

Muskoka Watershed Council Technical Bulletin

Wastewater

Requirements for the construction of an onsite sewage disposal system are governed by the Ontario Building Code (Regulation 350/06) and administered by your municipality's Building Department, health unit or conservation authority.

The Ontario Building Code requires that oxygen demand (a measure of decomposition) and total suspended solids be controlled to mandated levels through sewage systems. However, nutrients that are known to cause eutrophication in our lakes, such as phosphorus, are not required to be controlled in sewage systems.

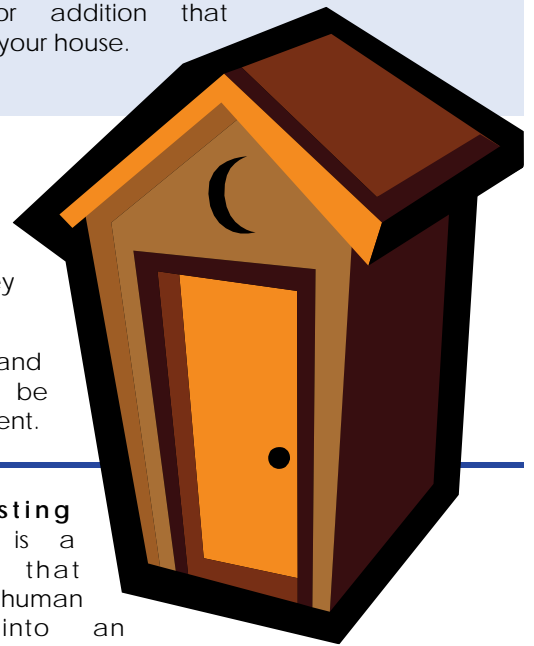
Under the Lake System Health Program, The District Municipality of Muskoka requires the installation of septic systems that bind phosphorus when developing on a highly sensitive or Over Threshold waterbody.

This document provides basic information only. MWC strongly encourages that the services of a qualified professional be obtained to design an onsite sewage system appropriate to your new house or addition that enlarges your house.

What is Wastewater?

Wastewater, or sewage, includes the water you flush down your toilet (black water) and the water that drains from your bathtub, sink, washing machine and many other domestic sources (grey water).

In urban areas, wastewater is treated at a municipal facility and released into a lake or river. In rural areas, wastewater must be treated on your property before being released into the environment.



Types of Onsite Sewage Disposal Systems

There are many factors to consider when deciding on an appropriate sewage disposal system that addresses your needs. Whichever system you choose must be approved under Ontario Building Code Regulation 350.

Standard Septic System - includes a septic tank, distribution box (optional) and a leaching or tile bed. All wastewater flows from the building to the septic tank where it settles and separates into sludge (bottom layer), scum (top layer) and liquid waste. It is the liquid waste that is passed out through the distribution box and into the leaching bed, where it flows through a network of pipes before entering the surrounding soils. Special soils can be used that will bind phosphorus. Steel septic tanks are unreliable and should be replaced immediately.

Tertiary Systems - are aerobic devices or filters that provide treatment of sewage either in conjunction with a standard septic tank or with an aeration chamber. They improve effluent quality by filtering wastewater through a medium before entering the filter bed. They can be used where space is limited as they require an area bed instead of a filter bed, which is smaller in size. They provide no measurable removal of phosphorus on their own, but may have optional add-on packages that target phosphorus.

Pit Privy or Outhouse - is a toilet facility consisting of a pit in the earth covered with a privy building affording privacy and shelter.

Composting Toilet

- is a system that converts human waste into an organic compost and usable soil. Some composting toilets have a large compartment below the toilet, while others are little larger than a traditional toilet. Composted material must be removed periodically by the owner.

Leaching Pit - can only be used for the treatment and disposal of small amounts of grey water. A leaching pit is an underground catch basin for liquid waste, lined with brick, concrete, or stone. The liquid waste is usually drained into the surrounding soil. Leaching pits are used to treat grey water in conjunction with pit privies or composting toilets that treat black water.

Cesspool - is a black water pit used for the treatment of effluent from a pit privy or composting toilet with a drain. The use of cesspools is usually discouraged because the human body waste will quickly clog the soil particles, which will slow down the operation of the cesspool.

Holding Tank - holds wastewater until it can be pumped out to be treated off site. In Muskoka, holding tanks are generally not permitted.

Our water quality and our health depend on properly functioning sewage disposal systems. Wherever possible, upgrade to a new higher standard system with phosphorus removal technology and locate your system far from any surface water sources.



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Which System is Right for You?

Building Code Class	Type of system ∞	Permit required?	Electricity required?	Suitable for light use?	Suitable for heavy use?	Suitable where there is little soil?	Capital cost	Operating cost	Maintenance contract required?	Pump outs required?	Binds phosphorus?
1	Pit Privies	No	No	Yes	No	No	Low	Nil	No	No	No
1	Composting Toilet										
	Without Drain	No	?*	Yes	Yes	Yes	Med	Med	No	No	No
	With Drain	Yes	?*	Yes	Yes	Yes	Med	Med	No	No	No
2	Leaching Pit (grey water only)	Yes	No	Yes	No	No	Low	Nil	No	No	No
3	Cesspools	No	No	Yes	No	No	Low	Nil	No	No	No
4	Standard Septic System										
	Septic Tank	Yes	No ^o	Yes	Yes	Yes	Low	Nil	No	Yes	No
	<i>Plus</i>										
	Trench Leaching Bed	Yes	No ^o	Yes	Yes	No	High	Nil	No	N/A	No
	Filter Bed - standard soil	Yes	No ^o	Yes	Yes	?	High	Nil	No	N/A	No
	Filter Bed - phosphorus binding soil	Yes	No ^o	Yes	Yes	Yes	High	Nil	No	N/A	Yes
4	Treatment System ~										
	Aerobic Treatment Units	Yes	Yes	Yes	Yes	Yes	High	Med	Yes	N/A	Yes w/ add-on
	Trickle Filter Systems	Yes	?*	Yes	Yes	Yes	High	Med	Yes	N/A	Yes w/ add-on
5	Holding Tanks (not allowed in Muskoka)	Yes	No	Yes	No	Yes	Low	Med	No	Yes	No

* Depends on the model

^o Electricity may be required to pump effluent uphill to septic tank

~ Treats effluent between septic tank and leaching bed

∞ The life-cycle of these systems vary with the severity of the local weather, the design, the type and quality of the original components, the quality of the installation, and the level of maintenance and use that the system receives.

Suppliers & Manufacturers

Aerobic Treatment Units

C&M Environmental Technologies (705-725-9377) - Multi-Flo Models, Nayadic Models

Norweco Equipment Company (419-668-4471) - Singlair Models

Northern Purification Systems (877-203-3225) - Cromaglass Models, Clearstream Systems

Make-Way Environmental Technologies Inc (519-235-1176) - Whitewater Systems

Southern Ontario Bio Cycle Ltd (905-665-0537)

Aquarobic Canada (800-452-0144)

Bio-Microbics, Inc (800-753-3278) - FAST® Treatment Systems

Trickle Filter Systems

Onsite Sewage Inc (519-578-0969) -
Orenco Treatment Systems

Waterloo Biofilter Systems Inc
(519-856-0757)

Ecoflo Ontario (705-790-8307)

Composting Toilets

Envirolet Composting Toilets
(800-387-5245)

Sun-Mar Corporation (888-341-0782)

Links For More Information

- [Muskoka Water Web](#)
- [Ontario Onsite Wastewater Association](#)
- [Ontario Rural Wastewater Centre](#)
- [Canadian Mortgage and Housing Corporation](#)
- [Muskoka Watershed Council](#)
- [A Guide to Operating & Maintaining your Septic System](#)
- [Ontario Building Code](#)
- Your area municipal Building Dept:

[Bracebridge](#) 645-5264
[Georgian Bay](#) 538-2337
[Gravenhurst](#) 687-3412
[Huntsville](#) 789-1751
[Lake of Bays](#) 635-2272
[Muskoka Lakes](#) 765-3156