



ONSITE WASTEWATER MANAGEMENT SYSTEM

Onsite Wastewater Management System

What Is It?

An onsite system is an autonomous evacuation and wastewater treatment mechanism. It processes and discharges the wastewater for an isolated dwelling disconnected from the sewage system. The onsite system incorporates natural processes to treat the wastewater. It treats it on your land property and usually discharges it into the ground water.

The onsite system is also called onsite sanitation facilities.



DID YOU KNOW THAT...

One-quarter of Canadians treat their wastewater with an onsite system.

A Regulation that Protects the Environment

The Regulation respecting wastewater disposal systems for isolated dwellings (Q-2, r.8) forbids any discharge of wastewater into the environment, unless it has been properly treated. These untreated waters are considered contaminants within the meaning of the Environment Quality Act. To avoid breaching the Regulation, make sure your equipment is compliant and properly maintained.

A defective wastewater management system jeopardizes the quality of your environment.



DID YOU KNOW THAT...

With respect to nuisance and insalubrity, acquired rights do not exist. They only apply to the building and not to its polluting activities. Consequently, it is forbidden to create or maintain nuisances or conditions hazardous to public health or to the environment quality.

- MDDEP 2009 -

What Kind of Wastewater Can Be Processed?

They are designed for the treatment of small volumes of wastewater (household waters and lavatory effluents). They purify the domestic water discharged from a dwelling: bath, shower, sinks, lavatory, dishwasher, washer, etc.

Where Can We Find Them?

On the land properties disconnected from the sewage system (e.g. isolated dwellings located too far away or within smaller communities with no sewage system).

The Sump

In the past, the sumps were very popular. However, this system would only dispose wastewater for a small surface. Since August 12, 1981, its use is forbidden because the mechanism does not allow adequate treatment of the wastewater.



Under the Supplemental Reading section of this fact sheet, consult Regulation Q-2, r.8 for complete details (General provisions, permit application, construction standards, emptying of the septic tank, etc.).



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How Does My Onsite System Work?

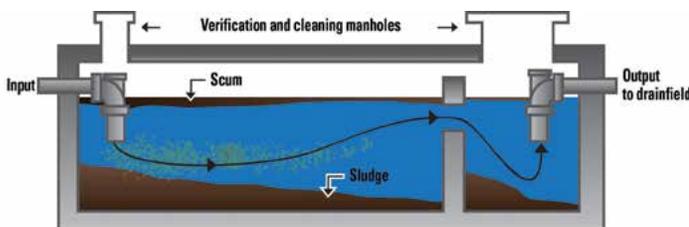
A conventional wastewater system typically consists of two elements that ensure the treatment of the wastewater discharged by the dwellings: the septic tank (primary treatment) and the drainfield (secondary treatment).

The Septic Tank

The dwelling's wastewater enters the septic tank, which consists of a container buried underground. This is where the water is held temporarily. The septic tank is made of two separate compartments. The first one allows the solid particles to settle at the bottom (settling) and the oils and grease to rise up to the surface (floatation). The slightly cleared water is then evacuated to the second compartment, which has the same purpose, i.e. to continue the separation of sludge and scum. The septic tank compartments allow for the pretreatment of the wastewater, and that is where the bacteria activity starts; as soon as the water reaches the septic tank, they start to digest the organic solids, which initiates the water treatment.

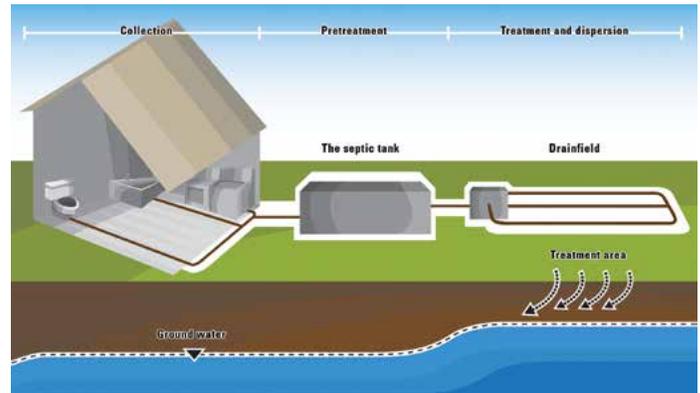
Today, the septic tank is made of concrete, plastic or fiberglass, but in the past, it was made of wood or metal. If you still own a tank made of wood or metal, you must replace it, as the wood is probably rotten and the metal punctured by rust. Since July 20, 2000, the installation of metal tanks is prohibited.

The Septic Tank



Because of the bacteria, your water is purified naturally!

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The Filtering Element

*The most commonly known filtering element is the one built as an absorption bed.

The partially treated water discharged by the septic tank is transported to a series of perforated pipes. The entire system is installed on your land property. The perforated pipes network is installed over a layer of gravel (crushed stone) so that water flowing from the perforations can spread to the natural ground surface to accommodate seepage. The drainfield is made of an absorption bed, the bottom of which is the treatment zone. The existing microorganisms continue the decomposition of the contaminants, virus, and bacteria. This natural biodegradation process eliminates the contaminants from the wastewater. This purified water flows into the ground to reach the streams or the ground water.

! DID YOU KNOW THAT...

Some water treatment systems have received a performance certification. The owner of a certified system must have a continued and binding maintenance agreement with the manufacturer, its representative, or a qualified third party. Consult the list of certified products in the Supplemental Reading section at the end of this fact sheet.

Drainfield

Also called the filtering element, its role is to spread in the ground water released by the septic tank in order to complete the treatment with the microorganisms that break down the contaminants, thus treating the water.



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The **drainfield** has a **limited life span** that varies based on the quality of the design and construction, the type of soil where it is setup, the usage frequency of the building (seasonal vs permanent), the maintenance allotted to the system, the frequency at which the tank is emptied, and the type of usage by the owner (released substances).

When Should I Empty My Septic Tank?

In order to protect your treatment system from clogging (blocking of empty spaces), the natural environment against contamination and backflow inside your dwelling, it is important to maintain your septic tank in accordance with the emptying standards established by the Q-2, r.8 Regulation.

Frequency of emptying: At least once every 2 years for a dwelling used permanently. At least once every 4 years for a seasonal dwelling (180 days or less per year).

! CAUTION

Never inspect or empty your septic tank yourself: the emanating toxic gases could be fatal. Call upon a professional.

A compliant system, well maintained and functioning properly does not pollute the ground water and streams.

When your municipality ensures the emptying of the septic tanks (Art. 25.1 from the Municipal Powers Act), it must be carried out in accordance with the frequencies stated above, or based upon the quantity of accumulated sludge and scum. For the latter, the tank is emptied once the maximum thickness indicated in the Regulation is reached. And in this case, an inspection must be conducted every year.

What Should I Avoid Throwing Into My Drains?

Avoid throwing into the drain pipes substances that do not decompose naturally or that degrade very slowly:

- Oils and grease
- Disposable diapers
- Tampons and applicators
- Paper tissue and kitchen roll towels
- Hairs
- Condoms
- Food and compost
- Cigarette filters
- Paint and solvent
- Pesticides
- Antifreeze
- Gasoline
- Cat litter
- Corrosive detergents (e.g. Javel)
- Antibacterial soaps and other disinfectants
- Medication and antibiotics
- Etc.

When too many chemical products are sent to a septic system, they destroy the bacteria and prevent them from completing their task.

I Have a Problem with My Septic System if...

...the lawn over my drainfield is spongy or greener than the rest of the land.

...it emits a strong smell.

...there is grey or black liquid over the land surface.

...my wastewater does not evacuate properly.

...my well is contaminated.

! DID YOU KNOW THAT...

You are responsible for your onsite system. As per the Regulation, proper functioning and maintenance are under your responsibility!

If you notice any of these malfunctions, call a specialist right away.



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Onsite Systems, Phosphorus, and Blue-Green Algae Are Closely Linked

Blue-green algae (Cyanobacteria) will develop especially when the water phosphorus content is high. Therefore, a substandard (installation, materials, etc.), defective, badly maintained or undersized onsite system releases a lot of phosphorus into the environment, and that is why it is important to comply with the current regulations. The phosphorus found in wastewater originates mainly from our nourishment (urine and feces), but part of it comes from the soaps we use. Even if we cannot control the phosphorus contained in our food, we can reduce our use of soaps that contain phosphates.



DID YOU KNOW THAT...

Most of the phosphorus (95%) found in a wastewater treatment facility originates mainly from human sewage sludge.



For any questions or if you require further information, contact your local OBV.

Best Practices to Adopt

Use Safe Products

Reduce the use of chemical products: poisoned bacteria cannot treat your wastewater efficiently. Make a change for biodegradable products.

Reduce Your Phosphorus Footprint

Favour phosphate-free soaps, empty your tank in accordance with standards and ensure it is in good working condition through regular maintenance: these actions will reduce the amount of phosphorus generated and will help keep the neighboring streams healthy.

Save Water

Install water savers on your faucets, repair leaks and spread over time the use of shower, washer and dishwasher. Too much water at one time accelerates the circulation in the tank and prevents the separation of sludge and scum (each time water is evacuated into the tank, an equal quantity of water is released to the drainfield).

Preserve Your Drainfield

Keep elements that could compact the earth far from the treatment area (garden shed, pool, driveway and car circulation); avoid water saturation (divert gutters and runoff water, do not water the area) and damaging your system (tree and shrub roots). Also avoid installing play areas. It is mandatory to stabilize the drainfield area with plant vegetation and to keep it free of any installation.

To ensure proper separation of the sludge, water must remain in the tank for at least 24 hours.

Compacted or saturated ground contains less air, which slows down the filtering microorganisms' action who need oxygen to complete their task.



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