.
3. For end crossframes, roadway end dam, sidewalk end dam, and curb plates, see Std. Drwg. SD-1-65 Sheets 1 & 2.
4. For details of Rockers and Bolsters, see Std. Drwg. RB-1-55
5. For intermediate crossframes see next sheet.
6. For shop welding of moment plates, see Std. Drwg. SD-1-65 Sheet 2.



Beam	Location	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Exterior Lt. B-1	Deflection due to D.L. beam	0	0	0	+1/32	+1/32	+1/32	+1/32	+1/32	+1/32	0	+1/32	0	0	0	0
	Deflection due to remaining D.L.	+3/32	+3/32	+1/32	+7/32	+1/32	+3/16	+3/16	+1/32	+7/32	+1/32	+1/8	+1/16	+1/32	+1/16	+1/16
	Vertical curve correction	+7/32	+5/16	+7/32	+15/32	+9/16	+19/32	+13/32	+6/16	+15/32	+5/16	+13/32	+9/32	+9/32	+7/32	+5/32
	Superelevation correction	0	0	0	-1/32	-1/32	-1/32	-1/32	-1/32	-1/32	0	-1/32	0	0	0	0
	Required shop camber	+9/16	+11/16	+1/4	+11/16	+1	+11/16	+11/16	+1	+11/16	+3/32	+3/16	+5/16	+9/16	+5/16	+1/4
Interior B-2 B-3 B-4	Deflection due to D.L. beam	0	0	0	+1/32	+1/32	+1/32	+1/32	+1/32	+1/32	0	+1/32	0	0	0	0
	Deflection due to remaining D.L.	+9/32	+9/32	+1/32	+3/16	+5/16	+5/32	+5/32	+5/16	+7/32	+1/16	+1/8	+1/16	+1/32	+1/16	+1/16
	Vertical curve correction	+7/32	+9/16	+7/32	+13/32	+5/8	+15/32	+15/32	+6/16	+15/32	+5/16	+13/32	+9/32	+5/32	+7/32	+5/32
	Superelevation correction	0	0	0	-1/32	-1/32	-1/32	-1/32	-1/32	-1/32	0	-1/32	0	0	0	0
	Required shop camber	+5/16	+11/16	+1/4	+11/16	+15/16	+5/8	+5/8	+15/16	+11/16	+3/8	+9/16	+5/16	+3/16	+5/16	+1/4
Exterior Rt. B-5	Deflection due to D.L. beam	0	0	0	+1/32	+1/32	+1/32	+1/32	+1/32	+1/32	0	+1/32	0	0	0	0
	Deflection due to remaining D.L.	+9/32	+1/8	+1/32	+3/16	+3/32	+5/32	+5/32	+3/32	+3/16	+1/16	+1/8	+1/32	+1/32	+1/16	+1/16
	Vertical curve correction	+7/32	+5/16	+7/32	+15/32	+3/8	+15/32	+15/32	+5/16	+15/32	+5/16	+13/32	+3/32	+5/32	+7/32	+5/32
	Superelevation correction	0	0	0	-1/32	-1/32	-1/32	-1/32	-1/32	-1/32	0	-1/32	0	0	0	0
	Required shop camber	+5/16	+7/16	+1/4	+11/16	+15/16	+3/8	+9/8	+15/16	+11/16	+3/8	+3/16	+5/16	+3/16	+5/16	+1/4

\+ = Convex Camber
− = Concave Camber

DEFLECTION & CAMBER DIAGRAM

SHAW, LENZ & ASSOCIATES 10/13
ENGINEERS
CINCINNATI OHIO

STEEL DETAILS

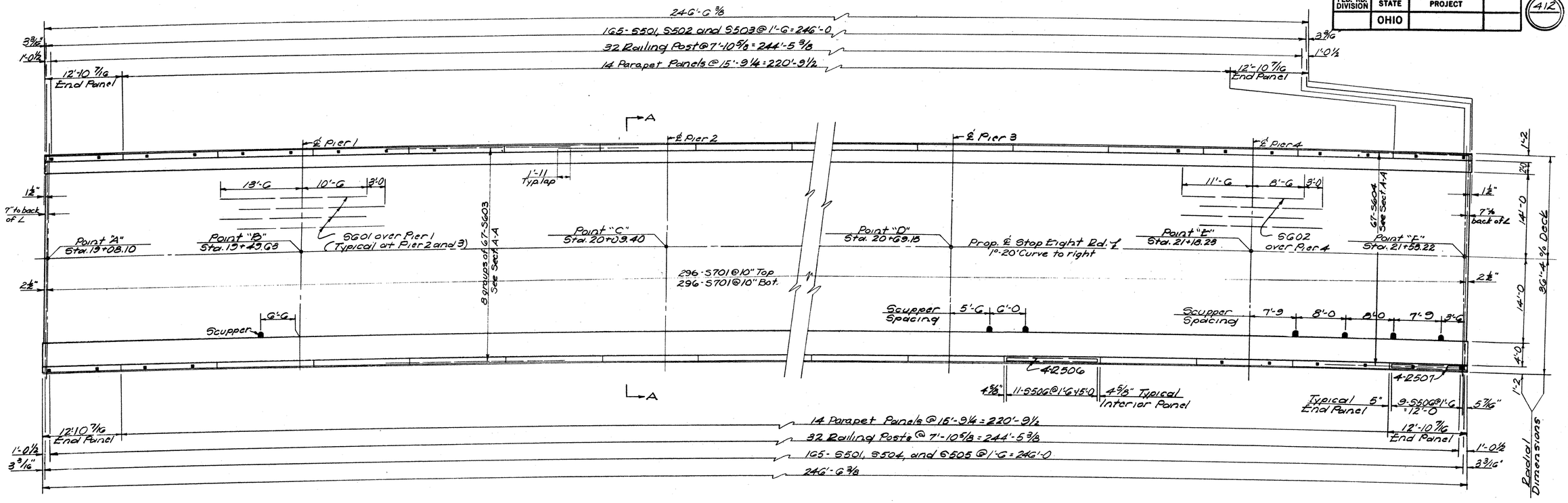
BRIDGE NO. MOT.-75-1979
STOP EIGHT OVER I-75

MONTGOMERY COUNTY STA. 185+82.49

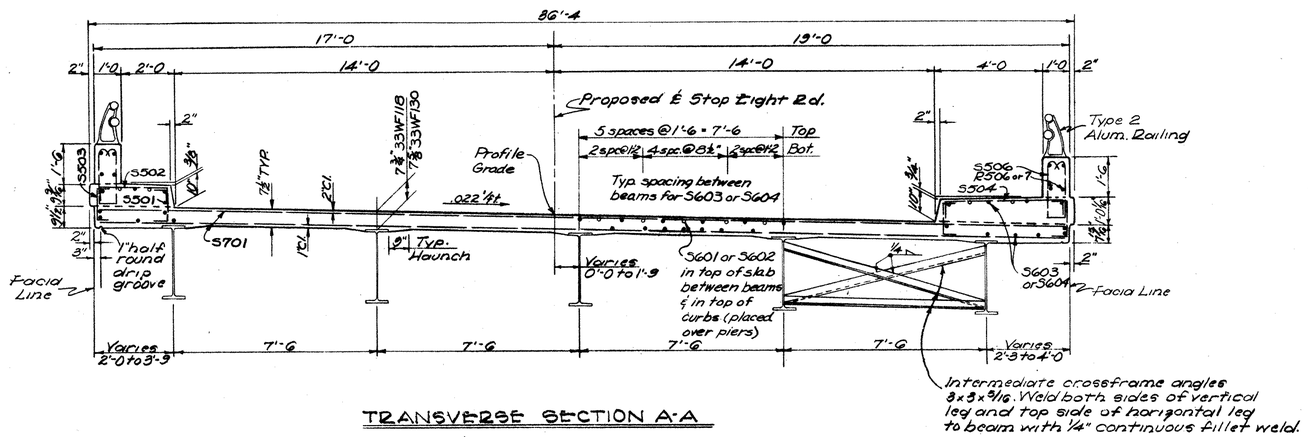
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	W.B.S.	W.T.R.	R.J.L. 12-29-67		

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

412



PLAN



TRANSVERSE SECTION A-A

DECK SLAB HAUNCH: The haunch in the deck slab adjacent to the top of the steel beams, which is shown as 9" wide, may vary from this dimension between the limits of 6" and 12", except that the maximum slope shall not exceed 3 inches per foot. Payment for deck slab concrete shall be based on the 9" width.

* This is a 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.

All transverse reinforcing steel to be placed parallel to piers and abutments.
All longitudinal reinforcing steel in slab between exterior beams to be placed parallel to beams.

Notes:
1. See Geometric Layout on Sht. 2.
2. See next sheet for facia offsets and screed setting elevations.
3. See Std. Drwg. BR-1-65, Sht. 2 for Railing Details.
4. Slab thickness includes 1" monolithic wearing surface.
5. Spread reinforcing steel at scuppers.
6. See Std. Drwg. SD-1-65, sheets 1 and 2 for roadway end dam, curb plates and scuppers.
7. All scuppers to be Type II and supported from deck form.

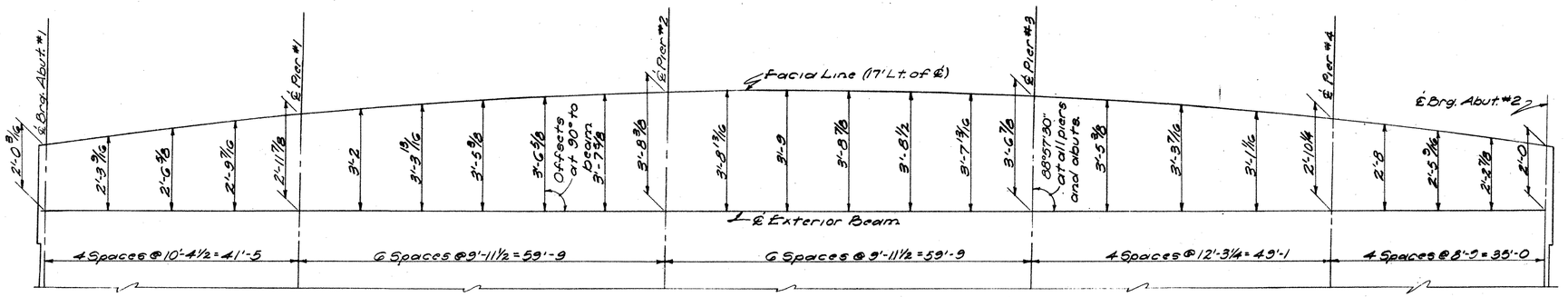
SHAW, LENZ & ASSOCIATES 11/13
ENGINEERS
CINCINNATI OHIO

SUPERSTRUCTURE SLAB

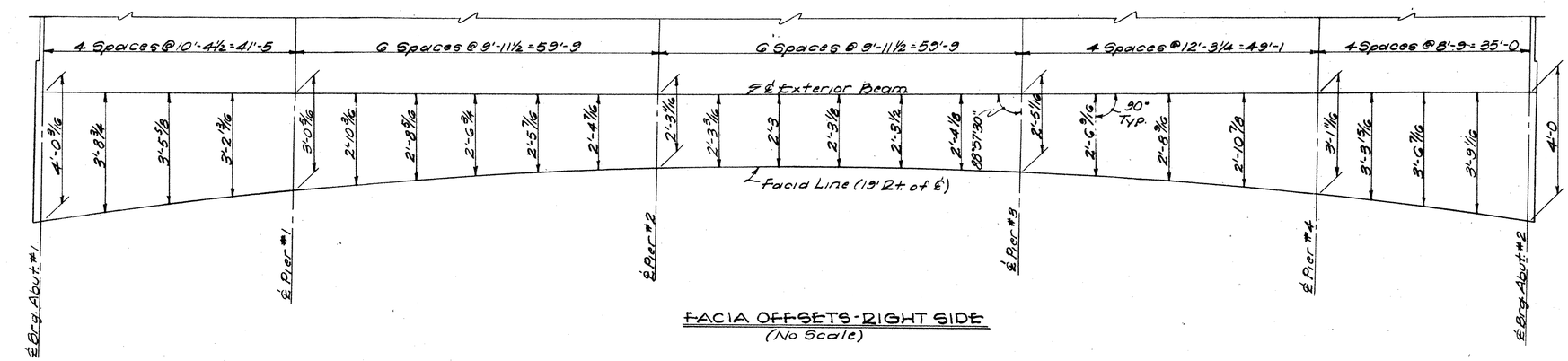
BRIDGE NO. MOT.-75-1979
STOP EIGHT OVER I-75

MONTGOMERY CO. STA. 185+82.49

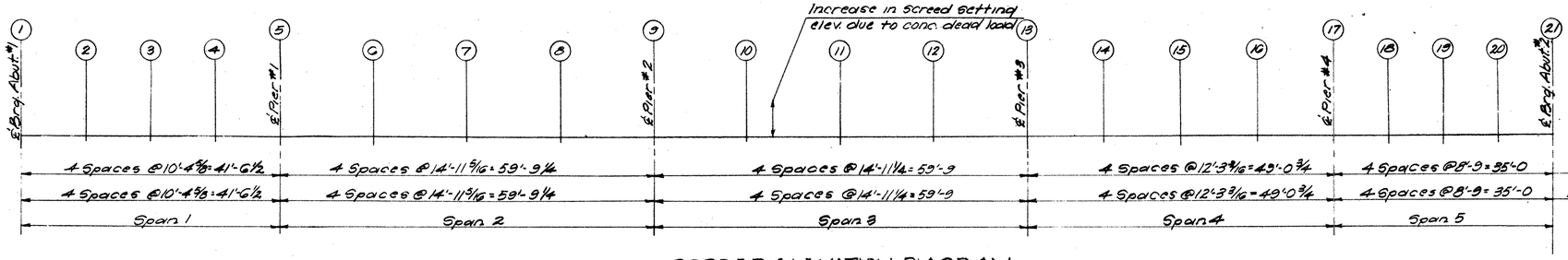
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	W.B.S.	W.T.R.	R.F.L. 12-29-61		



FACIA OFFSETS - LEFT SIDE
(No Scale)



FACIA OFFSETS - RIGHT SIDE
(No Scale)



SCREED ELEVATION DIAGRAM

Curb Line Location		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Left Curb	℄ Station	19+08.75	19+13.10	19+23.45	19+89.80	19+50.15	19+65.04	19+79.93	19+94.83	20+09.72	20+24.61	20+39.50	20+54.39	20+69.28	20+81.51	20+98.73	21+05.96	21+18.19	21+26.91	21+35.63	21+44.35	21+53.07
	℄ Profile Grade	909.701	909.707	909.701	909.683	909.652	909.586	909.494	909.377	909.234	909.065	908.870	908.650	908.404	908.183	907.945	907.689	907.416	907.210	906.996	906.779	906.541
	Deck elev. at face of curb	910.009	910.015	910.009	909.991	909.960	909.834	909.692	909.535	909.542	909.373	909.178	908.958	908.712	908.491	908.253	907.997	907.724	907.518	907.304	907.081	906.849
	Conc. Dead Load Defl.	0.000	0.007	0.007	0.002	0.000	0.018	0.028	0.015	0.000	0.016	0.029	0.019	0.000	0.004	0.010	0.007	0.000	0.002	0.005	0.005	0.000
	Screed Setting elev.	910.01	910.02	910.02	909.99	909.96	909.91	909.83	909.70	909.54	909.39	909.21	908.98	908.71	908.50	908.26	908.00	907.72	907.52	907.31	907.09	906.85
Right Curb	℄ Station	19+07.44	19+17.86	19+28.28	19+38.69	19+49.11	19+64.10	19+79.09	19+94.08	20+09.07	20+24.06	20+39.05	20+54.03	20+69.02	20+81.33	20+98.64	21+05.95	21+18.25	21+27.09	21+35.81	21+44.58	21+53.36
	℄ Profile Grade	909.639	909.707	909.703	909.685	909.656	909.591	909.500	909.383	909.240	909.071	908.877	908.656	908.409	908.186	907.947	907.693	907.414	907.207	906.992	906.767	906.519
	Deck elev. at face of curb	909.391	909.399	909.395	909.377	909.348	909.283	909.192	909.075	908.932	908.763	908.569	908.348	908.101	907.878	907.639	907.381	907.106	906.899	906.684	906.459	906.225
	Conc. Dead Load Defl.	0.000	0.009	0.010	0.004	0.000	0.015	0.024	0.014	0.000	0.013	0.024	0.015	0.000	0.004	0.010	0.006	0.000	0.003	0.007	0.006	0.000
	Screed Setting elev.	909.39	909.41	909.41	909.38	909.35	909.30	909.22	909.09	908.93	908.78	908.59	908.36	908.10	907.88	907.65	907.39	907.11	906.90	906.69	906.47	906.23

SHAW, LENZ & ASSOCIATES 12/13
ENGINEERS
CINCINNATI OHIO

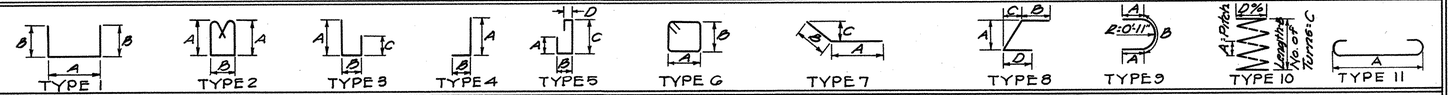
SUPERSTRUCTURE DETAILS

BRIDGE NO. MOT.-75-1979
STOP EIGHT OVER I-75

MONTGOMERY COUNTY STA. 185+82.48

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	W.B.S.	W.T.R.	F.J.L. 12-29-67		

REINFORCING STEEL BAR SCHEDULE



MARK	NO.	LENGTH	TYPE	A	B	C	D	WEIGHT	LOCATION
				ABUTMENTS					
A801	14	37'-4"	Str.					1396	Footings 1&2
A802	20	9'-8"	Str.					516	Footings 1&2
A803	4	9'-8"	7	5'-8"	4'-0"	1'-3"		103	Footings 1&2
A601	22	14'-3"	3	6'-7"	5'-5"	2'-7"		471	Footings 1&2
A602	22	14'-7"	3	6'-11"	5'-5"	2'-7"		482	Footings 1&2
A603	64	12'-9"	5	4'3"	1'-5"	5'-6"	0'-11"	1226	Backwalls 1&2
A604	8	17'-6"	1	1'-2"	8'-4"			210	Footings 1&2
A605	8	18'-10"	1	1'-2"	9'-0"			226	Footings 1&2
A501	44	6'-11"	1	5'-5"	0'-10⅝"			317	Footings 1&2
A502	22	7'-4"	4	6'-7"	0'-10⅝"			168	Footings 1&2
A503	22	7'-8"	4	6'-11"	0'-10⅝"			176	Footings 1&2
A504	44	4'-11"	1	3'-5"	0'-10⅝"			226	Seats 1&2
A505	34	35'-4"	Str.					1253	Seat & Bkwall 1&2
A506	24	6'-4"	Str.					159	Fillets 1&2
A507	16	12'-0"	6	3'-2"	2'-7"			200	Footings 1&2
A508	20	6'-9"	Str.					141	W.W. 1,2,3&4
A509	8	7'-7"	3	4'-11"	0'-6"	2'-6"		63	W.W. 1&4
A510	8	3'-3"	Str.					27	W.W. 1&4
A511	5	9'-3"	5	2'-0"	1'-2"	3'-8"	0'-6"	48	W.W. 1&4
A512	1	9'-5"	↕	2'-1"	↕	3'-9"	↕	10	W.W. 4
A513	1	10'-5"		2'-7"		4'-3"		11	W.W. 1
A514	1	10'-9"		2'-9"		4'-5"		11	W.W. 4
A515	1	11'-11"	↓	3'-4"	↓	5'-0"	↓	12	W.W. 1
A516	1	12'-3"	5	3'-6"	1'-2"	5'-2"	0'-6"	13	W.W. 4
A517	16	4'-10"	Str.					81	W.W. 2&3
A518	6	7'-10"	1	1'-2"	3'-6"			49	W.W. 2&3
A519	2	8'-10"	1	1'-2"	4'-0"			18	W.W. 2&3
A520	1	10'-4"	1	1'-2"	4'-9"			11	W.W. 2
A521	1	10'-8"	1	1'-2"	4'-11"			11	W.W. 3
A522	4	8'-9"	7	3'-0"	5'-9"	2'-7"		37	W.W. 1&2
A523	4	8'-3"	7	3'-0"	5'-3"	2'-4"		34	W.W. 3&4
A524	16	12'-4"	Str.					206	W.W. 1&2
A525	16	11'-10"	Str.					197	W.W. 3&4
A526	10	4'-9"	8	1'-3"	1'-10"	0'-2"	2'-0"	50	W.W. 2&3
A527	10	3'-1"	1	1'-3"	1'-1"			32	W.W. 2&3
A528	4	2'-9"	8	1'-3"	0'-10"	0'-2"	1'-0"	11	W.W. 2&3
A529	4	2'-5"	1	1'-3"	0'-9"			10	W.W. 2&3
A530	36	5'-3"	2	2'-0"	0'-8"			197	W.W. 1,2,3&4
*R501	8	12'-2"	Str.						Railing
*R502	8	11'-8"	Str.						↕
*R503	12	} See Std. Drwg. BR-1-65, sheet 2 for details							
*R504	8								
*R505	8								Railing
				PIERS					
P1101	2	38'-0"	8	32'-7"	2'-7⅛"	0'-8"	3'-3⅛"	404	Top Cap. 1&3
P1102	4	37'-9"	8	32'-4"	2'-7⅛"	0'-8"	3'-3⅛"	802	Top Cap. 1&3
P1103	4	35'-6"	8	30'-1"	2'-7⅛"	0'-8"	3'-3⅛"	754	Top Cap. 1&3
P1104	1	31'-4"	Str.					166	Bot. Cap. 2
P1105	2	30'-10"	Str.					328	Bot. Cap. 2
P1106	2	30'-0"	Str.					319	Bot. Cap. 2
P1001	60	7'-1"	4	5'-5"	1'-11"			1829	Footings 1,2&3
P1002	10	17'-8"	Str.					760	Column 1
P1003	10	18'-4"	Str.					789	Column 1
P1004	10	16'-6"	Str.					710	Column 3
P1005	10	17'-2"	Str.					739	Column 3
P1006	3	38'-0"	8	32'-6½"	2'-7½"	0'-8"	3'-3½"	491	Top Cap. 2&4

MARK	NO.	LENGTH	TYPE	A	B	C	D	WEIGHT	LOCATION
				PIERS Cont'd.					
P1007	2	37'-10"	8	32'-4⅝"	2'-7⅛"	0'-8"	3'-3½"	326	Top Cap. 2
P1008	2	37'-5"	8	31'-11⅛"	2'-7⅛"	0'-8"	3'-3½"	322	Top Cap. 2
P1009	2	35'-7"	8	30'-1⅝"	2'-7⅛"	0'-8"	3'-3½"	306	Top Cap. 2
P1010	2	37'-2"	8	31'-8⅝"	2'-7⅛"	0'-8"	3'-3½"	320	Top Cap. 4
P1011	2	36'-7"	8	31'-1⅛"	2'-7⅛"	0'-8"	3'-3½"	315	Top Cap. 4
P1012	1	31'-4"	Str.					135	Bot. Cap. 4
P1013	2	30'-10"	Str.					265	Bot. Cap. 4
P1014	2	30'-0"	Str.					258	Bot. Cap. 4
P1015	10	16'-1"	Str.					692	Column 2
P1016	10	16'-9"	Str.					721	Column 2
P901	68	6'-5"	4	5'0"	1'-7"			1484	Footings 1,2,3&4
P902	10	18'-0"	Str.					612	Column 1
P903	10	16'-10"	↕					572	Column 3
P904	2	32'-0"						218	Bot. Cap. 1&3
P905	4	31'-6"						428	Bot. Cap. 1&3
P906	4	31'-0"	↓					422	Bot. Cap. 1&3
P907	4	29'10"	Str.					406	Bot. Cap. 1&3
P908	16	8'-5"	9	2'-10"	2'-9"			458	Bot. Cap. 1,2,3&4
P909	10	16'-5"	Str.					598	Column 2
P910	14	15'-6"	Str.					738	Column 4
P911	10	15'-10"	Str.					538	Column 4
P912	14	16'-2"	Str.					770	Column 4
P601	120	8'-6"	11	7'-2"				1532	Footings 1&3
P602	72	9'-0"	11	7'-8"				973	Footing 2
P603	60	8'-0"	11	6'-8"				721	Footing 4
P501	72	6'-10"	1	2'-8"	2'-3"			513	Caps. 1,2,3&4
P502	72	7'-6"	1	2'-8"	2'-7"			563	Caps. 1,2,3&4
P503	16	29'-10"	Str.					498	Caps. 1,2,3&4
SP401	3	15'-2¾"	10	0'-4½"	15'-2¾"	44	2'-8"	852	Column 1
SP402	3	13'-7⅞"	10	0'-4½"	13'-7⅞"	39	2'-8"	756	Column 3
SP403	3	14'-0⅝"	10	0'-4½"	14'-0⅝"	40	2'-8"	774	Column 2
SP404	3	13'-0¾"	10	0'-4½"	13'-0¾"	38	2'-8"	735	Column 4
				SUPERSTRUCTURE					
S701	592	35'-8"	Str.					43158	Slab
S601	72	24'-0"	Str.					2595	Over Piers 1,2&3
S602	24	20'-0"	Str.					721	Over Pier 4
S603	536	30'-0"	Str.					24152	Slab & Curbs
S604	67	21'-3"	Str.					2138	Slab & Curbs
S501	330	2'-3"	1	1'-3"	0'-7½"			774	Curbs
S502	165	3'-6"	1	2'-6"	↕			602	↕
S503	165	2'-2"	1	1'-2"				373	
S504	165	5'-6"	1	4'-6"				947	
S505	165	2'-4"	1	1'-4"	0'-7½"			402	↓
S506	344	5'-5"	2	2'-1"	0'-8"			1943	Curbs
*R506	112	15'-5"	Str.						Railing
*R507	16	12'-6"	Str.						Railing

*Included with Item 517 for payment

NOTES:

1. All dimensions are out to out of bar.
2. Radius dimensions are to outside of bar.
3. The length of bent bars is measured along centerline.
4. Bar size is indicated in the bar mark. The first digit where three digits are used, the first two digits where four are used indicates the bar size.

Four steel channel, 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 pounds of these spacers, based on 0.68 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantity for spiral bar.

The "Length" shown in the steel list for the spiral bars is the distance from the top of the footings 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 509. 1½ closed coils shall be provided at the ends of each spiral unit.

REPLACEMENT BARS			
MARK	NO.	LENGTH	TYPE
RE501	1	6'-7	Str.
RE601	2	6'-11	↕
RE701	3	7'-3	
RE801	1	7'-6	
RE901	1	7'-10	
RE1001	1	8'-3	↓
RE1101	1	8'-7	Str.

FED. RD. DIVISION	STATE	PROJECT		
	OHIO			

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REINFORCING STEEL DETAILS

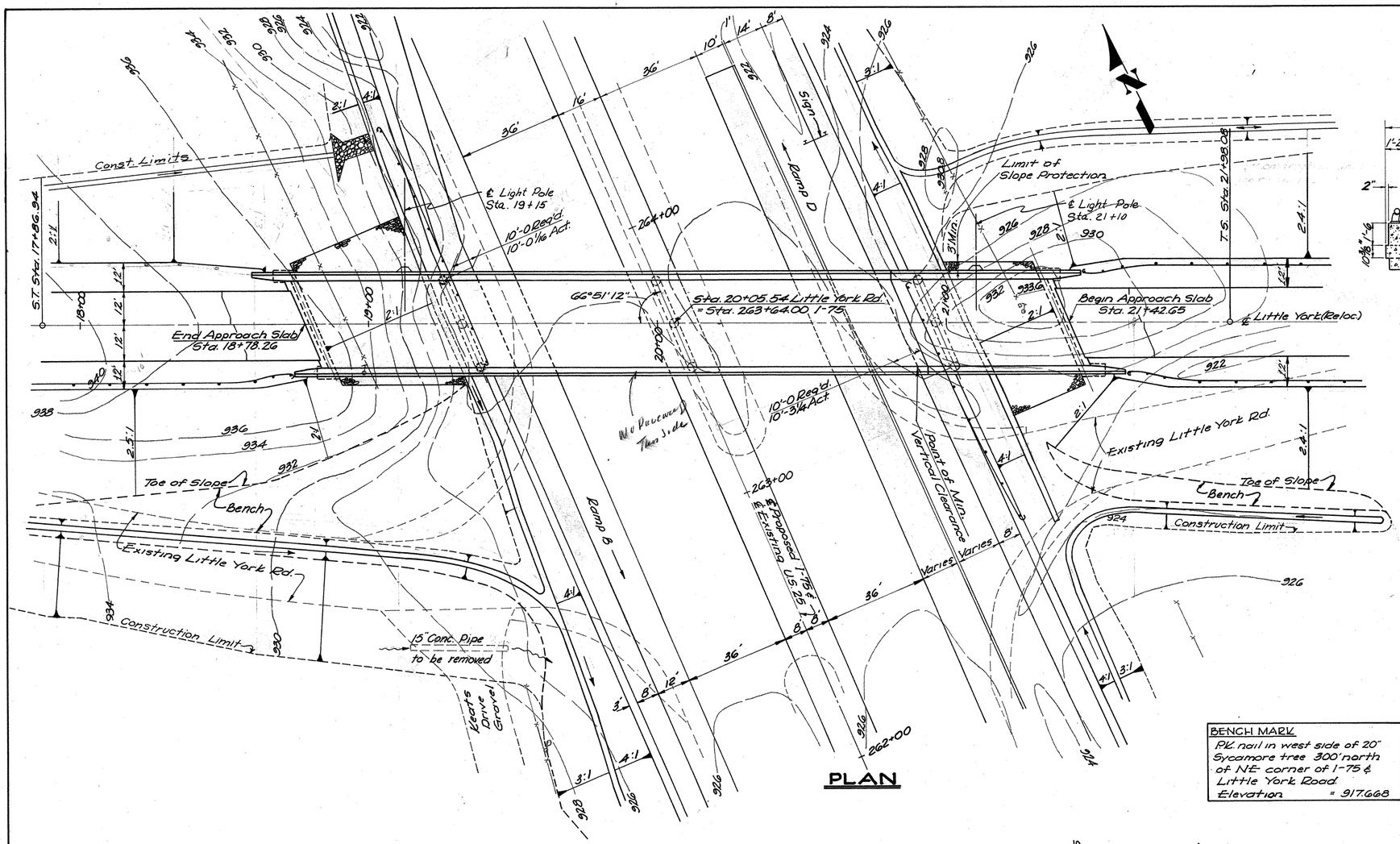
BRIDGE NO. MOT-75-1979
STOP EIGHT OVER I-75

MONTGOMERY CO. STA. 185+82.49

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	W.B.S.	L.R.F.	R.J.L. 12-29-67		

FED. RD. DIVISION	STATE	PROJECT		
	OH10			

415



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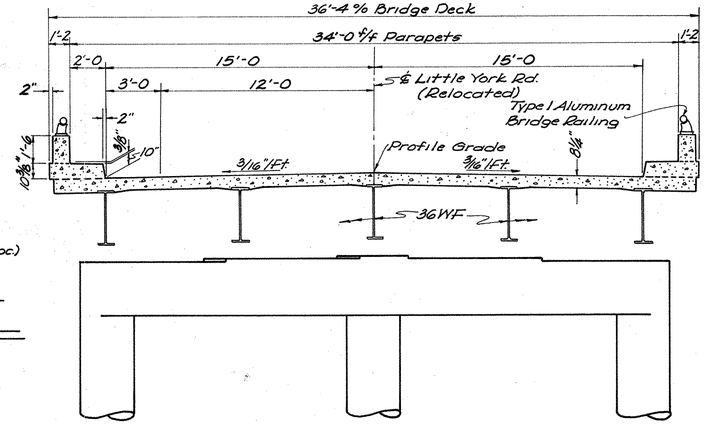


SECTION - BRIDGE DECK

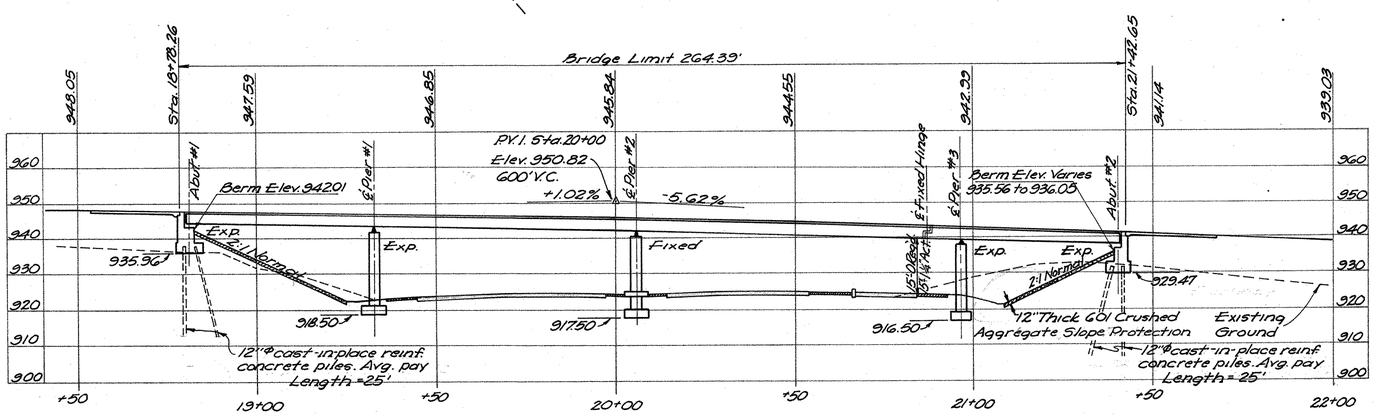
AVERAGE DAILY TRAFFIC

A.D.T. (1975) 2540
TYPE "B" (Estimated) 160

BENCH MARK
PK nail in west side of 20" Sycamore tree 300' north of NE corner of I-75 & Little York Road. Elevation = 917.668

PROPOSED STRUCTURE

TYPE: Continuous steel beam with reinforced concrete deck and substructure.
SPANS: 51'-5, 73'-5, 90'-8 and 44'-0
ROADWAY: 30'-0 3/4 of curbs, with 2-2'-0 safety curbs.
LOAD FREQUENCY: CF = 400(57)
SKEW: 23°-08'-48" Rt. forward
WEARING SURFACE: 1" Monolithic concrete.
APPROACH SLABS: AS-1-67 (25' long)
ALIGNMENT: Tangent



PROFILE ALONG ℄

SHAW, LENZ & ASSOCIATES ENGINEERS
CINCINNATI
1/10
OH10

SITE PLAN

BRIDGE NO. MOT-75-2127
LITTLE YORK RD. over I-75

MONTGOMERY COUNTY STA. 263+44.24

PRESENT TOPO		PROPOSED WORK			
Surveyor	Drawn	Designed	Drawn	Checked	Reviewed
L. Shad	W.T.B.	W.B.S.	W.T.B.	E.J.L.	

FED. RD. DIVISION	STATE	PROJECT		4.10
	OHIO			

ESTIMATED QUANTITIES

ITEM	TOTAL	UNIT	DESCRIPTION	ABUTS.	PIERS	SUPER-STRUCTURE	GENERAL		
503	463	Cu.Yds.	Unclassified Excavation	197	266				
505	Lump	LumpSum	First Test Pile	Lump					
507	600	Lin.Ft.	12"ϕ Cast-in-place reinforced concrete piles	600					
509	129,561	Lbs.	Reinforcing Steel	9,775	35,262	78,524			
511	238	Cu.Yds.	Class "C" Concrete, superstructure			238			
511	82	Cu.Yds.	Class "C" Concrete, piers above footings		82				
511	91	Cu.Yds.	Class "C" Concrete, abutments above footings	91					
511	152	Cu.Yds.	Class "C" Concrete, footings	67	85				
513	278,055	Lbs.	Structural Steel			278,055			
516	39	Lin.Ft.	Preformed elastic joint sealer (705.11)			39			
517	578	Lin.Ft.	Bridge Railing, Type I	56		522			
518	29	Cu.Yds.	Porous Backfill	29					
518	60	Lin.Ft.	6" Perforated helical C.M.P. including specials 707.01	60					
518	53	Lin.Ft.	6" Non-perforated helical C.M.P. 707.01	53					
518	10	Each	Scuppers (including supports)			10			
601	455	Sq.Yds.	Crushed Aggregate Slope Protection				455		
808	238	Units	Water-reducing set retarding admixture			238			
514	278,055	Lbs.	Field Painting of Structural Steel			278,055			
625			See lighting plans.						

GENERAL NOTES

REFERENCE shall be made to the following:

Standard Drawings: BR-1-65 Sheet 1 of 2 revised 11-24-65
RB-1-55 Revised 2-2-59
SD-1-65 Sheets 1, 2 & 3, dated 11-8-65
AS-1-67 Dated 1-11-68

Supplemental Specifications: 811, and 808 dated 1-1-69, and 836 dated 6-17-69

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=400 (ST)

CONCRETE Class "C" basic unit stress = 1333 p.s.i. for superstructure
Class "C" basic unit stress = 1133 p.s.i. for substructure

STRUCTURAL STEEL ASTM A-36 - basic unit stress: 20,000 p.s.i.

WELDS on Non-stress carrying members are shown thus: N

JOINT SEALER: Item 828 joint sealer including bond breaker, shown in Section A-A of Std. Dwg. SD-1-65, sheet No. 1, shall be omitted.

REINFORCING STEEL ASTM, A615, A616, A617, Deformed Intermediate or Hard. Basic unit stress: 20,000 p.s.i. Spiral reinforcement shall be plain, A306 or A499.

PILES shall be driven to a minimum bearing capacity of 30 tons per pile for the abutments.

FOUNDATION BEARING PRESSURE Pier footings are designed for a maximum bearing pressure of 2.5 tons per sq. ft.

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

UTILITY LINES All expenses involved in relocating the affected utility lines shall be borne by the owners. The Contractors and Owners are requested to cooperate by arranging their work in such a manner that inconvenience to either is held to a minimum.

EXCAVATION QUANTITY includes the removal of fill materials required for construction of the abutments.

WELDED ATTACHMENTS No attachments shall be made by welding to the top flanges of the beams within a distance of 1/10 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.

SCUPPERS including support angles, shall be galvanized in accordance with 711.02

SHAW, LENZ & ASSOCIATES ENGINEERS 2/10
CINCINNATI OHIO

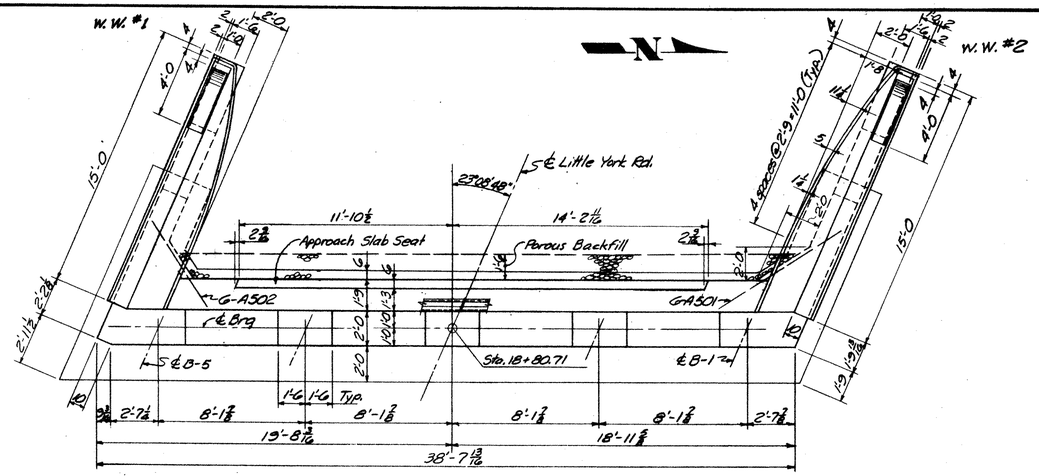
QUANTITIES & GENERAL NOTES

BRIDGE NO. MOT-75-2127
LITTLE YORK OVER I-75

MONTGOMERY CO. STA. 263+44.24

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	T.L.J.		R.J.L.		

FED. RD. DIVISION	STATE	PROJECT		417
	OHIO			



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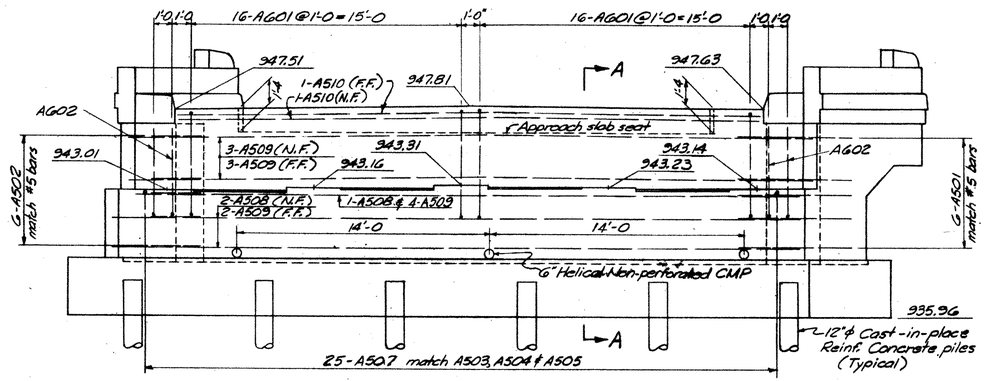
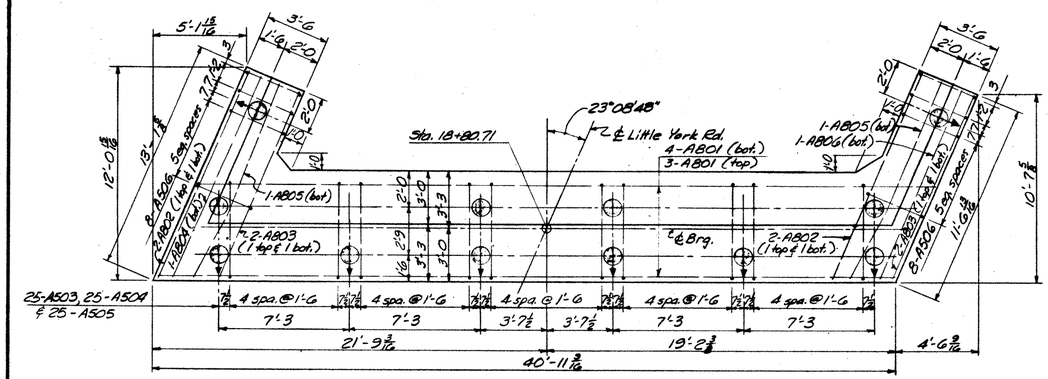
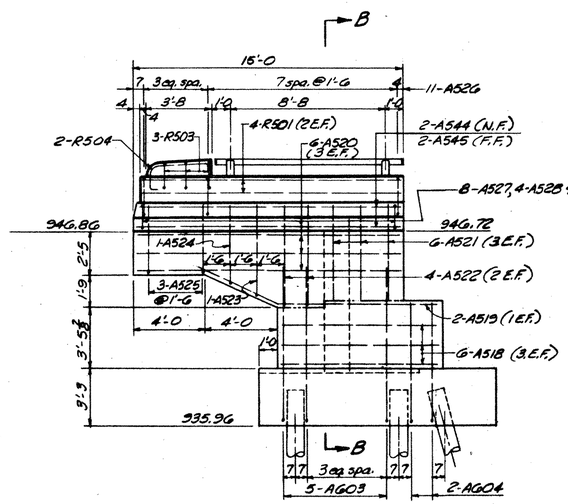


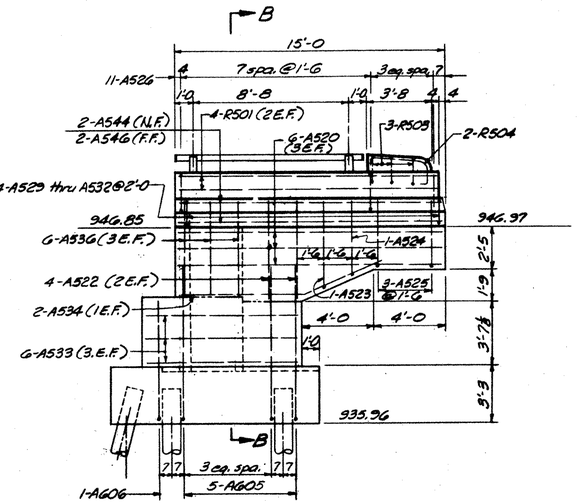
ELEVATION



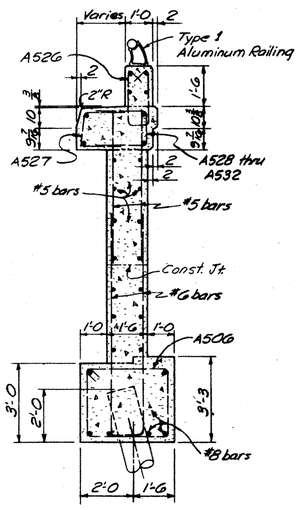
FOOTING PLAN



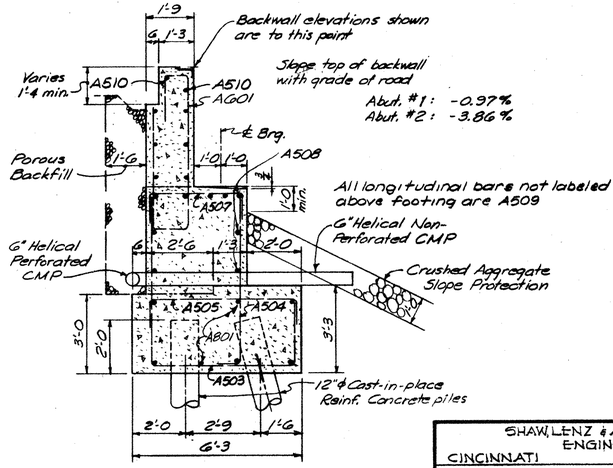
ELEVATION - WINGWALL #1



ELEVATION - WINGWALL #2



SECTION B-B



SECTION A-A

NOTES

1. For Legend and additional notes see sheet

SHAW, LENZ & ASSOCIATES ENGINEERS — CINCINNATI - OHIO — 3/10

ABUTMENT #1

BRIDGE NO. MOT-75-2127

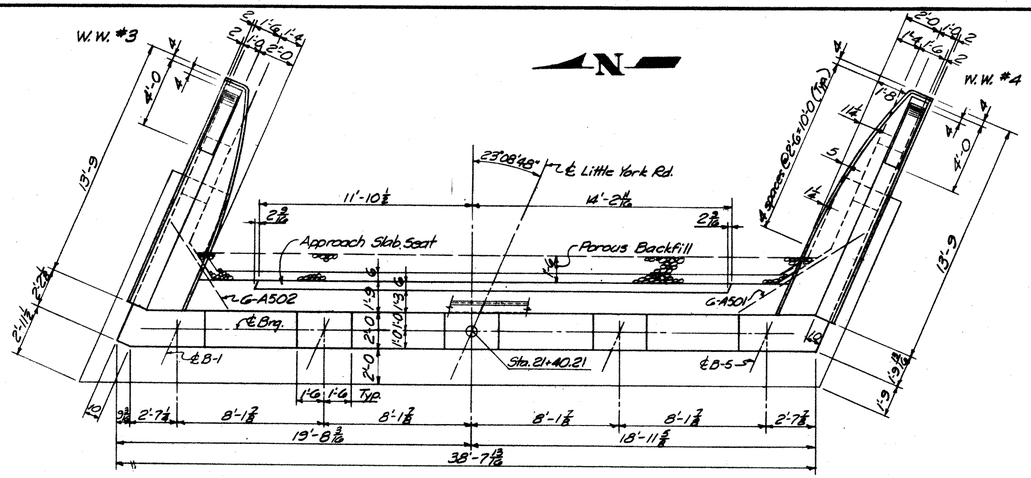
LITTLE YORK RD. OVER I-75

MONTGOMERY COUNTY STA. 263+44.24

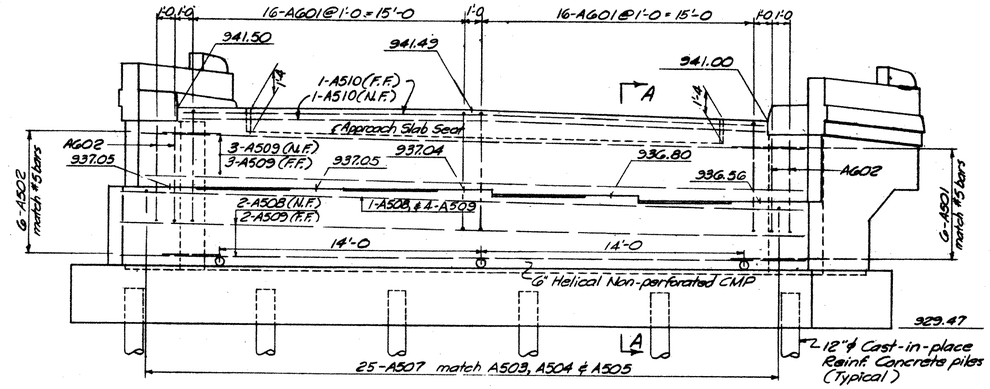
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
RRL	RRL				

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

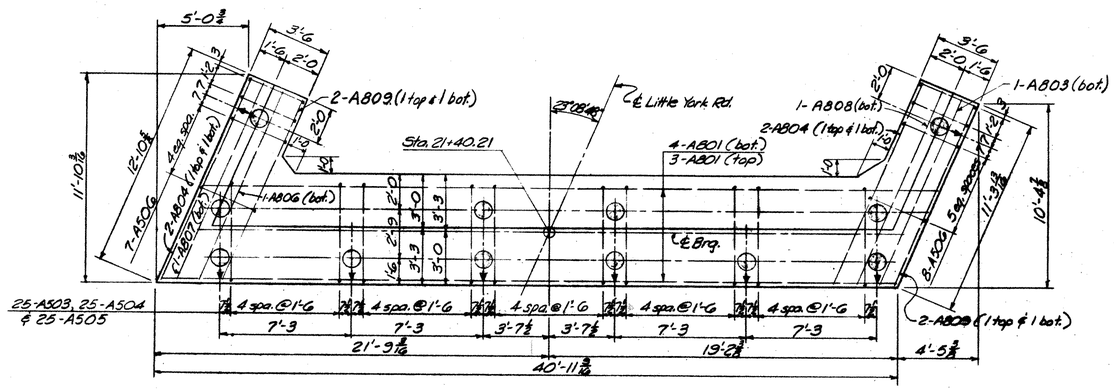
418



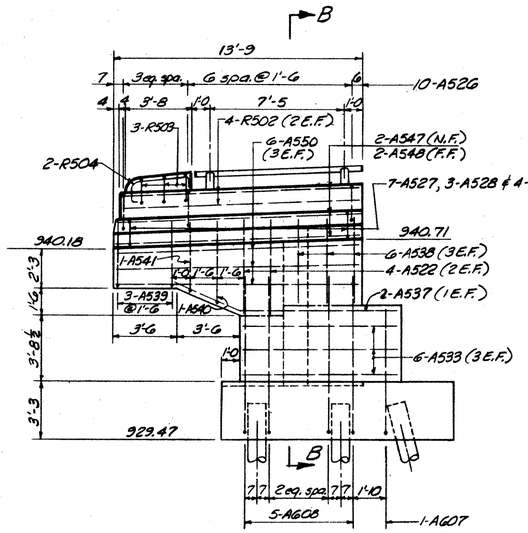
PLAN



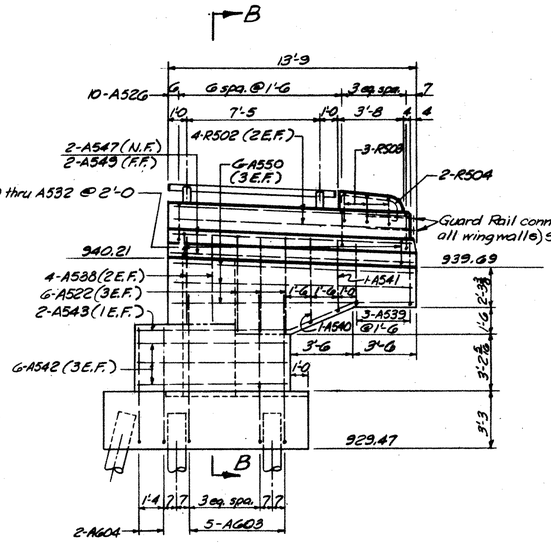
ELEVATION



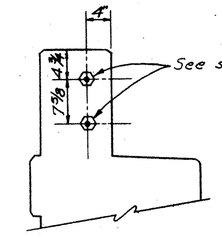
FOOTING PLAN



ELEVATION - WINGWALL #3



ELEVATION - WINGWALL #4



GUARD RAIL CONNECTOR

NOTES:

1. For Sections A-A and B-B see sheet
2. For railing and end post details see Std. Dwg. BR-1-65, sheet 1.
3. For curb plates and end dam details see Std. Dwg. SD-1-65, sheets 1 & 2.
4. For Rockers see Std. Dwg. RB-1-55
5. 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 abutment and piles driven
6. Porous backfill 1'-6" thick, full length of abutments shall extend up to the underside of the approach slab or to the finished ground surface
7. The 6" helical pipe behind abutment shall extend the full length of the footing between the wing walls. Provide caps for each end.

LEGEND

- ● 12"ϕ Cast-in-place Reinf. Concrete pile
- ●← 12"ϕ Cast-in-place Reinf. Concrete pile battered 1 horiz. to 4 vert. in the direction shown by the arrow.

N.F. - Near face
F.F. - Far face
E.F. - Each face

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CINCINNATI OHIO

ABUTMENT #2

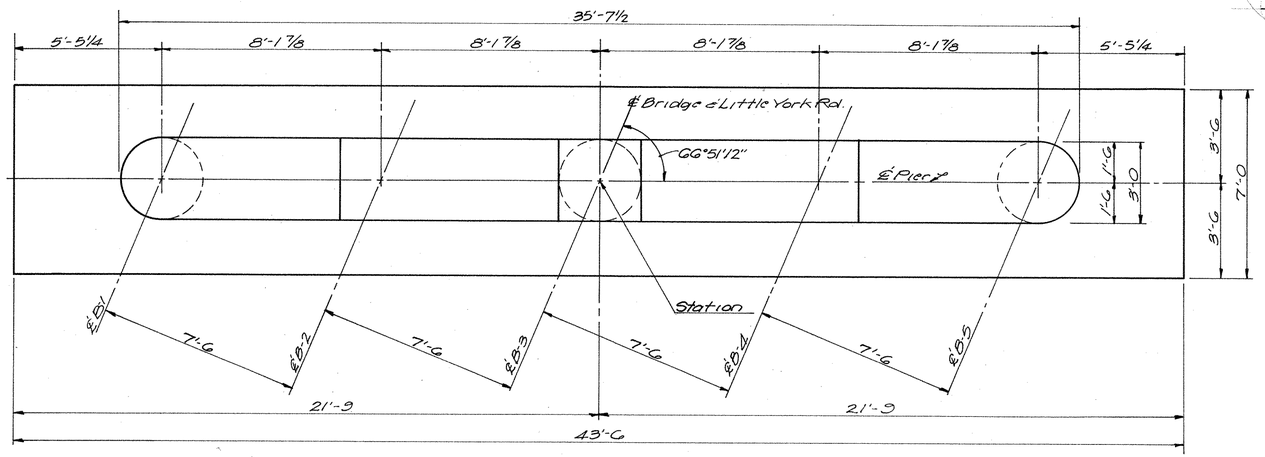
BRIDGE NO. MOT-75-2127
LITTLE YORK RD. OVER I-75
MONTGOMERY COUNTY STA. 263+44.24

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
RRL	RRL		RJL	WBS	

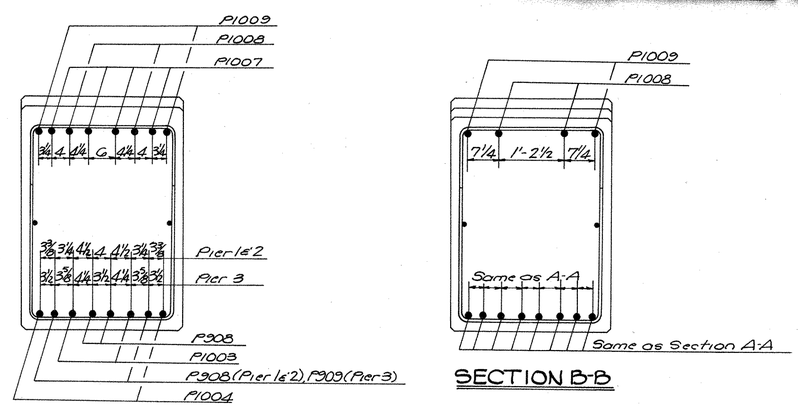
4

FED. RD. DIVISION	STATE	PROJECT		
	OHIO			

419

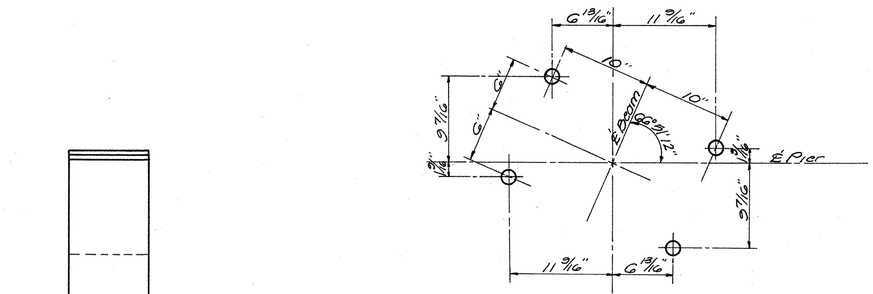


PLAN

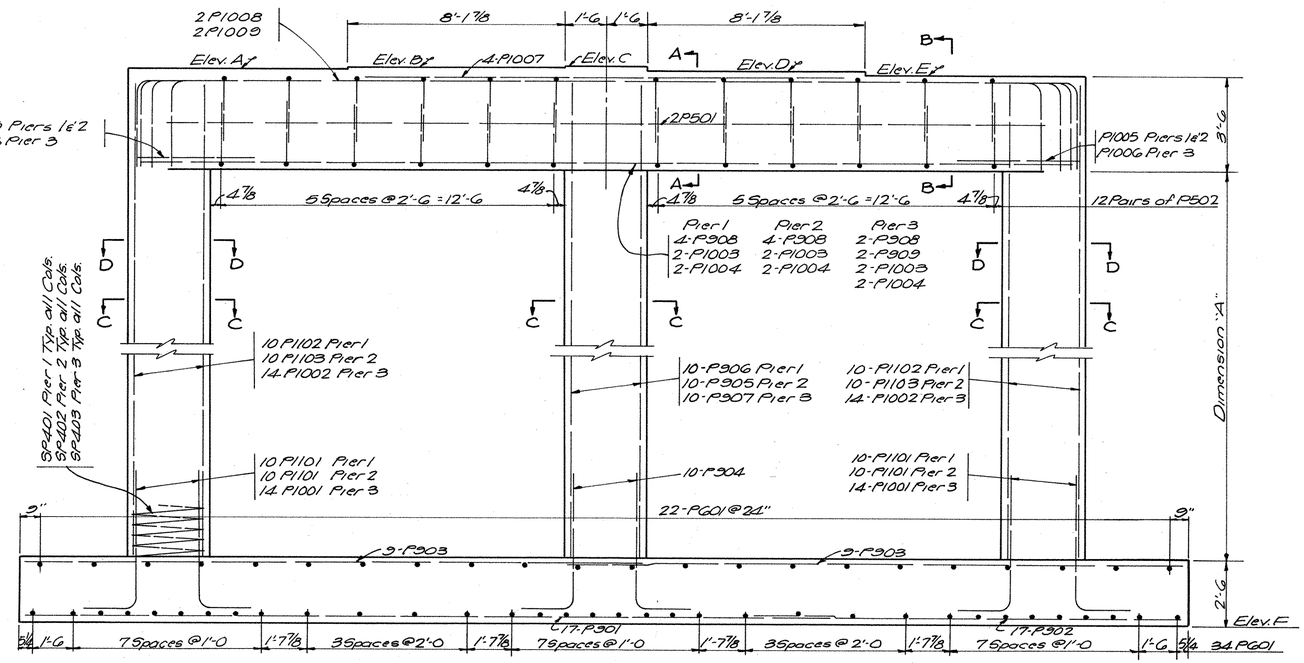


SECTION A-A

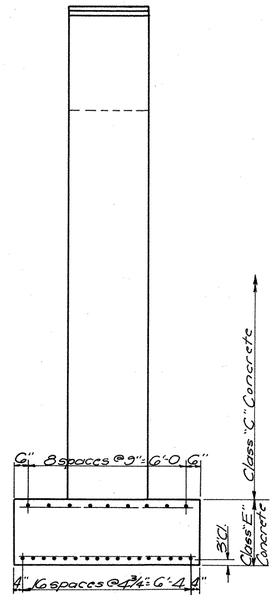
SECTION B-B



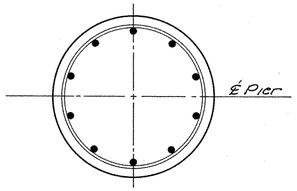
ANCHOR BOLT LOCATION DIAGRAM
PIER 2



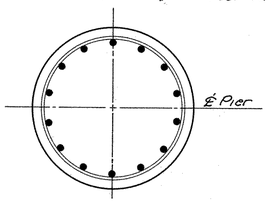
ELEVATION
Looking East



END VIEW



SECTION C-C
Pier 1 & 2 ℄ Center Col. Pier 3



SECTION D-D
Exterior Cols. Pier 3

PIER	STATION	ELEVATION						DIMENSION "A"
		A	B	C	D	E	F	
1	19+32.12	942.17	942.24	942.31	942.14	941.97	918.50	17'-5⅜
2	20+05.54	940.48	940.52	940.57	940.37	940.18	917.50	16'-8 3/16
3	20+36.21	938.11	938.12	938.13	937.90	937.68	916.50	15'-2⅛

Note: It is important that footing dowels be placed in footing so that vertical column steel can be placed accurately as shown in Sections CC & DD. Special care shall be taken in placing reinforcing steel in top of pier cap of Pier #2 so as to avoid interference with drilling of anchor bolt holes.

SHAW, LENZ & ASSOCIATES 5/10
ENGINEERS
CINCINNATI OHIO

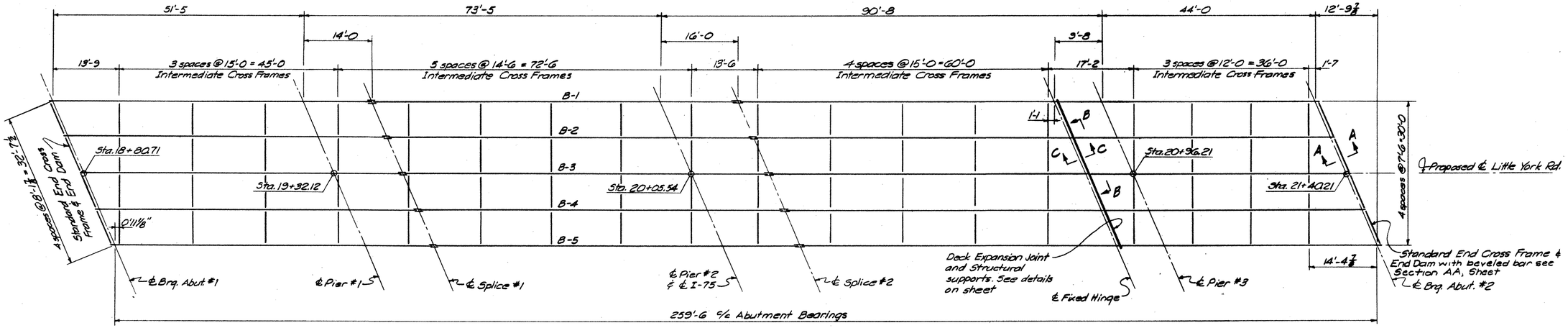
PIERS

BRIDGE NO. MOT-75-2127
LITTLE YORK OVER I-75

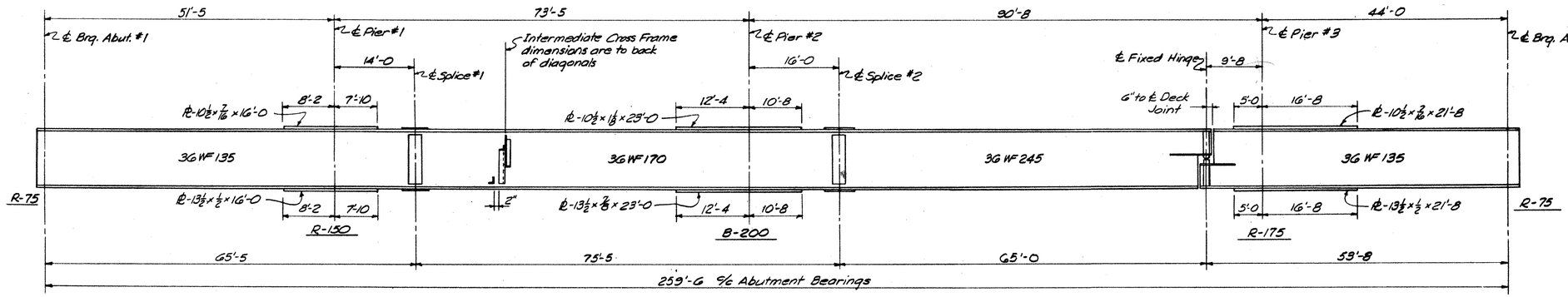
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
R.J.L.	R.J.L.	W.T.R.	W.B.S.		

FED. RD. DIVISION	STATE	PROJECT	
	OHIO		

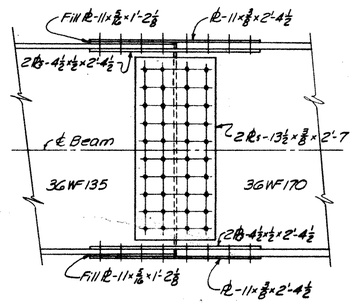
420



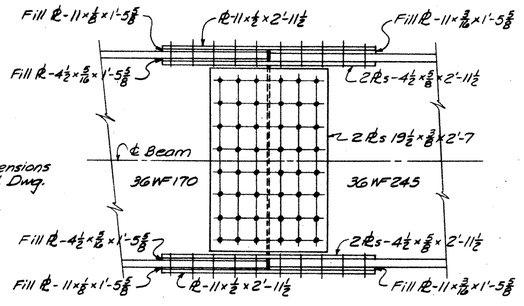
FRAMING PLAN



TYPICAL BEAM ELEVATION



DETAIL-SPLICE #1



DETAIL SPLICE #2

For details and dimensions not shown, see Std. Dwg. SD-1-65, sheet 3.

NOTES:

For details at fixed hinge see sheet 7.

For beam camber and layout see sheet 7.

For intermediate cross frames see sheet 8.

For Rockers & Bolsters see Std. Dwg. RB-1-55.

For shop welding of moment plates, see Std. Dwg. SD-1-65, sheet 2.

For Std. end dam & end cross frame details see Std. Dwg. SD-1-65, sheet 1.

For curb plate details, see Std. Dwg. SD-1-65, sheet 2.

For additional splice details, see Std. Dwg. SD-1-65, sheet 3.

For location of scuppers, see sheet 8.

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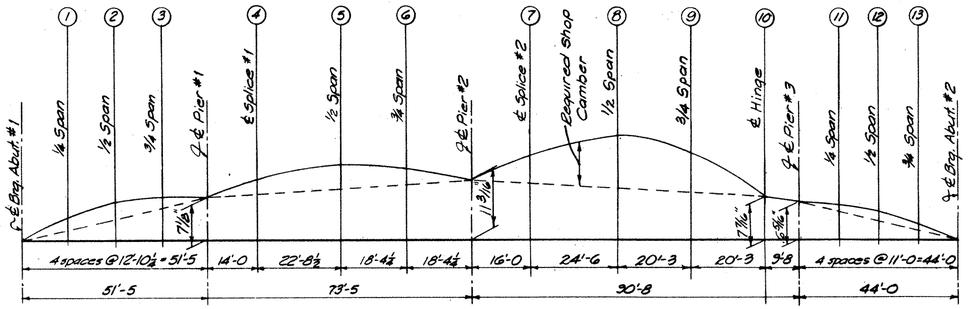
FRAMING PLAN

BRIDGE NO. MOT-75-2127
LITTLE YORK RD. OVER I-75

MONTGOMERY CO. STA. 268+44.24

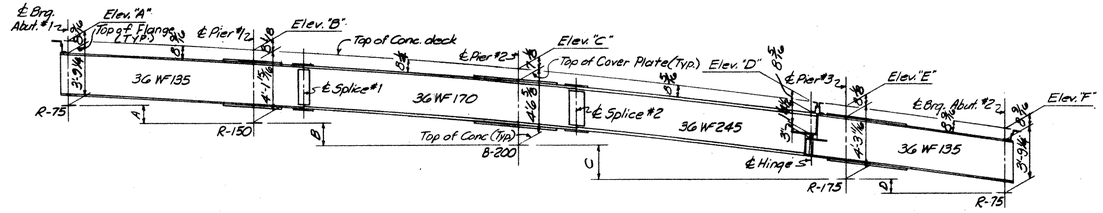
DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	E.R.L.		R.J.L.		

FED. RD. DIVISION	STATE	PROJECT		421
	OHIO			



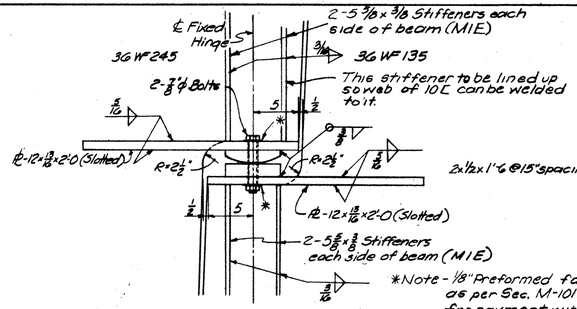
DEFLECTION & CAMBER DIAGRAM

		①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
Interior Beam	Deflection due to D.L. beam	1/32	1/32	1/32	0	0	-1/32	1/8	1/4	1/8	0	0	0	0
	Deflection due to remaining D.L.	3/16	3/16	3/32	1/16	5/32	-1/32	5/16	25/32	5/8	0	0	1/16	1/16
	Vertical curve adjustment	11/32	15/32	5/16	3/16	7/8	11/16	11/4	1 3/32	1 3/16	0	1/4	5/16	1/4
	Shop camber required	9/16	11/16	7/16	5/8	1 1/16	5/8	1 1/8	2 1/8	1 3/16	0	1/4	3/8	5/16
Exterior Beam	Deflection due to D.L. beam	1/32	1/32	1/32	0	0	-1/16	1/8	1/4	1/8	0	0	0	0
	Deflection due to remaining D.L.	3/16	1/4	3/32	1/16	3/16	0	3/16	23/32	11/16	0	0	1/16	1/16
	Vertical curve adjustment	11/32	15/32	5/16	3/16	7/8	11/16	11/16	1 3/32	13/16	0	1/4	5/16	1/4
	Shop camber required	9/16	3/4	7/16	5/8	1 1/16	5/8	1 3/16	2 1/4	1 7/8	0	1/4	3/8	5/16

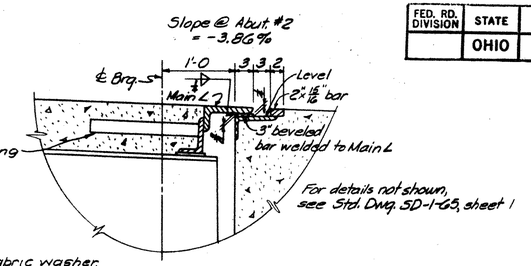


ELEVATION LAYOUT

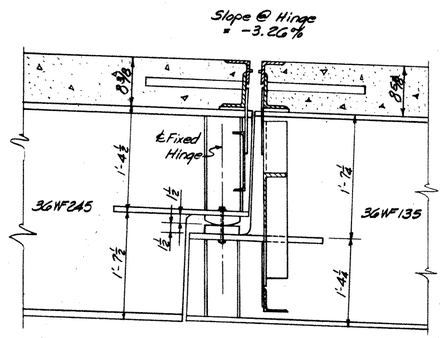
Beam	Elev. "A"	Elev. "B"	Elev. "C"	Elev. "D"	Elev. "E"	Elev. "F"	Dim. "A"	Dim. "B"	Dim. "C"	Dim. "D"
B-1	947.62	947.01	945.63	943.41	943.09	941.54	0'-11⅝"	1'-8 5/16	2'-4 7/16	1'-0 11/16
B-2	947.71	947.08	945.67	943.42	943.11	941.53	0'-11 13/16"	1'-8 5/8	2'-4 13/16	1'-0⅞
B-3	947.80	947.15	945.71	943.44	943.12	941.53	1'-0 1/16	1'-8⅞	2'-5¼	1'-1 1/16
B-4	947.65	946.98	945.52	943.21	942.89	941.29	1'-0¼	1'-9¼	2'-5 5/8	1'-1¼
B-5	947.50	946.81	945.32	942.99	942.66	941.04	1'-0½	1'-9 9/16	2'-6	1'-1 7/16



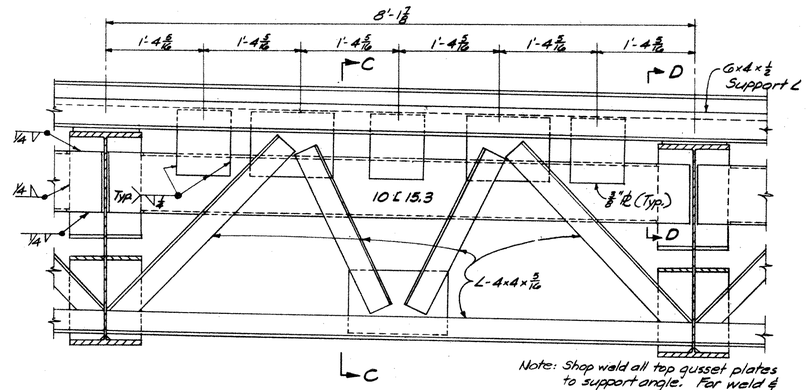
HINGE DETAIL



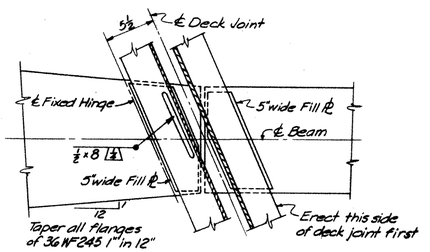
SECTION A-A



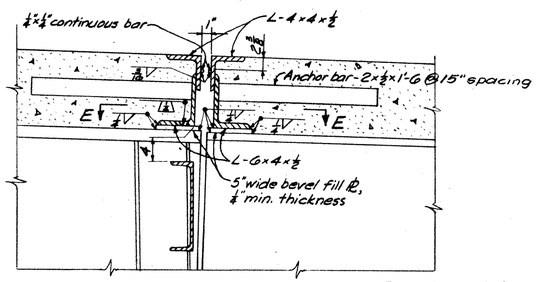
SECTION C-C



SECTION B-B



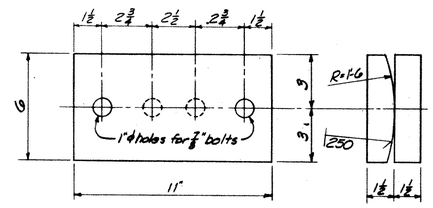
SECTION E-E

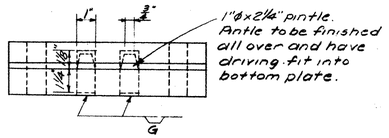


SECTION D-D

For details not shown, see Std. Dwg. SD-1-65, sheet 1.

For extent of joint angles, see sheet 9.





HINGE SHOE DETAILS

SHAW, LENZ & ASSOCIATES ENGINEERS 7/10
CINCINNATI OHIO

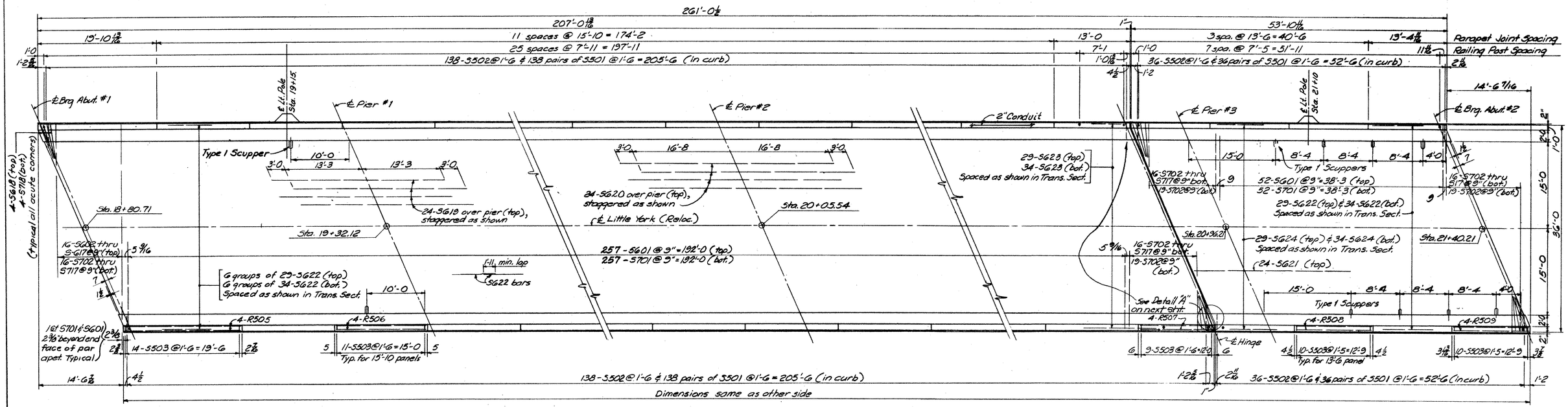
FRAMING PLAN DETAILS

BRIDGE NO. MOT-75-2127
LITTLE YORK RD. OVER I-75
I-75

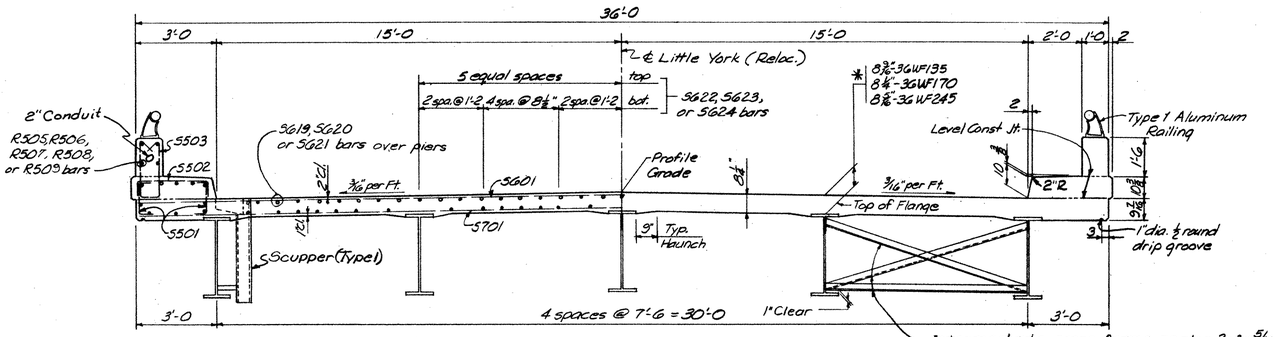
MONTGOMERY CO. STA. 268+44.24

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.		R.J.L.		

FED. RD. DIVISION	STATE	PROJECT		422
	OHIO			



PLAN



TYPICAL TRANSVERSE SECTION

DECK SLAB HAUNCH: The haunch in the deck slab adjacent to the top of the steel beams, which is shown as 9" wide, may vary from this dimension between the limits of 6" and 12" except that the maximum slope shall not exceed 3" per foot. Payment for deck slab concrete shall be based on the 9" width.

* This is a 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 flanges of the beams may not have the exact camber or conformation required to place it parallel to the finished grade.

NOTES

1. Slab thickness includes 1" monolithic wearing surface.
2. Spread or cut longitudinal reinf. steel in slab to clear scuppers.
3. For end dam details see Std. Dwg. SD-1-65, sheet 1.
4. For aluminum railing details, see Std. Dwg. BR-1-65, sheet 1.
5. For curb plate details see Std. Dwg. SD-1-65, sheet 2.
6. For railing and parapet joint details see Std. Dwg. BR-1-65, sheet 1.
7. For scupper details see Std. Dwg. SD-1-65, sheet 2.
8. For pavement screed elevations see sheet 9.
9. For light pole support detail see sheet 373.

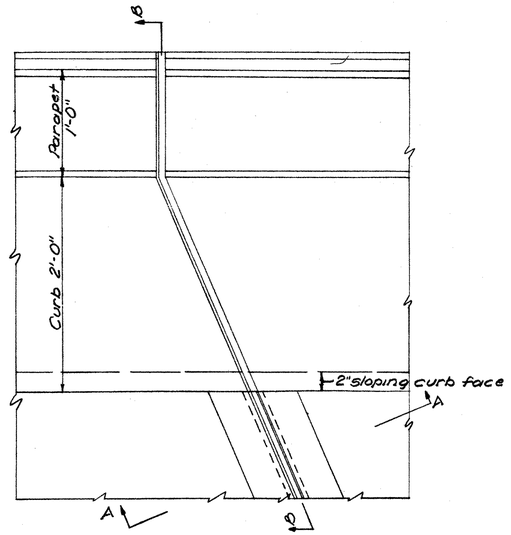
SHAW, LENZ & ASSOCIATES ENGINEERS 8/10
CINCINNATI OHIO

SUPERSTRUCTURE SLAB

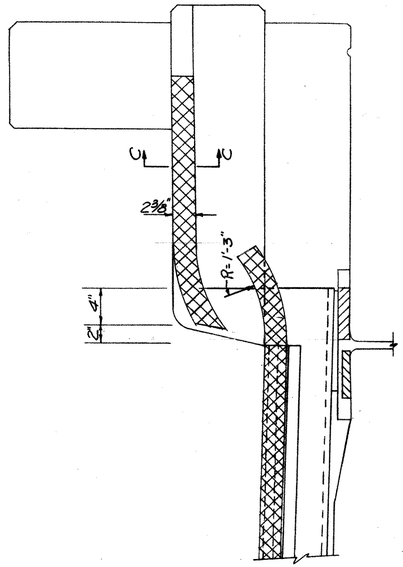
BRIDGE NO. MOT.-75-2127
LITTLE YORK RD. OVER I-75
I-75
MONTGOMERY CO. STA. 228+44.24

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
W.B.S.	R.R.L.		R.J.L.		

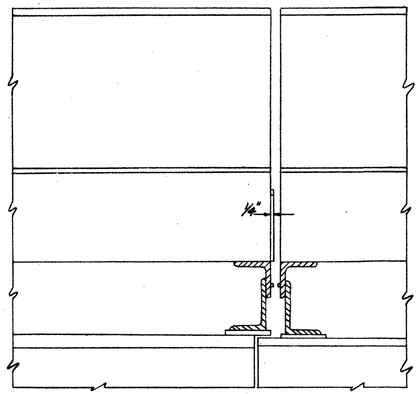
FED. RD. DIVISION	STATE	PROJECT		423
	OHIO			



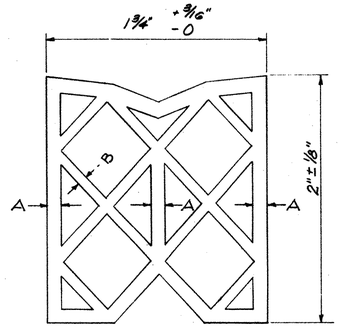
DETAIL "A"
PART DECK PLAN AT HINGE JOINT



SECTION "B-B"



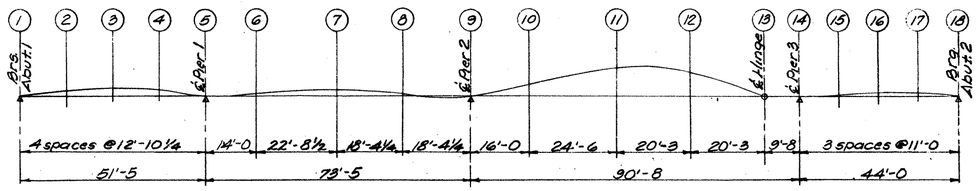
SECTION "A-A"



A=1/8 +1/32 -1/64

B=3/32 +1/32 -1/64

SECTION C-C
PREFORMED ELASTIC JOINT SEALER



SCREED ELEVATION DIAGRAM

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Station	18+74.30	+87.15	19+00.00	19+12.86	+25.71	+39.71	+62.42	+80.77	+93.13	20+15.13	+39.63	+59.88	+80.13	+89.80	21+00.80	+11.80	+22.80	21+33.80
Profile Grade	947.857	947.731	947.587	947.424	947.243	947.026	946.626	946.262	945.860	945.479	944.842	944.264	943.642	943.329	942.960	942.577	942.182	941.772
Gutter Elev. 15' Left	947.622	7.496	7.352	7.190	7.009	6.791	6.392	6.027	5.626	5.245	4.607	4.030	3.407	3.094	2.725	2.343	1.947	1.538
Concrete D.L. deflection	0.000	0.017	0.019	0.009	0.000	0.006	0.014	0.001	0.000	0.031	0.078	0.065	0.007	0.000	0.001	0.006	0.006	0.000
Screed Elev. Left Gutter	947.62	947.51	947.37	947.20	947.01	946.80	946.41	946.03	945.63	945.28	944.68	944.09	943.41	943.09	942.73	942.35	941.95	941.54
Station	18+87.12	+99.97	19+12.82	+25.68	+38.53	+52.53	+75.24	+93.59	20+11.95	+27.95	+52.45	+72.70	+92.95	21+02.62	+13.62	+24.62	+35.62	21+46.62
Profile Grade	947.731	947.587	947.425	947.244	947.045	946.807	946.376	945.986	945.557	945.154	944.481	943.875	943.224	942.837	942.513	942.115	941.703	941.279
Gutter Elev. 15' Left	947.497	7.352	7.190	7.009	6.810	6.573	6.141	5.751	5.323	4.920	4.247	3.641	2.990	2.663	2.278	1.880	1.469	1.044
Concrete D.L. deflection	0.000	0.017	0.019	0.009	0.000	0.006	0.014	0.001	0.000	0.034	0.078	0.065	0.007	0.000	0.000	0.006	0.006	0.000
Screed Elev. Right Gutter	947.50	947.37	947.21	947.02	946.81	946.58	946.16	945.75	945.32	944.95	944.32	943.71	943.00	942.66	942.28	941.89	941.47	941.04

SHAW, LENZ & ASSOCIATES ENGINEERS 9/10
CINCINNATI OHIO

SUPERSTRUCTURE SLAB DETAILS

BRIDGE NO. MOT.-75-2127
LITTLE YORK OVER I-75

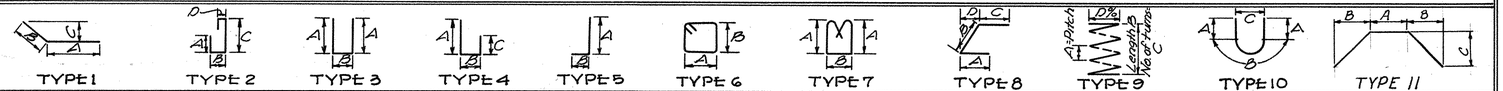
MONTGOMERY CO. STA. 268+44.24

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
R.J.L.	W.T.R.				

FED. AID PROJECT	STATE	PROJECT	
	10		

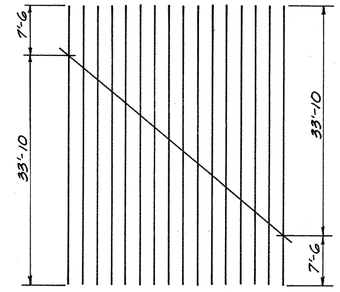
124

REINFORCING STEEL BAR SCHEDULE



MARK	NO.	SIZE	LENGTH	TYPE	A	B	C	D	WEIGHT	LOCATION
				ABUTMENTS						
A801	14		40'-8	Str.					1,520	F-tg., Abuts. #1 & #2
A802	4		12'-7	Str.					134	F-tg., Abut. #1
A803	5		11'-3	Str.					150	F-tg., Abuts. #1 & #2
A804	5		12'-4	Str.					165	F-tg., Abuts. #1 & #2
A805	2		12'-0	1	8'-1	3'-11	0'-6		64	F-tg., Abut. #1
A806	2		11'-7	Str.					62	F-tg., Abut. #1 & #2
A807	1		12'-1	Str.					32	F-tg., Abut. #2
A808	1		11'-10	Str.					32	F-tg., Abut. #2
A809	4		11'-0	Str.					117	F-tg., Abut. #2
A601	64		13'-2	2	4'-3	1'-5	5'-9	0'-11	1,266	B.W. Abuts. #1 & #2
A602	8		11'-1	3	5'-0	1'-5			193	B.W. Abuts. #1 & #2
A603	10		17'-10	3	8'-6	1'-2			268	F-tg., Abuts. #1 & #2
A604	4		14'-2	3	6'-8	1'-2			85	F-tg., Abuts. #1 & #2
A605	5		18'-0	3	8'-7	1'-2			135	F-tg., Abut. #1
A606	1		14'-4	3	6'-9	1'-2			22	F-tg., Abut. #1
A607	1		15'-2	3	7'-2	1'-2			23	F-tg., Abut. #2
A608	5		19'-0	3	9'-1	1'-2			143	F-tg., Abut. #2
A501	12		8'-4	Str.					104	B.W. & W.W. Abuts. #1 & #2
A502	12		5'-9	Str.					72	B.W. & W.W. Abuts. #1 & #2
A503	50		14'-5	4	6'-8	5'-5	2'-7		756	F-tg., Abuts. #1 & #2
A504	50		7'-4	5	6'-7	0-10½			332	F-tg., Abuts. #1 & #2
A505	50		6'-11	3	0-10½	5'-5			361	F-tg., Abuts. #1 & #2
A506	31		12'-0	6	3'-2	2'-7			383	F-tg., Abuts. #1 & #2
A507	50		4'-11	3	0-10½	3'-5			256	Seat, Abuts. #1 & #2
A508	6		37'-9	Str.					236	Seat, Abuts. #1 & #2
A509	24		38'-4	Str.					960	Seat, B.W., Abuts. #1 & #2
A510	4		32'-5	Str.					135	B.W. Abuts. #1 & #2
	A511 thru A517 not used									
A518	6		8'-9	Str.					55	W.W. #1
A519	2		13'-2	1	8'-9	4'-5	1'-3		27	W.W. #1
A520	12		14'-8	Str.					184	W.W. #1 & #2
A521	6		5'-2	Str.					32	W.W. #1
A522	18		5'-6	Str.					103	W.W. #1, 2, 3, 4
A523	2		10'-7	3	4'-10	1'-2			22	W.W. #1 & #2
A524	2		9'-5	3	4'-3	1'-2			20	W.W. #1 & #2
A525	6		8'-5	3	3'-9	1'-2			53	W.W. #1 & #2
A526	42		5'-7	7	2'-2	0'-8			245	Curbs
A527	30		2'-7	8	0'-10	1'-4	0'-8	0'-2	81	Curbs
A528	14		5'-5	3	2'-2	1'-4			79	Curbs
A529	4		5'-1	3	2'-0	1'-4			21	Curbs
A530	4		4'-5	3	1'-8	1'-4			18	Curbs
A531	4		3'-7	3	1'-3	1'-4			15	Curbs
A532	4		2'-5	3	0'-8	1'-4			10	Curbs
A533	12		8'-6	Str.					106	W.W. #2 & #3
A534	2		11'-1	1	6'-8	4'-5	1'-9		23	W.W. #2
	A535 not used									
A536	6		5'-3	Str.					33	W.W. #2
A537	2		12'-6	1	8'-8	3'-10	1'-6		26	W.W. #3 & #4
A538	10		5'-0	Str.					52	W.W. #3 & #4
A539	6		8'-1	3	3'-7	1'-2			51	W.W. #3 & #4
A540	2		10'-3	3	4'-8	1'-2			21	W.W. #3 & #4
A541	2		8'-11	3	4'-0	1'-2			19	W.W. #3 & #4
A542	6		8'-3	Str.					52	W.W. #4
A543	2		12'-3	1	8'-5	3'-10	1'-6		26	W.W. #4
A544	4		14'-6	Str.					60	Curb, W.W. #1 & #2
A545	2		13'-11	Str.					29	Curb, W.W. #1
A546	2		15'-5	Str.					32	Curb, W.W. #2
A547	4		13'-3	Str.					55	Curb, W.W. #3 & #4
A548	2		12'-8	Str.					26	Curb, W.W. #3

MARK	NO.	SIZE	LENGTH	TYPE	A	B	C	D	WEIGHT	LOCATION
A549	2		14'-2	Str.					30	Curb, W.W. #4
A550	12		13'-5	Str.					168	Curb, W.W. #3 & #4
Z501	8		14'-4	Str.					*	Parapets, Abut #1
Z502	8		13'-1	Str.					*	Parapets, Abut #2
Z503	12		See Std. Dwg. BR-1-65 for details of these bars						*	Parapets & end posts
Z504	8								*	Parapets & end posts
				SUPERSTRUCTURE						
S701	309		35'-8	Str.					22,527	Bottom, transverse
S702 thru S717	32		41'-4	Str.					2,704	See Cutting Diagram
S718	16		6'-6	Str.					213	Bottom, corner
S601	309		35'-8"	Str.					16,554	Top, transverse
S602 thru S617	32		41'-4	Str.					1,987	See Cutting Diagram
S618	16		6'-6	Str.					156	Top, corner
S619	24		29'-6	Str.					1,063	Longitudinal in top over pier
S620	24		36'-4	Str.					1,310	do
S621	24		22'-0	Str.					793	do
S622	441		30'-0	Str.					13,871	Longitudinal, top & bot.
S623	63		38'-2	Str.					3,612	do
S624	63		25'-4	Str.					2,397	do
L601	10		7'-0"	11	1'-3"	2'-1"	2'-1"		106	Light Pole
S501	636		2'-4	3	0'-8	1'-4			1,694	Slab & Curb
S502	348		3'-6	3	0'-8	2'-6			1,270	Curb
S503	368		5'-7	7	2'-2	0'-8			2,143	Curb & Parapet
L602	8		10'-4"	6	2'-1"	2'-10"			124	Light Pole
Z505	8		19'-6	Str.					*	Parapet
Z506	88		15'-6	Str.					*	Parapet
Z507	8		12'-8	Str.					*	Parapet
Z508	24		13'-2	Str.					*	Parapet
Z509	8		13'-0	Str.					*	Parapet
				PIERS						
P1101	40		7'-6	5	6'-8	2'-1			1,594	F-tgs. 1 & 2
P1102	20		20'-7	Str.					2,187	Cols. 1
P1103	20		19'-9	Str.					2,099	Cols. 2
P1001	28		7'-0	5	5'-4	1'-11			843	F-tg. 3
P1002	28		18'-8	Str.					2,209	Cols. 3
P1003	6		34'-7	Str.					833	Caps 1, 2 & 3
P1004	6		31'-4	Str.					809	Caps 1, 2 & 3
P1005	4		11'-6	10	4'-0	3'-6	2'-4		198	Caps 1 & 2
P1006	2		11'-2	10	4'-0	3'-2	2'-1½		96	Cap 3
P1007	12		18'-0	Str.					929	Caps 1, 2 & 3
P1008	6		41'-0	3	3'-3	34'-11			1,059	Caps 1, 2 & 3
P1009	6		38'-6	3	3'-3	32'-5			994	Caps 1, 2 & 3
P901	51		30'-0	Str.					5,202	F-tgs. 1, 2 & 3
P902	51		16'-0	Str.					2,774	F-tgs. 1, 2 & 3
P903	54		23'-0	Str.					4,223	F-tgs. 1, 2 & 3
P904	30		6'-4	5	4'-11	1'-7			646	F-tgs. 1, 2 & 3
P905	10		19'-9	Str.					672	Cols. 2
P906	10		20'-7	Str.					700	Cols. 1
P907	10		18'-4	Str.					623	Cols. 3
P908	10		34'-7	Str.					1,176	Caps 1, 2 & 3
P909	2		30'-6	Str.					207	Cap 3
PG01	168		6'-8	Str.					1,682	F-tgs. 1, 2 & 3
P501	6		32'-1	Str.					201	Caps 1, 2 & 3
P502	72		7'-1	3	2'-4	2'-8			532	Caps 1, 2 & 3
SP401	3			9	4½	17'-6	50	2'-8	369	Cols. 1
SP402	3			9	4½	16'-8	47	2'-8	912	Cols. 2
SP403	3			9	4½	15'-2	43	2'-8	834	Cols. 3



CUTTING DIAGRAM
for S702 thru S717
& S602 thru S617

NOTES:

1. All dimensions are out to out of bar.
2. Radius dimensions are to outside of bar.
3. The length of bent bars is measured along centerline.
4. 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 indicates the bar size.
5. Four steel channel, 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 pounds of these spacers, based on 0.68 lbs. per lin. ft. will be paid for as reinforcing steel and is included in the tabulated quantities for 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 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 509. 1½ closed coils shall be provided at the ends of each spiral unit.

* These bars included with Item 517 for payment.

REPLACEMENT BARS			
MARK	NO.	LENGTH	TYPE
RE1101	1	8'-7	Str.
RE1001	1	8'-3	↑
RE 901	1	7'-10	|
RE 801	1	7'-6	|
RE 701	2	7'-3	|
RE 601	3	6'-11	↓
RE 501	1	6'-7	Str.

SHAW, LENZ & ASSOCIATES ENGINEERS 10/10

CINCINNATI OHIO

REINFORCING STEEL DETAILS

BRIDGE NO. MOT-75-2127
LITTLE YORK OVER I-75

MONTGOMERY CO. STA. 268+44.24

DESIGNED	DRAWN	TRACED	CHECKED	REVIEWED	REVISED
R.J.L.	W.T.R.				