

CALCULATIONS

CALC. F.L. 12-82
CHK. R.O.B. 12-83

				17 114

LAKE COUNTY
LAK-20-6.65

ITEM 452 8" PLAIN CONCRETE

6-P STA. 109+89 RT. A= 1/2 (8x8) + (20x8) ÷ 9	= 21.33 S.Y.
11-P STA. 106 + 70 LT. A= 1/2 (32 + 48) 8 ÷ 9	= 35.6 S.Y.
12-P STA. 108 + 28 LT. A= 1/2 (18 + 34) 8 ÷ 9	= 23.1 S.Y.
13-P STA. 108 + 93 A= [1/2 (20 + 36) 8 + 1/2 (18 x 25) 2 + (20 x 25) ÷ 9	= 455 S.Y.
14-P STA. 106 + 63 RT. A= [1/2 (32 + 48) 8 + (32 x 7.5) ÷ 9	= 62.2 S.Y.
16-P STA. 108+63.5 LT. A=1/2(20+36) 8 ÷ 9	= 24.9 S.Y.
ITEM 404 1" ASPHALT CONCRETE	
11-P V= [(32 x 14.5) + 1/2 (14.0 x 7)] 0.0833 ÷ 27	= 1.58 C.Y.
12-P V= (18 x 13.5) + 1/2 (13.5 x 5) 0.0833 ÷ 27	= 0.85 C.Y.
16-P V= (20 x 15) + 1/2 (15 x 5) 0.0833 ÷ 27	= 1.04 C.Y.
6-P V= (28.5 x 9) + 1/2 (28.5 x 20) 0.0833 ÷ 27	= 1.67 C.Y.
ITEM 301 5" BITUMINOUS AGGREGATE BASE	
6-P V= (28.5 x 9) + 1/2 (28.5 x 20) 0.4167 ÷ 27	= 8.36 C.Y.
11-P V= [(32 x 14.5) + 1/2 (14.0 x 7)] 0.4167 ÷ 27	= 7.92 C.Y.
12-P V= (18 x 13.5) + 1/2 (13.5 x 5) 0.4167 ÷ 27	= 4.27 C.Y.
16-P V= (20 x 15) + 1/2 (15 x 5) 0.4167 ÷ 27	= 5.21 C.Y.

ITEM 301 BITUMINOUS AGGREGATE BASE (5")	
7-P V= [(24 x 13) + 1/2 (13 x 10)] x 0.4167 ÷ 27	= 5.82 C.Y.
8-P V= [(22 x 17.5) x 0.4167 ÷ 27	= 5.94 C.Y.
9-P V= (24 x 14.5 x 0.4167) ÷ 27	= 5.37 C.Y.
10-P V= [(24 x 15.0) + 1/2 (10 x 15)] x 0.4167 ÷ 27	= 6.71 C.Y.
11-P V= [(24 x 19) + 1/2 x 2 (13 x 8)] 0.4167 ÷ 27	= 9.26 C.Y.
12-P V= (30 x 17.5 x 0.4167) ÷ 27	= 6.25 C.Y.
13-P V= [(15.5 x 16) + 1/2 (7 x 15)] x 0.4167 ÷ 27	= 4.64 C.Y.
17-P V= (28.5 x 11) + 1/2 (28.5 x 20) 0.4167 ÷ 27	= 9.24 C.Y.

SHEET 41 STA. 114 + 00 TO STA. 118 + 00	
ITEM 608 4" CONCRETE WALK	
1-P STA. 114 + 00 TO STA. 115 + 48 LT. A= (148 x 8) - 1/2 (8 x 8) 2	= 1152 S.F.
2-P STA. 115 + 78 TO STA. 116 + 68 LT. A= (90 x 8) - 1/2 (8 x 8) 2	= 656 S.F.
3-P STA. 116 + 92 TO STA. 118 + 00 LT. A= (108 x 8) - 1/2 (8 x 8) 2	= 832 S.F.

ITEM 452 8" PLAIN CONCRETE	
4-P STA. 115 + 63 LT. A= [1/2 (30 + 46) 8 + (13.5 x 30)] ÷ 9	= 78.8 S.Y.
5-P STA. 116 + 80 LT. A= 1/2 (24 + 40) 8 ÷ 9	= 28.4 S.Y.
6-P STA. 115 + 25.5 RT. A= 1/2 (34 + 47) 6.5 ÷ 9	= 29.3 S.Y.
7-P STA. 117 + 09 RT. A= 1/2 (28 + 42) 7 ÷ 9	= 27.2 S.Y.

ITEM 404 1" ASPHALT CONCRETE	
5-P V= [(24 x 10) + 2 x 1/2 (9.5 x 8)] x 0.0833 ÷ 27	= 0.98 C.Y.
ITEM 301 5" BITUMINOUS AGGREGATE BASE	
5-P V= [(24 x 10) + 2 x 1/2 (9.5 x 8)] x 0.4167 ÷ 27	= 4.88 C.Y.
ITEM 609 CURB TYPE 7	
9-P STA. 116 + 48 TO STA. 116 + 68	= 20 L.F.
10-P STA. 116 + 92 TO STA. 117 + 12	= 20 L.F.

SHEET 42 STA. 118 + 00 TO END	
ITEM 452 8" PLAIN CONCRETE	
1-P STA. 118 + 27 LT. A= 1/2 (30 + 36) 3 ÷ 9	= 11.0 S.Y.

PAVEMENT REPLACEMENT QUANTITIES OVER STORM SEWERS	
LENGTH OF PAVEMENT CUTS	
STA. 42 + 46 TO STA. 44 + 44 = 198'	
STA. 44 + 44 = 36'	
STA. 44 + 44 TO STA. 44 + 56 = 11'	
STA. 52 + 00 = 40'	
STA. 64 + 60 = 40'	
STA. 68 + 03 TO STA. 68 + 22 = 44'	
STA. 77 + 75 = 40'	
STA. 84 + 31 TO STA. 84 + 43 = 42'	
STA. 101 + 28 TO STA. 101 + 42.5 = 42'	
STA. 108 + 75 TO STA. 108 + 97 = 45'	
STA. 113 + 25 = 43'	
STA. 117 + 58 TO STA. 117 + 95 = 69'	
S.R. 306 = 50'	
BRENTWOOD = 22'	
TOTAL = 722'	

SUB TOTALS	
ITEM 202 PAVEMENT REMOVED	
A= 722 x 4 ÷ 9	= 321 S.Y.
ITEM 305 8" PORTLAND CEMENT CONCRETE BASE	
A= 722 x 4 ÷ 9	= 321 S.Y.
ITEM 301 BITUMINOUS AGGREGATE BASE	
V= 722 x 4 x 0.4167 ÷ 27	= 44.6 C.Y.
ITEM 402 ASPHALT CONCRETE	
V= 722 x 4 x 0.4167 ÷ 27	= 44.6 C.Y.
ITEM 404 1 1/4" ASPHALT CONCRETE FOR PIPE @ BEGIN WORK	
V= 198 x 4 x 0.1042 ÷ 27	= 3.06 C.Y.

PAVEMENT REPLACEMENT QUANTITIES FOR AREAS

ADJACENT TO TYPE 7 CURB	
LENGTH OF SAW CUTS BEHIND CURB	
STA. 45 + 12 TO STA. 47 + 30 LT. = 218'	
STA. 44 + 87 TO STA. 46 + 86 RT. = 199'	
STA. 47 + 10 TO STA. 47 + 62 RT. = 52'	
STA. 47 + 70 TO STA. 48 + 42 LT. = 72'	
STA. 61 + 63 TO STA. 62 + 47 LT. = 84'	
STA. 86 + 68 TO STA. 87 + 21 LT. = 53' CONCRETE	
STA. 93 + 50 TO STA. 97 + 25 LT. = 375'	
STA. 98 + 95 TO STA. 100 + 47 LT. = 152'	
STA. 100 + 90 TO STA. 101 + 26 LT. = 36'	
STA. 102 + 04 TO STA. 102 + 26 LT. = 22'	
STA. 102 + 76 TO STA. 102 + 88 LT. = 12'	
STA. 104 + 28 TO STA. 104 + 49 LT. = 21'	
STA. 104 + 92 TO STA. 105 + 48 LT. = 56'	
STA. 106 + 93 TO STA. 108 + 30 LT. = 137'	
STA. 108 + 75 TO STA. 109 + 87 LT. = 112'	
STA. 111 + 27 TO STA. 111 + 40 RT. = 13'	
TOTAL = 1561'	

SUB TOTALS	
ITEM 404 ASPHALT CONCRETE	
V= 1561 x 2 x 0.0833 ÷ 27	= 9.64 C.Y.
ITEM 301 BITUMINOUS AGGREGATE BASE	
V= 1561 x 2 x 0.4167 ÷ 27	= 48.18 C.Y.
ITEM 452 8" PLAIN CONCRETE	
A= 53 x 2 ÷ 9	= 11.78 S.Y.

SHEET SUB TOTALS	
SHEET 23	
ITEM 301 BITUMINOUS AGGREGATE BASE = 3.70 C.Y.	
ITEM 404 ASPHALT CONCRETE = 0.74 C.Y.	
ITEM 452 8" PLAIN PORTLAND CEMENT CONCRETE = 56.8 S.Y.	
ITEM 608 4" CONCRETE WALK = 2048 S.F.	
ITEM 609 CURB, TYPE 7 = 201 L.F.	

SHEET 24	
ITEM 301 BITUMINOUS AGGREGATE BASE = 22.88 C.Y.	
ITEM 404 ASPHALT CONCRETE = 4.69 C.Y.	
ITEM 452 6" PLAIN PORTLAND CEMENT CONCRETE = 48.0 S.Y.	
ITEM 452 8" PLAIN PORTLAND CEMENT CONCRETE = 85.2 S.Y.	
ITEM 608 4" CONCRETE WALK = 5215 S.F.	
ITEM 609 CURB, TYPE 7 = 363 L.F.	

SHEET 25	
ITEM 301 BITUMINOUS AGGREGATE BASE = 2.90 C.Y.	
ITEM 404 ASPHALT CONCRETE = 0.63 C.Y.	
ITEM 452 6" PLAIN PORTLAND CEMENT CONCRETE = 16.0 S.Y.	
ITEM 452 8" PLAIN PORTLAND CEMENT CONCRETE = 28.4 S.Y.	
ITEM 608 4" CONCRETE WALK = 6000 S.F.	

SHEET 26	
ITEM 304 AGGREGATE BASE = 6.02 C.Y.	
ITEM 452 8" PLAIN PORTLAND CEMENT CONCRETE = 92.5 S.Y.	
ITEM 608 4" CONCRETE WALK = 5928 S.F.	

SHEET 27	
ITEM 301 BITUMINOUS AGGREGATE BASE = 14.27 C.Y.	
ITEM 304 AGGREGATE BASE = 18.70 C.Y.	
ITEM 404 ASPHALT CONCRETE = 2.86 C.Y.	
ITEM 452 8" PLAIN CONCRETE = 102.1 S.Y.	
ITEM 608 4" CONCRETE WALK = 5480 S.F.	
ITEM 609 CURB, TYPE 7 = 57.5 L.F.	

SHEET 40 STA. 110 + 00 TO STA. 114 + 00	
ITEM 608 4" CONCRETE WALK	
1-P STA. 110 + 25 TO STA. 111 + 00 LT. A= (75 x 8) - 1/2 (8 x 8) 2	= 536 S.F.
2-P STA. 111 + 22 TO STA. 111 + 57 LT. A= (35 x 8) - 1/2 (8 x 8) 2	= 216 S.F.
3-P STA. 111 + 81 TO STA. 112 + 11 LT. A= (30 x 8) - 1/2 (8 x 8) 2	= 176 S.F.
4-P STA. 112 + 35 TO STA. 114 + 00 LT. A= (165 x 8) - 1/2 (8 x 8) 2	= 1288 S.F.
5-P STA. 110 + 00 TO STA. 110 + 95 RT. A= (95 x 8) - 1/2 (8 x 8) 2	= 696 S.F.
6-P STA. 111 + 19 TO STA. 111 + 69 RT. A= (50 x 8) - 1/2 (8 x 8) 2	= 336 S.F.
14-P STA. 111 + 85 TO STA. 112 + 64 RT. A= (79 x 8) - 1/2 (8 x 8) 2	= 568 S.F.
ITEM 452 8" PLAIN CONCRETE	
7-P STA. 110 + 13 LT. A= 1/2 (24 + 40) 8 ÷ 9	= 28.4 S.Y.
8-P STA. 111 + 11 LT. A= 1/2 (22 + 38) 8 ÷ 9	= 26.7 S.Y.
9-P STA. 111 + 69 LT. A= 1/2 (24 + 40) 8 ÷ 9	= 28.4 S.Y.
10-P STA. 112 + 23 LT. A= 1/2 (24 x 40) 8 ÷ 9	= 28.4 S.Y.
11-P STA. 111 + 07 RT. A= 1/2 (24 + 40) 8 ÷ 9	= 28.4 S.Y.
12-P STA. 112 + 79 RT. A= [1/2 (8 + 11) 30 + 1/2 (8 x 8) + 1/2 (11 + 5) 2.5 + 1/2 (5.5 x 5.5)] ÷ 9	= 39.1 S.Y.
13-P STA. 111 + 77 RT. A= 1/2 (16 + 32) 8 ÷ 9	= 21.3 S.Y.
17-P STA. 109+89, RT. A= 1/2 (8x8) ÷ 9	= 3.56 S.Y.
ITEM 404 1" ASPHALT CONCRETE	
7-P V= [(24 x 13) + 1/2 (13 x 10)] x 0.0833 ÷ 27	= 1.16 C.Y.
8-P V= [(22 x 17.5) x 0.0833 ÷ 27	= 1.19 C.Y.
9-P V= (24 x 14.5 x 0.0833) ÷ 27	= 1.07 C.Y.
10-P V= [(24 x 15.0) + 1/2 (10 x 15)] x 0.0833 ÷ 27	= 1.34 C.Y.
11-P V= [(24 x 19) + 1/2 x 2 (13 x 8)] 0.0833 ÷ 27	= 1.85 C.Y.
12-P V= (30 x 17.5 x 0.0833) ÷ 27	= 1.25 C.Y.
13-P V= [(15.5 x 16) + 1/2 (7 x 15)] x 0.0833 ÷ 27	= 0.93 C.Y.
17-P V= (28.5 x 11) + 1/2 (28.5 x 20) 0.0833 ÷ 27	= 1.85 C.Y.
ITEM 609 CURB TYPE 7	
18-P STA. 111+22	L= 17.5 L.F.