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**Massachusetts
Stormwater
Technology
Evaluation
Project**

www.mastep.net

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Massachusetts Stormwater Technology Evaluation Project

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www.mastep.net



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There are thousands of stormwater treatment proprietary technologies installed in the Commonwealth. The impact of these technologies is potentially significant, especially in redevelopment cases.

This project is designed to assist regulators and engineers in selecting those technologies whose treatment efficiency claims have been verified in field and laboratory testing.

The Stormwater Technologies Clearinghouse is a web site at www.mastep.net hosting a publicly accessible database of performance studies for innovative stormwater treatment technologies.

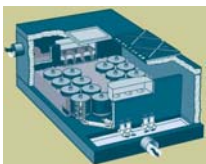
Massachusetts Stormwater Management Standards must be used by developers to satisfy statutory and regulatory requirements of the MA DEP.

One standard requires that new development install stormwater management systems that **remove 80% of the average annual load of Total Suspended Solids (TSS)** and that no new stormwater conveyances may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth. This 80% TSS standard is the leading criterion MASTEP uses to evaluate the technologies.

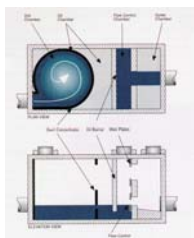
There are currently 34 proprietary technologies listed on the web site, with the goal of listing twenty additional proprietary BMPs and at least ten conventional and ten Low Impact Development BMPs by the end of the project in June 2009.

The proprietary technologies are of the following types:

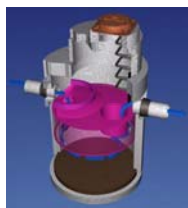
- Swirl or vortex separator / other Hydrodynamic device
- Catch basin insert
- Inorganic filter
- Oil/sediment separator
- Synthetic filter



Media Filtration



Hydrodynamic



Advanced Sedimentation



Sand Filtration

Innovative BMPs:

- Removal Efficiency:
 - 50-80% average
 - 80% design
- Design Features:
 - small area
 - Oil and Grease Control
- Maintenance: moderate
- Cost: moderate



Inlet Inserts

THE DATABASE

Description: 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.

END USERS

- Mass. Dept. of Environmental Protection
- Conservation Commissions
- Local officials
- Developers
- Other users of Best Management Practices

HOW DOES THE WEB SITE WORK?

Technology manufacturers and testers 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:

0: Unrated. Data review not yet conducted by MASTEP

1: There is sufficient TARP*-compliant or similar reliable data on this technology to be able to evaluate pollution removal efficiency claims

2: The available studies have scientific merit but do not meet full requirements for category 1

3: The available studies have moderate scientific validity or merit

4: Available studies have low/no scientific merit

*Testing protocols such as the Technology Acceptance Reciprocity Partnership (TARP) are used to evaluate the quality of data and performance characteristics.

TARP: The Technology Acceptance and Reciprocity Partnership is a multi-state consortium formed to provide a uniform method for demonstrating the effectiveness of stormwater technologies and developing test quality assurance plans for certification or verification of performance claims.

Searchable Database

Users can search on:

- Type of BMP
- Application
- Pollutant Type
- Vendor
- Or keyword

Click on a technology to see specific information

#	Status	Model	Technology	Match
1	0	W	BaySaver Separation System - BMP Type: Oil/sediment separator (Sedimentation) [MS] Pollutants Addressed: Suspended sediment concentration, Total suspended solids, Oil and grease, Solids (Total/Total Suspended Solids)	100%
2	0	Not specified	Stormceptor Systems (CMAA, Inc.) - BMP Type: Oil/sediment separator (Sedimentation) [MS] Pollutants Addressed: Total suspended solids, Oil, Lead, Chromium, Total Hydrocarbons, Total Phosphorus	100%
3	0	3TC 1200	In-Line Stormceptor - BMP Type: Oil/sediment separator (Sedimentation) [MS] Pollutants Addressed: Hydrocarbons, Cadmium, Benzene, Hydrocarbons, Total Hydrocarbons, Total Phosphorus, Suspended sediment concentration, Total suspended solids, Oil and grease, Zinc, Copper, Lead, Iron, Chromium	100%
4	0	Model 0	Harbor Storm Water Quality Unit - BMP Type: Oil/sediment separator (Sedimentation) [MS] Pollutants Addressed: Total suspended solids, Oil and grease, Solids - Residuals, Hydrocarbons	100%

MASTEP also posts vendor-provided information on cost, installation and maintenance requirements, and other product specifications.

In-Line Stormceptor - A product from STORMCEPTOR

General Information
First innovation in the BMP type, applications and pollutants treated.

Cost
Per unit, CFS, width & of pollutant removed.

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

Site and Environmental Considerations
Storm types, drainage area, soil types, infiltration rate, retention, secondary impacts, etc.

Performance Evaluation
Summary table of test status, test rating, who to hire for detailed information, list of test reports.

In Brief:
The In-Line Stormceptor® is an oil and sediment separator designed to treat stormwater runoff. The system is unique as it is the first oil and sediment separator manufactured with a patented internal by-pass system. The In-Line Stormceptor System is a vertically oriented cylindrical structure manufactured from concrete and mounted with a flow reinforced plastic (FRP) insert. The FRP insert separates the chamber into two components: 1) the upper chamber to allow infrequent high flow rates to by-pass the lower chamber, and 2) the lower chamber, below the insert, providing a quiescent environment to promote separation of light and heavy pollutants from stormwater.

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.