



Guidelines for Approval of Pre-Treatment Devices for Failed On-Site Wastewater Systems in Washtenaw County

October 28, 2003

This guideline is intended for the review of alternative pre-treatment devices for existing homes with failed on-site wastewater systems. These devices can be used after it is demonstrated that a conventional septic system cannot be installed. This guideline applies to failed/replacement systems only. Sewage systems for new construction must adhere to existing engineering and sand filter guidelines.

Conditions that warrant pre-treatment include lack of adequate lot size, heavy soils and/or insufficient vertical or horizontal separation from the seasonal high water table and surface water respectively.

The following information must be submitted to the Washtenaw County Environmental Health Regulation Department (WCEHRD) to be considered under these guidelines:

I. Treatment Effectiveness And Efficiency

- A. Technology description and function: There shall be a narrative on how the technology or engineering approach is equivalent or superior to other pre-treatment devices already in use in Washtenaw County
- B. History of full scale and pilot-scale operation, if available
- C. A minimum of five (5) installations must be in place in areas that are climatologically similar to Washtenaw County. The manufacturer must provide the addresses of these installations and the telephone numbers of the permitting agencies
- D. Any pre-treatment device, other than a sand filter or any of its components shall be NSF (National Sanitation Foundation) approved under ANSI/NSF STANDARD 40 or equivalent for residential wastewater treatment systems. As an alternative, an independent third party may conduct the testing in accordance with NSF standards, provided it can demonstrate its capability for testing other proprietary devices that have been in use for at least five years, and that these devices have demonstrated pre-treatment capability, which meets ANSI/NSF STANDARD 40 Class I effluent limits, as indicated in the attached table. If the testing is to be conducted by an independent third party, a signed affidavit must be submitted to the WCEHRD stating the following:
 - What credentials they possess that demonstrate the required knowledge and experience to perform the proposed independent third-party review

- They do not have a conflict of interest with the pretreatment device manufacturer, the party(ies) responsible for the design, or Washtenaw County Government

- E. Patent citation, if applicable
- F. Pre-treatment devices that vent sewage odors must be equipped with a device to mitigate odors or will be considered in violation of code and will not be accepted.
- G. Level of required maintenance
- H. Unit size and space requirements

NSF/ANSI Standard 40

Standard 40, relating to residential wastewater treatment systems, requires six months of performance testing, incorporating stress tests to simulate wash day, working parent, power outage, and vacation conditions. Although the USEPA permit program does not apply to onsite discharge, "Class I" Listed units have been shown to produce an equivalent quality effluent when tested for six months at their design rated capacities.

Standard	BOD₅ *	TSS**	PH	Color	Odor	Foam	Noise
Class I Effluent Limits	25	30	6.0-9.0	15 Units	Non-offensive	None	<60 ft

*(5-day Biochemical Oxygen Demand) Maximum 30-day average (mg BOD/liter effluent)

** (Total Suspended Solids) Maximum 30-day average (mg TSS/liter effluent)