

CALCULATIONS

FED. RD. DIVISION	STATE	PROJECT	
2	OHIO		

5
34

LAKE COUNTY

LAK - 283-16.85

ITEM - 202 - EXISTING COMBINATION CURB AND GUTTER WITH WEARING COURSE REMOVED AND DISPOSED OF:

STATION LOCATION:

7 + 50 TO 9 + 43.60	=	193.60	LIN. FT.
10 + 56.40 TO 14 + 78.65	=	422.25	" "
15 + 58.53 TO 18 + 95.97	=	337.44	" "
19 + 60.29 TO 20 + 20.42	=	60.13	" "
20 + 85.05 TO 23 + 88.68	=	303.63	" "
24 + 53.30 TO 27 + 17.64	=	264.34	" "

1,581.39 LIN. FT.

1,581.39 LIN. FT. x 2 (BOTH SIDES OF RDW'Y) = 3,162.8 LIN. FT.

EXTRA AREA QUANTITIES:

LIBERTY ST.; NORTH PARK PL.; LIBERTY EXT.	=	94.0	LIN. FT.
RICHMOND ST. & ERIE ST.	=	311.0	" "
" " & JACKSON ST.	=	187.0	" "
" " & NEBRASKA ST.	=	146.5	" "
" " & KERR ST.	=	125.1	" "
" " & AXTELL ST.	=	124.0	" "
" " & PROSPECT ST.	=	16.6	" "
ESTIMATED TOTAL		=	4,167.0 LIN. FT.

ITEM-203 - EXCAVATION INCLUDING EMBANKMENT CONSTRUCTION:

STATION LOCATION :	CUT	FILL
7 + 50.00 TO 9 + 43.60	201 CU.-YD.	2 CU.-YD.
10 + 56.40 TO 14 + 78.65	499	19
15 + 58.53 TO 18 + 95.97	375	24
19 + 60.29 TO 20 + 20.42	69	0
20 + 85.05 TO 23 + 88.68	334	24
24 + 53.30 TO 27 + 17.64	301	9
EXTRA AREA QUANTITIES:		
LIB. ST.; N. PARK PL.; LIB. EXT.	58	—
RICHMOND ST. & ERIE ST.	125	—
" " & JACKSON ST.	58	—
" " & NEBRASKA ST.	53	—
" " & KERR ST.	54	—
" " & AXTELL ST.	52	—
" " & PROSPECT ST.	203	—
DRIVES & PARKING AREAS:		
DRIVE QUANTITY SHEET	138	—
ESTIMATED TOTAL		2,521 CU.-YDS. 78 CU.-YDS.

EMBANKMENT PLUS 18% = 92 CU. YDS.
EXCESS EXCAVATION = 2,429 CU. YDS.

ITEM - 203 - SUBGRADE PREPARATION:

AREA OF PORTLAND CEMENT CONCRETE BASE = 4,479 SQ. YDS.
ADDITIONAL ITEM-305 P.C.C. BASE TO BE USED AS DIRECTED BY THE ENGINEER = 200 " "
TOTAL ITEM-203 SUBGRADE PREPARATION = 4,679 SQ. YDS.

ITEM - 203 WATER:

EMBANKMENT + 18% = 92 CU. YDS.
ITEM - 310 SUBBASE PREPARATION = 860 " "
952 Cuyds.
952 CU. YDS. x 5.25 GAL. PER CU. YD. = 5 M. GAL. WATER
1000

ITEM-305 - 9" PORTLAND CEMENT CONCRETE BASE:

STATION LOCATION:

7 + 50 TO 9 + 43.60	=	$\frac{193.6' \times 15'}{9}$	=	322.7	SQ. YDS.
10 + 56.40 TO 14 + 78.65	=	$\frac{422.25' \times 17.9'}{9}$	=	839.8	" "
15 + 58.53 TO 18 + 95.97	=	$\frac{337.44' \times 17.6'}{9}$	=	659.9	" "
19 + 60.29 TO 20 + 20.42	=	$\frac{60.13' \times 17.8'}{9}$	=	118.9	" "
20 + 85.05 TO 23 + 88.68	=	$\frac{303.63' \times 18'}{9}$	=	607.3	" "
24 + 53.30 TO 27 + 17.64	=	$\frac{264.34' \times 18'}{9}$	=	528.7	" "
				3,077.3	SQ. YDS.

EXTRA AREA QUANTITIES:

LIBERTY ST.; NORTH PARK PL.; LIBERTY EXT.	=	144.3	SQ. YDS.
RICHMOND ST. & ERIE ST.	=	274.7	" "
" " & JACKSON ST.	=	140.6	" "
" " & NEBRASKA ST.	=	122.8	" "
" " & KERR ST.	=	121.1	" "
" " & AXTELL ST.	=	117.5	" "
" " & PROSPECT ST.	=	378.7	" "
STORM SEWER PAVEMENT CROSS - OVERS	=	102.0	" "
ADDITIONAL ITEM-305 P.C.C. BASE TO BE USED, AS DIRECTED BY THE ENGINEER		=	200.0 " "
ESTIMATED TOTAL		=	4,679.0 SQ. YDS.

ITEM - 310 - 6" SUBBASE, GRADING "C" OR "D"

STATION LOCATION: (SAME AS ITEM 305 P.C.C. BASE)

LIN. FT. ABOVE STATIONS = 1,581.39 LIN. FT.
 $\frac{1,581.39' \times 2' (1FT. BEHIND CURB EACH SIDE RDW'Y)}{9} = 351.4$ SQ. YDS.
AREA P.C.C. BASE AT ABOVE STATIONS = 3,077.3 " "
3,428.7 SQ. YDS.

$3,428.7$ SQ. YDS. x $6 \div 36 = 571.5$ CU. YDS.
EXTRA AREA QUANTITIES SUMMARY SHEET #16 = 237.6 " "
STORM SEWER PAVEMENT CROSS - OVERS = 16.9 " "
ADDITIONAL ITEM-310, USED AS DIRECTED BY THE ENGINEER = 34.0 " "
ESTIMATED TOTAL = 860.0 CU. YDS.

ITEM-402 - ASPHALT CONCRETE (1 1/2" LEVELING)

AREA P.C.C. BASE AT ABOVE STATIONS = 3,077.3 SQ. YDS.
(SUBTRACT FOR 6" CURB BOTH SIDES RDW'Y) $\frac{1,581.39' \times 1'}{9} = -175.7$ " "
2,901.6 SQ. YDS.

$2,901.6 \times 1.5" / 36" / YD. = 120.9$ CU. YDS.
EXTRA AREA QUANTITIES SUMMARY SHEET (1 1/2" LEVEL) #16 = 51.1 " "
STORM SEWER PAVEMENT CROSS - OVERS = 7.5 " "
ADDITIONAL ITEM-402, USED AS DIRECTED BY THE ENGINEER = 50.0 " "
ESTIMATED TOTAL = 229.5 CU. YDS.

ITEM-404 - ASPHALT CONCRETE: 1" SURFACE

LIN. FT. OTHER THAN EXTRA AREAS = 1,581.39 LIN. FT.
 $\frac{1,581.39' \times 44' \times 1/12'}{27} = 214.8$ CU. YDS.
EXTRA AREA QUANTITIES SUMMARY SHEET #16 = 141.8 " "
DRIVES & PARKING AREA SUMMARY SHEET #21 = 8.4 " "
ADDITIONAL ITEM-404, USED AS DIRECTED BY THE ENGINEER = 50.0 " "
ESTIMATED TOTAL = 415.0 CU. YDS.

ITEM-407 - TACK COAT

S.Y. SURFACE COURSE (OTHER THAN EXTRA AREAS) = $\frac{1,581.39' \times 44'}{9} = 7,731.5$ SQ. YDS.
 $7,731.5$ S.Y. x 0.10 GAL. PER SQ. YD. = 773.2 GAL.
EXTRA AREA QUANTITIES SUMMARY SHEET #16 = 524.8 " "
STORM SEWER PAVEMENT CROSS - OVERS = 44.0 " "
ESTIMATED TOTAL = 1,342.0 GAL.

ITEM - 609 - CURB, TYPE 2-B

LIN. FT. (OTHER THAN EXTRA AREAS) = 1,581.39' x 2 (BOTH SIDES RDW'Y) = 3,162.8 LIN. FT.
EXTRA AREA QUANTITIES SUMMARY SHEET #16 = 1,237.2 " "
ESTIMATED TOTAL = 4,400.0 LIN. FT.

ITEM 403 Asphalt Concrete (70-85)
[0" MIN. (0.2' Average) Preleveling Course]
[(Ave. width level) $32' \times \frac{1,581.39' - 2901.65y.}{3} \times \frac{0.2'}{3} = 181.5$ cuyds.
extra Area Quantities Summary Sheet #16 = 81.0 cuyds.
Estimated Total 262.5 cuyds