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## MASTEP Technology Review

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**Technology Name:** BayFilter, BaySaver Technologies, Inc.

**Studies Reviewed:** Efficiency Assessment of BaySeparator and BayFilter Systems in the Richard Montgomery High School. Liu, January 6 2009.

NJCAT Technology Verification, BayFilter. June 1 2008.

**Date:** February 2, 2009

**Reviewer:** Jerry Schoen

**Rating:** 2

**Brief rationale for rating:**

Rating is based on one lab study (NJCAT) that evaluated the BayFilter in a single-cartridge configuration, and a field study (Liu) that evaluated the BayFilter as one component of a treatment train consisting of a 3K BaySeparator unit sending effluent to the BayFilter. Both studies followed generally sound methods. Quality control data was lacking in the lab study. Both studies included some testing conducted under rigorous conditions.

**TARP Requirements Not Met\*:**

- No documentation of a Quality Assurance Project Plan or QC data in the lab study.
- Lab testing conducted at only 1 flow level and Influent sediment concentration.
- Field study sampled 15.2" precipitation, or about 35% of % average annual rainfall (50% required).

**Other Comments**

- Influent sediment size for both studies was small (Sil-Co-Sil mix with 23 micron d50 for lab, 74 micron d50 for field), providing rigorous testing conditions in this regard.
- Lab study evaluated TSS. Mean TSS removal for 3 sets of tests was 82.7%.
- Lab study also evaluated dissolved phosphorus removal, but results were not certified.
- Field study sampled 20 rain events over a 9 month period (April – December).
- Field study evaluated TSS, SSC, TP and turbidity removal. Results for BayFilter efficiency: TSS 84.4% - 86.1%; SSC 85.4% - 86.9%; TP 55.4% - 58.1%. In combination with the BaySeparator, overall treatment train efficiencies were: TSS 89.6% - 90.6%; SSC 92.2% - 93.3%; TP 64% - 67.5%; turbidity 66.9% - 70.1%.
- Field study evaluated the system under a range of flows, including some that exceeded the treatment capacity of the system.
- The BaySeparator unit is profiled separately on the MASTEP web site.

\* Criteria also based on NJDEP laboratory testing guidelines.