



Septic Systems 101

What is a septic system?

A residential septic system serves to treat the waste water generated in your home from laundry, baths and showers, sinks, toilets and drains. The waste water exits the house into a septic tank and after the septic tank, that's where things differ from system to system.

There are three main types of septic systems commonly used here in Quebec . This is just an overview of the types of systems available and how they work. For more detailed and complete information regarding septic systems ask us for our list of multi-media resources where you can dive in as deep as you like into the amazing world of septic systems.

Remember that if and when you have a geotechnical analysis done on your property the technologist will be able to advise you on the rules and codes affecting your choice of systems as well as the best options for you. You can also consult a local septic system professional. We can provide referrals to you for both.

Septic tanks require very little maintenance and the amount of maintenance required depends on the type of system you use. For a standard Septic tank and drain field you are looking at having it pumped on average every two to 4 years depending whether it is your primary residence or a recreational property like a cottage that is used form time to time. The more complex systems require annual inspections (required by Environment Quebec regulations). You can expect to pay between \$150 - \$350 for pumping, depending on location and annual inspection of more complex systems can vary between \$100 - \$200 depending on the system and your location.

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Septic Systems 101

The three types of systems

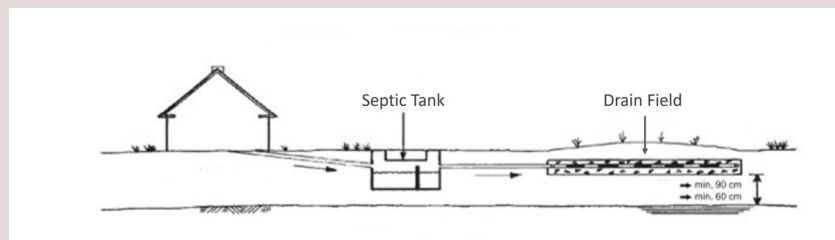
Septic Tank with Drain field

This type of system is more basic and less expensive than the more advanced systems. It is gravity fed and normally requires about 3 ft of undisturbed soil beneath the drain field (check with a qualified professional regarding regulations and codes) and a level grade for the drain field.

The septic tank is a two chamber tank made of concrete, plastic or fiberglass. Waste water flows from the house into the first chamber of the septic tank where the solids drop to the bottom of the tank. Greases stay at the top. The waste (sludge) in the tank is decomposed by anaerobic bacteria that thrive in this oxygen free environment. The rest of the water (effluent) continues to flow through an opening to the second chamber where the process continues.

After passing through the second chamber the effluent makes its way to the drain field. Before the exit to the drain field some people install an outlet baffle filter which adds an additional level of filtering before the effluent reaches the drain field. This filter should be cleaned annually if you have one.

The drain field is a series of perforated pipes laid in gravel. From the septic tank the effluent enters the drain field through what's called a distribution box which directs the water equally into the perforated pipes. The final stage of treatment is accomplished by the gravel and sand below the pipes as the water (effluent) drains out of them.



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The three types of systems

Septic tank with advanced, secondary filtering system and infiltration area

The two most popular manufacturers of advanced septic systems in Quebec are EcoFlo and Bionest, both offer a few different solutions based on your particular needs.

This type of system requires less undisturbed native soil below the system and is adaptable to different soil and ground situations. It also requires less space because the Infiltration area is significantly smaller than a drain field.

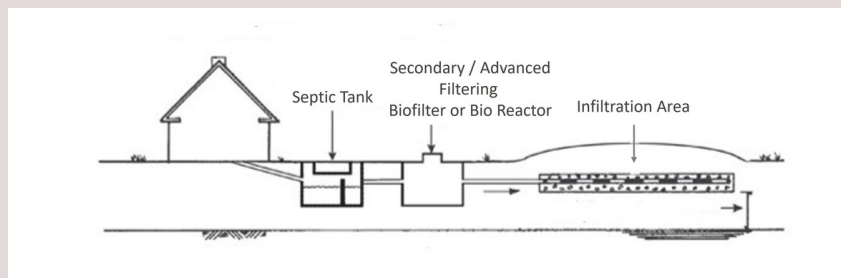
These types of systems use the same septic tank technology as the basic system but then the effluent runs into a biofilter or bio reactor unit to receive advanced treatment before being disposed of into the soil by the infiltration area. Some of these systems require electrical power for pumps and aerators, while others are energy independent and require no electricity at all. These advanced filtering systems use a variety of technologies and long lasting filtering media to achieve extremely effective waste water treatment, protecting your health and environment.

For more information about these types of systems and their required maintenance, you can visit the websites of the two most popular manufacturers here in Quebec EcoFlo and Bionest:

EcoFlo: <https://www.premiertechaqua.com/en-ca/septic-system/ecoflo>

Bionest: <https://www.bionest-tech.com/QC-en/product/1/residential.html>

These systems are significantly more expensive than your standard septic tank and drain field set ups so it is very important when planning your construction that you know whether your property will accommodate a standard drain field or not.



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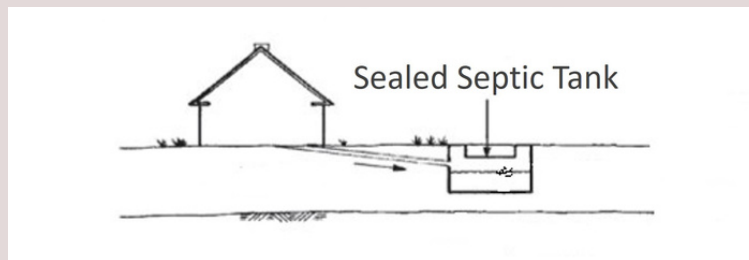


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The three types of systems

Sealed Septic Tank

This, most basic type of system is hardly ever used today but if you are buying an older recreational property like a cottage you may come across sealed septic tanks. They are basically a tank in the ground and the only way what goes in comes out is by getting it pumped. This system would have been suitable for applications where they were hardly used or not used often. They require frequent pumping while other systems only require pumping every 2-4 years depending on usage.

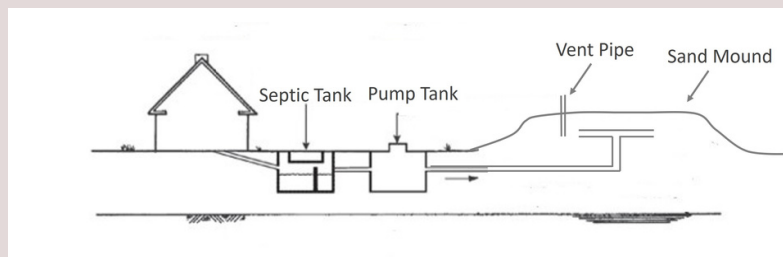


Finally... a variant of the standard septic system (used when soil conditions are not suitable for conventional inground septic systems).

Above Ground / Sand Mound System

When there is insufficient soil to use for a drain field or infiltration area, an above ground / sand mound system can be used.

After the septic tank, the effluent flows into a pump chamber, where a float controlled pump, pumps the effluent up to the mound where it is drained through the same perforated pipes as your standard drain field. The added sand in the mound and the bacteria that lives in it completes the treatment process.



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