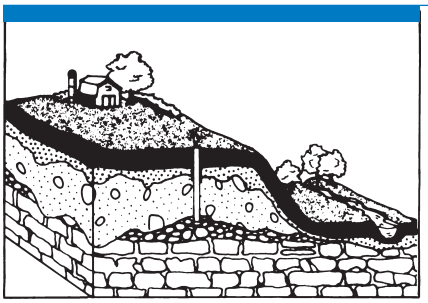

Soil Facts

Septic System Owner's Guide

If you use a septic system, or if you are buying a home with a septic system, this owner's guide can help you be sure that your septic system is used and maintained properly. This folder also provides a place to record and keep important information, such as a copy of your permit, a sketch of your system, maintenance records, and other fact sheets.

Know the Ins and Outs of Your System

What type of system do you have?

Many different kinds of septic systems are used in North Carolina, but most of the nearly 2 million systems in use throughout the state are slight modifications of the conventional septic system. This system has a septic tank and a drainfield with gravel-filled trenches (usually two to six trenches). Since the mid to late 1990s, however, the traditional gravel aggregate trenches used in the past have given way to newer gravel-less trench designs.

These gravel-less trench designs rely on alternative materials in place of the gravel. The most common gravel-less trenches now used include either long, narrow, tunnel-shaped chambers in the trenches or gravel substitutes such as expanded polystyrene aggregate.

Other alternative trench materials that are also being used extensively in some parts of the state include large diameter pipes and permeable concrete panel block trench materials. In addition, since about 2003, some gravel-less septic system trenches use bundles of plastic pipes or other materials such as recycled rubber tires (chopped into chips or pieces to meet specific size requirements) to replace the gravel aggregate.

Cooperative Extension Service publication *AG-439-13, Septic Systems and Their Maintenance,* describes the conventional system, simple modifications of it, and important maintenance needs.

Other more sophisticated types of on-site systems used for the last 20 to 25 years include systems with pumps, mechanical pretreatment units, or biofilters. These technologies are now being used in numerous new housing developments or to replace or repair failing septic systems at homes and businesses. Systems using these new technologies require a higher level of maintenance than the more traditional conventional septic systems.

For this reason, state rules have specific maintenance requirements for a number of these more sophisticated technologies. Often, homeowners will be required by state sewage rules to hire a state-certified operator to regularly inspect and maintain the system. In addition, state rules also require the health department to inspect these systems on a periodic basis.

Your local health department can tell you what type of system you have and what the

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legal requirements are for long-term maintenance.

Things You Need to Know About Your Septic System

- What type of septic system do you have?
- Where is it located?
- Where is the repair area located?
- Is the septic system working?
- Has it been maintained in the past?
- What can you do on a day-to-day basis to keep your system working properly?
- What maintenance is needed in the future?

Do you know the location of your septic system and repair area?

To properly maintain your septic system, you should know the location of both the septic tank (and any other pretreatment units) and the drainfield. Contact the local health department for a copy of your septic system permit and soil evaluation sheet. These forms indicate the approximate locations of each of the system's components and the size of the septic tank. Keep these items in this *Septic System Owner's Guide* file folder.

The location of the septic tank and drainfield can usually be determined with a copy of the permit and with the help of a septic contractor, consultant, or the local health department.

Most housing sites permitted since the early 1980s are legally required to have a "repair area or replacement area" in which a second drainfield could be built if needed. This repair area was identified by the health department when the site was permitted and should be shown on your septic system permit. The law also requires you to protect this area from excavation; building a house addition, garage or outbuilding over it; swimming pool construction; and any soil disturbance activities.

Sketch your home, septic system (both the tank and drainfield), repair area, and other important features (such as your driveway) on the grid labeled **Septic System Layout**. When you have your septic tank pumped, measure and record the distance from the house to the access port on the tank. This will help you find it again. You might also wish to mark your tank location and the drainfield boundaries in your yard. If a riser is not installed over the access port for your septic tank, you may want to have one installed. Be sure, though, that the riser is secured with a lock or a heavy lid to prevent children from opening it and endangering themselves or others. Even properly operating septic tanks contain poisonous gases and pollutants as well as bacteria and other germs that can cause serious diseases. NO ONE SHOULD EVER ENTER A SEPTIC TANK.

Is your septic system working properly?

Unfortunately, if house fixtures drain well, few people investigate whether their septic system works. Many people don't realize that untreated sewage on top of the ground can be a health hazard. If your system shows signs of problems, contact your local health department immediately.

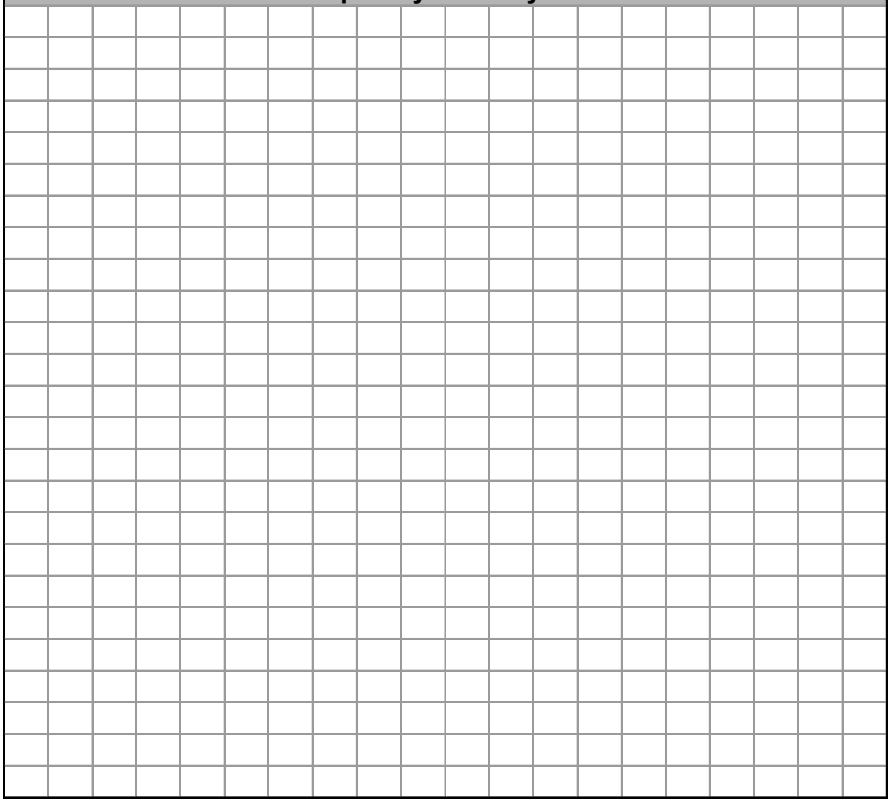
State law requires that you get a permit from the health department before repairing a failing septic system. Be wary of any contractor who wants to attempt a repair without a permit.

What maintenance has been done?

Before planning a maintenance program, find out what maintenance has already been done. If you are buying an existing home, ask the seller a few important questions:

- How old is the system?

Septic System Layout



- Where are the tank and drainfield located (they may not be at the same location or even on the same lot)?
- When was the tank last pumped?
- How frequently has it been pumped?
- How often has the "effluent filter" in the septic tank been cleaned (these effluent filters are required on systems installed since 1999).
- Have there been signs of possible failure?
- Where is a copy of the permit and records showing how well (or poorly) the system has been maintained?
- Have there been additions made to the house that would necessitate increasing the size of the system?
- Has the system ever been repaired, and if so, when, and by whom?

If the house has just been built, ask the septic system contractor to provide you an "as built" diagram that may show details not on the permit. If the house has a system with a pump, ask the contractor and health department to provide details concerning the initial pump setup.

Proper care of your septic system requires day-to-day management as well as periodic maintenance and repairs.

Day-to-Day Management

Don't use too much water.

- The drainfield does not have unlimited capacity.
- Typical daily water use is 50 gallons per person.
- The soil drainfield usually has a maximum daily design capacity of 120 gallons per bedroom, even for short periods of time.
- Overloads can occur seasonally, daily, or on the weekend.
- Water conservation will extend the life of your system.
- Repair dripping faucets and toilets.

Limit disposal to sewage.

- Don't use your septic tank as a trash can for cigarette butts, tissues, sanitary napkins, cotton swabs, cat box litter, coffee grounds, or disposable diapers.
- Restrict the use of your garbage disposal. These add quite a lot of extra solids.
- Don't pour grease or cooking oil down the drain.
- Don't poison your system with harmful chemicals such as solvents, oils, paints, thinners, discarded medications, disinfectants, pesticides, poisons, and other substances.
- Save money. Commercial septic tank additives are usually not necessary.

Protect the system from physical damage (site maintenance).

- Keep the soil over the drainfield covered with vegetation to prevent soil erosion.
- Don't drive vehicles over the system.
- Avoid construction over the system and repair area.
- Maintain the natural shape of the land immediately downslope of the system, and protect this area from excavation (cutting and filling).
- Don't cover the tank or drainfield with asphalt or concrete.

Dispose of all wastewater in an approved system.

- Don't put in a separate pipe to carry wash waters to a side ditch or the woods. This is illegal.

Periodic Maintenance and Repair

Home and yard (site maintenance):

- Protect and maintain the site of your septic tank and drainfield.
- Cut down and remove trees that like wet conditions. This includes willows, elms, sweetgums, and some maples.
- Landscape the yard to divert surface waters away from the tank and drainfield.
- Be sure that the water from the roof, gutters, and foundation drains does not flow over the system.
- If your system is at the base of a slope, then consider installing a french drain to divert underground waters.
- Maintain drainage ditches, subsurface tiles, and drainage outlets so that water can flow freely from them.

Septic tank:

- Install risers over the tank if it is buried 6 inches or deeper. They provide easy access for measuring and pumping solids as well as cleaning the effluent filter.
- Measure how quickly sludge and scum accumulate in the tank. Have your professional pumper record this information.
- Have solids pumped out of the tank as needed. Most septic tanks have two compartments; get both pumped.
- Cooperative Extension Service publication *AG-439-13, Septic Systems and Their Maintenance*, contains more information on pumping frequency.
- Don't wait until your drainfield fails to have your tank pumped. By then, the drainfield may be ruined. With septic systems, an ounce of prevention is worth a ton of cure!

Regulations and precautions:

- Hire a state-certified subsurface system operator for any system with a pump. One will be required by law for low pressure pipe (LPP) systems installed or repaired after July 1, 1992, any subsurface drip irrigation systems, aerobic treatment units (ATUs), peat biofolters, sand biofilters, textile

Preventative Maintenance Record			
Date	Work Done	Firm	Cost

Your Septic System Pumper
Name
Address
Phone

Your Septic System Installer
Name
Address
Phone
Date System Installed

Signs of Possible Septic System Problems

- Sewage backing up into your toilets, tubs, or sinks.
- Slowly draining fixtures, particularly after it has rained.
- The smell of raw sewage accompanied by soggy soil or sewage discharged over the ground or in nearby ditches or woods.
- Note: pump systems sewage may come to the ground surface when the pump is turned on and then disappear after the pump turns off. This is still a system failure and must be repaired.
- An alarm flashing (red light) or beeping in the house or in the yard indicating a pump is not working properly or that the water level in a pump tank is too high and close to failure.
- An increase in infections or illnesses associated with swimming in lakes or rivers next to the system.

biofilters, and other complex systems.

- A list of state-certified subsurface system operators can be obtained from the N.C. Water Pollution Control System Certification Commission at (919) 733-0026.
- Be sure the pump and electrical components continue working properly between scheduled maintenance visits.
- Sewage contains germs that can cause diseases. Never enter a septic tank. Toxic and explosive gases in the tank present a hazard. Old tanks may collapse. Electrical controls present a shock and spark hazard. Secure the septic tank lid so that children cannot open it.
- Don't attempt to repair a failing system yourself. Get a repair permit and hire an experienced contractor.

For more information about septic systems, contact your county Extension agent or local health department.

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