2023 Sewage System Re-inspection Program

Prepared For Tay Valley Township
Prepared By Eric Kohlsmith, MRSSO
December 18, 2023

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Executive Summary

For 2023, the septic system re-inspection program has been expanded to be mandatory for all waterfront properties within Tay Valley Township and lots within the Maberly Pines Subdivision. As a result of the program expansion, an inspection schedule was developed, based on the former Townships (Bathurst, South Sherbrooke, and North Burgess) with a 3-year rotation. For 2023, inspections were completed within North Burgess with 98 completed on Big Rideau Lake, 75 on Black Lake, 4 on Grant's Creek, and 3 on Round Lake, for a total of 180 inspections completed.

Properties owners were mailed a property owner package to notify their property was selected for the re-inspection program and provided an inspection appointment within the package. Property owners were given the opportunity to arrange a new appointment, if required. Participants were asked to return the questionnaire, included in the property owner information package, to the Mississippi Rideau Septic System Office (MRSSO). Once received, the administration staff entered the questionnaire in our database as being returned. Properties that did not have returned questionnaires were visited on the scheduled appointment date. If no property owner was home at the time, a notice was left onsite requesting the owner to reschedule.

The inspections began on July 13, 2023, and the last inspection was completed on October 23, 2023. Most of the inspections were completed in July and August; months when cottagers are most likely to be present.

As a result of the program, 80 systems were identified as having no concern, 70 systems requiring remedial work, two required more information and, 28 system replacements required.

In conclusion, the MRSSO:

- Conducted 180 septic re-inspections in 2023,
- Conducted 12 water access inspections,
- Met onsite with 63 % of property owners for the inspection,
- Identified 28 (16 %) systems requiring replacement.

1 Introduction

A working sewage system is an integral part of any home or cottage not serviced by the municipal sewer. As such, proper maintenance and operation of the sewage system is essential to the continued life of the system. A Septic Re-Inspection Program provides:

1. Participants with information and advice regarding the proper operation and maintenance of their septic system.

2. A proactive approach to identifying risks to human health or the natural environment.

3. A database of inspected existing septic systems that can be used as a planning tool for municipalities.

Malfunctioning on-site sewage systems can have both human health and environmental impacts beyond the property on which it is located. Nutrient and bacteria-rich effluent can travel through soil and rock fractures to surface water bodies, and ground water sources. Contamination of surface water can cause excessive aquatic plant growth, depletion of oxygen in lakes, and impact the natural habitat for aquatic species. Ground water contamination can cause illness and even death. This makes it crucial that property owners be aware of the location and operation of their septic system. Under the Ontario Building Code, it is the property owner's responsibility to ensure that their sewage system is working properly, not only for their health, but also that of the surrounding community and environment.

The Tay Valley Township has led the way locally for the sewage system re- inspection program as well as other initiatives that work towards protecting the quality of surface and ground water. Since the sewage system re-inspection pilot program on Christie Lake was initiated in 2000, the Township has now conducted approximately 3,200 waterfront inspections. The program combines the education of the homeowner regarding the maintenance of their sewage system with an inspection component. A follow-up component is also essential to ensure that the program effectively manages identified sewage system problems.

The authority to conduct mandatory inspections of sewage systems is provided by *s.34 (2)(b*) and *34 (2.1)* of the *Building Code Act* and *Div. C 1.10.1* of the *Ontario Building Code.* The program Authority can be found in Appendix D.

In 2012, Tay Valley Township implemented a Mandatory Maintenance Inspection program on seven lakes within the municipality (Appendix D), at the request of the Lake Associations. In 2016 the By-Law was amended to include Little Silver and Rainbow Lakes in the Mandatory re-inspection program, bringing the total number of lakes to nine. Then in 2023, the septic system re-inspection program has been expanded to be mandatory for all waterfront properties within Tay Valley Township and lots within the Maberly Pines Subdivision.

The sewage system re-inspection program for 2023 began by selecting properties to be involved, contacting property owners, and informing them of the inspection to take place. A site visit was made (Appendix B) and an inspection report was filled out and the owner was notified of any deficiencies to be rectified.

In 2023, the MRSSO continued the use of electronic reporting. Property owners were provided the option of receiving the report by email or mail.

The results for the 180 inspections completed in 2023 were compiled and this report is the culmination of those efforts.

2 Program Implementation

2.1 Property Selection Protocol

Participants were selected using CGIS, the Township's GIS database program, based on the following criteria:

- Properties that either have a septic permit that is 10 years or greater or does not have permit information, has not been re-inspected in the past, and is not undeveloped.
- Are due for a re-inspection after 10 years.

A property selection protocol for CGIS was developed (Appendix E) to ensure the accuracy of the property selection process.

2.2 Inspection Schedule

With the expansion of the program, the MRSSO developed a 3-year rotation schedule roughly based on the former Townships to try and balance the number of inspections each with the goal of completing 200 inspections each year. Figure 1 below outlines the approximate areas to be inspected each year.

Figure 1 Inspection schedule

Ward	Three year cycle
North Burgess	2023
South Sherbrooke (South of Concession 7) and Christie Lake	2024
Bathurst and South Sherbrooke (North of Concession 6)	2025

2.3 Scheduling

Properties owners were mailed a property owner package (Appendix A) to notify them that their property was selected for the re-inspection program and provided an inspection appointment within the package. The property owner package includes:

- Letter from the Township
- 5-Step procedure letter from MRSSO
- Questionnaire from MRSSO

Property owners were given the opportunity to arrange a new appointment, if required. Participants were asked to return the questionnaire, included in the property owner information package, to the Mississippi Rideau Septic System Office (MRSSO). Once a

participant contacted our office, either by returning the questionnaire, calling, faxing, emailing, or completing the online questionnaire, the information was recorded in the database under four different categories:

- Questionnaire returned with appointment.
- Questionnaire returned without appointment.
- Appointment without a Questionnaire.
- Removed from list (permit number or reason recorded).

Properties that did not have returned questionnaires were visited on the scheduled appointment date. If no property owner was home at the time, a notice was left onsite requesting the owner to reschedule. A total of 214 property owner packages were mailed out (Appendix A) and 180 inspections were completed. Thirty-four properties were removed from the list for the following reasons:

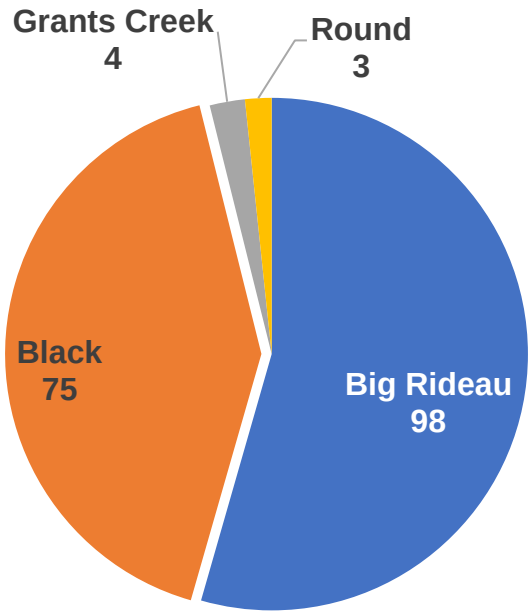
- Vacant parcel
- New System in last 10 years

3 Results and Discussion

3.1 Distribution of Sewage System Re-inspections

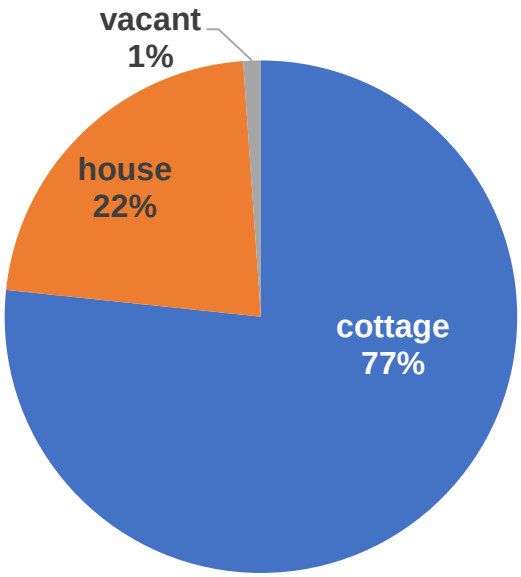
The re-inspection program resulted in 180 inspections completed on four waterbodies completed (Figure 2).

Figure 2 Properties Inspected per Lake



From information collected through the questionnaire, records of mailing addresses, and observations at the time of the inspection, the primary property uses identified were cottage and house. Figure 3 illustrates that 138 of the inspections were completed on cottage properties, 40 on houses (residential properties) and 2 vacant properties. Both vacant properties had structures on the property but did not have plumbing or sewage systems. While residential properties consistently generate more wastewater and have the potential to contribute more nutrients to the environment, seasonal properties often have older, under sized systems that experience peak flows, which could lead to a greater environmental impact. Therefore, a mix of both seasonal and residential properties is desirable.

Figure 3 Property Use



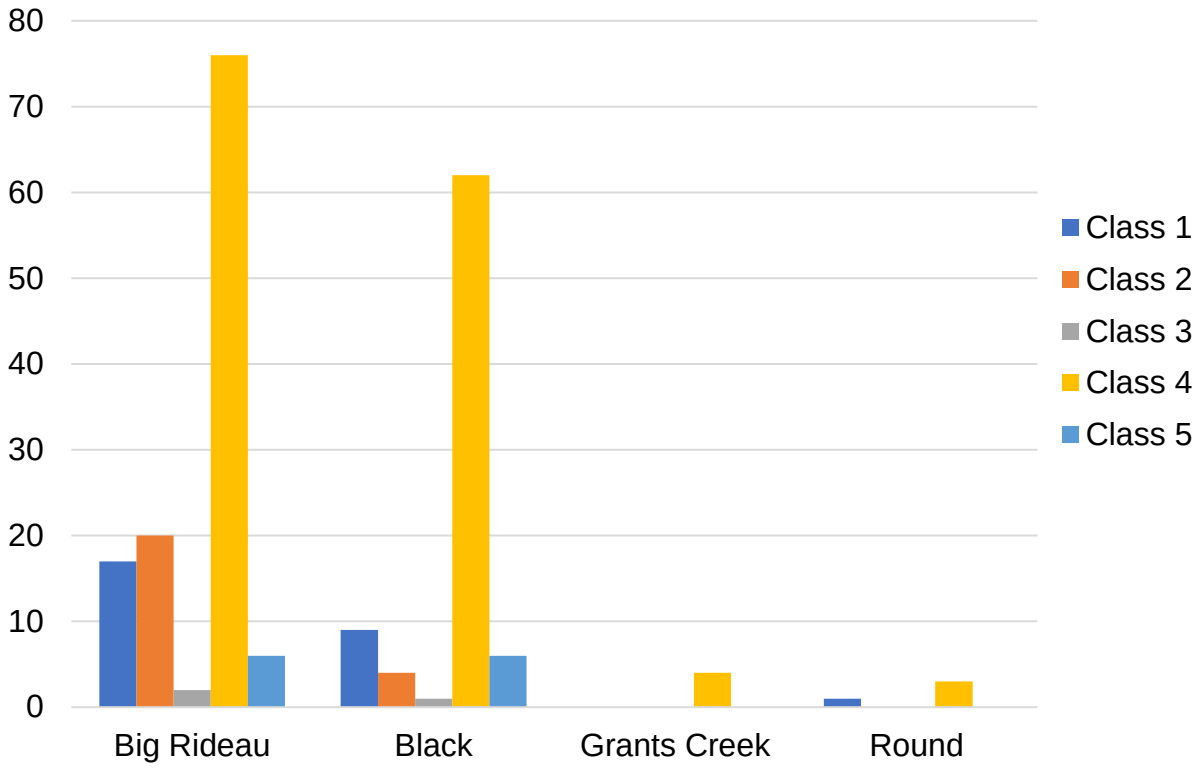
3.2 Class of Sewage System

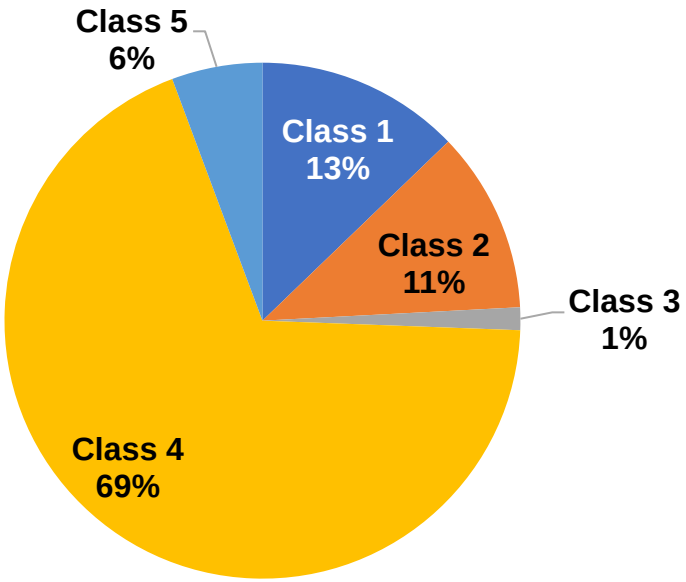
There are five classes of sewage systems identified in Part 8 of the OBC as outlined below.

Class 1 - Earth Pit, Vault, Pail and Portable Privies, Composting Toilets
Class 2 - Greywater Systems
Class 3 - Cesspools
Class 4 – Septic Tank and Leaching Bed
Class 5 – Holding tanks

Figure 4 displays the primary type of sewage system for each property where it was known, either from the visual inspection, or from information provided by the homeowner.

Figure 4 System Class per Lake





It is not uncommon, and many times it is necessary, for properties to have more than one class of system onsite. For instance, if the primary class of system is a privy (Class 1), then generally a Class 2 system is required for greywater treatment. It is strongly recommended that property owners with a Class 4 or Class 5 system direct all sources of greywater to that system unless otherwise approved.

3.3 Class 4 and Class 5 Systems

The most prevalent Class of sewage system inspected was the Class 4, with 145 systems inspected. Due to the difficulty in determining the type of Class 4 sewage system in use, and the lack of homeowner certainty, we did not distinguish between the different types leaching fields of Class 4 systems.

Very stringent requirements are identified in the OBC for allowing the installation of a Class 5 system (holding tank). One of those requirements is that it can be installed only when no other type of Class 4 system, meeting the OBC requirements, can be placed on the property. Twelve holding tanks were identified during the 2023 re-inspection program.

3.4 Class 1, 2, and 3 Systems

Class 1, 2 and 3 systems comprised 25% of all systems inspected with 27 Class 1's, 24 Class 2's and 3 Class 3's. These systems are adequate options for protecting the environment when designed and installed correctly. The construction of Class 2 or 3 system requires a permit. Class 1 systems do not require a permit to construct, but they need to meet the minimum requirements under the OBC and applicable law and these requirements are enforced.

A Class 3 system is required when a Class 1 system requires waste or effluent to be removed. They are commonly required with composting toilets that are outfitted with an overflow, emergency or other. Class 3 systems can only receive waste from Class 1.

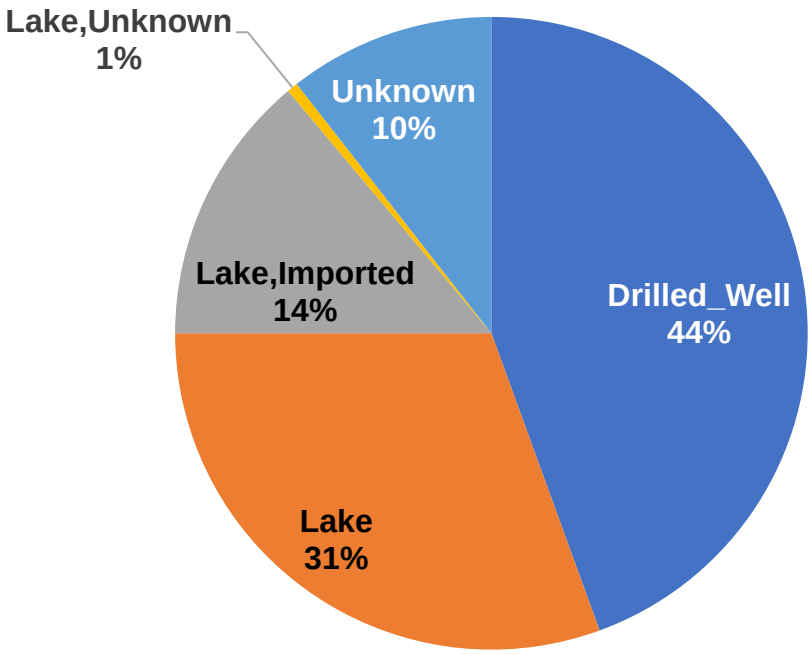
Typically, Class 1,2, or 3 systems do not provide pre-treatment of wastewater prior to entering the ground and therefore should be considered for use in temporary or very low-use conditions. If these systems are located too close to water they can have a significant impact on water quality during seasons of peak use.

3.5 Wells and Drinking Water

Information was collected during the field inspection on the source of drinking water, and water treatment practices of the property owners. During the visual inspection, if a pipe pumping water from the water body was visible, and no well was located, then the water source was assumed to be the lake (or river). If no pipe was visible and a well was located, then the water source was recorded as a well. Water source indicated as "unknown" means the water source could not be determined at the time of the

inspection. Information provided by the property owner is more accurate than that found during the visual inspection and is preferable to identifying the water source on-site. Figure 5 illustrates the percentage and type of water supply systems.

Figure 5 Water Source

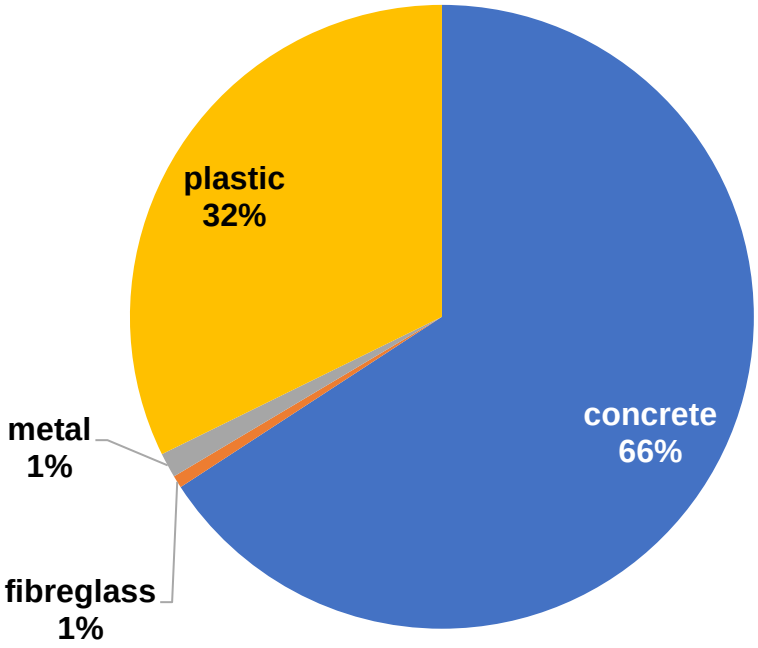


Property owners are encouraged to utilize the free drinking water testing provided by the Leeds, Grenville and Lanark Health Unit. Sample bottle pick up and drop off locations can be found on the Health Units website. Although free testing is available, many property owners do not test their drinking water regularly.

3.6 Tank Inspection

During the inspection of septic and holding tanks, the tank material was recorded. If the tank was not uncovered for the re-inspection, the tank material was determined by using a soil probe. Of the ninety-seven (97) systems inspected, there were ninety-two (92) septic or holding tanks. Figure 6 shows the breakdown for the common tank materials found: concrete, plastic, fiberglass and metal.

Figure 6 Tank Material



As a result of the re-inspection program, it was observed that **21%** of concrete septic tanks had signs of corrosion (Photo 1). Concrete corrosion is generally caused by a build of gases (from normal operation) reacting with the concrete. The corrosion can cause baffles to fall off, effluent to escape around the outlet pipe and the tank to become structurally unsafe.

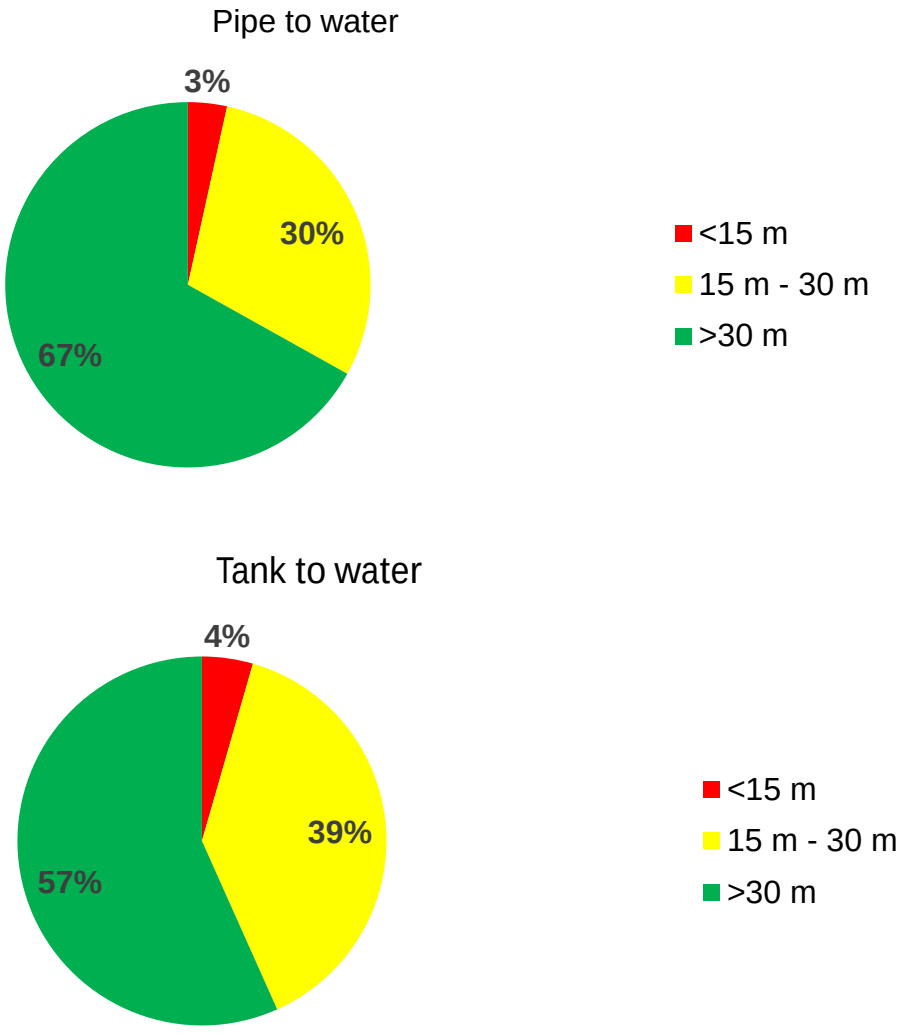
Photo 1 Concrete Corrosion around Outlet Baffle

3.7 Separation Distances

Horizontal separation distances are measured from the dwelling, lot line, well and shoreline to the sewage system components. Figure 7 represents the separation distance measured from septic/holding tanks and leaching bed to the surface water. The measurements were sorted into three categories:

- Less than 15m (<15m) – Does not meet OBC or Official Plan requirements.
- Between 15m – 30m – Meets OBC but does not meet Official Plan requirements.
- Greater than 30m (>30m) – Exceeds OBC and meets Official Plan requirements.

Figure 7 Separation Distance –Tank and Leaching Bed to Water



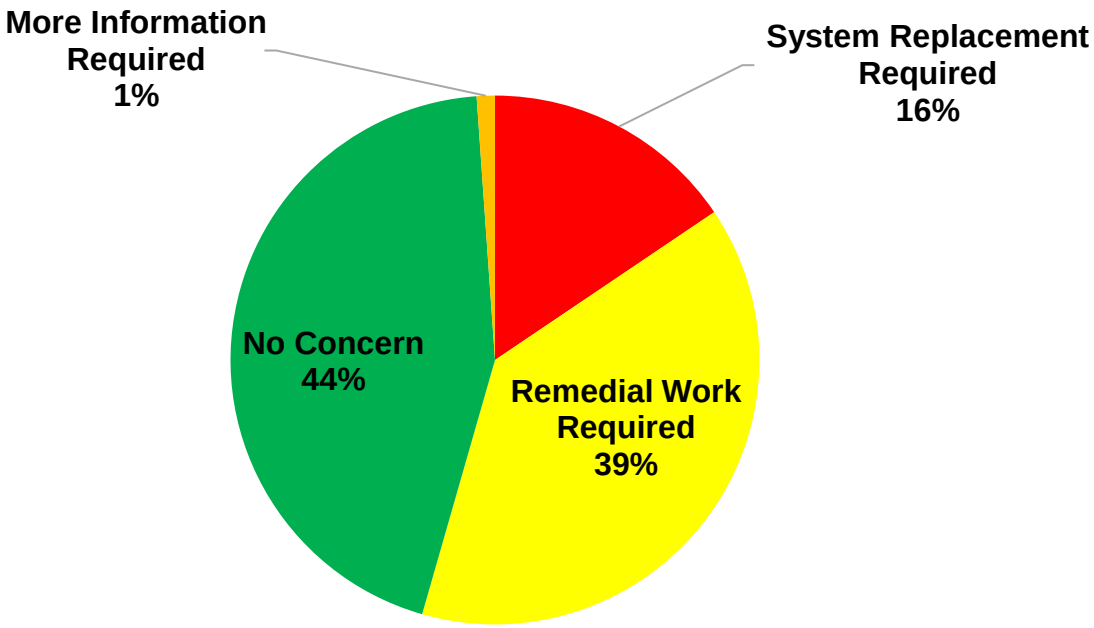
Although a reduced separation distance does not necessarily provide evidence of ground or surface water contamination, it is important to recognize that these systems are present.

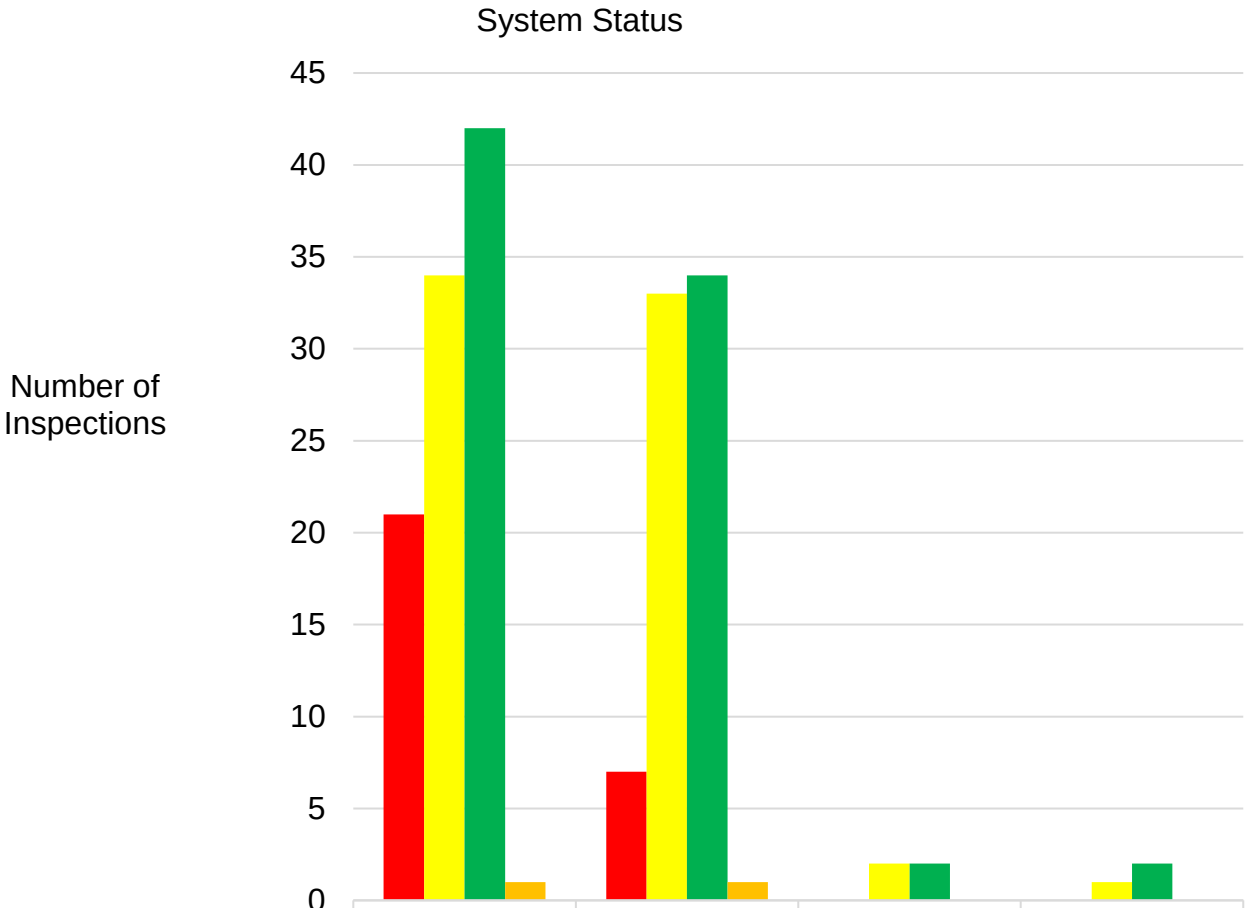
3.8 Sewage System Status

When completing an inspection of the existing sewage system the MRSSO has developed the following terms to identify the overall sewage system status or condition, as shown in Figure 8:

- **No Concern –** At the time of inspection there were no operational and/or maintenance issues identified.
- **Remedial Work Required –** At the time of inspection operational and/or maintenance issues were identified. These issues generally do not require a permit to remedy.
- **More Information Required –** At the time of inspection one or more questions arose regarding the class of system, location of components, water source, pumping, maintenance and/or operation of the system.
- **System Replacement Required –** At the time of inspection it was determined that the on-site system was not being maintained or operated properly and was posing or could pose a risk to human health and/or the environment.

Figure 8 System Status – Mandatory Program





	Big Rideau	Black	Grants Creek	Round
System Replacement Required	21	7		
Remedial Work Required	34	33	2	1
No Concern	42	34	2	2
More Information Required	1	1		

Every septic system requires regular maintenance to ensure it is operating efficiently and safely. System deficiencies are generally classified as a remedial work items. Table 1 illustrates the most common deficiencies found during the re- inspection program.

Table 1 System Deficiencies

note: some properties have more than one sewage system maintenance issue.

Pump out required	33
Baffles require maintenance (broken/missing)	18
Roots in tank	6
Vegetation/debris on leaching bed	5
Effluent level of tank	12
Filter cleaned/to be cleaned	17
Tank Corrosion	9
Class 1 and Class 2 issues	12
Alarm/pump issue	1
Recommend Risers	2
Total	115

3.9 Follow-up and Enforcement

Once the re-inspection is completed, the MRSSO either provides general system operation and maintenance to the property owner directly, if present, or if not, a system status card (Appendix A) is left onsite. Within days of the inspection the “Existing Onsite Wastewater System Inspection Report”, that is completed onsite electronically, is mailed or emailed to the property owner based on the information provided on the questionnaire.

Follow-up inspections include site visits, compliance letters and Order to Complies. The type of enforcement is determined by the severity of the issue. Orders to Comply are issued under the Building Code Act s.15.10.1.(2).

Sewage Systems found to be malfunctioning or posing a risk to human health or the environment will require replacement. All 28 systems requiring replacement are on seasonal properties. The owners have been informed of the concerns identified during the re-inspection. 21 of the system replacements are Class 1 and/or Class 2 systems and the remaining 7 relate to Class 4 systems – either the septic tank, leaching bed or both require replacement/repair. Three of the 7 Class 4 system replacements are under way. The remaining property owners will receive an Order to Comply, requiring work to be completed by July 1, 2024.

4 Conclusions

The 2023 program completed inspections of 180 sewage systems on Big Rideau Lake, Black Lake, Grant's Creek, and Round Lake, 12 of which were water access properties. Of the 180 systems inspected, 80 systems were identified as having no concern, 70 systems requiring remedial work, two required more information, and 28 systems required replacement. It should be noted that the age of a system was not a significant factor in deficiencies identified. In turn, the diligence of the property owner regarding the operation and maintenance of their system had a greater impact on the deficiencies identified.

Interaction with property owners during the re-inspection program this year was very positive. Approximately 63% of property owners were able to be present during the re-inspection. Most of the homeowners encountered were very supportive of the re-inspection program.

Having homeowners excavate their tanks prior to re-inspection will be continued in the 2024 re-inspection season. This enabled a much more efficient re-inspection process.

Continued emphasis will be placed on attending Lake Association functions and offering information seminars to the public regarding changes to the program and the maintenance and operation of sewage systems within the Township. The MRSSO presented to the Big Rideau Lake Association in January, 2023, and the Black Lake Property Owners Association AGM in July of 2023. The opportunity to hear the concerns of waterfront properties and address misconceptions regarding sewage systems and the re-inspection programs is beneficial in promoting the proper maintenance and operation of sewage systems and identifying areas of concern.

The MRSSO's continued commitment to the property owners of Tay Valley Township is to provide fair, accurate and timely service. It is hoped that the momentum of the sewage system re-inspection program continues in the coming years, as it is a valuable asset to the health of the environment and the community.

Appendix A Property Owner Package

10970 Hwy. 7, Carleton Place, ON K7C 3P1
T (613) 253-0006 F (613)253-0122 mrsso@mvc.on.ca

MississippiRideau
SEPTIC SYSTEM OFFICE
Mississippi Valley Conservation Authority
Rideau Valley Conservation Authority

Mailing Address

Date

5 Easy Steps to Your Mandatory Sewage System Re-Inspection Program

We are pleased to provide free re-inspections on a number of septic systems including:

- Earth Pit Privies and Composting Toilets
- Greywater Pits
- Cesspools
- Septic Tanks & Leaching Fields
- Holding Tanks

Our professional, impartial staff are registered Building Official Inspectors who will provide advice on your current, care and maintenance and possible replacement options.

Here are the five steps of the Septic Re-inspection Program — from start to finish.

Step 1 — Complete and return the attached questionnaire

Do the best you can to complete the attached questionnaire and submit it by:
Fax: 613-253-0122
Email: mrsso@mvc.on.ca
Mail: MRSSO 10970 Hwy. 7, Carleton Place ON K7C 3P1

Questionnaire can be filled out and returned online at https://bit.ly/mrsso

The goal of the questionnaire is to provide us with some basic information about your system and where it is located.

Step 2 — Scheduled appointment

The re-inspection of your property at LOCATION is mandatory and will be conducted on DATE. If you would like to arrange an alternative inspection appointment, please contact our office - 613-253-0006 ext. 256 or mrsso@mvc.on.ca.

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Step 3 — Dig Your Lids

The MRSSO asks that you expose both lids on your septic tank (most tanks have two).

If you are unable to dig out your own lids, there will be a $80 ($40/lid) maximum charge for the MRSSO to assist in locating and excavating the septic tank lids. This fee will be invoiced upon completion of the re-inspection. No cost will be incurred if excavation is not required.

The MRSSO will re-cover the tank when the inspection is completed, **upon request** (at no cost) unless it is determined that a pump-out is required or you plan on conducting a pump out. The tank inspection includes a visual inspection of the tank components and measurement of sludge and scum in the tank.

Please do not pump a septic tank before the re-inspection.

Step 4 — Inspection

The septic re-inspection will include the following:

- Location of all system elements
- Measurement of separation distances to key lot features
- Visual inspection of tank structure
- Measurement of tank contents
    - **Please do not pump a septic tank before inspection.**
- Visual inspection of bed
- Briefing the homeowner on proper system maintenance and operation.

Step 5 — Review your Re-inspection Report

A septic re-inspection status card will be left for the property owner and a copy of the septic re-inspection report will be emailed or mailed to the property owner.

Our primary goal is to educate property owners about their septic system and any deficiencies it may have. Our secondary goal is to ensure that unsafe systems are reported to the appropriate Authority, based on the requirements of Part 8 of the *Ontario Building Code*. Staff will let you know of any funding assistance that may be available for septic replacement.

Property owners can expect the re-inspection, results, and all inquiries to be dealt with in a professional manner.

Thank you in advance for your co-operation in our program.

Working together we can protect our watershed resources. Your participation in this program will ensure a safe home with healthy groundwater and surface water and the continued enjoyment of a clean, healthy waterfront environment for generations to come.

Yours truly,

Eric Kohlsmith, MRSSO Re-inspection Program Coordinator
613-253-0006 ext. 256
mrsso@mvc.on.ca

Tay Valley Township

SEWAGE SYSTEM RE-INSPECTION IS AN IMPORTANT PART OF COUNCIL'S ENVIRONMENTAL STRATEGY

June, 2023

For over twenty years Tay Valley Township has had a voluntary septic re-inspection program. Mandatory Re-inspections resulting from the *Clean Water Act* have been undertaken in Tay Valley on nine of the lakes for more than ten years. A properly functioning septic system is an integral part of a healthy lake environment. Improperly maintained systems can be a significant contributor of nutrient and bacteriological pollution to an adjacent water body. The Septic Re-Inspection Program is aimed at achieving a better understanding of system function, increasing owner education and preventative measures. The implications of poor maintenance are costly to the owner and to the community. Our program history shows owners are committed to protecting their lake lifestyle, as is the Township.

Based on the success of the mandatory septic reinspection program, in the spring of 2023, Tay Valley Council voted to expand the mandatory program to include all lakes and rivers in the Township, as well as the properties in the Maberly Pines Subdivision. Your property is therefore, included in the Tay Valley Township Mandatory Septic Re-Inspection Program for 2023. To protect the water quality of your lake and groundwater, you may schedule an appointment with the Mississippi Rideau Septic System Office (MRSSO) for the inspection at no cost to you. If you choose, you may be present for the inspection, but if it is not convenient you are not required to be present for the inspection. Alternatively, you may hire a third-party certified inspection service to do the inspection.

Please see the attached Septic Re-inspection Procedure for instructions on preparing for the inspection including filling out and returning the enclosed questionnaire.

Your active involvement in the Septic Re-Inspection Program begins with filling in the accompanying questionnaire to the best of your ability. After the re-inspection is completed, advice on proper maintenance will be provided both in person and in the report left onsite. If necessary, the MRSSO will initiate a dialogue and define an action plan with owners of systems deemed to be a concern to the environment or to public health. Owners of systems found to be installed, operating and maintained properly, but which are not in compliance with current requirements of Part 8 of the *Ontario Building Code* will be advised the system is likely to require upgrade or replacement prior to further site development. Funding assistance may be available for septic replacement depending on eligibility criteria.

Any comments regarding the Program in general or Council's strategy can be directed to Noelle Reeve, the Township Planner, at planner@tayvalleytwp.ca . Program specifics or questions about your involvement in the Program should be directed to Eric Kohlsmith, at the MRSSO, (613) 253-0006 ext. 256.

On behalf of Council, thank you in advance for your co-operation.

Noelle Reeve, Planner
Tay Valley Township

PROGRAM AUTHORITY:
The Province of Ontario has delegated the responsibility to regulate on-site sewage systems (with total daily design flow of less than 10,000 litres per day) to municipalities. The authority to do so is found in Part 8 of the *Ontario Building Code* which defines a sewage system as a "building". A sewage system that is discharging effluent onto the surface of the ground, or that has not been maintained or operated in accordance with the *Code* is determined to be an unsafe "building". Any remedial action required will be addressed pursuant to the *Ontario Building Code*.

PERSONAL INFORMATION:
Personal information collected from applications is collected under the authority of the Municipal Freedom of Information and Protection of Privacy Act, and will be used to facilitate communication between the Township, MRSSO and individual property owners. Questions about the collection of information should be directed to the Clerk at clerk@tayvalleytwp.ca or 217 Harper Road, Perth, ON, K7H 3C6.

MississippiRideau
SEPTIC SYSTEM OFFICE

Mississippi Valley Conservation Authority | Rideau Valley Conservation Authority

10970 Hwy. 7, Carleton Place, ON K7C 3P1
mrsso@mvc.on.ca
f: 613 253-0122 t: 613 253-0006

Questionnaire

Please fill out as much information as possible, **as best as you can**, and return to the above address. Old septic or well records are excellent resources for the more technical questions. Mark any applicable boxes. If you select '**Other**' please specify. Please use the space noted as '***Correction***' to correct any of the supplied information. On the reverse, please identify the location of your septic system and other property features. Please **sign** the form to verify the information that has been provided.

Property Owner		***Correction – New Property Owner, Spelling of Name...***	
Mailing Address		***Correction – New Mailing Address...***	
Telephone Number ( )	Alternate Number ( )	Email Address	
Re- Inspection Property Location	«Address»	Length of Ownership	Lake Name: «Lake»
		Property Size	# Bedrooms / Floor Area
Roll Number			
Property Use	Residential ☐ Cottage/Seasonal ☐ Commercial ☐ Farm ☐ Other ☐		
Directions to Property		**Do you require assistance locating/excavating your tank?*** Yes ☐ No ☐	
General Location of Tank		**** There is a maximum charge of $40 for this service*** **Inspection Date**	

Sewage System Type	Class 1 ☐ Privy(Outhouse)	Class 2 ☐ Greywater pit	Class 3 ☐ Cesspool	Class 4 ☐ Septic Tank & Leaching Field	Class 5 ☐ Holding Tank
Tank Information	Concrete ☐	Plastic ☐	Fiberglass ☐	Metal ☐	Sewage Pump Yes ☐ No ☐ / Is Pump in Septic Tank? Yes ☐ No ☐
Date of Last Pump out				Pump Out Frequency	
Greywater Pit Structure	Earth ☐	Rock ☐	Wood ☐	Other-	
Privy Pit Structure	Earth ☐	Rock ☐	Wood ☐	Other-	
Date System(s) Installed				Sewage System Permit #	

Water Source	Drilled ☐	Dug ☐	Lake ☐	Imported ☐	Drinking Water Treatment	Yes ☐ No ☐	Type of Treatment	

Participant Signature: _____ (Signature) Participant Name: _____ (Please Print)

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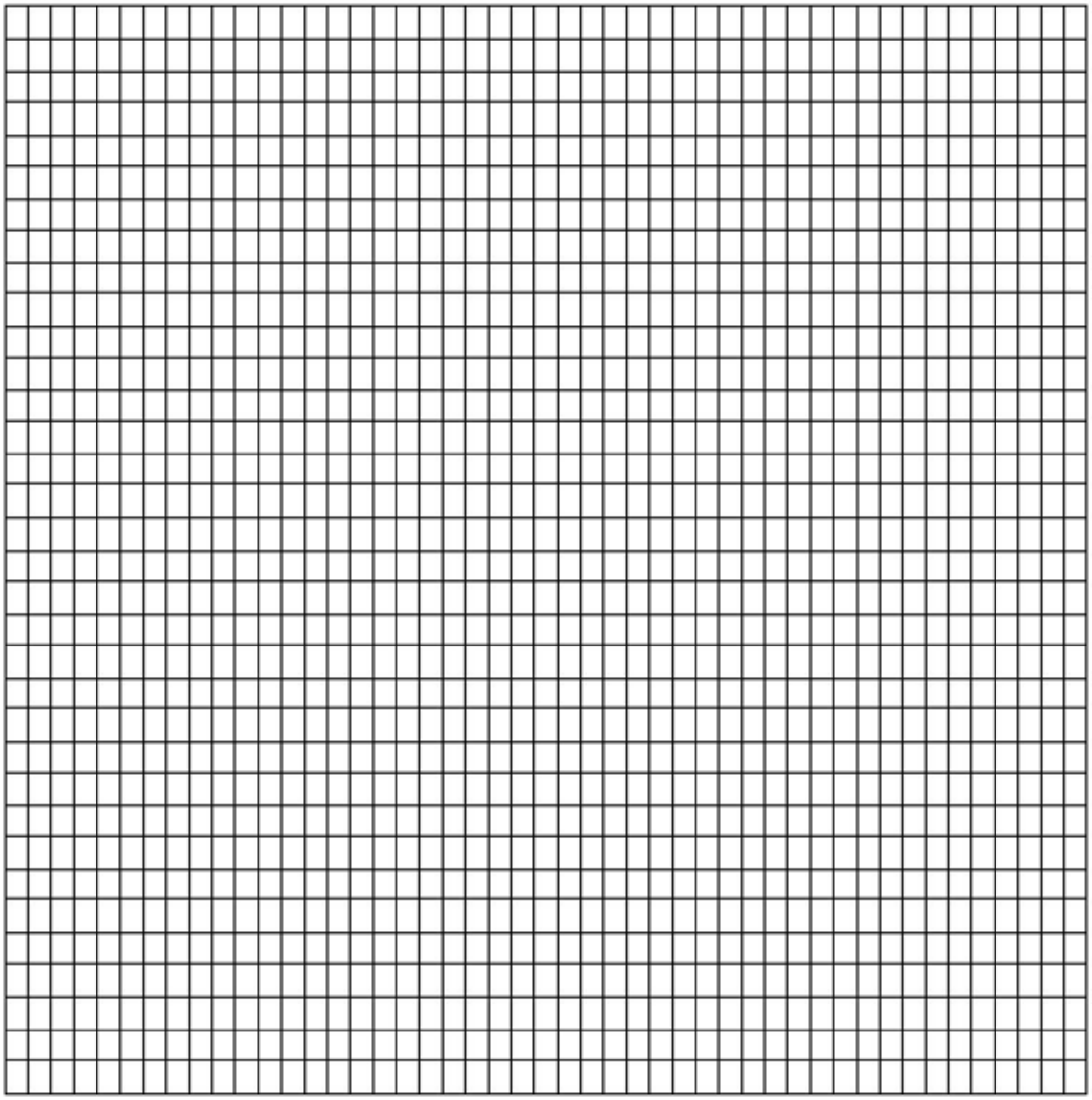
MississippiRideau
SEPTIC SYSTEM OFFICE
Mississippi Valley Conservation Authority
RIDEAU VALLEY CONSERVATION AUTHORITY

10970 Hwy. 7, Carleton Place, ON K7C 3P1
mrsso@mvc.on.ca
f: 613 253-0122 t: 613 253-0006

Site Sketch

Please include the **locations** as well as the distances between any **septic components** (tank, bed, privy, greywater pit), **structures** (house, shed, garage), **water bodies** (lakes, rivers, creeks, wetlands), **farming activities, or wells.**



Participant Signature: _____ Participant Name: _____
(Signature) (Please Print)

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Appendix B Description of a Site Inspection

Tank Inspection

The septic tank is located first by visually inspecting the property for signs of a system, using metal probes and information provided by the property owner. Once the tank was located both the inlet and outlet access ports are uncovered, and the soil placed on a tarp for tidiness. The lids are removed using a crow bar or shovel to 'crack' it open, or break the seal which forms over time if it is a concrete lid. The lids are lifted off with a 'J-hook', a long handled hook which allows two people, on either side of the lid to safely and easily lift off the heavy lid.

A visual inspection of the tank condition is made, and a measurement of the solids content is taken. A sludge judge is used for to take the measurement and is essentially a clear plastic tube with a ball valve on the bottom and 1 foot increments marked on the side of the tube. The judge is lowered into the first chamber of the tank and a cross section of the contents in the tank is obtained. The judge is then pulled out of the tank and the depth of the solids is noted. Often the ball valve plugs up and the contents run out of the bottom. In that case the solids in the bottom are felt by a change in density and the depth is noted.

A visual inspection of the baffles is done as well as a check that the partition wall is in working order. If the solids in the second chamber are as high as the first chamber it can be an indication that the partition wall has suffered some damage. We also check for roots in the tank, and look for the presence of effluent filters before replacing the lids and restoring the area to its original condition.

One of the most frequent questions a homeowner asks is "How often should I pump my tank?" Most government documents and information publications suggest that a septic tank should be pumped out every 3-5 years. Another resource is the OBC, which requires that a septic tank be pumped out when the sludge and scum occupy 1/3 of the working capacity of the tank (8.9.3.4.(1)). This will prevent the sewage from traveling too quickly through the septic tank, not allowing the solids and fats to properly separate from the effluent. To give the homeowner, on an individual basis, an estimation of the frequency for pumping out their septic tank, the depth of sludge and scum was measured during the tank inspection.

Estimated Septic Tank Pumping Interval in Years

Tank Size (L)	Household Size (Number of People)									
	1	2	3	4	5	6	7	8	9	10
1,890	5.8	2.6	1.5	1.0	0.7	0.4	0.3	0.2	0.1	
2,840 (@2,700)	9.1	4.2	2.6	1.8	1.3	1.0	0.7	0.6	0.4	0.3
3790 (@3,600)	12.4	5.9	3.7	2.6	2.0	1.5	1.2	1.0	0.8	0.7
4,730	15.6	7.5	4.8	3.4	2.6	2.0	1.7	1.4	1.2	1.0
5,670	18.9	9.1	5.9	4.2	3.3	2.6	2.1	1.8	1.5	1.3
6,620	22.1	10.7	6.9	5.0	3.9	3.1	2.6	2.2	1.9	1.6
7,570	25.4	12.4	8.0	5.9	4.5	3.7	3.1	2.6	2.2	2.0
8,520	28.6	14.0	9.1	6.7	5.2	4.2	3.5	3.0	2.6	2.3
9,460	31.9	15.6	10.2	7.5	5.9	4.8	4.0	4.0	3.0	2.6

Estimated Septic Tank Pumping Interval in Years

Visual Re-Inspection

The visual re-inspection consists of a walk around the property looking for water sources, sewage systems or any suspicious things such as pipes to the surface. Measurements are taken between the sewage system components and water bodies, as well as to water sources. A GPS reading is taken at the shoreline, all sewage system components, and wells.

The operation or failure of the bed was assessed by looking for conditions of lush vegetation, wet areas, surface discharge, tree or root growth, side slopes and erosion control.

Appendix C Ontario Building Code References

System Classification

Class 1 – all privies (portable, earth pit, vault, chemical, incinerating and composting). Class 2 – a greywater system
Class 3 – a cesspool
Class 4 – a leaching bed system
Class 5 – a holding tank 8.1.2.1(1)

Minimum Clearances for Classes 1, 2 and 3

8.2.1.5(1)	Horizontal distance (m) from a well with watertight casing to a depth of at least 6m	Horizontal distance (m) from a spring used as a source of portable water or well other than a well with watertight casing to a depth less than 6m	Horizontal distance (m) from lake, river, pond, stream, reservoir or spring not used as a source of portable water	Minimum horizontal distance to property line
Earth Pit Privy	15	30	15	3
Privy Vault Pail Privy	10	15	10	3
Greywater System	10	15	15	3
Cesspool	30	60	15	3

Minimum Clearances for Treatment Units

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

Minimum Clearances for Distributing Pipes

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

Minimum Clearances for Holding Tanks

Structure	1.5m
Well with a watertight casing to a depth of 6m	15m
Any other well	15m
Spring	15m
Property Line	3m

Appendix D Program Authority

Interpretation of Authority for Discretionary Maintenance Inspection Program

A municipality can pass a bylaw under (**7(1)(b.1))** the Building Code Act, to establish and govern a program that is subject to regulations made under (**34(2.1))** the Building Code Act and to enforce standards prescribed by (**34 (2)(b))** the Building Code Act as well**.**

Division C, Section 1.10 of the Ontario Building Code is the regulation that was established through the Building Code Act **(34 (2)(b)** and **34 (2.1))** on January 1, 2011.

Interpretation of Mandatory inspections for Discretionary Maintenance Inspection Programs

When a Discretionary Maintenance Inspection Program is established, article **1.10.1.2** outlines that the program applies to **all sewage systems** (Class 1 thru 5) in the area affected (waterfront properties) and an inspector **shall inspect all sewage systems affected by the program**.

Building Code Act and Ontario Building Code references

Section 1.10. Sewage System Maintenance Inspection Programs
1.10.1 Discretionary Maintenance Inspection Programs
1.10.1.1 Scope
(1) This Subsection governs, for the purposes of subsection **34 (2.1)** of the Act, maintenance inspection programs established under clause **7 (1) (b.1)** of the Act in respect of sewage systems.

Discretionary maintenance inspection programs
34 (2.1) The Lieutenant Governor in Council may make regulations governing programs established under **clause 7 (1) (b.1),** including regulations,

a) governing the classes of buildings and area affected by a program;
b) governing the type and manner of inspections that are conducted under a program and the frequency of the inspections;
c) authorizing the principal authority that establishes a program, as an alternative to conducting an inspection, to accept a certificate, in a form approved by the Minister, that is signed by a person who belongs to a class of persons specified by the regulations and that confirms that the person has conducted an inspection and is of the opinion that the building that was inspected complies with the standards prescribed under clause (2) (b) that are enforced by the program. 2006, c. 22, s. 112 (11)

Standards for existing buildings
34 (2) The Lieutenant Governor in Council may make regulations to establish standards

that existing buildings must meet even though no construction is proposed, including regulations,

a) prescribing any or all of the matters set out in subsection (1) as applicable to existing buildings;
b) establishing standards for maintenance, retrofit, operation, occupancy and repair;
c) prescribing standards related to resource conservation and environmental protection; and
d) prescribing standards, methods and equipment for the inspection, cleaning, disinfecting and emptying of sewage systems. 1992, c. 23, s. 34 (2); 1997, c. 30, Sched. B, s. 17 (5); 2006, c. 22, s. 112 (10).

By-laws, resolutions, regulations

7. (1) **The council of a municipality** or of an upper-tier municipality that has entered into an agreement under subsection 3 (5) or a board of health prescribed for the purposes of section 3.1 may pass by-laws, a planning board prescribed for the purposes of section 3.1 may pass resolutions and a conservation authority prescribed for the purposes of section 3.1 or the Lieutenant Governor in Council

may make regulations, applicable to the matters for which and in the area in which the municipality, upper-tier municipality, board of health, planning board, conservation authority or the Province of Ontario, respectively**, has jurisdiction for the enforcement of this Act,**
(b.1) subject to the regulations made under subsection **34 (2.1),** establishing and governing a program to enforce standards prescribed under clause 34 (2) (b), in addition to any programs established under subsection 34 (2.2);

1.10.1.2 Application and Inspections

a) A maintenance inspection program referred to in Sentence 1.10.1.1.(1) shall apply to all sewage systems in the area affected by the maintenance inspection program.

b) A maintenance inspection program referred to in Sentence 1.10.1.1.(1) shall provide that, subject to Article 1.10.1.3., an inspector shall inspect all sewage systems affected by the maintenance inspection program for compliance with the standards prescribed under clause 34 (2) (b) of the Act in relation to sewage systems that are enforced by the program.

Also see Tay Valley Township By-Law # 2012-009 as amended

Appendix E Property Selection Protocol

Tay Valley Township:

Septic Re-Inspection Property Selection Protocol

- Starts in May of current year
- Septic permit information and septic re-inspections are updated by CGIS twice annually – generally January and July
- The selection process starts with the lake rotation table.
- After lakes are selected the process is based on information provided to CGIS

- This buffer selection process is based on one provided by CGIS upon our request for assistance and is as follows:

    - Log into SLIMS and zoom to whatever Lake you are working on

    - Ensure the SLIMS Selection Mode is set to Intersection:

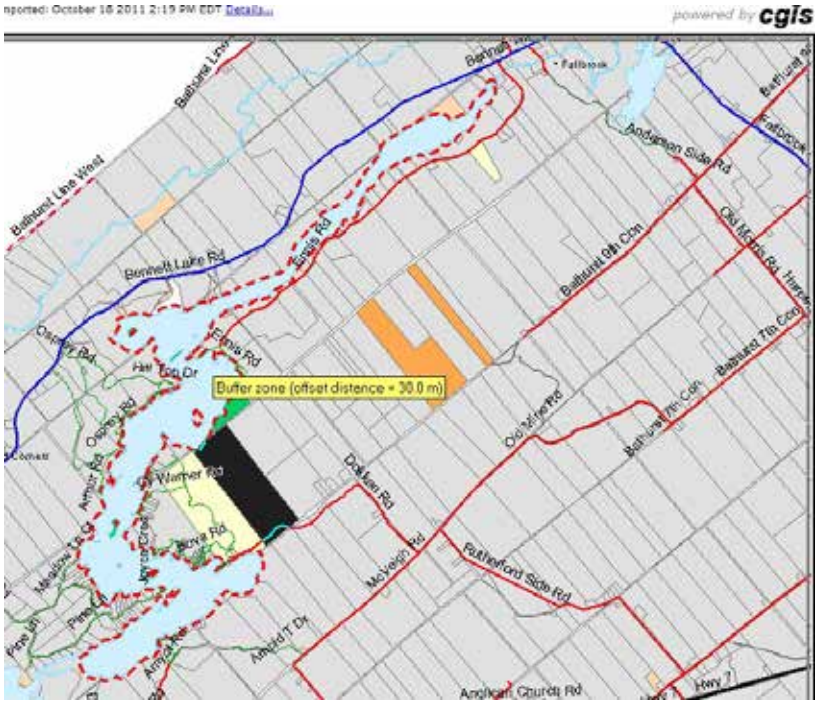
        - Right click on the map – Help – Preferences

        - Change Selection Mode to Intersection, if it's not already set

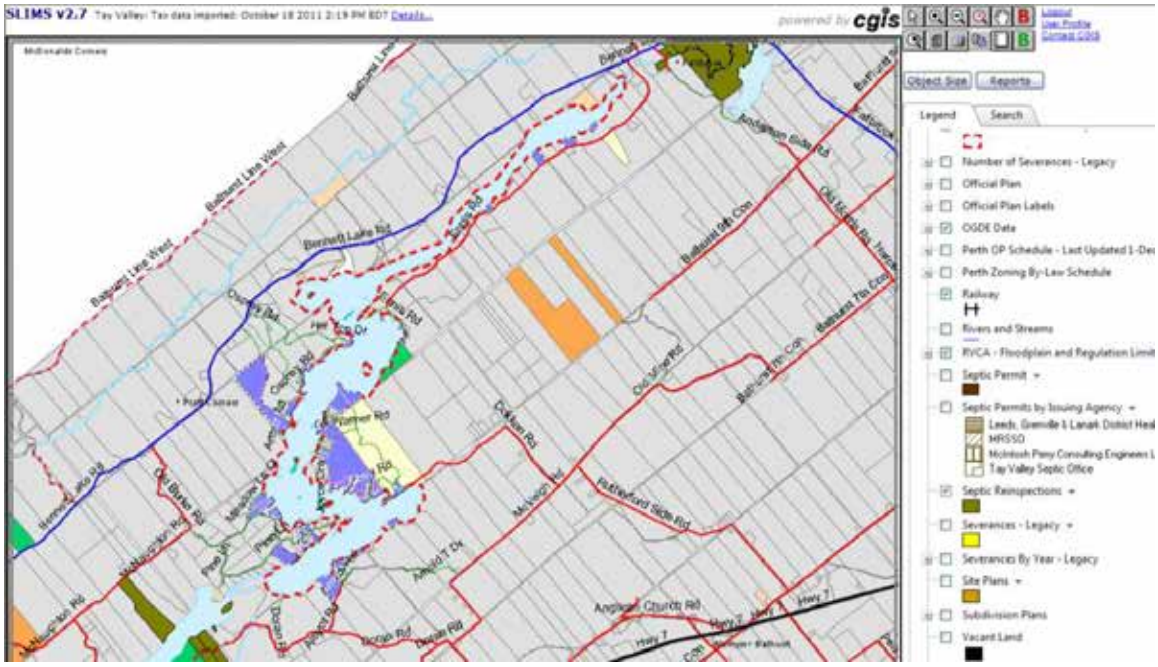
        - Turn on the Septic Reinspections layer

        - Select the lake you'd like to find the properties on

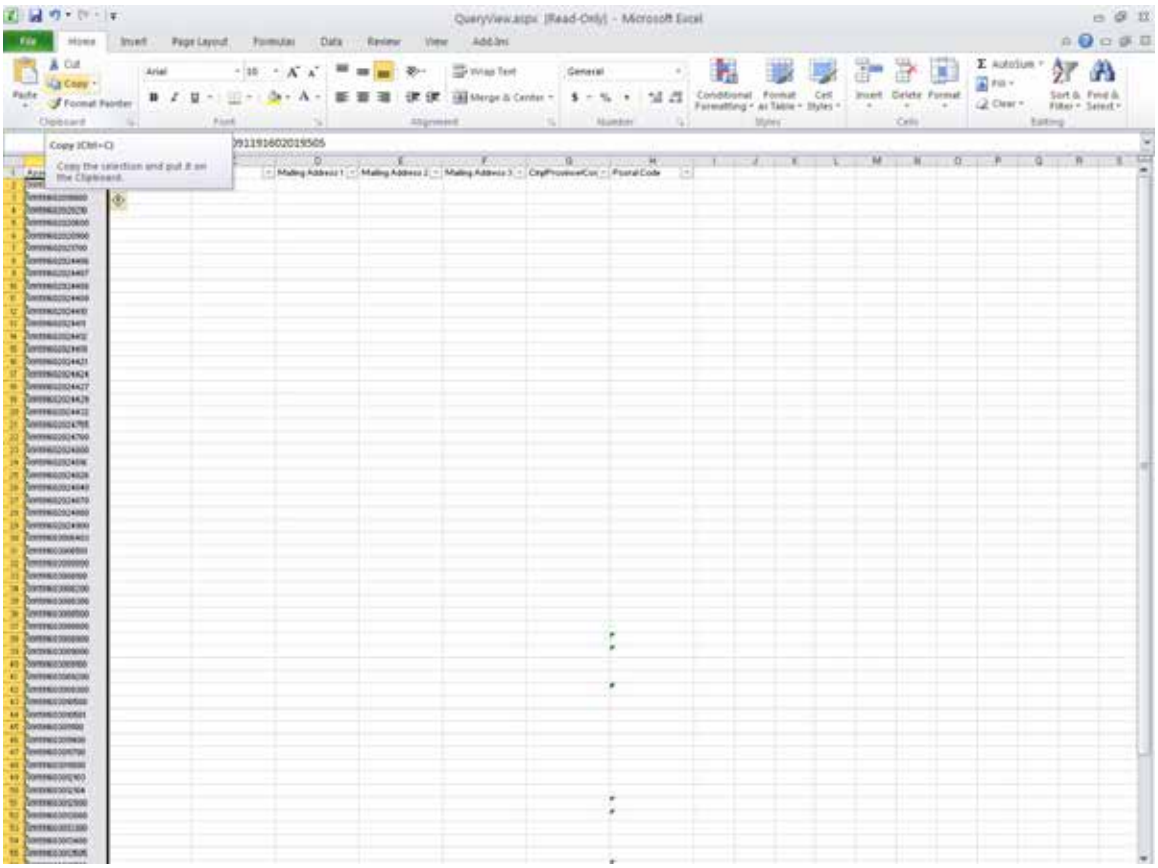
        - Create a buffer of, for example, 10 meters – 30m used - if that's far enough.



- Select the buffer:
  - Right click on the map – Select – Within
- Highlight the Septic Reinspection layer from the list, press OK (this will highlight all the properties that already have inspections done on that lake)



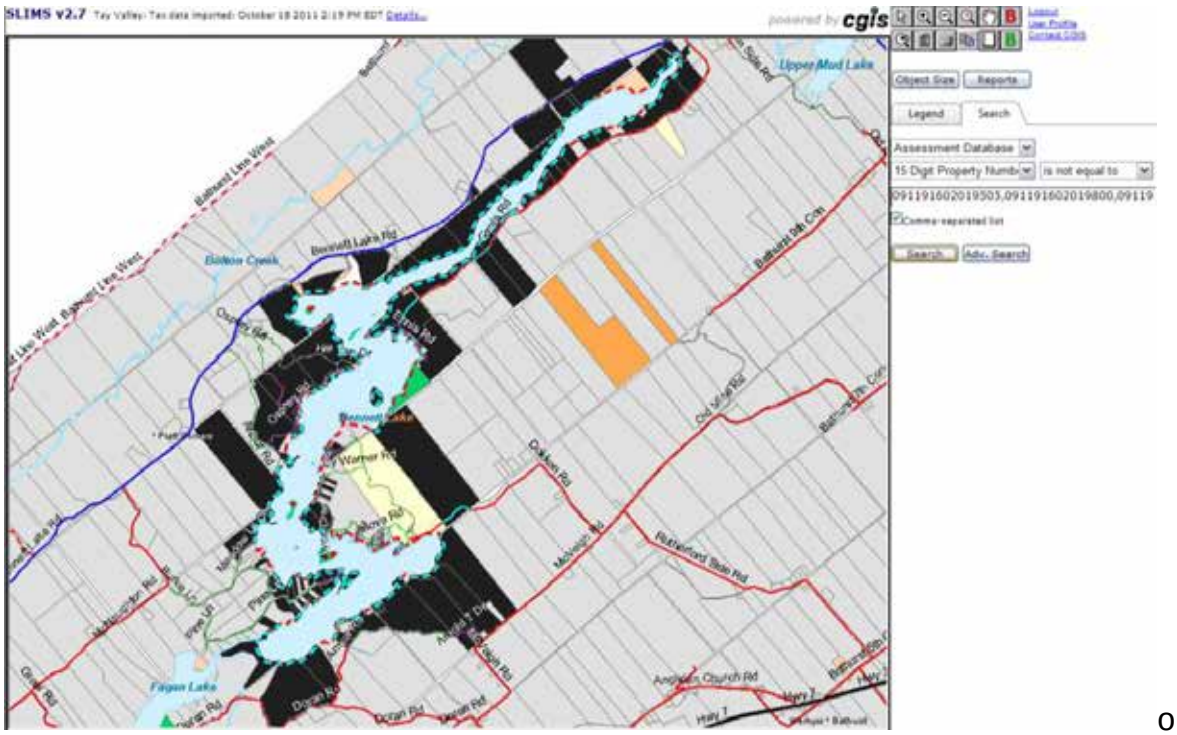
- Run a Mail list report, or custom report
  - Click the download results, and open in Excel
  - Highlight column A (15 digit property numbers) and COPY



- Back in SLIMS
- Highlight the buffer again
  - Right click on the map – Select – Within
  - Highlight the Parcels layer from the list, press OK
- Under Search – paste the 15 digit property number list in the search box
  - Change the search criteria from “Contains” to “is not equal to”
- Check off the “comma separated list” box
- Press the Search button

- When the Search Results window comes up, check off the “Only show records that link to the selected features on map” box

- The Search Results will now display ONLY the parcels on that lake that DO NOT have a septic inspection registered with that 15-digit property number"



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The process is repeated to create lists based on the following parameters:

- Total Parcels
- Septic Permit
- Re-Inspection
- MPAC Property Codes (Vacant Property)

- Lists are then sorted against each other to obtain the end result – waterfront properties that either have a septic permit that is 10yrs or greater or does not have permit information, has not been re-inspected in the past, and is not vacant.

- The process is completed for the other lakes.

A Master Mail out Excel Workbook is then created from the individual Excel Workbooks.

Property Selection Example:

For example our search for Bennett lake resulted in:

- 214 total parcels within 30m of the lake (waterfront)
- 180 parcels either have a septic permit that is 10yrs or greater or does not have permit information
- 128 parcels have not been re-inspected in the past
- 91 properties are not vacant MPAC property codes are used to determine if a property is vacant)

*Therefore on Bennett Lake, 91 parcels are waterfront properties that either have a septic permit that is 10yrs or greater or does not have permit information, has not been re-inspected in the past, and is not vacant.