

**Enviro-Septic Wastewater Treatment System**

**PRESBY  
SEPTIC SYSTEMS  
IN  
MONROE COUNTY**  
**Operating & Maintenance Instructions  
With System Design**

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## Presby Septic Systems in Monroe County

As of December 2010, over 500 Presbys have been installed in Monroe County with great success. We believe that this is one of the best onsite septic systems available for our area for both new sites and repairs of existing failing systems. The Presby septic system requires the least amount of room per bedroom in relationship to most septic installations in the area. In many cases the system can be installed with little or no mound type identifying appearances.

A major asset of a Presby septic system is the small amount of routine preventative maintenance required. The common practice of having your septic tank pumped once every 3-5 years by a certified septic tank pumper should increase the life of any septic system, Presbys included (a list of local pumpers have been added at the end of the pamphlet).

One of the greatest attributes of the Presby system in Monroe County is the ability of the system to cleanse all the effluent produced by the individual residence before releasing it into to soil substrate. Each system is sized for the individual home based on bedroom counts and soil type. Great importance should be taken of all the parts of the system which can be seen such as the tank lid, monitor well, and vent pipes, removal of any one or all can be detrimental to the entire system's ability to achieve this thorough cleansing.

Within this pamphlet, one will find information dealing with Presbys in Monroe County, including several diagrams showing the average dimensions of most installations. These are based on bedroom counts, area availability and depth and type of soil found on site. In addition, a list of the registered installers which are certified by Presby and approved by this Department to install such system have been included. They can be a reliable source in determining the possible cost of a Presby installation along with additional guidance.

## The Enviro-Septic® System

### What is the Enviro-Septic® System and how does it work?

The Enviro-Septic® Wastewater Treatment System consists of a 12" diameter, high-density plastic pipe which is corrugated and perforated with skimmer tabs protruding inwardly. A mat of coarse plastic fibers surrounds the outside of the pipe, and a geo-textile fabric holds the fibers in place, creating a protected surface that is optimal for the bacterial processes that purify the wastewater. Wastewater is either pumped or travels by gravity into the Enviro-Septic® System, where the patented Enviro-Septic® pipe cools the liquid, separating and retaining the remaining solids and grease inside the pipes, while allowing the treated wastewater to pass through the pipes and into the fibers and fabric. This provides optimal conditions for the aerobic bacterial activity that result in purification. The Enviro-Septic® pipes are surrounded by a bed of System Sand, which facilitates the process by wicking the liquid out of the pipes and ensuring that the system receives sufficient oxygen to support a healthy population of bacteria.

### Advantages of an Enviro-Septic® Wastewater Treatment System:

- Cost-effective compared to conventional systems and mechanical devices
- Requires no electricity or mechanical parts
- Needs no maintenance other than pumping septic tank
- Requires a smaller treatment field
- Blends into sloping terrain
- Adapts to difficult site constraints
- Installs more easily and quickly than conventional systems
- Eliminates the need for expensive washed stone
- Adapts easily to both commercial and residential sites
- Uses a protected receiving surface to maximize bacterial activity
- Superior system performance and longevity
- Environmentally safer than conventional systems (confirmed by scientific testing)
- Recharges groundwater more safely than conventional systems
- Significant post-consumer recycled plastic content

## Care and Maintenance

*Note: These recommendations are applicable to nearly all onsite septic systems. The Enviro-Septic® System requires virtually no maintenance on the part of the system owner. However, reasonable use and care will enhance the longevity and trouble-free operation of your system.*

### Gutter, Drainage and Irrigation Systems:

Roof drains, foundation drains, French drains, gutter systems, sump pumps, irrigation systems, etc. should NOT discharge on or near your Enviro-Septic® System. Such additional hydraulic loading could overload the system and cause it to malfunction. The water from such systems does not require treatment and can be safely dispersed away from your treatment system; consult with your designer or installer for more information.

### Perimeter Drains:

Perimeter drains are used to lower the groundwater under and around the system location (if necessary and if allowed per state/local regulations). They surround the system on all four sides and are designed to intercept water and transport it away from the system before being dispersed. If your system includes a perimeter drain, it is very important that you periodically check the outlet to ensure that it remains unobstructed. It is also a good idea to install "animal guards" (a screen covering the outlet) to prevent animal activity.

### Grading, Swales and Surface Diversions:

After installation, you will probably notice that the soil above the treatment field is slightly "crowned;" this is done purposely to direct surface water flows away from the system. You may also notice a "swale," which is a shallow trench in the soil upslope of the treatment field. Crowning and swales are used to intercept surface water flows and direct them away from the treatment field. It is important to the proper functioning of your system that you do not alter these surface diversions, since they protect the system from being flooded.

### Venting:

An adequate supply of oxygen throughout the Enviro-Septic® System is essential to proper functioning. Do not alter or remove any vent stacks. If you are displeased with the appearance of vent stacks, consult with your installer about "remote venting" or vent disguises.

### Periodic Pumping of the Septic Tank:

One of the advantages of the Enviro-Septic® System is that it requires virtually no maintenance other than the need to remove the accumulated matter from the septic tank. The majority of the solids in wastewater are retained in the septic tank, where they settle into the "sludge" layer or float on the surface as the "scum" layer. The bacterial action within the septic tank will break down some of the solids in the tank; the solid waste that isn't digested accumulates over time as these sludge and scum layers, which eventually need to be removed. Pumping is required approximately every 3 to 5 years for a typical residence with a properly sized system. If a garbage disposal is used, more frequent pumping will be required.

There are many factors which determine how often a particular system's septic tank needs to be emptied, including:

- The number of occupants;
- The amount of wastewater generated;
- The volume of solids in the waste;
- The size of the septic tank.

## Proper Use of Onsite Septic Systems

### Importance of Water Conservation:

Onsite systems are designed based on "daily design flow", which is usually calculated based on the number of bedrooms for residential systems. Note that the daily design flow (in gallons per day) is two or three times greater than the "actual" amount of wastewater that is expected to be generated by the structure on a daily basis. Therefore, be aware of situations (additional occupants, addition of fixtures, etc.) which result in an increase of water usage, since this will require more frequent septic tank pumping and may even necessitate expanding (increasing the size of) the system. If the amount of wastewater entering is more than the system can handle, wastewater can back up into the house or the yard, creating a health hazard and a nuisance. The Enviro-Septic® System's ability to be expanded to accommodate increased daily flow if necessary is one of the product's many advantages. The use of the toilet, shower/bath and washing machine account for the majority of water use in a typical household.

In general, the less wastewater that goes down the drain, the better any onsite system will work. A common sense approach to water consumption will maximize your system's effectiveness. A few suggestions for ways to conserve water consumption:

- Don't wash all your laundry on the same day, since this will "flash flood" the system and agitate the settled solids. A single load of wash in a typical machine can use up to 62 gallons of water. If the system is flash flooded, liquid will pass through more quickly than it is intended to, resulting in incomplete treatment. Instead, distribute the wash loads throughout the week.
- Run your washing machine and dishwasher only when they have full loads.
- Careful selection of appliances and fixtures that use less water is another way to minimize the demands placed on your Enviro-Septic® System. Look for the terms "Energy Star" or "high-efficiency" in the product's description. For example, an "Energy Star" washing machine uses one-half as much water as a traditional model.
- When you consider that 25-30% of total household wastewater is attributable to toilet use, it is easy to see that replacing a traditional toilet (5-7 gallons per flush) with a high efficiency toilet (1.6 gallons per flush) can conserve a considerable amount of water.
- Installing aeration devices on faucets and showerheads greatly reduces the amount of water used. A "low flow" showerhead reduces the water used in a ten minute shower from 50 gallons to 25 gallons. Multiply this by the number of showers per day, and the water conservation is significant.
- Leaks and drips within the plumbing system can waste a significant amount of water and should be repaired immediately. One toilet leaking at a rate of one gallon per minute could needlessly send over 1,400 gallons of water per day into your wastewater treatment system.

**TIP:** *An excellent resource for learning more about water conservation is available from the EPA at [www.epa.gov/owm/water-efficiency/index.htm](http://www.epa.gov/owm/water-efficiency/index.htm)*

### **Special Considerations for Pumped Systems:**

Pressure distribution is not to be used with the Enviro-Septic® System; however, in some situations systems may require a pump to gain elevation if the site's topography does not allow for a gravity system. We recommend that the pump dosing frequency be set so the system is dosed a minimum of 4 times a day. If it is dosed less frequently, an increased volume of wastewater will be sent to the system, which could disrupt the settling of solids and greases and lead to clogging.

### **Other substances detrimental to wastewater treatment systems:**

An Enviro-Septic® System is a living collection of organisms, and the introduction of toxins and chemicals can kill the bacteria that are essential to the treatment process. If it is impossible to avoid the use of any of the following substances, use care to introduce them a little at a time so their concentration is diluted and the system can neutralize them gradually.

**Cleaning Products:** The system's bacteria should recover quickly after small amounts of household cleaning products enter the system, but using excessive amounts of such substances constitutes system abuse.

### ***Especially Harmful to Bacteria, Use Only in Moderation:***

- bleach
- chlorine
- ammonia
- anti-bacterial soaps
- disinfectants

**Medications:** Some people dispose of medications by flushing them down the toilet. Certain medications, particularly antibiotics, can have adverse effects on the system's bacteria. Dispose of medications in the trash and not in your plumbing system.

**Chemicals and Toxic Substances:** The following substances are harmful to the living organisms in your system and introducing them constitutes system abuse. These substances can not only have an adverse effect on your system, they can also result in groundwater contamination. Check with your local sanitation department for proper disposal procedures for:

- Fertilizers
- Root killers or other products with copper sulfate
- Poisons or pesticides
- Drain cleaners
- Oven cleaners or other lye-based products
- Degreasers
- Photographic processing chemicals
- Petroleum products of any kind
- Latex paint, oil paint, stains, thinners and solvents
- Antifreeze
- Chlorinated water from swimming pools or hot tubs

**Grease and Cooking Oil:** Grease may harden in the septic tank's scum layer and result in a blockage of the inlet or outlet. If you melt grease and pour it down the drain, it may make its way into the system before hardening, which could clog the fibers and fabrics in the Enviro-Septic® pipe and/or the pores of the soil in the treatment field. Whenever possible, it is preferable to dispose of waste grease and oil in the trash rather than down the drain.

- If you are concerned about the unsightly appearance of vents, consult with your installer about the possibility of installing remote or by-pass venting in order to locate vents in a less-conspicuous area away from the treatment field. This information is also available on our website, [www.presbyenvironmental.com](http://www.presbyenvironmental.com).
- Unsightly vents can also be disguised by installing specially-designed products which conceal the vent but still allow sufficient oxygen flow. These products, constructed of durable but lightweight plastic, are made to look like a large rock, a granite post, a birdbath, etc. If you are interested in purchasing a vent disguise, contact your installer or call Presby Environmental and we can refer you to a distributor near you.
- Some customers find that simply painting the vent stack (green, brown, camouflage, etc.) makes it much less noticeable.
- Resist the temptation to conceal vents with landscaping; no trees or shrubs may be located within 10 feet of the treatment field to prevent the infiltration of roots.



**Contact Your Service Provider IMMEDIATELY if You Observe Symptoms of System Malfunction.**

You may also call Presby Environmental directly at 800-473-5298 and we will provide technical assistance and trouble-shooting guidance. No matter what the problem may be, the sooner it is addressed the easier it will be to correct or repair.

<b>Problem</b>	<b>Possible Cause(s)</b>	<b>Action to take</b>
Wastewater backup into plumbing fixtures (sluggish drains or slow flushing toilets)	Sewage line to septic tank clogged	Use a plumbing "snake" to remove the clog. Do not use caustic chemical drain cleaners.
	Sewage line damaged or invaded by roots	Replace sewage line to septic tank
	Too many accumulated solids in the septic tank	Have septic tank pumped
	Damaged or missing inlet or outlet baffles	Repair/replace baffle
	D-Box plugged	Clean out D-Box
	Pump Failure	Contact service provider
	Effluent filter is blocked	Clean or replace filter
	Connecting pipe from septic tank to Enviro-Septic® System damaged or invaded by roots	Replace connecting pipe
Foul odor detected	System overload or malfunction	Restrict water use as much as possible and contact service provider
	Ventilation malfunction or improper configuration	
Ponding or pooling of wastewater on ground surface or basement	System overload or malfunction	Restrict water use as much as possible and contact service provider
For any malfunction or questions.....	<b>First</b> consult your service provider, designer or installer for assistance.	Presby Environmental's technical support team can be contacted by telephone at (800) 473-5298 or by email to <a href="mailto:info@presbyeco.com">info@presbyeco.com</a> .

# VENTING DISGUISES AND SOLUTIONS

Ongoing research proves that any onsite septic system will work better and last longer if there is a sufficient oxygen supply. This Department has witnessed problems in the Presby septic systems which either had no vents installed or had their vents removed. In both cases once the vents were re-installed the systems appeared to work with no problems. The Indiana State Department of Health and Monroe County Health department require both lower and upper vents for your system.

If your Presby has no pump then the upper vent is usually considered the roof vent on your home which is utilized by the normal home plumbing. If a pump system is required for your Presby due to location, than an upper, stand alone, vent is required that has an elevation difference of ten feet in comparison to your lower vent. All Presby septic systems must have a lower vent. These vents are usually two to three feet off the ground with the pipe turned downward to prevent rain water to intrude, as illustrated in figure 1.

Vent pipes can be painted or disguised with some attachment to make them more appealing as seen in figure 2. Or disguises of vents can be as ornate as artificial rocks, birdbaths, PVC fencing or stone markers such as figure 3, 4, 5, 6 and 7.

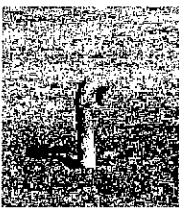


figure 1



figure 2



figure 3



figure 4



figure 5



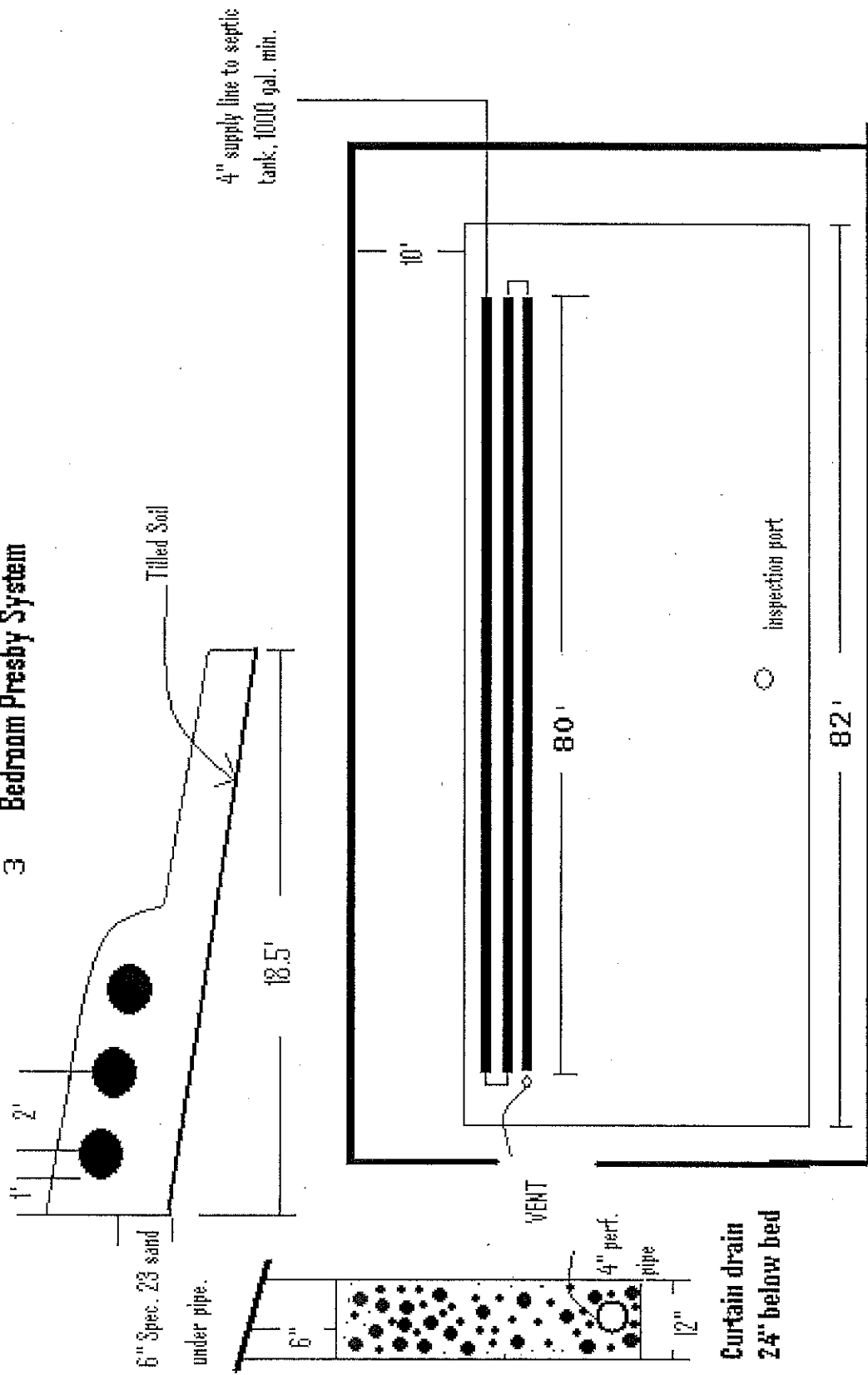
figure 6



figure 7

This Department will work with the homeowner to find a solution for venting for most sites. Removal of vents is not the solution and may result in septic system disapproval from this Department or system failure.

### 3 Bedroom Presby System



Plan Provided as a courtesy of the Monroe County Health Department. Plans are NOT to scale. Contact MCHD with any Questions.