

F.A.P. NRH-60

Fed Aid Dist. No.	State	Fed Aid Project	Fiscal Year
10	Ohio	NRH-60	1933



HOLMES COUNTY
S.H. 79 SEC. A & B

STATE OF OHIO
DEPARTMENT OF HIGHWAYS

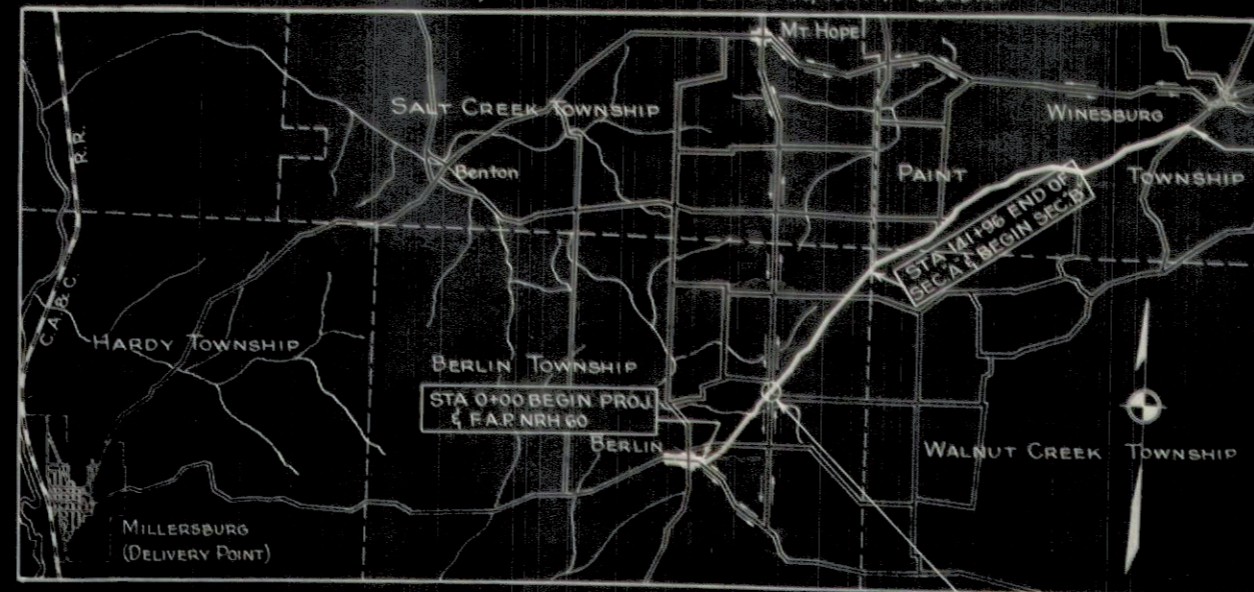
NAVARRE - BERLIN ROAD
S.H. 79 SEC. "A" & "B"

HOLMES COUNTY
BERLIN, WALNUT CREEK & PAINT TOWNSHIPS
JULY 1933

The Standard Specifications of the State of Ohio, Department of Highways, together with the "Supplemental Specifications for National Recovery Highway Projects", in force on date of contract, will govern this improvement.

I hereby approve these plans and declare that the making of the improvement will require the closing to traffic of the highway and that detours will be provided as shown on the plan and estimates.

NET LENGTH OF PROJECT 33,600 FT. - 6.364 MI.
SEC. A - 14,196 FT. - 2.688 MI. SEC. B - 19,404 FT. - 3.675 MI.



STA. 336+00 END PROJ. AND F.A.P. NRH-60

Two-Lane traffic to be maintained at all times by the Contractor

- CONVENTIONAL SIGNS
- State Line
 - County Line
 - Township Line
 - Section Line
 - Property Line not fenced
 - Center Line
 - City or Village Line
 - Fence
 - Telephone or Telegraph
 - Steam Railroad
 - Electric Line
 - Guard Rail
 - Drain Pipe - new
 - Drain Pipe - old

LOCATION PLAN

PORTION TO BE IMPROVED
DETOURS SHOWN THUS

SCALE OF MILES

INDEX OF SHEETS

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CHECKING RECORD

OFFICE	BY	DATE
RESIDENT	SSP	7-15-33
DIVISION	WNE	7-29-33
CENTRAL CONSTR.	W.R.U.	7-29-33
CENTRAL - BRIDGES		
BUR. OF PUBLIC ROADS		8-1-33

SUPPLEMENTAL PRINTS OF STANDARD DRAWINGS Nos B-70-J, T-70-J, T-71-J, 129, 111, 1-8CBI-2, 2-2, BC-A, SC-A, RR-4, S-27, PG. 1 & 2

Approved: *Karl Snyder*
Date: 7-15-33 Resident District Deputy Director

Approved: *John Buehler*
Date: 7-14-33 Resident Division Deputy Director

Approved: *Edmund Hilty*
Date: 8-6-33 Chief Engineer
Bureau of Construction

Approved: _____
Date: _____ Chief Engineer
Bureau of Maintenance

Approved: _____
Date: _____ Chief Engineer
Bureau of Bridges

Approved: *J.P. Chapman*
Date: 7-23-33 Chief Engineer & 1st Ass't. Director

Approved: *W. H. Jones*
Date: 7-23-33 Director of Highways

Recommended for Approval: _____
Date: _____ District Engineer
Bureau of Public Roads

Recommended for Approval: _____
Date: _____ Chief Engineer
Bureau of Public Roads

Approved: _____
Date: _____ Chief of Bureau

APPROVED
W. H. Jones 6-27-33
Planning Engineer Date
Remarks For *W. H. Jones*
to be filed in file with copy of spec.

Fed.Aid Dist.No	State	Fed.Aid Project	Fiscal Year
10	Ohio	NRH-60	1933

HOLMES COUNTY
S.H. 79 Sec. A1B

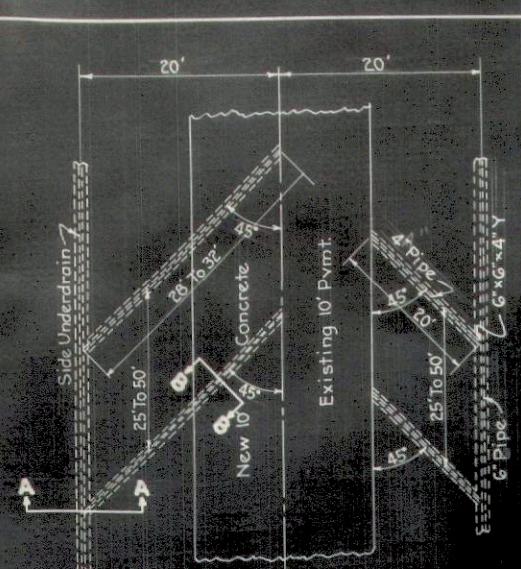
TYPICAL SECTIONS
TYPE 'C' 9'-7"-7'-9" x 10'-0" WIDENING
SCALE 1/2" = 1'-0"
ITEM T-70



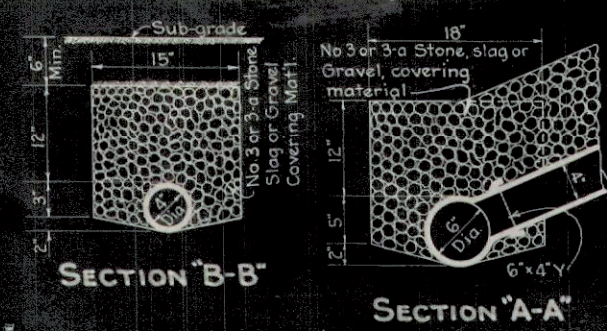
APPROVED
7-27-33
F.D.A.

Fed. Aid Dist. No.	State	Fed. Aid Project	Fiscal Year
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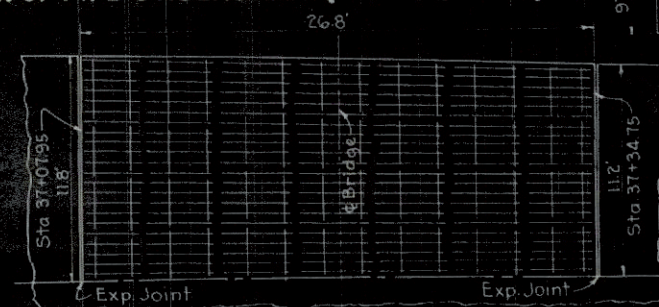
HOLMES COUNTY
S.H. 79 SEC. A & B



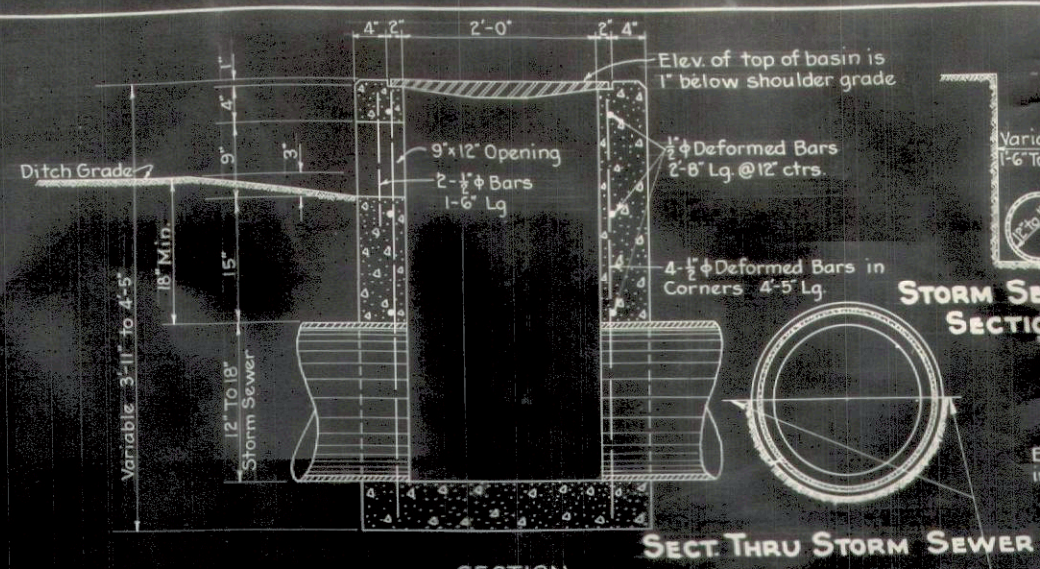
PLAN OF PIPE UNDERDRAIN (CUT SECTION)



PLAN OF PIPE UNDERDRAIN (FILL SECTION)

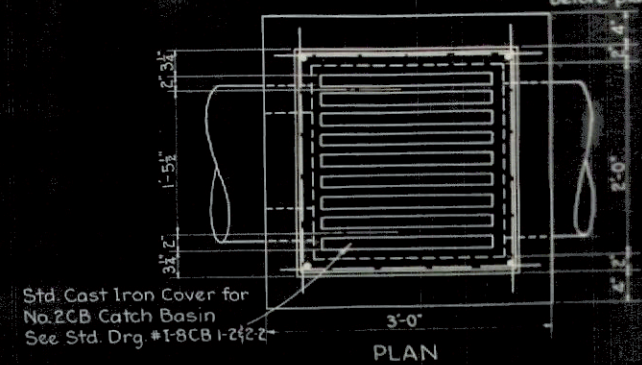


DETAIL OF REINFORCED PAVEMENT
PLAN 11'2" to 11'8"
SECTION
#4 Bars 26'-6" Lg @ 6' ctrs. #5 Bars 11'-0" Lg @ 2'-0" ctrs.
ITEM T-71
Sta 37+07.95 to Sta 37+34.75



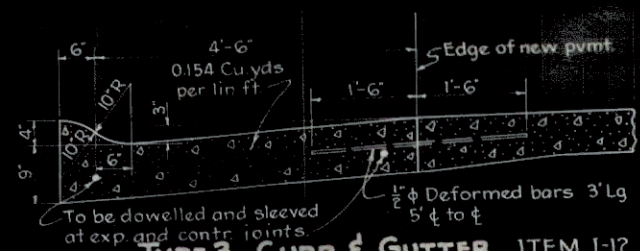
SECTION
SECT THRU STORM SEWER

Backfill for lower 1/2 of pipe shall be thoroughly tamped & approved before placing balance of backfill.



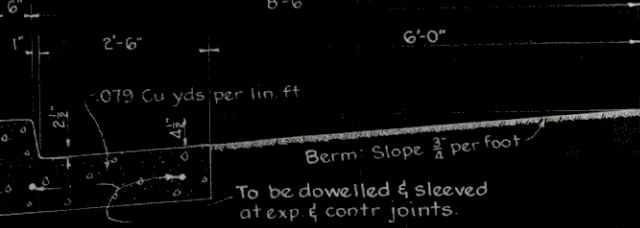
Std. Cast Iron Cover for No. 2CB Catch Basin See Std. Drg #1-8CB-1-2422

SPECIAL CATCH BASIN



TYPE 3 CURB & GUTTER ITEM I-12

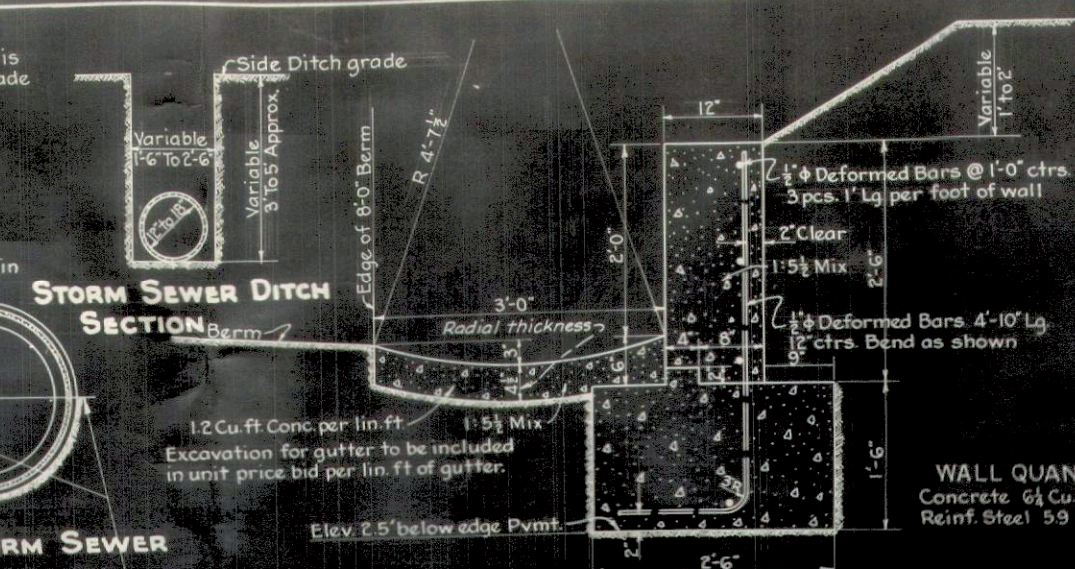
Sta 0-30 to Sta 0+00 LEFT
Sta 0+00 to Sta 3+00 LEFT
Sta 11+50 to Sta 15+60 LEFT



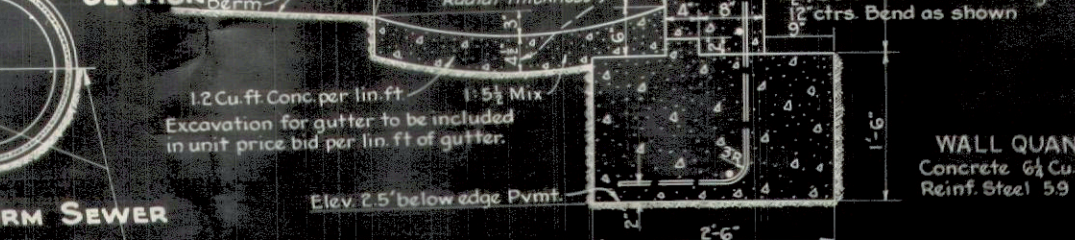
TYPE 1 CURB & GUTTER ITEM I-12

Sta 55+75 to Sta 57+97 Left
Sta 250+61 to Sta 252+50 Left
Sta 333+12 to Sta 336+21 Right

NOTE:
Both No. 1 & No. 2 Curb and Gutter shall have Exp. & Contr. joints and same shall align with joints in new 9'-7"-9" Concrete Pavement.

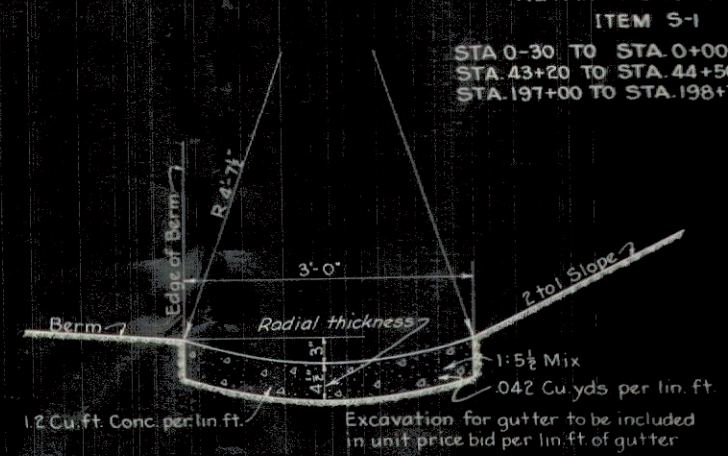


STORM SEWER DITCH SECTION



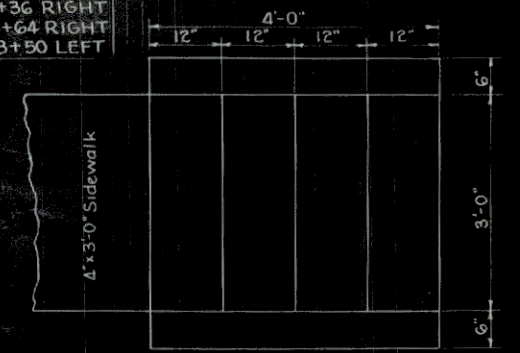
DETAIL OF 3'-0 GUTTER WHERE USED WITH RETAINING WALL

ITEM S-1
Sta 0-30 to Sta 0+00 LEFT
Sta 43+20 to Sta 44+50 LEFT
Sta 197+00 to Sta 198+74 RIGHT



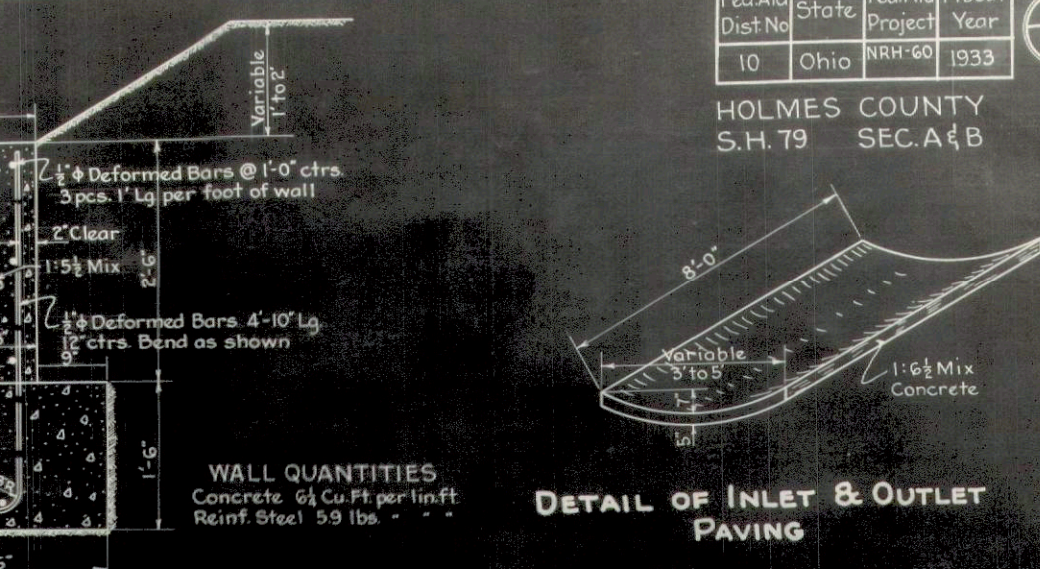
DETAIL OF 3'-0 GUTTER PAVEMENT

ITEM I-14
Sta 43+20 to Sta 44+50 LEFT
Sta 53+33 to Sta 54+00 LEFT
Sta 185+50 to Sta 187+36 RIGHT
Sta 196+80 to Sta 198+64 RIGHT
Sta 277+36 to Sta 278+50 LEFT

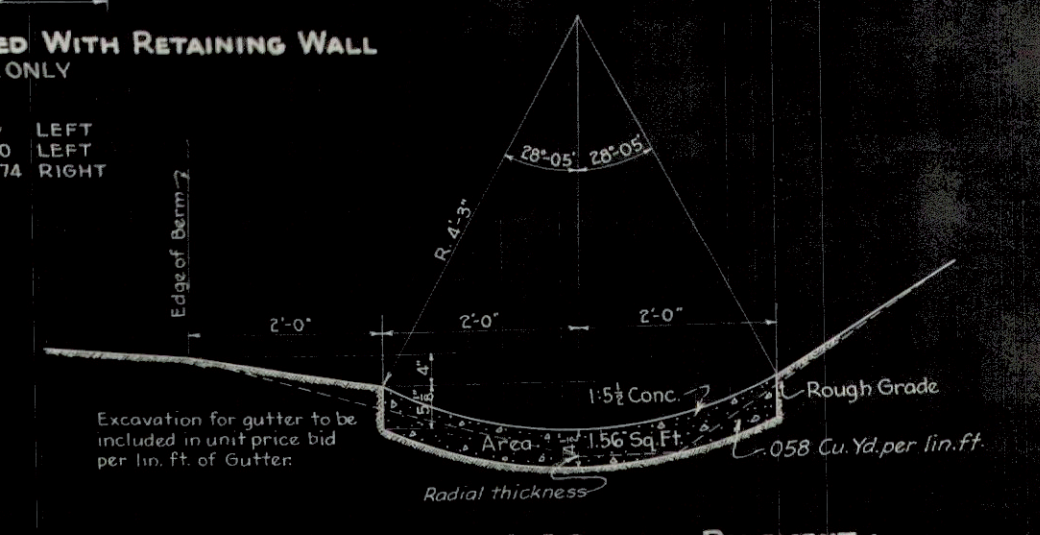


DETAIL OF CONCRETE STEPS

Steel shall be included in unit price bid per lin. ft. of concrete steps.
Sta. 0+00
Lin. Ft. of steps are determined by the number of steps multiplied by the width in feet. ie 4x4=16 lin. ft.

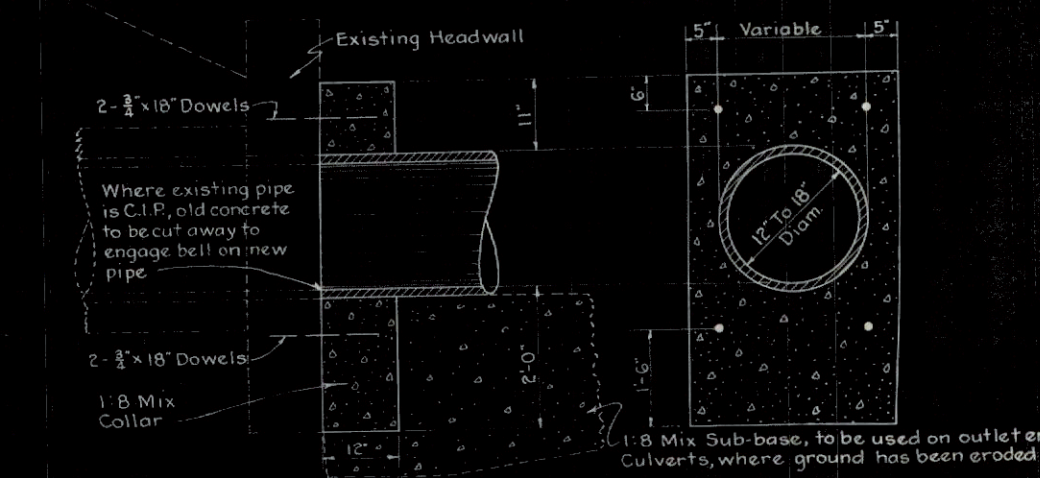


DETAIL OF INLET & OUTLET PAVING



DETAIL OF 4'-0 GUTTER PAVEMENT

ITEM I-14
Sta. 23+50 to Sta. 25+08 LEFT
Sta. 23+50 to Sta. 25+08 RIGHT
Sta. 42+82 to Sta. 43+20 LEFT
Sta. 50+34 to Sta. 53+34 LEFT
Sta. 231+50 to Sta. 234+50 RIGHT
Sta. 231+50 to Sta. 237+16 LEFT
Sta. 234+52 to Sta. 237+40 RIGHT
Sta. 260+03 to Sta. 265+30 LEFT
Sta. 260+92 to Sta. 264+85 LEFT
Sta. 298+80 to Sta. 299+90 LEFT

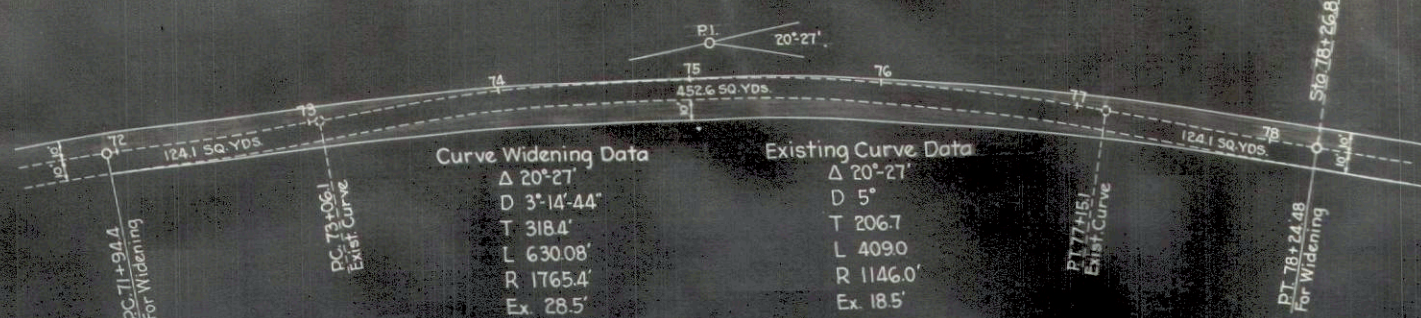


DETAIL OF CULVERT EXTENSION CONNECTION

To be used on each end for all culverts.

DETAILS SHOWING SPECIAL CURVE WIDENINGS

Note: Shaded area indicates proposed new widening



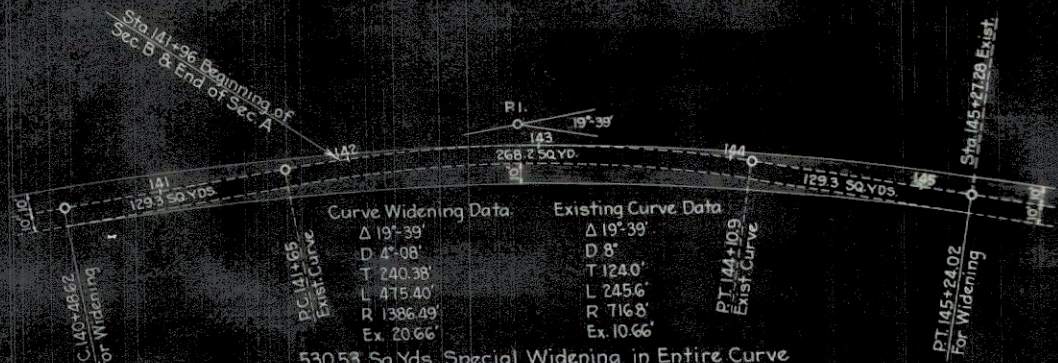
Curve Widening Data	Existing Curve Data
Δ 20°-27'	Δ 20°-27'
D 3°-14'-44"	D 5'
T 318.4'	T 206.7'
L 630.08'	L 409.0'
R 1765.4'	R 1146.0'
Ex. 28.5'	Ex. 18.5'

699.4 Sq.Yds. Special Widening

Method of Calculating Area

Assume that there is new 20' Pmnt from 71+94.4 to 78+26.8.
Length = 630.08' Width 20' Area = 1400.2 Sq.Yds.
Now Subtract area of existing concrete from this total
124.1 + 452.6 + 124.1 = 700.8; 1400.2 - 700.8 = 699.4 Sq.Yds.

STA. 71+94.4 TO STA. 78+26.8



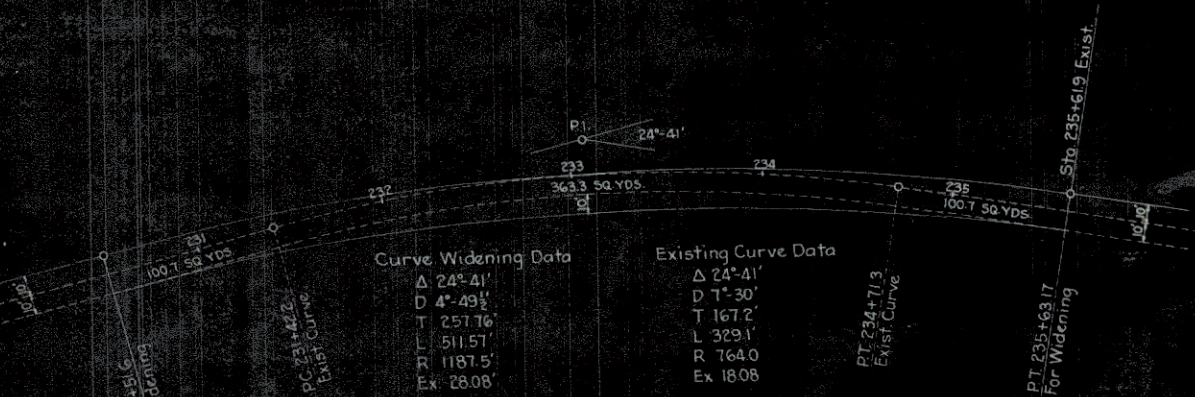
Curve Widening Data	Existing Curve Data
Δ 19°-39'	Δ 19°-39'
D 4°-08'	D 8'
T 240.38'	T 124.0'
L 475.40'	L 245.6'
R 1386.49'	R 716.8'
Ex. 20.66'	Ex. 10.66'

530.53 Sq.Yds. Special Widening in Entire Curve
163.4 Sq.Yds. in Sec.A; 367.13 Sq.Yds. in Sec.B

Calculation

Length of new curve 475.40'; Assume Width 20'; Area = 1056.3 Sq.Yds.
Areas of existing 10' Pmnt = 129.3 + 268.2 + 129.3 = 926.8; 1056.3 - 926.8 = 530.53 Sq.Yds.
By interpolation Sec.A contains 187 lin.ft of Widening so 187/475.4 = 530.53
163.4 Sq.Yds. in Sec.A; 530.53 - 163.4 = 367.13 Sq.Yds. in Sec.B

STA. 140+48.62 TO STA. 145+27.28



Curve Widening Data	Existing Curve Data
Δ 24°-41'	Δ 24°-41'
D 4°-49 1/2"	D 7°-30'
T 257.16'	T 167.2'
L 511.57'	L 329.1'
R 1187.5'	R 764.0'
Ex. 28.08'	Ex. 18.08'

572.12 Sq.Yds. Special Widening

Method of Calculation same as above.

STA. 230+51.6 TO STA. 235+63.17

METHOD OF CALCULATING EXCAVATION QUANTITIES

SECTION "A"

Actual cross sections have been taken from Sta. 0+00 to Sta. 28+00 and from Sta. 64+50 to Sta. 141+96. So the following quantities shown between these points are actually the calculated quantities. But from Sta. 28+00 to Sta. 64+50 no sections have yet been taken. Therefore the quantities between these points are only approximate and were obtained by averaging the quantities between Sta. 64+50 and Sta. 141+96 and applying this average between Sta. 28+00 to Sta. 64+50. No attempt was made to establish balance points. The borrow quantities were calculated by adding 25% to the embankment quantities and subtracting excavation quantities plus trench excavation.

Sta. to	Sta.	Excav.	Emb. + 25%	Borrow
0+00	28+00	1389 cu yds.	2022 Cu.Yds.	633 Cu.Yds.
28+00	64+50	2112 " "	3702 Cu.Yds.	1590 Cu.Yds.
64+50	141+96	4483 " "	7696 Cu.Yds.	3213 Cu.Yds.
	Total	7984 " "	13,420 Cu.Yds.	5436 Cu.Yds.
	Add 10% for Contingencies	798 " "	1,342 Cu.Yds.	544 Cu.Yds.
	TOTAL	8782 Cu.Yds.	14,762 Cu.Yds.	5980 Cu.Yds.

NOTE:
Payment shall be made only for actual quantities as determined from cross sections taken before and after construction. (Sec. A & Sec. B)

SECTION "B"

The same procedure was followed in determining quantities for Sec. B as was used for Sec. A. Actual cross sections have been taken from Sta. 141+96 to Sta. 208+00 and from Sta. 208+00 to Sta. 260+50, while the quantities between Sta. 260+50 and Sta. 336+00 were estimated from average conditions between Sta. 208+00 and Sta. 260+50.

Sta. to	Sta.	Excav.	Emb. + 25%	Borrow
141+96	208+00	3380 Cu.Yds.	6051 Cu.Yds.	2671 Cu.Yds.
208+00	260+50	5598 " "	6775 Cu.Yds.	1177 Cu.Yds.
260+50	336+00	3864 " "	7209 Cu.Yds.	3345 Cu.Yds.
	Total	12842 " "	20,035 Cu.Yds.	7193 Cu.Yds.
	Add 10% for Contingencies	1284 " "	2,003 Cu.Yds.	719 Cu.Yds.
	TOTAL	14,126 Cu.Yds.	22,038 Cu.Yds.	7912 Cu.Yds.

SUMMARY OF QUANTITIES

Fed.Aid Dist.No.	State	Fed.Aid Project	Fiscal Year
10	Ohio	NRH-60	1933

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HOLMES COUNTY
S.H. 79 SEC. A

SUMMARY OF PRIVATE DRIVES AND ROAD APPROACHES

Station	Right or Left	Removals										Relay		Lay New Corr. L.P.			Aggregate Cu. Yd.	Headwalls			5" Paving 1-5 1/2 Conc Size S.Y.	Special Catch Basin	Remarks
		6"		8"		10"		12"		18"		10" From Sta.	12"	15"	24"	Concrete 1-5 1/2 Cu. Yd.		Removed Cu. Yd.	Reinf. Steel Lbs.				
		V.S.P.	Tile	Wood	V.S.P.	Corr.	Conc.	C.I.P.	V.S.P.	V.S.P.	Corr.									Conc.			
0+10	Lt.																						
0+95	Rt.																						
2+50	Lt.										20	0+10											
2+77	Lt.																						
5+15	Rt.																						
8+81	Lt.																						
10+19	Rt.																						
15+96	Rt.																						
15+96	Lt.											44									16+36 Rt.		
16+35	Lt.											110									15+58 Lt.		
17+39	Rt.																						
25+18	Lt.																						
28+70	Lt.																						
32+82	Rt.																						
35+08	Lt.																						
38+09	Lt.																						
41+24	Rt.																						
42+60	Lt.																						
44+97	Lt.																						
45+00	Rt.																						
48+00	Lt.																						
48+34	Lt.																						
49+68	Lt.																						
50+15	Rt.																						
50+10	Lt.																						
50+35	Rt.																				49+50 to 50+80		
53+50	Lt.	16																					
54+50	Lt.																						
54+83	Rt.																						
54+83	Lt.																						
56+40	Rt.																						
58+58	Lt.																						
58+80	Lt.																						
67+92	Lt.																						
68+17	Lt.																						
76+50	Rt.																						
76+50	Lt.																						
94+00	Rt.																						
104+20	Rt.																						
116+77	Rt.																						
117+00	Lt.																						
119+35.7	Rt.																						
119+35.7	Lt.																						
126+78	Lt.																						
129+20	Rt.																						
131+25	Rt.																						
136+24	Rt.																						
141+96	Rt.																						
141+96	Lt.																						
Totals		16	28	28	30	18	40	14	14	18	28	74	604	94	24	160	6.5	4.4	150	333	2		

4" & 8" PIPE UNDERDRAIN

Station	Angle with ϕ	Lineal Feet of 4" Pipe			8" Pipe Diagonally Across Rdway	Remarks
		Right	Left	Total		
7+32	45° Frd.		28	28		
9+71					70'	
9+90	90°	10	20	30		
25+09	45° Frd.	20	30	50		Connect to Catch Basin
27+41	45° Frd.	20		20		" " " "
28+51	45° Frd.		30	30		" " " "
31+01	45° Frd.		30	30		" " " "
32+81	45° Frd.	20		20		" " " "
37+00	90°	14	24	38		" " " "
38+00	90°	14	24	38		" " " "
40+60	45° Back	20	32	52		" " " "
45+03	45° Back		30	30		Connect to Catch Basin
50+33	45° Back		30	30		" " " "
61+00	90°	12	24	36		" " " "
61+25	90°	12	24	36		" " " "
61+50	90°	12	24	36		" " " "
61+75	90°	12	24	36		" " " "
62+00	90°	10	24	34		" " " "
62+25	90°	10	24	34		Connect to Underdrain T
62+50	90°	10	24	34		" " " "
62+75	90°	10	24	34		" " " "
63+00	90°	10	24	34		" " " "
63+25	90°	10	24	34		" " " "
63+50	90°	10	24	34		" " " "
63+75	90°	10	24	34		" " " "
64+00	90°	10	24	34		" " " "
64+50	90°	10	24	34		" " " "
65+00	90°	10	24	34		" " " "
68+26	45° Back	20	30	50		Connect Left Side to C.B.
76+60	45° Back	20	32	52		" " " "
96+00	90°	14	24	38		" " " "
96+25	90°	14	24	38		" " " "
96+50	90°	14	24	38		" " " "
96+75	90°	14	24	38		" " " "
97+00	90°	14	24	38		" " " "
105+75	90°	12	24	36		" " " "
106+00	90°	12	24	36		" " " "
106+25	90°	12	24	36		" " " "
114+75	90°	12	24	36		" " " "
115+00	90°	12	24	36		" " " "
115+25	90°	12	24	36		" " " "
125+36	45° Frd.		30	30		Connect to Catch Basin
128+50	45° Frd.		30	30		" " " "
131+00	90°		20	20		" " " "
132+00	90°		20	20		" " " "
132+50	90°	14	20	34		" " " "
135+00	45° Back		28	28		" " " "
140+00	45° Frd.		28	28		" " " "
141+25	90°	14		14		" " " "
141+25	45° Back		28	28		" " " "
141+50	45° Back		28	28		" " " "
141+50	90°	14		14		" " " "
Totals		500	1196	1696	70'	

SUMMARY OF QUANTITIES

ROADWAY CULVERTS 20' SPAN & UNDER

No.	Station	Existing Structure	Type	Size	Lin. Ft. Extension		Total Length in Feet	Excavation Unclass'd Cu. Yd.	Channel Excavath	Removals		Concrete Cu. Yd.			Rein. Steel Lbs.	Lin. Feet of Pipe				5' Outlet Paving 1-6 1/2 Conc. Sq. Yd.	Dowel Holes Lin. Ft.	Type RR-4 Railing Lin. Ft.	4" of 1-5 1/2 Conc. Wear Surface Sq. Yd.	1/4 Exp. Joint Filler Sq. Ft.	Pipe Specials		
					Right	Left				Existing Concrete Cu. Yd.	Railing, Curb, Wings Cu. Yd.	1-5 1/2	1-6 1/2	1-8		12"	15"	18"	21"								
1	10+00	Std. Encased V.S.P.	20"	6'	8	45	6		0.6		2.1		.66	73			14										
2	37+21.3	Std. Slab Bridge	14'-6"			27 Rd'wy	40	10		Lump Sum	3.4			711													
3	62+04.5	Std. Encased V.S.P.	12"	6	8	46.5	6				2.0		.40	83	12												
4	66+85.5	Std. Box Culvert	3'x2.5'	4	9	48.5	10		0.2		9.3			665	2										12"x6" T		
5	96+92	Std. Encased V.S.P.	15"	8	8	50.5	6				1.7		1.66	68	16							5.5	15				
6	106+18	Std. Encased V.S.P.	12"	6	10	52.5	9				2.97		.40	115	6	10						5	6				
7	115+05	Std. Encased V.S.P.	18"	6	8	45	8		0.5		2.7		.60	98								2.3	4.5				
8	132+66	Std. Encased V.S.P.	18"	8	6	49.25	8				2.7		.60	98			14										
9	140+97	Std. Encased V.S.P.	18"	8	8	49.25	6				2.7		2.50	98			14										
Totals							99	10	1.3	Lump Sum	29.57	5.5 Footer 12" T. Wings	6.82	2009	18	28	42	14	22.80	100.5	17.5	4.5	15		2		

RETAINING WALL

Station From	Station To	Right or Left	Remove Old Wall C.Y.	New Wall			Rein. Steel Lbs.	Remarks
				Lineal Feet	Exc. C.Y.	Conc. 1-5 1/2 C.Y.		
0-30	0+00	Left		30	12	6.95	177	Approach
43+20	44+50	Left		130	35	23.15	590	
Totals				160	47	30.10	767	

TYPE 3 CURB & GUTTER 5'-0"

Station From	Station To	Right or Left	Lin. Feet	Remarks
0+00	3+00	Left	300	
11+50	15+60	Left	410	Omit Curb 15+51 to 15+60
Totals			740	

SUMMARY OF STORM SEWERS

Station From	Station To	Right or Left	Removals				New Pipe Req'd Lineal Feet	New Headwalls			Pipe Specials	Outlet Paving Sq. Yds.	Special Catch Basin		Remove Existing Headwalls		Remarks			
			10'	12'	15'	6" 10"		Type	1-5 1/2 Conc. Crete C.Y.	Reinf. Steel Lbs.			No.	Station	Cu. Yd.	Station				
			1+32	3+07	Left	175														
7+20	7+32	Left			12		Std. Side Rd.	1.30	30											
16+23	17+74	Right		151																
16+37.5	17+19.5	Right			82									1	17+19.5					
17+21.5	17+73.5	Right			52															
25+10	27+40	Right				230								2	25+09 & 27+41					
27+42	29+80	Right				238								1	29+81					
29+82	32+70	Right				288								1	32+71					
25+10	28+50	Left				340								2	25+09 & 28+51					
28+52	31+00	Left				248								1	31+01					
31+02	32+80	Left				178								1	32+81					
32+82	34+78	Left				196								1	34+79					
34+80	35+50	Left				70	Side Rd. Hdwl.	1.65	35		4.5									
32+72	35+50	Right				278	Side Rd. Hdwl.	1.65	35		4.5									
40+60	41+36	Right				76	Side Rd. Hdwl.	1.30	30		3.5									
41+38	43+28	Right				190														
43+30	45+10	Right				190														
41+16	41+36	Right	20'									12"x10" Y			45+11	0.5	45+03			
41+30	42+44	Left				114	Side Rd. Hdwl.	1.45	33		3.5					0.5	41+16	Connect existing V.S.P. to new V.S.P. with Special		
42+36	42+44	Left															42+36			
42+82	42+84	Left															42+83			
45+04	45+08	Left										15x15x6x6 Cross					45+05	0.5	45+03	
45+06	46+70	Left				164											46+71			
46+72	48+44	Left				72						2-15x15x6 T					48+45			
48+46	50+32	Left				186						15x15x6 T					50+33			
58+00	58+46	Left																	Connect drain from house to V.S.P. with Special. Connect 1/2 of 50+33 to drain. See Pipe side Under-drain.	
58+48	60+88	Left				240	Side Rd Hdwl	1.30	30		3.5						58+47			
66+89	68+25	Left				126	Std. C.I.P. Hdwl	0.75	23								68+26			
67+23	68+13	Left	90'																	
116+50	116+80	Left				30														
116+63	116+80	Left																		
125+36	126+70	Left				134														
128+50	130+50	Left				200														
130+32	132+62	Left				230	Std. C.I.P. Hdwl	0.65	20											
Totals							20	265	14	17	151	1436	2184	544	10.05	236	5	195	23	2.0

TYPE I CURB & GUTTER 3'-0"

Station From	Station To	Right or Left	Lin. Feet	Special Turnout	Remarks
Totals			222	1	

3 FT. GUTTER PAVEMENT

Station From	Station To	Right or Left	Lin. Feet	Remarks
53+33	54+00	Left	67	
Totals			197	

4 FT. GUTTER PAVEMENT

Station From	Station To	Right or Left	Lin. Feet	Remarks
23+50	25+08	Left	158	" " " "
42+82	43+20	Left	38	" " " "
50+34	53+34	Left	300	" " " "
Totals			654	

SUMMARY OF 6" PIPE UNDERDRAIN

Station From	Station To	Right or Left	New Pipe Req'd		Headwalls		Pipe Specials 6"x4" Ts	Remarks
			Type	Lin. Ft.	Type	Station		
24+34	25+08	Rt+Lt	Pipe	78				Connect to Inlet 25+09
50+34	53+34	Left	"	300				" " " " 50+33
58+00	58+46	Left	"	46				" " " " 58+47
62+00	65+00	Right	"	300				
132+70	140+97	Left	"	827	1-Std. C.I.P.	132+70 to 140+97	10	Connect to Tee in Culv.
Totals				1625				

SUMMARY OF QUANTITIES

SUMMARY OF 9'-7'-9" PAVEMENT TYPE "C"

Station From	Station To	Right or Left of	Lineal Feet	Width (ft)	Square Yards	Widening Sq Yds.	Remarks
0+34	0+00					13.2	3 1/2' x 34' approach
0+00	9+58	Left	958	10	1064.4		
9+58	9+78	Right	20	10	22.2		
9+58	9+78	Left	20	10	22.2		
9+78	24+08	Left	1430	10	1588.9		
24+08	25+50	Right	142	10	157.8		Old concr. removed
24+08	25+50	Left	142	10	157.8		
25+50	31+37	Left	587	10	652.2		
31+37	37+07.95	Left	570.95	10	634.4	105.7	
37+07.95	37+34.75		0		0		Reinf. Pvmt over bridge
37+34.75	38+37	Left	102.25	10	113.6	4.4	
38+37	80+65.3	Left	4228.3	10	4698.1		
80+65.3	85+73.85	Left	508.55	10	565.1	79.1	
85+73.85	139+99.5	Left	5425.65	10	6028.5		
139+99.5	141+96	Right	196.5	10	218.3		Old concr. removed
139+99.5	141+96	Left	196.5	10	218.3		
Totals			14,527.7		16,141.8	202.4	

SUMMARY OF REINFORCED CONCRETE PAVEM'T.

Station From	Station To	Right or Left of	Lineal Feet	Width (feet)	Square Yards	Remarks
37+07.95	37+34.75	Left	268	112 to 118	34.3	Width variable due to being on 5" Curve
Totals			268		34.3	

REMOVAL OF EXISTING PAVEMENT

Station From	Station To	Lineal Feet	Width (feet)	Thick-ness	Square Yards	Type	Remarks
9+58	9+78	20	10	8"	22.2	Concrete	
24+08	25+50	142	10	8"	157.8		
139+99.5	141+96	196.5	10	8"	218.3		
Totals			358.5		398.3		

CONCRETE SIDEWALK & STEPS

Station From	Station To	Lineal Feet	Width (feet)	Thick-ness	Square Feet	Concr. Steps Lin. Ft.	Remarks
0-15	0-05	10	3	4"	30	16	See Detail for steps
Totals			10		30	16	

REMOVAL OF GUARD RAIL

Station From	Station To	Right or Left	Remove Lin. Ft.
35+23	37+13	Right	190
37+30	38+00	Left	70
38+16	42+38	Left	422
39+15	40+13	Left	98
83+68	86+48	Left	280
139+50	141+50	Right	200
Totals			1260

PAVEMENT CALCULATIONS

Beginning of project Sta. 0+00
 End of project Sta. 141+96
 Gross length of project ----- 14,196 lin.ft.
 Additions due to new 10' pvm't replacing disintegrated concrete
 Sta. 9+58 to 9+78 20 lin.ft.
 Sta. 24+08 to 25+50 142 lin.ft.
 Sta. 139+99.5 to 141+96 196.5 lin.ft.
 Gross length of pavement ----- 14,545 lin.ft.
 Deductions (Reinforced concrete pavement)
 Sta. 37+07.95 to Sta. 37+34.75 26.8 lin.ft.
 Net length of pavement ----- 14,527.7 lin.ft.
 Area of 10' wide concrete pavement $14,527.7 \times 10$ ----- 16,141.88 sq. yds.
 Widening of curves
 Sta. 0-34 to 0+00 2.5' x 34' (Approach) 13.2 sq. yds.
 Sta. 31+37 to 37+07.95 (5') 105.7
 Sta. 37+34.75 to 38+37 (5') 4.4
 Sta. 80+65.3 to 85+73.85 (7') 79.1
 Total additions ----- 202.4
 Total Area of 9'-7'-9" pavement ----- 16,344.28 sq. yds.
 Reinforced concrete pavement
 Sta. 37+07.95 to 37+34.75 ----- 26.8 lin.ft.
 Area of reinforced pavement 26.8×10 ----- 29.77 sq. yds.
 Widening ----- 4.56 sq. yds.
 Total area 8' reinforced pavement ----- 34.3 sq. yds.

FINISHING SHOULDERS, SLOPES & DITCHES

Net length of project ----- 14,196 lin.ft.
 Deductions
 Bridge 37+29.75 to 37+29.75 168 lin.ft.
 Total deductions ----- 168 lin.ft.
 Net length finishing shoulders, slopes & ditches (Both sides) ----- 14,179.2 lin.ft.

EXCAVATION & BORROW

Station From	Station To	Excav. Cu Yds.	Borrow Cu Yds.	Remarks
0+00	28+00	1389	633	See sheet #4
28+00	64+50	2112	1590	
64+50	141+96	4483	3213	
Totals		7984	5436	
Add 10% for Contingencies		798	544	
Totals		8782	5980	

P.T. + 100' = Sta. 38+37
 End of Reinf. Pvm't = 37+34.75
 Begin. " " = 37+07.95
 38+37 - 37+07.95 = 102.25
 From Std. Drg. # 116-20 for 5" Curve
 102.25 - 1.21' Widening
 = 1.41' "
 128.05 - 1.81' "
 $\frac{121 + 121}{2} \times 7.75 = 10.15$
 $\frac{121 + 121}{2} \times 10 = 15.25$
 $\frac{121 + 121}{2} \times 9.05 = 15.61$
 41.01
 9 4.56 Sq. Yds.

GENERAL SUMMARY FOR SEC. "A"

ITEM	ROADWAY	AMOUNT
E-1	Roadway Excavation	8782 Cu.Yds.
E-2	Retaining Wall excavation & backfill	47 Cu.Yds.
E-4	Borrow	5980 Cu.Yds.
Spec.	Trenching 9'x7'x9" Pavement	14179.2 Lin.Ft.
E-5	Finishing shoulders, slopes & ditches (Both sides)	14179.2 Lin.Ft.
E-8	Removal of existing concrete pavement 8" thick	398.3 Sq.Yds.
T-70	5" Concrete Pavement for Private Drive	33.3 Sq.Yds.
E-9	Removal of trees	37 Each.
S-22	Removal of existing concrete headwalls (Storm Sewers and Side Road Approaches)	6.4 Cu.Yds.
I-15	Removal of guard rail	1260 Lin.Ft.
I-6	Removal of private drive and road approach pipes 6" to 18"	308 Lin.Ft.
I-6	Removal of V.S.P. Storm Sewer 6" to 15"	46.7 Lin.Ft.
I-6	Relay 10" C.I.P. at private drives and road approaches	74 Lin.Ft.
I-1	12" Corr. I.P. for private drives and road approaches	60.4 Lin.Ft.
I-1	15" " " " " " "	9.4 Lin.Ft.
I-1	24" " " " " " "	2.4 Lin.Ft.
I-4	4" Pipe Underdrain	16.96 Lin.Ft.
I-4	6" Pipe Underdrain	162.5 Lin.Ft.
I-4	8" Pipe Underdrain	70 Lin.Ft.
I-5	Pipe special 6"x6"x4" Tee	10 Each.
I-2	12" New pipe for storm sewer	143.6 Lin.Ft.
I-2	15" " " " " " "	218.4 Lin.Ft.
I-2	18" " " " " " "	54.4 Lin.Ft.
I-5	Pipe special 12"x12"x10" Y	1 Each.
I-5	" " 15"x15"x6"x6" Double Tee	1 Each.
I-5	" " 15"x15"x6" Tee	3 Each.
I-8	Special catch basin (cast iron cover) No. 2	25 Each.
I-12	Spec. Type 3 curb and gutter 5' wide 1:5 1/2 mix	740 Lin.Ft.
I-12	Spec. Type 1 curb and gutter 3' wide 1:5 1/2 mix	222 Lin.Ft.
I-12	Special Gutter Turnout	1 Each.
I-13	Sidewalk (including excavation and backfill) 4" thick	30 Sq.Ft.
I-14	3'-0" Concrete gutter pavement 1-5 1/2 mix	191 Lin.Ft.
I-14	4'-0" " " " 1-5 1/2 mix	65.4 Lin.Ft.
I-17	Aggregate for side road approaches	160 Cu.Yds.
S-15 Spec	Outlet paving 5" thick (1:6 mix)	19.5 Sq.Yds.
S-1	Concrete Steps as per detail (sheet #3)	16 Lin.Ft.
S-1	Concrete 1:5 1/2 for headwalls	17.2 Cu.Yds.
S-1	Concrete 1:5 1/2 for retaining walls	30.1 Cu.Yds.
S-4	Reinforcing steel	1173 Lbs.
PAVEMENT		
T-70	9'x7'x9" Concrete pavement	16344.2 Sq.Yds.
T-71	Reinforced Concrete Pavement (as per detail Sheet 3)	34.3 Sq.Yds.
ROADWAY CULVERTS 20' SPAN & UNDER		
E-2	Structure excavation	99 Cu.Yds.
S-22	Removing existing concrete headwalls	13 Cu.Yds.
S-24	Removing part of existing bridge	Lump Sum
E-3	Channel excavation	10 Cu.Yds.
S-1	Concrete 1:5 headwalls	29.6 Cu.Yds.
S-1	Concrete 1:6 walls	12.7 Cu.Yds.
S-1	Concrete 1:6 footers	5.5 Cu.Yds.
S-4	Reinforcing steel	2009 Lbs.
S-5	Type RR-4 concrete railing	17.5 Lin.Ft.
S-9	4" Premolded expansion joint filler	15 Sq.Ft.
S-23	Dowel holes	100.5 Lin.Ft.
S-27	12" Pipe for Roadway Culverts	18 Lin.Ft.
S-27	15" " " " " " "	28 Lin.Ft.
S-27	18" " " " " " "	42 Lin.Ft.
S-27	21" " " " " " "	14 Lin.Ft.
I-5	Pipe special 12"x12"x6" Tee	1 Each.
I-5	Pipe special 18"x18"x6" Tee	1 Each.
T-70	Outlet paving 5" thick	22.8 Sq.Yds.
T-70	Wearing surface 4 1/2" thick	4.5 Sq.Yds.
S-1	Concrete for Collars & Sub-base 1:8 Mix	6.8 Cu.Yds.

SUMMARY OF QUANTITIES

Fed.Aid Dist.No.	State	Fed.Aid Project	Fiscal Year
10	Ohio	NRH-60	1933



HOLMES COUNTY
S.H. 79 SEC. B

SUMMARY OF PRIVATE DRIVES AND ROAD APPROACHES

Station	Right or Left	Removals ~ Lineal Feet										Relay		Lay New 12" Corr. L.P. Lin. Ft.	Aggregate Cu. Yd.	Headwalls			Special Catch Basin	Remarks		
		6"		8"		10"		12"		18"		12" C.I.P.	18" C.I.P.			Concrete Removed Cu. Yd.	Concrete 1-5 1/2" Cu. Yd.	Reinf. Steel Lbs.				
		Tile	Wood	Tile	V.S.P.	C.I.P.	V.S.P.	C.I.P.	Wood	V.S.P.	C.I.P.	L.F.	From Sta.	L.F.	From Sta.							
152+24	Rt.													18	2							
155+91	Rt.													2	2							
159+50	Lt.													24	2							
172+64	Rt.													8	8							Road
173+69	Lt.	16												18	2							
180+40	Lt.													18	2							
183+18	Lt.						42				42	183+18		12	8	2.0	2.6	60				Road
185+30	Rt.													2	2							
186+26	Lt.													18	2							
187+42	Rt.	16												18	2							
188+72.5	Lt.													6	6							Road
196+30	Lt.			14										18	2							
198+08	Lt.	40												18	2							
198+92	Lt.			12										2	2							
199+00	Lt.			16										2	2							
199+10	Lt.			12										2	2							
199+80	Rt.				50									48	2					199+73	199+74 to 200+22	
200+40	Rt.				74									50	4					200+23	200+24 to 200+74	
201+40	Lt.													18	2							
208+00	Lt.													18	2							
211+22	Lt.													18	2							
212+16	Rt.													2	2					211+32		
212+25	Lt.													2	2							
217+12	Rt.									12				24	2							
218+16	Rt.									28	217+12	218+16		2	2							
221+23	Lt.													2	2							
222+00	Rt.													18	2							
231+35	Lt.													2	2							
241+68.6	Lt.													12	2							Road
241+83.2	Rt.													12	2							Road
244+15	Rt.										12	253+81		2	2							
248+96	Lt.			24	16									42	2							248+86 to 249+28
249+58	Lt.			26	16									42	2					249+71	249+28 to 249+70	
250+42	Rt.													2	2							
250+46	Lt.					8	16				16	250+46		10	3							250+34 to 250+60
252+10	Rt.													2	2							
253+81	Lt.									16				24	2							
254+45	Rt.													2	2							
259+95	Lt.													2	2							
260+84	Rt.		14											18	2							
265+00	Rt.													18	2							
265+55	Lt.		14											24	2							
268+85	Rt.									36		268+85		6	6							
277+50	Lt.	16												64	2							Road
278+00	Rt.	20												90	5							277+36 to 278+00
278+20	Lt.	16												50	2					278+37	277+46.7 to 278+36	
281+70	Lt.		18											18	2					278+51	278+00 to 278+50	
285+17	Lt.		18											18	2							
285+84	Rt.		14											18	2							
294+94	Lt.													12	2							
295+97	Rt.													2	2							Road
296+40	Rt.													4	4							
297+40	Rt.													4	4							
298+63	Lt.		16											2	2							
303+05	Lt.													2	2							
305+90	Lt.													6	6							
308+93	Lt.			16										20	2							Lane
314+00	Rt.													10	10							Road
316+86	Lt.									24				24	2							
327+32	Lt.													18	2							
327+60	Rt.													2	2							
328+58	Lt.													18	2							
329+54	Rt.													2	2							
329+73	Rt.													2	2							
Approach	Rt.													20	2	0.3	0.7	75				336+21 to 336+41
Totals		124	64	84	174	48	32	122	14		16	122		892	202	2.3	3.3	135	6			

4" PIPE UNDERDRAIN

Station	Angle with ±		Lineal Feet of 4" Pipe			Connects To			Remarks
	Back	Frd.	Right	Left	Total	6" Under-drain	12" Storm Sewer	Catch Basin	
153+00		45°	16	30	46				
153+50		90°	12	22	34				
154+00	45°		16	30	46	160+40			
160+40		90°	10	22	32	160+40			T Right
160+65		90°	12	22	34		160+65		T Left
172+40		90°		22	22				
172+65		90°		22	22				
178+75		90°	12	22	34				
179+00		90°	12	22	34				
189+50		90°	12	22	34				
189+75		90°	12	22	34				
195+00	45°		16	30	46				
206+25		90°	12	22	34				
206+50		90°	12	22	34				
206+90		90°	12	22	34				
220+50		45°		30	30				
220+80		90°	12		12		220+80		T Right
225+00		45°		30	30				
227+50		45°		30	30				
231+00		45°		30	30				
234+00		45°		28	28	234+20			Y Left
234+00		45°	16		16				
234+25		45°		28	28	234+45			Y Left
234+25		45°	16		16			234+47	Right
234+50		45°		28	28	234+70			Y Left
234+50		45°	16		16	234+70	234+72		Y Right
234+75		45°		28	28	234+95		234+97	Y Left
235+00		45°	16		16	235+20			Y Right
235+00		45°		28	28	235+20	235+22		Y Left
235+25		45°		28	28	235+45			Y Right
235+25		45°	16		16	235+45		235+47	Y Left
235+50		45°		28	28	235+70			Y Right
235+50		45°	16		16	235+70		235+72	Y Left
235+75		45°		28	28	235+95			Y Right
235+75		45°	16		16	235+95		235+97	Y Left
236+00		45°		28	28	236+20			Y Right
236+00		45°	16		16	236+20		236+22	Y Left
242+50		45°	16	30	46				Y Right
243+50		90°	12	22	34				
244+00		90°	12	22	34				
246+00	45°		16	30	46		245+78		Y Right
247+00	45°		16		16		247+50		Right
247+00	45°			30	30				
252+52	45°		16		16				
252+73	45°			30	30			252+30	Right
257+50	45°		16		16			252+51	Left
263+70	45°			28	28	263+50			Y Left
272+30		90°	12	22	34				
272+60		90°	12	22	34				
283+00	45°			30	30				
286+00	45°		16	30	46				
289+00	45°		16	30	46				
294+35	45°		16	30	46				

FED.AID DIST. No.	STATE	FED.AID PROJECT	FISCAL YEAR
10	OHIO	NRH-60	1933

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HOLMES COUNTY
S.H.79 SEC. "B"

SUMMARY OF QUANTITIES

ROADWAY CULVERTS 20' SPAN & UNDER

No.	Station	Existing Structure		Lin.Ft. Extension		Total Length in Feet	Excav. Unclassified Cu. Yd.	Removal Existing Concrete Cu. Yd.	Concrete Cu. Yd.			Reinf. Steel Lbs.	Lin. Ft. of Pipe				1-6" Conc. Pav. Inlet Outlet 5" Thick 5" Thick Sq. Yds. Sq. Yds.		Dowel Holes Lin. Ft.	Water-proofing Type "B" Sq. Yds.	Remarks				
		Type	Size	Right	Left				1-5 1/2	1-6 1/2	1-8		12"	14"	16"	18"	5"	5"							
1	153+59	Std Solid C.I. Pipe	14"	8	8	48.5	5		1.5		.44	63										Std. H.W. Drwg. 5-27-PC1-2			
2	160+50	Std Solid C.I. Pipe	18"	8	10	48	8		1.9		.60	68													
3	172+50	Std Solid C.I. Pipe	12"	4	10	50.5	6	0.3	1.3		.40	58	14												
4	178+40	Std Solid C.I. Pipe	16"	6	8	46.8	6	0.4	1.7		.86	68			14		2.5								
5	189+33.5	Std Solid C.I. Pipe	18"	4	8	45	5	0.2	1.9		.60	68													
6	206+68	Std Solid C.I. Pipe	18"	6	8	46	3		1.9		1.40	68					3.3								
7	220+87	Std Solid C.I. Pipe	14"	6	8	50.5	8	1.2	2.8		.84	58			14		1.2	4.5				Std. Hillside Culvert Drwg. 5-27-PC1-2			
8	227+68	Std Solid C.I. Pipe	16"	6	16	62.5	8	1.0	4.2		.46	136			6	16	1.2	4.5	8.25			Spec. Basin & Std. Hillside Culvert, 5-27-PC1-2			
9	231+03	Std Solid C.I. Pipe	14"	6	8	50.3	7	1.3	2.8		.44	58	14				1.2					Std. Hillside Culvert Drwg. 5-27-PC1-2			
10	237+30	Std Solid C.I. Pipe	18"	6	6	49.3	13	1.3	3.0		.60	63					1.2								
11	242+76	Std Concrete Arch	10'	4	4	85.5	50	2.0	5.8	21.5		799					3	73	10			Build 4' Slab Extension Rt. & Lt.			
12	254+70	Std Solid C.I. Pipe	12"	8	6	50	14	1.0	3.6		.40	89	14				2.5					Lt. Std. H.S. Culv. - Rt. Spec. H.W. & Inlet			
13	257+07	Std Solid C.I. Pipe	14"	6	10	56	7		2.8		.74	58			16		3	3				Std. Hillside Culvert Drwg. 5-27-PC1-2			
14	260+00	Std Solid C.I. Pipe	14"	6	0	50	2	0.2	1.0		.94	28			6		3	3				Std. H.W. Outlet End H.S. Culvert			
15	294+73.5	Std Solid C.I. Pipe	14"	6	4	50	3	0.5	2.2		.44	73			10							Std. Side Road Headwalls			
16	298+15	Std Solid C.I. Pipe	14"	6	8	50	6		1.5		.44	63			14							Std. H.W. Drwg. 5-27-PC1-2			
17	309+22	Std Solid C.I. Pipe	18"	8	8	48	5		1.9		1.10	68					4								
18	322+26	Std Solid C.I. Pipe	12"	6	10	46.6	4		1.3		.40	58	16												
Totals							160	94	43.1	21.5	11.10	1944	58	76	20	88	8.5	27.8	174.25	10					

TYPE I CURB & GUTTER 3 Ft.

Station		Right or Left	Lin. Ft.	Special Turnout	Remarks
250+61	252+50	Lt.	189	1	
333+12	336+21	Rt.	309	1	
Totals			498	2	

4 Ft. GUTTER PAVEMENT

Station		Right or Left	Lin. Ft.	Remarks
231+50	234+50	Rt.	300	See Detail Sheet No. 3
231+50	237+16	Lt.	566	
234+52	237+40	Rt.	288	
260+03	265+30	Lt.	527	
260+92	264+85	Rt.	393	
298+80	299+90	Lt.	110	
Totals			2184	

6" PIPE UNDER DRAIN

Station	Right or Left	New Pipe Req'd	Headwalls			Pipe	Remarks		
			Type	Station	Conc. 1-5 1/2 Cu. Yd.				
156+00	160+50	Rt. Pipe	450	1-Std C.I.P.	160+50	0.65	20	1-6" 4" T	Tee at Sta. 160+40
185+50	187+36	Rt.	186						
228+50	230+92	Rt.	242	1-Std C.I.P.	230+92	0.65	20	1-6" 6" Y	Y at Sta. 229+85
228+85	229+85	Rt.	100						Thru Break in Hillside
231+00	234+46	Rt.	346						Connect to C.B. at 234+47
234+47	45" Back	Rt.	100						Connect to C.B. at 234+47
234+20	237+16	Lt.	296	1-Std C.I.P.	237+16	0.65	20	9-6" 4" Y	
254+76	256+90	Lt.	214						
260+03	264+03	Lt.	400	1-Std C.I.P.	260+03	0.65	20	1-6" 4" Y	Y at Sta. 263+50
Totals			2334			2.60	80	12	

3 Ft. GUTTER PAVEMENT

Station		Right or Left	Lineal Feet	Remarks
185+50	187+36	Rt.	186	See Detail Sheet No. 3
196+80	198+64	Rt.	184	
277+36	278+50	Lt.	114	
Total			484	

REMOVAL OF EXISTING PAVEMENT

Station		Lineal Feet	Width Feet	Thickness	Square Yards	Type	Remarks
207+26	209+35	209	10	8"	232.2	Conc.	
240+52	243+297	2777	10	8"	308.6		
Totals		4867			540.8		

RETAINING WALL

Station		Right or Left	Lin. Ft.	Remove Existing Wall	Reinf. Steel Lbs.	Concrete 1-5 1/2 Cu. Yds.	Excav. Cu. Yds.
197+00	198+74	Rt.	174	0	512	40.28	40
Totals			174	0	512	40.28	40

SUMMARY OF QUANTITIES

HOLMES COUNTY
S H 79 SEC B

PAVEMENT CALCULATIONS

Beginning of Project Sta. 141+96
 End of Project Sta. 336+00
 Gross Length of Project 19,404.0 Lin. Ft.
 Additions: Due to New 10' Pavt replacing existing disintegrated conc. on right
 Sta 207+26 to Sta. 209+35 = 209 Lin. Ft.
 Sta 240+52 to Sta. 243+29.7 = 277.7 Lin. Ft.
 Total Additions 486.7 Lin. Ft.
 Net Length of 10' Concrete Pavement 19,890.7 Lin. Ft.
 Area of 10' Pavement = $\frac{19890.7 \times 10}{3.1416} = 22,100.77$ Sq. Yds.
 Extra Pavement for Widening Curves
 Sta. 168+79.5 to Sta. 174+61.2 (6') 92.35 Sq. Yds.
 Sta. 223+53 to Sta. 227+69.8 (6') 77.30 Sq. Yds.
 Sta. 264+22 to Sta. 271+45.8 (7') 130.26 Sq. Yds.
 Sta. 326+92 to Sta. 331+27.5 (10') 69.39 Sq. Yds.
 Total area of concrete pavement 22,470.07 Sq. Yds.

FINISHING SHOULDERS, SLOPES & DITCHES

Net length of Project 19,404 Lin. Ft.
 Additions: none Deductions: none
 Net length of finishing shoulders slopes and ditches (Both Sides) 19,404 Lin. Ft.

STORM SEWERS

Station From	Station To	Right or Left	Removals V.S.P. Lin Feet		Relay V.S.P. Lin Ft		New Pipe Req. Lin Ft		New Headwalls		Pipe Specials	Outlet Paving Sq Yds	Spec Catch Basin		Remarks	
			12"	15"	12"	15"	12"	15"	Type	1-5 1/2 Concrete Cu Yds			Reinf. Steel Lbs.	No.		Sto.
160+50	163+00	Lt.					250		Side Rd HW	1.30	30	1/2x4" T	3.5	1	163+01	Lay Tee at 160+65
187+56	189+32	Rt.					176		Side Rd HW	1.30	30		3.5	1	187+55	
200+74	201+00	Rt.					26		Side Rd HW	1.30	30		3.5			Connect with Dr pipe at 200+74
217+24	218+02	Rt.					78									Connect each to Dr pipes
218+30	220+90	Rt.					260		Str. HW	65	20		3.5			HW at 220+90 - Conn. to dr pipe 218+30
234+48	235+00	Rt.					152					3/2x4" Y		2	234+47 235+01	
235+02	237+40	Rt.					238		Side Rd HW	1.30	30	4/2x4" Y	3.5			
245+00	247+50	Rt.					250		Side Rd HW	1.30	30	1/2x4" Y	3.5	1	247+51	
247+52	250+50	Rt.					298							1	250+51	
250+52	252+30	Rt.					178							1	252+31	
249+72	250+34	Lt.					62									Connect to C.B. at 249+71 Dr. Pipe at 250+34
250+60	252+23	Lt.	163											1	250+61	
250+62	251+62	Lt.			100									1	252+62	
251+62	252+50	Lt.					92									
251+21	252+65	Rt.	144													
309+80	310+76	Lt.		52			96		Side Rd HW	145	33		3.5	1	310+76	H.W. at 309+80
310+10	310+62	Lt.												2	310+60 310+70	
332+62	336+19	Rt.					378									
Totals			307	52	100		2428	96		8.60	203	1/2x4" Y	24.5	12		

GENERAL SUMMARY OF SEC. B

ITEM	ROADWAY	AMOUNT
E-1	Excavation (Roadway)	14126 Cu.Yd.
E-2	Excavation (Retaining Wall)	40 Cu.Yd.
E-4	Borrow	7912 Cu.Yd.
E-15 Spec	Trenching for 9'-7'-7'-9' Pavement	19404 Lin. Ft.
E-5	Finish Shoulders, Slopes and Ditches (Both Sides)	19404 Lin. Ft.
E-8	Removal Existing Concrete Pavement	540.8 Sq. Yd.
E-9	Removal of Trees	76 Each
S-22	Removal of Existing Headwalls	2.3 Cu. Yd.
I-15	Removal of Guard Rail	1514 Lin. Ft.
I-6	Removal of V.S.P., Tile, C.I.P. & Wood Boxes at Private Drives & Road Approaches 6" to 18"	678 Lin. Ft.
I-6	Removal of Storm Sewer 12" & 15"	359 Lin. Ft.
I-6	Relay 12" V.S.P. for Storm Sewer	100 Lin. Ft.
I-1	New 12" Cor. LP for Private Drives & Road Approaches	892 Lin. Ft.
I-2	New 12" Pipe for Storm Sewer	2428 Lin. Ft.
I-2	New 15" Pipe for Storm Sewer	96 Lin. Ft.
I-4	New 4" Pipe Underdrain	1884 Lin. Ft.
I-4	New 6" Pipe Underdrain	2334 Lin. Ft.
I-5	Pipe Specials 1-6"x6"x4" T, 1-6"x6"x6" Y & 10-6"x6"x4" Ys	12 Each
I-6	Relay 12" C.I. Pipe at Private Drives & Road Approaches	122 Lin. Ft.
I-6	Relay 18" C.I. Pipe at Private Drives & Road Approaches	12 Lin. Ft.
I-8	Special Catch Basin	18 Each
I-12	Type 1 Curb & Gutter (See Detail)	498 Lin. Ft.
I-12	Special Gutter Turnout	2 Each
I-14	3'-0" Concrete Gutter	484 Lin. Ft.
I-14	4'-0" Concrete Gutter	2184 Lin. Ft.
I-17	No. 46 Aggregate for Private Drives & Road Approaches	202 Cu. Yd.
S-1 Spec	Outlet Paving 5" Thick	24.5 Sq. Yd.
S-1	1-5 1/2 Concrete for Headwalls	14.5 Cu. Yd.
S-1	1-5 1/2 Concrete for Retaining Walls	40.28 Cu. Yd.
S-4	Reinforcing Steel	930 Lbs.
I-5	Pipe Specials 1-12"x12"x4" T & 8-12"x12"x4" Ys	9 Each
PAVEMENT		
T-70	9'x7'x7'x9" Concrete Pavement	22470.07 Sq. Yd.
ROADWAY CULVERTS 20' SPAN & UNDER		
E-2	Structure Excavation	160 Cu. Yd.
S-22	Removal Existing Concrete Headwalls	9.4 Cu. Yd.
S-1	Concrete 1-5 1/2 Headwalls	43.1 Cu. Yd.
S-1	Concrete 1-6 1/2 Wingwalls	21.5 Cu. Yd.
S-1	Concrete 1-8 Sub-base & Collars	11.1 Cu. Yd.
S-3	Type B Waterproofing	10 Sq. Yd.
S-4	Reinforcing Steel	1944 Lbs.
S-23	Dowel Holes	174.25 Lin. Ft.
S-27	New 12" Pipe for Roadway Culverts	58 Lin. Ft.
S-27	New 14" Pipe " " " "	76 Lin. Ft.
S-27	New 16" Pipe " " " "	20 Lin. Ft.
S-27	New 18" Pipe " " " "	88 Lin. Ft.
S-1 Spec	Inlet Paving 5" Thick 1-6 1/2 Mix.	8.5 Sq. Yd.
S-1 Spec	Outlet Paving 5" Thick 1-6 1/2 Mix.	27.8 Sq. Yd.

9'-7" 7'-9" PAVEMENT TYPE "C"

Station From	Station To	Right or Left	Lineal Feet	Width Feet	Square Yds.	Widening Sq. Yds.	Remarks
141+96	168+79.5	Lt.	2683.5	10	28916.7		
168+79.5	174+61.2	Lt.	581.7	10	6463.3	92.35	
174+61.2	207+26	Lt.	3264.8	10	36275.6		Old concrete removed
207+26	209+35	Rt.	209.0	10	2322.2		
207+26	223+53	Lt.	1627.0	10	1807.78		
223+53	227+69.8	Lt.	416.8	10	4631.1	77.30	
227+69.8	240+52	Lt.	1282.2	10	14246.7		
240+52	243+29.7	Rt.	277.7	10	3085.6		Old concrete removed
240+52	264+22	Lt.	2370.0	10	26333.3		
264+22	271+45.8	Lt.	723.8	10	8042.2	130.26	
271+45.8	326+92	Lt.	5546.2	10	6162.44		
326+92	331+27.5	Lt.	435.5	10	4838.8	69.39	
331+27.5	336+00	Lt.	472.5	10	5250.0		
Totals			19890.7		22100.77	369.30	

REMOVAL OF GUARD RAIL

Station From	Station To	Right or Left	Lineal Feet	Remarks
225+48	228+48	Lt.	300	
237+72	241+54	Rt.	382	
240+52	241+54	Lt.	102	
241+94	244+02	Rt.	208	
241+80	244+50	Lt.	270	
256+97	258+71	Rt.	174	
297+75	298+53	Rt.	78	
Totals			1514	

EXCAVATION & BORROW

Station From	Station To	Excavation Cu. Yds.	Borrow Cu. Yds.	Remarks
141+96	208+00	3380	2671	See sheet No 4
208+00	260+50	5598	1177	
260+50	336+00	3864	3345	
Totals		12842	7193	
Add 10% for Contingencies		1284	719	
Totals		14126	7912	

GENERAL SUMMARY OF PROJECT

FED. RD. DIST. NO.	STATE	FED. AID PROJECT	FISCAL YEAR
10	OHIO	NRH-60	1933



HOLMES COUNTY
S.H. 79 SEC. A & B

ITEM	ROADWAY	AMOUNT
E-1	Excavation (Roadway)	22,908 Cu Yds
E-2	Excavation & Backfill (Retaining Walls)	87 Cu Yds
E-4	Borrow	13,892 Cu Yds
E-1Spec	Trenching for 9'-7'-7'-9" Pavement	33,583.2 Lin. Ft.
E-5	Finishing Shoulders, Slopes & Ditches (Both Sides)	33,583.2 Lin. Ft.
E-8	Removal of Existing Concrete Pavement	939.1 Sq Yds.
E-9	Removal of Trees	113 Each
S-22	Removal of Existing Concrete Headwalls (Storm Sewer)	8.7 Cu Yds
I-15	Removal of Guard Rail	2,774 Lin. Ft.
I-6	Removal of Existing Pipe (Side Approaches) 6" To 18"	986 Lin. Ft.
I-6	Removal of Existing Pipe (Storm Sewers) 6" To 15"	826 Lin. Ft.
I-6	Relay 10" C.I. Pipe at Side Approaches	74 Lin. Ft.
I-6	" 12" " " " "	122 Lin. Ft.
I-6	" 18" " " " "	12 Lin. Ft.
I-6	Relay 12" V.S. Pipe for Storm Sewer	100 Lin. Ft.
I-1	12" Corr. I. Pipe for driveways	1,496 Lin. Ft.
I-1	15" " " " "	94 Lin. Ft.
I-1	24" " " " "	24 Lin. Ft.
I-2	12" Pipe for Storm Sewer	3,864 Lin. Ft.
I-2	15" " " " "	2,280 Lin. Ft.
I-2	18" " " " "	544 Lin. Ft.
I-4	4" Pipe Underdrains	3,580 Lin. Ft.
I-4	6" " " " "	3,959 Lin. Ft.
I-4	8" " " " "	70 Lin. Ft.
I-5	Pipe Specials 11-6"x4" Tees 1-6"x6" Y 10-6"x4" Ys	22 Each
I-5	" " 1-12"x10" Y 1-12"x4" Tee 8-12"x12"x4" Ys	10 Each
I-5	" " 3-15"x6" T 1-15"x6" Double Tee	4 Each
I-8	Special No. 2 Catch Basin	43 Each
I-12	Spec. Type 3 Curb & Gutter	740 Lin. Ft.
I-12	" Type 1 " " "	720 Lin. Ft.
I-12	Special Gutter Turnout	3 Each
I-13	Concrete Sidewalk 4" Thick	30 Sq. Ft.
I-13	Concrete Steps	16 Lin. Ft.
I-14	3'-0" Concrete Gutter	681 Lin. Ft.
I-14	4'-0" " " "	2,838 Lin. Ft.
I-17	No. 46 Aggregate for Side Approaches	362 Cu. Yds.
T-70	Concrete Pavement for Side Approach	333 Sq. Yds.
S-1Spec	Concrete for Storm Sewer Outlet	44 Sq. Yds.
S-1	Concrete for Headwalls 1:5 1/2 Mix	317 Cu. Yds.
S-1	" " Retaining Walls 1:5 1/2 Mix	70.4 Cu. Yds.
S-4	Reinforcing Steel	2,103 Lbs.
PAVEMENT		
T-70	Portland Cement Concrete Pavement	38,814.3 Sq. Yds.
T-71	Reinforced Concrete Pavement	34.3 Sq. Yds.
ROADWAY CULVERTS 20' SPAN & UNDER		
E-2	Structure Excavation	259 Cu. Yds.
E-3	Channel Excavation	10 Cu. Yds.
S-22	Removal Existing Concrete Headwalls	10.7 Cu. Yds.
S-24	Removal Part of Existing Bridge	Lump Sum
S-1	Concrete for Headwalls (1:5 1/2)	72.7 Cu. Yds.
S-1	Concrete for Wingwalls (1:6 1/2)	34.2 Cu. Yds.
S-1	Concrete for Footers (1:6 1/2)	55 Cu. Yds.
S-1	Concrete for Collars & Sub-base (1:8)	17.9 Cu. Yds.
S-3	Waterproofing (Type B)	10 Sq. Yds.
S-4	Reinforcing Steel (Including Dowels)	3,953 Lbs.
S-5	Concrete Bridge Railing (Type R-R-4)	17.5 Lin. Ft.
S-9	Premolded Expansion Joint Filler 1/2"	15 Sq. Ft.
S-23	Dowel Holes	274.8 Lin. Ft.
S-27	12" Pipe for Roadway Culverts	76 Lin. Ft.
S-27	14" Pipe " " " "	76 Lin. Ft.
S-27	15" " " " "	28 Lin. Ft.
S-27	16" " " " "	20 Lin. Ft.
S-27	18" " " " "	130 Lin. Ft.
S-27	21" " " " "	14 Lin. Ft.
I-5	Pipe Specials 1-12"x6" Tee	1 Each
I-5	" " 1-18"x6" Tee	1 Each
S-1Spec	Concrete Inlet & Outlet Paving	59.1 Sq. Yds.
T-70	Wearing Surface	45 Sq. Yds.

Sta 0+00 Beginning of Sec. A
 Sta 141+96 End of Sec. A
 Length of Sec. A 141,960 Ft. = 2.689 Mi.
 Sta 141+96 Beginning of Sec. B
 Sta 336+00 End of Sec. B
 Length of Sec. B 19,404 Ft. = 3.675 Mi.
 Length of Project & F.A.P. NRH-60
 = Sum of Sec. A & Sec. B 33,600 Ft. = 6.364 Mi.

HOLMES CO. 211013 - SEC. A & B