



COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

MITT ROMNEY  
Governor

KERRY HEALEY  
Lieutenant Governor

STEPHEN R. PRITCHARD  
Secretary

ROBERT W. GOLLEDGE, Jr.  
Commissioner

**CERTIFICATION FOR GENERAL USE**

Pursuant to Title 5, 310 CMR 15.000

Name and Address of Applicant:

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

Trade name of technology: Smith & Loveless Modular FAST® Units for facilities with design flows of 2,000 gpd to less than 10,000 gpd (hereinafter the "System"). A schematic drawing illustrating the Modular FAST® system and a technology checklist are attached and are part of this Certification.

Transmittal Number: W069734  
Date of Issuance: April 4, 2006

**Authority for Issuance**

Pursuant to Title 5 of the State Environmental Code, 310 CMR 15.000, the Department of Environmental Protection hereby issues this Certification for General Use 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. Sale and use of the System are conditioned on and subject to compliance by the Company 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.

\_\_\_\_\_  
Glenn Haas, Director  
Division of Watershed Management  
Department of Environmental Protection

April 4, 2006

Date

## **I. Purpose**

1. The purpose of this Certification is to allow the use of the System in Massachusetts on a General Use basis.
2. With the necessary permits and approvals required by 310 CMR 15.000, this Certification authorizes the installation and use of the System in Massachusetts.
3. The System may be installed on all facilities where a system in compliance with 310 CMR 15.000 exists on site or could be built and for which a site evaluation in compliance with 310 CMR 15.000 has been approved by the local approving authority; or by DEP if DEP approval is required by 310 CMR 15.000. This certification does not allow the use of the System on facilities for nitrogen reduction in a Department designated nitrogen sensitive or limited area as defined in 310 CMR 15.214 and 15.215.
4. The System is approved for use at facilities with a design flow of 2,000 gpd to less than 10,000 gallons per day.

## **II. Design Standards**

1. 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.
2. 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.
3. 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.
4. The System shall be installed in series between the septic tank and the soil absorption system (SAS) of a standard Title 5 system constructed in accordance with 310 CMR 15.100 - 15.279, subject to the provisions of this Certification

5. The control panel including alarms shall be mounted in a location always accessible to the operator of the System.
6. All access ports and manhole covers shall be installed and maintained at grade to allow for maintenance of the System.

### **III. General Conditions**

1. All provisions of 310 CMR 15.000 are applicable to the use of this System, the System owner, and the Company, except those, which specifically have been varied by the terms of this Certification.
2. Any required operation and maintenance, monitoring and testing shall be performed in accordance with a Department approved plan. Any required sample analysis shall be conducted by an independent U.S. EPA or DEP approved testing laboratory. It shall be a violation of this Certification to falsify any data collected pursuant to an approved testing plan, to omit any required data or to fail to submit any report required by such plan.
3. The facility served by the System and the System itself shall be open to inspection and sampling by the Department and the local approving authority at all reasonable times.
4. In accordance with applicable law, the Department or the local approving authority may require the System owner to cease operation of the System and/or to take any other action as it deems necessary to protect public health, safety, welfare and the environment.
5. The Department has not determined that the performance of the System will provide a level of protection to public health and safety and the environment that is at least equivalent to that of a sewer system. Accordingly, no System shall be upgraded or expanded, if it is feasible to connect the facility to a sanitary sewer, unless as allowed by 310 CMR 15.004.
6. Design and installation and use of the System shall be in strict conformance with the Company's DEP approved plans and specifications and 310 CMR 15.000, subject to this Certification.

### **IV. Conditions Applicable to the System Owner**

1. The System is certified only in connection with the discharge of sanitary wastewater. Any non-sanitary wastewater generated or used at the facility served by the System shall not be introduced into the System and shall be lawfully disposed of.
2. The System owner shall have the Company or its designee conduct an intended use review for any proposed nonresidential System or System with a design flow of 3,000 gpd or greater to ensure that the proposed use of the System is consistent with the unit's capabilities.

3. Operation and Maintenance agreement:
  - a. Throughout its life, the System shall be under an operation and maintenance (O&M) agreement. No O&M agreement shall be for less than one year.
  - b. No System shall be used until an O&M agreement is submitted to the local approving authority which:
    - i Provides for the contracting of a person or firm trained by the Company as provided in Section V (5) and competent in providing services consistent with the System's specifications, with the operation and maintenance requirements specified by the Company and the designer and with any specified by the Department;
    - ii Contains procedures for notification to the Department and to the local approving authority within five days of a System known failure, malfunction or alarm event and for corrective measures to be taken immediately;
    - iii Provides the name of an operator, which must be a Massachusetts certified operator as required by 257 CMR 2.00 of an appropriate grade that will operate and monitor the System. The operator must operate, maintain and inspect the System in accordance with the Department's policy or every three months and anytime there is an alarm event.
4. The System owner shall at all times have the System properly operated and maintained in accordance with this Certification, the designer's operation and maintenance requirements and the Company's approved procedures. The System owner shall notify the Department and the local approving authority, in writing, within seven days of a change in the operator.
5. The System owner shall provide a copy of this Certification, prior to the signing of a purchase and sale agreement for the facility served by the System or any portion thereof, to the proposed new owner.
6. The System owner shall furnish the Department any information that the Department requests regarding the System, within 21 days of the date of receipt of that request.
7. By September 30<sup>th</sup> of each year, the System owner shall submit to the Department and the local approving authority an O&M and technology checklist, completed by the System operator for each inspection performed during the previous 12 months.

**V. Conditions Applicable to the Company**

1. By January 31<sup>st</sup> of each year, the Company shall submit to the Department a report signed by a corporate officer, general partner or Company owner that contains information on the System for the previous calendar year. The report shall state: the number of units of the System sold for use in Massachusetts during the previous year; the address of each installed System, the owner's name and address, the type of use (e.g. residential, commercial, school, institutional) and the design flow; and for all systems installed since the first issuance of Certification for the System, all known failures, malfunctions, and corrective actions taken and the address of each such event.
2. The Company shall notify the Director of the Watershed Permitting Program at least 30 days in advance of the proposed transfer of ownership of the technology for which this Certification is issued. Said notification shall include the name and address of the proposed owner containing a specific date for transfer of ownership, responsibility, coverage and liability between them. All provisions of this Certification applicable to the Company shall be applicable to successors and assigns of the Company, unless the Department determines otherwise.
3. The Company shall develop and submit to the Department within 60 days of the effective date of this Certification: minimum installation requirements; an operating manual, including information on substances that should not be discharged to the System; a maintenance checklist; and a recommended schedule for maintenance of the System consistent with the Department's requirements essential to consistent successful performance of the installed Systems.
4. The Company shall make available, in printed and electronic format, the referenced procedures and protocol in paragraphs 3 directly above to owners, operators, designers and installers of the System.
5. The Company shall institute and maintain a program of designer and operator training and continuing education, as approved by the Department. The Company shall maintain and annually update, and make available the list of qualified operators by January 31<sup>st</sup> and make the list known to local approving authorities, the Department and to users of the technology.
6. The Company shall furnish the Department any information that the Department requests regarding the System, within 21 days of the date of receipt of that request.
7. The Company shall include copies of this Certification and the procedures described in Section V (3) with each System that is sold. In any contract executed by the Company for distribution or resale of the System, the Company shall require the distributor or reseller to provide each purchaser of the System with copies of this Certification and the procedures described in Sections V (3).
8. The Company or its designee shall conduct an intended use review of the System prior to the sale of any nonresidential unit or any System over 3,000 gpd to ensure that the proposed use of the System is consistent with the unit's capabilities.

9. The Company shall comply with 310 CMR 15.000 and all the Department policies and guidance that apply and as they may be amended from time to time.

## **VI. Reporting**

1. All notices and documents required to be submitted to the Department by this Certification shall be submitted to:

Director,  
Watershed Permitting Program  
Department of Environmental Protection  
One Winter Street - 6th floor  
Boston, Massachusetts 02108

## **VII. Rights of the Department**

1. The Department may suspend, modify or revoke this Certification for cause, including, but not limited to, non-compliance with the terms of this Certification, non-payment of any annual compliance assurance fee, for obtaining the Certification by misrepresentation or failure to disclose fully all relevant facts or any change in or discovery of conditions that would constitute grounds for discontinuance of the Certification, or as necessary for the protection of public health, safety, welfare or the environment, and as authorized by applicable law. The Department reserves its rights to take any enforcement action authorized by law with respect to this Certification and/or the System against the owner or operator of the System and/or the Company.