

# SEWAGE SYSTEMS SEPTIC

## Septic Permit Package

A step by step guide for  
making a septic permit  
application



Norfolk County Building Department  
Community Development Division  
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[norfolkcounty.ca](http://norfolkcounty.ca)



# Septic System Permit Application Permit Package / Worksheets

A septic permit is required to install a new septic system, repair or replace any part of the septic system. The daily design flow needs to be 10,000 litres/day or below for the whole site.

Sewage Works is required if the daily design flow exceed 10,000 litres/day for the whole site. An Environmental Compliance Certificate (ECA) is required from the Ministry of Environment, Conservation and Parks (MECP) for a sewage works. [Environmental Compliance Approval process can be found online.](#)

Ministry of Environment, Park and Conservation keep [well records.](#)

## NEW CONSTRUCTION AND FULL SYSTEM REPLACEMENTS

### A COMPLETE SEPTIC SYSTEM APPLICATION INCLUDES:

#### Completed Forms

- Application to Construct or Demolish
- Schedule 1: Designers Information signed by system designer.
- Schedule 2: Septic System Installers Information signed by the applicant.
- Applicant Authorization Form if applicant is not the property owner.

#### Required Documents

- Septic work sheets, plot plan and system cross section.
- Percolation time ('T' time) from a licensed soil testing agency
- Building Material Evaluation Commission (BMEC) or CAN/ BNQ "Onsite Residential Wastewater Treatment Technologies" approvals (if applicable)

#### Fees

- Septic Permit Fee

## BUILDING ADDITIONS, RENOVATIONS AND CONSTRUCTION THAT AFFECT THE SEWAGE DISPOSAL SYSTEM

Renovations to existing buildings may reduce the performance level of the sewage system in the following situations

- The number of bedrooms in a dwelling are increased,
- If the proposed construction exceeds 15% of the gross area of the dwelling unit,
- New plumbing fixtures are added to the dwelling, or
- If the addition, expansion, alteration or change proposed encroaches on the sewage system or any of its components.

If any of the above apply, applicants must submit a completed septic application to Norfolk County Building Department for approval to renovate.

**Project Address:** \_\_\_\_\_

**Septic Permit System Summary / Overview**

<b>Applicable Law Documents Attached</b> (check all applicable)	<input type="checkbox"/> Conservation Authority Approval	<input type="checkbox"/> Site Plan Approval
	<input type="checkbox"/> Source Water Protection	<input type="checkbox"/> Minor Variance
	<input type="checkbox"/> Construction in Hazard Lands	<input type="checkbox"/> Grading Plan (raised beds)

Total Number of Bedrooms \_\_\_\_\_ Total Number of Fixture Units \_\_\_\_\_  
 Total Finished Floor Area \_\_\_\_\_ m<sup>2</sup> \_\_\_\_\_ sq.ft Daily Design Flow (Q) (litre/day) \_\_\_\_\_

Residential (dwelling)     Camp for the Housing of Workers     Other occupancy (Identify) \_\_\_\_\_

<b>Water Supply:</b> <input type="checkbox"/> Municipal <input type="checkbox"/> Dug Well <input type="checkbox"/> Drilled well <input type="checkbox"/> Shallow Well Point <input type="checkbox"/> Other: _____	<b>Type of Native Soil:</b> _____ <input type="checkbox"/> Soils Analysis attached Percolation rate ('T' time): _____ Depth to water table: _____ Slope of land in tile bed area _____%	<b>Type of Imported Fill:</b> _____ <input type="checkbox"/> Soils Analysis attached Percolation rate ("t" time): _____
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**Class of System**     Class 2 – Greywater     Class 4 – Leaching Bed System     Class 5 – Holding Tank

**System Components**  
(Complete all that apply)

Septic tank capacity (L) \_\_\_\_\_  
 Pump capacity (L) \_\_\_\_\_  
 Distribution Box \_\_\_\_\_  
 Other (please specify) \_\_\_\_\_  
 Advance Treatment Unit capacity: (L) \_\_\_\_\_  
 Manufacture and Model \_\_\_\_\_

**Method of Distribution Pipe Detection**

magnetic means  
 tracer wire (14 gauge TW solid copper light coloured plastic coated)  
 other means (please specify) \_\_\_\_\_

**Complete A, B, C, D, E, or F – Class 4 Systems Only**

<b>A. ABSORPTION TRENCH</b> <input type="checkbox"/> In- ground <input type="checkbox"/> Raised <input type="checkbox"/> Distribution pipe <input type="checkbox"/> Leaching chambers <input type="checkbox"/> Type I <input type="checkbox"/> Type II Length of pipe _____m <input type="checkbox"/> Mantel Required Mantel Area _____m <sup>2</sup>	<b>B. FILTER BED</b> <input type="checkbox"/> In- ground <input type="checkbox"/> Raised Effective Area: _____m <sup>2</sup> Contact Area: _____m <sup>2</sup> <input type="checkbox"/> Distribution pipe <input type="checkbox"/> Leaching chambers <input type="checkbox"/> Type I <input type="checkbox"/> Type II <input type="checkbox"/> Mantel Required Mantel Area _____	<b>C. SHALLOW BURIED TRENCH</b> Type: _____ Length of chamber: _____m
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<b>D. ADVANCE TREATMENT SYSTEM (BMEC &amp; CAN/BNQ)</b> <input type="checkbox"/> BMEC authorization provided <input type="checkbox"/> CAN/BNQ authorization provided <input type="checkbox"/> Service agreement provided Mantel area: _____m <sup>2</sup> Stone layer area: _____m <sup>2</sup> Sand layer area: _____m <sup>2</sup> <input type="checkbox"/> System specifications provided <input type="checkbox"/> Manufacturer's installation manual provided	<b>E. TYPE A DISPERSAL BED</b> <input type="checkbox"/> In- ground <input type="checkbox"/> Raised Length of pipe _____m Mantel Area _____m <sup>2</sup> Stone layer area: _____m <sup>2</sup> Sand layer area: _____m <sup>2</sup>	<b>F. TYPE B DISPERSAL BED</b> <input type="checkbox"/> In- ground <input type="checkbox"/> Raised Stone layer area _____m <sup>2</sup> Linear loading rate <input type="checkbox"/> 40 L/m <input type="checkbox"/> 50 L/m
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## Worksheet A: Dwellings - Daily Design Flow Calculations (Q)

A) Residential Occupancy		(Q) Litres	Total
Number of Bedrooms	1 Bedroom	750	
	2 Bedrooms	1100	
	3 Bedrooms	1600	
	4 Bedrooms	2000	
	5 Bedrooms	2500	
<b>Subtotal (A)</b>			

B) Plus Additional Flow for:			
Note: Use the largest additional flow calculation to determine Daily Design Flow (Q). If none apply Subtotal (B) is zero.			
	Quantity	(Q) Litres	Total
<b>Either</b>	Each bedroom over 5	500	
<b>Or</b>	Floor space for each 10m <sup>2</sup> over 200m <sup>2</sup> up to 400m <sup>2</sup>	100	
	Floor space for each 10m <sup>2</sup> over 400m <sup>2</sup> up to 600m <sup>2</sup>	75	
	Floor space for each 10m <sup>2</sup> over 600m <sup>2</sup>	50	
<b>Or</b>	Each Fixture Unit over 20 fixture Units (Total of Worksheet B - 20 = Quantity)	50	
<b>Subtotal (B)</b>			
<b>Subtotal A+B=Daily Design Flow (Q)</b>			

## Worksheet B: Dwellings Fixture Unit Count

Fixtures	Units	How Many?	Total
Bath group (toilet, sink, tub or shower) with flush tank	6.0	X	=
Bathtub only(with or without shower)	1.5	X	=
Shower stall	1.5	X	=
Wash basin / Lavatory (1.5 inch trap)	1.5	X	=
Water closet (toilet) tank operated	4.0	X	=
Bidet	1.0	X	=
Dishwasher	1.0	X	=
Floor Drain ( 3 inch trap)	3.0	X	=
Sink (with/without garbage grinder, domestic and other small type single, double or 2 single with a common trap)	1.5	X	=
Domestic washing machine	1.5	X	=
Combination sink and laundry tray single or double (installed on 1.5 inch trap)	1.5	X	=
Other:			
<b>Total Number of Fixture Units:</b>			

1. Refer to Ontario Building Code Division B Table 7.4.9.3 for a complete listing of fixture types and units.
2. Where the laundry waste is not more than 20% of the total daily design flow, it may discharge to the sewage system. OBC 8.1.3.1(2)
3. Sump pumps are not to be connected to the sewage system. Connection to sewage system may lead to a hydraulic failure of the system.

## Worksheet C: Other occupancies types

Camp for the Housing of Workers	Number of Employees	(Q) Litres	Total
<b>Note:</b> building size, number of bedrooms and fixture count are not required for a Camp for the Housing of Workers		250	
<b>Daily Design Flow (Q)</b>			

### Other Occupancy Daily Design Flow Calculation (Q)

To calculate the daily design flow for occupancies, please refer to Ontario Building Code Division B – Part 8 Table 8.2.1.3.B

Establishment	Operator Example: number of seats, per floor area, number of employees/students	Volume Litres	Total
<b>Daily Design Flow (Q)</b>			

## Work Sheet D: Septic Tank Size

Minimum septic tank size permitted by the Ontario Building Code is 3600 litres.

Occupancy type	Daily Design Flow (Q)	Minimum tank size (L)
<b>Residential Occupancy</b> house, apartment, camp for housing of workers		x 2 =
<b>All Other Occupancies</b>		x 3 =

# Worksheet E: Leaching Bed Calculations (Class 4)

Part 1: Complete All	
<b>Type of leaching bed (select one)</b> <input type="checkbox"/> A. Absorption trench <input type="checkbox"/> B. Filter Bed <input type="checkbox"/> C. Shallow Buried Trench <input type="checkbox"/> D. Advance Treatment System <input type="checkbox"/> E. Type A Dispersal Bed <input type="checkbox"/> F. Type B Dispersal Bed	
Percolation rate of native soil (T): _____	
Name of licensed testing agency: _____	
<input type="checkbox"/> In ground system <input type="checkbox"/> Raised Bed system	Height raised above original grade (metres)
<b>Mantel (if applicable)</b> <input type="checkbox"/> Imported <input type="checkbox"/> Native Soil Q/loading rate = _____ m <sup>2</sup> Configured as: _____ m X _____ m	

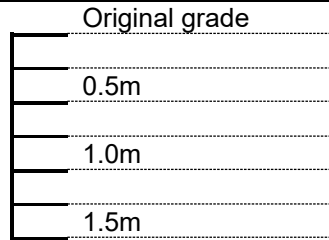
Part 2: Complete One of A, B, C, D, E, F									
<input type="checkbox"/> A. Absorption Trench									
Total length of distribution pipe	<b>Conventional</b> $(Q \times T) \div 200 =$ _____ m <b>Type I leaching chambers</b> $(Q \times T) \div 200 =$ _____ m <b>Type II leaching chambers</b> $(Q \times T) \div 300 =$ _____ m <b>Configured as:</b> _____ runs of _____ m Total: _____ m								
<input type="checkbox"/> B. Filter Bed									
<b>Effective Area</b> If $Q \leq 3000$ litres per day use $Q \div 75$ If $Q > 3000$ litres per day use $Q \div 50$ Level II-IV treatment units, use $Q \div 100$ <b>Distribution Pipe</b> <b>Contact Area = <math>(Q \times T) \div 850</math></b> <b>Mantel (see Part 1)</b>	<b>Effective area:</b> _____ (Q) $\div$ _____ (75, 50, or 100) = _____ m <sup>2</sup> <b>Configured as:</b> _____ m x _____ m <b>Number of beds</b> _____  <b>Number of runs:</b> _____ <b>Spacing of runs:</b> _____ m <b>Contact Area:</b> $(\text{_____ (Q)} \times \text{_____ (T)}) \div 850 =$ _____ m <sup>2</sup>								
<input type="checkbox"/> C. Shallow Buried Trench									
<table border="1"> <tr> <th>Percolation time (T) of soil in minutes:</th> <th>Length of distribution pipe (metres)</th> </tr> <tr> <td><math>1 &lt; T \leq 20</math></td> <td><math>Q \div 75</math> metres</td> </tr> <tr> <td><math>20 &lt; T \leq 50</math></td> <td><math>Q \div 50</math> metres</td> </tr> <tr> <td><math>50 &lt; T &lt; 125</math></td> <td><math>Q \div 30</math> metres</td> </tr> </table>	Percolation time (T) of soil in minutes:	Length of distribution pipe (metres)	$1 < T \leq 20$	$Q \div 75$ metres	$20 < T \leq 50$	$Q \div 50$ metres	$50 < T < 125$	$Q \div 30$ metres	$(L) =$ _____ (Q) $\div$ _____ (75, 50, 30) = _____ m <b>Configured as:</b> _____ runs of _____ m Total: _____ m
Percolation time (T) of soil in minutes:	Length of distribution pipe (metres)								
$1 < T \leq 20$	$Q \div 75$ metres								
$20 < T \leq 50$	$Q \div 50$ metres								
$50 < T < 125$	$Q \div 30$ metres								
<input type="checkbox"/> D. Advance Treatment System									
Provided BMEC or CAN/BNQ approval, and manufacturer's system design documentation.									
<input type="checkbox"/> E. Type A Dispersal Bed									
<b>Stone Layer</b> If $Q \leq 3000$ litres per day, use $Q \div 75$ If $Q > 3000$ litres per day, use $Q \div 50$ <b>Sand Layer</b> $1 < T \leq 15$ use $(Q \times T) \div 850$ $T > 15$ use $(Q \times T) \div 400$	<b>Stone Layer =</b> _____ (Q) $\div$ _____ (75 or 50) = _____ m <sup>2</sup>  <b>Sand Layer =</b> $(\text{_____ (Q)} \times \text{_____ (T)}) \div (850 \text{ or } 400) =$ _____ m <sup>2</sup>								
<input type="checkbox"/> F. Type B Dispersal Bed									
<b>Area = <math>(Q \times T) \div 400</math></b> <b>Linear Loading Rate (LLR)</b> $T < 24$ minutes, use 50 L/min If $T \geq 24$ minutes, use 40 L/min	<b>Area =</b> $(\text{_____ (Q)} \times \text{_____ (T)}) \div 400 =$ _____ m <sup>2</sup> <b>Pump chamber capacity =</b> _____ L <b>Length <math>(Q \div \text{LLR}) =</math></b> _____ m <b>Bed configuration =</b> _____ m x _____ m = _____ m <sup>2</sup> <b>Number of Beds =</b> _____								
<b>Distribution Pipe</b>	Configured as: _____ runs of _____ m Total: _____ m								

# Worksheet F: Cross Sectional Drawings

## Subsoil Investigation – Test pit

1. Soil sample to be taken at a depth of
2. Test pit to be a minimum 0.9m

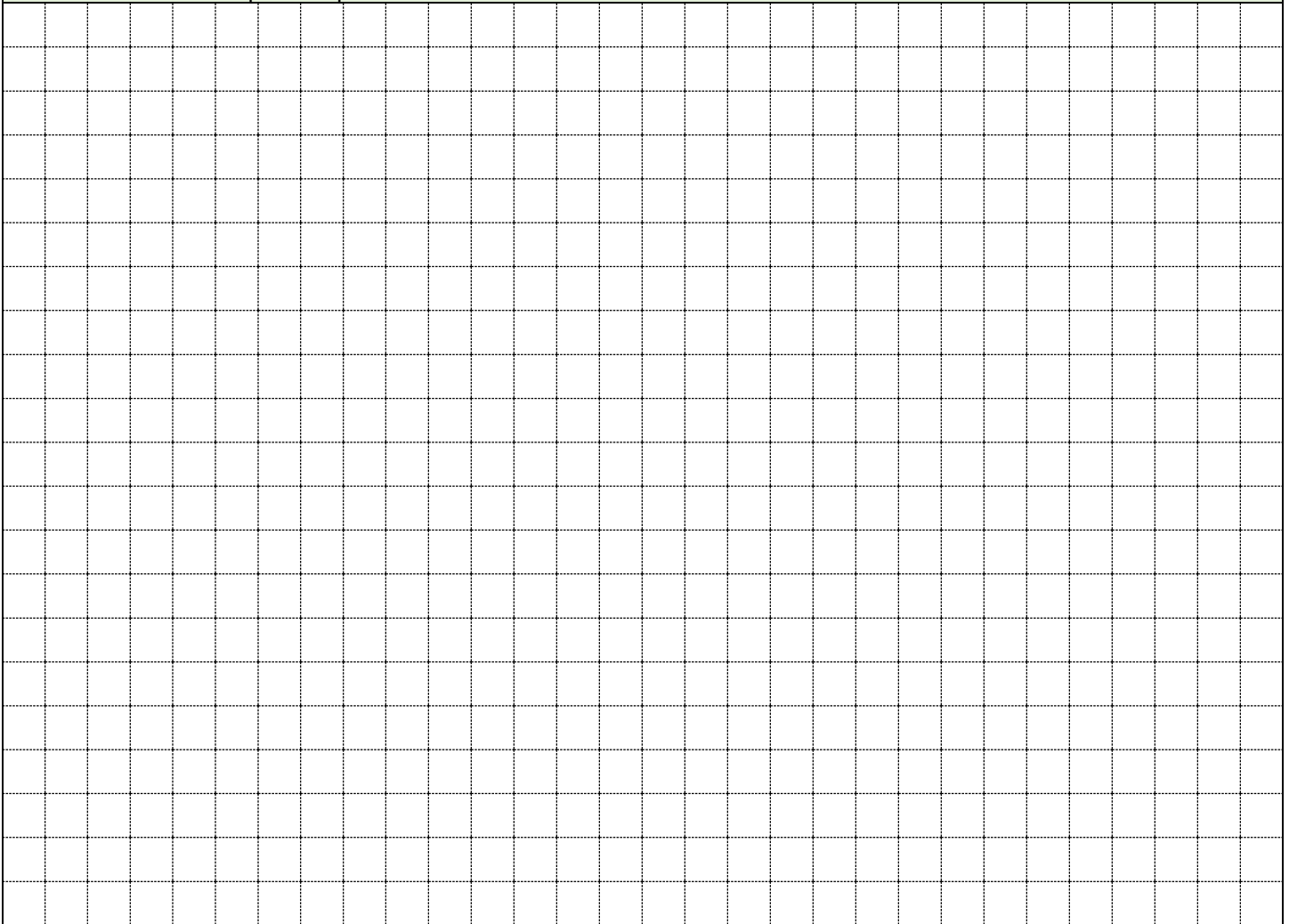
Indicate level of rock and ground water level below original grade.



Soil and subgrade investigation. Indicate soil types

## Cross sectional drawings are required for all septic systems

1. Location of existing grade.
2. Measurements to each component, distances to water table
3. Label each septic component.



# Worksheet G: Septic Plot Plan

**Please provide the following information on this work sheet:**

1. Location of sewage system and its components (e.g. tank, leaching bed, pump chamber)
2. Location of all buildings, pools and wells on the property and neighbouring properties
3. Locate and show minimum clearances for treatment units and distribution piping of items. Ontario Building Code, Division B, Table 8.2.1.6.A. and 8.2.1.6.B.
4. Location of property lines, easements, and utility corridors.

A large grid of graph paper for drawing a septic plot plan. The grid consists of 20 columns and 30 rows of small squares, providing a detailed area for site layout and measurements.