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.

Community Development Division- Building Department
185 Robinson Street, Suite 200, Simcoe, ON N3Y 5L6 • 519-426-5870 Ext. 6016

Project Address: _____

Septic Permit System Summary / Overview

Applicable Law Documents Attached (check all applicable)

□ Conservation Authority Approval
□ Source Water Protection
□ Construction in Hazard Lands
□ Site Plan Approval
□ Minor Variance
□ Grading Plan (raised beds)

Total Number of Bedrooms _____ Total Number of Fixture Units _____

Total Finished Floor Area _____m^2 _____sq.ft Daily Design Flow (Q) (litre/day) _____

□ Residential (dwelling) □ Camp for the Housing of Workers □ Other occupancy (Identify) _____

Water Supply:	**Type of Native Soil:**	**Type of Imported Fill:**
□ Municipal □ Dug Well □ Drilled well □ Shallow Well Point □ Other:_____	_____ □ Soils Analysis attached Percolation rate ('T' time): _____ Depth to water table: _____ Slope of land in tile bed area _____%	_____ □ Soils Analysis attached Percolation rate ("t" time): _____

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

A. ABSORPTION TRENCH
□ In- ground □ Raised
□ Distribution pipe
□ Leaching chambers □ Type I □ Type II
Length of pipe _____m
□ Mantel Required
Mantel Area _____m^2

B. FILTER BED
□ In- ground □ Raised
Effective Area: _____m^2
Contact Area: _____m^2
□ Distribution pipe
□ Leaching chambers □ Type I □ Type II
□ Mantel Required
Mantel Area _____

C. SHALLOW BURIED TRENCH
Type: _____
Length of chamber: _____m

D. ADVANCE TREATMENT SYSTEM (BMEC & CAN/BNQ)
□ BMEC authorization provided
□ CAN/BNQ authorization provided
□ Service agreement provided
Mantel area: _____m^2
Stone layer area: _____m^2
Sand layer area: _____m^2
□ System specifications provided
□ Manufacturer's installation manual provided

E. TYPE A DISPERSAL BED
□ In- ground □ Raised
Length of pipe _____m
Mantel Area _____m^2
Stone layer area: _____m^2
Sand layer area: _____ m^2

F. TYPE B DISPERSAL BED
□ In- ground □ Raised
Stone layer area _____m2
Linear loading rate □ 40 L/m □ 50 L/m

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	
		Subtotal (A)	

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
Either	Each bedroom over 5		500	
Or	Floor space for each 10m^2 over 200m^2 up to 400m^2		100	
	Floor space for each 10m^2 over 400m^2 up to 600m^2		75	
	Floor space for each 10m^2 over 600m^2		50	
Or	Each Fixture Unit over 20 fixture Units *(Total of Worksheet B - 20 = Quantity)*		50	
			Subtotal (B)	
			Subtotal A+B=Daily Design Flow (Q)	

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:				
			Total Number of Fixture Units:	

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
Note: building size, number of bedrooms and fixture count are not required for a Camp for the Housing of Workers		250	
		Daily Design Flow (Q)	

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
		Daily Design Flow (Q)	

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)
Residential Occupancy house, apartment, camp for housing of workers	x 2 =	
All Other Occupancies	x 3 =	

Worksheet E: Leaching Bed Calculations (Class 4)

Part 1: Complete All

Type of leaching bed (select one)

□ A. Absorption trench □ B. Filter Bed □ C. Shallow Buried Trench
□ D. Advance Treatment System □ E. Type A Dispersal Bed □ F. Type B Dispersal Bed

Percolation rate of native soil (T):

Name of licensed testing agency:

□ In ground system □ Raised Bed system	Height raised above original grade (metres)

Mantel (if applicable) □ Imported □ Native Soil
Q/loading rate = _____m2 Configured as: _____ m X _____ m

Part 2: Complete One of A, B, C, D, E, F

□ A. Absorption Trench

Total length of distribution pipe	**Conventional** (Q x T) ÷ 200 = _____ m **Type I leaching chambers** (Q x T) ÷ 200 = _____ m **Type II leaching chambers** (Q x T) ÷ 300 = _____ m **Configured as:** _____ runs of _____ m Total: _____ m

□ B. Filter Bed

Effective Area If Q ≤ 3000 litres per day use Q ÷ 75 If Q > 3000 litres per day use Q ÷ 50 Level II-IV treatment units, use Q ÷ 100 **Distribution Pipe** **Contact Area = (Q x T) ÷ 850** **Mantel** (see Part 1)	**Effective area:** _____ (Q) ÷ _____ (75, 50, or 100) = _____ m^2 Configured as: _____ m x _____ m Number of beds _____ Number of runs: _____ Spacing of runs: _____ m **Contact Area**: (_____ (Q) X _____ (T)) ÷ 850 = _____m^2 _____m^2

□ C. Shallow Buried Trench

Percolation time (T) of soil in minutes:	Length of distribution pipe (metres)
1 < T ≤ 20	Q ÷ 75 metres
20 < T ≤ 50	Q ÷ 50 metres
50 < T < 125	Q ÷ 30 metres

(L) = _____ (Q) ÷ _____ (75, 50, 30) = _____ m
Configured as: _____ runs of _____ m Total: _____ m

□ D. Advance Treatment System

Provided BMEC or CAN/BNQ approval, and manufacturer's system design documentation.

□ E. Type A Dispersal Bed

Stone Layer If Q ≤ 3000 litres per day, use Q ÷ 75 If Q > 3000 litres per day, use Q ÷ 50 **Sand Layer** 1 < T ≤ 15 use (Q x T) ÷ 850 T > 15 use (Q x T) ÷ 400	**Stone Layer** = _____(Q) ÷ _____ (75 or 50) = _____m^2 **Sand Layer** = (_____ (Q) x _____ (T)) ÷ (850 or 400) = _____m^2

□ F. Type B Dispersal Bed

Area = (Q X T) ÷ 400 **Linear Loading Rate (LLR)** T < 24 minutes, use 50 L/min If T ≥ 24 minutes, use 40 L/min **Distribution Pipe**	**Area** = (_____(Q) x _____ (T)) ÷ 400 = _____ m2 **Pump chamber capacity** = _____ L **Length (Q ÷ LLR**) = _____ m **Bed configuration** = _____m x _____ m = _____ m2 Number of Beds = _____ 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.	Original grade 0.5m 1.0m 1.5m	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.