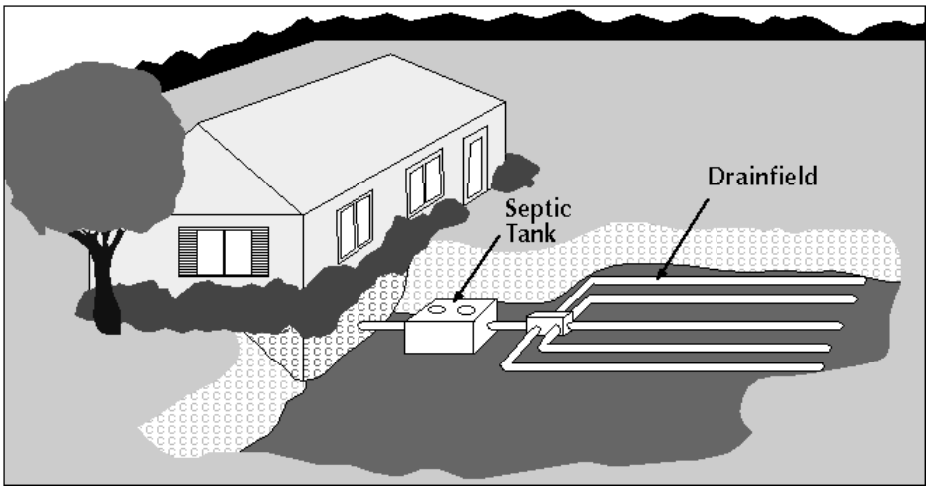
ROUGE RIVER NATIONAL WET WEATHER **DEMO**NSTRATION PROJECT

DEMOINFO

Septic Systems

Septic systems are waste water treatment systems that use septic tanks and drainfields to dispose of sewage. They are typically used in rural or large lot settings where a sanitary sewer is not available.



According to the Michigan State University Extension Service and local health deparments, when a septic system is correctly located, adequately designed, carefully installed and properly managed, you will have a waste disposal system that is simple, economical, effective, safe and environmentally sensitive.

A septic system usually is made up of a septic tank and a drain field. The septic tank is usually made of reinforced concrete, is buried and watertight. This tank receives untreated household waste. The drain field consists of a series of perforated pipes (pipes with holes in them), which distribute the liquid from the septic tank to the surrounding soil.

Although even the best designed and installed system will eventually fail, proper maintenance will ensure a longer lasting waste disposal system.

A failure of a septic system can cause serious problems. Sewage can back up into buildings or ponds on the ground near the drainfield. Animals and people may become ill from contact with these discharges. Pollution may enter surface waters and shallow drinking water supplies. In addition to public health concerns, there are costly repair bills to repair or replace the system. Normal use of the system is interrupted while the system is uncovered for repairs or replacement.

How the septic system works

Waste material from the house enters the septic tank where:

- Heavier solids settle to the bottom and form a sludge layer.
- Lighter wastes such as oil and grease rise to the top and form a scum layer.
- Between these two layers is liquid wastewater.

When waste enters the tank, bacteria begin to break down the solid materials. This break down reduces solids, but also leaves a residue behind in the tank. As time passes, this residue builds up, and must be removed to prevent it from entering the drainfield and clogging the system. The center liquid layer flows slowly from the tank into the drainage field. Perforated pipes allow the liquid to be equally distributed in a gravel-filled disposal field. Once the liquid reaches the disposal field, it soaks into the soil. The soil then acts as the final filter for treatment of waste received from the septic system.

Do's and Don'ts if you are on a septic system

Dos

- Connect laundry and kitchen water to septic tank.
- Have your septic tank pumped out by a licensed operator every 2-3 years.
- Have the operator check to be sure there is a tee or baffle on the outlet of the septic tank. The baffle stops the scum from floating into the disposal field.
- Check with the health department if you are having problems. They can assist with operation, maintenance and design questions.
- Learn the location of your septic tank, drainfield and well. Keep a sketch of it handy with your maintenance record for service visits.
- Divert other sources of water, like roof drains, house footing drains, and sump pumps to lawn areas away from the septic system. Excessive water floods the system, keeping the soil in the drainfield saturated and unable to adequately treat the wastewater.
- Take leftover hazardous household chemicals to your approved hazardous waste collection center for disposal. Use bleach disinfectants, and toilet bowl cleaners sparingly and in accordance with product labels.
- Cut the grass over the disposal field. Shorter grass (around 2-3 inches) increases plant activity called evapotranspiration. This process removes nutrients from the disposal field through the root system, and increases evaporation.

Limit water entering your tank:

- Use water-saving faucets, showers, and toilets.
- Prevent basement sump pump connection to tank.
- Drain appliances one at a time.
- Spread clothes-washing over the entire week and avoid half-loads.
- Prevent roof, foundation, driveway, basement drainage and water softener discharge from entering the tank or disposal field area.
- Minimize amount of water used for bathing and dish washing.
- Fix all faucet and toilet float valve leaks.
- Check toilets for leaks at least once a year by putting a few drops of food coloring into the toilet tank. If colored water appears in the toilet bowl, you have a leaking toilet.

Don'ts

- Don't go down into a septic tank. Toxic gases are produced by the natural treatment processes in septic tanks and can kill humans in minutes. Extreme care should be taken when inspecting a septic tank, even when just looking in the lid opening.
- Don't allow heavy vehicles to drive over or park on the drainfield.
- Don't plant trees or shrubs on the drainfield. The roots from the plants could damage the system.
- Don't cover the drainfield with a hard surface such as concrete, asphalt or decks. The area should have only a grass cover.
- Don't repair your septic system without checking with the health department to see if you need a permit.
- Don't overuse a kitchen garbage disposal unit. Heavy use adds large quantities of solids and shortens the time between septic tank pumpings.
- **Don't use commercial septic tank additives.** These products usually do not help and some may hurt your system in the long run.
- Don't use your toilet like a trash can or poison your septic system and the groundwater by pouring harmful chemicals and cleansers down the drain. Harsh chemicals can kill the beneficial bacteria that treat your wastewater.

Do Not Flush

coffee grinds	dental floss
disposable diapers	kitty litter
sanitary napkins	tampons
cigarette butts	condoms
fat	grease or oil
paper towels	

or hazardous chemicals, such as:

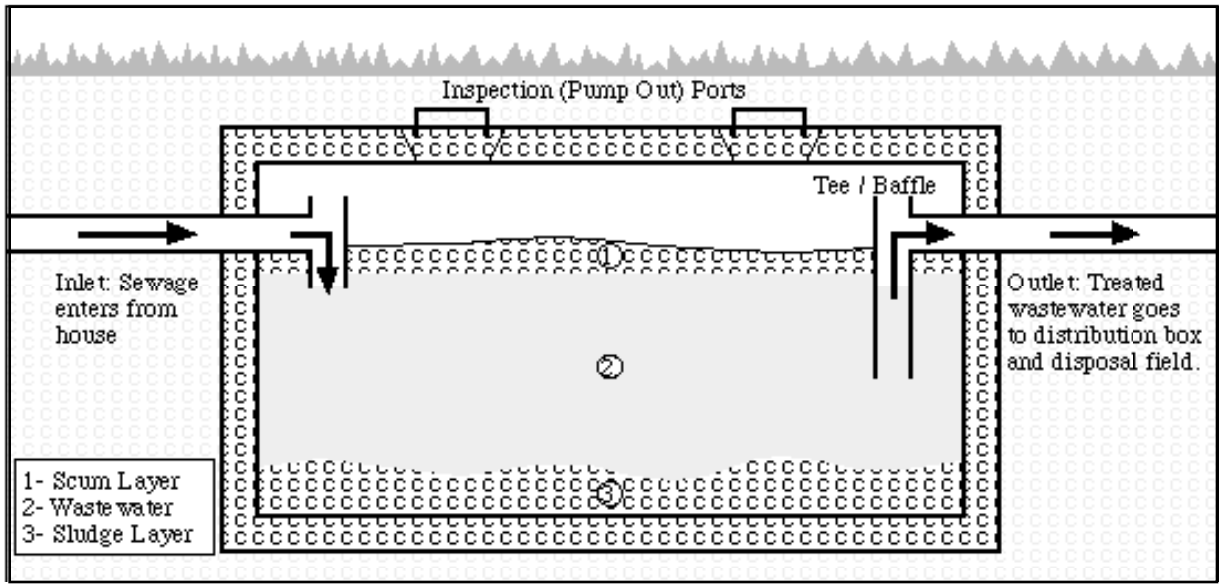
paints	varnishes
thinners	pesticides
oils	old gasoline
photographic solutions	

These items can overtax or destroy the biological digestion taking place within your system.

Remember

\+ adequate design
\+ proper installation
\+ water conservation
\+ regular maintenance
= a longer life for your sewage disposal system.

Cross section of a typical septic tank



Signs that your system is failing

- Sewage backup in drains or toilets.
- Slow flushing toilets, sinks or drains.
- Visible liquid on the surface of the ground near the septic system. It may or may not have an odor associated with it.
- Lush green grass over the drainfield, even during dry weather. Often, this indicates that an excessive amount of liquid from the system is moving up through the soil, instead of downward, as it should. While some upward movement of liquid from the drainfield is good, too much could indicate major problems.
- Buildup of aquatic weeds or algae in lakes or ponds adjacent to your home. This may indicate that nutrient-rich septic system waste is leaching into the surface water.
- Unpleasant odors around your house. Often, an improperly vented plumbing system or a failing septic system causes a buildup of disagreeable odors around the home.

What to do if your system is failing

If your system exhibits one or more of the failure indicators, contact your county health official for assistance in assessing the situation. Some times the system may be able to be repaired without complete replacement. Sewage contains harmful bacteria, so keep pets and children away from the failure. Limit water use until repairs can be made. If a new system or repairs are needed, a permit is often required from your local health department.

For additional information about your septic system and its condition, contact:

Detroit City
Health Department
Herman Kiefer Health
Complex, Bldg. 4
1151 Taylor
Detroit, MI 48202
313-876-4519

Oakland County
Health Division
1200 N. Telegraph Rd.
Pontiac, MI 48053
248-858-1320, plus
offices in Southfield
and Walled Lake

Wayne County
Environmental Health
5454 S. Venoy
Wayne, MI 48184
734-727-7400

Washtenaw County
Environmental Health
4101 Washtenaw Ave.
Ann Arbor, MI 48107-
8645 734-971-4542

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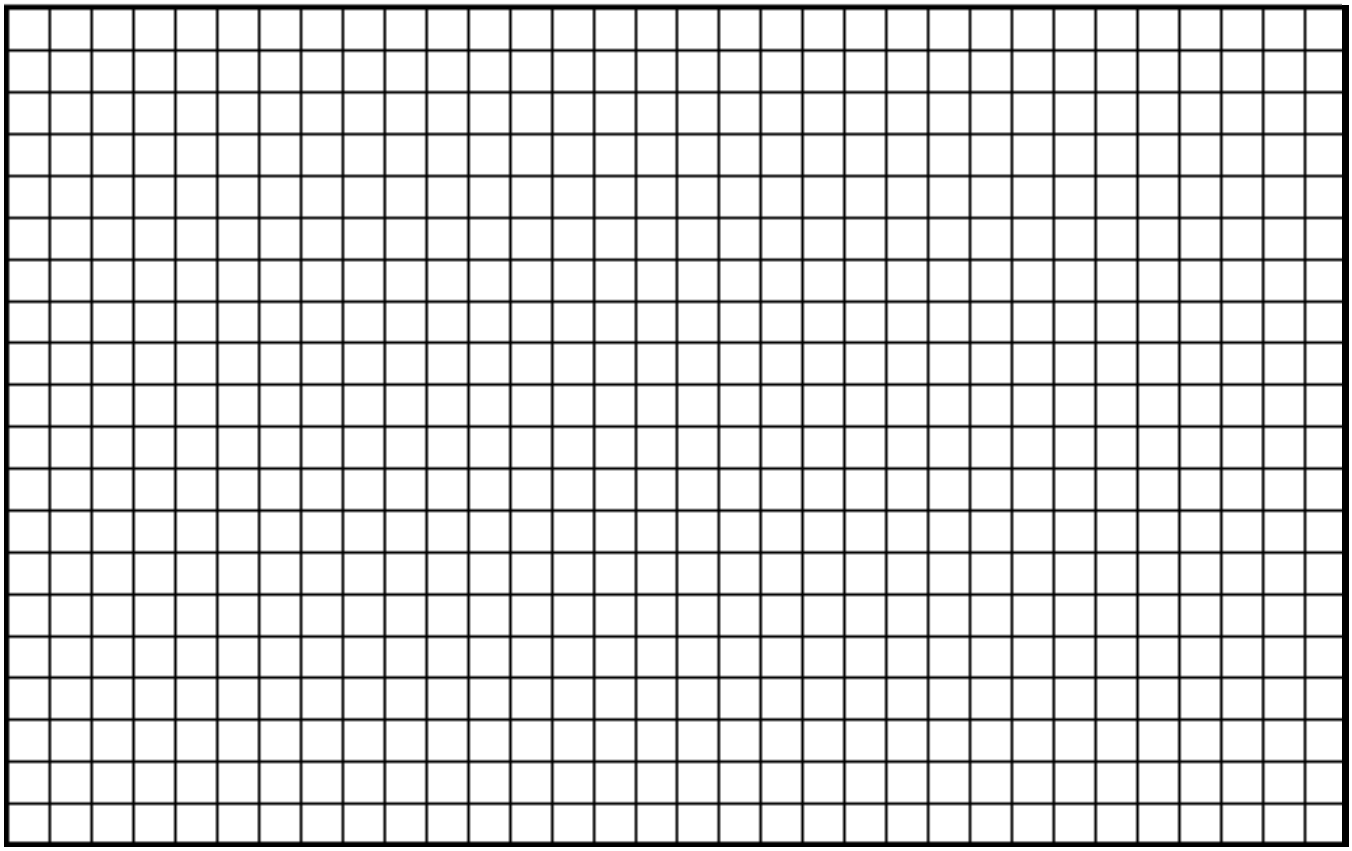
If you have any questions about Septic Systems or the Rouge Project, in general, please call the Rouge Hotline at (888) 223-2363 or visit our website at http://www.rougeriver.com

Septic System Layout

Use this chart to draw your septic system, showing the relative location of your septic system components (tank, disposal field) in relation to your house and well.



PREVENTIVE MAINTENANCE RECORD

Use the preventive maintence record to keep track of system repairs, tank pumping and other work. Remember, have your tank pumped out by a licensed operator every 2-3 years.

Date	Work Done	Firm Doing Work	Phone Number	Cost