

Your Septic System

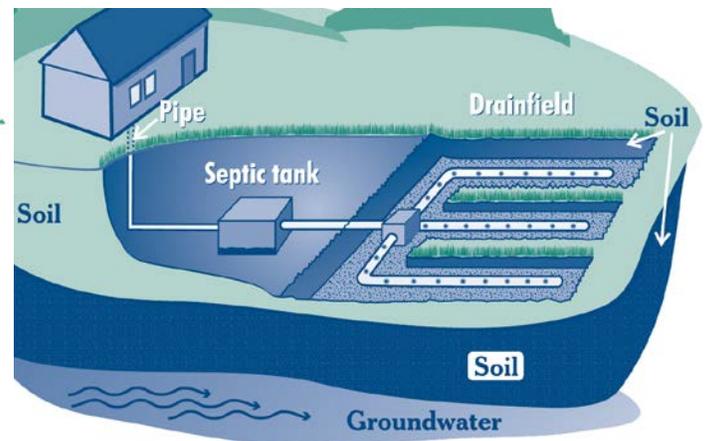
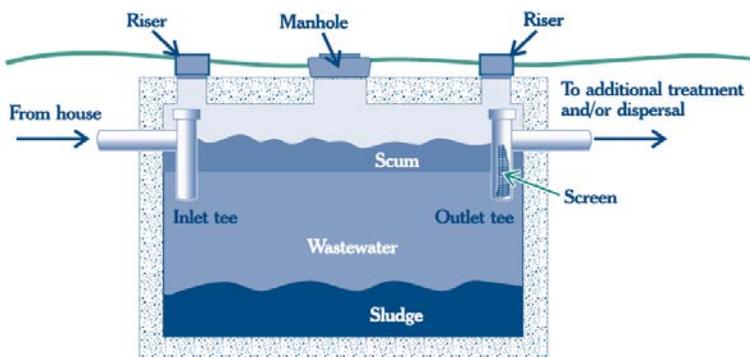
Millions of suburban and rural New York residents depend on septic systems to treat and dispose of household wastewater. The purpose of a septic system is to store, distribute, and treat liquid wastes from your home on your property while preventing contamination of groundwater, drinking water wells, and nearby lakes and streams. When a septic system is properly located, designed, installed, and maintained, it serves as an effective, economical, and safe on-site wastewater treatment system. **Maintenance is the key to a lasting, properly functioning septic system.** This publication will help you learn how a septic system works, how to maintain it, how to prevent and recognize problems, records you should keep, and where to go for more help.

Septic System Function and Maintenance

How Your Septic System Works

Household wastewater carries water, solids, grease, and dissolved substances, including household chemicals. It also carries bacteria that can decompose waste, and bacteria and viruses which can cause disease. A septic system treats wastewater in stages to manage these substances. A failing septic system is one that cannot perform these tasks, putting human health and water resources at risk.

Typical single-compartment septic tank with ground-level inspection risers and screen



The figures above show the basic parts of a septic system (from *A Homeowner's Guide to Septic Systems*, US EPA 2005). Wastewater flows from the house via a pipe into the **septic tank**. Bacteria decompose some of the waste materials. Heavy solids settle to the bottom of the tank, to form sludge. Oils and grease float to the top, forming a scum layer. Wastewater between those two layers can flow out through the exit pipe, which should have a screen or filter to block large particles. Note that two-compartment septic tanks or two septic tanks in series are recommended and sometimes required in New York State.

The partially treated wastewater is discharged from the septic tank to a **distribution box** and through perforated pipes into an **absorption area**, also called a **leachfield** or **drainfield**. Here, the water is further treated by filtration through gravel and soil, chemical reactions, and decomposition by soil microorganisms. The water itself is recycled back into the environment, making this a decentralized or **on-site wastewater treatment system (OWTS)**.



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Maintaining Your Septic System

The design life of a septic system is usually several decades. Keep your septic system functioning properly with regular maintenance.

Pumping Out Your Septic Tank

- Generally, sludge and scum should be pumped from the septic tank every three to five years, depending on the size of the tank and the amount and composition of wastewater entering the tank. Use of a kitchen sink grinder greatly increases solids loading so the tank must be pumped more often.
- To determine a maintenance schedule for your household, have the tank inspected every two to three years and pumped as needed. Use that baseline information to plan your regular tank pumping interval.
- Contact a commercial septic tank inspection and pumping service, which must have permits from the New York State Department of Environmental Conservation to transport and properly dispose of the waste. Pumping the septic system will cost a few hundred dollars. This is much less expensive than replacing parts of your system.

Finding Your Septic System Components

- In order to maintain your system, the septic tank needs to be accessible for pumping and the absorption area should be protected. Check with your county health department to find out what records they have about your system. Septic tanks are sometimes indicated on property survey maps. If the access riser to the tank is at ground level, it is easy to find, but it may be buried under the lawn.
- Locate the sewer pipe leaving your home. Try to find the absorption area by checking the yard for an area where the grass grows differently or there are mounded areas or trenches. The tank is located between the sewer pipe and the absorption area. Any likely site can be probed with a thin metal rod that can reach through the soil to the top of the tank. In the winter warmth from household water may melt snow above the tank. If you are unable to find the tank, your septic tank inspection and pumping service will use a device to find it. You may want to have an access riser extended to the surface or just below ground level and marked clearly with a stake, rock, or other easily moved structure.
- Draw a map of your septic system on the back of this publication or a copy of your property survey map. Sketch your house, driveway, water well, and other landscape features such as trees, rocks, or fences. Sketch your sewer pipe, septic tank, and absorption area in relation to other features. Measure and record distances from your house to your septic tank and to the corner of your absorption area, if possible. As long as the distances are correct, do not be concerned whether or not the drawing is to scale.

Recordkeeping

- Keeping a record of your septic system maintenance will help you anticipate when the next pumping is needed. You can pass this information to subsequent owners when you sell your property. Write information about the tank, pumping history, and local contractors directly on the back of this publication or keep receipts and notes in the folder. Store this folder with other records about your home.

Daily Care of Your Septic System

Protect the Tank and Absorption Area

- Grass and other plants with shallow roots are beneficial over an absorption area. Deep roots of trees and shrubs can damage the tank or absorption area. Do not fertilize the soil above the absorption area.
- Do not build patios or other structures over the septic tank or absorption area.
- Keep automobiles and heavy equipment off the absorption area to protect system parts and avoid soil compaction.
- Keep surface water runoff from rain, downspouts, driveways, and sidewalks from flowing toward or pooling on top of your absorption area. If necessary, modify the landscaping to drain this water away from the septic system.

Watch What Goes Down the Drain

- Do not put substances such as motor oil, gasoline, paints, solvents, or pesticides into your wastewater. Don't flush medications. Take these chemicals to household hazardous waste collection events or dispose of them properly with household trash. These materials may pollute groundwater and are often toxic to the microorganisms that break down wastes. For disposal info see dontflushyourdrugs.net and www.dec.ny.gov/chemical/8485.html
- Use household cleaners, disinfectants, detergents, and bleach in moderation.
- Oils, fats, grease, and solids such as coffee grounds, paper towels, sanitary pads, and disposable diapers will clog your septic system. Dispose of them in household garbage.
- Food scraps should be composted or disposed in household garbage. Kitchen sink grinders use extra energy and water, and put an extra burden on your septic system.

Avoid Commercial Septic System Additives

- Commercial additives are not needed after pumping. The sludge residue and incoming household wastewater already contain active microorganisms. Yeasts, bacteria, enzymes, and various chemicals are sold with the claim that they help a system work better; however, there is no scientific evidence that such additives are effective. In fact, some additives can cause the solids in an overloaded tank to be re-suspended and clog the drainage lines and absorption area. Additives are not an alternative to proper maintenance and do not eliminate the need for routine pumping of your septic tank.

Conserve Water and Limit the Water Entering the Tank

- Conserve water and choose fixtures and appliances that reduce water use.
- Large amounts of water entering the system in a short time can stir up solids on the bottom of the tank and push wastewater into the absorption area too quickly. Spread laundry and other tasks that use a lot of water over the entire week.
- Do not connect gutter downspouts, basement sump pumps, or footing drains to the septic tank. This water does not need to be treated with the household wastewater.
- Water softeners and other water treatment devices have parts that must be regenerated to continue to work. This produces a very salty brine that can negatively affect septic systems. It is important that treatment devices recharge based on actual use and concentrations rather than by the clock. Since the brine rinse does not need to be treated with the rest of the household wastewater, it can be sent to a separate drainfield. For more information, consult your county health department and see the NYS DOH Residential OWTS Design Handbook (link on the back cover) and the NOWRA and WQA guidance document <http://www.nowra.org/newsrelease/Softnerguidance.pdf>.

Septic System Records

Location of Septic System Components: Make a rough sketch below or on a copy of your property survey map. Note landmarks and the location of the sewer pipe, septic tank, distribution box, and absorption area.

System Information	
Installation date:	_____
Tank volume:	_____ gallons
Tank dimensions:	___ L ___ W ___ D
Tank material:	_____
Absorption system type:	_____
System designer:	_____
Phone:	_____
System installer:	_____
Phone:	_____

Maintenance Record - Inspection, Pumping, Repairs				
Date	Work done	Company	Cost	Notes

Service Companies	
Name:	_____
Phone:	_____
Name:	_____
Phone:	_____
Name:	_____
Phone:	_____

Contact Information and References

Consult your County Health Department for guidance and permit information. <http://www.health.ny.gov/contact/>

Many municipalities and watersheds have local regulations about on-site wastewater treatment.

Some counties receive environmental health services from a regional NYS Department of Health District Office

New York State Department of Health sets design standards for on-site wastewater treatment and certifies water testing laboratories

http://www.health.state.ny.us/environmental/water/drinking/appendix_75a.htm

http://www.health.ny.gov/environmental/water/drinking/wastewater_treatment_systems/design_handbook.htm

<http://www.wadsworth.org/labcert/elap/comm.html>

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<http://waterquality.cce.cornell.edu/septic.htm>

A Homeowner's Guide to Septic Systems

U.S. Environmental Protection Agency (2005)

http://www.epa.gov/owm/septic/pubs/homeowner_guide_long.pdf

Maintaining Your Septic System - A Guide for Homeowners

National Small Flows Clearinghouse (2004)

http://www.nesc.wvu.edu/pdf/ww/septic/pl_fall04.pdf

Your local Cornell Cooperative Extension (CCE) County Office

<http://cce.cornell.edu>

New York State Federation of Lake Associations

Diet for a Small Lake

<http://www.nysfola.org/diet/>

County Soil and Water Conservation District Office, Lakeshore or

Watershed Associations or Other Local Groups

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