Septic Systems

Reference: "On-site Sewage Disposal Systems: A Homeowner's Guide" May 2013
www.gov.pe.ca/photos/original/elj_sewage_gud.pdf

WINTER RIVER - TRACADIE BAY WATERSHED ASSOCIATION

This guide is designed to provide homeowners with basic information regarding on-site sewage disposal (septic) systems. It also offers maintenance tips to help prevent problems or the premature failure of a septic system.

BACKGROUND CHECK OF YOUR SYSTEM

Always keep a record of maintenance work done on your septic system, including pumping of the tank. Speak to the builder, sales agent, or previous owner to confirm the location of the tank and the tile field. Other questions to ask: 1) What parts make up the sewage disposal system? 2) How old is the system? 3) What years was the tank pumped? 4) Is there a history of system failure or any sign of possible problems with the system? 5) Has there been an addition to the size of the original house?

MAINTAINING YOUR SYSTEM

Proper maintenance is critical to the operation of an on-site sewage disposal system. Lack of maintenance can result in poor operation and costly repairs. Most on-site systems only require regular inspection and pumping of the septic tank. If septic tanks are not pumped regularly, solids can build up and move into the tile field. This can block the necessary seeping of liquids into the soil. Solids can also block the tank inlet or outlet and cause sewage to back up into the house.

Septage is the liquid/solid mix of material that must be regularly pumped from the tank. The PEI Environmental Protection Act, require that individuals who pump septic tanks hold a provincial license to do so.

The average septic tank should be pumped once every three years, depending on use (especially the size of the family) and the materials that enter the system. Some tanks can be pumped less frequently; ones that are heavily used may need to be pumped more often. If grease traps are present, they should be inspected and cleaned regularly. When the tank is half full of waste, it should be pumped by a licensed septage hauler.

A sod cover over the tile field will help to prevent erosion. It will also reduce the amount of precipitation or runoff that enters the field. Large trees should be removed from the area of the tile field. Tree roots can block the pipes, and cause drainage problems. If a large tree is uprooted, major damage can be done to the system. If your system is used only seasonally, do not pump the tank prior to winter. An empty tank can be damaged by frost.

Do's and Don'ts in the Use of an On-site Septic System

Do's

- Spread dishwasher use over the week.
- Record pumping and maintenance.
- Use water conserving devices.
- Have your septic tank pumped regularly.
- Check moving parts regularly (pumps, siphons).
- Remove or prevent trees with large root systems from growing near the tile field.
- Divert surface water from up slope.
- Regularly check that your interceptor trench is free flowing.

Don'ts

- Don't overload the system.
- Don't channel water from drains/sumps, to an on-site sewage disposal system.
- Don't allow fats, plastics, chemicals, or solvents to enter the system.
- Don't allow heavy equipment/vehicles to drive over the tile field.

Don't flush into the system:

- Coffee grounds
- Dental floss
- Disposable diapers
- Cotton swabs
- Cigarette butts
- Condoms
- Kitty litter
- Paint/Thinner/Varnish
- Sanitary napkins/Tampons
- Pesticides
- Waste oils
- Hazardous/chemical wastes

Kitchen garbage disposal systems should not be used unless the size of the septic tank is increased by at least 20 percent over the required size for that particular house. This increase is needed to handle the additional load of solid materials.

The system will work properly without the need for tank 'additives'. In fact, these can damage the septic tank and tile field and even contaminate ground water. Additives that cause solids to wash from a septic tank into the tile field can cause blockages. If this happens, the field bed may need to be cleaned or replaced.

Water Use and Conservation

The smallest residential on-site septic system (designed for a three-bedroom home) will handle 1,360 litres (300 gallons) of waste/wastewater per day. Larger are designed to accept higher flow volumes. Problems can occur when too much waste or wastewater enters a system. This can wash solids from the tank and block the tile field. Excessive flows can also overload the field bed. To avoid these problems: fix leaking taps or running toilets; distribute water use where possible; reduce normal water use in showers and sinks; install water-conserving fixtures, especially ultra-low flush toilets; ensure that the septic tank is watertight, and positioned to avoid the entry water from outside the system; and install a water metre (recording water use can detect leaking fixtures).

If the soil over or near the tile field has a tendency to become saturated, it may be necessary to reduce water use during times of heavy rainfall or snow melt.

Protection of the System

PEI's Environmental Protection Act, Sewage Disposal Systems Regulations, require that watertight access be provided for the inspection, maintenance, and pumping of a septic tank. This can require a watertight riser and cover to bring the existing access opening close to the ground surface. If your tank is not easily accessible, you should consider installing these.

• **Tank effluent filters** are designed to keep solids from leaving the septic tank and potentially blocking the tile field. The filters should be cleaned when the septic tank is pumped. If they require more frequent cleaning, the material blocking the filter may be reaching the disposal field.

• **Inspection ports** allow for periodic inspection of waste levels in the system.

• **Water metres** allow you to compare actual water use with the septic system capacity, which helps when making decisions about water conservation.

The above devices are not currently required by law. However, depending on the size and type of system they may be required by the authority having jurisdiction for approving it. All are inexpensive compared with the cost of repairing or replacing a system.

COMMON SYSTEM FAILURES

System Overloading: Overloading happens when a household disposes of more waste/wastewater than the septic system can handle. Some causes for overloading include: the addition of high-water-use fixtures, such as hot tubs; concentration of water use; more people; water treatment devices that discharge 'backwash' into the system; leaking water fixtures; surface water entering the system; and overland water flow into the tank or tile field.

Poor Design or Construction: Some on-site septic systems are doomed 'from the beginning' to a short lifetime of operation. This is because the system was not properly sized; the system was installed in a poor location; the system was installed in an area where the soil permeability has been destroyed due to compaction, grading, cutting, or filling; improper or poor quality materials were used; the system was installed during wet conditions; and/or improper grading produces an uneven distribution of effluent so some areas become overloaded.

Physical Damage: Physical damage to an on-site septic system can result from compaction of the soil in the area of the field bed; paving, building, or storing objects on top of the tile field; and tree roots growing into the tile field.

Lack of Maintenance: One of the most common reasons for system failure is a lack of maintenance. For example failure to pump the tank regularly can result in the formation of scum and the movement of solids into the tile field. This can lead to a permanent reduction of the soils infiltrative capacity (i.e., its capacity to absorb water).

You must use a licensed septic contractor to carry out any replacement or repairs to your septic system.

Government website: http://www.gov.pe.ca/environment/index.php3?number=1041134&lang=E