

# CALCULATIONS

## T-71 8" Reinforced Portland Cement Concrete Pavement

WILLOUGHBY HILLS VILL. Sta. 200+50 to Sta. 201+97 L = 145.50 x 27 ÷ 9 = 436.50 SQ. YDS.  
 CITY OF WILLOUGHBY Sta. 201+97 to Sta. 210+69.96 L = 874.46 x 27 ÷ 9 = 2,623.38 SQ. YDS.  
 TOTAL T-71 = 3,059.88 SQ. YDS.

## I-22 Subbase (grading A or B)

WILLOUGHBY HILLS VILL. Sta. 200+50 to Sta. 201+97 L = 145.50 x 17.2 ÷ 27 = 93 CU. YDS.  
 CITY OF WILLOUGHBY Sta. 201+97 to Sta. 210+69.96 L = 874.46 x 19.83 ÷ 27 = 621 CU. YDS.  
 Total I-22 = 714 CU. YDS.

## I-12 Concrete Curb, Standard Type 2-A

WILLOUGHBY HILLS VILL. Sta. 200+50 to Sta. 201+97 L = 145.50 x 2 = 291 LIN. FT.  
 CITY OF WILLOUGHBY Sta. 201+97 to Sta. 210+69.96 L = 874.46 x 2 = 1,727.9 LIN. FT.  
 Total I-12 = 2,018.9 LIN. FT.

## I-14 Concrete Gutter Standard Type 4

CITY OF WILLOUGHBY Sta. 204+00 to Sta. 211+07 L = 716.63 LIN. FT.  
 deduction for gutter, standard type 4 (modif.) = 40.00 LIN. FT.  
 Std. Type Total I-14 = 676.63 LIN. FT.

## I-14 Concrete Gutter Standard Type 4 (modified)

CITY OF WILLOUGHBY Sta. 204+00 to Sta. 204+10 L = 10.00 LIN. FT.  
 Sta. 206+00 to Sta. 206+10 L = 10.00 " "  
 Sta. 208+00 to Sta. 208+10 L = 10.00 LIN. FT.  
 Sta. 210+30 to Sta. 210+40 L = 10.00 " "  
 Total I-14 (mod.) = 40.00 LIN. FT.

## E-8 Removal and Disposal of Existing 6' Concrete Gutter

CITY OF WILLOUGHBY Sta. 204+58 to Sta. 210+95 L = 645.2 LIN. FT.

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

5  
21

LAKE COUNTY  
LAK. 174-3.80

# SUMMARY OF QUANTITIES

EXCAVATION, EMBANKMENT, & SEEDING QUANTITIES							
SHEET NO.	LOCATION	STATION		E-I EXCAVAT	EMBANKMENT	EMB+18%	L-9 SEEDING
		FROM	TO	CU. YDS.	CU. YDS.	CU. YDS.	SQ. YDS.
7	S.R. 174	197+00	201+97	336	144	170	1,542
7	DRIVEWAYS			22.6			
TOTALS				358.6	144	170	1,542
7	S.R. 174	201+97	204+00	415	100	118	791
8		204+00	212+56.63	17,281	318	375	8,577
TOTALS				17,696	418	493	9,368
GRAND TOTALS				18,071.6	562	663	10,910

EARTHWORK RECAP			
SHEET NO.	DESCRIPTION	AVAILABLE EMBANKMENT CU. YDS.	REQUIRED EMBANKMENT +18% CU. YDS.
5	EMBANKMENT		663
5	E-I ROADWAY EXCAVATION	18,072	
GRAND TOTAL		18,072	663
TOTAL SURPLUS		17,409	

SECTION	SEEDING PROTECTING SQ. YDS.	L-9	
		AGRICULTURAL LIMING	COMMERCIAL FERTILIZER
		$\frac{L-9 \text{ SQ. FT.} \times 100}{1,000} =$	$\frac{L-9 \text{ SQ. FT.} \times 20}{1,000} =$
WILLOUGHBY HILLS VILL.	1,542	0.69	0.14
CITY OF WILLOUGHBY	9,368	4.22	0.84
GRAND TOTALS	10,910	4.91	0.98

E-I COMPACTED SUBGRADE		
SECTION	SHEET NO. 6	
	TOTAL T-71	
	SQ. YDS.	
WILLOUGHBY HILLS VILL.	436.50	
CITY OF WILLOUGHBY	3,544.38	
TOTALS	3,981	
GRAND TOTAL	3,981	

E-II WATER					
SECTION	SHEET NO. 5	SHEET NO. 6		TOTAL MATERIAL REQUIRING WATER	E-II @ 0.005M-GAL PER CU. YD. M - GAL.
	EMBANKMENT +18%	B-19 AGGREGATE BASE COURSE	I-22 SUBBASE		
	CU. YDS.				
WILLOUGHBY HILLS VILL.	170	64	128	352	2
CITY OF WILLOUGHBY	493		793	1,286	7
GRAND TOTAL	8,400				