



UNIVERSITY OF MASSACHUSETTS  
AT AMHERST

Water Resources Research Center  
Blaisdell House, UMass  
310 Hicks Way  
Amherst, MA 01003

Massachusetts Stormwater  
Evaluation Project

(413) 545-5532  
(413) 545-2304 FAX  
[www.mastep.net](http://www.mastep.net)

## MASTEP Technology Review

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**Technology Name:** SorbtiveFILTER. Imbrium Systems, Inc.

**Studies Reviewed:** Field Test Performance Evaluation Sorbtive<sup>TM</sup>FILTER using Sorbtive<sup>TM</sup>MEDIA for Imbrium<sup>TM</sup> Systems Corporation. February 2010

**Date:** June 5, 2009. Updated May 6, 2010

**Reviewers:** Jerry Schoen

**Rating:** 2

**Brief rationale for rating:**

This Field study complies with most TARP requirements, but has insufficient reporting of QC data, total precipitation, % annual rainfall.

**TARP Requirements Not Met:**

- No documentation of a Quality Assurance Project Plan, limited QC data
- Sediment removal efficiency was calculated by SSC method. Although this is an accurate method, TARP specifies use of TSS analysis method.
- Study monitored 10" of rainfall (TARP requires 15"), 33% annual rainfall (TARP requires 50%).

**Other Comments**

- Note that the 2006 field study tested the SorbtiveFILTER using SorbtiveMEDIA VR (i.e. volcanic rock, or pumice).
- Sampling occurred over a 5 month period, April through August 2006.
- SSC efficiency, according to sum of loads calculation, was 89%; 84% for particles < 75 microns; Total phosphorus removal efficiency reported at 78%; Total Dissolved Phosphorus at 44%.
- By Event Mean Concentration method, SSC efficiency was 91.8%; TP 66.2%, TDP 64.6%.
- Of 19 storms sampled, 16 met TARP minimum requirement of 0.1" rainfall depth.
- 11 storms produced peak flows of  $\geq$  125% of system design flow, up to 445%.
- No scour observed during the study.
- Report suggests that depending on site and climate loads, maintenance intervals of 12 months or potentially longer can be expected.
- System configuration in tested unit differs from the design found in the commercially available SorbtiveFILTER: the commercial unit contains no sump, and drains down between events. The manufacturer asserts that these design changes were instituted based on the results of this study, and intended to improve performance of the unit.