Table A.1
Approximated K Values for Some Representative Soils on Construction Sites in New York

(For soils not in this table, contact the county Soil & Water Conservation District for appropriate K value.)

Depositional Unit Family Textural Class and Representative Series	Horizon[1]	Texture[2]	Class	Construction Site K Values
I. Glacial Till				
SANDY SKELETAL				
Glouster	A	sl	Low	.17
	B & C	vglcs	Low	
SANDY w/PAN				
Essex	A	sl	Low	
	B	gls	Low	.20
	Cx	glcs	Low	
COARSE LOAMY w/PAN				
Empeyville	A	stl	Medium	
	B	stsl	Medium	.17
	Bx	vstsl	Low	
	C	vstsl	Low	
Mardin	A	ch sil	Low	
	B	ch sil-1	Medium	.28
	Bx & C	v ch 1	Medium	
Paxton	A	fsl	Medium	
	B	gfsl	Medium	.24
	Cx	gfsl	High	
Crary	A	sil	Medium	
	B	vfsl	High	.43
	IIBx, Cx, C	st fsl	Medium	
COARSE LOAMY w/Bt				
Madrid	A	fsl	Medium	
	Bt	gfsl	Medium	.28
	C	gfsl	Medium	
COARSE LOAM, 20 TO 40” over BEDROCK				
Lordstown	A	ch sil	Low	
	B	ch sil	High	
	C	v ch 1	Low	.43
	R		Siltstone or sandstone bedrock 20—40” below surface	
FINE LOAMY w/Bt				
Ontario	A	l	Medium	.28
	Bt	gl	Medium	
	C	gl	Medium	

Table A.1 (cont'd)
Approximated K Values for Some Representative Soils on Construction Sites in New York

(For soils not in this table, contact the county Soil & Water Conservation District for appropriate K value.)

Depositional Unit Family Textural Class and Representative Series	Horizon[1]	Texture[2]	Class	Construction Site K Values
I. Glacial Till (cont'd)				
Cazenovia	A	sil	High	
	Bt	sicl	High	.43
	C	gsil	Medium	
Nunda	Ap	ch sil	High	
	B2	ch sil	High	
	IIB2t	gcl	Medium	.49
	IIC	gl	Medium	
FINE	A	sil	Medium	
Hornell	B	sic	High	
	C	sh sic	Medium	.43
	R		Shale bedrock 20—40" below surface	
Remsen	A	sicl	High	
	Bt	c	Medium	.43
	C	c	High	
Churchville	A	sil	High	
	Bt	sic	Medium	.49
	IIC	gl	Medium	
COARSE LOAMY, NO PAN				
Charlton	A	fsl	Low	
	B	fsl	High	.43
	C	gfsl	Medium	
Nellis	A	l	Medium	
	B	l	High	.43
	C	gl	Medium	
Pittsfield	A	l	Medium	
	B	gfsl	Low	.43
	C	gfsl	High	
COARSE LOAMY/SAND or SANDY SKELETAL	A	fsl	Medium	
Canton	B	fsl	Very High	.64
	IIC	vgls	Low	
COARSE SILTY w/PAN	A	sil	High	
Canaseraga	B	sil	Very High	.49
	IIBx & C	ch	High	

Table A.1 (cont'd)
Approximated K Values for Some Representative Soils on Construction Sites in New York

(For soils not in this table, contact the county Soil & Water Conservation District for appropriate K value.)

Depositional Unit Family Textural Class and Representative Series	Horizon[1]	Texture[2]	Class	Construction Site K Values
I. Glacial Till (cont'd)				
LOAMY SKELETAL				
Manlius	A	ch sil	Medium	
	B	vsh sil	Low	
	C	fract'd shales w/ silty fines	Low	.28
	R		Shale bedrock 20-40" below surface	
FINE LOAMY w/PAN				
Volusia	A	ch sil	Low	
	Bx	ch sil	High	.43
	C	vch l	Medium	
FINE LOAMY, NO PAN				
Kendaia	A	sil	Medium	.28
	B	gsil	Medium	
	C	gl	Medium	
II. Glacial Outwash and Water Worked Morainic Deposits				
SANDY SKELETAL				
Hinckley	A	gls	Low	.17
	B	gls	Low	
	C	gsl	Low	
SANDY				
Colonie	A	lfs	Medium	
	B	fs	Low	.24
	C	fs	Low	
LOAMY SKELETAL				
Chenango	A	gl	Low	
	B	vgl	Low	.24
	C	gls	Low	
FINE LOAMY/SANDY or SANDY SKELETAL				
Palmyra	A	gl	Low	
	B	gl	Medium	.28
	IIC	g & s	Low	
LOAMY SKELETAL/CLAYEY				
Varysburg	A	gl	Low	
	B2t	vgl	Low	
	IIB2t	sic	Medium	.28
	IIC	layered sic, sil sicl	High	

Table A.1 (cont'd)
Approximated K Values for Some Representative Soils on Construction Sites in New York

(For soils not in this table, contact the county Soil & Water Conservation District for appropriate K value.)

Depositional Unit Family Textural Class and Representative Series	Horizon[1]	Texture[2]	Class	Construction Site K Values
II. Glacial Outwash and Water Worked Morainic Deposits (cont'd)				
COARSE LOAMY	A	sl	Low	
Riverhead	B	sl	Low	.17
	C	s w/ thin layers of g	Low	
COARSE LOAMY/SANDY or SANDY SKELETAL				
Haven	A	l	High	.43
	B	l	High	
	IIC	gs	Low	
III. Lacustrine or Stream Terrace Deposits				
COARSE SILTY				
Unadilla	A	sil	High	.64
	B	sil	Very High	
	C	sil	Very High	
COARSE SILTY w/FRAGIPAN				
Williamson	A	sil	High	
	Bx	sil	Very High	.64
	C	sil	Very High	
COARSE SILTY/SANDY or SANDY SKELETAL				
Allard	A	sil	High	
	B	sil	Very High	.64
	IIC	vgls	Low	
FINE SILTY w/Bt				
Collamer	A	sil	High	
	Bt	sil	High	.64
	C	Layers of sl, vfs	Very High	
FINE				
Schoharie	A	sicl	High	
	Bt	sic	Medium	.49
	C	sic	High	
VERY FINE				
Vergennes	A	c	High	
	Bt	c	Low	.49
	C	c	Low	

Table A.1 (cont'd)
Approximated K Values for Some Representative Soils on Construction Sites in New York

(For soils not in this table, contact the county Soil & Water Conservation District for appropriate K value.)

Depositional Unit Family Textural Class and Representative Series	Horizon[1]	Texture[2]	Class	Construction Site K Values
III. Lacustrine or Stream Terrace Deposits (cont'd)	A	lfs	Medium	
SANDY o/CLAYEY	B	lfs	Low	
Claverack	IIC	sic	High	0.43
	R			
COARSE LOAMY o/CLAYEY				
Elmwood	A	fsl	Medium	
	B	sl	Low	
	C	sicl	High	0.43

1 The thickest B and C horizons in the official series were used in making the K value determinations.

2 Soil texture abbreviations:

Gravel……...…….g
Very coarse sand……..…..vcos
Coarse sand……..…..cos
Sand……..…..s
Fine sand……...…fs
Very fine sand……...vfs
Loamy coarse sand..…….lcos
Loamy sand……..ls
Loamy fine sand……...…lfs
Silty clay loam……..….sisl
Fine sandy loam…….fsl
Very fine sandy loam….vfsl
Gravelly sandy loam…..gs
Loam……..g
Gravelly loam……gl
Stoney loam……...….stl
Silt……..si
Silt loam…….sil
Clay loam……...cl
Sandy clay loam……..…...scl
Stoney clay loam……..…...stcl
Silty clay……..…sic
Clay……..…c
Channery…….ch
Shaly……sh
Very channery……..vch
Very shaly……vsh
Sandy loam……..sl

Table A.2 (USDA - NRCS)
Values for Topographic Factor, LS, for High Ratio of Rill to Interrill Erosion[1]

Values for topographic factor, LS, for high ratio of rill to interrill erosion.[1]

Slope (%)	Horizontal slope length (ft)																
	<3	6	9	12	15	25	50	75	100	150	200	250	300	400	600	800	1000
0.2	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.5	0.07	0.07	0.07	0.07	0.07	0.07	0.08	0.08	0.09	0.09	0.10	0.10	0.10	0.11	0.12	0.12	0.13
1.0	0.09	0.09	0.09	0.09	0.09	0.10	0.13	0.14	0.15	0.17	0.18	0.19	0.20	0.22	0.24	0.26	0.27
2.0	0.13	0.13	0.13	0.13	0.13	0.16	0.21	0.25	0.28	0.33	0.37	0.40	0.43	0.48	0.56	0.63	0.69
3.0	0.17	0.17	0.17	0.17	0.17	0.21	0.30	0.36	0.41	0.50	0.57	0.64	0.69	0.80	0.96	1.10	1.23
4.0	0.20	0.20	0.20	0.20	0.20	0.26	0.38	0.47	0.55	0.68	0.79	0.89	0.98	1.14	1.42	1.65	1.86
5.0	0.23	0.23	0.23	0.23	0.23	0.31	0.46	0.58	0.68	0.86	1.02	1.16	1.28	1.51	1.91	2.25	2.55
6.0	0.26	0.26	0.26	0.26	0.26	0.36	0.54	0.69	0.82	1.05	1.25	1.43	1.60	1.90	2.43	2.89	3.30
8.0	0.32	0.32	0.32	0.32	0.32	0.45	0.70	0.91	1.10	1.43	1.72	1.99	2.24	2.70	3.52	4.24	4.91
10.0	0.35	0.37	0.38	0.39	0.40	0.57	0.91	1.20	1.46	1.92	2.34	2.72	3.09	3.75	4.95	6.03	7.02
12.0	0.36	0.41	0.45	0.47	0.49	0.71	1.15	1.54	1.88	2.51	3.07	3.60	4.09	5.01	6.67	8.17	9.57
14.0	0.38	0.45	0.51	0.55	0.58	0.85	1.40	1.87	2.31	3.09	3.81	4.48	5.11	6.30	8.45	10.40	12.23
16.0	0.39	0.49	0.56	0.62	0.67	0.98	1.64	2.21	2.73	3.68	4.56	5.37	6.15	7.60	10.26	12.69	14.96
20.0	0.41	0.56	0.67	0.76	0.84	1.24	2.10	2.86	3.57	4.85	6.04	7.16	8.23	10.24	13.94	17.35	20.57
25.0	0.45	0.64	0.80	0.93	1.04	1.56	2.67	3.67	4.59	6.30	7.88	9.38	10.81	13.53	18.57	23.24	27.66
30.0	0.48	0.72	0.91	1.08	1.24	1.86	3.22	4.44	5.58	7.70	9.67	11.55	13.35	16.77	23.14	29.07	34.71
40.0	0.53	0.85	1.13	1.37	1.59	2.41	4.24	5.89	7.44	10.35	13.07	15.67	18.17	22.95	31.89	40.29	48.29
50.0	0.58	0.97	1.31	1.62	1.91	2.91	5.16	7.20	9.13	12.75	16.16	19.42	22.57	28.60	39.95	50.63	60.84
60.0	0.63	1.07	1.47	1.84	2.19	3.36	5.97	8.37	10.63	14.89	18.92	22.78	26.51	33.67	47.18	59.93	72.15

[1]Such as for freshly prepared construction and other highly disturbed soil conditions with little or no cover (not applicable to thawing soil)

Table A.3 (USDA - NRCS)
Factors for Converting Soil Losses (Air-Dry) from Tons (T) to Cubic Yards (Cu. Yds.)

Sands, loamy sands	)
Sandy loam	) - Multiply soil losses in T by 0.70 (105)[1]
Fine sandy loam	)
Loams, sandy clay loams	)
Sandy clay	) - Multiply soil losses in T by 0.87 (85)
Silt loam	)
Silty clay loam, silty clay	)
Clay loam	) - Multiply soil losses in T by 1.06 (70)
Clay	)

[1]The number in parentheses is the air-dry weight of the soil in pounds per cubic foot. The conversion factors were calculated from these air-dry weights using: soil loss (tons) x (2000 lbs/ton) x (ft^3/dry density lbs) x (cubic yard/27ft^3).

Table A.4
El Values of Certain Key Cities in the New York Area[1]

	EI Values at 20% and 5% Probability Levels Probability (EI)		Expected Magnitude of a Single Storm EI Value Normally Exceeded Once in—		
Location[2]	20%*	5%**	5 Years	10 Years	20 Years
New York					
Albany	114	159	38	47	56
Binghamton	106	146	36	47	58
Buffalo	96	139	36	49	61
Geneva	106	152	—	—	—
Marcellus	112	167	38	49	62
Rochester	101	151	38	54	75
Salamanca	106	157	32	40	49
Syracuse	129	197	38	51	65
Pennsylvania					
Erie	181	331	—	—	—
Scranton	140	188	44	53	63
Vermont					
Burlington	114	178	35	47	58
Connecticut					
New Haven	222	310	73	96	122
New Jersey					
Atlantic City	229	311	77	97	117
Marlboro	254	343	85	111	136
Trenton	216	308	76	102	131

* Once each five years
** Once each twenty years
[1] From Agricultural Handbook No. 537
[2] For additional cities, refer to Agricultural Handbook 537, Tables 17 & 18.

Table A.5
Construction Site Mulching C Factors
(Data from Wischmeier and Smith 1978, Pitt 2004)

Type of Mulch	Mulch Rate (tons per acre)	Land Slope (%)	Mulching C Factor	Length Limit (ft)[1]
None	0	all	1.0	n/a
Straw or hay, tied down by anchoring and tacking equipment	1.0	1-5	0.20	200
	1.0	6-10	0.20	100
	1.5	1-5	0.12	300
	1.5	6-10	0.12	150
	2.0	1-5	0.06	400
	2.0	6-10	0.06	200
	2.0	11-15	0.07	150
	2.0	16-20	0.11	100
	2.0	21-25	0.14	75
	2.0	26-33	0.17	50
	2.0	34-50	0.20	35
Wood Chips	7	<16	0.08	75
	7	16-20	0.08	50
	12	<16	0.05	150
	12	16-20	0.05	100
	12	21-33	0.05	75
	25	<16	0.02	200
	25	16-20	0.02	150
	25	21-33	0.02	100
	25	34-50	0.02	75

[1] Maximum slope lengths for which the specified mulch rate is considered effective. If these limits are exceeded, either a higher application rate or mechanical shortening of the effective slope length is required (such as with terracing).

Table A.6
Cover Factor C Values for Different Growth Periods for Planted Cover Crops for Erosion Control at Construction Sites
(Data from Wischmeier and Smith 1978, Pitt 2004)

	SB (seedbed preparation)	**Period 1** (establishment)	**Period 2** (development)	**Period 3a** (maturing crop)	**Period 3b** (maturing crop)	**Period 3c** (maturing crop)
Crop Canopy [1]	0-10%	10-50%	50-75%	75-80%	75-90%	75-96%
Seeding on topsoil, without mulch	0.79	0.62	0.42	0.17	0.11	0.06
Seeding on a desur-faced area, where residual effects of prior vegetation are no longer significant	1.0	0.75	0.50	0.17	0.11	0.06
Sod	0.01	0.01	0.01	0.01	0.01	0.01

[1] Percent canopy cover is the percentage of the land surface that would not be hit by directly falling rain drops because the drops would be intercepted by the plant. It is the portion of the soil surface that would be covered by shadows if the sun were directly overhead.

Table A.7
Cover Factor C Values for Established Plants
(data from NRCS NEH Chapter 3 and Wischmeier and Smith 1978)

			Percentage of surface covered by residue in contact with the soil					
	Percent Cover[1]	Plant Type	0%	20	40	60	80	95+
C factor for grass, grasslike plants, or decaying compacted plant litter	0	Grass	0.45	0.20	0.10	0.042	0.013	0.0003
C factor for broadleaf herbaceous plants (including most weeds with little lateral root networks), or un-decayed residues	0	Weeds	0.45	0.24	0.15	0.091	0.043	0.011
Tall weeds or short brush with average drop height[2] of =20 inches	25	Grass	0.36	0.17	0.09	0.038	0.013	0.003
		Weeds	0.36	0.20	0.13	0.083	0.041	0.011
	50	Grass	0.26	0.13	0.07	0.035	0.012	0.003
		Weeds	0.26	0.16	0.11	0.076	0.039	0.011
	75	Grass	0.17	0.12	0.09	0.068	0.038	0.011
		Weeds	0.17	0.12	0.09	0.068	0.038	0.011
Mechanically prepared sites, with no live vegetation and no topsoil, and no litter mixed in.	0	None	0.94	0.44	0.30	0.20	0.10	Not given

[1] Percent cover is the portion of the total area surface that would be hidden from view by canopy if looking straight downward.
[2] Drop height is the average fall height of water drops falling from the canopy to the ground.

Table A.8 (USDA-NRCS)
Construction Site P Practice Factors

Surface Condition		P Factor
Bare Soil Loose		1.0
Freshly disked or rough irregular surface		0.9
Compact smooth by equipment up and down hill		1.3
Compact smooth by equipment across slope		1.2
Contoured Furrows:		
Slope (%)	**Maximum Downslope Length (ft)**	**P Factor**
1-2	350	0.6
3-5	250	0.5
6-8	200	0.5
9-12	125	0.6
13-16	75	0.7
17-20	60	0.8
>20	50	0.8

Source: USDA-NRCS; HDI, 1987; Wischmeier and Smith, 1978

References

1. Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE). USDA-Agricultural Research Service Agric. Hdbk. No. 703. Renard, K.G., G. R. Foster, G.A. Weesies, D.K. McCool, and D.C. Yoder. 1997.

2. (data from Wischmeier and Smith 1978)

3. Construction Site Erosion and Sediment Controls: Planning, Design and Performance. R. Pitt, S. Clark, and D. Luke. 2004.