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Massachusetts Stormwater Technology Evaluation Project

MASTEP has created a web site[1] at www.mastep.net to host a publicly accessible database of performance characteristics for innovative stormwater treatment technologies.

The database provides a source of verified technical information on stormwater Best Management Practices (BMP) to Massachusetts conservation commissions, local officials, and other BMP users. The objective is to assist communities to maximize environmental benefits by focusing efforts on technologies that have the most promising potential to reach specific water quality objectives.

Technology manufacturers and testers may use the web site to enter detailed information (including performance testing) about specific technologies*. Technology entries are then thoroughly screened by MASTEP staff and included in the searchable database. A robust screening protocol is used to rank technologies into categories (evaluation complete and performance rates given; evaluation incomplete, performance claims unverified; evaluation unavailable, no performance rates). Testing protocols such as the Technology Acceptance Reciprocity Partnership (TARP) are used to evaluate the quality of data and performance characteristics

Database users can utilize any number of site conditions, water quality objectives, cost, or performance-based factors to screen and evaluate compatibility of a BMP product with project needs and limitations. The database provides reports on vendor-provided information on cost, installation and maintenance requirements, and other product specifications.

The web site also provides background information on stormwater and BMPs to help end users understand the technology reviews.

*Technology submissions are welcome. To list a product on the web site,

- Visit the project web and register
- Select "The Database" from the home page menu
- Select "Data Entry Tool" and follow the instructions given there.

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Sample screen shots from MASTEP web site

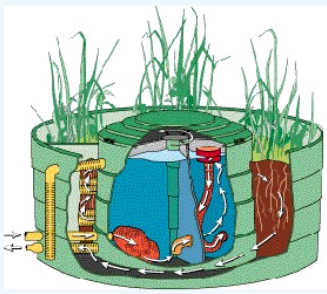
0 Not yet rated for TSS 1 TARP-compliant data for TSS exists 2 Promising TSS performance studies underway 3 No TARP compliant data exists yet for TSS

#	Status	Model	Technology
1	3	VS40	VortSentry :: **BMP Type:** Swirl or vortex separator *(Sedimentation Unit)*. **Pollutants Addressed:** Suspended sediment concentration; Total suspended solids; Total solids; Oil and grease; Debris - floatables; Debris- sinking; Zinc; Copper; Lead; Iron; Chromium; Mercury; Cadmium; Ammonium; Hydrocarbons; Organic contaminants; Salt; Fecal coliform; E. coli; Enterococcus; Total nitrogen; Total Phosphorus; Temperature]
2	0	Module II	Hancor Storm Water Quality Unit :: **BMP Type:** Oil/sediment separator *(Sedimentation Unit)*. **Pollutants Addressed:** Total suspended solids; Oil and grease; Debris - floatables; Hydrocarbons]
3	2	PMSU20_20_5	CDS Offline Unit :: **BMP Type:** Swirl or vortex separator *(Sedimentation Unit)*. **Pollutants Addressed:** Total suspended solids; Oil and grease; Debris - floatables]
4	2	None	StormTreat System (TM), Inc. :: **BMP Type:** Oil/sediment separator *(Sedimentation Unit)*. **Pollutants Addressed:** Total suspended solids; Zinc; Lead; Chromium; Total Keldjhal Nitrogen; Total Phosphorus]
5	2	STC 1200	In-Line Stormceptor :: **BMP Type:** Oil/sediment separator *(Sedimentation Unit)*. **Pollutants Addressed:** Suspended sediment concentration; Total suspended solids; Oil and grease; Zinc; Copper; Lead; Iron; Chromium; Mercury; Cadmium; Ammonium; Hydrocarbons; Total Keldjhal Nitrogen; Total Phosphorus]
6	0	Various (VF4r to VF1218)	VortFilter :: **BMP Type:** Inorganic Filter *(Filtration - Media filter)*. **Pollutants Addressed:** Total suspended solids; Total solids; Oil and grease; Debris - floatables; Debris- sinking; Zinc; Copper; Lead; Iron; Chromium; Mercury; Cadmium; Ammonium; Total nitrogen; Total Phosphorus]
7	2	4-FT	Downstream Defender :: **BMP Type:** Swirl or vortex separator *(Sedimentation Unit)*. **Pollutants Addressed:** Total suspended solids; Total solids; Oil and grease; Debris - floatables]
8	2	StormFilter	StormFilter :: **BMP Type:** Inorganic Filter *(Filtration - Media filter)*. **Pollutants Addressed:** Total suspended solids; Zinc; Copper; Hydrocarbons]
9	3	not specified	Grate Inlet Skimmer Box :: **BMP Type:** Catch Basin Insert *(Pretreatment Technology)*. **Pollutants Addressed:** Total suspended solids; Debris - floatables; Total Keldjhal Nitrogen; Total Phosphorus]
10	2	1K	BaySaver Separation System :: **BMP Type:** Oil/sediment separator *(Sedimentation Unit)*. **Pollutants Addressed:** Suspended sediment concentration; Total suspended solids; Oil and grease; Debris - floatables; Debris- sinking]
11	2	7000	Vortechs System :: **BMP Type:** Swirl or vortex separator *(Sedimentation Unit)*. **Pollutants Addressed:** Suspended sediment concentration; Total suspended solids; Total dissolved solids; Total volatile solids; Total solids; Oil and grease; Debris - floatables; Debris- sinking; Zinc; Copper; Lead; Iron; Chromium; Mercury; Cadmium; Hydrocarbons; Organic contaminants; Salt; Fecal coliform; E. coli; Enterococcus; Total nitrogen; Total Phosphorus]

Technology listing shown above

Individual technology summary display shown at right

StormTreat System (TM), Inc. :: A product from STORMTREAT SYSTEMS ::



General Information
Find information on the BMP type, applications and pollutants treated

Cost
Per unit, CFS, and/or lb of pollutant removed

Design Considerations
Installation and maintenance requirements, design methodology, setbacks, capacities, etc.

Site and Environmental Considerations
Storm types, drainage area, soil types, infiltarion rate, residuals, secondary impacts, etc.

Performance Evaluation
Summary table of test status, our rating, links to more detailed information, list of test reports

In Brief:

The system is a prefabricated unitary structure which provides sedimentation, oil and grease separation, sand filtration, and biological filtration. In the system, a chambered sedimentation unit and oil and grease separator is combined with a containerized biofilter. The system is designed as a recharge unit or with controlled discharge to surface water or a stormwater conveyance system (Closed Mode). The system is 9.5 feet in diameter and 4 feet in depth. Depending on the area to be treated, any number of units could be utilized in parallel. The chamber is manufactured using rotational molded recycled polyethylene. Other components are made of PVC, gravel (in the biofilter), native wetland plants (in the biofilter), metal closures, and various fittings constructed of plastic or other durable materials. All installation of the StormTtreat system require basic pretreatment in the form of a separate stormwater inlet or catch basin. The unit, designed for recharge, is installed in a 12' x 12' excavation, with a minimum of 12" below the unit and stone surrounding the unit's sides. The closed mode unit is installed in the same sized excavation with 6" of stone below the unit. Treated stormwater effluent discharges from the closed mode unit through a 1 to 2" PVC pipe to a surface discharge or stormwater conveyance system.