

CALCULATIONS and SUMMARY of QUANTITIES

FED. RD. DIVISION	STATE	PROJECT
2	OHIO	

6
48

LAKE COUNTY
LAK. 306-5.56

T-71 9" REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

S.R.306	STA. 296+89.72	to	STA. 312+86.95	= 1597.23'	x 29 ÷ 9	= 5147 SQ. YDS.
S.R.306	STA. 312+89.37	to	STA. 323+66.47	= 1077.10'	x 29 ÷ 9	= 3471 SQ. YDS.
S.R.306	STA. 6+46.90	to	STA. 6+54.90	= 8.00'	x 29 ÷ 9	= 26 SQ. YDS.
S.R.306	STA. 13+20.00	to	STA. 20+76.63	= 756.63'	x 24 ÷ 9	= 2018 SQ. YDS.
S.R.306	STA. 20+87.53	to	STA. 22+05.25	= 117.72'	x 24 ÷ 9	= 314 SQ. YDS.
S.R.306	STA. 22+32.11	to	STA. 30+46.89	= 814.78'	x 24 ÷ 9	= 2173 SQ. YDS.
S.R.306	STA. 30+47.17	to	STA. 40+50.00	= 1002.83'	x 24 ÷ 9	= 2674 SQ. YDS.
TOTAL = 15,823 SQ. YDS.						

I-12 STANDARD TYPE 2-A CONCRETE CURB

S.R.306	STA. 296+89.72	to	STA. 312+86.95	= 1,597.23 x 2	= 3,194 LIN. FT.
S.R.306	STA. 312+89.37	to	STA. 323+66.47	= 1,077.10 x 2	= 2,154 LIN. FT.
S.R.306	STA. 6+46.90	to	STA. 6+54.90	= 8.00 x 2	= 16 LIN. FT.
DEDUCT FOR CROSSFIELD ROAD (LEFT AND RIGHT)					
	STA. 306+00.80	to	STA. 307+02.80	= 102.00 x 2	= 204 LIN. FT.
DEDUCT FOR BROADMOOR STA. 321+48.20 to STA. 322+48.91 = 103.42 = 103 LIN. FT. ROAD (RIGHT ONLY)					

TOTAL I-12 STANDARD TYPE 2-A CONCRETE CURB = 5,057 LIN. FT.

I-22 6" SUBBASE

S.R. 306	STA. 296+89.72	to	STA. 312+86.95	= 1597.23' x 15.5 ÷ 27	= 917 CU. YDS.
S.R. 306	STA. 312+89.37	to	STA. 323+66.47	= 1077.10' x 15.5 ÷ 27	= 618 CU. YDS.
S.R. 306	STA. 6+46.90	to	STA. 6+54.90	= 8.00' x 15.5 ÷ 27	= 5 CU. YDS.
S.R. 306	STA. 13+20.00	to	STA. 20+76.63	= 756.63' x 17.25 ÷ 27	= 483 CU. YDS.
S.R. 306	STA. 20+87.53	to	STA. 22+05.25	= 117.72' x 17.25 ÷ 27	= 75 CU. YDS.
S.R. 306	STA. 22+32.11	to	STA. 27+46.89	= 514.78' x 17.25 ÷ 27	= 329 CU. YDS.
S.R. 306	STA. 27+46.89	to	STA. 30+46.89	= 300.00' x 17.00 ÷ 27	= 189 CU. YDS.
S.R. 306	STA. 30+47.17	to	STA. 40+50.00	= 1002.83' x 17.25 ÷ 27	= 641 CU. YDS.
DEDUCT FOR CROSSFIELD ROAD (Left & Right)					
	STA. 306+00.80	to	STA. 307+02.80	= 204.00' x 0.75 ÷ 27	= 6 CU. YDS.
DEDUCT FOR BROADMOOR ROAD (Right)					
	STA. 321+48.20	to	STA. 322+48.91	= 100.71' x 0.75 ÷ 27	= 3 CU. YDS.
DEDUCT FOR ST. CLAIR ST. (Right)					
	STA. 27+79.07	to	STA. 29+10.38	= 131.31' x 2.236 ÷ 27	= 11 CU. YDS.
TOTAL = 3,237 CU. YDS.					

B-19 6" AGGREGATE BASE COURSE FOR STABILIZED SHOULDERS

S.R. 306	STA. 13+20.00	to	STA. 20+76.63	= 2 (756.63')	x 2 ÷ 27	= 112 CU. YDS.
S.R. 306	STA. 20+87.53	to	STA. 22+05.25	= 2 (117.72')	x 2 ÷ 27	= 17 CU. YDS.
S.R. 306	STA. 22+32.11	to	STA. 30+46.89	= 2 (814.78')	x 2 ÷ 27	= 121 CU. YDS.
S.R. 306	STA. 30+47.17	to	STA. 40+50.00	= 2 (1002.83')	x 2 ÷ 27	= 149 CU. YDS.
DEDUCT FOR ST. CLAIR ST. (Right)						
	STA. 27+79.07	to	STA. 29+10.38	= 131.31' x 2 ÷ 27	= 10 CU. YDS.	
DEDUCTIONS FOR DRIVEWAYS = 440.00' x 2 ÷ 27 = 32 CU. YDS.						
TOTAL = 357 CU. YDS.						

L-9 AGRICULTURAL LIMING MATERIAL	
500 SQ. YDS. (SOODING) x 9	= 4,500 SQ. FT.
24,423 SQ. YDS. (SEEDING) x 9	= 219,807 SQ. FT.
AGRICULTURAL LIMING MATERIAL @ 100 LBS. PER 1000 SQ. FT.	
= $\frac{224,307 \times 100}{1000 \times 2000}$	= 11.22 TONS

L-9 COMMERCIAL FERTILIZER	
500 SQ. YDS. (SOODING) x 9	= 4,500 SQ. FT.
24,423 SQ. YDS. (SEEDING) x 9	= 219,807 SQ. FT.
COMMERCIAL FERTILIZER @ 20 LBS. PER 1000 SQ. FT.	
= $\frac{224,307 \times 20}{1000 \times 2000}$	= 2.24 TONS

ITEM SPECIAL - FURNISHING AND MIXING CALCIUM CHLORIDE WITH AGGREGATE			
Sheet 6	357 CU. YDS.	x 36/6	= 2,142 SQ. YDS.
Sheet 19	53	x 36/6	= 318
Sheet 20	74	x 36/6	= 444
TOTAL			2,904 SQ. YDS.

E-I COMPACTED SUBGRADE		
SHEET No.	ITEM	E-I SQ. YDS.
7	T-71	21,811
7	20.5 CU. YDS. B-35 1 1/2"	492
TOTAL		22,303

E-II WATER			
SHEET No.	ITEM	QUANTITY CU. YDS.	E-II @ 0.005 M-GAL PER CU. YDS.
6	EMB.	23,749	118.7
7	B-19	484	2.4
7	I-22	4,750	23.8
7	B-19	314	1.5
TOTAL			146

EXCAVATION, EMBANKMENT & SEEDING QUANTITIES

LOCATION	SHEET No.	E-I EXCAVATION CU. YDS.	E-I EMBANKMENT CU. YDS.	L-9 SEEDING SQ. YDS.
S.R. 306	10	1,810	27	1,759
	11	3,623	19	4,075
	12	4,431	2	3,421
	13	907	20,885	9,296
	14	1,884	1,815	5,153
	15	2,158	769	4,319
SUB - TOTAL		14,813	23,517	28,023
ADD FOR DRIVEWAYS		21	346	0
		22	87	232
DEDUCT FOR DRIVEWAYS				2,400
DEDUCT FOR INTERSECT. STREET PAVEMENTS				1,200
TOTAL		15,246	23,749	24,423