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GUIDELINES FOR SEPTIC SYSTEMS

AVOID PUTTING THESE ITEMS INTO YOUR DRAINS:

1. Grease or any type of fat left from cooking. Dump the waste into a can or jar, let it harden, and throw it in the trash. Wipe the pan clean with paper towels to remove the excess grease.
2. Baby wipes or any type of paper towel. ** Tissue-type paper is fine, i.e., toilet paper or facial tissues.
3. Cigarette or Cigar Butts**
4. Feminine Products** (i.e., pads, tampons, or applicators)
5. Condoms**
6. Coffee grounds or eggshells. **
7. Large amounts of fruit or vegetable waste. ** The garbage disposal should only be used to clean out the sink when done cleaning dishes, pots, or pans. Scrape as much food waste as possible into the garbage before loading dishes into the dishwasher or washing them in the sink.
8. No meat or bone waste down the garbage disposal. **
9. Limit the use of chlorine bleach and use only small amounts periodically. Bleach kills the good bacteria needed in the septic tank for proper function.
10. Quaternary ammonium (found in laundry sanitizer and cleaners) kills beneficial bacteria
11. Avoid excessive use of tank-type toilet cleaners, i.e. 2000 flushes, as some contain bleach and other chemicals harmful to the septic tank bacteria.
12. Antibiotics or other outdated medications should not be dumped down the tank as they also kill good bacteria.
13. No toxic substances such as cleaning fluids, oils, paint, pesticides, etc. These will not break down and may end up in your groundwater.
14. Spread out laundry loads throughout the week. Do not do several loads on the same day.
15. Don't let leaky fixtures go unrepaired – they can overload your system with water.
16. Large amounts of liquid fabric softener – it can build up on your effluent filter in your tank and in your drainfield, causing them to plug.
17. Rid X – it is NOT beneficial to your septic system. It breaks down all the solids in your tank, which can allow all the broken-down material to move to your drainfield, instead of settling in the bottom of your septic tank as intended (see additional information below regarding the design and function of your septic system).
18. Discharge from iron filters or other water treatment devices should be diverted from the septic system whenever possible. They can add very large doses of wastewater to the system all at once, which has led to plugged filters and premature ponding in drainfield.

19. HE liquid laundry detergent, liquid fabric softener, or any laundry detergent powder such as Tide. These detergents have chemical polymers that do not break down naturally. They build up in the soil in your drainfield, preventing wastewater from draining as it should, and eventually causing your system to fail. Most powdered detergents contain chemicals that expand between the soil pores of your drainfield, preventing the wastewater from draining properly. We suggest using either the most inexpensive powdered laundry detergent available or one that contains only natural, plant-based ingredients.
20. Personal care products such as liquid body washes, shampoos, conditioners, and creams that contain polyethylene glycols (PEGs). These synthetic polymers can be seen on ingredient labels under many variations and are used as thickening and gelling agents in personal care products. Unfortunately, they have the same effect on the soil in your drainfield - they adhere to the soil pores, building up over time in your drainfield and causing it to fail sooner than it would otherwise. These chemicals also make it into the groundwater, as they do not break down naturally. Natural cleansers and plant-based ingredients are best for your drainfield.

When in doubt, throw it out!
This is a good idea for anything questionable not covered on this list.

** These items plug the effluent filter in your tank

KNOW YOUR SEPTIC SYSTEM

Septic tanks should not be driven on with anything much larger than a lawn mower. Most tanks are made of concrete, and some have been known to collapse under heavy weight. The manhole covers on the tank or tanks should terminate roughly 4" above the ground surface. **Surface water should be diverted from the septic area, as the manhole covers are not sealed, and surface water can seep in.** The drainfield should also be located, and surface water should be diverted from it as well, so there is never standing water over the drainfield area.

Your septic system can be basically maintenance-free if simple precautions are taken. The only maintenance that should be required is the tri-annual pumping that is mandated by the county in which you live. If you do not take advantage of the upgraded features, such as two-compartment tanks and commercial-grade effluent filters, more frequent pumping would be highly recommended. In this circumstance, the effluent filter should be cleaned more frequently.

THE DESIGN AND FUNCTION OF YOUR SEPTIC SYSTEM

Septic System Features

The design and installation of a septic system are overseen by local and state regulations through the permit process. The permit takes all specific site characteristics, including the type of soil and the size of the house, into consideration. The system must be installed by licensed plumbers and inspected by qualified officials to ensure proper installation. There are many variations in the types and sizes of systems because systems are individually designed and have been installed over many years. Each site has a unique shape and slope. The soil type, water volume to be treated, and other factors determine the size of the drainfield needed to properly treat waste.

Septic Tank: Primary Treatment

How the Tank Works

The contents of the septic tank separate into three layers:

1. Floating scum layer – soaps, greases, toilet paper, etc.
2. Liquid layer – water, liquid, and suspended solids
3. Sludge – heavy organic and inorganic materials at the bottom of the tank

Naturally occurring bacteria in the sewage begin to break down organic materials in the tank. Bacteria in the septic tank prepare the wastewater for final treatment in the drainfield.

The septic tank is a concrete tank designed to accept all wastewater from the home. A few homes on small lots or in poor soil treatment situations may have a large holding tank to store wastewater until the entire contents are hauled away for treatment at another location.

The inlet baffle forces wastewater entering the septic tank to be mixed with the liquid contents to begin bacterial breakdown of materials and separation of solids. The inlet baffle also prevents the floating scum layer from floating back and clogging the inlet pipe.

The outlet baffle prevents scum from leaving the tank. If the scum layer reaches the outlet pipe, the pipe will become plugged. Scum in the drainfield will clog soil pores and reduce its ability to treat wastewater. In place of the outlet baffle, effluent filters are now installed at the outlet and prevent many of these solids from reaching the drainfield.

The manhole in the cover of the septic tank is the large entrance through which the tank should be cleaned or accessed. The manhole can occasionally become buried below ground level in landscaping and/or grading. It should be raised to a minimum of 4” above ground height with concrete rings for easier access, and to prevent surface water issues. The manhole allows proper cleaning and inspection of the tank.

MAINTENANCE AND CARE

The effectiveness of a septic system in treating sewage depends on how the homeowner uses and operates the system. Water-use habits, fixtures, appliances, and cleaners all affect how well a septic system works.

Tank Maintenance and Water Use

The total amount of water use and the pattern of water use affect how the septic system works. For complete and uniform wastewater treatment, the system needs time to work. The ideal situation would be to have wastewater enter the system as evenly as possible throughout the day and week. An example would be spreading your laundry loads throughout the week instead of doing it all in one day. Every time water is used, wastewater enters the septic tank, and an equal amount of wastewater leaves the tank and enters the drainfield. Large volumes of water entering the system in a short time may agitate sludge and scum, carrying them into the drainfield and clogging soil pores. Once the soil pores clog, they can prevent wastewater from filtering through the drainfield properly.

Excessive water use puts an unnecessary load on the septic system. Allowing faucets to drip, fixtures to leak, and using running water to wash and rinse dishes, shave, etc., puts excess water into the system.

Pump Systems
If the wastewater flowing from the septic tank cannot flow to the drainfield by gravity, a pump is installed to move the wastewater. Some conventional drainfields and most mounds and at-grade systems require a pump system. The pump operates on a float-controlled switch. The pump has an emergency alarm indicator to warn the homeowner when the pump has failed to remove the contents. If this happens, the homeowner should call the installing plumber or have the tanks pumped by a pumper to prevent a backup in the home.

Frequency of Pumping
The septic tank MUST be periodically cleaned (pumped) to remove floating scum and sludge that accumulate. If either floating scum or sludge is allowed to enter the drainfield it can cause expensive and often irreparable damage. The frequency of pumping your septic tank depends on its size, use, and operating condition. A few dollars spent every one to three years on proper cleaning is much less expensive than an unexpected repair bill or the cost of a new septic system.

In new homes, wastewater from painting, varnishing, and other construction work can be a detriment to your system; thus, we recommend having the tanks pumped and cleaned within the first 6 – 12 months of use as a precaution to ensure good bacterial activity and proper functioning.

Proper Cleaning Method
Pumping must be done by a licensed professional. Proper cleaning will remove all scum, sludge, and liquid from the septic tank(s). This requires pumping, flushing, and backflushing. Floating scum left in the tank after cleaning may plug baffles or allow solids to enter the drainfield when the tank refills. Cleaning will leave a black film on the tank walls and a small amount of liquid on the tank floor. This maintains the beneficial bacteria following the pumping.

Soil Drainfield: Final Treatment

How the Drainfield Works
All septic systems include the same basic plumbing and septic tank components. Final treatment of wastewater occurs in the soil. Uncompacted, undisturbed soil must surround the soil treatment system. This system may be a series of trenches, an at-grade system, or a mound system. Soil treatment kills disease-causing organisms in the sewage. There are millions of naturally occurring beneficial microscopic organisms in every tablespoon of soil, and they help complete the treatment process.

The beneficial bacteria in the soil need air to live; therefore, a zone of unsaturated soil must be present below the drainfield for complete treatment. The biomat is a thin layer of fine solids, dead bacteria, and soil bacteria that forms where the sewage meets the soil. This biomat layer regulates how fast liquid passes out of the drainfield into the soil, so the soil beneath remains unsaturated. Once the wastewater passes through the biomat layer and three feet of suitable soil, the harmful pathogens have been destroyed.

The conventional (trench) is installed below the ground surface using perforated pipe, stone, and a cloth cover. There are observation pipes on both ends of each trench. These can be cut off at ground level and capped for easier lawn maintenance.

A mound system is a seepage bed constructed on clean sand to provide the required separation

between the wastewater in the mound and the saturated soil beneath. The stone, pipe, and cloth cover are installed on the sand. A mound is equally as effective as a conventional system if properly operated. The mound is covered with topsoil and planted with grass. The main difference between a mound and an at-grade is that the at-grade system components are installed at grade level; no sand is involved.

COMMONLY ASKED QUESTIONS ABOUT SEPTIC SYSTEMS:

Q: HOW DOES MY SEPTIC SYSTEM WORK?

A: Review the enclosed literature and if you have any additional questions, please call.

Q: HOW LONG WILL MY DRAINFIELD LAST?

A: In the past, the common answer to this question was about 20 years or possibly longer, but with the changes in added water usage and the increase of chemical ingredients in many household products, it is more realistic to estimate 10-15 years.

Q: WHAT CAUSES MY DRAINFIELD TO FAIL?

A: The major factors are solids that escape into your drainfield from your tanks and enter your drainfield, chemical ingredients in many household products, and excess water usage. When solids, detrimental chemicals, or excess water enter your drainfield, these solids build up in the washed stone and soil in your drainfield and form a bio-mat in the top few inches of soil. This plugs the soil pores and doesn't allow the effluent to be absorbed by the soil. The system can eventually back up to the surface, which is also called ponding.

Q: WHAT CAN I DO TO PREVENT SYSTEM FAILURE?

A: We highly recommend the installation of a double septic tank and an effluent filter alarm. The double tank allows for whatever solids that do not break down in the first tank to then enter the second tank and break down further. In a double septic tank system, the filter is installed on the existing pipe of the second tank. The filter traps many of the additional solids, preventing them from exiting the tank and harming your drainfield. Another benefit of the filter is that it prevents larger items that could accidentally get down your pipes from reaching your pump tank (if you have a pump system) and damaging your pump, costing you expensive repairs. A filter will not prevent chemicals such as chemical binders, polymers, and optical brighteners from household products from entering your drainfield, however.

Q: DOES THE FILTER NEED MAINTENANCE?

A: Yes, particularly if the filter is used in single-compartment septic tanks. It should then be checked at least every six months (i.e., mid-spring and late fall). If your filter is in the second compartment of a septic tank, the amount of solids in the second compartment is drastically reduced, thus it should not need to be cleaned until your regular tri-annual pumping, which is required by the county. At that time, your pumper can clean it for you.

Q: CAN I CLEAN THE FILTER MYSELF?

A: Yes, but it can be relatively messy. We can schedule a service call to come and show you how to clean your filter the first time it is needed, and then you can decide for yourself if you want to do it.

Q: DOES THE FILTER HAVE TO BE REPLACED FREQUENTLY?

A: No. The filter is made of PVC plastic and has a warranty on parts. If you are interested in information on your effluent filter, please give us a call.

Q: WHAT HAPPENS IF MY DRAINFIELD FAILS?

A: Depending on your type of drainfield, an alternate drainfield site may need to be designated by doing a soil test. We acquire the necessary permits, install your new drainfield and switch valve, and then you are done. You then use your new drainfield while your old system recovers (if you have a conventional system), giving you the capability to alternate between both systems. If you have a mound or at-grade system, the material in the drainfield is removed and reconstructed in place with new materials – sand, stone, piping, etc.

Q: WHAT DO I DO WHEN MY SEPTIC ALARM SOUNDS OFF?

A: If you are doing laundry or any other activity that requires using a substantial amount of water – STOP! Call the plumber who installed your septic system, as they will have the most information regarding your pump, filter, etc., and will be able to fix it more efficiently. Once the alarm sounds, there is still room remaining in your tank – about 100 gallons of space per bedroom in your home. Some light water use is acceptable, such as quick showers, flushing toilets, etc. Go to your electrical panel and check to see if the breaker is tripped. If it is not, turn off the breaker. This may save your pump if there is something stuck in it. If your plumber cannot respond immediately, you may want to unplug your water softener if it drains into your septic system via the floor drain or other drains.

This Guide is also available on our website at:
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