

# Maintenance and Operation of Onsite Sewage Systems

## When are onsite sewage systems used?

Any home or building that is not connected to a municipal or city sewage system needs a method for getting rid of human waste (feces and urine). All buildings not serviced by a municipal (centralized) treatment plant need to have an onsite sewage system. This needs to be properly designed and filed with the local public health authority.

A typical onsite sewage system has 2 basic parts:

- Septic tank, which may also include a treatment plant
- Dispersal area, which is usually a series of underground pipes or chambers. They evenly distribute the partially treated liquid into the ground for final treatment

## How does a septic tank or treatment plant work?

### Septic tank

A septic tank is a watertight, underground container used for receiving, treating and settling human waste. The solids settle to the bottom of the tank and become sludge. Oils and other light material float to the surface, forming a scum layer. Within the tank, anaerobic bacteria, which are bacteria that do not need oxygen, break down the solid waste.

When the septic tank is working properly, these bacteria can reduce the solids by 50 to 60 percent. The liquid between the sludge on the bottom of the tank and the scum on the top flows out of the tank into the dispersal area. Further treatment occurs within the soil before entering the ground water table.

The sludge and surface oils remaining in the septic tank need to be pumped out regularly (usually every 2 to 3 years). A septic system pump-out contractor can do this maintenance.

### Treatment Plant

A typical treatment plant uses air to help break down and treat waste. The waste is treated in a septic tank

before flowing into the treatment plant. A treatment plant treats liquid waste to a higher quality before entering the dispersal area. This process makes liquid waste cleaner and safer than the discharge from a regular septic tank. This also allows for a smaller dispersal area.

## How can I install an onsite sewage system?

Every owner who wants to construct a new onsite sewage system, or alter or repair an existing one, must follow the Public Health Act and the Sewerage System Regulation. For more information, visit Ministry of Health, Onsite Sewage Systems at: [www2.gov.bc.ca/gov/content/environment/waste-management/sewage/onsite-sewage-systems](http://www2.gov.bc.ca/gov/content/environment/waste-management/sewage/onsite-sewage-systems).

The owner of the onsite system must use the services of an authorized person (AP) to construct, alter or repair the system. APs includes professional engineers and registered onsite wastewater practitioners (ROWPs). There are 4 categories of ROWPs: planner, installer, maintenance provider and private inspector. A person may register in more than 1 category and provide several services. The AP assesses both the owner's needs and the capability of the land for sewage treatment and dispersal. The AP will then plan an onsite sewage system that meets those needs.

Once the health authority files the plan, an AP installs the system. When the installation is complete, the AP certifies that the system installation took place according to the plan. They will also provide copies of the maintenance plan and the 'as-constructed' drawing of the system components. Both the owner and the health authority will receive the copies.

## How is an onsite sewage system maintained and serviced?

Once the sewage system is working, homeowners are responsible for carrying out the maintenance plan. Homeowners must use the services of a qualified maintenance provider (ROWP). Improper or insufficient maintenance may result in system failure and require costly repairs or replacement. A failing

sewage system can also contaminate local drinking water sources. This contamination could cause serious illness in people.

It is important to have an accurate drawing that shows the location of all parts of the sewage system. This way you and your maintenance provider can find information based on the drawing. For sewage systems constructed under the Sewerage System Regulation, the AP will provide this 'as constructed' drawing at installation time.

All sewage systems need ongoing and proper operation and maintenance. An owner of a sewage system should contact an authorized person to set up an annual service contract.

Sewage systems usually need servicing every 2 to 5 years, depending on the number of people using the system and the volume of daily sewage flow. Homeowners should consult an AP or the sewage system maintenance plans for specific monitoring and maintenance requirements.

Keep the following in mind when servicing a sewage system:

- Use an AP for maintenance
- Remove sludge from the septic tank in the spring rather than in the fall. This prevents leaving solids in the tank during the cold winter months
- Do not scrub a septic tank clean. Leave a small amount of sludge to renew bacterial activity

### How can I prevent problems with my sewage system?

Onsite sewage systems can be damaged in many of different ways. You can prevent most of the damage by following the advice below:

- For systems built after May 30, 2005, follow the maintenance plan. Owners of systems built before 2005 should contact an AP to develop a maintenance plan
- In areas where frost penetration is a problem, insulate the main pipe and dispersal area. You can use a generous layer of straw or strips of rigid Styrofoam board during winter months. Insulate the

septic tank and pipe connection from the house as well

- Use snow fences to promote maximum insulation from snow cover
- If water pools up on a dispersal area, seek advice from an authorized person
- Do not let any vehicles, including snowmobiles, drive or park where the onsite sewage system has been built
- Do not flush paints, solvents or any kind of toxic chemicals down the toilet
- Do not plant large trees or shrubs nearby the onsite system. Roots may affect the dispersal area
- Do not allow roof or perimeter drains, or any surface water, to discharge on or near the onsite sewage system
- Do not overload the system with too much water. For example, a running toilet, dripping faucet, watering on or near the dispersal area, or doing many loads of laundry in a row, can overload the system. Establish a water conservation strategy for the house
- Do not flush cigarette butts, filters, sanitary napkins, newspaper, disposable diapers, condoms, paper towels, hair, metal or metal items, coffee grounds, tea leaves, fats or grease. These can all plug the septic tank or dispersal area
- Do not install a garburator without increasing the capacity of the onsite sewage system
- Do not leave the system not working for long periods during cold winter months
- Do not allow large livestock to graze on the dispersal area

If you have questions about how sewage systems work or about local requirements, contact your regional health authority at:

[www2.gov.bc.ca/gov/content/health/about-bc-s-health-care-system/partners/health-authorities/regional-health-authorities](http://www2.gov.bc.ca/gov/content/health/about-bc-s-health-care-system/partners/health-authorities/regional-health-authorities).