



## NEWSLETTER

### Special points of interest:

- This issue's profiles
- Campgrounds
- Code Changes
- News



### Gunnell Engineering Ltd.

### SepticDesign.ca

Volume IV, Issue I

#### Where is spring?

It is almost May, and we are still seeing frost in the early mornings. In mid-April, there was a dusting of snow in the early morning on our roofs and cars. At the same time, municipalities announced a state of emergency in flooded cottage country areas including Huntsville and Bracebridge. As we wait for warmer temperatures to arrive, we are keeping busy working on designs for new septic systems.

Of late, we have been speaking with many campground owners who are looking for help with their sewage systems. There are many campgrounds that have aged sewage installations with no permits. With the

Ministry of Environment conducting sewage inspections, it is a good time to ensure your sewage system has the proper documentation to meet current regulations. Teika and Lynn explain the general process of how to obtain an Environmental Compliance Approval from the MOE and what technical information will be needed to complete the application. The new Ontario Building Code has been issued. There are many changes to Part 8 – Sewage Systems that will come into effect January 2014. In this issue, Tom summarizes some of the more important amendments such as the adoption of the CAN/BNQ standards and new dispersal bed systems.

In our upcoming newsletter we will be discussing the Code changes in more detail and how it will effect our industry. We also hope to introduce some of our colleagues to talk about how we work as a team to ensure your project is carried out smoothly.

We look forward to our next issue and as always, appreciate your feedback and any news you would like to share.

*Elizabeth Lew*

Editor

### 2012 Ontario Building Code Changes: Part 8 - Tom Keane

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Every five years or so, we see the introduction of a new Ontario Building Code (OBC). Ontario Regulation 332/12 was introduced late in 2012 and will come into force on January 1, 2014. Although the majority of the 2012 Ontario Building Code will be effective at the beginning of 2014, certain requirements will come into force on January 1, 2015 and January 1, 2017.

Many changes to Part 8 – Sewage Systems have been implemented that will affect sewage system designers, treatment manufacturers and installers in the Province of Ontario. One of the more important changes is the adoption of the new CAN/BNQ 3680/600 standard. This new standard will ultimately replace the current criteria set out in OBC Supplementary Standard

SB-5 for sewage treatment units. The concentrations stipulated in the 2006 OBC for secondary treatment units will be replaced with Levels 2 and 3 of the CAN/BNQ standard and the concentrations stipulated for tertiary quality effluent will be replaced with Level 4 of the CAN/BNQ standard. All manufacturers that currently hold a MMAH/SB-5 approval will be required to have their products re-tested to achieve a CAN/BNQ certification by January 1, 2017. Approved testing facilities include the Alfred College, ON (contact Chris Kinsley 613-679-2218) and Lac Saint-Charles (contact Sophie Pare 1-800-386-5114). It is also very important to note that effluent testing must be done at either uncontrolled temperatures or temperature controlled at 11°C +/-1°C, ie

not temperature controlled at 11°C +/- 1°C.

The addition of two new leaching bed systems, referred to as Dispersal Beds Type 'A' and Type 'B', have been implemented for new systems, being similar in design to current BMEC area bed authorizations. Each dispersal bed system is designed to receive only Level 4 (formerly tertiary) quality effluent. The Type 'A' Dispersal Bed is a leaching bed system that consists of a stone layer above an unsaturated sand layer. Where the underlying soil has a *percolation time* of more than 15 min/cm, the area of the sand layer shall be determined by the formula  $A = QT/400$  and a minimum 15 metre mantle must be installed beyond the

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## 2012 Ontario Building Code Changes: Part 8 (cont'd)

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edge of the treatment unit or distribution piping in a way such that the effluent entering the soil will move horizontally. For soils with a percolation rate of less than 15 min/cm, the formula  $A = QT/850$  may be applied to Type 'A' Dispersal Beds to achieve the required area for the sand layer, with no mantel required. The Type 'B' Dispersal Bed is a leaching bed system that consists of a series of pressurized distribution pipes installed in a stone layer. A Type 'B' Dispersal Bed shall not be located in an area that has an average slope greater than 7:1 (14.3%) and is limited to a maximum width of 4 meters. The required area of stone for a Type 'B' Dispersal Bed system can be determined by the formula  $A = QT/400$ . The linear loading rate for underlying

soil for a Type 'B' Dispersal Bed is limited to 40 L/m, for soil having a percolation time equal to or greater than 24 min/cm, or 50 L/m, for soil having a percolation time less than 24 min/cm. Both Type 'A' and Type 'B' Dispersal Bed systems must be designed to ensure they are rectangular in shape with the longest dimension of the dispersal bed parallel to the site contours. For all pressurized leaching bed systems, including shallow buried trenches, the pressure head at the furthest point from the pump in all distribution pipes must be checked for compliance with OBC requirements and the design specifications at least every 36 months.

There are many other changes and additions to the 2012 OBC that sewage system designers and installers will

need to familiarize themselves with. For example, effluent filters will be required to meet the standards of NSF/ANSI 46, "Evaluation of Components and Devices Used in Wastewater Treatment Systems" and have a minimum area of 550 cm<sup>2</sup>. Grease interceptors will be required to meet the requirements of CAN / CSA-B481.1, "Testing and Rating of Grease Interceptors Using Lard" or CAN/CSA-B481.2, "Testing and Rating of Grease Interceptors Using Oil". As the summer of 2013 quickly approaches, the time is now to become familiar with the new sewage system requirements of the new Ontario Building Code, that becomes effective January 1, 2014. We will discuss additional sewage system changes in upcoming newsletters.

## Profile - Contractor / Installer – Williams Excavating Ltd



Williams Excavating is a fully insured and licensed septic company located in Port Perry. The owner, Glen Williams, is a second generation installer prior to going out on this own in 2009. The firm offers a full range of excavation services, as well as septic system installations. Their main areas of services include north Durham and York

Region, as well as the Kawartha Lakes area. Glen finds by keeping the business small they are able to maximize efficiency and quality of workmanship by having full control of all aspects of their business. Check out their website [www.williamsexcavation.ca](http://www.williamsexcavation.ca) or call Glen at 905 718 4371 for further information.



**Teika Zilans**  
Senior Environmental  
Technician

## Profile - Staff Member - Teika Zilans

Teika Zilans has been with Gunnell Engineering Ltd. since 2010 as an Environmental Technician. Her responsibilities include preparing Sewage System Assessment and Design Reports for the Ministry of the Environment Environmental Approval Compliance applications, preparing Functional

Servicing Reports, and providing technical support for various projects.

Teika obtained a Bachelor of Science honors degree from the University of Toronto in Environmental Geography. In the past Teika has worked with Conservation Authorities, Ministry of

the Environment, and Ministry of Natural Resources.

Teika can be contacted at Ext 234 or [teika@gunnellengineering.com](mailto:teika@gunnellengineering.com)

## Campground Sewage Systems - MOE Inspections - Teika Zilans, BSc & Lynn McIlwaine, CET

### Your Sewage System

Many campgrounds have grown over the generations and the sewage systems have often not been included as part of the upgrades to the campground. Some sewage systems may not have a record of approval, be in sub-standard condition due to age and are in need of upgrading or replacement. Combined with the increase in usage, these sewage systems may be failing, undersized or reaching the end of their life span.

flows that exceed 10,000 Litres / day have an Environmental Compliance Approval (ECA), formerly known as a Certificate of Approval (C of A). The chart below can be used as a guide to determine if your campground sewage system is regulated by the MOE or the Ontario Building Code Act (BCA).

The MOE will set up an appointment to visit your campground. The inspection will include a review of sewage system approvals, water meter data, sewage pump out records, complaints, a visual

generally required to prepare the documentation necessary to support the ECA application.

### Next Steps – ECA Application Submission

Specific supporting technical documents may be required as part of the ECA submission such as:

- Assessment of all on-site sewage systems,
- A "Reasonable Use Assessment",
- A hydrogeological investigation, and
- A detailed sewage system design report and drawings documenting field investigations and supporting studies, and sewage system upgrades as required.

### Technical Expertise - Be Prepared

These MOE field inspections can leave a campground owner feeling uncertain and worried about possible fines, shutdown of their business, and costs associated with sewage system upgrades / replacements. By hiring a qualified engineering consultant to undertake a preliminary assessment of your sewage systems you can better plan and budget the necessary work to obtain an ECA.

### ECA Permit

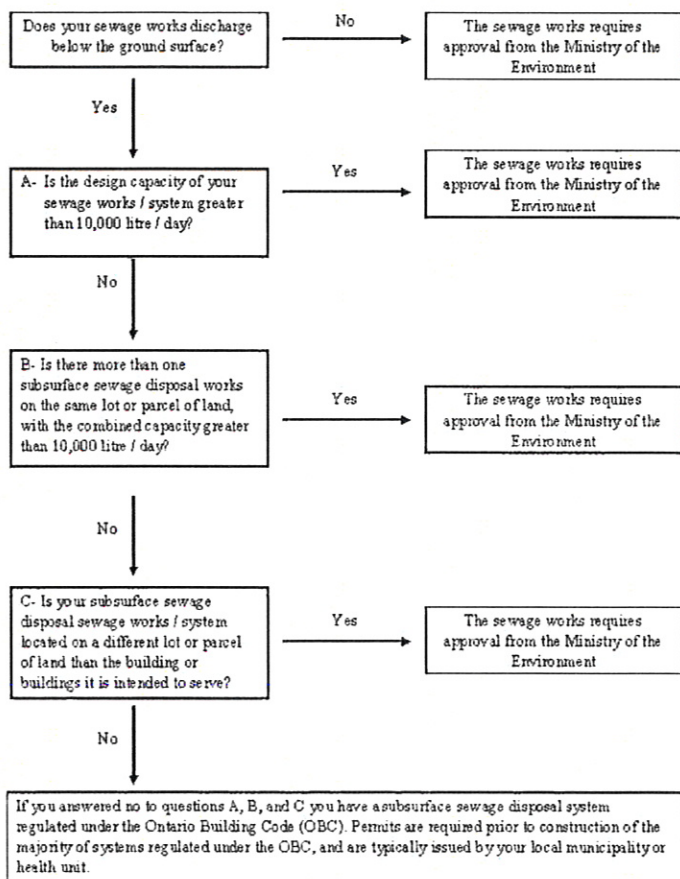
Once the ECA application has been submitted to the MOE, the application is reviewed by their technical engineers. The approval process may take from 4 to 6 months for an ECA permit to be issued.

To obtain further information on the ECA approval process please follow the link below; [http://www.ene.gov.on.ca/environment/en/resources/STDPROD\\_090550.html](http://www.ene.gov.on.ca/environment/en/resources/STDPROD_090550.html).

If you have any questions, please contact  
lynn@gunnellengineering.com or  
teika@gunnellengineering.com

# ONTARIO

 **Ontario**  
Ministry of the Environment



### Ministry of the Environment Inspections

The Ministry of the Environment (MOE) is committed to protecting our environment and currently they are conducting inspections of all MOE sewage systems, particularly campgrounds. The MOE requires that all campgrounds, with daily sewage

inspection of all sewage systems documenting condition of disposal fields (breakouts, stressed conditions). A MOE inspection report will be issued documenting inspection observations and actions required. For serious failure conditions, the MOE will likely issue an order to comply. Timelines are typically documented for required action items. The services of a qualified engineer are





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## News

### OOWA Annual Conference

The Annual OOWA 2013 conference was held March 3 to 5 at the Blue Mountain Resort in Collingwood. The theme this year was "Managing your On-site Infrastructure". The OOWA conference is an opportunity for those involved in the onsite wastewater industry to discuss current issues. If you would like more information on becoming an OOWA member please contact:

Mallory.lloyd@oowa.org or 1-855-905-OOWA (6692)

### Ontario Onsite Wastewater Association

#### Retirement News!

Jack Boonstra and Dan Frank have hung up their septic building inspector hats! Jack was with the Town of Whitchurch-Stouffville, and Dan was with the City of Vaughan for many years. We wish them both all the best!

### Spring Cottage Life Show

Gunnell Engineering Ltd participated in this show held April 5-7, 2013. This is always a great time to meet

cottage owners who have questions about their septic systems.



April 5-7, 2013  
INTERNATIONAL CENTRE, TORONTO

## Annual Open House

On January 16, 2013, Gunnell Engineering held its annual Open House. Eric's presentation on introducing



the new Ontario Building Code changes to on-site sewage systems was a great success. Our guests included septic installers, building officials, treatment manufacturers and other consultants. This casual

event is an opportunity to share new information in the septic industry with our colleagues.

We were pleased to receive the following comments:

"You folks are to be complimented for the Open House this past Wednesday! Well done! Great to spend time with folks in the community. Great to share ideas! Please pass-on my warmest wishes to Eric and Laura and the rest of your team."

"We thank Eric Gunnell and his staff for an informative afternoon."

"I just wanted to thank everybody at Gunnell Engineering for including me in your open house, it answered a lot of questions I had about the industry."

"I would like to extend a sincere thank you to you and all of your staff for allowing our organization to bring in our displays and information to share with others in the industry at your Open House."

We look forward to hosting the next fun and informative event – details to follow!

## Who we are...

Please contact our friendly and knowledgeable staff for any questions or comments:

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### Upcoming Events:

**Toronto Fall Home Show**  
October 3-6, 2013  
Better Living Centre  
Exhibition Place

**The Fall Cottage Life Show**  
November 1-3, 2013  
International Centre, Toronto

**Camping in Ontario  
CampEx**  
November 17-20, 2013  
J.W. Marriot, The Rosseau Resort  
Muskoka