

REQUEST FOR APPROVAL FROM BOARD OF HEALTH
DECISION NEEDED BY June 24, 2023

STREET ADDRESS: 45 Franklin Street **(IN A ZONE II)**

CURRENT BEDROOMS: Three (3) DSCP REQUESTED BEDROOMS: Four (4)

PARCEL #: 066-902-004

CURRENT OWNER: John and Sharon Rossi

MOVE: To **Grant/Deny** use of Micro Fast Unit to increase flows in a Zone II wellhead protection area. Under 310CMR 15.217 an increase in allowable nutrient loading per acre may be allowed with the use of a technology approved for enhanced nutrient removal pursuant to either the piloting, provisional or general use certification provisions in 310 CMR 115.281 through 15.288.

This lot consists of 31,612sf and is located in a Zone II wellhead protection area which allows one (1) bedroom per 10000 sf of property. Proposed use of the micro fast system allows for an increase from three to four bedrooms on this size lot.

COMMENTS:

This lot has 31,612 square feet. The applicant is seeking to increase the number of bedrooms with the use of a FAST system.

CONDITIONS: Under Certification for General Use Approval Department of Environmental Protection dated March 20,2015 (See attached)

Conditions Applicable to the System Owner

1. The System owner shall at all times have the System properly operated and maintained by a Company approved Operator in accordance with this Certification, the designer's operation and maintenance requirements and the Company's approved procedures.
2. The System is certified only in connection with the discharge of sanitary wastewater from facilities with a design flow of less than 2000 gpd. Any non-sanitary wastewater generated and/or used at the facility served by the System shall not be introduced into the System and shall be lawfully disposed of.
3. The System Owner shall provide access to the site for the System Operator to perform inspections, maintenance, repairs, responding to alarm events, field testing, and sampling as may be required by the Approval.

Operation and Monitoring Requirements

4. System effluent total nitrogen (TN) concentrations shall not exceed 19 or 25 mg/L and effluent pH shall not be less than 6.0 or more than 9.0. Field test observations of dissolved oxygen (DO) shall equal or exceed 2 mg/L and for Turbidity shall be equal

or less than 40 NTU.

5. All samples shall be taken at a flowing discharge point, i.e. distribution box, pipe entering a pump chamber or other Department approved location from the treatment unit.

6. Inspection, operation and maintenance (O&M), sampling, and field testing of the System required by the Approval shall be performed by a Company approved Operator who has been certified at a minimum of Grade Level 4 (four) by the Board of Registration of Operators of Wastewater Treatment Facilities, in accordance with Massachusetts regulations 257 CMR 2.00, and is an approved Title 5 System Inspector in accordance with 310 CMR 15.340.

7. Prior to commencement of construction of the System, the System Owner shall provide to the local approving authority a copy of a signed O&M Agreement that meets the requirements of paragraph IV (8).

8. The System Owner shall maintain, at all times, an O&M Agreement with a qualified System Operator approved by the Company. The Agreement shall be at least for one year and include the following provisions:

- a) The name of a System Operator who is an approved System Inspector in accordance with 310 CMR 15.340 and who meets any additional qualification requirements specified in the Approval;
- b) The System Operator must inspect the Alternative System as required by paragraph IV (9) and (12);
- c) The System Operator shall be responsible for submitting the monitoring results to the System Owner in accordance with paragraph IV (13) and to the local approving authority in accordance with paragraph IV (14); and
- d) In the case of a System failure, an equipment failure, alarm event, components not functioning as designed, or violations of the Approval, procedures and responsibilities of the System Operator and System Owner shall be clearly defined for corrective measures to be taken immediately. The System Operator shall agree to provide written notification within five days, describing corrective measures taken, to the System Owner and the local board of health.

9. The System Owner shall comply with the following monitoring requirements if the System is subject to a TN concentration limit in accordance with paragraph II (4):

- a) Year-round installations shall be inspected and have effluent sampled for at least the TN parameter quarterly for the first year, then a minimum of twice/year thereafter, at least 5 months apart and with at least one sample taken between December 1 and March 1 of each year. Field testing shall be completed per paragraph IV (11) below, and as determined necessary by the System Operator. See DEP Field Testing Protocol at <http://www.mass.gov/dep/water/laws/policies.htm#5pols>. Wastewater flow shall be recorded at each inspection, see 'Flow Metering' paragraph IV (10).
- b) Seasonal installations shall be inspected and have effluent sampled for at least the TN parameter a minimum of twice/year. At least one sample must be taken 30 to 60 days after each seasonal occupancy begins. A second sample must be taken no less than 2 months after the first sample. Field testing shall be completed per paragraph IV (11) below, and as determined necessary by the System Operator.

Wastewater flow shall be recorded at each inspection, see 'Flow Metering' paragraph IV (10).

c) Systems in operation prior to issuance of this Approval, which have received approval of sampling reduction from the Department may continue with that System monitoring frequency.

Properties occupied at least 6 months per year are considered year-round properties. Properties occupied less than 6 months per year are considered seasonal properties. TN is measured as the total of TKN (Total Kjeldhal Nitrogen), NO₃-N (Nitrate nitrogen) and NO₂-N (Nitrite nitrogen).

10. Flow Metering: Reporting of residential System water use is not required, however it is recommended the Operator record water meter readings if available at all inspections, or otherwise estimate System flow, to assist in addressing possible operational problems or issues. Flow measurement when recorded shall be based on:

a) actual metering data of wastewater flow to the System or actual water meter data of flow to fixtures that discharge to the wastewater system; or

b) actual water meter data for the total facility with either actual meter data or estimated flows for non-wastewater usage subtracted from the total facility water usage. If estimating the wastewater portion of metered water usage, the System Operator shall provide a best estimate of wastewater discharged to the System with the method of estimating, such as pump run times, occupancy rates, adjustment due to seasonal outdoor watering use, etc.; or

c) for Systems installed under a prior Approval that did not include a wastewater flow data reporting requirement, if no flow meters are available, the System Operator shall provide a best estimate of wastewater discharged to the System with the method of estimating, such pump run times, occupancy rate, etc.

11. Field Testing: Temperature, turbidity, pH and DO shall be measured and recorded in the field whenever the effluent is sampled for TN. See applicable sections of the Department's Field Testing Protocol at <http://www.mass.gov/dep/water/laws/policies.htm#t5pols>.

12. At a minimum, the System Operator shall inspect the System:

a) quarterly for the first year then two times per year thereafter;

b) in accordance with the approved O&M manual, the Designer's operation and maintenance requirements, and the requirements of the local approving authority; and

c) any time there is an alarm event, equipment failure, or system failure.

Recordkeeping and Reporting

13. Within 60 days of any site visit, the System Operator shall submit an O&M report and inspection checklist to the System Owner and the Company. It is recommended the System Owner and Company maintain copies of these items for possible Department audit. The O&M report shall include, at a minimum:

a) for a System failing, any corrective actions taken;

b) wastewater analyses, wastewater flow data, field testing results and inspection checklists;

c) any violations of the Approval;

- d) any determinations that the System or its components are not functioning as designed or in accordance with the Company specifications; and
- e) any other corrective actions taken or recommended.

14. By February 15th of each year the System Owner or the System Operator if designated by the owner, shall submit to the local approving authority all monitoring results with all O&M reports and inspection checklists completed by the System Operator during the previous 12 months

15. Upon determining that the System has failed, as defined in 310 CMR 15.303, the System Operator shall notify the System Owner immediately.

16. Upon determining that the System has failed, as defined in 310 CMR 15.303, the System Owner and the System Operator shall be responsible for the notification of the local approving authority within 24 hours of such determination.

17. The System Owner shall notify the Approving Authority and the Company in writing within seven days of any cancellation, expiration or any other change in the terms and/or conditions of the O&M Agreement required by Paragraph IV (8).

18. Violations of the TN concentration in the System effluent shall not constitute a failure of the System for the purposes of 24-hour notification or 5-day written reporting as required in Paragraphs IV (16) and (8).

19. The System owner shall provide a copy of this Approval, 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.

20. 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.

21. Prior to issuance of a Certificate of Compliance of the System, and after recording and/or registering the Notice required by 310 CMR 15.287(10), the System Owner shall provide to the Local Approving Authority a copy of: (i) a certified Registry copy of the Notice bearing the book and page/or document number; and (ii) if the property is unregistered land, a Registry copy of the System Owner's deed to the property, bearing a marginal reference on the System Owner's deed to the property. The Notice to be recorded shall be in the form of the Notice provided by the Department.

22. Prior to signing any agreement to transfer any or all interest in the property served by the System, or any portion of the property, including any possessory interest, the System Owner shall provide written notice of all conditions contained in the Approval to the transferee(s). Any and all instruments of transfer and any leases or rental agreements shall include as an exhibit attached thereto and made a part of thereof a copy of the Approval for the System. The System Owner shall send a copy of such written notification(s) to the Local Approving Authority within 10 days of giving such notice to the transferee(s).

Notice of Alternative Sewage Disposal System

M.G.L. c. 21A, § 13 and 310 CMR 15.0287(10)

[This Notice to be recorded and/or filed for registration in the chain of title of the Property served by an Alternative Sewage Disposal System ("Alternative System").]

NAME(S) OF OWNER OF PROPERTY SERVED BY ALTERNATIVE SYSTEM JOHN AND SHARON ROSSI

ADDRESS OF PROPERTY SERVED BY ALTERNATIVE SYSTEM: ___45 Franklin St,
Duxbury, MA 02332

TITLE REFERENCE FOR PROPERTY SERVED BY ALTERNATIVE SYSTEM [check and complete each that applies]:

Deed recorded with the ___Plymouth_____ Registry of Deeds in Book LCC__ Page _121241

Certificate of Title No. _____ issued by the Land Registration Office of the _____ Registry District

Source of title other than by deed _____

[If Alternative System Owner(s) is other than Property Owner(s), complete the following:]

Alternative System Owner Name: _____

Alternative System Owner Address: _____

WHEREAS, Section 15.280 of Title 5 of the State Environmental Code ("Approval of Alternative Systems"), provides for the Massachusetts Department of Environmental Protection (the "Department") to approve or certify, as appropriate, all proposals to construct, upgrade or replace on-site sewage disposal systems using alternative systems;

WHEREAS, owners and/or operators of approved or certified alternative systems are subject to general conditions, as specified in Section 15.287 of Title 5 of the State Environmental Code, 310 CMR 15.287, and may be subject to special conditions, as specified in the Department's approvals or certifications; such general and special conditions potentially including, without limitation, requirements relating to the use of trained operators, periodic inspections, maintenance, sampling, reporting and/or recordkeeping;

WHEREAS, Section 15.287(10) of Title 5 of the State Environmental Code, 310 CMR 15.287(10), requires that "prior to obtaining a Certificate of Compliance for installation of a new or upgraded system, the system owner shall record in the chain of title for the property served by the alternative system in the Registry of Deeds and/or Land Registration Office, as applicable, a Notice disclosing both the existence of the alternative on-site system and the Department's approval of the system. The system owner shall also provide evidence of such recording to the local Approving Authority [;]" and

WHEREAS, the Property is served by an alternative sewage disposal system.

NOW, THEREFORE, Notice of an alternative sewage disposal system is hereby given for the above-referenced Property, as follows:

1. Existence. An alternative system has been installed as a new or upgraded alternative sewage disposal system, on or adjacent to the Property, and serves the Property. The trade name and model number(s) of the alternative system are as follows:

Trade name of technology: _MicroFAST

Manufacturer Name: ___Bio-Microbics

Model number(s): ___MicroFAST .5 _____



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

CERTIFICATION FOR GENERAL USE

Pursuant to Title 5, 310 CMR 15.000

Name and Address of Applicant:

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

Trade name of technology and models:

FAST Treatment Systems with Nitrogen Reduction including models *MicroFAST® 0.5, 0.75, 0.9, 1.5, 3.0, 4.5, 9.0*, *HighStrengthFAST® 1.0, 1.5, 3.0, 4.5, 9.0* and *NitriFAST® 0.5, 0.75, 1.0, 1.5, 3.0, 4.5, 9.0* (all hereinafter the "System") for facilities with design flows less than 2,000 gallons per day (GPD). Schematic drawings illustrating the models and an Inspection Checklist are part of this Certification.

Transmittal Number: X232831
Date of Issuance: December 29, 2010, revised March 20, 2015

Authority for Issuance:

Pursuant to Title 5 of the State Environmental Code, 310 CMR 15.000, the Department of Environmental Protection (hereinafter "the Department") hereby issues this General Use Approval to: Bio-Microbics, Inc., 8450 Cole Parkway, Shawnee, KS 66227 (hereinafter "the Company"), approving the above referenced FAST technology (hereinafter "the Technology" or "System") for use in the Commonwealth of Massachusetts subject to the conditions herein. Sale and use of the Technology are subject to compliance by the Company, the Designer, the System Installer, the Operator, and the System Owner with the terms and conditions herein. Any noncompliance with the terms or conditions of this Certification constitutes a violation of 310 CMR 15.000.

David Ferris, Director
Wastewater Management Program
Bureau of Water Resources

March 20, 2015

Date

I. Purpose

This information is available in alternate format. Call Michelle Waters-Ekanem, Diversity Director, at 617-292-5751. TTY# MassRelay Service 1-800-439-2370
MassDEP Website: www.mass.gov/dep

Bio-Microbics FAST <2,000 GPD Nitrogen Reducing

1. Subject to the conditions of this Approval and any other local requirements, the purpose of this Approval is to allow the use of the System in Massachusetts on a General Use basis. With the necessary permits and approvals required by 310 CMR 15.000, this Certification authorizes the installation and use of the System in Massachusetts.
2. The System may be installed for residential facilities with design flow less than 2,000 GPD 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 the Department if Department approval is required by 310 CMR 15.000. This Approval allows for the use of the System as an equivalent alternative technology in accordance with 310 CMR 15.202 on facilities for nitrogen reduction in a Department designated nitrogen sensitive or limited area as defined in 310 CMR 15.214 and 15.215.

Non-residential facilities are not allowed under this approval. Non-residential facilities include properties with businesses and/or commercial establishments.

3. The technology shall meet or exceed the following effluent discharge requirements:
 - Effluent Total Nitrogen (TN) concentration of 19 mg/L (for 660 gallons per day per acre -gpda- loading) or 25 mg/L (for 550 gpda loading).
 - Effluent pH range shall be 6.0 to 9.0.
 - The System is approved for use at facilities with a maximum design flow less than 2,000 GPD.
4. The System Owner or the designated System Operator (or 'Operator') has responsibility for oversight and sampling of the System if the property served was allowed to increase the discharge rate per acre above 440 gpda in an area subject to Nitrogen Loading Limitations.

The System Owner will be required to repair, replace, modify or take any other action as required by the Department or the local approving authority, if the Department or the local approving authority determines that the System is not capable of meeting the required reduction in nitrogen in the effluent.

The Company is responsible for the approved technology as described below.

II. General Description of the Technology and Design Standards

1. The tank containing the FAST® insert is installed between the building sewer and the soil absorption system (SAS). The SAS shall be designed and constructed in accordance with 310 CMR 15.100 - 15.279 and subject to the provisions of this Certification.
2. Technology Description - The FAST® system is an aerobic wastewater treatment system that utilizes a completely submerged fixed film process to treat organics and nitrify, and a passive recycle system for denitrification. Each model contains submerged media specific to the application. Microorganisms grow on the media and remove soluble contaminants from the wastewater, utilizing them as a source of energy for growth and production of new microorganisms. The FAST® system insert consists of a liner around the media and an airlift to provide aeration and mixing within the confines of the liner. The area outside the liner in the septic tank remains anoxic for denitrification and a passive recirculation system

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moves the aerated wastewater to the outside of the liner to obtain denitrification. The aeration and circulation inside the liner are provided by a blower that pumps air into a draft tube that extends down the center of the media. Treated effluent passes out of the aerobic zone of the treatment plant through a pipe connected directly to a baffled quiescent area in the liner. Final effluent is discharged to a soil absorption system. Specific model considerations are as follows:

- The MicroFAST® 0.5, 0.75 and 0.9, HighStrengthFAST® 1.0 and NitriFAST® 0.5, 0.75 and 0.9 are installed in the second compartment of a two-compartment tank with a total liquid capacity of at least 1,500 gallons constructed in accordance with 310 CMR 15.226.
 - The MicroFAST®, HighStrengthFAST® and NitriFAST® 1.5 are installed in the second compartment of a two compartment 3000-gallon tank constructed in accordance with 310 CMR 15.226.
 - The MicroFAST®, HighStrengthFAST® and NitriFAST® 3.0 is installed in a separate tank constructed in accordance with 310 CMR 15.226 and located between a standard Title 5 septic tank, designed in accordance with 310 CMR 15.223 and 15.224, and the soil adsorption system (SAS). In this larger system, an additional recycle pump may be needed to send nitrified effluent back to the septic tank for added denitrification. Consult the Company for proper layout.
 - The NitriFAST® models can also be used for additional nitrification in series after the MicroFAST® models or HighStrengthFAST® models. In this configuration the tanks used for the NitriFAST® shall be constructed in accordance with 310 CMR 15.226 and meet the minimum dimensions and volumes required by the Company.
 - Flow equalization may also be employed prior to the FAST® system depending on the type of facility. Consult Company for proper layout.
3. All access ports and manhole covers shall be readily removable, of durable material and installed and maintained at grade to allow for maintenance of the System. No structures shall be located directly upon or above the access locations which could interfere with performance, access, inspection, pumping, or repair. Sufficient access for infrequent maintenance of the System treatment media and all other treatment works shall be evaluated, and addressed in the System design if necessary, by the designer. System control panel(s) including alarms shall be mounted in a location accessible to the operator of the System.
4. Wastewater Loading and Effluent Concentration Design Standards
- For new residential construction in an area subject to the Nitrogen Loading Limitations of 310 CMR 15.214, and the facility does not meet with the Nitrogen Loading Limitations pursuant to the aggregation provisions of 310 CMR 15.216, an increase in calculated nitrogen loading per acre is allowed for facilities with design flow less than 2000 gpd with limitations as follows:
- The design flow shall not exceed 660 gallons per day per acre (gpda) and the total nitrogen (TN) concentration in the effluent shall not exceed 19 milligrams per liter (mg/L); or

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- The design flow shall not exceed 550 gallons per day per acre (gpda) and the total nitrogen (TN) concentration in the effluent shall not exceed 25 milligrams per liter (mg/L).
- TN is measured as the total of TKN (Total Kjeldhal Nitrogen), NO₃-N (Nitrate nitrogen) and NO₂-N (Nitrite nitrogen).

III. General Conditions

1. The provisions of 310 CMR 15.000 is applicable to the use and operation of this System, the System owner and the Company, except those that 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, or a DEP approved independent university laboratory, unless otherwise provided in the Department's written approval. 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 and 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 or 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 sanitary 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, 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 owner shall at all times have the System properly operated and maintained by a Company approved Operator in accordance with this Certification, the designer's operation and maintenance requirements and the Company's approved procedures.
2. The System is certified only in connection with the discharge of sanitary wastewater from facilities with a design flow of less than 2000 gpd. Any non-sanitary wastewater generated and/or used at the facility served by the System shall not be introduced into the System and shall be lawfully disposed of.

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3. The System Owner shall provide access to the site for the System Operator to perform inspections, maintenance, repairs, responding to alarm events, field testing, and sampling as may be required by the Approval.

Operation and Monitoring Requirements

4. System effluent total nitrogen (TN) concentrations shall not exceed 19 or 25 mg/L and effluent pH shall not be less than 6.0 or more than 9.0. Field test observations of dissolved oxygen (DO) shall equal or exceed 2 mg/L and for Turbidity shall be equal or less than 40 NTU.
5. All samples shall be taken at a flowing discharge point, i.e. distribution box, pipe entering a pump chamber or other Department approved location from the treatment unit.
6. Inspection, operation and maintenance (O&M), sampling, and field testing of the System required by the Approval shall be performed by a Company approved Operator who has been certified at a minimum of Grade Level 4 (four) by the Board of Registration of Operators of Wastewater Treatment Facilities, in accordance with Massachusetts regulations 257 CMR 2.00, and is an approved Title 5 System Inspector in accordance with 310 CMR 15.340.
7. Prior to commencement of construction of the System, the System Owner shall provide to the local approving authority a copy of a signed O&M Agreement that meets the requirements of paragraph IV (8).
8. The System Owner shall maintain, at all times, an O&M Agreement with a qualified System Operator approved by the Company. The Agreement shall be at least for one year and include the following provisions:
 - a) The name of a System Operator who is an approved System Inspector in accordance with 310 CMR 15.340 and who meets any additional qualification requirements specified in the Approval;
 - b) The System Operator must inspect the Alternative System as required by paragraph IV (9) and (12);
 - c) The System Operator shall be responsible for submitting the monitoring results to the System Owner in accordance with paragraph IV (13) and to the local approving authority in accordance with paragraph IV (14); and
 - d) In the case of a System failure, an equipment failure, alarm event, components not functioning as designed, or violations of the Approval, procedures and responsibilities of the System Operator and System Owner shall be clearly defined for corrective measures to be taken immediately. The System Operator shall agree to provide written notification within five days, describing corrective measures taken, to the System Owner and the local board of health.
9. The System Owner shall comply with the following monitoring requirements if the System is subject to a TN concentration limit in accordance with paragraph II (4):

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- a) Year-round installations shall be inspected and have effluent sampled for at least the TN parameter quarterly for the first year, then a minimum of twice/year thereafter, at least 5 months apart and with at least one sample taken between December 1 and March 1 of each year. Field testing shall be completed per paragraph IV (11) below, and as determined necessary by the System Operator. See DEP Field Testing Protocol at <http://www.mass.gov/dep/water/laws/policies.htm#t5pols>. Wastewater flow shall be recorded at each inspection, see 'Flow Metering' paragraph IV (10).
- b) Seasonal installations shall be inspected and have effluent sampled for at least the TN parameter a minimum of twice/year. At least one sample must be taken 30 to 60 days after each seasonal occupancy begins. A second sample must be taken no less than 2 months after the first sample. Field testing shall be completed per paragraph IV (11) below, and as determined necessary by the System Operator. Wastewater flow shall be recorded at each inspection, see 'Flow Metering' paragraph IV (10).
- c) Systems in operation prior to issuance of this Approval, which have received approval of sampling reduction from the Department may continue with that System monitoring frequency.

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 - a) actual metering data of wastewater flow to the System or actual water meter data of flow to fixtures that discharge to the wastewater system; or
 - b) actual water meter data for the total facility with either actual meter data or estimated flows for non-wastewater usage subtracted from the total facility water usage. If estimating the wastewater portion of metered water usage, the System Operator shall provide a best estimate of wastewater discharged to the System with the method of estimating, such as pump run times, occupancy rates, adjustment due to seasonal outdoor watering use, etc.; or
 - c) for Systems installed under a prior Approval that did not include a wastewater flow data reporting requirement, if no flow meters are available, the System Operator shall provide a best estimate of wastewater discharged to the System with the method of estimating, such pump run times, occupancy rate, etc.
11. Field Testing: Temperature, turbidity, pH and DO shall be measured and recorded in the field whenever the effluent is sampled for TN. See applicable sections of the Department's Field Testing Protocol at <http://www.mass.gov/dep/water/laws/policies.htm#t5pols>.

12. At a minimum, the System Operator shall inspect the System:
 - a) quarterly for the first year then two times per year thereafter;
 - b) in accordance with the approved O&M manual, the Designer's operation and maintenance requirements, and the requirements of the local approving authority; and
 - c) any time there is an alarm event, equipment failure, or system failure.

Recordkeeping and Reporting

13. Within 60 days of any site visit, the System Operator shall submit an O&M report and inspection checklist to the System Owner and the Company. It is recommended the System Owner and Company maintain copies of these items for possible Department audit. The O&M report shall include, at a minimum:
 - a) for a System failing, any corrective actions taken;
 - b) wastewater analyses, wastewater flow data, field testing results and inspection checklists;
 - c) any violations of the Approval;
 - d) any determinations that the System or its components are not functioning as designed or in accordance with the Company specifications; and
 - e) any other corrective actions taken or recommended.
14. By February 15th of each year the System Owner or the System Operator if designated by the owner, shall submit to the local approving authority all monitoring results with all O&M reports and inspection checklists completed by the System Operator during the previous 12 months.
15. Upon determining that the System has failed, as defined in 310 CMR 15.303, the System Operator shall notify the System Owner immediately.
16. Upon determining that the System has failed, as defined in 310 CMR 15.303, the System Owner and the System Operator shall be responsible for the notification of the local approving authority within 24 hours of such determination.
17. The System Owner shall notify the Approving Authority and the Company in writing within seven days of any cancellation, expiration or any other change in the terms and/or conditions of the O&M Agreement required by Paragraph IV (8).
18. Violations of the TN concentration in the System effluent shall not constitute a failure of the System for the purposes of 24-hour notification or 5-day written reporting as required in Paragraphs IV (16) and (8).
19. The System owner shall provide a copy of this Approval, 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.

20. 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.
21. Prior to issuance of a Certificate of Compliance of the System, and after recording and/or registering the Notice required by 310 CMR15.287(10), the System Owner shall provide to the Local Approving Authority a copy of: (i) a certified Registry copy of the Notice bearing the book and page/or document number; and (ii) if the property is unregistered land, a Registry copy of the System Owner's deed to the property, bearing a marginal reference on the System Owner's deed to the property. The Notice to be recorded shall be in the form of the Notice provided by the Department.
22. Prior to signing any agreement to transfer any or all interest in the property served by the System, or any portion of the property, including any possessory interest, the System Owner shall provide written notice of all conditions contained in the Approval to the transferee(s). Any and all instruments of transfer and any leases or rental agreements shall include as an exhibit attached thereto and made a part of thereof a copy of the Approval for the System. The System Owner shall send a copy of such written notification(s) to the Local Approving Authority within 10 days of giving such notice to the transferee(s).

V. Conditions Applicable to the Company

1. The Company shall notify the Director of the Wastewater Management 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 new owner and a written agreement between the existing and proposed new 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.
2. The Company shall develop maintain and update as necessary the following: 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.
3. The Company shall institute and maintain a program of operator training and continuing education. The Company shall maintain and annually update, and make available the list of qualified operators by February 15th and make the list known to local approving authorities, the Department and to users of the technology.
4. 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.
5. 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 re-sale of the System, the Company shall require the distributor or re-seller to provide each purchaser of the System with copies of this Certification and the procedures described in Section V (3).

Bio-Microbics FAST <2,000 GPD Nitrogen Reducing

6. A copy of the wastewater analyses, wastewater flow data, field testing results, and System Operator O&M reports and inspection checklists from each installed System shall be maintained by the Company or its designee for possible Department audit.
7. If the Company wishes to continue this Certification after its expiration date, the Company shall apply for and obtain a renewal of this Certification. The Company shall submit a renewal application at least 180 days before the expiration date of this Certification, unless written permission for a later date has been granted in writing by the Department. This Certification shall continue in force until the Department has acted on the renewal application.

VI. Conditions Applicable to the System Designer

1. Upon submission of an application for a DSCP, the Designer shall provide to the local approving authority:
 - a) a certification, signed by the owner of record for the property to be served by the System, stating that the property owner:
 - i) has been provided a copy of the Approval, the Owner's Manual, and the Operation and Maintenance Manual, if applicable, and the Owner agrees to comply with all terms and conditions;
 - ii) has been informed of all the owner's costs associated with the operation including, when applicable: power consumption, maintenance, sampling, recordkeeping, reporting, and equipment replacement;
 - iii) understands the requirement for a service contract;
 - iv) agrees to fulfill his responsibilities to provide a Deed Notice as required by 310 CMR 15.287(10) and the Approval;
 - v) agrees to fulfill his responsibilities to provide written notification of the Approval to any new owner, as required by 310 CMR 15.287(5);
 - vi) if the design does not provide for the use of garbage grinders, the restriction is understood and accepted;
 - vii) if the design is for an upgrade of failed or nonconforming system, the System Owner has been provided a copy of the evaluation of the existing system;
 - viii) whether or not covered by a warranty, the System Owner understands the requirement to repair, replace, modify or take any other action as required by the Department or the local approving authority, if the Department or the local approving authority determines that the Alternative System is not capable of meeting the performance standards; and
 - b) a certification, signed by the Designer that the design conforms to the Approval with Conditions and 310 CMR 15.000.

VII. Reporting

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

Bio-Microbics FAST <2,000 GPD Nitrogen Reducing

Director
Wastewater Management Program
Department of Environmental Protection,
One Winter Street - 5th floor
Boston, Massachusetts 02108

VIII. 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 the 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.

Transmittal: X232831 (formerly W101238)



Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

Charles D. Baker
Governor

Karyn E. Polito
Lieutenant Governor

Matthew A. Beaton
Secretary

Martin Suuberg
Commissioner

Standard Conditions for Secondary Treatment Units Certified for General Use

Last Revised: March 20, 2015

A Secondary Treatment Unit (STU) is an alternative technology designed to reduce the amount of organic material and solids in sanitary wastewater. An STU may be used as a component of an on-site sewage disposal system to enhance treatment prior to discharge to the soil absorption system (SAS). For residential systems with design flows less than 2,000 gpd, certain STU's may be used as a component of an on-site sewage disposal to reduce the effective leaching area required for the SAS where soil or site conditions may make conventional soil absorption systems more costly or less desirable to construct. For residential systems with design flows less than 2,000 gpd, an STU which allows for a reduced leach field may require less land area, potentially less fill, and less disturbance of the site.

The System consists of an STU preceding a soil absorption system and, when the leaching area is reduced or the design flow is 2,000 gpd or greater, the SAS must be pressure dosed. A conventional septic tank precedes the STU unless exempt by the Special Conditions for a specific Technology.

The use of an STU in accordance with this General Use Certification requires, among other things:

- A Disclosure Notice in the Deed to the property (310 CMR 15.287(10)) (A Deed Notice template is available from the Department);
- Certifications by the Designer and the Installer (310 CMR 15.021(3));
- A Massachusetts certified operator who has received training for the technology and is under contract for periodic inspection and maintenance (310 CMR 15.287(10));
- Periodic sampling, recordkeeping, and reporting, in accordance with this Approval;
- Notification within 24 hours by the System Owner to the local approving authority of any System failure;
- When pumping is required to discharge to the SAS, 24-hour emergency wastewater storage capacity above the elevation of the high level alarm;
- System Owner Acknowledgement of Responsibilities, in accordance with this Approval.

Definitions and References:

The term "System" refers to the approved technology 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" or "Certification" refers to these Standard Conditions, the Special Conditions contained in the Technology Approval, the General Conditions of 310 CMR 15.287, and any Attachments.

The Conditions contained herein **MUST** be read in conjunction with any special conditions that are Technology-specific.

I. Purpose

1. This Certification is for the installation of a System to serve a facility for which a site evaluation in compliance with 310 CMR 15.000 has been approved by the Approving Authority and the site meets the siting requirements for new construction.
2. The sale, design, installation, and use of the System shall be subject to these requirements for all systems that submit a complete Disposal System Construction Permit (DSCP) application after the effective date of these Standard Conditions. Existing Systems and Systems for which a complete DSCP application was submitted prior to the effective date of these requirements shall not be subject to the design and installation requirements, however, the System Owner, the Service Contractor, and the Company shall be subject to all other requirements contained herein.
3. This Certification shall not be used for the installation of a System to upgrade or replace an existing failed or nonconforming system, unless the facility meets the siting requirements for new construction, including a reserve area. All other proposed upgrades utilizing this System shall be in conformance with the Remedial Use Approval issued by the Department for this System.
4. With the other applicable permits or approvals that may be required by Title 5, the Certification for General Use authorizes the installation and use of the System in Massachusetts. All the provisions of Title 5, including the General Conditions for Alternative Systems (310 CMR 15.287), apply to the sale, design, installation, and use of the System, except those provisions that specifically have been varied by this Approval.
5. Provided that the local approving authority approves the System in conformance with the Department's General Use Certification for the System, Department review and approval of the site-specific System design and installation is not required unless the Department determines on a case-by-case basis, pursuant to its authority at 310 CMR 15.003(2)(e), that the proposed System requires Department review and approval.

II. Design and Installation Requirements

1. Effluent BOD₅, TSS and pH - The effluent discharge concentrations from the Secondary Treatment Unit to the SAS shall not exceed secondary treatment standards of 30 mg/L BOD₅ and 30 mg/L TSS and the effluent pH range shall be 6.0 to 9.0.
2. Except where the Special Conditions for an approved Technology state otherwise, the Alternative System shall include a properly sized and constructed septic tank, designed in accordance with 310 CMR 15.223 – 15.229, connected to the building sewer and followed in series by the Technology and the SAS.
3. Except where the Special Conditions for an approved Technology state otherwise, the Alternative System shall be installed in a manner which does not intrude on, replace, or adversely affect the operation of any other component of the subsurface sewage disposal system.
4. Residential Systems less than 2000 gpd, Alternative Design Standard to 310 CMR 15.242(1)(a) Effluent Loading Rates – For residential Systems with design flows less than 2000 gpd, the required effective leaching area may be reduced up to 50 percent when using the loading rates for gravity systems of 310 CMR 15.242(1)(a), provided that:
 - a) no variance is granted for a reduction in depth to groundwater;
 - b) no variance is granted for a reduced depth of pervious material; and
 - c) effluent pressure distribution is provided and designed in accordance with Department guidance. The Department's *Pressure Distribution Guidance* dated May 24, 2002 can be viewed on the internet under Title 5/Septic Systems Guidance at <http://mass.gov/dep/water/laws/policies.htm#t5guid>.

(Alternatively, the effluent loading rates provided in 310 CMR 15.242(1)(b) for pressure distribution may be utilized, but no reduction in the effective leaching area may be taken when using these loading rates, as stated in the regulation.)

For residential design flows of 2000 gpd or greater and for all nonresidential systems, no reduction in the effective leaching area is allowed.
5. When the System is allowed a reduction in the required effective leaching in accordance with Paragraph I.4, the installation shall not disturb the site in any manner that would preclude the future installation of the conventional full-sized primary SAS without encroaching on the reserve area.

The record drawings, approved by the local approving authority, must clearly indicate the area for a full-sized conventional primary SAS and the full-sized conventional reserve area are for the sole purpose of upgrading the on-site sewage disposal system in the future, if necessary, without any increase in flow.
6. The record drawings, approved by the local approving authority, must clearly indicate the area for a conventional reserve SAS is for the sole purpose of upgrading the on-site sewage disposal system in the future, if necessary, without any increase in flow.

Except for the installed SAS, the System Owner shall not construct any permanent buildings or structures or disturb the site in any manner that would encroach on the area approved for a full-sized conventional primary SAS or the area approved for a full-sized conventional reserve SAS.

7. In a nitrogen sensitive area (NSA), as defined in 310 CMR 15.215, Alternative Systems serving facilities with actual or design flows of 2,000 GPD or greater must include treatment with a Recirculating Sand Filter (RSF) or equivalent technology, as required by 310 CMR 15.202(1). Under this General Use Certification, Secondary Treatment Units are not approved as an RSF equivalent technology and shall not be installed in a NSA to serve facilities with actual or design flows of 2,000 GPD or greater. (The Technology may have a separate approval for nitrogen reduction, but must be installed under that approval.)
8. The System may only be installed in soils with a percolation rate of up to 60 minutes per inch (MPI).
9. Except for septic tank covers which are not required to be at grade, the frames and covers of all other access manholes and ports of the System components shall be watertight, made of durable material, and shall be installed and maintained at grade, to allow for necessary inspection, operation, sampling and maintenance access. Manholes brought to final grade shall be secured to prevent unauthorized access. No structures which could interfere with performance, access, inspection, pumping, or repair shall be located directly upon or above the access locations.
10. All System control units, valve boxes, distribution piping, conveyance lines and other System appurtenances shall be designed and installed to prevent freezing.
11. The System control panel including alarms and controls shall be mounted in a location always accessible to the operator (service contractor).

When pumping is required to discharge to the SAS, the System shall be equipped with sensors and high-level alarms to protect against high water due to pump failure, pump control failure, loss of power, system freeze ups, or backups. Emergency storage shall be provided when pumping to discharge is employed, including pressure distribution, such as when the System is allowed a reduction in the required effective leaching area, in accordance with Paragraph I.4. Emergency storage capacity for wastewater above the high level alarm shall be provided equal to the daily design flow of the System and the storage capacity shall include an additional allowance for the volume of all drainage which may flow back into the System when pumping has ceased.
12. System unit malfunction and high water alarms shall be readily visible and audible for the facility occupants and the Service Contractor and shall be connected to circuits separate from the circuits serving the operating equipment and pumps.
13. The System shall not include any relief valve or outlet for the discharge of wastewater to prevent flooding of the system, back up or break out.

14. Any System structures with exterior piping connections located within 12 inches of or lower than the Estimated Seasonal High Groundwater elevation shall have the connections made watertight with neoprene seals or equivalent.
15. In compliance with 310 CMR 15.240(13), a minimum of one (1) inspection port shall be provided within the SAS consisting of a perforated four inch pipe placed vertically down to the elevation of the SAS interface with the underlying unsaturated pervious soils to enable monitoring for ponding. The pipe shall be capped with a screw type cap and accessible to within three inches of finish grade. (A locking cap at-grade is preferred for annual inspection.)
16. Upon submission of an application for a Disposal System Construction Permit (DSCP), the Designer shall provide to the local Approving Authority:
 - a) proof that the Designer has satisfactorily completed any required training by the Company for the design and installation of the Technology;
 - b) certification of the design by the Company for any residential system with a design of 2,000 gpd or more or for any proposed non-residential system or if required by the Special Conditions for an approved Technology;
 - c) certification by the Designer that the design conforms to the Approval, any Company Design Guidance, and the 310 CMR 15.000; and
 - d) a certification, signed by the Owner of record for the property to be served by the Technology, stating that the property Owner:
 - i) has been provided a copy of the Approval, the Owner's Manual, and the Operation and Maintenance Manual and the Owner agrees to comply with all terms and conditions;
 - ii) has been informed of all the Owner's estimated costs associated with the operation including, when applicable: power consumption, maintenance, sampling, recordkeeping, reporting, and equipment replacement;
 - iii) understands the requirement for a service contract;
 - iv) agrees to fulfill his responsibilities to provide a Deed Notice as required by 310 CMR 15.287(10) and the Approval;
 - v) agrees to fulfill his responsibilities to provide written notification of the Approval to any new Owner, as required by 310 CMR 15.287(5);
 - vi) if the design does not provide for the use of garbage grinders, the restriction is understood and accepted; and
 - vii) whether or not covered by a warranty, the System Owner understands the requirement to repair, replace, modify or take any other action as required by the Department or the local Approving Authority, if the Department or the local Approving Authority determines the System to be failing to protect public health and safety and the environment, as defined in 310 CMR 15.303.
17. The System Owner and the Designer shall not submit to the local Approving Authority a DSCP application for the use of a Technology under this Certification if the Certification has been revised, reissued, suspended, or revoked by the Department

prior to the date of application. The Certification continues in effect until the Department revises, reissues, suspends, or revokes the Certification.

18. The System Owner shall not authorize or allow the installation of the System other than by a locally approved Installer and, if required by the Company, a person certified or trained by the Company to install the System.
19. Prior to the commencement of construction, the System Installer must certify in writing to the Designer, the local Approving Authority, and the System Owner that (s)he is a locally approved System Installer and, if required by the Company, is certified by or has received appropriate training by the Company.
20. The Installer shall maintain on-site, at all times during construction, a copy of the approved plans, the Owner's manual, the O&M manual, and a copy of the Approval.
21. Prior to the issuance of a Certificate of Compliance by the local Approving Authority, the System Installer and Designer must provide, in addition to the certifications required by Title 5, certifications in writing to the local Approving Authority that the System has been constructed in compliance with the terms of the Approval.
22. 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 sanitary sewer system.

If it is feasible to connect a new or existing facility to the sewer, the Designer shall not propose an Alternative System to serve the facility and the facility Owner shall not install or use an Alternative System; and

When a sanitary sewer connection becomes feasible after an Alternative System has been installed, the System Owner shall connect the facility served by the System to the sewer within 60 days of such feasibility and the System shall be abandoned in compliance with current Code requirements, unless a later time is allowed in writing by the Department or the local Approving Authority.

III. Operation and Maintenance

1. To ensure proper operation and maintenance (O&M) of the System, the System Owner shall enter into an O&M Agreement with a qualified Service Contractor whose name appears on the Company's current list of Service Contractors and has been certified, at a minimum, at Grade Level II (two) by the Board of Registration of Operators of Wastewater Treatment Facilities, in accordance with Massachusetts regulations 257 CMR 2.00. Prior to commencement of construction of the System, the System Owner shall provide to the local Approving Authority a copy of a signed O&M Agreement.
2. From start up and thereafter, the System Owner and Service Contractor shall be responsible for the proper operation and maintenance of the System in accordance with this Certification, the Designer's O&M requirements, the Company's O&M requirements, and the requirements of the local Approving Authority. The System

Owner and Service Contractor shall be responsible for compliance with all monitoring and inspection requirements. All inspection, operation, maintenance, and monitoring requirements remain in effect until the conditions are modified, terminated, or superseded by a new Approval.

3. The System shall comply with the following monitoring requirements and effluent limits. The required O&M Agreement with the Service Contractor shall include the following monitoring schedule, at a minimum, subject to modifications that may be required by Paragraphs III.7.a) and 7.b):

Parameter	Monitoring Frequency	Sample Type	Location	Effluent Limits
pH	See frequency specified below	grab	effluent of treatment unit	6 to 9
turbidity	See frequency specified below	measure	effluent of treatment unit	≤ 40 NTU
settleable solids	See frequency specified below	measure	effluent of treatment unit	Measure and record ml/l only
color	See frequency specified below	visual observation	effluent of treatment unit	Record observation only
dissolved oxygen (D.O.)	See frequency specified below	measure	effluent of treatment unit	≥ 2 mg/l
Depth of Ponding within SAS	See Paragraph III.10	measure	Inspection port to bottom of SAS	See Paragraph III.10
Thickness of floating grease/scum layer	Once every 3 years	measure	Septic tank or other process tank where solids are retained	Pump out, as necessary
Depth of Sludge and distance to effluent tee/filter/outlet	Once every 3 years	measure	Septic tank or other process tank where solids are retained	Pump out, as necessary

4. An individual household shall be monitored at least once every 12 months (exclusive of alarm responses or other maintenance visits).
5. Facilities (residential and nonresidential) with a design flow of less than 2,000 gpd, other than an individual household, shall be monitored a minimum of twice/year with a minimum of 5 months since the last monitoring inspection (exclusive of alarm responses or other maintenance visits) and a maximum of 7 months between monitoring inspections.
6. Facilities (residential and nonresidential) with a design flow of 2,000 gpd or greater shall be monitored quarterly not less than 2 months since the last monitoring inspection (exclusive of alarm responses or other maintenance visits) and not more than 4 months between monitoring inspections.
7. Systems installed under this Approval shall be subject to the following Performance Requirements:
 - a) Whenever field tests indicate a pH outside the specified range, an exceedance of the turbidity limit, or D.O. below the desired minimum, the Service Contractor shall make adjustments and/or repairs to the System, as deemed necessary during the inspection, and collect an effluent sample for laboratory analysis for BOD₅ and TSS;
 - b) For an individual household, if laboratory analyses indicate an exceedance of 30 mg/L BOD₅ or 30 mg/L TSS, the Service Contractor shall conduct a follow-up inspection and field-testing within 180 days of the original inspection date. Should the follow-up field-test indicate a pH outside the specified range, an exceedance of the turbidity limit, or D.O. below the desired minimum, the Service Contractor shall make adjustments and/or repairs to the System, as deemed necessary during the inspection, and collect another effluent sample for laboratory analysis for BOD₅ and TSS; and
 - c) Whenever two consecutive sampling rounds for any Secondary Treatment Unit include at least one exceedance of the limits for BOD₅ or TSS, the System Owner shall be responsible for submitting to the local Approving Authority, within 90 days of the second exceedance of the limits for BOD₅ or TSS, a written evaluation with recommendations for changes in the design, operation, and/or maintenance of the System. The written evaluation with recommendations shall be prepared by the Service Contractor or a Designer and the submission shall include all monitoring data, inspection reports, and laboratory analyses since the last annual report to the local Approving Authority.

Recommendations shall be implemented, as approved by the local Approving Authority, in accordance with an approved schedule, provided that all corrective measures are implemented consistent with the limitations described in Paragraph IV.10.

8. Each time an Alternative System is visited by a Service Contractor the following shall be recorded, at a minimum:
 - a) date, time, air temperature, and weather conditions;
 - b) observations for objectionable odors;
 - c) observations for signs of breakout of sanitary sewage in the vicinity of the Alternative System;
 - d) depth of ponding within the SAS, if measured;
 - e) identification of any apparent violations of the Approval;
 - f) since the last inspection, whether the system had been pumped with date(s) and volume(s) pumped;
 - g) sludge depth and scum layer thickness, if measured;
 - h) when responding to alarm events, the cause of the alarm and any steps taken to address the alarm and to prevent or reduce the likelihood of future similar alarm events;
 - i) field testing results when performed as part of the site visit;
 - j) samples taken for laboratory analysis, if any
 - k) any cleaning and lubrication performed;
 - l) any adjustments of control settings, as recommended or deemed necessary;
 - m) any testing of pumps, switches, alarms, as recommended or deemed necessary;
 - n) identification of any equipment failure or components not functioning as designed;
 - o) parts replacements and reason for replacement, whether routine or for repair; and
 - p) further corrective actions recommended, if any.

9. Unless directed by the local Approving Authority to take other action, the System Owner shall immediately cease discharges or have wastewater hauled off-site, if at any time during the operation of the Alternative System the system is in failure as described in 310 CMR 15.303(1)(a)1 or 2, backing up into facilities or breaking out to the surface.

10. Measuring the depth of ponding within the SAS above the interface with the underlying unsaturated pervious soils shall be performed once per year by means of the inspection ports and any other available access to the distribution system for:
 - a) Residential systems less than 2000 gpd where the effective leaching area installed is less than that required by Title 5 (310 CMR 15.223-228); and
 - b) Any system where a septic tank meeting the requirements of Title 5 has not been installed. (Not providing a septic tank meeting the requirements of Title 5 must be allowed by the Special Conditions of the Technology approval.)

11. Whenever an SAS inspection port measurement indicates the ponding level within the SAS is above the invert of the distribution system, an additional measurement shall be made 30 days later. If the subsequent reading indicates the elevation of ponding

within the SAS is above the invert of the distribution system, the System Owner shall be responsible for submitting to the local Approving Authority, within 60 days of the follow up inspection, a written evaluation with recommendations for changes in the design, operation, and/or maintenance of the System. The written evaluation with recommendations shall be prepared by the Service Contractor or a Designer and the submission shall include all monitoring data, inspection reports, and any laboratory analyses for the previous year.

Recommendations shall be implemented, as approved by the local Approving Authority, in accordance with an approved schedule, provided that all corrective measures are implemented consistent with the limitations described in Paragraph IV.10.

IV. Additional System Owner and Service Contractor Requirements

1. Prior to commencement of construction of the System and after recording and/or registering the Deed Notice required by 310 CMR 15.287(10), the System Owner shall provide to the local Approving Authority a copy of:
 - a) a certified Registry copy of the Deed Notice bearing the book and page/or document number; and
 - b) if the property is unregistered land, a copy of the System Owner's deed to the property as recorded at the Registry, bearing a marginal reference on the System Owner's deed to the property.The Notice to be recorded shall be in the form of the Notice provided by the Department.
2. Prior to signing any agreement to transfer any or all interest in the property served by the System, or any portion of the property, including any possessory interest, the System Owner shall provide written notice, as required by 310 CMR 15.287(5), of all conditions contained in the Approval to the transferee(s). Any and all instruments of transfer and any leases or rental agreements shall include as an exhibit attached thereto and made a part of thereof a copy of the Approval for the System. The System Owner shall send a copy of such written notification(s) to the local Approving Authority within 10 days of giving such notice to the transferee(s).
3. The System Owner shall not install, modify, upgrade, or replace the System except in accordance with a valid DSCP issued by the local Approving Authority which covers the proposed work.
4. The System Owner shall provide access to the site for the Service Contractor to perform inspections, maintenance, repairs, and responding to alarm events, as may be required by the Approval.
5. The System Owner and the Service Contractor shall maintain an O&M Agreement at all times. The duration of the O & M Agreement shall be at least one year and shall include the following provisions:

- a) The name of a Service Contractor, who meets the qualifications specified in the Approval, shall be included;
- b) The Service Contractor's responsibilities for inspection, operation, maintenance, monitoring, recordkeeping and reporting, as required by this Approval shall be included;
- c) The Service Contractor shall be responsible for obtaining lab analyses and submitting the monitoring results to the System Owner and the local Approving Authority in accordance with the reporting requirements; and
- d) In the case of a System which is determined to be failing to protect public health and safety and the environment, as defined in 310 CMR 15.303, an equipment failure, alarm event, components not functioning as designed, or violations of the Approval, procedures and responsibilities of the Service Contractor and System Owner shall be clearly defined, including corrective measures to be taken immediately.

The System Owner and the Service Contractor shall maintain on-site, at all times, a copy of the O&M Agreement, the approved design plans, the Owner's Manual, and the O&M Manual.

6. The Service Contractor shall submit to the System Owner the O&M report and inspection checklist within 60 days of any site visit.
7. The System Owner and the Service Contractor shall maintain copies of the Service Contractor's O&M reports, inspection checklists, and all reports and notifications to the local Approving Authority for a minimum of three years.
8. Upon determining that the System is in violation of the Approval or the System is failing to protect public health and safety and the environment, as defined in 310 CMR 15.303, the Service Contractor shall notify the System Owner immediately.
9. Upon determining that the System is failing to protect public health and safety and the environment, as defined in 310 CMR 15.303, the System Owner and the Service Contractor shall be responsible for the notification of the local Approving Authority within 24 hours of such determination.
10. In the case of a System that has been determined to be failing to protect public health and safety and the environment, an equipment failure, alarm event, components not functioning as designed, components not functioning in accordance with manufacturers' specifications, or violations of the Approval, the Service Contractor shall provide written notification within five days, describing corrective measures to the System Owner, the local board of health, and the Company and may only propose or take corrective measures provided that:
 - a) all emergency repairs, including pumping, shall be in accordance with the limitations and permitting requirements of 310 CMR 15.353;
 - b) the design of any repairs or upgrades are consistent with the System Approval;
 - c) the design of any repairs or upgrades requiring a DSCP shall be performed by a Designer who is a Massachusetts Registered Professional Engineer or a

Massachusetts Registered Sanitarian, provided that such Sanitarian shall not design a system with a discharge greater than 2,000 gallons per day.

- d) the installation of any repairs or upgrades requiring a DSCP shall be done by an Installer with a currently valid Disposal System Installers Permit and, if training is required, the Installer shall be certified by the Company as qualified to install the System.

The System Owner shall also be responsible for ensuring written notification is provided within five days to the local board of health.

11. The System Owner and the Service Contractor shall provide written notification to the local Approving Authority within seven days of any cancellation, expiration or other change in the terms and/or conditions of a required O&M Agreement with a Service Contractor. The Service Contractor shall provide written notification to the Company within seven days of any cancellation, expiration or other change in the terms and/or conditions of a required O&M Agreement.
12. By March 1st of each year, the System Owner and the Service Contractor shall be responsible for submitting to the local Approving Authority all O&M reports and inspection checklists completed by the Service Contractor during the previous calendar year.
13. By March 1st of each year, the Service Contractor shall be responsible for submitting to the Company copies of all O&M reports including alarm event responses, violations of the Approval, inspection checklists completed by the Service Contractor, notifications of system failures, and reports of equipment replacements with reasons during the previous calendar year.
14. The Service Contractor shall notify the System Owner of these Conditions and any other changes to the terms and conditions of the Approval within 60 days of any changes.
15. Within one year of any changes to the terms and conditions of the Approval, the System Owner shall amend, as necessary, the O&M Agreement required by Paragraph IV.5 to reflect the changes to the terms and conditions of the Approval.
16. To determine whether cause exists for modifying, revoking, or suspending the Approval or to determine whether the conditions of the Approval have been met, 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.
17. The Approval shall be binding on the System Owner and on its agents, contractors, successors, and assigns, including but not limited to the Designer, Installer, and Service Contractor. Violation of the terms and conditions of the Approval by any of the foregoing persons or entities, respectively, shall constitute violation of the Approval by the System Owner unless the Department determines otherwise.

V. Company Requirements

1. The Approval shall only apply to model units with the same model designations specified in the System Approval and meet the same specifications, operating requirements, and plans, as provided by the Company or its authorized agent at the time of the application. Any proposed modifications of the units, installation requirements, or operating requirements shall be subject to the review of the Department for inclusion under a modification of the Approval. The Designer shall be responsible for the selection of the appropriate model unit except the Company shall be responsible for verification of the appropriate model unit as part of any review of proposed installations that may be required by Paragraph V.3 of these Standard Conditions or the Special Conditions in a Technology approval.
2. Prior to submission of an application for a DSCP, the Company or its authorized agent shall provide to the Designer and the System Owner:
 - a) All design and installation specifications and requirements;
 - b) An operation and maintenance manual, including:
 - i) an inspection checklist;
 - ii) recommended inspection and maintenance schedule;
 - iii) monitoring (i.e. water use);
 - iv) alarm response procedures and troubleshooting procedures;
 - c) An owner's manual, including alarm response procedures;
 - d) Estimates of the Owner's costs associated with the operation including, when applicable: power consumption, maintenance, recordkeeping, reporting, and equipment replacement;
 - e) A copy of the Company's warranty; and
 - f) Lists of trained Designers and trained Service Contractors and, if training is required by the Company, trained Installers.
3. Prior to the submission of an application for a DSCP, for all nonresidential Systems and Systems with design flows of 2,000 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.
4. The Company must maintain programs of training and continuing education for Service Contractors. Training shall be made available at least annually. If the Company requires trained Designers or Installers, the Company or its authorized agent shall institute programs of training and continuing education that is separate from or combined with the training for Service Contractors. The Company or its authorized agent shall maintain, annually update, and make available by February 15th of each year, lists of trained Service Contractors and, if certification or training is provided by the Company, Designers and Installers. The Company or its authorized

agent shall certify that the Service Contractors and, if training is provided, Designers and Installers on the lists have taken the appropriate training and passed the Company's training qualifications. The Company or its authorized agent shall further certify that the Service Contractors on the list have submitted to the Company all the reports required by Paragraphs IV.10, 11, and 13.

5. The Company or its authorized agent shall not re-certify a Service Contractor if the Service Contractor has not complied with the reporting requirements for the previous year.
6. If training is required, the Company shall not sell the Technology to an Installer unless the Installer is trained to install the System by the Company. The Company shall require, by contract, that distributors and resellers of the Technology shall not sell the Technology to an Installer unless the Installer is trained to install the System by the Company.
7. As part of any training programs for Service Contractors, Installers, or Designers, the Company or its authorized agent shall provide each trainee with a copy of this Approval with the design, installation, O&M, and owner's manuals that were submitted as part of the Approval.
8. The Company shall provide, in printed or electronic format, the System design, installation, O&M, and Owner's manuals, and any updates associated with this System Approval, to the System Owners, Designers, Installers, Service Contractors, vendors, resellers, and distributors of the System. Prior to publication or distribution in Massachusetts, the Company shall submit to the Department for review a copy of any proposed changes to the manual(s) with reasons for each change, at least 30 days prior to issuance. The Company shall request Department approval for any substantive changes which may require a modification of the Approval.
9. Prior to its sale of any System that may be used in Massachusetts, the Company shall provide the purchaser with a copy of this Approval with the System design, installation, O&M, and Owner's manuals. In any contract for distribution or sale of the System, the Company shall require the distributor or seller to provide the purchaser of a System for use in Massachusetts with copies of these documents, prior to any sale of the System.
10. To determine whether cause exists for modifying, revoking, or suspending the Approval or to determine whether the conditions of the Approval have been met, the Company shall furnish the Department any information that the Department requests regarding the Technology within 21 days of the date of receipt of that request.
11. Within 60 days of issuance by the Department of these Conditions and any other revisions to the Approval, the Company shall provide written notification of changes to the Approval to all Service Contractors servicing existing installations of the System and all distributors and resellers of the System.

12. The Company shall provide written notification to the Department's Director of the Wastewater Management 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 of transfer of ownership, responsibility, coverage and liability between them. All provisions of this Approval applicable to the Company shall be applicable to successors and assigns of the Company, unless the Department determines otherwise.

13. The Company shall maintain copies of:
 - a) the Approval;
 - b) the installation manual specifically detailing procedures for installation of its System;
 - c) an owner's manual, including alarm response procedures;
 - d) an operation and maintenance manual, including:
 - i) an inspection checklist;
 - ii) recommended inspection and maintenance schedule;
 - iii) monitoring requirements and recommendations (including water use and power consumption when required) and sampling procedures;
 - iv) alarm response procedures and troubleshooting procedures.
 - e) estimates of the operating costs provided to the Owner, including, when applicable: power consumption, maintenance, recordkeeping, reporting, and equipment replacement;
 - f) a copy of the Company's warranty; and
 - g) lists of trained Service Contractors and, if training or certification is required, Designers and Installers.

14. The Company shall maintain the following additional information for the Systems installed in Massachusetts and make it available to the Department within 30 days of a request by the Department:
 - a) the address of each facility where the System was installed, the Owner's name and mailing address (if different), the type of use (e.g. residential, commercial, institutional, etc.), the design flow, the model installed;
 - b) the installation date, start-up date, current operational status;
 - c) the name of the Service Contractor, noting any cancellations or changes to any Service Contracts; and
 - d) copies of all Service Contractor records submitted to the Company, including all O&M reports with alarm event responses, all monitoring results, inspection checklists completed by the Service Contractor, notifications of system failures, and reports of equipment replacements with reasons.

15. The Approval shall be binding on the Company and its officers, employees, agents, contractors, successors, and assigns, including but not limited to dealers, distributors, and resellers. Violation of the terms and conditions of the Approval by any of the foregoing persons or entities, respectively, shall constitute violation of the Approval by the Company unless the Department determines otherwise.

VI. General Requirements

1. Any System for which a complete Disposal System Construction Permit ("DSCP") Application is submitted while the Approval is in effect, may be permitted, installed, and used in accordance with the Approval, unless and until:
 - a) the Department issues modifications or amendments to the Approval which specifically affect the installation or use of a System installed under the Approval for the System; or
 - b) the Department, the local approval authority, or a court requires the System to be modified or removed or requires discharges to the System to cease.
2. All notices and documents required to be submitted to the Department by the Approval shall be submitted to:

Director
Wastewater Management Program
Department of Environmental Protection
One Winter Street - 5th floor
Boston, Massachusetts 02108

3. The Department may suspend, modify or revoke the Approval for cause, including, but not limited to, non-compliance with the terms of the Approval, for obtaining the Approval 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 Approval, 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 the Approval and/or the System against the Company, a System Owner, a Designer, an Installer, and/or Service Contractor.