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MASTEP Technology Review

Technology Name: ADS WQU – Advanced Drainage Systems, Inc.

Studies Reviewed: Total Suspended Solids Removal Test of a High Density Polyethylene Water Quality Unit. Alden Laboratory 2004
Field Verification Testing of the ADS Water Quality Unit. UNH Stormwater Center 2007.

Date: 1/14/2013

Reviewer: Jerry Schoen

Rating: 2

Brief rationale for rating: Rating is based on both laboratory and field studies. Laboratory study generally follows Maine DEP protocols for laboratory testing; tests conducted using moderately large particle sizes, moderately high flows and influent sediment concentration. Field study monitored 33% of average annual rainfall (50% required). Neither study reported quality control data.

Other Comments:

- ASTM 3977, the Suspended Sediment Concentration method was used in lab study; TSS for field study.
- Lab study reported SSC removal efficiency of 72%-92%. F95 and OK110 sediment mixes were used.
- Flow rates between 68% and 136% of design flow tested in lab study.
- Field study reported TSS removal efficiency of 75%; Total Petroleum Hydrocarbons removal of 59%; Nitrogen as Nitrate removal of 15% and Zinc removal of 53%.
- Field study influent particle size reported as D50 of 220 microns, using total capture method. The more commonly used and reported autosampler method yielded influent D50 of 49 microns.
- 19 storms, 16” rainfall monitored in field study.
- Neither study performed a scour test.