

Appeal Period Expires 7, 10, 08
 Zoning District AR

Town of Essex, Vermont
Application for Zoning Permit
 www.essex.org

Application Date 6/24/08
 Permit Number 2008-72

All construction is to be completed in accordance with the Town of Essex Zoning Regulations and any/all federal or state regulations now in effect. You are required to post this permit in a conspicuous location on the property and it must remain posted throughout the construction period.

Any interested person may appeal the decision of the Zoning Administrator to the Zoning Board of Adjustment within fifteen (15) days of the permit's date of issuance. Commencing construction within this fifteen (15) day appeal period is prohibited by law.

Occupancy of the premises shall not take place until a Certificate of Occupancy is obtained.

Approval is subject to accuracy of information provided by the applicant.

A Parcel Account Numb. (Map-Parcel-Lot) 2-014-016-001
 (found in Town Assessor's Office)
 Property Address: 97 Brigham Hill Rd., Essex Jct., VT
 Owner: RONALD J. and L. Samuela Ewalt
 Owner Address: 97 Brigham Hill Rd.
 Owner Phone: (work) 847-5051 (home) 878-9693
 (cell) 355-3369 (Email) ewalt@champlainvt.com
 Contractors name: Bundy's Septic Sewer Phone: _____ Cell: _____
 Estimated Construction Dates: Start: 09/1/08 Completion: 09/1/08
 Sq. Feet: _____ Estimated Cost (labor & materials): \$48,000

B Sewage Disposal (Please attach Sewer or Septic Application).
 Public Private Connection Fee \$ _____ Date Paid: 1/1
 Proposed New Bedrooms: 1 Existing Bedrooms 4

C Water (Please attach Water Service Application). Existing
 Public Private Fee \$ _____ Date Paid: 1/1

D Driveway (Please attach copy of approved Curbcut / Utility Application).
 Date of approval 1/1 Existing

E Stormwater
 Project disturbs an area greater than or equal to 1 acre - Erosion Control Permit Required. Attach completed permit application.
 Project creates new or expands existing impervious surface greater than or equal to 1/2 acre - Erosion Control Permit and Stormwater Management Permit required. Attach completed permit application. N/A

F Diagram - Show a sketch of project on reverse of this application with property lines, building, and setbacks or attach separate sheet. (Instruction sheet available upon request.)
Improved basement to include bedroom, kitchenette & bath to accommodate an accessory apartment. (Less than 30% of coverage.)

G Signature of Owner L. Samuela Ewalt

G

Check box(es) which describe proposed use or construction (circle choice in parenthesis).
 N = New A = Addition R = Remodel

Residential:	N	A	R
Single Family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Two-family (duplex)(other)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-family	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Condominium / Townhouse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mobile home	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inclusions or Additions:			
Garage (attached) (detached)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Porch (enclosed) (open)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Deck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pool (in) (above) ground	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Barn (residential) (agriculture)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-residential:			
Commercial / Industrial	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stormwater:			
Stormwater	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Erosion Control	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: <u>Added</u> <u>Accessory</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Change in use <u>APT</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Miscellaneous	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Renewal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Office Use Only

Fees:	Type	Amount	Date Pd
	Permit	\$ 120 -	6/24/08 SK
	School	\$	1/1
	Recreation	\$	1/1
	Recording	\$ 16	6/24/08 SK
	Other	\$ 75	6/24/08

Building Permit
 Approved Rejected Date 6/25/08
 Issued to: R + S Ewalt
 Zoning Administrator: Shawn J. Kelly
 Notes: This permit corrects work done without a permit (except for septic upgrade)
 C.O. Required Yes No

THIS PERMIT VALID FOR TWELVE (12) MONTHS FROM DATE OF ISSUE

(web) 01/25/06



State of Vermont

WASTEWATER SYSTEM AND POTABLE WATER SUPPLY PERMIT



LAWS/REGULATIONS INVOLVED

Environmental Protection Rules

Chapter 1, Wastewater System and Potable Water Supply Rules, Effective January 1, 2005

Chapter 21, Water Supply Rules, Effective April 25, 2005

Case Number: WW-4-2751
PIN: EJ06-0489

Landowner: Ron Ewalt
Address: 97 Brigham Hill Road
Essex Jct., VT 05452

This permit affects property referenced in deeds recorded in Book 345 Page 466 of the Land Records in Essex Junction, Vermont.

This project, consisting of a five bedroom duplex on a 6.4 +- acre parcel, utilizing an existing, on-site drilled well water supply and existing (with modifications), mound wastewater disposal system, located at 97 Brigham Hill Road in Essex, Vermont is hereby approved under the requirements of the regulations named above, subject to the following conditions.

GENERAL

- 1. This permit does not relieve the permittee from obtaining all other approvals and permits as may be required from the Act 250 District Environmental Commission, the Department of Environmental Conservation, Water Supply Division - telephone (802) 241-3400, Water Quality Division - telephone (802) 241-3770, the Department Public Safety, Division of Fire Safety- telephone Williston Regional Office (802) 879-2300, the Department of Health - telephone (802) 863-7221, and local officials prior to proceeding with this project.
2. The project shall be completed as shown on the following plans which have been stamped "approved" by the Wastewater Management Division:

Project: Job No. 26140: "Ewalt Property".

Plans: Site Plan; Sheet C-1 of 3 Sheets; Dated 11/10/06; Last revised 5/18/07; Details; Sheet C-2 of 2 Sheets; Dated 11/10/06; Last revised 05/18/07; Potable Water System Details; Sheet C-3 of 3 Sheets; Dated 05/18/07; prepared by CHAMPLAIN CONSULTING ENGINEERS.

The project shall not deviate from the approved plans in a manner that would change or affect the exterior water supply or wastewater disposal system, building location or the approved use of the building without prior written approval from the Wastewater Management Division.

3. The conditions of this permit shall run with the land and will be binding upon and enforceable against the permittee and all assigns and successors in interest. The permittee shall be responsible for the recording of this permit in the Town of Essex Land Records within thirty, (30) days of issuance of this permit and prior to the conveyance of any lot subject to the jurisdiction of this permit.
4. Each prospective purchaser of the lot shall be shown copies of the Wastewater System And Potable Water Supply Permit and the approved plans prior to conveyance of the lot.
5. This permit shall in no way relieve you of the obligations of Title 10, Chapter 48, Subchapter 4, for the protection of groundwater.
6. A copy of the approved plans and this permit shall remain on the project during all phases of construction and, upon request, shall be made available for inspection by State or local personnel.

WATER SUPPLY & WASTEWATER DISPOSAL

7. No permit issued by the Secretary shall be valid for a substantially completed potable water supply and wastewater system until the Secretary receives a certification from a designer or the installer, signed and dated, that states:

“I hereby certify that, in the exercise of my reasonable professional judgment, the installation-related information submitted is true and correct and the potable water supply and wastewater system were installed in accordance with the permitted design and all permit conditions, were inspected, were properly tested, and have successfully met those performance tests.”

This shall include the modifications to the existing wastewater disposal system and water supply system.

8. The project/ lot is approved for an on-site water supply system from a drilled well provided that the well is located as shown on the approved plan. The Wastewater Management Division shall allow no other method, or location of obtaining potable water without prior review and approval.
9. The project is authorized to utilize the existing on-site water supply system, with modifications. If the water supply system fails to function properly and becomes a “failed supply” the permittee shall immediately notify the Division.
10. The well location shall meet all minimum separation distances required by the Environmental Protection Rules, Chapter 21, Water Supply Rule, Appendix A, Part 11 – Small Scale Water Systems, Section 11.4. The well shall be constructed in accordance with the Appendix A, Part 12.
11. Each prospective purchaser of the lot shall be shown copies of the Wastewater System And Potable Water Supply Permit, the approved plans, and **the Innovative/Alternative System Approval letter #2001-01 (2005 Renewal) for the Advantex™ Treatment System**
12. The project/ lot is approved for wastewater disposal by modification and utilization of the site-specific, existing wastewater disposal system depicted on the approved plans. The Wastewater Management Division shall allow no other method, or location of wastewater disposal without prior review and approval.

13. The project is approved for an **Innovative/Alternative System** that includes a filtrate disposal system provided the installation is routinely and reliably inspected during construction by a licensed designer who has been determined acceptable by the Wastewater Management Division, who shall, upon completion and prior to placing the system in use, report in writing to the Division that the installation was accomplished in accordance with the approved plans and permit conditions. This inspection shall include, but is not limited to:
- A. Each tank, such as septic tank, pump chamber, re-circulating tank, shall be tested and proven watertight by filling to a point at least two inches, but not more than three inches, above the point of the riser connection to the top of the tank. During the test, there shall not be a measurable leakage over a twenty-four (24) hour period.
 - B. After installation, the treatment container shall be watertight. The container shall be tested to be watertight by filling to a point at least one foot above the outlet invert, after the outlet has been plugged. There shall not be measurable leakage over a twenty-four (24) hour test period.
 - C. A user's manual for the **Innovative/Alternative** treatment system shall be developed and provided by the system designer at the time the system "as-built" drawings are completed and submitted to the owner. This shall be in accordance with the Wastewater System and Potable Water Supply Rules, Subchapter 5, Technical Standards for Wastewater Disposal Systems and Potable Water Supplies, 1-519 Sand Filters, (a)(6). The owner of a property where an **Innovative/Alternative System** has been installed shall comply with all the conditions in the **Innovative/Alternative Approval letter** that is incorporated with this permit including a maintenance agreement for the system.
14. The approved wastewater disposal system has been designed to serve a five bedroom, duplex. Prior to any increase in bedrooms, the landowner shall submit an application, fee, and engineering plans for review and approval by the Wastewater Management Division.
15. The Wastewater Management Division is to be notified, if at any time the wastewater disposal system fails to function properly and/or creates a health hazard.
16. The future wastewater disposal "replacement area" designated on the approved plans shall be held in reserve for the eventual construction of a replacement wastewater disposal system in the event of the failure of the primary wastewater disposal system. No construction, earthwork, re-grading, excavation, or other activity shall be allowed within the replacement area that would diminish its natural suitability for such eventual use as a wastewater disposal site. Prior to construction of the replacement wastewater disposal system, the landowner shall submit an application, fee and engineering plans for review and approval by the Wastewater Management Division.

17. No buildings, roads, water lines, or other construction that might interfere with the installation or operation of the wastewater disposal systems are allowed on or near the site-specific wastewater disposal system or replacement area depicted on the approved plans. All isolation distances, which are set forth in the Wastewater System and Potable Water Supply Rules, will be incorporated into the construction and installation of the wastewater disposal field. Compliance with these isolation distances is required.
18. The project / lot is authorized to utilize the existing on-site wastewater disposal system, with modifications, provided it is operated at all times in a manner that will not discharge wastewater/effluent onto the ground surface or into the waters of the State. If at any time this system fails to function properly and/or creates a health hazard, the Division is to be immediately notified. Prior to construction of a replacement system, a permit amendment will be needed for the final wastewater system design.

Dated at Essex Junction, Vermont on May 30, 2007.

Jeffrey Wennberg, Commissioner
Department of Environmental Conservation

By  _____
William Zabiloski
Assistant Regional Engineer

C For the Record
Town of Essex Planning Commission & Select Board
Champlain Consulting Engineers
Department of Public Safety, Division of Fire Safety

*stick w/
permit (if any)*

WASTEWATER SYSTEM AND POTABLE WATER SUPPLY PERMIT

LAWS/REGULATIONS INVOLVED

10 V.S.A. Chapter 64, Potable Water Supply and Wastewater System Permit
Wastewater System and Potable Water Supply Rules, Effective September 29, 2007
Chapter 21, Water Supply Rules, Effective December 1, 2010

Landowner(s): James Barch
97 Brigham Hill Road
Essex, VT 05401

Permit Number: WW-4-4859-1

Betty Barch
97 Brigham Hill Road
Essex, VT 05401

This permit affects the following properties in Essex, Vermont:

<i>Lot</i>	<i>Parcel</i>	<i>SPAN</i>	<i>Acres</i>	<i>Book(s)/Page(s)#</i>
1	2014016000	207-067-12133	6.40	Book:860 Page(s):310-311

This project, consisting of amending Permit # WW-4-4859 for the replacement of a failing Cromaglass CA-15 system with a MicroFAST 0.90 system and pump station, no changes to the existing mound or water supply systems, located on 97 Brigham Hill Road, Essex, Vermont, is hereby approved under the requirements of the regulations named above subject to the following conditions.

1. GENERAL

1.1 The project shall be completed as shown on the plans and/or documents prepared by Martin E. Courcelle P.E., Class 1, with the stamped plans listed as follows:

<i>Title</i>	<i>Sheet Number</i>	<i>Plan Date</i>	<i>Revision Date</i>
Site Plan	C-1	05/19/2017	10/02/2017
Details	C-2	05/19/2017	10/02/2017

1.2 This permit does not relieve the landowner from obtaining all other approvals and permits PRIOR to construction including, but not limited to, those that may be required from the Act 250 District Environmental Commission; the Drinking Water and Groundwater Protection Division; the Watershed Management Division; the Division of Fire Safety; the Vermont Department of Health; the Family Services Division; other State departments; or local officials.

1.3 The conditions of this permit shall run with the land and will be binding upon and enforceable against the landowner and all assigns and successors in interest. The landowner shall record and index this permit in the Essex Land Records within thirty, (30) days of issuance of this permit and prior to the conveyance of any lot subject to the jurisdiction of this permit.

1.4 The landowner shall record and index all required installation certifications and other documents that are required to be filed under these Rules or under a specific permit condition in the Essex Land Records and ensure that copies of all certifications are sent to the Secretary.

1.5 No permit issued by the Secretary shall be valid for a substantially completed wastewater system until the Secretary receives a signed and dated certification from a qualified Vermont Licensed Designer that states:

"I hereby certify that, in the exercise of my reasonable professional judgment, the installation-related information submitted is true and correct and wastewater system was installed in accordance with the



permitted design and all the permit conditions, was inspected, was properly tested, and has successfully met those performance tests”,

or which otherwise satisfies the requirements of §1-308 and §1-911 of the referenced rules.

- 1.6 Each purchaser of any portion of the project shall be shown copies of the Wastewater System and Potable Water Supply Permit, the stamped plans, and **Innovative/Alternative System Approval letter #2004-01-R4 for the MicroFAST®, RetroFAST® and HighStrengthFAST® Wastewater Treatment System** prior to conveyance of the lot. The Innovative/Alternative Approval contains special requirements that need to be complied with for the project to remain in compliance with this permit.
- 1.7 Each new owner of the property shall inform the Drinking Water and Groundwater Protection Division and vendor within 30 days of the transfer of the property and include the name and mailing address of the new owner.
- 1.8 All conditions set forth in **Permit Number WW-4-2751-1 and WW-4-4859** shall remain in effect except as amended or modified herein.
- 1.9 This project is approved for the construction of a pump station and Microfast pretreatment unit to replace the failing Cromaglas pretreatment unit serving the existing five bedroom single family residence on the lot. Construction of additional nonexempt buildings, including commercial and residential buildings, is not allowed without prior review and approval by the Drinking Water and Groundwater Protection Division and such approval will not be granted unless the proposal conforms to the applicable laws and regulations. No construction is allowed that will cause non-compliance with an existing permit.
- 1.10 This permit authorizes the landowner to construct a new wastewater disposal system required to abate a health hazard created by the failure of the existing wastewater system serving the structure/residence. The landowner is required to continue measures to prevent wastewater from surfacing on top of the ground, entering surface waters of the State, or backing up into the existing residence until such time as the approved wastewater system is constructed, activated, and all the conditions of this permit are satisfied.
- 1.11 The landowner shall complete construction of the **wastewater system components** approved by this permit and submit the installation certification required by Condition 1.5 of this permit **no later than March 31, 2018**. The landowner may request one extension of this deadline, provided the landowner makes the request in writing prior to the specified date, and shows good cause why construction cannot be completed by the stated date. If construction is not completed by the required deadline, this permit shall no longer remain valid for the purposes of authorizing the construction of the **wastewater system components**.
- 1.12 By acceptance of this permit, the landowner agrees to allow representatives of the State of Vermont access to the property covered by the permit, at reasonable times, for the purpose of ascertaining compliance with the Vermont environmental and health statutes and regulations, and permit conditions.
- 1.13 Any person aggrieved by this permit may appeal to the Environmental Court within 30 days of the date of issuance of this permit in accordance with 10 V.S.A. Chapter 220 and the Vermont Rules of Environmental Court Proceedings.

2. WATER SUPPLY

- 2.1 The project is authorized to utilize the existing water supply. No changes shall be made to the existing water system unless prior approval is obtained from the Drinking Water and Groundwater Protection Division, unless otherwise exempt. No other means of obtaining potable water shall be allowed without prior review and approval by the Drinking Water and Groundwater Protection Division, unless otherwise exempt. The landowner shall immediately notify the Division if the water supply system fails to function properly and becomes a “failed supply”.

3. WASTEWATER DISPOSAL

- 3.1 This project is approved for the disposal of wastewater in accordance with the design depicted on the stamped plan(s) for **X** gallons of wastewater per day.
- 3.2 The system(s) shall be operated at all times in a manner that will not permit the discharge of effluent onto the surface of the ground or into the waters of the State. The landowner shall immediately notify the Division if the wastewater system fails to function properly and becomes a “failed system”. Should the system fail and not qualify for the minor repair or replacement exemption, the current landowner shall engage a qualified Vermont Licensed Designer to evaluate the cause of the failure and to submit an application to this office and receive written approval prior to correcting the failure.
- 3.3 The components of the wastewater system herein approved shall be routinely and reliably inspected during construction by a qualified Vermont Licensed Designer who shall, upon completion and prior to occupancy of the

associated building, report in writing to the Drinking Water and Groundwater Protection Division that the installation was accomplished in accordance with the referenced plans and permit conditions, as specifically directed in Condition #1.5 herein.

- 3.4 The Operating and Maintenance manual for the Innovative/Alternative treatment unit prepared by the vendor shall be provided to the landowner by the system designer at the time of the system start-up.
- 3.5 Following placing the system into use, completion of all periodic inspections shall be pursuant to the conditions and requirements outlined in the Innovative/Alternative System Approval Letter. A written report for each inspection shall be submitted to the Division.
- 3.6 The wastewater system for this project is approved for domestic type wastewater only except as allowed for water treatment discharges. No discharge of other type process wastewater is permitted unless prior written approval is obtained from the Drinking Water and Groundwater Protection Division.
- 3.7 No buildings, roads, water lines, earthwork, re-grading, excavation or other construction that might interfere with the installation or operation of the wastewater systems are allowed on or near the site-specific wastewater disposal system or replacement area depicted on the stamped plans. All isolation distances that are set forth in the Wastewater System and Potable Water Supply Rules shall be adhered to and will be incorporated into the construction and installation of the wastewater disposal field.

Emily Boedecker, Commissioner
Department of Environmental Conservation



By _____
Jessanne Wyman, Regional Engineer
Essex Junction Regional Office
Drinking Water and Groundwater Protection Division

Dated November 16, 2017

Enclosures: **Innovative/Alternative System Approval letter #2004-01-R4 for the MicroFAST®, RetroFAST® and HighStrengthFAST® Wastewater Treatment System**

cc: Martin E. Courcelle P.E.
Essex Planning Commission
Innovative/Alternative Manufacturer - BioMicrobics



VERMONT

Agency of Natural Resources

State of Vermont
Department of Environmental Conservation
Drinking Water and Groundwater Protection Division
Essex Junction Regional Office
111 West Street
Essex Junction, VT 05452
<http://dec.vermont.gov/water\ww-systems>

[phone] (802) 879-5656
[fax] (802) 879-3871

November 16, 2017

James Barch
Betty Barch
97 Brigham Hill Road
Essex VT 05401

Subject: Wastewater System and Potable Water Supply Permit # WW-4-4859-1 for a project located in Essex, Vermont.

Dear Ladies & Gentlemen:

Enclosed you will find:

1. a copy of the WW-4-4859-1 Permit document marked "Documents For Recording".
2. a copy of permit document for your records.

You are required to file this permit with your town clerk within 30 days of issuance of the permit. Please take the document stamped "Documents For Recording" to your town clerk. You will be required to pay a recording fee to your town clerk at that time.

Approved Plans: You may either contact your consultant for copies of the approved plan(s) or you may obtain a copy of them by accessing our website <http://dec.vermont.gov/water\ww-systems> and using the document search option. You may print out any documents or plans that you view.

Please read your permit thoroughly and be sure you understand all the requirements. Please be aware your permit may include a condition for the submission of installation certifications, annual inspections or other reporting requirements.

Failure to file the permit with your town clerk or to submit any permit-required certifications, inspections or other reporting requirements will render your permit invalid and will cause problems during future title searches done on this property.

Thank you for your cooperation. Please contact me at the above address if you have any questions.

Sincerely,

Jessanne Wyman
Regional Engineer

Enclosures





**Vermont Department of Environmental Conservation
Drinking Water and Groundwater Protection Division**

One National Life Drive - Main 2
Montpelier, VT 05620-3521
www.septic.vt.gov

[phone] 802-585-4911
[in-state] 800-823-6500
[fax] 802-828-1541

Agency of Natural Resources

**Innovative/Alternative (I/A) System Approval
For General Use**

MicroFAST®, RetroFAST® and HighStrengthFAST® Wastewater Treatment System Series

Original Approval Date: 2004
Approval Number: 2004-01-R4
Revision Date: January 21, 2016
Expiration Date: January 20, 2018

Vendor Information

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

General Phone: (800) 753-3278
Fax: (913) 422-0808
Website: www.biomicrobics.com

Contact

James Bell, Executive Vice President
Phone: (913) 422-0707
Email: jbelle@biomicrobics.com

Technology Name

MicroFAST® Models 0.5, 0.625, 0.75, 0.9, 1.0, 1.5, 3.0, 4.5 and 9.0;
RetroFAST® Models 0.25 and 0.375; HighStrengthFAST® Models
1.0, 1.5, 3.0, 4.5 and 9.0; and for pretreatment only, the
Lixor® Submerged Aeration System Products

Technology Type

Fixed Activated Sludge Treatment Systems and Aeration Pre-Treatment

I. Authority

A. In accordance with the Environmental Protection Rules, Chapter 1, Wastewater System and Potable Water Supply Rules, Effective September 29, 2007, Subchapter 10, Approval of Innovative/Alternative Systems and Products § 1-1001: Innovative/Alternative Systems and Products: General Use, the Secretary (Secretary) of the Agency of Natural Resources (Agency), Department of Environmental Conservation, Drinking Water and Groundwater Protection Division (Division) has determined that the technologies listed in this approval may be used as part of a soil based disposal system permitted under the Vermont Wastewater System and Potable Water Supply Rules (Rules), provided the conditions of this approval are met.

II. General

- A. This approval contains specific requirements related to the design, installation, operation and maintenance of these technologies. The landowner where this technology is specified must agree to specific requirements for ongoing operation and maintenance of this system. The landowner should carefully read this approval letter, particularly the requirements for proper operation and maintenance.
- B. The manufacturer (Vendor) of the technologies also have specific requirements for design review, training, installation oversight, annual reporting, and supporting the operation, maintenance and repairs needed to keep the system in working condition. This approval contains an expiration date and requires the vendor to submit an application for renewal of this approval.
- C. The technologies listed in this approval are used to pre-treat the wastewater prior to discharge to a soil based disposal system.

III. Approval Conditions

- A. The technologies listed in this approval may be used as part of a soil based disposal system permitted under the Rules provided the conditions of this approval are met. Failure by the vendor to comply with this approval is grounds for the Agency to revoke or not renew the approval.
- B. This approval shall expire on the date stated above. Applications for renewal of this approval shall be submitted 45 days before the expiration date. The renewal request shall include a description of any changes to the equipment, technical specifications and drawings, installation requirements, operation and maintenance requirements, and homeowner's manuals. If new models are introduced or changes are made to the technology, the vendor shall submit detailed descriptions of any modifications to existing approved models as part of the renewal application.
- C. Each Innovative/Alternative treatment unit shall be installed and operated as approved by the Agency and as required by the vendor's design, operation and maintenance manuals, and as listed on the vendor's website.
- D. Treatment unit sizing shall be in accord with the vendor's technical requirements approved by the Agency. Sizing of each unit shall be based on the calculated design flow per §1-808 of the Rules.
- E. The treatment unit may be used for both new and replacement wastewater systems.
- F. If the Rules are revised during the term of this approval, this approval shall be revised as needed to conform to the revisions.
- G. Site-specific permission for the use of this product is required in the form of a Wastewater System and Potable Water Supply Permit (WW Permit) when a project is subject to the Rules.
- H. This approval is not a representation or guarantee of the effectiveness, efficiency, or operation of the treatment unit.
- I. This general use approval is based on treatment of domestic wastewater of low and moderate waste strength as specified in §1-915(a)(1)(C) and (D) of the Rules except as specified in Section III(k) below.
- J. This approval is based on information submitted by the vendor indicating that the specified treatment units will routinely provide effluent with no more than 30 mg/L of BOD₅ and no more than 30 mg/L of TSS. Effluent from the treatment unit shall discharge to a soil based disposal system that conforms to the requirements of §1-916 of the Rules.

K. Wastewater system designs for wastewater that exceeds moderate strength may use the HighStrengthFAST® models of the approved treatment unit on a project by project basis if permitted by the Secretary. The designer shall obtain agreement by the vendor for the proposed use and sizing of these units. These treatment units may require more frequent maintenance as recommended by the vendor. The project-specific permit application and design shall clearly state the treatment performance goals for the treatment units. The designer shall submit information to the Secretary as to whether the unit will achieve 30 mg/L BOD₅ and TSS, or will otherwise reduce the wastewater strength to low or moderate levels. There may be instances where the treatment units are intended to reduce the wastewater strength to low or moderate standards and disperse into a fully sized soil based disposal system.

L. The Lixor® Aeration System products are intended to assist in reducing wastewater strength on some commercial applications. These products are not approved for sizing and vertical reductions to seasonal high groundwater table, impervious soils or bedrock.

IV. Responsible Parties, Requirements and Conditions

A. Landowner

1. The landowner must comply with all conditions of their WW Permit in addition to the conditions of this approval.
2. The landowner is responsible for the treatment unit to be inspected by a Licensed Designer as part of the installation inspection and certification of the soil based disposal system.
3. The landowner shall have a valid maintenance contract with a vendor-trained and authorized licensed designer or service provider in force at all times. The contract shall include a requirement for annual inspections. Commercial and community soil based wastewater disposal systems may require more frequent maintenance as recommended by the vendor. The minimum length of any contract shall be for a period of two years.
4. A copy of the initial contract and notification of each succeeding contract shall be submitted to the appropriate Regional Office of the Division and to the vendor.
5. A copy of all inspection and maintenance reports shall be submitted to the appropriate Regional Office of the Division within 60 days of the inspection. The landowner may authorize the licensed designer or the service provider to submit the contracts, notifications and reports on their behalf.
6. The landowner shall keep the system in good operating condition and report any problems to the service provider who, in turn, shall note any problems and repairs on their inspection report.
7. The landowner shall provide a copy of this approval, the WW Permit, and the operating instructions, provided by the vendor, to any person who is a prospective purchaser of a property prior to the sale of the property.
8. Within 30 days of the transfer of the property, the new landowner shall inform the appropriate Regional Office of the Division and the vendor of the change in ownership, including the WW Permit number, lot number or street address, and their name and mailing address.
9. The WW Permit that authorizes the use of this product may be revoked if the treatment unit fails to function properly or if the landowner fails to maintain a valid contract for the required maintenance and inspections of the treatment unit. In the event the WW Permit is revoked, the use of the building will need to be discontinued unless another wastewater treatment system is installed in accordance with a WW Permit issued by the Secretary.

B. Vendor

1. The vendor shall provide the Central Office of the Division (Attention Innovative/Alternative Program Manager) with the names of the Vermont distributor(s) within 60 days of this approval and within 30 days of termination and/or hiring a new firm or sole proprietorship during the term of this approval.
2. The vendor shall provide training for and maintain a list of trained designers and installers.
3. The vendor shall provide training and maintain a list of trained service providers authorized to work on the treatment units.
4. Prior to selling equipment, the vendor shall provide information to the Division regarding who is authorized to sell equipment in Vermont.
5. The vendor shall have an inventory of replacement parts available locally or available for delivery within 24 hours.
6. Prior to the start-up of the wastewater system, detailed operating instructions shall be provided in writing by the vendor to the landowner.
7. The vendor shall submit an annual report electronically to the Central Office of the Division (Attention Innovative/Alternative Program Manager) by April 1st of each year containing the following information for the 12 month period ending December 31st of the previous year:
 - a) Permitted systems installed in Vermont during the previous calendar year, including:
 - i. Assigned WW Permit number;
 - ii. Name of current landowner(s);
 - iii. Physical and mailing addresses;
 - iv. Name of Licensed Designer providing the installation certification;
 - v. Date installed;
 - vi. Name of the installer; and
 - vii. Name of the authorized service provider.
 - b) A summary of all known system problems, damages and/or failures, including:
 - i. Description of issues;
 - ii. Potential/known causes of problems;
 - iii. System operability;
 - iv. Recommended repair/remediation;
 - v. System effectiveness; and
 - vi. Changes in technology specifications

- c) A list of names of licensed designers and installers trained by the vendor and/or the vendor's representative.
- d) The names and contact information for trained and authorized service providers.

C. Licensed Designer

1. Design Preparation

- a) The design of a wastewater system shall include the specific model of the treatment unit approved in this document.
- b) The designer shall consult with the vendor for proper sizing of the treatment unit.
- c) The designer must assess the structural needs of the treatment unit for the specific application site and include the construction requirements on the design plans.
- d) The designer must determine the type of backfill required and any necessary placement specifications.
- e) The designer must assess the ventilation path for the particular application and make any necessary provisions to assure proper air flow and control of odor emissions.
- f) The designer must provide access to each compartment of the unit (access to grade) as well as to the control panel, any pumps, sampling ports, and any other access needed to perform routine maintenance activities.
- g) The designer must address flotation issues if the seasonal high groundwater table will be above the bottom of any of the tanks. Treatment units shall be equipped with anti-flotation devices unless there is a demonstration that flotation is not a problem on a particular site or that an alternative method of stabilization is approved by the Agency.

2. Installation Inspection

- a) The treatment unit shall be installed under the guidance of a representative of the vendor.
- b) The treatment unit shall be inspected by a licensed designer prior to installing the treatment unit, immediately upon installation of the tanks and before backfilling, and after backfilling and grading is complete. The inspection shall include checking for an adequate structural foundation to support the unit, for levelness of the tanks, for anti-buoyancy, for potential damage during installation, and for proper assembly. The inspection shall include all piping and associated tankage for proper installation before backfilling.
- c) The treatment unit and associated tankage shall be tested by the licensed designer for watertightness unless written certification is provided by the vendor at the time of installation. The test includes filling the unit or tanks with water to a point that is above all below grade openings and holding it at a constant level for 24 hours; there shall be no measurable leakage. During the test, the entire unit and the tanks shall be inspected for visible leaks. Should the unit or tanks fail the test, they may be repaired and retested. The testing and repairs shall be conducted under the direction and in the presence of the inspecting designer.

- d) The licensed designer shall submit an installation certification letter to the WW permit holder, the vendor, and the appropriate Regional Office of the Division within 30 days of the installation, using the language of §1-308 of the Rules, that the wastewater system was correctly installed as well as providing the results of watertightness testing. The certification letter shall identify any repairs that were completed during the installation and testing of the unit or tanks. This letter shall also be provided to the vendor.
- e) The licensed designer may be required to conduct on-going inspections of the system beyond the routine maintenance provided by the service provider. See the WW permit for any special inspection and monitoring conditions.

D. Service Provider

1. Maintenance and inspections shall be performed in accordance with the manufacturer's operation and maintenance manual submitted as part of the Innovative/Alternative System application package, and as provided in trainings by the vendor.

a) Qualified Service Providers

- i. Maintenance and inspections of the Innovative/Alternative treatment unit must be performed by a licensed designer or service provider trained and authorized by the vendor.
- ii. Problems found with any portions of the wastewater system (including the system being failed as defined by the Rules) must be reported immediately to the landowner.

b) Maintenance and Inspection

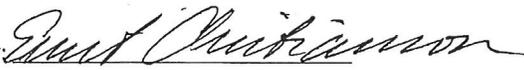
- i. The start-up, six month, and ongoing maintenance and inspections shall be performed by the authorized service provider.
- ii. More frequent inspections may be required when recommended by the vendor or on a case-by-case basis by the Secretary.
- iii. All reports must be submitted to the landowner in a timely manner so that they can provide the report to the appropriate Regional Office of the Division as well as the vendor within 60 days of completing a maintenance or inspection.

c) Maintenance and Inspection Reports

Maintenance and inspection reports shall include:

- i. I/A Maintenance and Inspection Report Coversheet;
- ii. Current landowner's name, physical and mailing address;
- iii. Permit number and lot number(s) if applicable;
- iv. Date of inspection;
- v. I/A technology and model;
- vi. Validation that the system is operational and meets vendor requirements;
- vii. Comments or outstanding corrective actions and recommended due dates;
- viii. Any site/system modification;
- ix. Results of all effluent testing; and
- x. Service Provider/Licensed Designer name, signature and date signed.

Effective Date: January 21, 2016

By: 
Ernest Christianson
Regional Office Program Manager