

**NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION**

INNOVATIVE WASTEWATER SYSTEM APPROVAL

INNOVATIVE WASTEWATER SYSTEM NO: IWWS-2003-01

FOR: Component Substitution for four-inch Corrugated Plastic Tubing in Nitrification Lines

APPROVAL DATE: July 13, 2004

In accordance with NCGS 130A-343 and 15A NCAC 18A .1969, the use of certain pipe other than four-inch diameter corrugated plastic tubing which complies with Rule .1955(f) has been found to meet the standards of an innovative system (component) when a particular manufacturer's product meets the conditions specified herein, and is approved for use, subject to the conditions of this innovative approval. Pipe meeting the conditions of this approval has been demonstrated to have the physical and chemical properties to withstand the loads and conditions normally associated with on-site wastewater systems and to meet the materials construction standards for approval set forth by NCGS 130A-343(g) and Rule .1969(3)(a). Nitrification line containing such pipe has been determined by the Department to perform in a manner equal to or superior to wastewater systems using traditional four-inch corrugated plastic tubing, in accordance with NSGS 130A-343(g), and to meet the requirements for approval set forth in Rule .1969(4)(f). As required by Statute, a notice of this proposed approval has been published in the North Carolina Register and the Department has received public comment on the application for over 30 days after the date of publication in the Register. This approval, including the specifications of circumstances in which use of component substitution in wastewater system nitrification lines is appropriate and conditions and limitations related its use, reflects the Department's consideration of all data and findings reviewed, and all public comment received.

I. Specifications:

Pipe used as a substitute for conventional corrugated tubing in nitrification trenches shall meet the following specifications:

1. Shall comply with applicable ASTM Standards for plastic pipe and fittings which specifically provides for the use of the pipe in wastewater ground absorption systems;
2. Alternate pipe materials, strength and labeling shall comply with applicable ASTM Standards, including: For other Corrugated Polyethylene (PE) pipe, ASTM F 405, Standard Specification for Corrugated Polyethylene (PE) Pipe and Fittings; for Polyvinyl Chloride (PVC) pipe, ASTM D 2729, Standard Specification for Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings; or for Acrylonitrile-butadiene-styrene (ABS) pipe, ASTM D 2751, Standard Specification for Acrylonitrile-Butadiene-Styrene (AABS) Sewer Pipe and Fittings, as applicable;
3. Perforations shall meet the minimum equivalent open area requirements of Rule .1955(f), with minimum open area equal or greater than the open area formed by holes 0.5 inches in diameter on four-inch centers, or at least 1.77 sq. inches of open area per linear foot;

4. Perforation size shall comply with ASTM F 405, and shall be no less than 0.25 inches and no greater than 0.75 inches in length or width, as measured along their horizontal and vertical planes perpendicular to the center of the perforation.
5. Hole location shall comply with Rule .1955(f): The pipe shall have three rows of holes spaced longitudinally approximately four inches (or less) on centers. The rows of holes may be equally spaced 120 degrees on centers around the periphery, or three rows may be located in the lower portion of the pipe, the outside rows being approximately on 120-degree centers.
6. Pipe shall be clearly marked with a locating stripe or embossment on the top.

II. Pipe Manufacturer's Approval:

1. Any pipe manufacturer wishing to supply pipe for use in onsite sewage treatment and disposal system drainfields in the state of North Carolina in compliance with this innovative approval shall receive written approval from DENR-DEH-OSWS. Manufacturer's must provide proof that they can continuously produce pipe in conformance with the specifications in I of this approval.
2. Pipe manufacturers shall submit a representative sample of pipe to DEH OSWS. The sample shall accompany a letter requesting approval, a \$100.00 review fee, in accordance with G.S. 130A-343(k), and the results of sample analysis by a third party laboratory qualified to conduct pipe analysis for compliance with the specifications in I of this approval.
3. Approved pipe manufacturers shall be listed on the Onsite Wastewater Section web page. (<http://www.deh.enr.state.nc.us/oww>).
4. Documentation of pipe manufacturer's product meeting the above specifications, shall be submitted as requested periodically to OSWS.
5. Noncompliance with this approval may subject a pipe manufacturer to suspension or revocation of their approval.

III. Permitting:

Pipe approved under this innovative approval may be substituted for traditional corrugated tubing required in accordance with Rule .1955(f) in any subsurface wastewater system, and as a component of other approved systems requiring four-inch nitrification line.

Approved by: _____ **Date:** _____