



Janice K. Brewer
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

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Henry R. Darwin
Director

Notice of Proprietary Treatment Product Listing Pursuant to Arizona Administrative Code R18-9-A309(E)

ADEQ File Number 20110159

1. Proprietary Treatment Product Name, Model, and Description

Product Name: Advanced Enviro-Septic Treatment System
 Model: AES Treatment System
 Description: The Advanced Enviro-Septic Treatment System (AES) is an assembly consisting of a perforated poly-ethylene pipe surrounded by a series of proprietary fabrics as a growth medium for the treatment of septic tank effluent. The product is installed in a specified system sand base to provide supplemental wastewater treatment prior to discharge to native soils.

2. Manufacturer Information

Name: Presby Environmental, Inc.
 Address: 143 Airport Road
 City/State/Zip: Whitfield, NH 03598
 Phone: 1-800-473-5298
 Fax: 1-603-837-9864
 Website: www.presbyenvironmental.com

3. Recognized Treatment Performance

Parameter	Averaging Time	Maximum Value for Parameter & Averaging Time
5-Day Biochemical Oxygen Demand (BOD ₅), mg/l	30-day arithmetic mean	5
Total Suspended Solids (TSS), mg/l	30-day arithmetic mean	5
Total nitrogen (as nitrogen), mg/l	five-month arithmetic mean	43
Total coliform, colony forming units/100ml	95th percentile	1,000 (Log ₁₀ 3)
Depth of Specified Sand below Modules	Inches	12"

Southern Regional Office
 400 West Congress Street • Suite 433 • Tucson, AZ 85701
 (520) 628-6733

Printed on recycled paper

4. Product Applicability and Limitations for Use for a Recognized General Permit Treatment Technology

Applicability: This listing is for the AES Treatment System treatment technology specified in A.A.C. R18-9-E309(A)(1).

Limitations:

- A. The product is subject to the requirements for materials and manufactured system components specified under A.A.C. R18-9-A312(F)(2) through (4);
- B. The AES shall receive pretreated wastewater from a septic tank which conforms to A.A.C. R18-9-A314;
- C. The maximum loading rate shall not exceed 2.25 gallons per linear-foot of pipe with a minimum sizing 70 linear-feet of treatment system per bedroom;
- D. The AES shall be installed in native soil in a level trench or bed configurations with a distribution box as specified in R18-9-E302(C)(1)(d);
- E. The AES shall be installed with at least one vent at least 1 foot above final grade or expected high snow level, whichever is higher. This approval does not restrict the use of “decorative” vents as long as the vent meets manufacturer specifications;
- F. Pressure dosing, if used, shall be governed by the requirement of the R18-9-E304 general permit and the dosing requirements of R18-9-E309(D)(1)(b);
- G. The system sand quality shall conform to the following quality restrictions:
 - a. No stones over $\frac{3}{4}$ inches in diameter
 - b. Percentage restrictions (by total weight):
 - i. 30% maximum retained by a #10 sieve
 - ii. 40-90% retained by a #35 sieve
 - iii. Fines restricted to a maximum of 2% pass through a #200 sieve
 - c. ASTM C-33 may be used if no more than 2% pass through a #200 sieve
- H. The system sand bed shall extend at least 12 inches below and to the sides with at least 6 inches above.
- I. The design of the AES treatment system shall follow the selection criterion in R18-9-E309(A)(2), and the design, installation, and operation & maintenance details must conform to the requirements listed under R18-9-E309(D)(E)&(F) except the requirement of the distribution system as it is part of the listed treatment system.
- J. The design of the AES must follow the following procedures:
 - a. The design and installation must conform to the design requirements listed under R18-9-E309(D) except as noted in this listing, and the applicable requirements in R18-9-A309(B), R18-9-A312 and R18-9-A314.
 - b. An investigation shall be conducted under R18-9-A310 consisting of a surface characterization and a subsurface characterization, to accurately select the appropriate primary and reserve

disposal areas, and to effectively design and install the selected facility. Surface limiting conditions specified under R18-9-A310(C) and subsurface limiting conditions specified under R18-9-A310(D) shall be assessed in order to determine if the facility may not be installed at the site given any identified site limitations.

- c. An initial primary disposal area soils absorption rate (SAR) must be calculated via an appropriate site investigation method under R18-9-A310(E) or (F). This SAR may then be adjusted under R18-9-A312(D)(3) for the specific treatment performance criteria assigned (the adjusted SAR (SAR_a) may also be limited by the maximum loading rate assigned to the AES under Section 4.C of this listing). The design flow shall be calculated using the appropriate bedroom and fixture count under R18-9-A314(4). The required basal area may be computed by dividing the design flow by the adjusted SAR (SAR_a).

The minimum length of AES required is computed using the following computations for total basal contact area:

- (i) In Bed Configuration, the total basal contact area is:
- (a) the number of pipe rows,
 - (b) the average length of rows, and
 - (c) an equivalent row width (1 foot plus 2 times pipe separation at a 0.5 feet minimum (or 18 inches on center).
- Multiply (a),(b), and (c) and then add (b) times (c) to obtain the total basal contact area.

- (ii) In Trench Configuration, the total basal contact area is:
- (a) the total AES length in feet and
 - (b) trench width; a minimum of 6" to a maximum of 12" width on either side of the pipe plus 12" for pipe width (2 feet to 3 feet).
- Multiply (a) by (b) to obtain the total basal contact area.

- d. In the event that seasonal high water table is identified at the site, the requirements of R18-9-A312(E)(2) must apply, which may include conducting a hydraulic analysis showing that soil is sufficiently permeable to conduct wastewater downward and laterally without surfacing for the site conditions.
- e. If the portions of the installation that is to be installed above natural soil grade, then the Notice of Intent to Discharge and other required submittal components shall include the requirements listed in R18-9-E304. The bottom 6 inches of the AES shall not extend above the natural grade of the property at any point in the system.

K. If there is conflict between the manufacturer's specifications and 18 A.A.C. 9, Articles 1 and 3, the provisions of the Arizona Administrative Code shall prevail.

L. This Product Listing Notice supersedes prior product listing actions and any prior approved supporting documents.

M. The use of a disinfection device (per R18-9-E320) with this product is not allowed.

5. Alternative Criteria and Exceptions for Use under the Recognized General Permit Treatment Technology

Alternative:	None.
Exception:	Dosing of up to 2.25 gallons per day per linear-foot. Pipe installation at 18" on center.

6. Documents Used as the Basis for this Proprietary Treatment Product Listing Notice

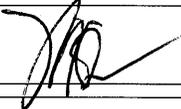
Application for Treatment Product Listing Documents relied upon:	ADEQ's listing of this product is based solely on the testing and reporting of treatment performance results reported from the following documents: Application Received by ADEQ in Sept, 2011; BNQ Performance Evaluation Report of Annex A, July 2006; BNQ Performance Evaluation Report of Annex B, February 2007; MASSTC Raw Data Report, September 2011; Letter from Sharon Steiner, Business Unit Manager, Wastewater Treatment Unit Program, NSF International, March 30, 2010
Manufacturer's Installation Guide:	www.presbyenvironmental.com
Manufacturer's Operation and Maintenance Manual:	www.presbyenvironmental.com
Manufacturer's Warrantee:	www.presbyenvironmental.com

7. Terms and Conditions for this Proprietary Treatment Product Listing Notice

<p>A. This Notice of Proprietary Treatment Product Listing shall remain in effect until any of the following occurs:</p> <ul style="list-style-type: none"> i. Applicable provisions of the Arizona Administrative Code, Title 18, Chapter 9, Article 3 are revised; ii. Documents used for the basis of this listing are altered or modified; iii. Manufacturer claims which are relied upon for this listing are later determined to contain an error or omission; iv. The manufacturer requests termination of this listing; v. A listing error or omission is identified; or vi. The manufacturer and ADEQ mutually agree to reissue this notification to incorporate correction or update for any reason. <p>B. This Notice of Proprietary Treatment Product Listing does not apply when the:</p> <ul style="list-style-type: none"> i. Listed proprietary treatment product is modified or operated in a manner that conflicts with Arizona law or the documents used for the basis of this listing action in Section 6. ii. Listed proprietary treatment products used in a manner that cannot achieve the performance in Section 3 above. <p>C. This Notice of Proprietary Treatment Product Listing applies solely to the product specified in Section 1 above.</p> <p>D. The manufacturer is responsible for notifying the ADEQ of changes to contact information at the following address: Attention: Product Listing Supervisor Engineering Review Desk, 1110 West Washington Street Phoenix, AZ 85007.</p>

Presby Advanced Enviro-Septic Treatment System Product Listing

E. The listing by ADEQ of any proprietary product or service is not an endorsement by ADEQ or the State of Arizona. ADEQ does not endorse, represent, guarantee, warranty or defend the use of any product which is authorized for use pursuant to A.A.C. R18-9-A309(E). Product providers are a direct source unrelated to ADEQ or the State of Arizona. Use of any listed product is at the user's risk and the State assumes no liability. The listing by ADEQ of any proprietary product or service is not an endorsement by ADEQ or the State of Arizona. ADEQ does not endorse, represent, guarantee, warranty or defend the use of any product which is authorized for use pursuant to A.A.C. R18-9-A309(E). Product providers are a direct source unrelated to ADEQ or the State of Arizona. Use of any listed product is at the user's risk and the State assumes no liability.

Signature:		Date Signed:	6/19/13
Title:	Michael Fulton, Director, Water Quality Division		