

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

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Agency of Natural Resources

**Innovative/Alternative (I/A) System Approval
For Pilot Projects**

The NIBBLER® Wastewater Treatment Process

Original Approval Date: August 26, 2015

Approval Number: 2015-04-R1

Revision Date: August 25, 2017

Expiration Date: August 25, 2019

Vendor Information

Aqua Test Inc.

P. O. Box 1116

28620 Maple Valley Black Diamond RD SE

Maple Valley, WA 98038

General Phone: 1-800-221-3159

Fax: 425-413-9431

Website: <http://www.thenibblercompany.com/>

Technology Name

The NIBBLER® Wastewater Treatment Process

Models: NIBBLER® SBP and NIBBLER® CBP

Contact

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Technology Type

Fixed Film Pre-Treatment Process

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 § 1-1002: Innovative/Alternative Systems and Products: Pilot Projects, 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. The NIBBLER® wastewater treatment process is a pre-treatment component specifically designed to reduce the strength of high strength wastewater to low or moderate strength as part of a treatment train preceding a sand filter or I/A treatment system approved for General Use, eventually discharging to a soil based wastewater disposal system. This component is a fixed film aerobic treatment technology based on organic loading, media surface area, and known volumes of supplied air.

- B. This approval contains specific requirements related to the design, installation, operation and maintenance of these components. 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.
- C. The manufacturer (Vendor) of the components 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. The treatment unit may be used for both new and replacement wastewater systems.
- D. Up to twenty-five (25) installations or uses of these components may be authorized under this Pilot Projects Approval.
- E. 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.
- F. No credits are given in vertical or horizontal distances or sizing of the soil-based wastewater system. This approval is not a representation or guarantee of the effectiveness, efficiency, or operation of the NIBBLER® wastewater treatment process.

III. Approval Conditions

- A. The components listed in this approval may be used as part of a soil based wastewater 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. Application 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 modification 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. Wastewater system designs for wastewater that exceeds moderate strength may use the NIBBLER® SBP and CBP models of the approved treatment component 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. These components are intended to reduce the wastewater strength to low or moderate standards and be followed by another treatment system approved to achieve a wastewater strength of 30 mg/L BOD₅ (biochemical oxygen demand, 5-day) and 30 mg/L of TSS (total suspended solids).

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. The installation certification shall be submitted to the appropriate Regional Office of the Division.
3. The landowner shall have a valid maintenance contract with a vendor-trained and authorized service provider in force at all times. The contract shall include a requirement for SEMI-ANNUAL inspections. Commercial and community soil based wastewater systems may require more frequent maintenance as recommended by the vendor and may require a licensed designer to perform or oversee the semi-annual inspections. 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, copies of maintenance inspections and the installation certification 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. The service providers shall be made aware of and agree to follow Vermont Inspection reporting requirements.
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 (note this may require an application to amend this approval.)

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

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 and the appropriate Regional Office of the Division.

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. Service providers are encouraged to submit reports to the Division on behalf of the landowner.


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: August 25, 2017

By:


Graham Bradley

Innovative/Alternative Systems Review and Approvals
Drinking Water and Groundwater Protection Division,
Department of Environmental Conservation

