

Proprietary Stormwater Structural BMPs Accepted by Knox County

(Updated March 2021)

The Manufactured Stormwater Treatment Systems listed below have had independent, third party evaluations conducted by the New Jersey Department of Environment Protection (NJDEP) a widely accepted stormwater treatment system certification program for stormwater manufactured treatment devices. For a complete list, refer to <https://www.nj.gov/dep/stormwater/treatment.html>.

Manufactured Stormwater Treatment System	Model	Treatment Flow	Comments
SciClone Hydrodynamic Separator BioClean	SC-3	0.39	Online or offline 50% TSS removal
	SC-4	0.70	
	SC-5	1.09	
	SC-6	1.57	
	SC-7	2.14	
	SC-8	2.80	
	SC-9	3.54	
	SC-10	4.37	
	SC-11	5.29	
	SC-12	6.30	
	SC-13	7.39	
Aqua-Shield Aqua-Swirl	AS-2	0.36	Online or offline 50% TSS removal
	AS-3	0.71	
	AS-4	1.18	
	AS-5	1.46	
	AS-6	2.11	
	AS-7	2.87	
	AS-8	3.74	
	AS-9	4.73	
	AS-10	5.84	
	AS-11	7.07	
	AS-12	8.42	
CONTECH Continuous Deflective Separator CDS	3	0.52	online or offline 50% TSS removal
	4	0.93	
	5	1.5	
	6	2.1	
	7	2.8	
	8	3.7	
	10	5.8	
Hydro International Downstream Defender	4-Ft	1.12	online or offline 50% TSS removal
	6-Ft	2.52	
	8-Ft	4.49	
	10-Ft	7.00	
	12-Ft	10.08	
Hydro International First Defense	3-Ft	0.85	online or offline 50% TSS removal
	4-Ft	1.50	
	5-Ft	2.35	
	6-Ft	3.38	
	7-Ft	4.60	

	8-Ft	6.00	
Oldcastle Dual Vortex Separator DVS	DVS-36	0.56	online or offline 50% TSS removal
	DVS-48	1.00	
	DVS-60	1.56	
	DVS-72	2.25	
	DVS-84	3.06	
	DVS-96	4.00	
	DVS-120	6.25	
	DVS-144	9.00	
Suntree Technologies Nutrient Separating Baffle Box	2-4	0.62	online or offline 50% TSS removal
	3-6	1.40	
	3-8	1.87	
	4-8	2.49	
	5-10	3.89	
	6-12	5.60	
	3-13.75	6.42	
	7-14	7.62	
	7-15	8.17	
	8-14	8.71	
	8-16	9.96	
	9-18	12.60	
	10-17	13.22	
	10-20	15.56	
12-21	19.60		
12-24	22.40		
Environment 21 StormPro	V48	1.29	online or offline 50% TSS removal
	V510	2.02	
	V612	2.91	
	V813	5.17	
	V1020	8.08	

CONTECH StormFilter	cartridge	Treatment Flow	maximum	Comments offline only can use multiple cartridges 80% TSS removal
	ht inches	cfs	acres/cartridge	
	Low Drop	0.02	0.061	
	18"	0.03	0.09	
	27"	0.05	0.136	

Kraken SW Filtration System	unit	Treatment Flow	maximum	Comments online 80% TSS removal
		cfs	acres/unit	
	KF-2.5-4	0.152	0.439	
	KF-4-4	0.303	0.723	
	KF-4-6	0.455	1.099	
	KF-4-8	0.606	1.465	
	KF-8-8	0.909	2.623	
	KF-8-10	1.25	3.58	
	KF-8-12	1.477	4.219	
	KF-8-14	1.818	5.288	
	KF-8-16	2.159	6.203	
	KF-10-16	2.879	7.874	

Product: Hydro International Up-Flo Filtration System

Configuration	Model Size	# Filter Modules	Max Filtration Rate (cfs)	Max Allowable Inflow Area (ac)	Comments
Manhole	UFF-MH-285R	6	0.20	0.083	offline only 80% TSS removal
Vault	UFF-ZV-19-285R	19	0.63	0.264	
Vault	UFF-ZV-38-285R	38	1.27	0.528	
Vault	UFF-ZV-57-285R	57	1.90	0.792	

Product: Bayfilter 545 EMC & 545LP EMC

Configuration	Bayfilter 545 EMC		BayFilter 545LP EMC		Comments
	MTFR (cfs)	Max. Allowable Drainage Area (ac.)	MTFR (cfs)	Max. Allowable Drainage Area (ac.)	
4' manhole	0.10	0.44	0.05	0.22	Offline only 80% TSS removal
4' by 6' vault	0.20	0.87	0.1	0.44	
5' manhole	0.30	1.31	0.15	0.66	
6' manhole	0.40	1.75	0.2	0.87	
6' by 6' vault	0.40	1.75	0.2	0.87	
7' manhole	0.50	2.18	0.25	1.09	
8' manhole	0.70	3.06	0.35	1.53	
8' by 10' vault	1.00	4.37	0.5	2.18	
8' by 12' vault	1.30	5.68	0.65	2.84	
8' by 14' vault	1.50	6.55	0.75	3.28	
8' by 16' vault	1.80	7.86	0.9	3.93	
10' by 16' vault	2.11	9.17	1.05	4.59	
10' by 20' vault	2.71	11.79	1.35	5.9	

1. Based on 0.5 gpm/sq. ft. of effective filtration treatment area.

BaySaver Barracuda

Barracuda Model	NJDEP 50% TSS Maximum Treatment Flow Rate (cfs)	Comments
S3	0.70	online or offline 50% TSS Removal
S4	1.25	
S5	1.95	
S6	2.80	
S8	5.00	
S10	7.80	

AquaShield Aqua-Ponic Stormwater Biofiltration System

Model	Maximum Treatment Flow Rate (MTFR) (cfs)	Drainage Area (acres)	Comments
AP-2	0.05	0.05	TSS Removal 80% Off-line Installation
AP-3	0.11	0.11	
AP-4	0.20	0.19	
AP-5	0.31	0.30	
AP-6	0.44	0.43	
AP-7	0.60	0.59	
AP-8	0.79	0.77	
AP-9	0.99	0.97	
AP-10	1.23	1.20	
AP-11	1.48	1.45	
AP-12	1.77	1.73	
AP-13	2.07	2.03	

Bio Clean Debris Separating Baffle Box (DSBB)		
DSBB Model #	Treatment Flow Rate (MTFR), (cfs)	50% TSS Removal Efficiency
2-4	0.70	
2.5-5	1.10	
3-6	1.59	
4-6	2.11	
4-8	2.82	
5-10	4.40	
6-12	6.34	
7-14	8.63	
8-14	9.86	
8-16	11.27	
9-18	14.27	
10-18	15.85	
10-20	17.61	
10-22	19.37	
11-22	21.31	
11-24	23.25	
12-24	25.36	

CONTECH Filterra Bioretention System				
Media Area	Media Flow Rate	Treatment Flow Rate	Max. Impervious Area (Ac.)	Comments
4x4	140" per hour	0.052	0.057	Offline and online 80% TSS Removal Custom sizes available Media flow rate shall not exceed 140"/hr (0.00324 cfs/ft ²).
4x6 / 6x4		0.078	0.086	
4x8 / 8x4		0.104	0.115	
6x6		0.117	0.129	
6x8 / 8x6		0.156	0.172	
6x10 / 10x6		0.194	0.216	
6x12 / 12x6		0.233	0.259	
7x13 / 13x7		0.295	0.327	

Aqua Swirl Aqua-Filter				
Aqua-Filter Model	# of filter bags	MTFR (cfs)	Max allowable drainage area (acres)	Comments
AF-2.1	12	0.21	0.21	
AF-3.2	24	0.42	0.42	
AF-3.48	8	0.25	0.10	
AF-4.3	36	0.64	0.63	
AF-5.4	48	0.85	0.84	
AF-6.5	60	1.06	1.05	

AF-7.6	72	1.27	1.26	80% TSS Removal Rate
AF-7.7	84	1.49	1.47	
AF-8.8	96	1.70	1.68	
AF-8.9	108	1.91	1.89	
AF-8.10	120	2.12	2.10	
AF-8.11	132	2.34	2.31	
AF-9.12	144	2.55	2.52	
AF-9.13	156	2.76	2.73	
AF-10.14	168	2.97	2.94	
AF-10.15	180	3.19	3.15	
AF-10.16	192	3.40	3.36	
AF-11.17	204	3.61	3.57	
AF-11.18	216	3.82	3.78	
AF-12.10 Twin	240	4.25	4.20	
AF-12.11 Twin	264	4.67	4.62	
AF-13.12 Twin	288	5.10	5.04	
AF-13.13 Twin	312	5.52	5.46	

Cascade Separator™				
Cascade Separator Model	Manhole Diameter (ft)	MTFR (cfs)	50% Max Sediment Storage Area Volume (ft ²)	Comments
CS-4	4	1.80	9.4	50% TSS Removal Rate
CS-5	5	2.81	14.7	
CS-6	6	4.05	21.2	
CS-8	8	7.20	37.7	
CS-10	10	11.3	58.9	
CS-12	12	16.2	84.8	

Aqua-Swirl Xcelerator Models				
Model	Manhole Diameter (ft)	MTFR (cfs)	50% Max Sediment Storage Area Volume (ft ²)	Comments
XC-2	2.5	0.57	2.46	50% TSS Removal Rate
XC-3	3.5	1.13	4.81	
XC-4	4.5	1.86	7.95	
XC-5	5	2.30	9.82	
XC-6	6	3.31	14.14	
XC-7	7	4.50	19.24	
XC-8	8	5.88	25.14	
XC-9	9	7.44	37.81	
XC-10	10	9.19	39.27	
XC-11	11	11.12	47.52	
XC-12	12	13.23	56.55	
XC-13	13	15.53	66.37	