

## FREQUENTLY ASKED QUESTIONS

### **Do I need a sewage system permit to install a sewage system?**

Approval from the Township of Huron-Kinloss is required to install a sewage system. Approval for the installation of a sewage system may be issued upon receipt of a Sewage System Permit application by Township and an inspection of the property. Building Code Act, S.O. 1992, c23, s.8(1); 1997, c. 3D, Schedule. B, 5 7(1). The only exception to the above rule is for the installation of a Class 1 sewage system for which a sewage permit application is not required.

### ***Is there an application fee for my sewage system permit?***

There is an application fee that must accompany the Sewage System Permit application. For the exact amount of the application fee, please refer to the section on sewage system fees or call the Township Office.

### ***What are the different type of sewage systems?***

#### ***Definitions***

**Class 1:** a chemical toilet, an incinerating toilet, a recirculating toilet, a self-contained portable toilet and all forms of privy. See diagrams of **pit privy** and **vault privy**.

**Class 2:** grey water system. See diagram of **grey water pit**.

**Class 3:** a **cesspool**.

**Class 4:** a **leaching bed** system including sewage systems utilizing treatment units

**Class 5:** a system which requires or uses a holding tank for the retention hauled sewage at the site where it is produced prior to its collection by hauled sewage system. See diagram of **holding tank** installation.

#### **Class 1**

Class 1 sewage systems shall receive or be used only for the disposal of human body wastes. This classification includes various types of toilets and privies.

The following sewage systems are included in Class 1.

- A chemical toilet
- A recirculating toilet
- An incinerating toilet
- A self contained portable toilet
- All forms of privy including a portable privy, an earth pit privy, a pail privy, a privy vault and a composting toilet system.

#### **Class 2**

Class 2 sewage systems shall receive or be used only for the disposal of sewage other than human body waste. A leaching pit is classified as a class 2 sewage system.

Use of Class 2 Sewage Systems

- a. Leaching pits provide a suitable system for disposing of "grey" water when the daily amount of such waste is small and site conditions are favourable. They are normally paired with class 1 sewage systems in cottages where the water is hand carried, serviced by a hand pump or serviced by a gravity fed water system. Higher daily sewage flows soon overload a small leaching pit, or require pits of such proportion as to be impractical. In most areas where class 2 sewage systems are used the soil cover is limited. This further restricts their use in any situation but for low flows.

#### **Class 4**

A class 4 Sewage system is a leaching bed system and consists of a treatment unit connected to a leaching bed constructed in accordance with the requirements of the Ontario Building Code. The principal components, and the action that takes place in these components, are:

- a. The septic tank which received sewage from the building sewer, and in which solids are settled to improve the quality of the sewage prior to its movement to the leaching bed. Anaerobic bacterial action breaks down much of the solid matter to liquids and gases. The tank design allows for the storage of the solid matter, that rises to the surface to form a scum and that, which settles to the bottom to form sludge. If the accumulation of sludge and scum is kept within limits by periodic cleaning, the tank should provide reliable service.
- b. The leaching bed received the liquid effluent from the tank. This sewage still contains solids and is highly charged with bacteria and nutrients. The sewage is distributed in the leaching bed by means of distribution pipes set in a stone layer located in the absorption trenches or above a filter medium. The sewage percolates downwards through the soil where it receives treatment due to the action of aerobic bacteria in the pores of the soil. The key to the design of an efficient leaching bed is the assessment of the soil and of the highest level of the water table in the area of the proposed bed.

A filter bed is a unique leaching bed that uses imported granular materials with a specified percolation rate and is specially engineered.

See other diagrams - typical layout of system, sectional view of raised system, idealized soil sections.

**Note: the Township is only responsible for sewage systems which would receive a daily sewage flow of less than <10,000 litres/day. This includes a total sewage flow created on a single registered lot not only for 1 single system.**

#### **Class 5**

A class 5 sewage system is a sewage system that requires or uses a holding tank for the storage or retention of sewage at the site where it is produced prior to its collection by a hauled sewage system.

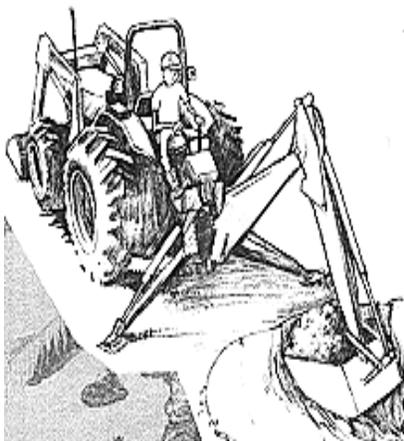
The Building Code (Chapter 8) specifies under what conditions a Class 5 system may be installed.

## Are there clearance distances from septic systems to sources of water?

### Location of Class 1, 2 Sewage Systems clearances measured horizontally in metres

Column 1	Column 2	Column 3	Column 4
<b>Type of System</b>	Well with a water-tight casing to a depth of at least 6 metres	Other well, or a spring used as a potable water supply	Lake, river, pond, stream, reservoir, or a spring not used as a potable water supply
<b>Class 1</b>	15 metres	30 metres	15 metres
Pit Privy	10 metres	15 metres	10 metres
Privy Vault			
Pail Privy			
<b>Class 2</b>	10 metres	15 metres	15 metres
Leaching Pit			

### What do I do when my sewage system fails?



The first thing to do when your sewage system fails is to call a licensed sewage contractor. The Ministry of Municipal Affairs & Housing licenses individuals and businesses for the purposes of installing sewage systems.

A licensed sewage contractor will be able to assist you in determining the probable cause of the failure of your sewage system and will be able to help you complete the sewage system permit application forms for submission to the Township office. Some property owners feel more comfortable having the sewage contractor look after submitting the sewage system application and pursuing the approvals. This is satisfactory, however, the property owner should acquaint his/herself with what is being applied for and what is being approved as ultimately they are the property owner and may be liable for any possible future problems.

Once the sewage system application forms are completed, submit them to the Township Municipal Office along with the appropriate application fee. You may wish to speak to the Inspector responsible for your particular area in order that you can meet with them on the property when the site inspection is made. In most cases, this is not necessary, however it is your option.

Prior to the inspection of your property, you will need to provide a test hole, at least 1.5 meters in depth, in the area of the proposed sewage system. This test hole is very important and is necessary for the Installer/Designer to determine the soil type and the height of the groundwater table. This, along with other information, is used to assess the proposal on the sewage system application and to determine its compliance with the Building Code.

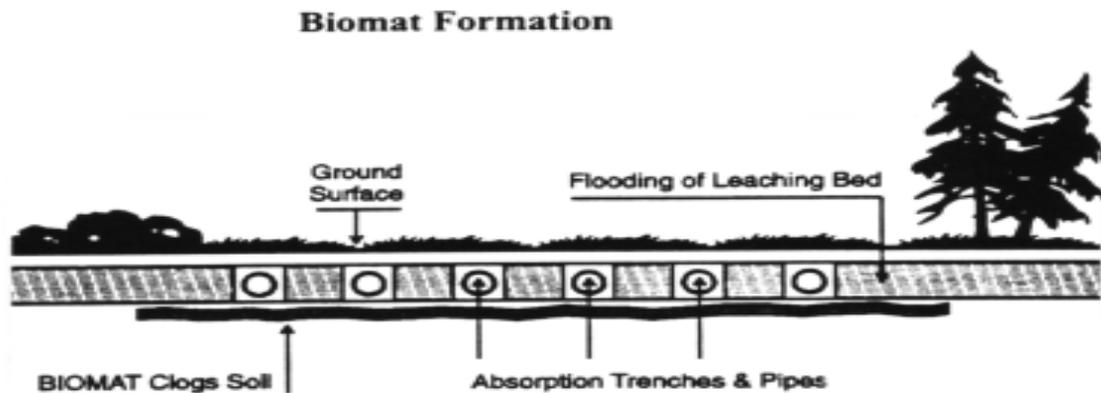
### ***How do I know if my sewage system is not working properly?***

Some signs of an improperly operating sewage system and system failure include:

- Toilet is slow to drain or other fixtures do not drain properly or backup.
- Leakage of water is occurring in the leaching bed area.
- There are wet spots, depressions or soggy areas over the leaching bed.
- In the spring or fall or during wet weather one or more of the above problems occur.

### **What causes a sewage system to fail?**

Saturation of the leaching bed (tile and trench area remain full of effluent) will eventually lead to sewage system failure. Saturation occurs when the soil surrounding the leaching bed cannot accept the quantity of effluent the leaching bed is discharging. The quantity of effluent from the household may be too great for the design of the leaching bed, surface or ground water may be flooding the leaching bed with water or, the soil has clogged.



Liquid from sources other than the sanitary sewage system may be entering the leaching bed and causing saturation. Sump pumps that drain footing water and enter the household plumbing can easily overload a system. Rainwater downspouts directed toward the leaching bed can saturate the soil and lead to premature failure of the leaching bed. Any or all these factors can lead to saturation and clogging of the soil. Clogging of the soil is associated with the build up of a biological mat (called the biomat) in the leaching bed trenches

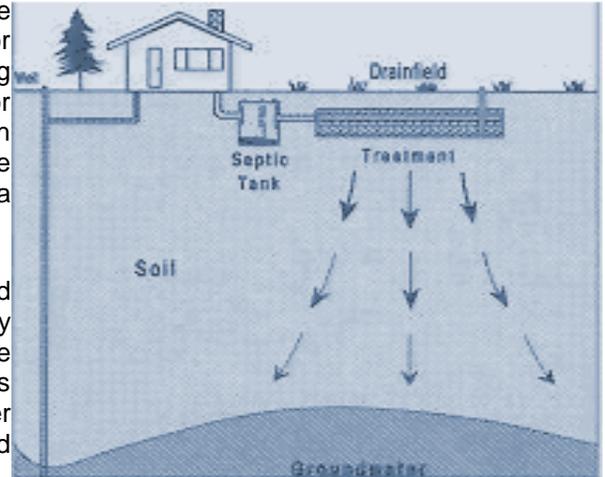
In order for the leaching bed to function properly it must drain completely. The leaching bed functions best in the presence of oxygen. Suspended solids discharged from the septic tank are dispersed by the leaching bed over stone in the trenches and into porous fill material in the bed. The suspended solids are held by the stone and soil particles and in the presence of oxygen are readily broken down by aerobic bacteria in the soil and transformed into nutrients and harmless substances that are leached deeply into

the soil. If the leaching bed does not drain completely the available oxygen is soon depleted and the aerobic bacteria die off and are replaced by anaerobic bacteria. Anaerobic bacteria will still break down organic matter entering the leaching bed but at a much slower rate and with different results. Consequently an organic biomat eventually builds up and the system fails. Essentially the first few centimetres of the soil (soil interface) become clogged and are unable to pass effluent.

In areas with fissured rock and little soil cover leaching bed clogging can sometimes be missed if channelling occurs. The leaching bed will build up a hydraulic load and will seek the path of least resistance. Sometimes a crack, crevice, void or channel are formed through the leaching bed and soil allowing the effluent to discharge deep into rock fissures rock, rubble, or very porous soil. Under such conditions the sewage will reach the aquifer without proper treatment and contaminate the ground water table. These same conditions can occur if a drainage tile is located too close to the leaching bed area.

Salt has also been associated with premature leaching bed failure. This appears to be mainly associated with finely grained soils such as clay. Sodium from the salt through some mechanism not completely understood bonds the soil particles together into an impermeable layer that grows in density over time which ultimately seals the leaching trenches and surrounding soil.

### **Properly Operating Leaching Bed**



### **Can I install my own sewage system?**

A property owner can install their own sewage system, however, it is not recommended in most cases. Very seldom does a property owner have all the necessary equipment to install the sewage system properly. A basic understanding of soils, the groundwater table, drainage and construction principles are crucial to be able to install a sewage system which will meet conditions on a sewage system permit and will meet the requirements of the Ontario Building Code.

Someone other than the actual property owner cannot install the sewage system unless they have the appropriate license issued by the Ministry of Municipal Affairs & Housing.

### **Can I make repairs to my sewage system?**

It is recommended that a property owner or sewage contractor contact the Health Unit prior to commencing any repair work in order that the necessary approvals can be obtained.

When repairing a sewage system, the worker in a lot of cases will be in contact with raw sewage and may become exposed to harmful bacteria and microorganisms. Utmost care should be taken to protect one's health and also the health of surrounding property owners. Care must also be taken to protect the natural environment from needless contamination.

***Do I need approval for an addition onto my dwelling/business?***

There is a possibility that the proposed addition or change of use to your dwelling or business, if this structure is serviced by a private sewage system, may require review and approval from the Township. You will be required to complete and submit a building alteration/change of use application and the appropriate fee for the service.

***Can I install a septic system during wet weather conditions?***

Installing new or replacement sewage systems is never advisable in wet inclement weather. Sewage systems installed during wet seasons can result in system failure. Clay soils when wet tend to smear and do not allow for proper effluent absorption, while silty soils will tend to puddle with the same result.

Where raised sewage systems must be installed, wet weather can play havoc by saturating the fill material, thus preventing proper stabilization and causing ponding on the prepared underlying area. This may permit tiles to go "off the proper slopes" as the material drains. Backfill material can freeze making it unworkable.

Depending on the average temperatures at the time of installation, if the soil, either native or imported, is saturated, frost will tend to go down deeper into the disturbed material. In worse cases, the tile bed will freeze up.

Lastly, there is always the human element to consider. Working in wet, muddy, cold conditions is not ideal. Clothing gets wet, hands get cold, faces freeze and there is a natural tendency to get things done as quickly as possible, at the expense of good workmanship. Avoid having your sewage system installed during the wet season if at all possible, and that way you'll avoid the headaches of a failed system.

***What are the minimum horizontal separation distances for my sewage system?***

**Minimum Clearances for Treatment Units**

Structure	1.5 m
Well	15 m
Lake	15 m
Pond	15 m
Reservoir	15 m
River	15 m
Spring	15 m
Stream	15 m
Property Line	3 m

**Minimum Clearance for Distribution Piping**

Structure	5 m
Well with a watertight casing to a depth of 6 m	15 m
Any other well	30 m
Lake	15 m
Pond	15 m
Reservoir	15 m
River	15 m
A spring not used as a source of potable water	15 m
Stream	15 m
Property line	3 m

**Minimum Clearances for Holding Tank**

Structure	1.5 m
Well with a watertight casing to a depth of at least 6 m	15 m
Any other well	15 m
A spring	15 m
Property Line	3 m