

Exploring Lessons Learned with Municipal Re-inspection Programs for Residential On-site Wastewater Systems in Ontario: *Spotlight on the Township of Tiny's Sewage System Re-inspection Program*

Background

The Corporation of the Township of Tiny, located on the south shores of Georgian Bay is a municipality populated by 11,787 fulltime residents. There are five hamlets within the Township: Lafontaine; Perkinsfield; Wyevale; Wyebridge; and Toanche. Additional to these hamlets, the Township of Tiny includes three First Nation islands: Christian; Beckwith; and Hope [1].

The Township of Tiny (Figure 1) has 9,712 housing units, and 49.6% of these dwellings are seasonal [2]. All the households within the Township are -served by private on-site wastewater systems .



Figure 1. Location of the Township of Tiny [5]

This case study profiles the Township of Tiny's sewage system re-inspection program. In preparation for this profile, two key informants from the Township of Tiny were interviewed in order to fully understand the details of the program, benefits, challenges, and lessons learned.

History of the Septic Re-inspection Program

The Township-wide sewage system re-inspection program within the Township of Tiny was implemented in April 2002 under By-law 02-018 [4]. Cottage associations played a key role in this by-law coming to pass and communicating resident concerns to council in 2001. These concerns included high e-coli levels found at local beaches among other environmental concerns related to compromised water quality. During times of beach closures residents were not able to safely enjoy the several benefits that the Georgian Bay coast has to offer. Including, but not limited to: leisure and recreation, natural heritage features, safe drinking water, and the intrinsic qualities of the region. Protecting beaches was linked to protecting water quality and the prosperity of the region. Particularly with respect to economic, political and social drivers which make the Township of Tiny a viable and popular cottage destination.

The purpose of the re-inspection program is to proactively identify and resolve human health hazards and environmental threats associated with poorly functioning sewage systems [4]. To better assess the issue pertaining to the original complaint of closed beaches, the Township of Tiny set out to assess the nearly 10,000 sewage systems in their jurisdiction. Rather than solely focusing on shoreline properties, the program was designed to assess all sewage systems to ensure the goal of the program was met across the entire Township.

Re-Inspection Program Details

The Township of Tiny implemented their sewage system re-inspection program prior to the mandated requirements of the section 8.9 of the Ontario Building Code.

The re-inspections are conducted by a private engineering firm contracted by the Township (C.C. Tatham & Associates Ltd.), who, reports all program data back to the Township of Tiny through an annual report presented to Council.

The 2019 cost for completing one sewage system re-inspection is \$92.55, which is completed once every six years. Unless the property falls within a municipal well head protection area, then it is every 5 years as mandated by the Ontario Building Code/*Clean Water Act*, 2006. Moreover, a septic tank pump-out fee is required additional to the \$92.55 and that component is arranged directly by the resident with a septic tank pumping company.

Re-inspections involve a visual inspection as well as a septic tank pump out. The visual inspection is conducted by the C. Tatham & Associates Ltd contractor whereas the septic tank pump out is completed by a licensed sewage hauler. In 2017, a total of 1,236 sewage system re-inspections were conducted. Of that total, 268 deficiencies were identified during the initial site inspection [4].

When a re-inspection fails the homeowner or resident is made aware of the problem. If repairs or replacements of systems are required, this cost falls on the system owner. If the homeowner is present for the re-inspection, the findings of the investigation are shared. However, the official results (pass or fail) are shared when they are mailed to the resident in a follow-up letter. If there is a failure found, the official results letter will outline a list of actions based on the failed components of the re-inspection, and a timeline/ deadline for solution implementation. If the homeowner fails to meet these requirements, actions will be taken, by the Township, on an individual basis to come up with a solution to the problem. If compliance still does not occur, eventually, an order to comply is issued so the matter can be settled through the Ontario Court of Justice.

If seasonal residents are not present all year then it is more difficult to address the problems that their sewage systems are causing.

The Township of Tiny has not had any cases where re-inspections were refused, rather they have been generally well-accepted by residents. However, there have been situations where a resident does not agree with the program, but actions were not made to cease the Township from conducting the re-inspection.

If a sewage system is leaking or posing an imminent threat to the natural environment, then the Township takes immediate action to ensure an inspection is conducted, and that remediation authorities, such as the Ministry of the Environment, Conservation and Parks, are notified.

Lessons Learned

The sewage system re-inspection program within the Township of Tiny has proven to serve as a beneficial tool for ensuring human health and the natural environment are protected for future generations. It was explained,

“Piece of mind is important -- to know where systems are located and that they are being assessed on a regular basis is key. We have eliminated the uncertainty and the thought that ‘My neighbour has a system that was installed 50 years ago, and I don’t think anybody’s ever looked at it’ ... well that’s not the case. We look at all of these systems every six years and make sure that they’re functioning properly.
(Municipal Contractor Representative).

The Township of Tiny includes educational content along with the annual letter they send out to their residents to help make homeowners aware of the importance of a healthy sewage system.

They find the most effective method for reaching their seasonal residents is through the mail. For example, the Township includes the 'Septic Dos and Don'ts' sheet provided by the Ontario On-site Wastewater Association with their letter (see Further Resources section below for more information). The Township also directs residents to the Ontario Rural Wastewater Centre for more available information such as the SepticSmart! literature (see Further Resources section below for more information).

The importance of inter-organizational collaboration with respect to sewage system re-inspection programs is emphasized by program officials at the Township of Tiny. The Severn Sound Environmental Association (S.S.E.A) is a partner organization that the Township relies on for educating residents and system owners on the negative impacts malfunctioning sewage systems can have on the natural environment, as well as consequences they can generate with respect to human health. By gaining control of the inventory of sewage systems that are within the Township of Tiny, and their status of functionality, risk mitigation against future system failures can be addressed.

Many examples of problems exist with respect to failing sewage systems. Examples of decaying concrete tanks have been found within the Township. This is primarily caused by a buildup of hydrogen sulphide gas in the tank and the result is commonly referred to as "rotten concrete". The next major issue causing many re-inspection failures is related to the leaching bed and the improper human activities that occur on and around them. Residents have planted trees on top of leaching beds, enabling roots to damage and alter the shallow-buried trench distribution piping. Furthermore, parking vehicles atop of the leaching bed compacts the soils beneath the surface, causing pour spaces to collapse. This relates to the last example of issues with respect to failing systems. Clogged

leaching beds impede the septic tank to discharge liquid to the field, causing a septic tank backup. Combined with a failing system pumps, this could end in catastrophe and is very much avoidable.

By ensuring the sewage systems are following the requirements of the Ontario Building Code, the Township is able to validate other types of building permits. For example, by knowing the location of a Class 4 system leaching bed, requests received to build a nearby garage can be assessed based on the setback requirements within the Ontario Building Code. It saves the Township time and money to have the sewage system infrastructure inventoried for these purposes.

The Township of Tiny's sewage system re-inspection program is an important tool for ensuring local water resources are protected for the long-term. Safe drinking water and healthy watercourses are promoted through the continuation of this program.

Further Resources

- Township of Tiny's webpage on the Septic Re-inspection Program: <https://www.tiny.ca/Pages/Septic-Re-Inspection.aspx>
- Township of Tiny's By-law to implement the Township-wide Septic System Re-Inspection Program (By-law 02-018): <https://docushare.tiny.ca/docushare/dsw eb/Get/Document-58761/DOC21001.pdf>
- Ontario On-site Wastewater Association 'Septic Do's and Don'ts': <http://www.oowa.org/wp-content/uploads/2013/11/Septic-Dos-and-Donts.pdf>
- SepticSmart!: http://www.omafra.gov.on.ca/english/environment/facts/sep_smart.htm
- Waterfront property owners and rural economic development: <https://foca.on.ca/waterfront-property-owners-and-rural-economic-development/>

- Septic Maintenance Project website:
<http://rplc-capr.ca/septic-maintenance-project/>

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More about the Project: More case studies like this and other additional research on municipal re-inspection programs for residential on-site wastewater systems can be found on the project's webpage: <http://rplc-capr.ca/septic-maintenance-project/>

References

1. Corporation of the Township of Tiny. (2018). *About Us*. Retrieved December 17, 2018 from <http://www.twprideaulakes.on.ca>
2. Corporation of the Township of Tiny (2018). *Parks and Recreation Master Plan*. Retrieved January 9, 2019 from <https://www.tiny.ca/Shared%20Documents/Recreation/2017%20Parks%20%26%20Recreation%20Master%20Plan%20-%20Final%20Draft%20Report.pdf>
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5. Google Maps (2019). *Map of Township of Tiny*. Retrieved January 9, 2019 from <http://maps.google.ca>



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