



STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PAUL R. LEPAGE  
GOVERNOR

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COMMISSIONER

June 9, 2017

StormTreat Systems, Inc.  
65 Little River Road  
Cotuit, MA 02563  
ATTN: Scott Horsley

Dear Mr. Horsley,

This letter replaces the March 23, 2016 approval from the Department of Environmental Protection (Department) that authorized the use of the StormTreat System as a treatment structure meeting the requirements of the General Standards (Section 4.C.) of the Stormwater Management Rules (Chapter 500). This new approval **authorizes the linear configuration** of the StormTreat System. The StormTreat System can be installed with three configurations:

- The standard system operates by **gravity flow** and utilizes a StormTreat sedimentation (pre-treatment) tank for each StormTreat System biofilter bed.
- A second configuration also operates by gravity flow and incorporates StormTreat System biofilter beds, but utilizes an **alternative upstream pretreatment** system (approved by the Department) as an alternative to the StormTreat sediment tank.
- A third configuration utilizes an **integrated pump system** provided by StormTreat Systems to distribute pre-treated stormwater to the StormTreat System biofilter beds during and following the storm event.

The Department authorizes the use of the three configurations of the StormTreat System as meeting the requirements of the General Standards (Section 4.C.) of the Stormwater Management Rules (Chapter 500) provided the system is sized, installed, and maintained in accordance with the following provisions:

1. The StormTreat System must be part of a stormwater management system that provides for the storage and treatment of a water quality volume (WQv) consisting of 1.0 inch of runoff from impervious areas and 0.4 inch of runoff from lawn and landscaped areas draining to the system and having a WQv discharge time between 24 and 48 hours. Longer release periods may be allowed with StormTreat System's smart weather forecasting technology that ensures that an adequate volume of the

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stormwater is processed in advance of the next storm event that generates more than 0.1 inches of runoff.

2. The StormTreat installation must have at least one StormTreat unit per 1,210 cubic feet of WQv. To determine the number of StormTreat System units required, the WQv should be divided by 1,210 and rounded to the next whole number of StormTreat System units. **Approximately one acre of impervious area will require 4 StormTreat System units.** Multiple StormTreat System units should be arranged in parallel with a 4-inch diameter inflow pipe manifold from the upstream storage and a 2-inch diameter pipe outflow manifold. Multiple StormTreat System units should be installed at the same elevation.
3. The maximum flow rate through the StormTreat System is limited to 2.0 gallons per minute per system. The standard gravity-fed StormTreat System requires one sedimentation tank per biofilter bed per 1210 cubic feet of WQv. Systems, either pumped or gravity-fed, with an alternative upstream pretreatment system must be sized so that the flow/processing rate is no greater than 2 gallons per minute for each 487 gallons of water stored in the StormTreat System biofilter beds. This results in a maximum residence time of 4.0 hours within the StormTreat biofilter beds as long as the minimum overall biofilter bed flow path length is 24 feet. Lower discharge rates may be allowed where the StormTreat System is configured to include a StormTreat System-authorized telemetry system that adjusts flow rates in accordance with weather forecasts so as to ensure its treatment capacity is restored prior to the next storm runoff event. This allows for the optimization of improved water quality treatment and irrigation during the growing season.  
Discharge from the system must be controlled by a valve either before or after the biofilter bed depending upon the ultimate configuration and determined by the manufacturer. The valve must be set by actual field measurement. Volumetric flow measurement with a known volume container and a stopwatch is the preferred means of flow measurement.
4. The elevation of the bypass spillway, or a diversion for upstream storage, should be set so as to avoid surcharging or overtopping to the StormTreat System biofilter beds.
5. The gravel in the biofilter beds of the StormTreat tank should consist of washed, 3/8-inch diameter, rounded gravel supplemented with an **organic media supplement provided by StormTreat Systems, Inc.**
6. The StormTreat structures must include access for maintenance.
7. Prior to construction, a five-year binding inspection and maintenance contract must be provided for review and approval by the Department, and must be renewed before the 5-year contract expiration. The contract holder should be a professional experienced

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- with the proposed system, knowledgeable in erosion and stormwater control, and capable of performing biannual inspections and maintenance. The first year of system maintenance must be provided by the manufacturer to ensure that the system is operating according to the established specifications.
8. The overall stormwater management design must meet all Department criteria and sizing specifications and will be reviewed and approved by the Department prior to use.
  9. Proposed use, layout, and sizing of the StormTreat System must be reviewed and approved by StormTreat Systems, Inc. to ensure the conformance with the manufacturer's design specifications and must be installed under the manufacturer's representative supervision.
  10. This approval is conditioned upon on-the-ground experience confirming that the StormTreat System's pollutant removal efficiency is appropriate. The "permit shield" provision (Section 14) of the Chapter 500 rules will apply, and the Department will not require the replacement of a properly maintained system if the pollutant removals do not satisfy the General Standard Best Management Practices.

We look forward to working with you as these stormwater management structures are installed on new projects. Questions concerning this decision should be directed to David Waddell at (207) 215-6932 or Jeff Dennis at (207) 215-6376.

Sincerely,



Mark Bergeron, P.E.

Director

Bureau of Land Resources

Cc: Don Witherill, Maine DEP