Septic System Care

Extension Service Resources to Help Manage Your Wastewater

University of Minnesota Extension Service web sites:
http://septic.umn.edu
www.extension.umn.edu

Staff resources:
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Landscaping Septic Systems, #FO-6986, $0.75. How to landscape your mound or drain field.

Taking Care of Your Septic System Owner's Basics, MI-07040, $0.50. Tips for homeowners on caring for their systems.

Understanding Your Septic System, #FO-7439, $0.75. Provides basic information on septic system function, design and maintenance.

Septic Systems Revealed: A Guide to Operation, Care and Maintenance, video, VH-6768, $15.00. 23-minute video on the basics of septic systems, including system features, safety, use, operation, maintenance, and troubleshooting.


A Quick Guide to Small Community Wastewater Treatment Decisions, FO-07735, $1.00. Basics for communities on working through a community decision-making process.

To order, visit www.extension.umn.edu, or call the Extension Distribution Center at 1-888-876-8636.

State and Local Policies for Septics

Health standards established in the 1920's are the basis for today's Minnesota Rule 7080, which regulates septic systems. Designs have changed drastically since the 1920's because our life styles involving water use have changed so much since then People used to take baths once a week, now most of us take one or more a day. We used to wash several loads of clothes with the same water using a wringer washer once a week.

In the 1960's Minnesota started developing wastewater treatment rules to upgrade septic systems on lakeshores.

Our many lifestyle changes have led to code revisions. Statewide licensing of on-site septic system designers, installers, inspectors and pumper is mandatory. State law also requires homeowners to disclose everything they know about the septic system to potential home buyers. Many local units of government also require inspections and mandatory upgrades at the time of a home sale. Upgrades on lakeshore have been mandatory since 1972. Local units of government are required to adopt chapter 7080 to regulate septic systems. Because of unique local conditions, ordinances may be slightly more or less restrictive than state rules.

Questions about local programs? Contact:

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Reduce chances of frozen septic systems

A lack of snow and cold temperatures can cause some septic systems to freeze. But you can take some precautions to avoid the problem. There are many things you can do to reduce the chances of your system freezing. It’s not necessary to do all of these, but pick and choose based on your home:

• In the fall, add loose, fluffy hay or straw mulch (8-12 inches) over the pipes, tank and soil treatment area.

• Use normal amounts of water. If freezing is a concern, increase water use (normal is 50 to 75 gallons per person per day). Schedule laundry to include one warm/hot load per day, use your dishwasher and take a hot bath daily. DO NOT leave water running all the time, as this will hydraulically overload the system. Also, DO NOT add antifreeze to the system.

• If you know you are going to be gone for more than a couple of days, have someone use quantities of water in the home regularly. If you are going to be gone for an extended period, pump the tank before leaving.

• Fix any leaky plumbing or appliances in your home. If you have a high-efficiency furnace that trickles water into a drain, collect the water in a large container and empty it periodically.

• Keep all types of vehicles--including ATV’s and snowmobiles--and high-traffic people activities off of the system. This is a good rule to follow year-round.

• Make sure all risers, inspection pipes and manholes have covers on them. Sealing them and adding insulation helps.

• Keep an eye on your system. If any seeping or ponding occurs, contact an onsite professional to help determine the cause and remedy.

The U of M Onsite Sewage Program Web site at http://septic.umn.edu/homeowner/index.html has detailed information on septic system freezing problems. It can also help you locate a professional in your area.

The Septic tank delivers the partially treated liquid (effluent) - still containing pathogens (disease causing bacteria and viruses), nutrients (such as nitrogen and phosphorous) to the soil treatment area.

Soil Treatment: The soil surrounding the network of pipes in the drainfield or mound completes the treatment process by allowing naturally occurring aerobic bacteria in the soil to destroy pathogens and forcing nutrients to come in direct contact with soil particles. Phosphorous attaches to soil particles.

After passing through the required three feet of unsaturated soil below the drainfield, clean water returns to the soil and groundwater system or evaporates into the air.

There are many design variations to the soil portion of the system that make proper treatment possible. The amount of wastewater produced by the home and the soil conditions on the property determine the type needed. National, State and local design standards and codes specify what needs to be done to accomplish proper treatment.

The process of treating water and removing harmful components in sewage enables the water to be recycled safely back into the environment. People, animals and plants use water over and over again.
**Improving Septic System Performance Room by Room**

By controlling water use, selecting appropriate products, and making wise disposal decisions, the homeowner can improve performance of the septic system and avoid major problems!

**Bathroom:**
- Reduce use of drain cleaners by minimizing the amount of hair that goes down the drain
- Limit use of antibacterial soap
- Reduce use of cleaners by doing more scrubbing with less cleaner
- Take shorter showers instead of tub baths. Showers use less water than tub baths
- Do not flush facial tissues, paper towels, cigarette butts, or personal hygiene products down the toilet
- Do not dispose of unwanted prescription or over the counter medications in the septic system
- Use moderate amounts of toilet paper. Toilet paper should break up easily in water
- Do not use “every flush” toilet bowl disinfectants that are placed in the tank or bowl
- Shut off water while shaving and brushing teeth (save up to 5 gallons per minute)
- Fill basin to wash hands instead of washing under running water
- Do not run the hot water in the shower to warm the bathroom
- Shut off water in the shower while lathering and shampooing
- Repair leaky faucets and toilets immediately
- Install low-flow showerheads

**Laundry:**
- Distribute wash loads evenly throughout the week to avoid overloading the system with large volumes of water in a short period of time
- Use the minimum amount of detergent or bleach necessary; often less than suggested by manufacturers
- Use liquid detergents (powdered detergents may add fine particles to the sludge accumulation in the tank)
- Use a water/suds-saving, top-loading washing machine to reduce water and detergent use
  - Use highly biodegradable powdered detergents if liquid detergents are undesirable
  - Select a front loading washing machine which may use 40 to 65% less water
  - Use laundry detergents that do not contain phosphates or bleaches
- Wash only full loads. Adjust load level settings for small loads
- Install filter on washer to remove lint

**Kitchen:**
- When using drinking water treatment devices, be sure there is a shutoff valve so the system doesn’t run continuously when the reservoir is full. Some units may reject up to 8 gallons for every gallon retained
- Do not use a garbage disposal; use composting or garbage service
- Use the minimum amount of soap necessary to do the job, often less than suggested by manufacturers
- Reduce the use of drain cleaners by minimizing the amount of grease and food that go down the drain
- Keep a pitcher of drinking water in the refrigerator instead of running the tap every time to get cool water
- Install low-water-use dishwasher, use liquid detergent in the dishwasher
- Hand wash dishes in the basin instead of under running water or wash only full loads in the dishwasher
- Use minimal amounts of mild cleaners as needed only
- Use low-phosphate (0 to 5%) dishwasher soaps
- Limit use of antibacterial soap
- Install low-flow faucets
- Repair leaky faucets

**Basement, Utility Rooms:**
- Install a water meter to monitor water usage
- Reroute the water softener and iron filter recharge water outside the septic system; does not need to be treated
- Recharge the water softener as infrequently as possible to reduce water use
- Route chlorine-treated water from swimming pools, hot tubs outside of septic system and away from drainfield
- Dispose of all solvents, paints, antifreeze, and chemicals through local recycling and hazardous waste channels. These materials kill valuable bacteria in the system and may pass through to contaminate drinking water
- Never let wash water from latex paint on brushes or rollers go down the drain and into the septic system
- Route water from condensation in high efficiency furnaces outside of septic system (prevent freezing problems)
Know Your Septic System’s Function and Maintenance

*Household wastewater contains bacteria, viruses, nutrients, solids and cleaners that need to be treated by your onsite sewage treatment system.*

- More than 25 percent of Minnesota households use septic systems (on-site sewage treatment systems) to treat their wastewater.
- Septic systems protect human health and the environment by safely recycling wastewater back into the natural environment.
- While government regulation of septic systems ensure proper treatment of sewage to protect people and the environment, you are responsible for operating and maintaining your septic system.

### Soil Treatment System—Trench

![Soil Treatment System—Trench Diagram]

### Soil Treatment System—Mound

![Soil Treatment System—Mound Diagram]

### Soil Treatment System (typically an in-ground trench or mound)

**Function**
- Kills bacteria, viruses, and other disease organisms
- Removes phosphorus and other nutrients
- Reduces nitrate content
- Recycles water into soil
- Water and nutrients enter the ground water, evaporate, or are used by plants

**Basic Management Practices**
- Mow but do not fertilize or water turf grasses.
- Keep heavy vehicles (cars, tractors, snowmobiles, etc.) off area.
- Do not place gardens, swing sets, or sand boxes over this area.
- Do not plant trees and shrubs on or close to this area.

### Household Plumbing

**Function**
- Collects used water
- Delivers wastewater to septic tank

**Basic Management Practices**
- Control water use—repair leaks, use low water use appliances and fixtures.
- Don't overload the system—spread water usage throughout the day and week.
- Minimize use of harsh cleaners, bleach, soaps and detergents.
- Do not dispose of paints, medications, or chemicals through your septic system.
- Keep grease, lint, food, feminine hygiene, and plastic products out of septic system.

### Septic Tank

**Function**
- Separates solids from liquid
- Friendly bacteria decompose organic solids
- Stores other solids until removed by pumping
- Delivers liquid to soil treatment area

**Basic Management Practices**
- Pump/clean solids from tank regularly.
- Do not use septic tank additives for maintenance.
- Always clean the tank through the manhole.
- Inspect baffles at time of cleaning.
- Never enter the septic tank.