

CALCULATIONS

FHWA REGION	STATE	PROJECT	
5	OHIO		

MUS - CITY OF ZANESVILLE
TAYLOR STREET

9
41

DRIVES		ITEM 452 PLAIN PORTLAND CEMENT CONC. PAVT.	ITEM 304 AGGR. BASE	ITEM 404 ASPH. CONC.	ITEM 301 BIT. AGGR. BASE
1-D	Sta. 36+15.7 Lt.	5'x3.75'x2+9'x25'+9 = 29.17 S.Y. (8")			
2-D	Sta. 36+69.3 Lt.	5'x3.75'x2+9'x25'+24.9' (Ave.)x 20.5+9=85.88 S.Y. (8")			
3-D	Sta. 37+13.0 Rt.	5'x3.75'x2+9'x12'+9 = 16.17 S.Y. (8")		35.5'x11' (Ave.)x .0833+27= 1.20 C.Y.	35.5'x12' (Ave.)x .4167+27= 6.57 C.Y.
4-D	Sta. 37+14.5 Lt.	5'x 3.75'x2+9'x12'+9 = 16.17 S.Y. (8")	(10") 13.5'x11'x .8333+27= 4.58 C.Y. + (Extra area) 7' x 3' x .8333 + 27 = .65 C.Y. = 5.2 C.Y.		
5-D	Sta. 0+43' Rt. of alley Sta. 37+ 14.5 Lt.		(8") 25' x 16' + 8' x 8' = 464 S.F. x .6667+27= 11.5 C.Y. - (3.25' x 1.5' + 1' x 1.5' = 6.38 S.F. x .6667+27= 16 C.Y.) = 11.3 C.Y.	6.5'x12'x .0833+27= 0.24 C.Y.	6.5'x13'x .3333+27= 1.04 C.Y.
6-D	Sta. 39+57.5 Rt.	13'x4'+4'x12'+9 = 11.11 S.Y. (6")			
REMOVALS					
1-R	Sta. 36+69.3 Lt.	Item 202 Pav't. removed (24.5' Lt. to 44' Lt.) 19.5' x 24.7' ÷ 9 = 53.5 S.Y.	2-R	Sta. 39+24.3 Lt. to Sta. 40+00 Lt.	Item 202 Sidewalk removed 75.7' x 4' = 302.8 S.F.
3-R	Sta. 39+43.5 Lt.	Item 202 Sidewalk removed 3.6' x 4' = 14.4 S.F.	4-R	Sta. 39+88 Lt.	Item 202 Sidewalk removed 9.2' x 3.9' = 35.9 S.F.
5-R	Sta. 36+94 Rt.	Item 202 Sidewalk removed 2.7' x 9.7' = 26.2 S.F.			
6-R	Sta. 37+06 Rt. to Sta. 37+08.5 Rt.	Item 202 Sidewalk removed 3.5' x 1.5' = 5.3 S.F.	7-R	Sta. 39+37.5 Rt.	Item 202 Sidewalk removed 14.5' x 3.7' + 1' x 2.4' = 56.1 S.F.
STA. 40+00 TO STA. 42+06.5 (Quantities carried to sheet 14.)					
ITEM 404 ASPHALT CONCRETE	1-P	Sta. 40+00 to Sta. 40+20 20'x24'+9'x.0347= 1.85 C.Y.	2-P	Sta. 40+20 to Sta. 40+50 23'x27' (Planimeter 40 S.F.) = 631 S.F. ÷ 9 x .0417 (Ave.) = 2.9 C.Y.	
	3-P	Sta. 40+20 to Sta. 41+83 163'x1'+9'x.2777 = 5.03 C.Y.			
ITEM 402 ASPHALT CONCRETE	1-P	Sta. 40+00 to Sta. 40+20 (Estimated by exaggerated scale) = 2.6 C.Y.			
ITEM 301 BIT. AGGR. BASE	1-P	Sta. 40+00 to Sta. 40+20 (Estimated by exaggerated scale) = 4.9 C.Y.			
ITEM 609 COMB. CURB AND GUTTER STD. TYPE 2	1-C	Sta. 40+00 Lt. to Sta. 40+20 LT. = 20 L.F. Item 609 Curb, Type 6 3-C Sta. 40+20 Lt. to Sta. 40+41 Lt. (Scaled) 21 L.F.			
	2-C	Sta. 40+00 Rt. to Sta. 41+83 RT. = 183 L.F. Item 609 Curb, Type 6 Mod. As Per Plan Type A 4-C Sta. 40+41 to Sta. 40+50.5 Lt. (Scaled) 11 L.F.			
ITEM 608 CONCRETE WALK	1-SW	Sta. 40+16.5 Lt. to Sta. 40+50 Lt. = 26' (Scaled) x 4' = 104 S.F. + 22 S.F. (Planimeter) = 126 S.F.			
	2-SW	Sta. 40+00 Rt. to Sta. 42+00 Rt. 183' x 22' (Scaled) = 205' x 4' = 820 S.F.	3-SW	Sta. 40+39 Lt. to 25.0' = 5' x 3.6' = 18 S.F.	
ITEM 608 CURB RAMP	1-CR	Sta. 42+00 Rt. to Sta. 42+06.5 = 9' (Ave.) x 6' + 17' x .5 = 62.5 S.F.			
DRIVES		ITEM 452 PLAIN PORTLAND CEMENT CONC. PAVT.	ITEM 304 AGGREGATE BASE		
1-D	Sta. 40+04 Lt.	13'x4'+4'x12'+9 = 11.11 S.Y. (6")	(8") 6.5'x11' (Ave.) x .6667+27= 1.77 C.Y.		
2-D	Sta. 40+58 Rt.	13'x4'+4'x12'+9 = 11.11 S.Y. (6")	(10") 6.5'x11.5' (Ave.) x .8333+27= 2.31 C.Y.		
3-D	Sta. 40+83 Rt.	13'x4'+4'x12'+9 = 11.11 S.Y. (6")	(8") 9.5'x12'+14'x10.75' (Ave.) x .6667+27= 6.53 C.Y.		
REMOVALS					
1-R	Sta. 40+00 Lt. to Sta. 40+51.5 Lt.	Item 202 Sidewalk removed 50' x 4' = 200 S.F.	2-R	Sta. 39+97.5 Lt. to Sta. 40+10.2 Lt.	Item 202 Pavement removed 1.7'x1.6'+1.4'x1.75'+9.6'x3.35+9 = 41.5 S.Y.
3-R	Sta. 41+58 Rt. to Sta. 41+83 Rt.	Item 202 Curb and Gutter removed = 25 L.F.	4-R	Sta. 42+00 Rt. to Sta. 42+06.5 Rt.	Item 202 Sidewalk and Curb removed 9' (Ave.) x 6' = 54 S.F. (Scaled) 17 L.F.
5-R	Sta. 40+20.5 to Sta. 40+52	Item 202 Curb Removed (Scaled) 36 L.F.			
CLARENDON AVE STA. 26+67 (QUANTITIES CARRIED TO SHEET 29.)					
Sta. 0+12 to Sta. 0+37 = 25' x 24' ÷ 9 = 66.67 S.Y. + (25' ÷ 9 x 2.146 x 2 = 29.81 S.Y.) = 96.47 S.Y.					
Sta. 0+37 to Sta. 0+85 = 38' x 18.5' (Ave.) ÷ 9 = 78.11 S.Y.					
48' x 2.75' (Ave.) ÷ 9 = 14.67 S.Y.					
10' x 18.5' (Ave.) ÷ 9 = 20.56 S.Y.					
48.3' x 5' ÷ 9 = 2.68 S.Y. x 2 = 5.36 S.Y.					
ITEM 404 ASPH. CONC.	(96.47 S.Y. x .0347 = 3.35 C.Y.) + (78.11 S.Y. x .06 (Ave.) = 4.69 C.Y.) + (14.67 S.Y. x .0347 = 0.51 C.Y.) + (20.56 S.Y. x .03 (Ave.) = 0.62 C.Y.) = 9.17 C.Y. + (5' x 4' ÷ 9 x .0347 = 0.08 C.Y.) = 9.25 C.Y.				
ITEM 402 ASPH. CONC.	(96.47 S.Y. x .0486 = 4.69 C.Y.) + (14.67 S.Y. x .268 S.Y. x .0486 = 0.84 C.Y.) = 5.5 C.Y. + (5' x 3' ÷ 9 x .0486 = .08 C.Y.) = 5.6 C.Y.				
ITEM 301 BIT. AGGR. BASE	(96.47 S.Y. x .1944 = 18.75 C.Y.) + (14.67 S.Y. x .537 S.Y. x .1944 = 3.90 C.Y.) = 22.65 C.Y. + (5' x 2' ÷ 9 x .1944 = .21 C.Y.) = 22.86 C.Y.				
ITEM 407 TACK COAT	78.11 S.Y. x 20.56 S.Y. = 98.67 S.Y. x 10 = 9.87 Gals. ÷ 98.67 S.Y. x 7 ÷ 2000 = 0.35 Tons				
ITEM 609 COMB. CURB & GUTTER STD. TYPE 2	23' x 90" x 3.14 ÷ 180 = 36.1 L.F. x 2 = 72.2 L.F.				
ITEM 608 CONC. WALK	(By Computer) 139.2 S.F. x 2 = 278.4 S.F.				
ITEM 660 SODDING	(By Computer) 5.4 S.Y. x 2 = 10.8 S.Y.				
ITEM 609 CURB, TYPE 6 Mod. AS PER PLAN (Scaled) 5' x 2 = 10 L.F.					
MARION ST. RT. STA. 27+87 (QUANTITIES CARRIED TO SHEET 29.)					
Sta. 0+12 to Sta. 0+37 25' x 24' ÷ 9 = 66.67 S.Y. + (25' ÷ 9 x 2.146 x 2 = 29.81 S.Y.) = 96.47 S.Y.					
Sta. 0+37 to Sta. 1+00 63' x 12.3' (Ave.) ÷ 9 = 86.1 S.Y.					
63' x 6' (Ave.) ÷ 9 = 42.0 S.Y.					
ITEM 404 ASPH. CONC.	96.47 S.Y. x .0347 = 3.35 C.Y.				
ITEM 402 ASPH. CONC.	96.47 S.Y. x .0486 = 4.69 C.Y.				
ITEM 301 BIT. AGGR. BASE	96.47 S.Y. x .1944 = 18.75 C.Y.				
ITEM 304 AGGR. BASE	86.1 S.Y. x .0833 (Ave.) + 42.0 S.Y. x .3333 = 21.17 C.Y. + (5' x 4' ÷ 9 x .3333 = 0.74 C.Y.) = 21.91 C.Y.				
ITEM 609 COMB. CURB & GUTTER STD. TYPE 2	23' x 90" x 3.14 ÷ 180 = 36.1 L.F. x 2 = 72.2 L.F.				
ITEM 608 CONC. WALK	(By Computer) 139.2 S.F. + 88.4 S.F. = 227.6 S.F.				
ITEM 660 SODDING	(By Computer) 5.4 S.Y.				
ITEM 609 CURB TYPE 6 Mod. AS PER PLAN (Scaled) 5' x 2 = 10 L.F.					
MARION ST. LT. STA. 29+70.5 (QUANTITIES CARRIED TO SHEET 30.)					
Sta. 0+12 to Sta. 0+37 25' x 24' ÷ 9 = 66.67 S.Y. + (25' ÷ 9 x 2.146 x 2 = 29.81 S.Y.) = 96.48 S.Y.					
Sta. 0+37 to Sta. 0+75 28' x 18.2' (Ave.) ÷ 9 = 56.62 S.Y.					
38' x 2.9' (Ave.) ÷ 9 = 12.24 S.Y.					
10' x 18.2' (Ave.) ÷ 9 = 20.22 S.Y.					
38.2' x 1' ÷ 9 = 4.24 S.Y. x 2 = 8.48 S.Y.					
ITEM 404 ASPHALT CONC.	(96.48 S.Y. x .0347 = 3.35 C.Y.) + (56.62 S.Y. x .06 = 3.40 C.Y.) + (12.24 S.Y. x .0347 = 0.42 C.Y.) + (20.22 S.Y. x .03 (Ave.) = 0.61 C.Y.) = 7.78 C.Y. + (5' x 4' ÷ 9 x .0347 = 0.08 C.Y.) = 7.86 C.Y.				
ITEM 402 ASPHALT CONC.	(96.48 S.Y. x .0486 = 4.69 C.Y.) + (12.24 S.Y. x 4.24 S.Y. x .0486 = 0.80 C.Y.) = 5.49 C.Y. + (5' x 3' ÷ 9 x .0486 = .08 C.Y.) = 5.57 C.Y.				
ITEM 301 BIT. AGGR. BASE	(96.48 S.Y. x .1944 = 18.76 C.Y.) + (12.24 S.Y. x 8.48 S.Y. x .1944 = 4.03 C.Y.) = 22.79 C.Y. + (5' x 2' ÷ 9 x .1944 = 0.21 C.Y.) = 23.0 C.Y.				

ITEM 407 TACK COAT		56.62 SY + 20.22 SY = 76.84 SY x .10 = 7.68 Gals. ÷ 76.84 SY x 7 ÷ 2000 = 0.27 Tons.	
ITEM 609 COMB. CURB & GUTTER STD. TYPE 2		23' x 90" x 3.14 ÷ 180 = 36.1 L.F. x 2 = 72.2 L.F.	
ITEM 608 CONC. WALK		(By Computer) 139.2 S.F. x 2 = 278.4 S.F.	
ITEM 660 SODDING		(By Computer) 5.4 SY x 2 = 10.8 SY.	
ITEM 609 CURB, TYPE 6 Mod. AS PER PLAN (Scaled)		5' x 2 = 10 L.F.	
BELL ST. STA. 32+94.2 (QUANTITIES CARRIED TO SHEET 30)			
Sta. 0+12 to Sta. 0+62		50' x 30' ÷ 9 = 166.67 SY. + (45' ÷ 9 x .2146 x 2 = 96.57 SY.) = 263.24 SY.	
Sta. 0+62 to Sta. 1+20		48' x 19.4' (Ave.) ÷ 9 = 103.47 SY.	
		58' x 5.4' (Ave.) ÷ 9 = 34.8 SY.	
		10' x 19.4' (Ave.) ÷ 9 = 21.56 SY.	
		38.6' x 5 ÷ 9 = 2.14 SY x 2 = 4.28 SY.	
ITEM 404 ASPH. CONC.		(263.24 SY. x .0347 = 9.13 CY.) + (103.47 SY. x .06 = 6.21 CY.) + (34.8 SY. x .0347 = 1.21 CY.) + (21.56 SY. x .0174 (Ave.) = 0.38 CY.) = 16.93 CY. + (5' x 2' ÷ 9 x .0347 = .04 CY.) = 16.97 CY.	
ITEM 402 ASPH. CONC.		(263.24 SY. x .0486 = 12.79 CY.) + (34.8 SY. x 2.14 SY. x .0486 = 1.80 CY.) = 14.59 CY. + (5' x 1.5' ÷ 9 x .0486 = .04 CY.) = 14.63 CY.	
ITEM 301 BIT. AGGR. BASE		(263.24 SY. x .1944 = 51.17 CY.) + (34.8 SY. x 2.29 SY. x .1944 = 7.60 CY.) = 58.77 CY. + (5' x 1' ÷ 9 x .1944 = .11 CY.) = 58.88 CY.	
ITEM 407 TACK COAT		103.47 SY. + 21.56 SY. = 125.03 SY. x .10 = 12.5 Gals. ÷ 125.03 SY. x 7 ÷ 2000 = 0.44 Tons	
ITEM 609 COMB. CURB & GUTTER STD. TYPE 2		43' x 90" x 3.14 ÷ 180 = 67.5 L.F. + 5' = 72.5 L.F. x 2 = 145.0 L.F.	
ITEM 609 CURB TYPE 6 MOD. AS PER PLAN (Scaled)		5 L.F.	
ITEM 608 CONC. WALK		(By Computer) 292.1 S.F. + 5' x 5' = 317.1 S.F. x 2 = 634.2 S.F.	
ITEM 660 SODDING		(By Computer) 7.5 SY. x 2 = 15 SY.	
1-R		ITEM 202 Sidewalk removed 1.7' x 3' = 5.1 S.F.	
2-R		ITEM 202 Curb Removed (Scaled) 63 L.F.	
3-R		ITEM 202 Pavement Removed (Planimeter) 56 SY.	
4-R		ITEM 202 Sidewalk Removed 12.3' x 2' = 24.6 S.F.	
DRIVES		ITEM 404 ASPH. CONC.	
		1-D 0+70.5 Rt. 8'x8'+4.5'x4'+4.5'x3.9'+9'x.0278 = 0.41 CY.	
		2-D 0+92.5 Lt. 8'x8'+8'x8'+9'x.0278 = 0.40 CY.	
		3-D 1+07 Rt. 4'x8'+5'x4'+8'x16'+9'x.0278 = 0.56 CY.	
		ITEM 301 BIT. AGGR. BASE	
		14.62 SY. + (20' x 5' ÷ 9) = 157.2' .1111 = 1.75 CY.	
		8'x8'+8'x9'+9'x.1111 = 1.68 CY.	
		20.0 SY. + (21' x 5' ÷ 9) = 21.2' x .1111 = 2.35 CY.	
		ITEM 304 AGGR. BASE	
		4.84'x8'x.6667 ÷ 27 = 0.96	
		5.88'x16'x.6667 ÷ 27 = 2.32	
WILMER ST. RT. STA. 38+85.5 (QUANTITIES CARRIED TO SHEET 31)			
Sta. 0+12 to Sta. 0+48		36' x 26.4' ÷ 9 = 105.6 SY. + (25' ÷ 9 x .2146 x 2 = 29.81 SY.) = 135.41 SY.	
ITEM 404 ASPH. CONC.		135.41 SY. x .0347 = 4.70 CY.	
ITEM 402 ASPH. CONC.		135.41 SY. x .0486 = 6.58 CY.	
ITEM 301 BIT. AGGR. BASE		135.41 SY. x .1944 = 26.32 CY.	
ITEM 609 COMB. CURB & GUTTER STD. TYPE 2		23' x 90" x 3.14 ÷ 180 = 36.1 L.F. x 2 = 72.2 L.F. + (11' x 2 = 22 L.F.) = 94.2 L.F.	
ITEM 608 CONC. WALK		1-SW Rt. 7.1' x 4' + 4' x 3.3' + (Planimeter 42 S.F.) = 83.6 S.F.	
DRIVE		1-D ITEM 452 PLAIN PORTLAND CEMENT CONC. PAVT. (Planimeter) = 206 S.F. ÷ 9 = 22.9 SY.	
ITEM 202 CURB REMOVED		1-R 38' (Scaled) 2-R 40' (Scaled) 3-R 34' (Scaled)	
ITEM 202 SIDEWALK REMOVED		4-R 74' x 3.3' + 9' x 3.3' + (Planimeter 34 S.F.) = 88.1 S.F.	
ITEM 660 SODDING (By Computer)		4.1 SY.	
		5-R (Planimeter) 64 S.F.	
WILMER ST. LT. STA. 38+86.2 (QUANTITIES CARRIED TO SHEET 31)			
Sta. 0+12 to Sta. 0+37		25' x 25.9' ÷ 9 = 71.94 SY. + (25' ÷ 9 x .2146 x 2 = 29.81 SY.) = 101.75 SY.	
ITEM 404 ASPH. CONC.		101.75 SY. x .0347 = 3.53 CY.	
ITEM 402 ASPH. CONC.		101.75 SY. x .0486 = 4.95 CY.	
ITEM 301 BIT. AGGR. BASE		101.75 SY. x .1944 = 19.78 CY.	
ITEM 609 COMB. CURB & GUTTER STD. TYPE 2		23' x 90" x 3.14 ÷ 180 = 36.1 L.F. x 2 = 72.2 L.F.	
ITEM 608 CONC. WALK		1-SW 11' x 4' + (Planimeter 72 S.F.) = 116 S.F.	
ITEM 202 CURB REMOVED		1-R Scaled 27 L.F. 2-R Scaled 27 L.F.	
ITEM 202 SIDEWALK REMOVED		3-R 14.5' x 3' = 43.5 S.F. 4-R 76' x 3.7' + (Planimeter 28 S.F.) + 15' x 4' = 116.1 S.F.	
ITEM 660 SODDING		(By Computer) 5.4 SY.	
(Quantities carried to General Summary Sheet 7)			
ITEM 659 COMMERCIAL FERTILIZER (12-12-12)		4038 Sq.Yds. (9) (20) ÷ ((1000) (2000)) = 0.36 TON	
ITEM 659 AGRICULTURAL LIMING		4038 Sq.Yds. (9) (100) ÷ ((1000) (2000)) = 1.82 TONS	