

PHASE 1 ESDv REQUIRED

Combined SWM Concept	
TOTAL SITE AREA:	450,000 SF
Existing Impervious Area	414,000 SF
Percent Impervious (I)	92.0% SF
Therefore Redevelopment	>40%
TOTAL DISTURBED AREA:	480,000 SF
Impervious Area	422,400 SF
Percent Impervious (I)	88.0% SF
Target PE (Table 5.3)	1.80 in.
Rv	0.84
TOTAL ESD VOLUME REQUIRED:	60,624 CF

ESDv PROVIDED PHASE 1

Streetscape Bioretention Phase 1 (STANDARD WITH UNDERDRAIN)												
Name	Filter Media Depth (ft)	Ponding Depth (ft)	Sand Layer Depth (ft)	Area (ft ²)	Storage Capacity of BMP (CF)	Impervious Area Draining to BMP (SF)	Total Area Draining to BMP (SF)	Maximum ESD Volume 2.6" To BMP (CF)	Minimum ESD Volume 1.0" To BMP (CF)	ESD Volume (CF)	Impervious Area Draining to MAX BMP (SF)	Equiv. PE (in.)
Micro-Bio A-1	2	1	0.5	200	400	2,093	2,325	450	173	400	1,743	2.21
Micro-Bio A-2	2	1	0.5	200	400	2,160	2,400	463	178	400	1,743	2.15
Micro-Bio A-3	2	1	0.5	200	400	2,232	2,480	477	183	400	1,743	2.08
Micro-Bio A-4	2	1	0.5	200	400	2,057	2,285	442	170	400	1,743	2.25
Micro-Bio A-5	2	1	0.5	200	400	3,137	3,485	654	252	400	1,743	1.51
Micro-Bio A-6	2	1	0.5	190	360	1,620	1,800	353	136	353	1,569	2.49
Micro-Bio A-7	2	1	0.5	130	260	2,039	2,265	425	164	260	1,133	1.51
Micro-Bio A-8	2	1	0.5	100	200	1,503	1,670	314	121	200	872	1.58
Micro-Bio A-9	2	1	0.5	100	200	2,120	2,355	435	167	200	872	1.14
Micro-Bio A-10	2	1	0.5	130	260	3,150	4,200	643	247	260	1,133	0.99
Micro-Bio A-11	2	1	0.5	200	400	2,115	2,350	454	175	400	1,743	2.19
Micro-Bio A-12	2	1	0.5	200	400	1,836	2,040	399	154	399	1,743	2.49
Micro-Bio A-13	2	1	0.5	180	360	1,530	1,700	335	129	335	1,569	2.49
Micro-Bio P1-1	2	1	0.5	67.5	135	968	1,075	203	78	135	588	1.65
Micro-Bio P1-2	2	1	0.5	67.5	135	954	1,060	200	77	135	588	1.67
Micro-Bio P1-3	2	1	0.5	67.5	135	1,170	1,310	244	94	135	588	1.37
Micro-Bio P1-4	2	1	0.5	67.5	135	1,485	1,650	304	117	135	588	1.10
Micro-Bio P1-5	2	1	0.5	67.5	135	1,600	2,000	327	126	135	588	1.02
Micro-Bio P1-6	2	1	0.5	67.5	135	1,485	1,650	304	117	135	588	1.10
Micro-Bio P1-7	2	1	0.5	67.5	135	1,628	2,325	332	128	135	588	1.00
Micro-Bio P1-8	2	1	0.5	67.5	135	1,629	1,810	333	128	135	588	1.00
Micro-Bio P1-9	2	1	0.5	67.5	135	1,283	1,425	265	102	135	588	1.26
Micro-Bio P1-10	2	1	0.5	67.5	135	1,615	1,700	330	127	135	588	1.01
Micro-Bio P1-11	2	1	0.5	67.5	135	1,615	1,700	330	127	135	588	1.01
Micro-Bio P1-12	2	1	0.5	67.5	135	1,615	1,700	330	127	135	588	1.01
Micro-Bio P1-13	2	1	0.5	67.5	135	1,615	1,700	330	127	135	588	1.01
Micro-Bio P1-14	2	1	0.5	49.5	99	1,125	2,250	230	89	99	431	1.03
Micro-Bio P1-15	2	1	0.5	67.5	135	1,625	1,650	332	128	135	588	1.01
Micro-Bio P1-16	2	1	0.5	67.5	135	1,615	1,700	330	127	135	588	1.01
Micro-Bio P1-17	2	1	0.5	67.5	135	1,615	1,700	330	127	135	588	1.01
Micro-Bio P1-18	2	1	0.5	67.5	135	1,615	1,700	330	127	135	588	1.01
Micro-Bio P1-19	2	1	0.5	67.5	135	1,615	1,700	330	127	135	588	1.01
Micro-Bio P1-20	2	1	0.5	67.5	135	1,584	1,760	324	125	135	588	1.03
Micro-Bio P1-21	2	1	0.5	67.5	135	1,440	1,600	296	114	135	588	1.13
Micro-Bio P1-22	2	1	0.5	67.5	135	1,425	1,500	293	113	135	588	1.14
Micro-Bio P1-23	2	1	0.5	67.5	135	1,425	1,500	293	113	135	588	1.14
Micro-Bio P1-24	2	1	0.5	67.5	135	1,513	2,750	310	119	135	588	1.06
Micro-Bio P1-25	2	1	0.5	49.5	99	1,125	2,250	230	89	99	431	1.03
Micro-Bio P1-26	2	1	0.5	49.5	99	1,138	1,750	233	90	99	431	1.04
Micro-Bio P1-27	2	1	0.5	49.5	99	1,125	2,220	230	89	99	431	1.03

Bioretention Phase 1 (STANDARD WITH UNDERDRAIN)												
Name	Filter Media Depth (ft)	Ponding Depth (ft)	Sand Layer Depth (ft)	Area (ft ²)	Storage Capacity of BMP (CF)	Impervious Area Draining to BMP (SF)	Total Area Draining to BMP (SF)	Maximum ESD Volume 2.6" To BMP (CF)	Minimum ESD Volume 1.0" To BMP (CF)	ESD Volume (CF)	Impervious Area Draining to MAX BMP (SF)	Equiv. PE (in.)
Total MB-A (1-13)	2	1	0.5	2,220	4,440	27,590	31,355	4,407	1,931	4,407	19,351	1.93
Total MB-P1 (1-28)	2	1	0.5	2,156	4,311	38,654	47,135	4,352	1,931	4,352	15,258	1.11
MB-1	2	1	0.5	465	930	4,200	8,250	940	362	940	4,053	2.52
MB-2	2	1	0.5	430	860	4,200	9,200	933	359	860	3,748	2.33
MB-3A	2	1	0.5	220	440	3,103	3,650	669	257	440	1,918	1.67
MB-3B	2	1	0.5	225	450	5,430	7,625	1,139	438	450	1,961	1.00
MB-4	2	1	0.5	530	1,060	9,500	11,270	2,021	777	1,060	4,620	1.33
MB-5	2	1	0.5	325	650	7,800	7,680	1,637	630	650	2,833	1.01
MB-6	2	1	0.5	500	1,000	4,651	5,750	1,038	399	1,000	4,358	2.47
MB-7 (GROCERY)	2	1	0.5	1810	3,620	17,975	19,785	3,987	1,533	3,620	15,777	2.32
MB-8 (MULTI)	2	1	0.5	500	1,000	5,500	6,000	1,209	465	1,000	4,358	2.11
MB-9 (MULTI)	2	1	0.5	1850	3,700	17,730	19,580	3,945	1,517	3,700	16,126	2.40
MBA-10A (PLAZA)	2	1	0.5	530	1,060	5,000	7,400	1,114	429	1,060	4,620	2.44
MBA-10B (PLAZA)	2	1	0.5	540	1,080	8,500	9,000	1,822	701	1,080	4,707	1.51
MBA-10C (PLAZA)	2	1	0.5	540	1,080	5,000	9,500	1,116	429	1,080	4,707	2.46

SUMMARY OF STREETScape PLANTERS

Green Roof							
Name	Media Depth (in)	Area (ft ²)	Storage Capacity of BMP (CF)	Impervious Area Draining to BMP (SF)	Maximum ESD Volume of 2.6" To BMP (CF)	ESD Volume (CF)	Volumetric Runoff Coeff. (Rv) =
Extensive GR - (Grocery)	8	21,145	2,833	0	4,352	2,833	0.95
Extensive GR - (Multi)	8	21,050	2,821	0	4,333	2,821	0.95

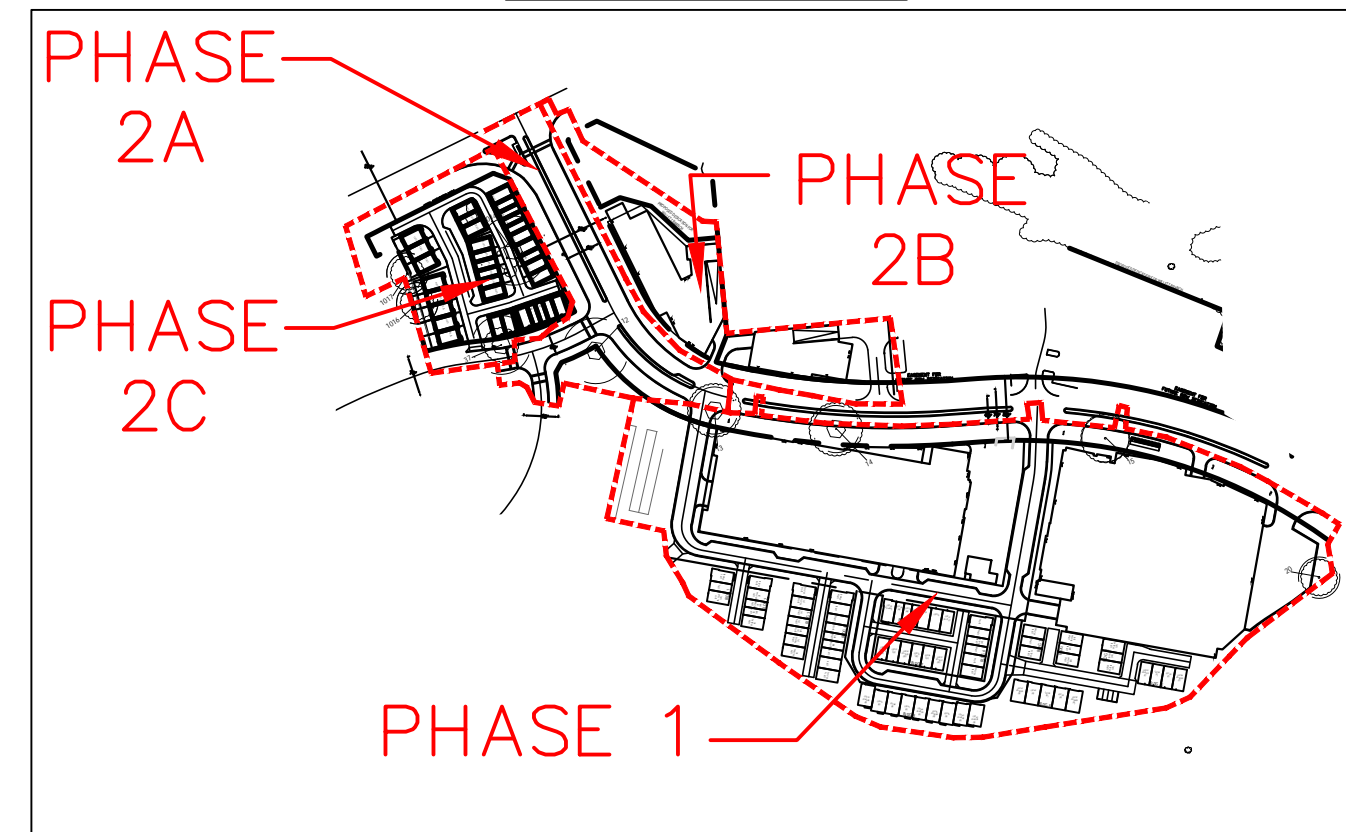
Soil/Sand Ratio (Sv) =	0.4
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Extensive Green Roof Table 1			
Roof Thickness	RCN	ESDv/sf	Equiv. PE (in.)
4"	88.00	0.077	1
8"	77.00	0.134	1.7

TOTAL PHASE 1							
Name	Media Depth (in)	Area (ft ²)	Storage Capacity of BMP (CF)	Impervious Area Draining to BMP (SF)	Maximum ESD Volume 2.6" To BMP (CF)	ESD Volume (CF)	Equivalent PE (in)
Green Roof (All)	8	42,195	5,654	0	8,685	5,654	
Micro-Bio (All)	24	12,841	25,681	98,589	21,571	24,838	
TOTAL	N/A	55,036	31,335	98,589	30,256	30,493	0.91

Remaining CpV Volume to be Captured: 30,131

KEY MAP



TOTAL PHASE 2A							
Name	Media Depth (in)	Area (ft ²)	Storage Capacity of BMP (CF)	Impervious Area Draining to BMP (SF)	Maximum ESD Volume 2.6" To BMP (CF)	ESD Volume (CF)	Equivalent PE (in)
Green Roof	0	0	0	0	0	0	
Micro-Bio	40.5	828	2,111	25,265	5,371	2,111	
TOTAL	N/A	828	2,111	25,265	5,371	2,111	0.32

TOTAL PHASE 2B							
Name	Media Depth (in)	Area (ft ²)	Storage Capacity of BMP (CF)	Impervious Area Draining to BMP (SF)	Maximum ESD Volume 2.6" To BMP (CF)	ESD Volume (CF)	Equivalent PE (in)
Green Roof	8	11,944	1,600	0	2,458	1,600	
Micro-Bio	48	1180	3,304	52,272	3,734	3,304	
TOTAL	N/A	13,124	4,904	52,272	6,193	4,904	1.18

TOTAL PHASE 2C							
Name	Media Depth (in)	Area (ft ²)	Storage Capacity of BMP (CF)	Impervious Area Draining to BMP (SF)	Maximum ESD Volume 2.6" To BMP (CF)	ESD Volume (CF)	Equivalent PE (in)
Green Roof	0	0	0	0	0	0	
Micro-Bio	VARIES	1879	4,550	25,526	5,617	4,550	
TOTAL	N/A	1,879	4,550	25,526	5,617	4,550	0.89

PHASE 2 (2A, 2B, 2C) ESDv REQUIRED

Combined SWM Concept	
TOTAL SITE AREA:	253,900 SF
Existing Impervious Area	228,510 SF
Percent Impervious (I)	90.0% SF
Therefore Redevelopment	>40%
TOTAL DISTURBED AREA:	253,900 SF
Impervious Area	199,820 SF
Percent Impervious (I)	78.7% SF
Target PE (Table 5.3)	1.8 in.
Rv	0.76
TOTAL ESD VOLUME REQUIRED:	29,593 CF

ESDv PROVIDED PHASE 2A

Bioretention (STANDARD WITH UNDERDRAIN) Phase 2A												
Name	Filter Media Depth (ft)	Ponding Depth (ft)	Sand Layer Depth (ft)	Area (ft ²)	Storage Capacity of BMP (CF)	Impervious Area Draining to BMP (SF)	Total Area Draining to BMP (SF)	Maximum ESD Volume 2.6" To BMP (CF)	Minimum ESD Volume 1.0" To BMP (CF)	ESD Volume (CF)	Impervious Area Draining to MAX BMP (SF)	Equiv. PE (in.)
Micro-Bio F-500	3.375	1	0.5	69	176	2,178	2,178	463	0.95	176	786	
Micro-Bio F-502	3.375	1	0.5	69	176	2,178	2,178	463	0.95	176	786	
Micro-Bio F-504	3.375	1	0.5	69	176	2,178	2,178	463	0.95	176	786	
Micro-Bio F-506	3.375	1	0.5	69	176	2,178	2,178	463	0.95	176	786	
Micro-Bio F-508	3.375	1	0.5	69	176	2,178	2,178	463	0.95	176	786	
Micro-Bio F-510	3.375	1	0.5	96	245	3,049	3,049	647	0.95	245	1,093	
Micro-Bio F-536	3.375	1	0.5	57	145	1,307	1,307	281	0.95	145	649	
Micro-Bio F-538	3.375	1	0.5	81	207	2,614	2,614	555	0.95	207	922	
Micro-Bio F-540	3.375	1	0.5	96	245	3,049	3,049	647	0.95	245	1,093	
Micro-Bio F-542	3.375	1	0.5	57	145	1,307	1,307	281	0.95	145	649	
Micro-Bio F-544	3.375	1	0.5	96	245	3,049	3,049	647	0.95	245	1,093	
TOTAL ESDv for Phase 2A Micro-Bio F										2111		0.32

ESDv PROVIDED PHASE 2B

Green Roof Phase 2B								
Name	Media Depth (in)	Area (ft ²)	Storage Capacity of BMP (CF)	Impervious Area Draining to BMP (SF)	Maximum ESD Volume of 2.6" To BMP (CF)	ESD Volume (CF)	Volumetric Runoff Coeff. (Rv) =	Green Roof ESD Rate (ESDv/sf)
Extensive GR (Building 5)	8	7,350	985	0	1,515	985	0.95	0.134
Extensive GR (Building 6)	8	4,594	616	0	946	616	0.95	0.134