

# PAVEMENT, BASE & SUBBASE CALCULATIONS

See Sheet No.	Station, Location, Calculation, etc.	E-1 Compacted Subgrade Sq. Yds.	B-20 8" Waterbound Macadam Base Course Sq. Yds.	B-219 3" Waterproofed Aggregate Base Course Sq. Yds.	B-35 2 3/4" Asphaltic Conc. Base Course (10-80) Sq. Yds.	B-19 5" Aggregate Base Course Sq. Yds.	T-30 Bituminous Prime Coat Sq. Yds.	T-31 Bituminous Surf. Treat. Bit. Mat'l. Sq. Yds.	T-31 Bituminous Surf. Treat. No. 6 Aggr. Sq. Yds.	T-32 Road Mix Bituminous Material Sq. Yds.	T-32 Seal Coat Bituminous Material Sq. Yds.	T-32 No. 4 1/2 Aggr. For Road Mix Sq. Yds.	T-32 No. 6 Or 9 Aggregate For Choke Sq. Yds.	T-32 No. 6 Aggr. For Seal Coat Sq. Yds.	T-35 1 1/2" Asphaltic Concrete Surf. Course (10-80) Sq. Yds.	T-71 9" Reinf. Portland Cem. Conc. Pav't. Sq. Yds.	T-71 10" Reinf. Portland Cem. Conc. Pav't. Sq. Yds.	I-7 Reinf. Conc. Approach Slab (7-13") Sq. Yds.	I-7 Reinf. Conc. Apror. Slabs As Per Plan Sq. Yds.	I-18 5" Stab. Cru. Aggr. Shldr's & Approaches As Per Plan Sq. Yds.	I-22 Subbase Grading For B Cu. Yds.
4	Typical Section "A" - 5162.35 LF; "B" - 3093.04 LF; "C" - 6213.07 LF; Total = 14,480.46 LF 14,480.46 LF X 2 (NB & SB Lanes) = 28,960.92' X 24' X 1/2"			48,268.20				48,268.20	48,268.20									77,229.12			
	10' Outside & 5' Inside Paved Shoulders = 15' X 28,960.92' X 1/2"			48,268.20																51,486.08	
5	10.5 Outside & 5.5 Inside Stabilized Shoulders = 16' X 28,960.92' X 1/2"																				10,110.77
	28,960.92 LF Less Typical Section "D" 3630.00 LF = 25,330.92' X 30' X 1/2"	109,767.32																			3,409.51
	28,960.92 LF Less Typical Section "D" 3630.00 LF = 25,330.92' X 20.37' Sq. Ft. End Area X 1/27																				
	Typical Section "D" 3630.00 LF X 25.36 Sq. Ft. End Area X 1/27																				
8, 26, 27 & 28	NOTE: W/ Carried Thru. S.R. 306 Interchange - Extra Areas In Interchange As Follows: RAMP "A" Sta. 332+41.58 To Sta. 345+45.58 = 1304' X 11.61' Avg. Width X 1/2"	1,682.16																1,682.16			280.36
	1304' X 11.61' Avg. Width X 0.5' Depth X 1/27																				
28 & 186	Sta. 5+45.58 To Sta. 10+45 = 499.42' X 15.8' Avg. Width X 1/2"	876.76																876.76			155.38
	499.42' X 16.8' Avg. Width X 0.5' Depth X 1/27																				
186	Sta. 10+45 To Sta. 18+62.25 = 817.25' Avg. Length X 16' W. X 1/2"	14,522.89																1,452.89			242.15
	817.25' Avg. Length X 16' W. X 0.5' D. X 1/27																				
186	Sta. 18+62.25 To Sta. 18+97.23 - Intersection (P) 100.83 S.Y. Pvt.	100.83																100.83			
	" " " " " 47.22 S.Y. Shldr.	47.22		47.22				47.22	47.22												
	" " " " " 53.89 S.Y. Shldr. Base																			53.89	25.79
	" (100.83 S.Y. Pvt. + 53.89 S.Y. Base = 154.72 S.Y. @ 0.5' Avg. D.) = 154.72 X 1/2"																				180.56
28	Extra Pt. Ramp "A" Curb Sta. 345 + 45.58 To Sta. 349 + 00 (P) = 180.56 S.Y. Shldr. & Base	180.56		180.56				180.56	180.56												30.09
	(180.56 S.Y. @ 0.5' Avg. D.) = 180.56 X 1/2"																				
28	Lt. " " Sta. 5 + 45.58 To Sta. 8 + 45.58 = 300.0' X 10' X 1/2"	333.33		333.33				333.33	333.33												350.00
	300.0' X 10.5' X 1/2"																				60.67
186	Lt. " " Sta. 8 + 45.58 To Sta. 10 + 95.58 = 249.65' Avg. Lgth. X 9' Avg. W. X 1/2"	249.65		249.65				249.65	249.65												263.52
	249.65' Avg. Lgth. X 9.5' Avg. W. X 1/2"																				45.68
186	Rt. " " Sta. 10 + 45 To Sta. 10 + 95 = 50.61' Avg. Lgth. X 2.5' Avg. W. X 1/2"	14.06		14.06				14.06	14.06												14.06
	50.61' Avg. Lgth. X 3.5' Avg. W. X 0.5' Avg. D. X 1/27																				33.74
186	Rt. Ramp "A" Sta. 10 + 95 To Sta. 11 + 95 = 101.22' Avg. Lgth. X 3' W. X 1/2"	33.74		33.74				33.74	33.74												33.74
	101.22' Avg. Lgth. X 4' W. X 0.5' Avg. D. X 1/27																				222.52
186	Rt. Ramp "A" Sta. 11 + 95 To Sta. 18 + 62.25 = 667.56' Avg. Lgth. X 3' W. X 1/2"	222.52		222.52				222.52	222.52												259.61
	667.56' Avg. Lgth. X 3.5' W. X 1/2"																				49.33
186	Lt. " " Sta. 10 + 95.58 To Sta. 18 + 62.25 = 766.32' Avg. Lgth. X 8' W. X 1/2"	681.17		681.17				681.17	681.17												723.75
	766.32' Avg. Lgth. X 8.5' W. X 1/2"																				125.45
8 & 190	RAMP "B" Sta. 8 + 37.55 To Sta. 8 + 77.55 - Intersection (P) 117.24 S.Y. Pvt.	117.24																117.24			
	" " " " " 61.11 S.Y. Shldr.	61.11		61.11				61.11	61.11												66.89
	" " " " " 66.89 S.Y. Shldr. Base																				30.95
	" (117.24 S.Y. Pvt. + 66.89 S.Y. Base = 185.69 S.Y. @ 0.5' Avg. D.) = 185.69 X 1/2"																				1,136.34
190	" " Sta. 8 + 77.55 To Sta. 15 + 18 = 639.19' Avg. Lgth. X 16' W. X 1/2"	1,136.34																			189.39
	639.19' Avg. Lgth. X 16' W. X 0.5' D. X 1/27																				
190, 29 & 30	" " Sta. 15 + 18 To Sta. 375 + 00 (P) = 1907.0 S.Y.	1,907.00																			1,907.00
	(1907.0 S.Y. @ 0.5' Depth) = 1907.0 X 1/2"																				317.83
190	Lt. Ramp "B" Sta. 8 + 77.55 To Sta. 13 + 62.48 = 486.32' Avg. Lgth. X 8' W. X 1/2"	432.28		432.28				432.28	432.28												459.30
	486.32' Avg. Lgth. X 8.5' W. X 1/2"																				79.61
190	Lt. " " Sta. 13 + 62.48 To Sta. 15 + 18 = 154.83' Avg. Lgth. X 8.6' Avg. W. X 1/2"	147.95		147.95				147.95	147.95												156.55
	154.83' Avg. Lgth. X 9.1' Avg. W. X 1/2"																				27.14
190	Rt. " " Sta. 8 + 77.55 To Sta. 15 + 18 = 637.40' Avg. Lgth. X 3' W. X 1/2"	212.47		212.47				212.47	212.47												247.88
	637.40' Avg. Lgth. X 3.5' W. X 1/2"																				34.00
190	Rt. " " Sta. 15 + 18 To Sta. 16 + 18 (P) = 34.00 S.Y.	34.00		34.00				34.00	34.00												5.67
	(34.00 S.Y. @ 0.5' Avg. D.) = 34.00 X 1/2"																				
8, 27 & 194	RAMP "C" Sta. 333 + 19.09 To Sta. 7 + 10 (P) = 2366.0 S.Y.	2,366.00																2,366.00			394.33
	(2366.0 S.Y. @ 0.5' D.) = 2366.0 X 1/2"																				
194 & 195	" " Sta. 7 + 10 To Sta. 13 + 22.37 = 614.08' Avg. Lgth. X 16' W. X 1/2"	1,091.70																			181.95
	614.08' Avg. Lgth. X 16' W. X 0.5' D. X 1/27																				
195	" " Sta. 13 + 22.37 To Sta. 16 + 56.39 = 319.18' Avg. Lgth. X 20' Avg. W. X 1/2"	709.29																			118.21
	319.18' Avg. Lgth. X 20' Avg. W. X 0.5' D. X 1/27																				
195	" " Sta. 16 + 56.39 To Sta. 18 + 32.52 = 170.84' Avg. Lgth. X 24' W. X 1/2"	455.57																			75.93
	170.84' Avg. Lgth. X 24' W. X 0.5' D. X 1/27																				
195	" " Sta. 18 + 32.52 To Sta. 18 + 72.52 - Intersection (P) = 152.79 S.Y. Pvt.	152.79																			
	" " " " " 61.11 S.Y. Shldr.	61.11		61.11				61.11	61.11												66.89
	" " " " " 66.89 S.Y. Shldr. Base																				36.61
	" (152.79 S.Y. Pvt. + 66.89 S.Y. Base = 219.68 S.Y. @ 0.5' Avg. D.) = 219.68 X 1/2"																				25,051.54
	Sub-Totals	124,527.06		50,979.37				50,979.37	50,979.37									89,277.69		54,396.72	25,051.54

NOTE: (P), Denotes Area Obtained By Planimeter

MICHAEL BAKER, JR., CONSULTING ENGINEERS  
ROCHESTER, PENNSYLVANIA

STATE HIGHWAY NO. 1  
C-44  
PAVEMENT, BASE & SUBBASE CALCULATIONS

Designed	Drawn	Traced	Checked	Reviewed Date	Revised
B.P.	A.H.	K.A.	E.H.		