



Department of Environmental Protection

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APPROVAL FOR REMEDIAL USE - REVISED

Pursuant to Title, 310 CMR 15.00

Name and Address of Applicant:

Bio-Microbics of Maine, Inc.
8450 Cole Parkway
Shawnee, KS 66227

Trade name of technology: SeptiTech®. Models: 400, 550, 750, 1200, 1500, 3000 and SeptiTech® Engineered Systems (hereinafter called the "System"). Schematic Drawings illustrating each System, a design and installation manual, an owner's manual, an operation and maintenance manual, and an inspection checklist are part of this Approval.

Transmittal Number: W059246
Date of Issuance: August 3, 2005
Last Revised: July 8, 2013

Authority for Issuance

Pursuant to Title 5 of the State Environmental Code, 310 CMR 15.000, the Department of Environmental, Protection hereby issues this Approval for Remedial Use to: Bio-Microbics of Maine, Inc., 8450 Cole Parkway, Shawnee, KS 66227 (hereinafter "the Company"), approving the System described herein for Remedial Use in the Commonwealth of Massachusetts. The sale, design, installation, and use of the System are conditioned on compliance by the Company, the Designer, the Installer, the Service Contractor, and the System Owner with the terms and conditions set forth below. Any noncompliance with the terms or conditions of this Approval constitutes a violation of 310 CMR 15.000.

David Ferris, Director
Wastewater Management Program
Bureau of Resource Protection

July 8, 2013
Date

Technology Description

The SeptiTech System is a Secondary Treatment Unit (STU), that uses an enhanced recirculating biological trickling filter to remove biochemical oxygen demand (BOD₅) and total suspended solids (TSS) from wastewater. The System utilizes a hydrophobic media, composed of polystyrene beads or polystyrene beads and solid media, in a two-stage process where biological growth occurs within the media pore spaces. Models 400 through 750 are installed in high-density polyethylene (HDPE) or concrete tanks. Models 1200 through 3000 are installed in concrete tanks. A programmable logic controller (PLC) controls the treatment process by continuously monitoring incoming flows and adjusting the treatment process (recirculation, sludge return and discharge cycles). Details of this process are as follows:

- Wastewater from the septic tank enters the treatment tank and collects in a reservoir at the base of the tank where it mixes with treated wastewater,
- A recirculation pump controlled by the PLC pumps the wastewater to the treatment area at the top of the tank where air is drawn into the wastewater,
- The aerated wastewater is sprayed over the hydrophobic media which is suspended above reservoir, wastewater trickles through the media and returns to the reservoir,
- Wastewater is circulated over the media 70 or more times per day,
- Solids in the reservoir are periodically returned to the septic tank, and
- The PLC activates the recirculation, return sludge and discharge pumps.

Conditions of Approval

The term “System” refers to the STU in combination with the other components of an on-site treatment and disposal system that may be required to serve a facility in accordance with 310 CMR 15.000.

The term “Approval” refers to the technology-specific Special Conditions, the conditions applicable to all STU’s, the General Conditions of 310 CMR 15.287, and any Attachments.

For Secondary Treatment Units that have been issued Remedial Use Approval for the upgrade or replacement of an existing failed or nonconforming system., the Department authorizes reductions in the effective leaching area (310 CMR 15.242), the depth to groundwater (310 CMR 15.212), and/or the depth of naturally occurring pervious material (310 CMR 15.240(1)) subject to the conditions that apply to all Secondary Treatment Units Approved for Remedial Use and subject to the Special Conditions applicable to the Technology.

Special Conditions

1. The System is Secondary Treatment Unit Approved for Remedial Use. In addition to the Special Conditions contained in this Approval, the System shall comply with all the “Standard Conditions for Secondary Treatment Units Approved for Remedial Use”, except where stated otherwise in these Special Conditions.

2. The System is approved for facilities where the local approving authority finds that:
 - a) there is no increase in the actual or proposed design flow;
 - b) the System is for the upgrade of a failed, failing or nonconforming system; and
 - c) a conventional system with a reserve area, designed in accordance with the standards of 310 CMR 15.100 through 15.255, cannot feasibly be built on-site.
3. The System shall be installed in series between the septic tank and the soil absorption system of a standard Title 5 system constructed in accordance with 310 CMR 15.100 - 15.279, subject to the provisions of this Approval.
4. All Systems can be equipped with a modem and auto-dialer programmed to automatically call the Company if an alarm condition occurs, this provides the Company off-site monitoring and control of the system. All nonresidential Systems shall be so equipped.
5. A septic tank meeting Title 5 requirements and sized in accordance with Title 5 shall be provided and an effluent tee filter is required.