



January 5, 2006

WATER MAZE WATER TREATMENT SYSTEMS  
MICHAEL E. ELMORE  
4275 NW PACIFIC RIM BLVD  
CAMAS WA 98607

Re: Description: GRAYWATER REUSE SYSTEM  
Manufacturer: WATER MAZE WATER TREATMENT SYSTEMS  
Product Name: WATERSTAX  
Model Number(s): WSR-1000D  
Product File No: 20040635

The specifications and/or plans for this plumbing product have been reviewed and determined to be in compliance with chapters Comm 82 through 84, Wisconsin Administrative Code, and Chapters 145 and 160, Wisconsin Statutes.

The Department hereby issues an approval based on the Wisconsin Statutes and the Wisconsin Administrative Code. **This approval is valid until the end of January 2011.**

This approval is contingent upon compliance with the following stipulation(s):

- A plumbing plan must be submitted and approved prior to each proposed installation in accordance with Comm 82.20 (1) (a) 2. A Plumbing Plan Review must be successfully completed prior to each proposed installation. A minimum of four sets of completed plans and specifications, signed by a Wisconsin registered Architect, Designer, Engineer or licensed Master Plumber shall be submitted along with the following specific information:
  - a. A "Plumbing Plan Review Application" (i.e. SBD-6154) and required fee;
  - b. A scaled plot plan;
  - c. A scaled floor plan;
  - d. A drain, waste and vent system (i.e. DWV) isometric drawing for the engineered blackwater/graywater system;
  - e. A non-potable water system isometric drawing;
  - f. A potable water system isometric drawing;
  - g. A maintenance manual addressing all serviceable components or systems;
  - h. A written contingency plan; and
  - i. Water calculation worksheets:
    - 1. The complete non-potable water system; and
    - 2. The complete potable water system
  - j. A copy of this approval letter

For system installations that include irrigation and/or infiltration, the following information must also be provided:

- k. The soil type; and
- l. Infiltration rate

After the plan review process is complete, and the installation is finished, the State Plumbing Consultant assigned to the county in which the installation is located, shall inspect the completed installation. The final installation shall be completed and passed before the system is put into service.

Some of the information listed previously may not pertain to a specific installation.

- Monitoring of these systems shall be performed by licensed POWTS Maintainers, Master Plumbers or licensed professional Engineers. The maintenance of these systems may be performed by an unlicensed individual.
- Any initial start-up water, or make-up water, added to these systems must be supplied from a NR 811 or NR 812 approved source.
- Any wastewater or waste materials (e.g. sludge, scum) withdrawn from these systems must be disposed of in accordance with NR 113.
- Installation and servicing of these systems must be performed in accordance with the manufacturer's written instructions and this approval letter. A copy of the manufacturer's installation and servicing instructions, and a copy of this approval letter, must be given to the owner of each system.
- The concentration (C) in mg/l multiplied by time (T) in minutes = the CT value for the ozonation process. These CT values vary with the temperature of the water to be treated and the minimum required CT values are as follows:

Temperature (F)	34	41	50	59	68	77+
Ozone CT Value	2.9	1.9	1.4	0.95	0.72	0.48

CT values between the indicated temperature may be determined by linear interpolation. If no interpolation is used, then use the CT value at the lower temperature for determining the CT value between indicated temperatures.

- All sumps, and their associated ejectors and pumps, shall conform to s. Comm 82.30 (10).
- The catch basin shall conform to 82.34(4)(a)2.
- The trench drain leading to the catch basin shall conform to 82.34(4).
- The treated water rendered by this device shall be sampled on a biannual basis. The water samples shall be collected from tank #4, while the device is recirculating water, and be analyzed for the following specific parameters:
  1. pH;
  2. Biological Oxygen Demand - Five Day (BOD5);
  3. Total Suspended Solids (TSS);
  4. Fecal Coliform per 100 ml; and
  5. ozone residual concentration

The ozone residual must be measured on-site after several intervals of contact time using Standard Method 4500-O3, or equivalent.

- The WS-1000D devices must each have a conspicuous label, which is visible after installation, that displays the model number.

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The department is in no way endorsing this product or any advertising, and is not responsible for any situation which may result from its use.

Sincerely,

Glen W. Schlueter  
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GWS:gws