**SEPTIC SYSTEM USER NOTES**

David Rocque – Revised April 2, 2023

**The primary purpose of a septic system is to protect people and pets from pathogens commonly found in wastewater that can make you sick or even die. Properly designed, installed and maintained septic systems also provide protection to the water quality of neighboring lakes, ponds, streams and rivers. If a septic system is abused or not properly maintained, it is likely to fail, endangering the health and welfare of your family and pets and lead to the degradation of nearby waterbodies. Not only is there a health and environmental threat from failing septic systems, replacing them will cost you in the vicinity of $20,000 or more and may be located in a less desirable place on your property than your current system. It is therefore in your best interest to take good care of your septic system and maintain it properly. Following are tips to make sure your septic system keeps perking along, compiled by my over 45 years of being a Site Evaluator, regulator and educator:**

1. It is the contractor’s responsibility to assure proper soil stabilization of all areas during septic system installations, particularly the disposal field but home owners may need to patch areas that are left or become bare. Failure to do so not only jeopardizes the proper function of the disposal system, but muddy runoff water from the improperly stabilized soils can become a significant source of pollution to a waterbody. Once disturbed soil areas have been seeded, limed, fertilized, and mulched by the contractor (unless stabilized by bark mulch or under a driveway), make sure they are watered so that they are moist enough to support the germination and establishment of vegetation.
2. Don’t chain dogs that might dig holes or install swing sets which will be heavily used by children on disposal fields. Once stabilized, light, limited activity is o.k. Avoid uses which will kill vegetation and create bare soils. Do not place heavy objects on top of your disposal field as the weight can crush components and compact the soil pores causing wastewater to come to the surface. It is now illegal to permanently place an object on or build over any component of your septic system.
3. Do not plant any trees or shrubs on or in the fill extension of your drain field. The roots of these woody plants can clog your drain field causing it to fail. You can plant annual flowers but you should not plant vegetables that are to be eaten as roots can enter the drain field and uptake pathogens that can then be ingested by people.
4. The use of a garbage grinder (Dispos-All) with a septic system is not recommended. Studies show that homes with garbage grinders average 30 percent more solids and grease generation than homes without garbage grinders. The Subsurface Wastewater Disposal Rules require that additional septic tank capacity, tanks installed in series, or a septic tank outlet filter be installed if a garbage grinder is used. You should also have your septic tank pumped more often because the increased flow of solids and greases will cause your septic tank to fill up sooner. If your system is not designed to accommodate a garbage grinder and you decide to have one installed, you should have a filter installed in your septic tank, at a minimum, and use the grinder sparingly. Composting is the preferred option for disposing of your garbage type wastes.
5. It is recommended that the homeowner install low volume toilets (1.6 gallons per flush or less) and other flow reducing fixtures such as low volume shower heads and faucets to minimize water use. Reducing water use will usually result in extended life of your septic system, all other things being equal.
6. It is the homeowner’s (septic system owner’s) responsibility to limit water usage and wastewater generation so that the septic system daily design capacity (design flow on the septic system form) is not exceeded. Activities which generate large amounts of wastewater, such as laundries, should be spread out over several days rather than doing a number of them on any particular day (typically Saturday for many working couples). Excessive use of a septic system (shock loading), on a regular basis, can cause the system to fail even though your use, averaged out over a week or month, is below design volume. Your system will be over used because more water will be generated than the soil can absorb, and more particles will leave the septic tank than normal. Septic tanks are designed so that it takes about 48-72 hours for water to pass through a septic tank from the time it enters the tank. The faster water moves through your tank the less settling time there is, and higher velocities of water can carry more particles of solid matter out into the drain field. Excessive amounts of organic material entering the drain field can cause soil pores to become clogged resulting in waste water coming to the ground surface over the drain field where it can wash into a waterbody and poses a significant health threat. Many septic tanks now come equipped with an outlet filter which helps some but not enough and the filter may clog quickly causing a backup of wastewater in your home.
7. Do not connect roof drains to a septic system. Your system is not designed to handle this water and it will likely cause premature failure.
8. Do not dispose of backwash from water softeners or water treatment devices in your septic system. Large amounts of water can be generated from these devices which can overload a septic system. In addition, chemicals used in these devices may be harmful to the biologic organisms which are important to the proper functioning of your system, it has been recently discovered that the iron removed from water by backflow devices can precipitate out in the sandy soil around your disposal field causing it to become very hard and cemented. This can cause your disposal field to fail requiring expensive repair or replacement. Backflush water is allowed to be disposed of in a drywell, trench or on the ground surface provided it does not discharge into a waterbody, swale, ditch or wetland and does not cause erosion (use a stone berm level spreader to prevent erosion).
9. Do not use powdered soaps or detergents as they contain a significant amount of fillers (inert material that the soap coats) which become particulate matter in your septic tank. The extra particulate matter from fillers add to the septic tank load and which can carry over to your disposal field and result in excessive soil pore clogging. Some detergents, such as Dawn, contain excessive amounts of emulsifiers. Emulsifiers are designed to break down fats and greases, which is good for cleaning dirty dishes, but bad when it enters your septic tank. In your septic tank, you want fats and greases to coagulate and rise to the surface of the liquid. In an emulsified form, they remain suspended in the liquid where they can escape from the septic tank and go into your drain field, clogging soil pores. Either avoid detergents and soaps with large amounts of emulsifiers or use them sparingly.
10. Do not dispose of any hazardous or toxic substances in a septic system such as paint thinner, paints, varnishes, photographic solutions, pesticides, insecticides, unused medications, organic solvents, degreasers or drain openers. Septic systems depend on living organisms to function properly. Toxic or hazardous substances can, in effect, “kill” the system and are a threat to pollute surface and/or groundwaters. They are also illegal to dispose of in this manner**.** You should also limit your use of anti-bacterial soaps and detergents or bleach for the same reason. Septic systems are designed to handle modest amounts of these products but excessive amounts will kill the biology in your septic system causing it to prematurely fail.
11. When a drain is plugged, instead of using a commercial degreaser or drain opener, which can kill the biology in your septic system, use one of the following:
	1. A plunger or mechanical snake
	2. Pour 1 handful of baking soda and ½ cup of white vinegar down the drainpipe and cover tightly for one minute. Repeat as necessary; or
	3. Pour ½ cup of salt and ½ cup of baking soda down the drain followed by 6 cups of boiling water. Let sit for several hours or overnight, then flush with water.
12. Do not dispose of any inert or non-biodegradable materials in your septic system such as disposable diapers, cat box litter, coffee grounds, cigarette filters, sanitary napkins, facial tissues, and wet strength paper towels. They will not decompose and will therefore build up in your septic tank quickly. Some may pass through to your leach field and plug it up. Also, minimize the use of toilet paper (which is a solid material) and use National Sanitation Foundation recommended paper which breaks down quickly.

1. Use a lint screen with your washing machine and maintain it regularly. If lint enters your septic tank, it will not break down and may carry over to your drain field where it will plug the soil pores. If enough soil pores become plugged, disposal field failure will result and be very costly to repair. You may also install a filter on the outlet end of the septic tank to trap particulates, including lint fibers.
2. Do not dispose of fats or greases in your septic system (except for normal dish washing) unless your system has been specifically designed to handle them (an external grease trap). It is also recommended that greasy dishes be wiped before being washed to cut down on the amount of grease and fat entering the septic system. Generally, an internal grease trap is inadequate to handle any large amount of greases or fats.
3. Do not add any septic tank additive or cleaner to your septic system to improve its function or prolong its useful operating life (this includes yeast, horse manure and commercial products such as Rid-X). No effective product or material is recognized by State or National authorities and, in fact, many of these products will actually cause your system to fail prematurely. They add large amounts of organisms to your septic tank, which causes accelerated breakdown of solids, turning the sludge into a slurry which can then leave the tank and enter the disposal field, plugging it up. Chemical additives are prohibited for use in Maine.
4. Have your septic tank pumped or inspected after two years of use and then have it pumped out regularly. This is critically important because your septic tank capacity is reduced by how much solid material it contains. Septic tanks do decompose some solids but they are anaerobic so the rate of decomposition is slower than the rate of solids buildup for systems which are regularly used. If the solids build up too much, waste water flows too quickly through the tank and does not have sufficient time for solids to settle out. Those solids then go out into the drain field causing the soil pores to clog which can cause the drain field to fail. The pumper or inspector can advise you of how often you need to have the tank pumped based on what he/she finds (typically, a septic tank should be pumped every two to five years). Keep in mind that you will have to adjust your pumping frequency to coincide with changes in the way you use your system. The more a system is used, the more frequently the tank should be pumped (as children grow into teenagers, water consumption typically increases).
5. When having your septic tank pumped or inspected, have the baffles inspected. It is particularly important to have the outlet baffle inspected as it is responsible for keeping greases and fats from moving to the disposal field. If the baffles are missing or in need of repair, they should be replaced or repaired immediately. Disposal field failure will occur if you don’t have properly functioning baffles.
6. If your septic system is subject to great fluctuations in usage (heavy on weekends or for a few weeks in the summer) or you rent part or all of your dwelling, you may want to consider the use of a filter on the outlet end of your septic tank (if it does not already have one). The filter can help to control the passage of solids from the septic tank to the disposal field when wastewater surges occur or when you do not have direct control over the use of the system.
7. If you have an Advanced Treatment System (packaged treatment plant) it is very important (and required) to have a contract with the distributor of the system to assure it is working properly and is properly maintained. These systems work well when installed and maintained properly but can cause an expensive disposal field failure if not. Few homeowners are qualified to maintain these systems.
8. If you have a holding tank, it is because there is no other viable option for wastewater disposal on your property. Holding tanks do not have an outlet because they do not have a drain field. They do not have drain field because of severe site or soil limitations. Therefore, every drop of water you use goes into the holding tank and has to be pumped out when full (an alarm will sound and a light will flash when the tank is nearing capacity and has to be pumped). Since pumping is not cheap, it is advisable to use as little water as possible. Do laundries at a laundromat and use all low volume fixtures. You can also use an alternative toilet such as composting (including a mouldering outhouse which composts the waste) to reduce water entering the holding tank. You are required to keep records of your holding tank pumping for at least 3 years to provide evidence that it is being pumped by an approved pumper.
9. If your septic system is old, especially before July 1, 1974, you should have it replaced. Systems installed prior to then were designed on the basis of a perc test and are generally under-designed and a threat to ground and surface waters. Septic system designs today are based on a much more scientific basis. These old systems should have failed by now and if not, unless they are rarely used, it is likely because they were installed in sand or gravel or on top of fractured bedrock where the wastewater is short circuiting to the groundwater table and can then travel to a waterbody relatively untreated. This untreated wastewater contains nutrients which can cause an algal bloom in a waterbody and also contains pathogens which can make people or animals sick or die.
10. Check your drain field periodically for soft or wet spots which may be an indication of surfacing effluent. Surfacing effluent is a health hazard and contains nutrients that can wash into a waterbody during stormwater runoff events. Contact the Site Evaluator who designed your system, if you can, or any site evaluator if you don’t know who designed it, to evaluate the cause of the surfacing effluent. It may only need a repair or may need to be replaced but it is important for your health and the health of the environment to correct the problem.
11. Do not drive over or store heavy materials on any part of your septic system unless it is specifically designed to handle heavy loads. Otherwise, crushed components may result, and the system may fail.
12. Divert all surface water away from the septic tank, pump station (if used) and disposal field. If this is not done, the additional water may cause your system to prematurely fail. Roof areas which contribute runoff water to the septic system site should have gutters installed to divert that water to another location.

1. Keep Track. Few of us can remember when the tank was last pumped or repaired. It’s wise to start a folder on Well and Septic and just toss receipts. Notes, or other documents into it. Keep a log of everything you do. Then you don’t have to remember when you last had it pumped. When time comes to sell the home a lot of detail is requested on Realtor’s Disclosure Forms. Being able to fill in all those blanks sends a message to the realtor and any potential buyer.
2. Also, you can get a copy of any plans and permits for your system that the State has on file at

https://apps.web.maine.gov/cgi-bin/online/mecdc/septicplans/search.pl

These links can be searched by Town, year and your road.

This could be the first step in your Keep Track file.

1. **PLEASE** – If you have any questions about your septic system or how to use it, call the site evaluator who designed it and ask for advice. You can also call your local plumbing inspector or the state agency responsible for regulating septic systems, the State Septic System Program in the Division of Environmental Health, at 287-2070.