

Appendix C  
WATERSHED RETROFIT COMPUTATIONS  
ADJUSTOR CURVE METHOD WITH MS4 PERMIT LOADING RATES

PROJECT					REGULATED ACRES												REMOVAL RATES per polynomial curves			Total Loads removed				
					IMPERVIOUS	LOADS (per DCR Potomac River Basin)			PERVIOUS	LOADS (per DCR Potomac River Basin)			TOTAL LOADS to retrofit			Retrofit storage vol (cf)							Retrofit storage vol (ac-ft)	Runoff depth treated (in)
ID	Status	Name	Installation (FY)	Total drainage area (ac)	Area (ac)	TP	TN	TSS	Area (ac)	TP	TN	TSS	TP	TN	TSS				TP	TN	TSS	TP	TN	TSS
03-887H	Completed	Stormfilter	2011	2.00	2.00	3.24	33.72	2342.64	0.00	0.00	0.00	0.00	3.24	33.72	2342.64			0.5	45%	29%	58%	1.46	9.70	1347.93
2011-0A	Completed	2701 S Taylor St-Manufactured - Ultra Urban Inserts (6)	2011	0.38	0.38	0.62	6.41	445.10	0.00	0.00	0.00	0.00	0.62	6.41	445.10			0.09	10%	7%	13%	0.06	0.42	58.56
2011-0B	Completed	2701 S Taylor St-Manufactured - Ultra Urban Inserts (6)	2011	0.08	0.08	0.13	1.35	93.71	0.00	0.00	0.00	0.00	0.13	1.35	93.71			0.09	10%	7%	13%	0.01	0.09	12.33
2011-0C	Completed	2701 S Taylor St-Manufactured - Ultra Urban Inserts (1)	2011	0.10	0.10	0.16	1.69	117.13	0.00	0.00	0.00	0.00	0.16	1.69	117.13			0.09	10%	7%	13%	0.02	0.11	15.41
2011-0D	Completed	2701 S Taylor St-Manufactured - Ultra Urban Inserts (12)	2011	0.81	0.81	1.31	13.66	948.77	0.00	0.00	0.00	0.00	1.31	13.66	948.77			0.09	10%	7%	13%	0.14	0.90	124.82
2011-0E	Completed	2701 S Taylor St-Manufactured - Ultra Urban Inserts (1)	2011	0.31	0.31	0.50	5.23	363.11	0.00	0.00	0.00	0.00	0.50	5.23	363.11			0.09	10%	7%	13%	0.05	0.34	47.77
2011-0F	Completed	2701 S Taylor St-Manufactured - Ultra Urban Inserts (6)	2011	0.13	0.13	0.21	2.19	152.27	0.00	0.00	0.00	0.00	0.21	2.19	152.27			0.09	10%	7%	13%	0.02	0.14	20.03
2011-0G	Completed	2701 S Taylor St-Manufactured - Ultra Urban Inserts (6)	2011	1.69	1.69	2.74	28.49	1979.53	0.00	0.00	0.00	0.00	2.74	28.49	1979.53			0.09	10%	7%	13%	0.28	1.87	260.43
2011-0H	Completed	2701 S Taylor St-Manufactured - Ultra Urban Inserts (12)	2011	0.64	0.64	1.04	10.79	749.64	0.00	0.00	0.00	0.00	1.04	10.79	749.64			0.09	10%	7%	13%	0.11	0.71	98.62
2011-0I	Completed	2701 S Taylor St-Manufactured - Ultra Urban Inserts (12)	2011	0.16	0.16	0.26	2.70	187.41	0.00	0.00	0.00	0.00	0.26	2.70	187.41			0.09	10%	7%	13%	0.03	0.18	24.66
2011-0J	Completed	4200 28Th St S-Manufactured - Ultra Urban Inserts (6)	2011	0.32	0.32	0.52	5.40	374.82	0.00	0.00	0.00	0.00	0.52	5.40	374.82			0.09	10%	7%	13%	0.05	0.35	49.31
2011-0K	Completed	4200 28Th St S-Manufactured - Ultra Urban Inserts (1)	2011	0.17	0.17	0.28	2.87	199.12	0.00	0.00	0.00	0.00	0.28	2.87	199.12			0.09	10%	7%	13%	0.03	0.19	26.20
2011-0L	Completed	4200 28Th St S-Manufactured - Ultra Urban Inserts (1)	2011	0.01	0.01	0.02	0.17	11.71	0.00	0.00	0.00	0.00	0.02	0.17	11.71			0.09	10%	7%	13%	0.00	0.01	1.54
2011-0M	Completed	4200 28Th St S-Manufactured - Ultra Urban Inserts (1)	2011	0.03	0.03	0.05	0.51	35.14	0.00	0.00	0.00	0.00	0.05	0.51	35.14			0.09	10%	7%	13%	0.01	0.03	4.62
2011-0N	Completed	4200 28Th St S-Manufactured - Ultra Urban Inserts (1)	2011	0.05	0.05	0.08	0.84	58.57	0.00	0.00	0.00	0.00	0.08	0.84	58.57			0.09	10%	7%	13%	0.01	0.06	7.70
2011-0O	Completed	2881 S Taylor St-Manufactured - Ultra Urban Inserts (1)	2011	0.25	0.25	0.41	4.22	292.83	0.00	0.00	0.00	0.00	0.41	4.22	292.83			0.09	10%	7%	13%	0.04	0.28	38.52
2011-0P	Completed	4250 29Th St S-Manufactured - Ultra Urban Inserts (6)	2011	0.19	0.19	0.31	3.20	222.55	0.00	0.00	0.00	0.00	0.31	3.20	222.55			0.09	10%	7%	13%	0.03	0.21	29.28
2011-0Q	Completed	2701 S Taylor St-Manufactured - Ultra Urban Inserts (6) - Model Co1414H	2011	0.10	0.10	0.16	1.69	117.13	0.00	0.00	0.00	0.00	0.16	1.69	117.13			0.09	10%	7%	13%	0.02	0.11	15.41
2011-1B	Completed	PH Drive & 9th Rd N - South Bioretention	2011	0.57	0.40	0.65	6.74	468.53	0.17	0.07	1.71	29.89	0.72	8.46	498.41	1894.00	0.04	1.30	74%	64%	80%	0.53	5.37	396.87
2011-1A	Completed	PH Drive & 9th Rd N - North Bioretention	2011	0.18	0.11	0.18	1.85	128.85	0.07	0.03	0.70	12.31	0.21	2.56	141.15	544.00	0.01	1.36	75%	64%	80%	0.15	1.64	113.28

Appendix C  
WATERSHED RETROFIT COMPUTATIONS  
ADJUSTOR CURVE METHOD WITH MS4 PERMIT LOADING RATES

PROJECT					REGULATED ACRES								TOTAL LOADS to retrofit			REMOVAL RATES per polynomial curves			Total Loads removed					
					IMPERVIOUS	LOADS (per DCR Potomac River Basin)			PERVIOUS	LOADS (per DCR Potomac River Basin)														
ID	Status	Name	Installation (FY)	Total drainage area (ac)	Area (ac)	TP	TN	TSS	Area (ac)	TP	TN	TSS	TP	TN	TSS	Retrofit storage vol (cf)	Retrofit storage vol (ac-ft)	Runoff depth treated (in)	TP	TN	TSS	TP	TN	TSS
2012-2	Completed	Albemarle Bioretention	2012	0.73	0.27	0.44	4.55	316.26	0.46	0.19	4.63	80.87	0.63	9.18	397.12	1358.00	0.03	1.39	75%	64%	80%	0.47	5.90	319.65
2012-3	Completed	Weenie Beenie Bioswale	2012	0.08	0.08	0.13	1.35	93.71	0.00	0.00	0.00	0.00	0.13	1.35	93.71	211.00	0.00	0.73	63%	54%	67%	0.08	0.72	62.96
2014-4A-B	Completed	Gulf Branch Nature Center - Stormwater Planters	2014	0.0149	0.0149	0.02	0.25	17.46	0.00	0.00	0.00	0.00	0.02	0.25	17.46	162.00	0.00	2.99	79%	68%	85%	0.02	0.17	14.84
				0.0068	0.0068	0.01	0.12	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.12	8.00	55.00	0.00	2.22	78%	67%	84%	0.01
2014-4C	Completed	Gulf Branch Nature Center - Infiltration Trench/Pervious Pavement	2014	0.17	0.16	0.26	2.66	184.95	0.01	0.01	0.14	2.41	0.26	2.80	187.36	972.00	0.02	1.70	77%	66%	83%	0.20	1.85	155.18
2014-5L	Pending	Pentagon City Median - North Bioretention	2014	1.21	0.96	1.56	16.19	1124.47	0.25	0.10	2.52	43.95	1.66	18.70	1168.42	2554.00	0.06	0.73	63%	54%	67%	1.04	10.07	787.78
2014-5M	Pending	Pentagon City Median - South Bioretention	2014	0.72	0.57	0.92	9.61	667.65	0.15	0.06	1.51	26.37	0.98	11.12	694.02	3195.00	0.07	1.54	76%	65%	82%	0.75	7.26	568.09
2014-5A-E	Pending	Pentagon City - Stormwater Planters A-E Bioretention	2014	0.58	0.57	0.92	9.61	667.65	0.01	0.00	0.10	1.76	0.93	9.71	669.41	700.00	0.02	0.34	41%	35%	44%	0.38	3.40	292.57
2014-5F-K	Pending	Pentagon City - Stormwater Planters F-K Bioretention	2014	0.54	0.52	0.84	8.77	609.09	0.02	0.01	0.20	3.52	0.85	8.97	612.60	1260.00	0.03	0.67	60%	52%	65%	0.51	4.64	396.97
2015-6	Completed	8th St S Curbside Bioretention	2015	0.85	0.51	0.83	8.60	597.37	0.34	0.14	3.42	59.77	0.97	12.02	657.15	917.00	0.02	0.50	52%	45%	56%	0.50	5.36	366.06
	Design	11th St Park Bioretention	2016	0.89	0.11	0.18	1.85	128.85	0.78	0.32	7.85	137.12	0.50	9.71	265.97	897.10	0.02	2.25	78%	67%	84%	0.39	6.51	224.23
	Design	PH Drive & 20th St N Bioretention	2015	3.04	1.18	1.91	19.89	1382.16	1.86	0.76	18.7	326.99	2.67	38.63	1709.15	1028.00	0.02	0.24	32%	27%	34%	0.84	10.44	577.63
	Design	John Marshall Drive - A Bioretention	2016	1.77	0.92	1.49	15.51	1077.61	0.85	0.35	8.56	149.43	1.84	24.07	1227.04	4909.00	0.11	1.47	76%	65%	81%	1.39	15.60	997.17
	Design	John Marshall Drive - B Bioretention	2016	0.68	0.19	0.31	3.20	222.55	0.49	0.20	4.93	86.14	0.51	8.14	308.69	1285.00	0.03	1.86	78%	67%	84%	0.40	5.42	257.94
	Design	Kensington St - A (32nd St) Bioretention	2016	2.07	0.77	1.25	12.98	901.92	1.30	0.53	13.0	228.54	1.78	26.07	1130.46	1023.00	0.02	0.37	43%	37%	46%	0.77	9.64	521.53
	Design	Kensington St - B Bioretention	2016	1.92	0.63	1.02	10.62	737.93	1.29	0.53	12.9	226.78	1.55	23.61	964.71	1124.00	0.03	0.49	52%	44%	55%	0.80	10.48	535.02
	Design	N. Sycamore Street Bioretention	2016	1.73	1.05	1.70	17.70	1229.89	0.68	0.28	6.85	119.54	1.98	24.55	1349.43	3158.00	0.07	0.83	66%	56%	71%	1.30	13.84	953.01
	Design	Northside Leaf/Mulch Storage Facility Infiltration	2016	0.73	0.73	1.18	12.31	855.06	0.00	0.00	0.00	0.00	1.18	12.31	855.06									
	Design	Williamsburg Medians 1 - North Bioretention	2016	0.55	0.44	0.71	7.42	515.38	0.11	0.05	1.11	19.34	0.76	8.53	534.72	1751.00	0.04	1.10	72%	61%	77%	0.54	5.22	410.21
	Design	Williamsburg Medians 1 - South Bioretention	2016	1.18	0.59	0.96	9.95	691.08	0.59	0.24	5.94	103.72	1.20	15.89	794.80	2050.00	0.05	0.96	69%	59%	74%	0.83	9.38	588.02
	Design	Walter Reed Decal Project - 5th St S Bioretention	2017	0.84	0.51	0.83	8.60	597.37	0.33	0.14	3.32	58.01	0.96	11.92	655.39	1215.78	0.03	0.66	60%	51%	64%	0.58	6.13	421.61
	Design	Walter Reed Decal Project - 9th St S Bioretention	2017	0.73	0.57	0.92	9.61	667.65	0.16	0.07	1.61	28.13	0.99	11.22	695.78	959.00	0.02	0.46	50%	43%	54%	0.49	4.82	372.92
	Design	Williamsburg Medians 2 - A-C Bioretention	2017	0.93	0.63	1.02	10.62	737.93	0.30	0.12	3.02	52.74	1.14	13.64	790.67	1603.00	0.04	0.70	62%	53%	66%	0.71	7.21	523.35
	Design	Williamsburg Medians 2 - D Bioretention	2017	0.80	0.57	0.92	9.61	667.65	0.23	0.09	2.32	40.43	1.02	11.93	708.09	898.00	0.02	0.43	48%	41%	52%	0.49	4.92	364.73