APPENDIX A

RAINFALL AND UNIVERSAL SOIL LOSS EQUATION DATA

RAINFALL AND USLE DATA

Table 1. Distribution of Rainfall Erosion Index (EI Curves) for Greenville County

Date	EI Curve Number
January 1	0.0
January 15	1.0
February 1	3.0
March 1	7.0
March 15	9.0
April 1	12.0
April 15	15.0
May 1	18.0
May 15	21.0
June 1	25.0
June 15	29.0
July 1	36.0
July 15	45.0
August 1	56.0
August 15	68.0
September 1	77.0
September 15	83.0
October 1	88.0
October 15	91.0
November 1	93.0
November 15	95.0
December 1	97.0
December 15	99.0
January 1	100.0

Minimum Value to be used is 50
Average Annual R Factor = 300

Table 2. 24-Hour Storm Event Rainfall Data

24-Hour Storm Event Rainfall Data

	Return Period (years)						
Location	**1**	**2**	**5**	**10**	**25**	**50**	**100**
North of Highway 11	4.2	5.0	6.2	7.1	8.4	9.5	10.6
Northern Greenville County	3.4	4.1	5.1	5.9	7.2	8.2	9.4
Southern Greenville County	3.1	3.8	4.7	5.5	6.8	7.9	9.3

All rainfall values given are in inches

Source: NOAA's National Weather Service Hydrometeorological Design Studies Center: Precipitation Frequency Data Server January 2013

Table 3. Rainfall Intensity Data

3a - North of Highway 11

Storm Duration		Rainfall Intensity (in/hr)						
Hour	**Minute**	**1**	**2**	**5**	**10**	**25**	**50**	**100**
	5	4.82	5.74	6.80	7.62	8.68	9.47	10.30
	10	3.85	4.58	5.45	6.10	6.91	7.54	8.17
	15	3.21	3.84	4.60	5.14	5.84	6.36	6.88
	30	2.20	2.65	3.27	3.72	4.32	4.79	5.27
1		1.37	1.67	2.09	2.43	2.88	3.25	3.63
2		0.81	0.98	1.23	1.43	1.71	1.94	2.19
3		0.60	0.73	0.90	1.05	1.27	1.46	1.65
6		0.41	0.49	0.61	0.70	0.85	0.97	1.11
12		0.27	0.33	0.40	0.47	0.56	0.63	0.71
24		0.18	0.21	0.26	0.30	0.35	0.39	0.44

Source: NOAA's National Weather Service Hydrometeorological Design Studies Center: Precipitation Frequency Data Server January 2013

3b - Northern Greenville County

Storm Duration		Rainfall Intensity (in/hr)						
Hour	Minute	1	2	5	10	25	50	100
	5	4.76	5.64	6.65	7.42	8.41	9.14	9.89
	10	3.80	4.51	5.32	5.93	6.70	7.28	7.86
	15	3.17	3.78	4.49	5.00	5.66	6.15	6.62
	30	2.17	2.61	3.19	3.62	4.19	4.63	5.07
1		1.35	1.64	2.04	2.36	2.79	3.14	3.49
2		0.80	0.97	1.21	1.40	1.68	1.91	2.16
3		0.58	0.69	0.87	1.01	1.22	1.40	1.60
6		0.37	0.45	0.55	0.65	0.78	0.90	1.03
12		0.23	0.28	0.35	0.40	0.49	0.56	0.64
24		0.14	0.17	0.21	0.25	0.30	0.34	0.39

3c - Southern Greenville County

Storm Duration		Rainfall Intensity (in/hr)						
Hour	Minute	1	2	5	10	25	50	100
	5	4.80	5.68	6.68	7.44	8.42	9.15	9.88
	10	3.83	4.54	5.35	5.95	6.71	7.28	7.85
	15	3.20	3.81	4.51	5.02	5.67	6.15	6.62
	30	2.19	2.63	3.21	3.64	4.20	4.63	5.07
1		1.37	1.65	2.05	2.37	2.79	3.14	3.49
2		0.81	0.97	1.21	1.40	1.68	1.92	2.19
3		0.58	0.69	0.86	1.00	1.22	1.41	1.62
6		0.36	0.44	0.54	0.63	0.77	0.89	1.03
12		0.22	0.26	0.33	0.38	0.47	0.54	0.63
24		0.13	0.16	0.20	0.23	0.28	0.33	0.39

Table 4. Universal Soil Loss Equation CP Factors

Condition	CP Factor
Bare Soil	1.0
Compacted Root Raked Soil	1.2
Compacted Bulldozer Scraped Soil	1.2
Fresh Unprepared Seedbed	0.64
Temporary Seeding 0-60 Days	0.40
Temporary Seeding After 60 Days	0.05
Permanent Seeding 2-12 Months	0.05
Brush	0.35
Erosion Control Blankets	0.01-0.1

Table 5. Universal Soil Loss Equation LS Factors

% Slope	Slope Length in Feet																	
	20	50	75	100	120	150	200	250	300	350	400	450	500	600	700	800	900	1000
0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.11	0.114	0.12	0.12	0.13	0.13	0.13	0.137	0.141	0.145	0.148	0.152
1.0	0.1	0.11	0.12	0.13	0.14	0.14	0.15	0.15	0.17	0.18	0.19	0.20	0.20	0.22	0.23	0.24	0.25	0.25
2.0	0.12	0.16	0.18	0.20	0.21	0.22	0.24	0.26	0.27	0.29	0.30	0.31	0.32	0.34	0.36	0.37	0.38	0.40
3.0	0.17	0.23	0.26	0.28	0.30	0.32	0.35	0.37	0.38	0.41	0.43	0.45	0.46	0.49	0.51	0.53	0.55	0.57
4.0	0.21	0.30	0.35	0.40	0.43	0.47	0.52	0.57	0.62	0.66	0.69	0.73	0.76	0.81	0.87	0.91	0.96	1.00
5.0	0.23	0.37	0.46	0.53	0.58	0.65	0.75	0.84	0.92	1.00	1.07	1.13	1.19	1.31	1.41	1.51	1.60	1.69
6.0	0.30	0.47	0.58	0.67	0.73	0.82	0.95	1.06	1.16	1.25	1.34	1.42	1.50	1.64	1.78	1.90	2.01	2.12
7.0	0.36	0.58	0.71	0.82	0.90	1.01	1.16	1.30	1.42	1.54	1.65	1.75	1.84	2.02	2.18	2.33	2.47	2.60
8.0	0.44	0.70	0.85	0.99	1.08	1.21	1.40	1.56	1.71	1.85	1.98	2.10	2.21	2.42	2.62	2.80	2.97	3.13
9.0	0.52	0.82	1.01	1.17	1.28	1.43	1.65	1.85	2.03	2.19	2.34	2.48	2.62	2.87	3.10	3.31	3.52	3.71
10.0	0.61	0.96	1.18	1.36	1.50	1.67	1.93	2.16	2.37	2.56	2.74	2.90	3.06	3.35	3.62	3.87	4.10	4.33
11.0	0.70	1.11	1.36	1.58	1.73	1.93	2.23	2.49	2.73	2.95	3.16	3.35	3.53	3.87	4.18	4.46	4.74	4.99
12.0	0.80	1.27	1.56	1.80	1.97	2.21	2.55	2.65	3.12	3.37	3.60	3.82	4.03	4.42	4.77	5.10	5.41	5.70
13.0	0.91	1.44	1.76	2.04	2.23	2.50	2.88	3.23	3.53	3.82	4.08	4.33	4.56	5.00	5.40	5.77	6.12	6.46
14.0	1.02	1.62	1.98	2.29	2.51	2.81	3.24	3.62	3.97	4.29	4.58	4.86	5.13	5.62	6.07	6.49	6.88	7.25
15.0	1.14	1.81	2.21	2.56	2.80	3.13	3.62	4.04	4.43	4.79	5.12	5.43	5.72	6.27	6.77	7.24	7.68	8.09
16.0	1.26	2.00	2.45	2.83	3.11	3.47	4.01	4.48	4.91	5.31	5.67	6.02	6.34	6.95	7.51	8.02	8.51	8.97
17.0	1.40	2.21	2.71	3.13	3.42	3.83	4.42	4.94	5.42	5.85	6.26	6.64	7.00	7.66	8.28	8.85	9.39	9.89
18.0	1.53	2.42	2.97	3.43	3.76	4.20	4.85	5.43	5.94	6.42	6.86	7.28	7.68	8.41	9.08	9.71	10.3	10.9
19.0	1.67	2.65	3.24	3.75	4.10	4.59	5.30	5.93	6.49	7.01	7.50	7.95	8.38	9.18	9.92	10.6	11.3	11.9
20.0	1.82	2.88	3.53	4.07	4.46	4.99	5.76	6.45	7.06	7.63	8.15	8.65	9.12	10.0	10.7	11.5	12.2	12.9
25.0	2.63	4.16	5.1	5.89	6.45	7.21	8.33	9.31	10.2	11.0	11.8	12.5	13.2	14.4	15.6	16.7	17.7	18.6
33.3	4.22	6.67	8.17	9.44	10.3	11.6	13.4	14.9	16.4	17.7	18.9	20.0	21.1	23.1	25.0	26.7	28.3	29.9
40.0	5.65	8.94	8.94	12.7	13.9	15.5	17.9	20	21.9	23.7	25.3	26.8	28.3	31.0	33.5	35.8	38.0	40.0
50.0	7.97	12.6	12.6	17.8	19.5	21.8	25.2	28.2	30.9	33.3	35.6	37.8	39.9	43.7	47.2	50.4	53.5	56.4
66.6	11.9	18.9	18.9	26.7	29.2	32.7	37.7	42.2	46.2	49.9	53.3	56.6	59.6	65.3	70.5	75.4	80.0	84.3
100.0	18.9	29.9	29.9	42.2	46.3	51.7	59.7	66.8	73.2	79.0	84.5	89.6	94.5	103.	112	120	126	134