



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-831-5508

Innovative/Alternative ISDS Technology Program

Vendor Information:

Frisella Engineering
23 Arnold Street
Wakefield, RI 02879-3796

Contact:

Mr. Joseph Frisella
Frisella Engineering
23 Arnold Street
Wakefield, RI 02879-3796
(401) 783-5949

Technology Name & Model Numbers:

RUCK System

Technology Type:

Nitrogen-Reducing Treatment System
Class II

Expiration Date:

December 31, 1999

CERTIFICATION

The RI Department of Environmental Management has reviewed the Innovative/Alternative Technology application for the RUCK System, hereafter referred to as the "System". The System is designed as a nitrogen-reducing ISDS. A household's blackwater (toilet & kitchen sink waste water) is plumbed separately from the greywater (all other waste water, i.e. shower, laundry & bathroom sink). The blackwater enters a black water septic tank followed by a buried, aerobic sand filter where it is nitrified. The greywater is plumbed to a greywater septic tank. The nitrified blackwater from the sand filter either is pumped or flows into the greywater septic tank for the denitrification process which occurs under anaerobic conditions with the greywater serving as a carbon source. This system is a single pass-through system.

Based upon information contained in the application submitted by Frisella Engineering, hereafter referred to as the "Vendor", the Department hereby accepts the System for placement on the RI DEM Innovative/Alternative Technology List. Design and installation of the System shall be in accordance with the following terms and conditions:

I. Design Requirements

1. The System is approved for residential use only.
2. Systems utilizing this innovative/alternative System shall be allowed a 25% reduction from the required leach field size. This reduction is based upon the ability of the System to remove BOD and suspended solids as demonstrated by the data presented in the Vendor's submittal.

3. The System is approved as a nitrogen-reducing system. Total nitrogen concentration in the effluent as measured at the D-Box shall not exceed 19 mg/l.
4. Each System installation shall meet all other applicable ISDS standards and receive prior approval by the Department pursuant to the regulations in effect at the time of application.
5. Design and installation shall be in strict conformance with the approved System design and installation manual and shall only be performed by a Rhode Island licensed Installer who has received training and is authorized in writing by the Vendor to install the System.
6. The System is not recognized as a pathogen or phosphorus removal system, although some removal of these constituents has been demonstrated in some installations.

II. General Requirements

1. This Class II approval shall be effective until December 31, 1999.
2. If the Vendor wishes to extend this Class II approval beyond its expiration date, he/she shall apply for and obtain a renewal of this approval. The Vendor shall submit a renewal application along with the appropriate renewal fee as denoted in SD 23(j)(4) at least 90 days in advance of the expiration date of the approval.
3. The Vendor shall notify the Department at least 30 days prior to any proposed transfer of ownership of the System. Notification shall include the name and address of the new owner and a written agreement between the existing and new owner specifying a date for transfer of ownership, responsibility, and liability for the technology. All provisions of this approval shall be applicable to any new owners.
4. The Vendor shall provide any purchaser of the System with a copy of this approval letter prior to the sale of the system.

III. Operation and Maintenance Requirements

1. Detailed operating instruction shall be provided to the Owner/Operator.
2. Systems shall be maintained according to the manufacturer's specifications.
3. A public or private maintenance entity shall be retained continuously for the life of the System and be available to perform needed maintenance repairs. Such entity shall perform an inspection of the treatment system at least twice annually. No agreement with a maintenance entity shall be for less than two (2) years.

IV. Reporting Requirements

1. The Vendor shall submit an annual report to the Department by November 30 of each year containing the following information for the previous 12 month period ending September 30 of the year: the number of systems installed in RI, the address of each installation and name of the owner and permit number, the number of inspection/maintenance calls conducted, and all known problems or failures experienced with a brief summary of the cause and remedial measures taken.
2. The Vendor shall monitor the influent (blackwater septic tank effluent) and effluent from a minimum of three representative systems installed in Rhode Island. A representative system shall be defined as a system serving a house that is occupied by a minimum of four people year round. Each of the systems shall be monitored at least four times a year for a period of two years. Two samples shall be taken in the summer months and two in the winter months. At a minimum the following parameters shall be monitored for: BOD5, TSS, pH, TKN, NO3-N, Ammonia, and Alkalinity. (Should the Vendor want recognition in the future for fecal coliform reduction, the Department suggests testing for fecal coliform also.) This information shall be included in the annual report submitted to the Department by November 30 of every year.
3. The Vendor shall provide in the annual report other data from Systems installed in the above approved configuration, including all data submitted to the Commonwealth of Massachusetts DEP pursuant to the RUCK system approvals given by that agency.
4. The Vendor shall report any termination or non-renewal of any required maintenance agreement to the Department and to the local wastewater management authority should one exist for that area.

V. Rights of the Department

1. The Department may suspend, modify or revoke this approval for cause, including but not limited to: non-compliance with any of the conditions or provisions of this approval, misrepresentation or failure to disclose all relevant data, or receipt of new information indicating that the use of the System is contrary to the public interest, public health or the environment.
2. This approval does not represent an endorsement of the System by the Department. This letter of approval may be reproduced only in its entirety.

for 
Russell J. Chateauf, P.E.
Chief

7-28-98
Issuance Date