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**Pollution Prevention: Septic System Care**

Septic systems are designed to treat wastewater by separating solids from liquids and then draining the liquid into the ground. Sewage flows into the tank where settling and bacterial decomposition of larger particles takes place, while treated liquid filters into the soil. When system failures occur, untreated wastewater and sewage can be introduced into groundwater, nearby streams or water bodies.

Pollution prevention practices are designed to limit pollutant discharges from improperly functioning septic systems, and keep the septage from entering local water sources. These discharges occur for a number of reasons, including improper siting, installation, structural failures or by system overloading. Failures may also occur due to lapses in the regular inspection and maintenance required to ensure proper operation during the design life of the septic system. Homeowners may be unaware of the age of their system and whether preemptive planning is necessary before the system fails.

Steps That Can Reduce Pollutant Discharges from Septic Systems:

- Do not wait until septic system shows sign of failure. Inspect the system annually and have it pumped-out at least once every three years.
- Keep records of pumping and maintenance and a map of the location of your septic tank and drainfield.
- Practice water conservation indoors and divert roof drains and surface water away from the system.
- Use caution in disposing materials down the drain. Household chemicals can kill the bacteria that make the system work and non-degradable materials (cigarette butts, etc.) can clog the system.
- Keep heavy equipment and vehicles off your system and drainfield.
- Don't cover your drainfield with impermeable surfaces that can block evaporation and the air needed for effluent treatment.

### **Chemical Additives**

Organic solvents are often advertised for use as septic system cleaners. There is little evidence that such cleaners perform any useful functions, and instead may kill the microbes necessary for waste treatment, resulting in increased discharge of septage pollution. In addition, the chemicals themselves often contain constituents that are listed with the EPA as priority pollutants. It is illegal to dispose of organic solvents, or materials containing organic solvents by dumping them into septic systems, onto the ground, or into streams or rivers. Not using these additives can prevent septic system failure, surface water contamination and groundwater contamination.

### **Phosphorus Detergent Use**

Conventional septic systems are usually very effective at removing phosphorus. However, certain soil conditions combined with close proximity to sensitive surface waters can result in discharging phosphorus (a pollutant). If such conditions are sufficiently prevalent within an area, restrictions on the use of detergents containing phosphates can be implemented. Using non-phosphate detergent can reduce phosphorus loads to septic systems by 40 to 50 percent, and reduce discharge of phosphate to streams and rivers.

### **Use of Garbage Disposals for Households Served by Septic System**

Garbage disposals contribute large amounts of suspended solids and nutrients to septic systems and increase the buildup of solids in septic tanks. Garbage disposals can double the amount of solids added to a septic tank, creating the need for more frequent pump-outs.

### **References:**

Ohrel, R. 1995. Dealing with Septic System Impacts. *Watershed Protection Techniques*. 2(1): 265-272.

Olson, K., D. Gustafson, B. Liukkonen, and V. Cook. 1997. *Septic System Owner's Guide*. Minnesota Extension Service, University of Minnesota. St. Paul, MN.

United States Environmental Protection Agency (US EPA). *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*. US EPA Office of Water. Washington, DC. 840-B-92-002.

### **For more information, please go to:**

Tennessee Department of Environment and Conservation, Office of Groundwater Protection:  
<http://www.state.tn.us/environment/gwp/>

**Prepared by the Montgomery County Storm Water Coordinator**