



Commonwealth of Massachusetts  
Executive Office of Energy & Environmental Affairs

# Department of Environmental Protection

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## **REMEDIAL USE APPROVAL** Pursuant to Title 5, 310 CMR 15.00

Name and Address of Applicant:

Eljen Corporation  
125 McKee Street  
East Hartford, CT 06108

Trade name of technology and model number: Eljen GSF System, models B43 and A42 (hereinafter the "System"). The *Geotextile Sand Filter, (GSF) Design & Installation Manual*, including calculations and schematic drawings of typical Systems, an inspection checklist, and a System Installation Form are part of this Approval.

Transmittal Number: X238106  
Date of Issuance: Revised September 26, 2014

### **Authority for Issuance**

Pursuant to Title 5 of the State Environmental Code, 310 CMR 15.000, the Department of Environmental Protection hereby issues this Certification for Remedial Use to: Eljen Corporation 125 McKee Street, East Hartford, CT 06108 (hereinafter "the Company"), certifying the System described herein for Remedial Use in the Commonwealth of Massachusetts. The sale, design, installation, and use of the System are conditioned on compliance by the Company, the Designer, the Installer and the System Owner with the terms and conditions set forth below. Any noncompliance with the terms or conditions of this Certification constitutes a violation of 310 CMR 15.000.

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David Ferris, Director  
Wastewater Management Program  
Bureau of Resource Protection

September 26, 2014

Date

## **Technology Description**

The System is an alternative subsurface Soil Absorption System that replaces a conventional soil absorption system (SAS) designed in accordance with 310 CMR 15.000. The System is a modular absorption system constructed with geotextile fabric and cusped plastic cores bedded on a twelve (12) inch layer, and surrounded by at least six (6) inches of Specified Sand (ASTM C-33 or System sand). The System is installed without aggregate. A four inch perforated distribution pipe is installed on top of the System to distribute wastewater over the entire absorption system. A geotextile cover of non-woven polypropylene fabric is placed over the System to prevent the intrusion of fines from backfill.

## **Conditions of Approval**

The term “System” refers to the Alternative Soil Absorption System in combination with the other components of an on-site treatment and disposal system that may be required to serve a facility in accordance with 310 CMR 15.000.

The term “Approval” refers to the technology-specific Special Conditions, the Standard Conditions for General and Remedial Use Approval of Alternative Soil Absorption Systems (the ‘Standard Conditions’), the General Conditions of 310 CMR 15.287, and any Attachments.

For Alternative Soil Absorption Systems that have been issued Remedial Use Approval for the installation of Systems to serve facilities where the site meets the requirements for new construction, the Department authorizes reductions in the effective leaching area (310 CMR 15.242), subject to the applicable portions of the Standard Conditions, and subject to the below Special Conditions applicable to this Technology.

## **Special Conditions**

1. The System is an approved Patented Sand Filter System for use as an Alternative Soil Absorption System. In addition to the Special Conditions contained in this Approval, the System shall comply with all Standard Conditions for Alternative Soil Absorption Systems, except where stated otherwise in these Special Conditions.
2. This Approval applies to the installation of a System for the upgrade or replacement of an existing failed or nonconforming system, provided that the facility meets the siting requirements for upgrades, as provided in II(7) and II(9) of the Standard Conditions. For the upgrade or replacement of an existing failed or nonconforming system, all installed Systems shall also comply with the Notice requirement of paragraph II(23) and the transferee notification requirements of paragraph IV(1) of the Standard Conditions. The proposed use of the System shall also comply with any other Standard Conditions which pertain wholly or in part to upgrades of existing systems.
3. SAS Design - For the upgrade or replacement of an existing failed or nonconforming system, Systems sited in soils with a percolation rate of 60 minutes or less per inch, the size of the SAS shall be sized with 40 percent less effective leaching area than required when using the loading rates for gravity systems of 310 CMR 15.242(1)(a). For soils with a recorded.

percolation rate of between 60 and 90 minutes per inch, the size of the SAS shall be sized with 40 percent less effective leaching area than required when using the loading rate of 0.15 gpd/square foot as specified by 310 CMR 15.245(4).

No reduction greater than 40% in the required effective leaching area is allowed, including any reductions under a LUA or a variance.

The required effective leaching area of the SAS shall be reduced in accordance with the above requirements, except a minimum of 400 square feet of effective leaching area shall be provided if any proposed reduction in the leaching area would result in less than 400 square feet of effective leaching area. Where 400 square feet of effective leaching is not feasible, the greatest effective leaching area shall be installed provided that no more than a 40 percent reduction is taken.

4. Alternative Design Standards - Provided that the Designer demonstrates that the impact of the proposed Alternative System has been considered and the design requirements of 310 CMR 15.000 have been varied to the least degree necessary so as to allow for both the best feasible upgrade within the borders of the lot and the least effect on public health, safety, welfare and the environment, the local approving authority may allow any combination of the following alternative design standards without the need for granting a variance under 310 CMR 15.400 or obtaining Department approval:
  - a) If a reduction in the depth to groundwater required by 310 CMR 15.212 is necessary, the depth to groundwater may be reduced by up to 2 feet, resulting in a minimum separation distance of two feet in soils with a recorded percolation rate of more than two minutes per inch and three feet in soils with a recorded percolation rate of two minutes or less per inch, measured from the bottom of the soil absorption system to the high groundwater elevation, only if;
    - i. An approved Soil Evaluator who is a member or agent of the local Approving Authority determines the high groundwater elevation;
    - ii. No reduction is granted under LUA for setbacks from public or private wells, bordering vegetated wetlands, surface waters, salt marshes, coastal banks, certified vernal pools, water supply lines, surface water supplies or tributaries to surface water supplies, or drains which discharge to surface water supplies or their tributaries, is allowed; and
    - iii. In accordance with 310 CMR 15.212(2), for systems with a design flow of 2,000 gpd or greater, the separation to high groundwater as required by 310 CMR 15.212(1) shall be calculated after adding the effect of groundwater mounding to the high groundwater elevation as determined pursuant to 310 CMR 15.103(3).
  - b) If a reduction in the depth of the naturally occurring pervious material layer is necessary, a proposed reduction of up to 2 feet may be allowed in the four feet of naturally occurring pervious material layer required by 310 CMR 15.240(1) provided that it has been demonstrated that no greater depth in naturally occurring pervious material can be met anywhere on the site.

5. In no case, shall the reductions in the effective leaching area, depth to groundwater, and depth of naturally occurring pervious material allowed under this Approval be made less stringent. Any reductions in the effective leaching area, depth to groundwater, and depth of naturally occurring pervious material allowed under this Approval shall not be combined with any reduction that may be allowed under the procedures of Local Upgrade Approval or the variance procedures of 310 CMR 15.401-413. The local Approving Authority may vary other design requirements under the LUA provisions of 310 CMR 15.405 or under the variance procedures of 310 CMR 15.411.
6. System can be installed in trench or bed or field configuration, as defined in 310 CMR 15.251 and 15.252. The effective leaching area shall be as presented in the Company's "Geotextile Sand Filter, (GSF) Design & Installation Manual".
7. Systems with greater than 18 inches of soil depth over the GSF modules shall be installed with differential venting for aeration and inspection access at end of each run of pipe, section or serial bed and whenever the System is installed under impervious surfaces.
8. Serial distribution laterals shall be limited to no more than 500 gpd with each lateral a maximum of 100 feet, and must be laid level. Multi-level systems shall not be allowed.
9. System component material specifications for the pipe, plastic components, fabric and sand shall comply with the specifications identified in the initial I/A technology approval. Prior approval from the Department for any change from these specifications shall be requested in writing.
10. Any changes to the approved plans must receive prior Local Approving Authority (LAA) approval. Before a Certificate of Compliance can be issued by the LAA the System Designer must include any changes to the approved plan into the as-built plans.