



State of Delaware
Department of Natural Resources & Environmental Control
Division of Water Resources
Ground Water Discharges Section

Innovative and Alternative System Approval

ISSUED TO: Enviro-Flo, Inc.
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FROM: Hilary Moore – Environmental Engineer
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FOR: Enviro-Flo Advanced Treatment Units

APPROVAL DATE: **May 30, 2006**

In accordance with the Regulations Governing the Design, Installation, and Operation of On-Site Wastewater Treatment and Disposal Systems (Regulations), an application dated August 26, 2005 has been submitted by Enviro-Flo, INC., for approval of the Enviro-Flo Advanced Treatment Unit as an Innovative & Alternative On-Site Wastewater Treatment Unit.

Based on the review of the application, the Department hereby grants approval of the use of the Enviro-Flo Advanced Treatment Unit as an Innovative & Alternative On-Site Wastewater Treatment Unit. The following conditions, limitations, and requirements must be adhered to:

1. Product Description

The Enviro-Flo advanced treatment unit utilizes an extended aeration activated sludge process to achieve treatment. The system consists of a single concrete tank which provides a flow through process where wastewater first enters into the

pretreatment aeration chamber. Air is introduced where aerobic microorganism begin. The wastewater then moves from the pretreatment chamber into the main aeration chamber. A diffused air system that operates on a continuous cycle is located in the main aeration chamber. From there the wastewater enters the clarification chamber where settling occurs.

Below are the models with their associated treatment capacities:

Model	Capacity (gallons per day - gpd)
E-500	500
E-550	550
E-600	600
E-750	750
E-1000	1000
E-1500	1500

2. Claim

Approval is based on information submitted by the Manufacturer indicating the specified model will routinely provide effluent quality not exceeding 30 mg/l of BOD₅, and 30 mg/l of TSS.

This unit has been certified as NSF Standard 40, Class I.

3. Use and Design Criteria

- a. The Enviro-Flo advanced treatment unit may be installed for new and replacement systems with conventional and innovative and alternative disposal systems.
- b. The Enviro-Flo advanced treatment unit shall be utilized for residential applications in accordance with the above table and manufacturer's guidelines.
- c. An on-site wastewater treatment and disposal system permit application incorporating an Enviro-Flo advanced treatment unit 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 proper unit specifications.
- d. The designer must assure that the pretreatment chamber, aeration chamber, and the final clarification chamber all have above grade access. The design also must ensure that the control panel and blower are accessible.
- e. The Enviro-Flo advanced treatment unit shall not be installed within areas subject to traffic loads unless specially designed on a case by case basis in accordance with the Regulations and in accordance with manufacturer's specifications.

- f. The manufacturer is responsible for providing the Department 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.

4. Installation Procedures

- a. The Enviro-Flo advanced treatment unit 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 unit 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 the Class E System Contractor (trained by the manufacturer), Design Engineer, and a Ground Water Discharges Section (Large System Branch) representative. If the Class E System Contractor is not certified, a manufacturer's representative shall perform the operational checks of the system at start up. If the manufacturer's representative can not be on site at the time of start up, they must provide final start up approval to the Department in writing.
- c. The blower must be located within 50' of the unit.

5. Operation and Maintenance

- a. The Enviro-Flo advanced treatment unit shall be operated and maintained in accordance with the manufacturer's specifications.
- b. The manufacturer shall comply will all Department mandated requirements as specified in permit conditions. This shall include operation and maintenance requirements.

6. Sampling and Approval

The Department reserves the right to sample any unit at any time.

7. General Conditions

- a. Use of the system for wastes other than residential shall be on a case by case basis.
- b. In the event that the product fails to perform as claimed by the applicant, 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.