

Frank L. O'Bannon
Governor

Gregory A. Wilson, M.D.
State Health Commissioner



Indiana State Department of Health

An Equal Opportunity Employer

August 6, 2002

Ms. Lorie Thornell
Manufacturing/Quality Engineer
Baughman Tile Company
8516 Twp. Rd. 137
Paulding, Ohio 45879

Dear Ms. Thornell:

Re: Baughman Gravelless Pipe Technology
Eight (8) Inch, Ten (10) inch Gravelless Pipe
With Cariff Non-woven Polyester Fabric for the pipe sock

The use of Baughman Gravelless Pipe as a gravelless system is hereby approved by the Indiana State Department of Health (department) subject to the conditions listed below.

The gravelless system for which you submitted information is a subsurface absorption system, which provides an alternative to the use of gravel in the absorption field trenches. This is accomplished by the installation of either eight or ten inch inside diameter corrugated polyethylene plastic pipe in a narrow trench, which is backfilled with soil, rather than with gravel and then soil. This piping is provided with two rows of drain holes, 3/8 or 1/2 inch in diameter, located 120 degrees off the top centerline. The piping is wrapped with non-woven polyester fabric produced by Cariff.

In Indiana, this gravelless system may be installed in any application where a conventional gravel-filled system is allowed. It is not for use in areas where conventional gravity feed trickle flow systems would be prohibited due to poor permeability, high groundwater, insufficient depth to bedrock or other limiting layer, or other limitations for conventional systems.

Approval of the use of Baughman Gravelless Pipe is subject to the following conditions:

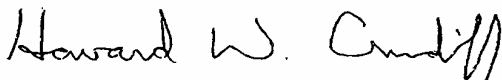
1. The Baughman Gravelless Pipe is to be used only in gravity flow subsurface trench and gravity flow alternating subsurface trench soil absorption field systems.
2. The Baughman Gravelless Pipe cannot be used with or in lieu of flood dose or pressure distribution subsurface trench soil absorption field systems.
3. A permit for each individual system must be obtained from the health department having jurisdiction prior to the construction of the system.
4. The pipe must meet the standards of ASTM F667.
5. The fabric sock used with the gravelless pipe must meet the ASTM standards from Cariff and submitted to the department by Baughman Tile Company on June 23, 2000.
6. The absorption field size must be calculated using the design daily flow and the soil loading rates for subsurface absorption systems set by Indiana State Department of Health Rule

410 IAC 6-8.1 or 6-10, whichever is applicable. The following substitution of pipe for trench bottom is permitted:

- a. At least one lineal foot of ten-inch diameter gravelless pipe must be required for each lineal foot of three-foot wide gravel-filled trench that would be required.
 - b. At least one lineal foot of eight inch diameter gravelless pipe must be required for each lineal foot of two-foot wide gravel-filled trench that would be required.
7. Each gravelless pipe soil absorption field trench must be individually connected to the distribution box by at least five (5) feet of gravity effluent sewer four (4) inch pipe.
 8. The distal ends of the gravelless pipe soil absorption field trenches may not be manifolded together.
 9. The pipe must be installed in the trench with the centerline alignment stripe at the top center of the pipe.
 10. The absorption field trenches and gravelless pipes must be level throughout their lengths.
 11. The trench excavation for the eight-inch pipe must be at least sixteen (16) inches in width with the gravelless pipe installed in the center of the trench.
 12. The trench excavation for the ten-inch pipe must be at least twenty (20) inches in width with the gravelless pipe installed in the center of the trench.
 13. The gravelless pipe must be covered with a minimum of twelve (12) inches of soil material.
 14. The use of gravelless systems shall meet all other applicable Indiana State Department of Health standards for residential and commercial subsurface soil absorption systems.
 15. All determinations for site suitability for subsurface soil absorption systems shall be made using procedures and criteria established by the Indiana State Department of Health.

If you have any questions regarding this approval, please contact Ed Miller, Alan Dunn, David Ortel, or Chris Bourke, of my staff at the above address, by telephone at 317-233-7177, or by e-mail (adunn@isdh.state.in.us, cbourke@isdh.state.in.us, or dortel@isdh.state.in.us, respectively).

Sincerely,



HOWARD W. CUNDIFF, P. E., DIRECTOR
CONSUMER PROTECTION

AMDunn/ad
cc: Local Health Departments
Onsite Staff