



RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

235 Promenade Street, Providence, RI 02908-5767

TDD 401-222-4462

Alternative and Experimental OWTS Technology Program

Vendor Information

Geoflow, Inc.
506 Tamal Plaza
Corte Madera, CA 94925

Contacts:

Karen Ferguson
Phone: 800-828-3388
Fax: 415-927-0120
E-mail: krf@geoflow.com
Web: www.geoflow.com/

Local Representative:

J&R Sales & Service, Inc.
James Dunlap
44 Commercial Street
Raynham, MA 02767
Phone: 508-823-9566
Fax: 508-880-7232
E-mail: jim@jrengprod.com

Technology Name:

Geoflow WASTEFLOW™ Classic:
WF16-4-24 and WF16-2-24 and
Geoflow WASTEFLOW™ PC:
WFPC16-4-24 and WFPC16-2-24

Technology Type:

Alternative Leachfield Component
Class II

Certification Date:

Issued: June 22, 2010
Revised: August 27, 2010
Revised: April 13, 2012
Expires: June 22, 2015

CERTIFICATION

The RI Department of Environmental Management (RIDEM) has reviewed the Alternative Component Technology application submitted by Geoflow, Inc. hereafter referred to as the "Vendor", for Geoflow, Inc.'s subsurface drip dispersal leachfield component. The Geoflow subsurface drip dispersal system time doses effluent below the soil surface through ½-inch nominal diameter pressurized tubing; product literature specifies that tubing shall have an outside diameter of approximately 0.64-inches and an inside diameter of approximately 0.55-inches.

Following treatment by a RIDEM approved Alternative/Experimental (A/E) treatment system producing a minimum effluent quality of TSS/BOD of 30/30 mg/L and FOG of 5 mg/L, the wastewater is discharged to a final dosing tank for dosing to the Geoflow subsurface drip dispersal leachfield. For residential use, the dosing tank volume must be two-times the design flow. For high-strength wastewater and for systems with a design flow of 2,000 gallons per day (gpd) or larger, the volume of the dosing tank must be two-times the design flow, two-times the average daily flow or 1.5 times the peak flow, whichever is greater. When a system design has a design flow of 2,000 gpd or larger the Vendor must review and approve the design.



A self-cleaning Vortex Filter with a stainless steel 150-mesh filter screen is installed between the discharge pump and the Geoflow dripline for most uses; high organics and large commercial uses can be accommodated by the BioDisc and GeoVac filters respectively, as recommended by the Vendor's design guidance. If a design incorporates a Category 2 A/E treatment technology (non-time dosed treatment system), one of the three filters identified above selected at the discretion of the designer and the Vendor must be used.

Geoflow is a closed loop system with two vented manifolds pitched to drain to the dosing chamber to prevent freezing. A supply manifold carries effluent from the dosing chamber to the dripline. The ends of the driplines are connected together into a common return manifold, accommodating periodic field flushing. Geoflow shall be designed to drain the lines into the soil upon completion of the pump cycle.

Based upon information contained in the Vendor's application the RIDEM hereby accepts Geoflow WASTEFLOW™ drip system, hereafter referred to as the Component for listing on the RIDEM A/E Technology List as a Class II-Component. Design and installation of the Component shall be in accordance with the following terms and conditions:

I. Design Requirements

1. The Component shall be preceded by a RIDEM approved A/E treatment technology, which achieves a minimum treated effluent quality of TSS/BOD of 30/30 mg/L and FOG of 5 mg/L.
2. a) Geoflow WASTEFLOW™ Classic (non-pressure compensating emitters) may be specified in OWTS design plans where the elevation change across the proposed leachfield is six-feet or less. Geoflow WASTEFLOW™ PC (pressure compensating emitters) are required for all installations where the elevation change across the leachfield exceeds six-feet.

b) Emitters shall be spaced at two-foot intervals and minimum dripline separation shall be two-feet.
3. The Component shall be installed at a depth of 12-inches. All designs must incorporate the directions specified in the "Winterization" section of the design and installation manual to prevent freezing.
4. Separation to the seasonal high water table is two (2) feet statewide unless otherwise specified by permit; separation to impervious layer shall be four (4) feet statewide unless otherwise specified by permit.
5. The maximum grade on which the Component may be proposed for use is thirty percent.
6. A minimum five (5) foot horizontal separation distance shall be provided between the outer edge of the dripline and any ground surface elevation less than the elevation of the invert of the dripline. The adjacent side slope shall not be steeper than 3:1 (horizontal:vertical) for a twenty-five (25) foot minimum distance from the edge of the Component.
7. Each installation must incorporate pressure gauges or air/vacuum relief valves with air tank valves to measure pressure.

8. Wastewater delivered to the Component must be time dosed.
9. The control panel must incorporate an event counter and elapsed-time meter.
10. Automatic dripfield flushing is required for all installations, with backwash returned to the inlet of the septic tank, or to the inlet of the treatment system if it is not preceded by a septic tank.
11. Where the Component is proposed for use with a design flow of 2,000 gpd or greater, the design must be reviewed by the Vendor.
12. Design and installation shall be in strict conformance with the approved Component Design and Installation Manual and shall only be performed by a Rhode Island Designer/Installer who has received training and is authorized in writing by the Vendor to design/install the Component.

II. General Certification Requirements

1. Training
 - a) The Vendor shall hold two training seminars for RIDEM Licensed Designers, Installers and Service Providers before the expiration or renewal of this certification. The first shall be held within the first six (6) months of the date of this certification.
 - b) The Vendor shall notify the RIDEM of the date and time of each training seminar and submit to the RIDEM a detailed agenda, material to be distributed to attendees and a list of presenters specifying their credentials at least six weeks in advance of the date of the scheduled seminar. Please consult the RIDEM-issued requirements for Vendors' technology training available on the RIDEM website in the A/E technology section.
2. The Vendor shall make available to the public, a means of identifying the individuals, by name and category (design, installation, service), who have received training and are authorized in writing by the Vendor to design, install and maintain the Component.
3. This Class II approval shall be effective until the expiration date of this Certification.
4. If the Vendor wishes to extend this Class II approval beyond its expiration date, they shall apply for and obtain a renewal of this approval. The Vendor shall submit a renewal application in accordance with the RIDEM Onsite Wastewater Treatment System Rules.
5. The Vendor shall notify the RIDEM at least thirty (30) days prior to any proposed transfer of ownership of the Component technology. 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.
6. The Vendor shall provide any purchaser of the Component with a copy of this approval letter prior to the sale of the Component.
7. The Vendor shall notify the RIDEM in writing of any changes to the Component, including its discontinuation. Modifications deemed by the RIDEM to be substantial, may require re-application to the alternative/experimental program.

8. The Vendor is responsible for making the RIDEM approved design, installation and operation and maintenance guidance available to the public.

III. Operation and Maintenance

1. Detailed operating instructions shall be provided to the Owner/Operator.
2. The Component shall be maintained according to the Vendor's specifications.
3. The Vendor must offer for sale a minimum two-year service contract that must include, as an option, service to all A/E elements of the treatment train in addition to the Component.
4. Vendor trained homeowners may perform O&M on their own Component; training must have been received for all components of the treatment train on which the homeowner wishes to perform O&M..
5. The Applicant/Owner shall record copies of the OWTS construction permit issued by RIDEM and a copy of the executed O&M contract(s) for the Component, and all other A/E components in the treatment train, in the land evidence records of the applicable city or town prior to the RIDEM issuing the Certificate of Conformance for each installation.
6.
 - a) A public or private maintenance entity (service provider) shall be retained continuously for the life of the Component and all other A/E components of the treatment train, unless a Vendor-authorized homeowner is functioning as service provider for their own Component and all other A/E components of their system.
 - b) An O&M contract must be held and filed in the land evidence records for any component(s) of the system for which the homeowner is not authorized by the applicable Vendor to perform O&M.
 - c) The service provider shall be available to perform needed preventative maintenance, perform repairs as authorized, respond to emergency calls and conduct performance monitoring when required by this Certification or by permit.
 - d) The service provider shall perform an inspection of the Component at least quarterly for design flows of 2,000 gpd or more, and at least twice annually for smaller design flows.
 - e) The service provider shall report to the Vendor, all inspections and maintenance calls conducted and all problems or failures observed with a summary of the cause and remedial measures taken.
 - f) No agreement with a maintenance entity shall be for less than two years.
7. The Vendor shall provide to the RIDEM within six months of the issuance of this certification, a list of trained service providers. The names of at least two qualified service providers unaffiliated with suppliers of the Component shall be included on the list at all times. A Service Provider who subcontracts service for the same technology, shall not be considered meeting this requirement. Homeowners who are authorized to

perform O&M on their own Component shall be included on this list provided to the RIDEM, with the system address and associated RIDEM permit number.


8. A list of trained Service Providers shall be made available to the public.
9. The Vendor shall have an inventory of parts available locally.

IV. Reporting

1. The Vendor shall submit an annual report to the RIDEM by the anniversary of this Certification, each year, that provides:
 - a) The number of Systems installed in Rhode Island since the last report;
 - b) The addresses of all installations in Rhode Island, the name of the owner, the RIDEM permit number, and the date of start-up;
 - c) For all installations in Rhode Island, the number of inspections and maintenance calls conducted since the last report and a brief comment regarding activities performed and observations;
 - d) All known problems or failures experienced since the last report, with a summary of the cause and remedial actions taken since the last report.
2. The service provider shall report any termination or non-renewal of maintenance agreements to the RIDEM, the Vendor and to the local wastewater management authority should one exist for that area.

V. Rights of the RIDEM

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



Russell J. Chateaufneuf, P.E.
Chief of Groundwater and Wetlands Protection

Issuance Date: 4/13/12