Table SWM.2: WURC // ESD to MEP Worksheet (Redevelopment)

Drainage Area	Block	Site Area To Be Treated	%I	Rv	ESD (Non-Structural Practices) (Ac.)								PE (Inches)							ESDv Volume (cft)								PE Treated	RCN
					A-2	N-1	N-2	M-3	M-6	M-8	M-9	Total	A-2	N-1	N-2	M-3	M-6	M-8	M-9	A-2	N-1	N-2	M-3	M-6	M-8	M-9	Total		
F	A	122,839 sf.	70	0.68	0.00	0.08	0.10	1.55	1.25	0.00	0.00	2.98	0.00	0.60	0.60	2.00	1.80	0.00	0.00	0	118	147	7,603	5,518	0	0	13,387	1.94	77
	B	259,182 sf.	72	0.70	0.00	0.00	0.92	2.90	2.75	0.00	0.00	6.57	0.00	0.00	0.60	2.00	1.80	0.00	0.00	0	0	1,395	14,660	12,512	0	0	28,567	1.90	74
	C	136,778 sf.	97	0.92	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0	0	0	13,372	0	0	0	13,372	1.27	84
	D	148,104 sf.	76	0.73	0.00	0.00	0.00	3.15	0.00	0.00	0.00	3.15	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0	0	0	16,724	0	0	0	16,724	1.85	75
E	E	283,140 sf.	85	0.82	0.00	0.00	0.00	2.25	4.00	0.00	0.00	6.25	0.00	0.00	0.00	2.00	1.80	0.00	0.00	0	0	0	13,318	21,309	0	0	34,628	1.80	77
	F	62,726 sf.	79	0.76	0.00	0.00	0.00	0.75	0.80	0.00	0.00	1.55	0.00	0.00	0.00	2.00	1.80	0.00	0.00	0	0	0	4,138	3,972	0	0	8,110	2.04	77
	G	111,949 sf.	77	0.74	0.00	0.00	0.00	1.15	2.00	0.00	0.00	3.15	0.00	0.00	0.00	2.00	1.80	0.00	0.00	0	0	0	6,174	9,663	0	0	15,837	2.30	77
	H	222,156 sf.	61	0.60	0.00	0.00	0.00	2.50	1.90	0.30	0.40	5.10	0.00	0.00	0.00	2.00	1.80	1.00	2.40	0	0	0	10,855	7,425	651	2,084	21,016	1.90	74
	I	348,480 sf.	73	0.71	0.00	0.20	0.00	2.20	2.50	0.40	0.75	6.05	0.00	0.60	0.00	2.00	1.80	1.00	2.40	0	308	0	11,292	11,548	1,027	4,619	28,793	1.40	79
D	J	345,649 sf.	85	0.81	0.00	0.00	0.00	3.70	0.00	0.00	1.45	5.15	0.00	0.00	0.00	2.00	0.00	0.00	2.40	0	0	0	21,840	0	0	10,271	32,111	1.37	82
	K	78,408 sf.	55	0.54	0.00	0.15	0.50	1.15	2.30	0.00	0.00	4.10	0.00	0.60	0.60	2.00	1.80	0.00	0.00	0	177	589	4,514	8,124	0	0	13,403	3.79	73
	L	-33,541 sf.	28	0.31	0.00	0.60	0.00	0.00	0.00	0.00	0.45	1.05	0.00	0.60	0.00	0.00	0.00	0.00	2.40	0	400	0	0	0	0	1,199	1,599	1.87	76
	M	44,213 sf.	47	0.47	0.00	0.00	0.70	0.95	0.00	0.00	0.00	1.65	0.00	0.00	0.60	2.00	0.00	0.00	0.00	0	0	722	3,265	0	0	0	3,987	2.29	77
C	N	261,142 sf.	85	0.82	0.00	0.00	0.00	4.00	0.00	0.00	0.00	4.00	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0	0	0	23,765	0	0	0	23,765	1.33	83
	O	173,804 sf.	49	0.49	0.00	0.30	1.20	2.50	1.50	0.00	0.00	5.50	0.00	0.60	0.60	2.00	1.80	0.00	0.00	0	319	1,277	8,870	4,790	0	0	15,256	2.16	74
B	P	109,553 sf.	69	0.67	0.00	0.30	0.00	2.95	1.85	0.45	2.25	7.80	0.00	0.60	0.00	2.00	1.80	1.00	2.40	0	436	0	14,296	8,069	1,090	13,084	36,975	6.07	77
	Q	26,572 sf.	64	0.63	0.00	0.45	0.00	1.50	0.00	0.00	0.85	2.80	0.00	0.60	0.00	2.00	0.00	0.00	2.40	0	615	0	6,832	0	0	4,646	12,093	8.70	77
	R	150,064 sf.	43	0.44	0.00	0.00	2.20	0.00	2.40	0.60	0.00	5.20	0.00	0.00	0.60	0.00	1.80	1.00	0.00	0	0	2,102	0	6,879	955	0	9,936	1.81	75
	S	63,598 sf.	73	0.70	0.00	0.00	0.00	1.50	1.50	0.00	0.00	3.00	0.00	0.00	0.00	2.00	1.80	0.00	0.00	0	0	0	7,656	6,891	0	0	14,547	3.90	77
	T	48,134 sf.	62	0.60	0.00	0.00	0.35	1.00	0.00	0.00	0.00	1.35	0.00	0.00	0.60	2.00	0.00	0.00	0.00	0	0	461	4,386	0	0	0	4,847	2.00	77
	U	83,853 sf.	63	0.61	0.00	0.00	0.20	2.00	0.00	0.00	0.00	2.20	0.00	0.00	0.60	2.00	0.00	0.00	0.00	0	0	268	8,918	0	0	0	9,185	2.14	77
A	V	232,393 sf.	74	0.72	0.00	0.00	0.65	3.70	0.00	0.00	0.75	5.10	0.00	0.00	0.60	2.00	0.00	0.00	2.40	0	0	1,015	19,252	0	0	4,683	24,949	1.80	77
	W	187,308 sf.	74	0.72	0.00	0.00	0.00	3.15	0.00	0.00	0.00	3.15	0.00	0.00	0.00	2.00	0.00	0.00	0.00	0	0	0	16,397	0	0	0	16,397	1.47	78
	X	-21,998 sf.	52	0.52	0.00	0.30	0.00	0.80	0.00	0.00	0.65	1.75	0.00	0.60	0.00	2.00	0.00	0.00	2.40	0	339	0	3,014	0	0	2,939	6,292	6.61	77
	Y	196,020 sf.	49	0.49	0.00	0.25	0.40	1.75	2.00	0.00	0.40	4.80	0.00	0.60	0.60	2.00	1.80	0.00	2.40	0	266	426	6,211	6,388	0	1,703	14,994	1.88	72
	Z	609,622 sf.	76	0.73	2.75	0.00	0.00	1.95	0.00	0.00	2.00	6.70	2.00	0.00	0.00	2.00	0.00	0.00	2.40	14,590	0	0	10,346	0	0	12,733	37,670	1.01	71

ESD Devices:

A-2 = Permeable Pavement
N-1 = Disconnection of Rooftop Runoff
N-2 = Disconnection of Non-Rooftop Runoff
M-3 = Landscape Infiltration
M-6 = Bioretention / Micro-Bioretention
M-8 = Swales
M-9 = Enhanced Filters

Design Assumptions:

Type "C" Hydrologic Soil Groups only; 12-inch sub base for PE equal to 2.00"; Underdrain required
Disconnection Flow Path Assumed for Calculations = 45 lft with a PE of 0.60
Ratio of Disconnection Length vs. Impervious Area = 0.60:1 with a PE of 0.60
Surface area of Island Inflitration to equal 10% of parking area (filter media depth = 2.50' with 0.40 Void Ratio); underdrain required
See Design Assumption for M-3 (additional 1.0' ponding volume above surface area of filter included as 5% of impervious area - 15% total)
Grass swales proposed within Development. If Bio-swales used additional benefit to be gained within PE calculations.
Enhanced Filter equivalent to a Micro-Bioretention Facility however has a stone reservoir for recharge below media within filter