



State of Delaware  
Department of Natural Resources & Environmental Control  
Division of Water Resources  
Ground Water Discharges Section  
(302) 739-9948

**Innovative and Alternative System Approval**

**ISSUED TO:** Aquaworx™, a division of Infiltrator Systems Inc.  
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**FROM:** Hilary Moore – Environmental Engineer  
Ground Water Discharges Section

**FOR:** Aquaworx Remediator™ Approval

**APPROVAL DATE:** September 5, 2007

In accordance with the Regulations Governing the Design, Installation, and Operation of On-Site Wastewater Treatment and Disposal Systems (Regulations), an application dated July 23, 2007, has been submitted by Aquaworx™, a division of Infiltrator Systems Inc. for approval of the Aquaworx Remediator system as an Innovative & Alternative On-Site Wastewater Treatment Unit.

Based on the review of the application, the Department hereby grants approval for the use of the Aquaworx Remediator system as an Innovative & Alternative On-Site Wastewater Treatment Unit. **Installations may occur under this approval and are subject to the conditions, limitations, and requirements set forth herein:**

## **1. Product Description**

The Aquaworx Remediator consists of a 12 inch diameter plastic tube within which is a four inch diameter plastic tube. The space between the tubes is filled with plates of cusped plastic sheeting. A remote air pump feeds air to a diffuser beneath the cusped plates. A biological film is generated which adheres to the cusped plates and provides a surface for bacterial growth. The Aquaworx Remediator is inserted into DNREC approved septic tanks and proprietary inoculant is introduced at specified intervals.

## **2. Claim**

Approval is based on information submitted by the Manufacturer indicating that when installed by a qualified individual and in accordance with the Manufacturer's installation instructions:

- As a repair, the Aquaworx Remediator will restore hydraulic infiltration capacity to a household wastewater treatment system approaching or experiencing end-stage characteristics of ponding at the surface or backing into the septic tank structure.
- As an alteration, the Aquaworx Remediator may be used as a maintenance and enhancement measure for new and existing household wastewater treatment systems to maintain the hydraulic functioning of the drainfield.

The Aquaworx Remediator is not an aerobic or other advanced treatment unit subject to NSF 40 requirements. Proper operation of the Aquaworx Remediator is not dependent upon the attainment of compound or parameter specific concentration or levels.

## **3. Approved Units**

The following unit has been approved for use: Aquaworx Remediator.

## **4. Use and Design Criteria**

- a. Determination that an Aquaworx Remediator is suitable for installation at a site shall be made based on an evaluation conducted using the Aquaworx Remediator Site Evaluation Checklist. All applicable criteria for installation shall be satisfied prior to device installation.
- b. The Aquaworx Remediator system may be installed as a repair under Section 5.09000 of the Regulations, with conventional and innovative and alternative disposal systems.
- c. The Aquaworx Remediator system may be installed for new and replacement systems under Section 5.0800 of the Regulations, with conventional and innovative and alternative disposal systems.

- d. The Aquaworx Remediator system may only be installed in DNREC approved septic tanks.
- e. The Aquaworx Remediator system may be used for systems up to **1,000** gallons per day or as approved by the Department.
- f. An on-site wastewater treatment and disposal system permit application incorporating an Aquaworx Remediator system shall be designed in accordance with the Regulations, and manufacturer's specifications. The design shall be completed by a DNREC Class C Design Engineer unless otherwise approved by the Department. The permit application shall include Aquaworx Remediator Site Evaluation Checklist and proper unit specifications.
- g. The designer must assure that the Aquaworx Remediator system has above grade access. The control panel and blower must be accessible.
- h. The manufacturer is responsible for providing the Department with a list of all local distributors and their associated contact information. This list must be kept current and shall be submitted to the Department on a yearly basis.

## **5. Installation Procedures**

- a. The Aquaworx Remediator system shall be installed by a DNREC Class E System Contractor under the supervision of a manufacturer's representative, or by a DNREC Class E System Contractor who has been certified for system installation. Proof of certification shall be provided in writing to the Department.
- b. Start up of the system and initial operational checks shall be conducted by an Aquaworx certified Class E System Contractor, Design Engineer, and a Ground Water Discharges Section (Large System Branch) representative.
- c. Aquaworx Remediator installation shall be in accordance with the manufacturer's installation instructions.

## **6. Operation and Maintenance**

- a. Throughout the life of the system, the Aquaworx Remediator shall be operated and maintained under a service contract provided by an Aquaworx-certified maintenance provider. Certification may be obtained through Aquaworx only. The maintenance provider must meet all DNREC service provider requirements.
- b. The Aquaworx Remediator system shall be operated and maintained in accordance with the manufacturer's specifications.
- c. The manufacturer or manufacturer's representative shall comply with all Department mandated requirements as specified in permit conditions. This shall include operation and maintenance requirements.
- d. The system shall be inspected by a DNREC certified service provider at a minimum of twice a year or more frequently as to ensure the proper operation and maintenance of the system.

- e. A copy of the service contract must be submitted to the Department prior to the Certificate of Completion being granted; and must be renewed at a minimum of annually.

## **7. Sampling and Approval**

The Department reserves the right to collect samples from the system where the unit is installed at any time. Proper operation of the Aquaworx Remediator is not dependent upon the attainment of compound-or parameter-specific concentrations or levels.

## **8. General Conditions**

- a. The system shall be used for residential applications.
- b. In the event that the product fails to perform as claimed by the applicant, and it is found that the system is installed and working as designed, and there is not toxicity in the waste, hydraulic overloading, system underdesign, elevated groundwater or surface water, or other factors that may compromise the operation of the system; the use of the units for new installations shall cease. Use of the units shall not resume until such time the applicant and the Department have reached an acceptable agreement for resolving the situations.
- c. Any changes that deviate from the specifications as submitted with this approval shall be approved by the Department prior to use.