

LAKE COUNTY
LAK-1-2.16

PAVEMENT, BASE & SUBBASE CALCULATIONS

See Sheet No.	Station Location	Calculations, etc.	E-1	B-35	B-219	B-19	B-19	T-30	T-31	T-31	T-32	T-32	T-32	T-32	T-32	T-35	T-71	T-71	B-35	I-7	I-18	I-22
			Compacted Subgrade Sq. Yds.	5" Asphaltic Conc. Base Course (70-85) Sq. Yds.	5" Waterproof. 5" Aggregate Base Course Sq. Yds.	Aggregate Base Course Sq. Yds.	Aggregate Base Course Sq. Yds.	Bituminous Prime Coat Sq. Yds.	Bituminous Surf. Treat. Bit. Mat'l. Sq. Yds.	Bituminous Surf. Treat. No. 6 Aggr. Sq. Yds.	Road Mix Bituminous Material Sq. Yds.	Seal Coat Bituminous Material Sq. Yds.	No. 6 Aggr. for Road Mix Sq. Yds.	No. 6 or 9 Aggregate for Choke Sq. Yds.	No. 6 Aggr. for Seal Coat Sq. Yds.	1 1/4" Asphaltic Conc. Surf. Course (70-85) Sq. Yds.	9" Reinf. Portland Cem. Conc. Pav't. Sq. Yds.	10" Reinf. Portland Cem. Conc. Pav't. Sq. Yds.	1 1/4" Asphaltic Conc. Leveling Course (70-85) Sq. Yds.	Reinf. Conc. Appr. Slabs as per Plan Sq. Yds.	5" Stab. Cru. Aggr. Slabs. & Approaches as per Plan Sq. Yds.	Subbase Grading for 'B' as per Plan Cu. Yds.
184	Lt. Ramp "D" Sta. 13+69.70 To Sta. 15+04	= 130.48' Avg. L. X 3' W. X 1/2"	43.49		43.49				43.49												43.49	
"	" " " Sta. 15+04 To Sta. 22+00	= 703.60' Avg. L. X 3' W. X 0.67' Avg. D. X 1/27"	234.56		234.56				234.56													9.71
"	" " " " " " " " " "	703.60' Avg. L. X 3.5' W. X 1/2"																			273.66	
"	" " " " " " " " " "	703.60' X 3.5' W. X 0.57' Avg. D. X 1/27"																			34.10	51.99
184	" " " Sta. 22+00 To Sta. 23+00	= 102.20' Avg. L. X 3' W. X 1/2"	34.10		34.10				34.10												34.10	8.13
"	" " " " " " " " " "	102.20' Avg. L. X 4' W. X 0.54' Avg. D. X 1/27"																			14.20	3.58
"	" " " Sta. 23+00 To Sta. 23+50	= 51.13' Avg. L. X 2.5' Avg. W. X 1/2"	14.20		14.20				14.20												14.20	3.58
"	" " " " " " " " " "	51.13' Avg. L. X 3.5' Avg. W. X 0.54' Avg. D. X 1/27"																			190.73	31.79
22 & 184	Extra Lt. Ramp "D" Sta. 23+77 To Sta. 28+40	(P) = 190.73 54. (190.73 54 @ 0.5' D) = 190.73 X 1/6	190.73		190.73				190.73												190.73	31.79
2, 24 & 249	Ramp "E" Sta. 15+00 To Sta. 4+53.04	(P) = 1165.30 54. (1165.30 54 @ 0.5' D) = 1165.30 X 1/6	1165.30																		1165.30	184.22
"	" " " Sta. 4+53.04 To Sta. 5+53	= 100.18' Avg. L. X 17' Avg. W. X 1/2"	189.23																		189.23	
"	" " " " " " " " " "	100.18' Avg. L. X 17' Avg. W. X 0.5' D. X 1/27"																			1103.06	31.54
249	" " " Sta. 5+53 To Sta. 11+74.62	= 620.47' Avg. L. X 16' W. X 1/2"	1103.06																		1103.06	183.84
"	" " " " " " " " " "	620.47' Avg. L. X 16' W. X 0.5' D. X 1/27"																				
249	Rt. Ramp "E" Sta. 6+03 To Sta. 9+89.50	= 386.73' Avg. L. X 3' W. X 1/2"	128.91		128.91				128.91													
"	" " " " " " " " " "	386.73' Avg. L. X 3.5' W. X 1/2"																				
"	" " " " " " " " " "	386.73' X 3.5' W. X 0.62' Avg. D. X 1/27"																				
249	" " " Sta. 10+36.80 To Sta. 10+55.54	= 18.74' X 2.01' Avg. W. X 1/2"	4.19		4.19				4.19													
"	" " " " " " " " " "	18.74' X 2.51' Avg. W. X 1/2"																				
"	" " " " " " " " " "	18.74' X 2.51' Avg. W. X 0.62' Avg. D. X 1/27"																				
249	" " " Sta. 10+55.54 To Sta. 11+74.62	= 119.08' X 3' W. X 1/2"	39.69		39.69				39.69													
"	" " " " " " " " " "	119.08' X 3.5' W. X 1/2"																				
"	" " " " " " " " " "	119.08' X 3.5' W. X 0.62' Avg. D. X 1/27"																				
249	Lt. Ramp "E" Sta. 4+53.04 To Sta. 5+53	= 100.44' Avg. L. X 3' W. X 1/2"	33.48		33.48				33.48													
"	" " " " " " " " " "	100.44' Avg. L. X 3' W. X 0.54' Avg. D. X 1/27"																				
249	" " " Sta. 5+53 To Sta. 11+74.62	= 619.08' Avg. L. X 3' W. X 1/2"	206.36		206.36				206.36													
"	" " " " " " " " " "	619.08' Avg. L. X 3.5' W. X 1/2"																				
"	" " " " " " " " " "	619.08' X 3.5' W. X 0.57' Avg. D. X 1/27"																				
249	Parking Lot Exit on Ramp "E" Sta. 9+81.08 To Sta. 10+55.54	(P) = 253.03 54. (P) = 253.03 54 @ 0.5' D = 253.03 X 1/6	253.03																		253.03	46.98
"	" " " " " " " " " "	(P) = 253.03 54 @ 0.5' D = 253.03 X 1/6																				
249	Parking Lot Entrance off Ramp "F" Sta. 2+45.60 To Sta. 3+20.06	(P) = 253.03 54. (P) = 253.03 54 @ 0.5' D = 253.03 X 1/6	253.03																		253.03	46.98
"	" " " " " " " " " "	(P) = 253.03 54 @ 0.5' D = 253.03 X 1/6																				
249	Parking Lot Area = 108' W. X 348' L. + (108/2) * pi * (40)^2 - 2(40)^2	X 1/6 = 4099.70 54. Pav't. Area = 4221.16 54. (4221.16 54 @ 0.5' D = 4221.16 X 1/6	4099.70																		4099.70	703.53
2, 249 & 250	Ramp "F" Sta. 2+45.60 To Sta. 8+85	= 638.77' Avg. L. X 16' W. X 1/2"	1135.59																			
"	" " " " " " " " " "	638.77' Avg. L. X 16' W. X 0.5' D. X 1/27"																				
250	" " " Sta. 8+45 To Sta. 10+50	= 165.40' Avg. L. X 17' Avg. W. X 1/2"	312.59																			
"	" " " " " " " " " "	165.40' Avg. L. X 18' Avg. W. X 0.5' D. X 1/27"																				
250	" " " Sta. 10+50 To Sta. 13+50	= 300.00' X 15' Avg. W. X 1/2"	500.00																			
"	" " " " " " " " " "	300.00' X 16' Avg. W. X 0.5' D. X 1/27"																				
"	" " " Sta. 13+50 To Sta. 19+61.54	= 1304.00' X 11.60' Avg. W. X 1/2"	1694.45																			
"	" " " " " " " " " "	1304.00' X 11.60' Avg. W. X 0.6' D. X 1/27"																				
249 & 250	Rt. Ramp "F" Sta. 3+12 To Sta. 9+00	= 588.10' Avg. L. X 3' W. X 1/2"	196.03		196.03				196.03													
"	" " " " " " " " " "	588.10' Avg. L. X 3.5' W. X 1/2"																				
"	" " " " " " " " " "	588.10' X 3.5' W. X 0.62' Avg. D. X 1/27"																				
250	" " " Sta. 9+00 To Sta. 10+50	= 149.66' Avg. L. X 6.5' Avg. W. X 1/2"	108.09		108.09				108.09													
"	" " " " " " " " " "	149.66' Avg. L. X 7.0' Avg. W. X 1/2"																				
"	" " " " " " " " " "	149.66' X 7.0' Avg. W. X 0.53' Avg. D. X 1/27"																				
250	" " " Sta. 10+50 To Sta. 13+50	= 300.00' X 10' W. X 1/2"	333.33		333.33				333.33													
"	" " " " " " " " " "	300.00' X 10.5' W. X 1/2"																				
"	" " " " " " " " " "	300.00' X 10.5' W. X 0.52' Avg. D. X 1/27"																				
249 & 250	Lt. Ramp "F" Sta. 2+45.60 To Sta. 7+35	= 487.11' Avg. L. X 3' W. X 1/2"	162.37		162.37				162.37													
"	" " " " " " " " " "	487.11' Avg. L. X 3.5' W. X 1/2"																				
"	" " " " " " " " " "	487.11' X 3.5' W. X 0.57' Avg. D. X 1/27"																				
250	" " " Sta. 7+35 To Sta. 8+35	= 100.61' Avg. L. X 3' W. X 1/2"	33.54		33.54				33.54													
"	" " " " " " " " " "	100.61' Avg. L. X 4' W. X 0.54' Avg. D. X 1/27"																				
"	" " " Sta. 8+35 To Sta. 8+85	= 50.30' Avg. L. X 2.5' Avg. W. X 1/2"	13.97		13.97				13.97													
"	" " " " " " " " " "	50.30' Avg. L. X 3.5' Avg. W. X 0.54' Avg. D. X 1/27"																				
26 & 250	Extra Lt. Ramp "F" Curb Sta. 8+85 To Sta. 13+50	(P) = 184.86 54. (184.86 54 @ 0.5' D) = 184.86 X 1/6	184.86		184.86				184.86													
"	" " " " " " " " " "	(184.86 54 @ 0.5' D) = 184.86 X 1/6																				

Sub-Totals

12,667.88

1,061.90

1,061.90

1,061.90

1,061.90

10,705.93

2,149.26 2,228.44

NOTE: (P) Denotes Area Obtained by Planimeter

MICHAEL BAKER, JR., CONSULTING ENGINEERS
ROCHESTER, PENNSYLVANIA

STATE HIGHWAY NO. 1
C-43
PAVEMENT, BASE & SUBBASE CALCULATIONS

Designed	Drawn	Traced	Checked	Reviewed Date	Revised
B.P.	B.M.	K.A.	R.E.F.		