



# Department of Environmental Protection

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## CERTIFICATION FOR GENERAL USE

Pursuant to Title 5, 310 CMR 15.000

### Name and Address of Applicant:

Infiltrator Water Technologies, LLC.  
P.O. Box 768  
4 Business Park Road  
Old Saybrook, CT 06475

Trade name of technology and models: BioDiffuser 11" Standard, BioDiffuser 14" High Capacity, BioDiffuser 16" High Capacity, BioDiffuser 16" High Capacity H-20<sup>1</sup>, BioDiffuser 15" Narrow (Bio 2), BioDiffuser 22" Narrow (Bio 3), ARC 36, ARC 36HD, ARC 36HC, ARC 36HC HD, ARC 50, ARC 18, ARC 24, ARC 36 LP (3.8 inch-invert), and ARC 36 LP (8 inch-invert) (hereinafter the "System"). Schematic drawings of the System and a design and installation manual are a part of this Certification. This approval allows the installation of the above identified chambers without aggregate.

Transmittal Number: **X264258**

Date of Revision: February 19, 2015, modified June 12, 2015

### 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 to: Infiltrator Water Technologies, LLC., P.O. Box 768, 6 Business Park Road, Old Saybrook, CT 06475 (hereinafter "the Company"), for General Use of the System described herein. 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 Approval constitutes a violation of 310 CMR 15.000.

David Ferris, Director  
Wastewater Management Program  
Bureau of Water Resources

June 12, 2015

Date

**I. Design Standards**

1. The models listed in Table 1 are covered under this Certification.

**Table 1: Chamber Dimensions**

<b>Model</b>	<b>Dimensions W x L x H Inches</b>	<b>Invert Height Inches</b>
BioDiffuser 11” Standard	34 x 76 x 11	6.5
BioDiffuser 14” High Capacity	34 x 76 x 14	9
BioDiffuser 16” High Capacity	34 x 75 x 16	11.3
BioDiffuser 16” High Capacity H-20 <sup>1</sup>	34 x 75 x 16	11.3
BioDiffuser 15” Narrow (Bio 2)	15 x 87 x 12	6.87
BioDiffuser 22” Narrow (Bio 3)	22 x 87 x 12	6.87
ARC 36	34.5 x 60 x 13	7.13
ARC 36 HD	34.5 x 60 x 13	7.13
ARC 36HC	34.5 x 60 x 16	10.75
ARC 36HC HD	34.5 x 60 x 16	10.75
ARC 50	51.5 x 42.75 x 30	22.25 <sup>2</sup>
ARC 18	16 x 60 x 12	6.24
ARC 24	22.5 x 60 x 12	6.25
ARC 36LP (3.8-inch invert)	34x60x8	3.8
ARC 36LP (8-inch invert)	34x60x8	8 <sup>3</sup>

- <sup>1</sup> This approval allows the use of the high capacity H-20 chambers but makes no determination as to the chambers meeting the H-20 loading requirements.
- <sup>2</sup> Only Systems installed with this invert height shall be allowed to use the effective leaching area associated with this model in Table 2.
- <sup>3</sup> Only System installed with the inlet pipe entering through the roof of the chamber.

2. The System is an open-bottom leaching unit molded from high density, high molecular weight polyethylene (HDPE) Type III, Class A or B, Category 1 or 3 or Polypropylene Group 03, Class 3, Grade 0. It can be installed without aggregate or distribution pipe as an absorption trench or as a bed or field. If the System is installed with stone aggregate then the “ Effective Leaching Area” in Tables 2 and 3 is not applicable, and must be designed in accordance with the provisions of 310 CMR 15.000.
3. The total effective leaching area for any Chamber Model shall be calculated by multiplying the Effective Leaching Area per square foot of chamber times the total length of chamber from Side Port Coupler to Side Port Coupler including Side Port Coupler.

**Table 2: Effective Leaching Area in Trench Configuration for New Construction and Remedial Sites**

Model	Effective Leaching <sup>4</sup> Area SF/LF	Effective Leaching <sup>5</sup> Area (SF/LF)
BioDiffuser 11" Standard	6.53	N/A
BioDiffuser 14" High Capacity	7.18	N/A
BioDiffuser 16" High Capacity	7.88	N/A
BioDiffuser 16" High Capacity H-20 <sup>1</sup>	7.88	N/A
BioDiffuser 15" Narrow (Bio 2)	4.00	N/A
BioDiffuser 22" Narrow (Bio 3)	4.97	N/A
ARC 36	6.78	N/A
ARC 36 HD	6.78	N/A
ARC 36HC	7.79	N/A
ARC 36HC HD	7.79	N/A
ARC 50	NA	6.71 <sup>6</sup>
ARC 18	3.96	N/A
ARC 24	4.87	N/A
ARC 36LP (3.8-inch invert)	5.79	N/A
ARC 36LP (8-inch invert)	6.96	N/A

<sup>4</sup>. Effective Leaching area is equal to 1.67 (bottom width + (2x invert height))

<sup>5</sup>. Effective Leaching area is equal to 1.0 (bottom width + (2x invert height))

<sup>6</sup>. The maximum trench width allowed for calculation of Effective Leaching area is 3 feet.

4. For new construction or upgrades, the applicant can size the System in a trench configuration, using the Effective Leaching areas presented in Table 2.
5. Systems installed on remedial sites shall be allowed to utilize the Effective Leaching areas presented in Tables 2 or 3, or additional reductions in soil absorption system may be allowed. In no instance shall the reduction in the soil absorption system required in 310 CMR 15.242 exceed the maximum reduction allowed for alternative systems approved in accordance with 310 CMR 15.284.
6. For new construction or upgrade, the applicant can size the System in bed or field configuration, using the Effective Leaching areas presented in Table 3.
7. When the System is used with a secondary treatment unit approved in accordance with 310 CMR 15.284 or 15.288, additional reductions in soil absorption system may be allowed. In these situations the reduction in the SAS cannot exceed the maximum allowed under the secondary treatment units approval. In no instance shall the reduction in the soil absorption system area required in 310 CMR 15.242 exceed the maximum reduction allowed for alternative systems approved in accordance with 310 CMR 15.284.

**Table 3: Effective Leaching Area for Bed or Field Configuration for New Construction & Remedial Sites**

<b>Model</b>	<b>Effective Leaching<sup>7</sup> Area SF/LF</b>
BioDiffuser 11” Standard	4.73
BioDiffuser 14” High Capacity	4.73
BioDiffuser 16” High Capacity	4.73
BioDiffuser 16” High Capacity H-20 <sup>1</sup>	4.73
BioDiffuser 15” Narrow (Bio 2)	2.09
BioDiffuser 22” Narrow (Bio 3)	3.06
ARC 36	4.80
ARC 36 HD	4.80
ARC 36HC	4.80
ARC 36HC HD	4.80
ARC 50	7.16
ARC 18	2.22
ARC 24	3.13
ARC 36LP (3.8-inch invert)	4.73
ARC 36LP (8-inch invert)	4.73

<sup>7</sup>. Effective Leaching area is equal to 1.67 times bottom width only.

## II Special Conditions

1. The System is an approved Alternative Chamber for use as an Alternative Soil Absorption System. In addition to the Special Conditions contained in this Approval, the System shall comply with the *Standard Conditions for Alternative SAS with General Use Certification and/or Approved for Remedial Use* (the 'Standard Conditions'), except where stated otherwise in these Special Conditions.
2. New Construction This Certification is for the installation of a System to serve new construction or an existing facility with a proposed increase in flow, for which a site evaluation in compliance with 310 CMR 15.000 has been approved by the Approving Authority and the site meets the siting requirements for new construction, as provided in Paragraph 6 in section II Design and Installation Requirements of the Standard Conditions.
3. Remedial Site This General Use Certification also 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 Paragraph 7 in section II Design and Installation Requirements of the Standard Conditions.
4. The System shall be exempt from the minimum inlet spacing requirements of 310 15.253.

5. The System shall have a minimum of one inspection port through the top of one of the chambers. The inspection port shall be capped with a screw type cap and accessible to within three inches of finish grade.
6. When the System is installed in trench configuration, then the System shall comply with these requirements:
  - a) Length (each trench) 100 feet maximum (310 CMR 15.251(1)(a));
  - b) Width (each trench) 2 feet minimum to 3 feet maximum (310 CMR 15.251(1)(b)) - Chambers greater than 3 feet wide, when specifically approved, are subject to other Special Conditions and limitations;
  - c) The minimum separation distance between any two trenches shall be two times the effective width or depth of each trench, whichever is greater, or where the area between trenches is designated as reserve area, three times the effective width or depth of each trench, whichever is greater (310 CMR 15.251(1)(d));
  - d) The effective leaching area shall be calculated using the bottom area and a maximum of two feet (per side) of side wall area for each trench (310 CMR 15.251(1)(e));
  - e) Trenches shall be situated, where possible, with their long dimension perpendicular to the slope of the natural soil. Where possible they shall follow the contour lines (310 CMR 15.251(2));
  - f) Trenches constructed at different elevations shall be designed to prevent effluent from the higher trench(es) flowing into the lower trench(es) (310 CMR 15.251(3));
  - g) The area between trenches may be designated as system reserve area only where the separation distance between the excavation sidewalls of the primary trenches is at least three times the effective width or depth of each trench, whichever is greater (310 CMR 15.251(4)) - Chambers greater than 3 feet wide, when specifically approved, shall be separated by three times the actual width and are subject to other Special Conditions and limitations; and
  - h) Effluent distribution lines exceeding 50 feet in length shall be connected and venting provided in accordance with 310 CMR 15.241 (310 CMR 15.251(11)).
7. When installed in trench configuration, approved Alternative Chambers greater than 3 feet wide:
  - a) Shall be installed with a minimum separation distance between any two trenches of two times the actual width of the chamber, or where the area between trenches is designated as reserve area, three times the actual width of the chamber; and
  - b) Shall only be entitled to a maximum effective width of 3 feet for the purposes of calculating total effective leaching area.
8. When installed in a bed or field configuration, the System may be installed without distribution piping, but must comply with the following requirements in 310 CMR 15.252:
  - a) The use of leaching beds or fields is restricted to systems with a calculated design flow of less than 5,000 gpd per leaching bed or field (310 CMR 15.252(1));

- b) The maximum length of chambers in series shall be 100 feet (310 CMR 15.252(2)(b));
  - c) Separation distance between adjacent beds/fields shall be ten feet (310 CMR 15.252(2)(f)); and
  - d) The effective leaching area shall include only the bottom area, not the sidewalls (310 CMR 15.252(2)(i)).
9. For Systems constructed in fill and installed, the System shall be installed as specified in 310 CMR 15.255 - Construction in Fill, except the minimum 15 foot horizontal separation distance to be provided between the soil absorption area and the adjacent side slope shall be measured horizontally from the top of the chamber.
10. The System is exempt from 310 CMR 15.287, specifically items: (5) requiring written notification of alternative system prior to property transfer, (6) need for a certified operator, (9) need for an operation and maintenance contract with an operator and (10) deed notice requirement.