Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
One Winter Street Boston, MA 02108 • 617-292-5500

DEVAL L. PATRICK
Governor

TIMOTHY P. MURRAY
Lieutenant Governor

RICHARD K. SULLIVAN JR.
Secretary

KENNETH L. KIMMELL
Commissioner

GENERAL USE CERTIFICATION
Pursuant to Title 5, 310 CMR 15.00

Name and Address of Applicant:

Smith & Loveless, Inc.
14040 Santa Fe Trail Drive
Lenexa, KS 66215

Trade name of technology and models: Smith & Loveless Modular FAST® Units for facilities with design flows of 2,000 gpd to less than 10,000 gpd (hereinafter called the "System"). Schematic Drawings illustrating the 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: W069734
Date of Issuance: revised February 19, 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 General Use Certification to: Smith & Loveless, Inc., 14040 Santa Fe Trail Drive, Lenexa, KS 66215 (hereinafter "the Company"), certifying the System described herein for General 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 Certification constitutes a violation of 310 CMR 15.000.

February 19, 2013

David Ferris, Director
Wastewater Management Program
Bureau of Resource Protection

Date

Technology Description

The System, a fixed film aeration treatment process, is an aerobic process in which the media is 100-percent submerged. In the submerged application, the aeration and mixing are provided by an airlift mechanism. A draft tube, in the center of the System, extends through the media. Air is pumped into the draft tube by a compressor; wastewater is pumped from below the media to the top of the submerged media. The pumped liquid impacts the splash plate, which directs the wastewater across the top of the submerged media. The splash plate also creates a break-up of the wastewater into droplets to increase the surface area of the liquid to enhance the aeration of the wastewater. The oxygenated wastewater then passes down, through the media, where the bacterial activity takes place. The System uses both fixed film and suspended bacteria in the degradation of the organic material.

The System is designed to allow the plastic or epoxy-coated steel modular inserts, the treatment unit with the media, to be installed in an appropriately sized precast or cast-in-place concrete tank. The inserts are constructed of PVC or high-density polyethylene plastic in modular units with the number of units and the tank size governed by the wastewater design flow and characteristics.

The System is designed with storage volume beneath the media to provide sludge storage of excess solids, which slough off the media. The sludge storage zone must be periodically pumped, based on sludge accumulation. Prior to or at the time the excess sludge is being removed, the air scour system should be activated to loosen and remove solids attached to the media. The removed solids will settle to the bottom of the tank and be removed with the sludge.

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 terms “Approval” or “Certification” refer to the technology-specific Special Conditions, the Standard Conditions for General Use Certification of Secondary Treatment Units, the General Conditions of 310 CMR 15.287, and any Attachments.

For Secondary Treatment Units that have been issued General Use Certification for the installation of a System to serve a facility where the site meets the requirements for new construction, the Department authorizes the sale, design, installation and use of the System, subject to the Standard Conditions that apply to all Secondary Treatment Units with General Use Certification and subject to the Special Conditions below applicable to this Technology.

Special Conditions

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

2. The System is approved for facilities where the design flow is 2,000 gpd or greater and

where a conventional system with a reserve area exists or can be built on-site in full compliance with the new construction requirements of 310 CMR 15.000 and has been approved by the local approving authority.

3. Since the System is not approved for design flows less than 2,000 gpd, the System shall not be entitled to the reduction in leachfield size provided in Paragraph II.4 of the Standard Conditions for General Use Certification of Secondary Treatment Units, and Paragraph II.5 shall not apply.

4. Prior to the submission of an application for a DSCP, for all nonresidential Systems and Systems with design flows of 3,000 gpd or greater, the Company shall submit to the Designer and the System Owner, a certification by the Company or its authorized agent that the design conforms to the Approval and all Company requirements and that the proposed use of the System is consistent with the Technology's capabilities. The authorized agent of the Company responsible for the design review shall have received technical training in the Company's products.