VOLUME 17 | ISSUE 2

Onsite

ONTARIO ONSITE WASTEWATER ASSOCIATION NEWSLETTER

treatment | technology | innovation | reuse | recycle

Ontario Onsite Wastewater Association

INSIDE

Soils and Standard Systems

The function of native soils under the leaching bed are as critical a component as the pipes.

Kevin Warner, M.Sc., P. Geo (Ltd), BCIN, Cambium Inc.

On-site wastewater treatment systems, commonly referred to as septic systems, can be found at just about every rural residence or cottage. An on-site wastewater treatment system is just that, a system that treats wastewater and is located on the same property as the building it services.

Most commonly, an on-site wastewater treatment system consists of a septic tank followed by a leaching bed; both sized accordingly based on the type of building it services. But there is a third component which is just as important as the first two; the *underlying native soil*, which is an integral part in the proper function of a septic system.

Soil is generally described by its physical particle size, which from largest to smallest, is gravel, sand, silt and clay. Soils composed of more than 50% of gravel or sand are described as coarse grained while fine grained soils have more than 50% silt or clay.

Fluids (i.e. water or effluent) move through the void spaces between the soil particles. The rate which fluids may move is defined at its hydraulic conductivity. The larger the particle sizes, the larger the void spaces which results in a larger volume of fluid to move through it. Leaching beds are constructed within or on top of the native soils.

Therefore the size of the soil particles in the native soils ultimately define how much fluid can move through them which we define as the loading rate. There is a fundamental reason why clean gravels or clean sands are used for various applications in the construction of a leaching bed; these soils have consistent particle sizes and therefore consistent void spaces. Soils that have mixed composition of coarse and fine grained particles result in large variability in their respective hydraulic conductivity.

Characterizing native soils is typically undertaken with an analysis of the distribution of its particle size (i.e. grain size) through mechanical sieves and hydrometers (for fine grained soils).

continued on page 4

OOWA Board of Directors

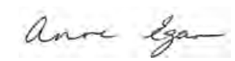
PRESIDENT'S MESSAGE

Summer is upon us, and based on my discussions with many of you, I don't think there is anyone in our industry who is looking for things to do. Everyone is working very hard and keeping very busy, but I hope you are all able to find a bit of relaxation time, perhaps kicking back at the cottage, or just spending some time with family and friends.

Your OOWA board, committee members and staff are also keeping very busy, working hard on behalf of our members.

Our Membership Committee continues to look for ways to improve value to our members, by working closely with benefit providers and other organizations, and by increasing our presence on a local and regional scale. In conjunction with our Events Committee, we are working hard to bring more events to different parts of the province. To that end, we are assembling the content for our Fall Regional Meeting series which will be bigger and better than ever – keep an eye on communications from OOWA with additional information and dates for each area. These Regional Meetings provide invaluable networking opportunities on a local scale. We are also busy planning for next year's conference. We are looking forward to returning to the fabulous Deerhurst Resort so stay tuned for details.

One particular committee that I would like to highlight is the External Relations Committee (formerly Government Relations), since many of our members may not realize the work being done by that committee on our behalf. The mandate of this committee is to liaise with government as well as other groups and like-minded associations to improve the onsite industry for our members. We are taking part in a stakeholder working group established by the Ministry of the Environment and Climate Change (MOECC) to review Ontario's Hauled Sewage Policy and Programs. Along with a number of other water-focused associations we took part in the Canadian Water Summit in June. OOWA was also represented at the recent Technical Advisory Committee meetings with the Ministry of Municipal Affairs, discussing changes to the next edition of the Ontario Building Code (for more information regarding the code change process, there is another article in this newsletter to shed some light on that). Based on my interactions with others at these various events, I think I can safely say that OOWA is recognized as the voice for the onsite and decentralized wastewater industry in Ontario. We are an established stakeholder; we have a seat (or two) at the table, we are being consulted and listened to, and we are aggressively working across the Province on behalf of our members.



Anne Egan
President

Ontario Onsite Wastewater Association

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To submit an article or place an advertisement contact the editor at **outeach@oowa.org**

The opinions expressed in this newsletter by contributing authors are not necessarily the opinions of OOWA's Board of Directors or the Association.

The function of the Native Soils under the leaching bed are a component just as important as the pipes in it

Continued from page 1

Characterizing native soils is typically undertaken with an analysis of the distribution of its particle size (i.e. grain size) through mechanical sieves and hydrometers (for fine grained soils). Determining the grain size disruption can provide a good basis in order to calculate a soils' percolation rate (T-Time) however, because the soils sample has been altered through drying and mechanical separation during the testing process, any site specific characteristics regarding the soils' structure and density is lost.

The density of the native soil is also important to determining the rate which fluid will move through it. The denser the soil, the more closely packed the soil particles, which will result in a decrease in the available void spaces. Recently Cambium completed a soils investigation for a replacement wastewater system where the native till soils were fairly coarse-grained, with less than 25% fines. Based on the grain-size analysis they are classified as silty gravel mixtures (GM) and silty sand mixtures (SM) under the Unified soil system with estimated percolation rates of 4-12 to 8-20 mins/cm. Our investigation revealed that the native soils were densely cemented though and the actual percolation rate would be closer to 50 mins/cm which had a profound effect on the sizing of the leaching bed. It is always important to account for the site specific characteristics of the soil rather than only rely on its physical particle size. This can be achieved through in-situ testing of the permeability of the soil through percolation tests or the use of permeameters.

Alternatively, the looser the soil, the greater the void spaces and the "faster" the soil! This may sound like a great thought to promote the movement of effluent in a fill based leaching bed, however care should be made to match or account for differences in soil density; otherwise the effluent may move in an undesirable direction which may result in breakout on the side. An increase in density with depth will result in a barrier to fluid movement vertically, resulting in more lateral movement as fluid will travel along the path of least resistance. If this change is not accounted for, then effluent will keep migrating laterally along the path of resistance until it will break out one side!

Care should also made in how this interface between soil types is created. If the interface between the two layers of different soil densities is flat or at a gentle grade, it will allow the fluid to spread out laterally while it infiltrates downward. The reason that mantles are required to be constructed over soils which have a T time over 15 cm/m is to account for this difference in permeability by providing more time and area for the effluent to infiltration into the native soils.

The permeability of the soil is important but so is the change in head pressure (i.e. slope). The greater the difference in the head pressure, the faster the discharge rate within the soil. Steeply sloping interfaces create a sharp hydraulic gradient which will dictate how fast fluids can theoretically travel. This will make it easier for the fluid to move more laterally along the interface than downward into the underlying native soil, which will likely result in a breakout of inadequately treated wastewater, which has the potential to both harm human health and surrounding environment.

For sloping terrain, regardless of the soil type, an angled cut and fill bed may be quicker and easier to construct, with the addition of loosely placed soil over an angled cut slope composed of denser soil; however this will create a hydraulic barrier to downward infiltration and pathway for lateral movement along the interface slope, which will result in breakout! The best practice method for construction would be to terrace the native soil slope to allow for flat or gently sloped interfaces. Although there may be differences in density and therefore hydraulic conductivity between the two soil types, the flatter gradient will reduce the movement of the fluid laterally and allow for more downward infiltration. In addition, an adequate contact area would have to be provided in order to provide enough area of the downward infiltration to occur.

Taking care to adequately assess the native soil conditions, including its native structure and density, is one of the most important steps in appropriately sizing and constructing a septic bed.

SOILS EVALUATION COURSE

September 8th-9th, Peterborough ON

Day 1 of the course will take place in the classroom and Day 2 will consist of a full day in the field. Special testing pits will be dug for this group to do some actual hands-on learning and soil testing. Instructor and subject matter expert, Kent Watson, will be leading this program. Kent's specialty is in soils and he regularly delivers this program for the Western Canada and Alberta Onsite Wastewater Management Associations.

This course is highly recommended for these Designations for the RPP In-Development Program:

- Designer
- Installer
- Private Inspector
- Regulatory Inspector
- Technical Sales Consultant
- Wastewater Service Technician

Contact JM Consulting at 416-939-8936 for more information or go to www.jmconsulting.agency/upcoming-events/ to register.

MEMBER PROFILE

Nancy Carpenter

Certified Public Health Inspector,
Part 8 Sewage System Inspector

NANCY CARPENTER
Leeds, Grenville and Lanark Health Unit

Name of Business/Organization:
Leeds, Grenville and Lanark Health Unit

Services/Mandate:
Public health programs legislative mandate comes from the Health Protection and Promotion Act (HPPA).

The purpose of the HPPA is to "provide for the organization and delivery of public health programs and services, the prevention of the spread of disease and the promotion and protection of the health of the people of Ontario."

The health Unit provides services in 5 major program areas:
- Environmental Health
- Family Health
- Infectious Diseases
- Chronic Diseases and Injuries
- Emergency Preparedness

I work in the Community Health Protection Department which is under the "Environmental Health" program, specializing in the enforcement of Part 8 of the Ontario Building Code. The Health Unit has entered into agreements with the local municipalities to carry out the enforcement of Part 8 of the Ontario Building Code.

Service Area:
The Health Unit opened on July 1, 1947 to serve the municipalities of Leeds and Grenville and in 1967; Lanark District joined the organization. The Leeds, Grenville and Lanark Health Unit spans a 6,329 square km area in Eastern Ontario, with a population density of 25.7 people per km. The southern part of our area borders the St. Lawrence River between Kingston and Cornwall, extending north into the Ottawa Valley. The population of Leeds, Grenville and Lanark is approximately 170,205 people, the majority of whom live in a rural environment (58%). I geographically serve the area of Lanark County for issues related to Part 8 of the Building Code (sewage systems) with the exception of Tay Valley Township.

Number of Years in Operation/Role:
I have been employed as a Public Health Inspector with the Leeds, Grenville and Lanark Health Unit my entire 31 year career. I started my employment in 1984 as a young summer student working out of our Brockville Health Unit office and returned to work the following summer. After graduating from the Environmental Health degree program at Ryerson University in May of 1986 I joined the Health Unit full time. Throughout the years I have done a variety of tasks including restaurant inspection, communicable disease investigation, drinking water and sewage related inspection work. In 1998, I was certified as a Part 8 Sewage System Inspector and in 2009 was certified as a Chief Building Official under Part 8 of the Ontario Building Code. Throughout this time I have specialized at the Health Unit as one of the area Part 8 inspectors and have been designated as Deputy Chief Building Officer stepping in at times when our Chief Building Official (Mark Green) is away.

What got you started in the onsite and decentralized wastewater industry?
The Health Unit has been involved in the onsite and decentralized wastewater industry since 1947. Initially, it was mandated under the Public Health Act. In 1972 the Ministry of Environment contracted the province's health units to carry out the sewage program and enforcement. Since 1998 the area municipalities have entered into agreements to have the Health Unit continue carrying out enforcement activities under Part 8 of the Ontario Building Code. The foundation of public health protection starts by ensuring and protecting safe drinking and recreational water supplies and therefore enforcement of sewage systems regulations is a basic component of public health.

Give us one reason/secret for your success:
The Part 8 Land Control program at the Leeds, Grenville and Lanark Health Unit has been successful due to good leadership from the upper levels of management and our Chief Building Official. We have excellent program assistants that help keep the day–to-day operation running smoothly. We have a close working relationship with our area municipalities and the clients we serve. As an inspector, I attempt to be helpful to the public providing education as needed. Enforcement is carried out in a firm but fair manner.

Where do you see the onsite and decentralized industry going?
I believe the onsite and decentralized industry will continue to grow. As the need for housing increases outside the big cities and the "big pipe", the need for onsite sewage systems will increase. The industry will likely see regulations mandating that all sewage systems (not just tertiary systems) be monitored and tested to ensure effluent quality of all septic systems within the province meet the minimum acceptable standards.

What can the onsite and decentralized industry do to improve?
As a regulator that has worked in this industry for over 30 years, the number one thing that needs to improve within the onsite and decentralized industry is providing "consistency" in the enforcement of the legislation. When I first started working in the sewage industry, there were approximately 35 health units across Ontario that enforced the sewage regulations that were then known as Part 7 of the Environmental Protection Act. The Ministry of the Environment had regular regional meetings for regulators to discuss interpretations of the Code and provide solutions and guidance. Since 1998, the sewage regulations are under the Ministry of Municipal Affairs and Housing. Municipalities have been given the authority to carry out enforcement of Part 8 of the Ontario Building Code or designate Health Units, Conservation Authorities or third-party agencies. The interpretation of Part 8 of the Building Code has been left to interpretation of the individual agency and resulted in a lack of consistency across the province.

2017 OOWA MEMBERSHIP BENEFITS

The OOWA Insurance Plan is administered by SeptiGuard, a company within the Verge Group. Coverage includes: General Liability, Pollution/ Environmental, Impairment/ Underground tank policies, Contractors Equipment, Barging and Waterborne Risks, Professional Liability for inspectors, designers etc., Vehicle/ Fleet coverage and Discount Home and Auto rates. Contact Scott Mullen: 905-688-9170 xt. 132 or email at mcmullen@vergeinsurance.com .

A **new** CAA Plus membership is reduced to $99.00 for the first year ($39.00 savings!) or a CAA Plus Associate Membership is reduced to $75.00 for the first year. Contact CAA's Corporate Representative at 800-267-6394 ext. 6394 to sign up.

OOWA members save **10%** at **Mark's Work Warehouse** on the following items and more; Carhart merchandise, Dakota Workware, Coveralls and Overalls, casual wear, work gloves, and all CSA footwear. Present it at any location to receive your discount.

Peak Benefits Solutions provides **comprehensive employee benefits packages** that offer exclusive rates and access to savings not found with any other programs currently available. Peak's goal is to make individual plans rewarding for OOWA members by delivering quality products with excellent customer service. Contact Chad Donnelly at 1- 877-426-2704 for a personal consultation and quote.

ALS Laboratory Group provides a **30% discount** on all your wastewater and soil testing needs. Contact Darlene Hoogenes-Stastny at 519-886-6910 or email at Darlene.Stastny@ALSGlobal.com .

Save **10%** on any ORWC Course offering (cannot be used in conjunction with other discounts). See their course offerings at www.uoguelph.ca/orwc/ . Contact Bassim Abbassi at 519-824-4120 Ext. 52040 or via email at babbassi@uoguelph.ca.

OOWA has redeveloped the Registered Professional Program (RPP) to address the needs of ongoing training and continuing education demands from our members. OOWA Professional Designations include: Wastewater Service Technician, Designer, Installer, Private or Regulatory Inspector, Residuals Hauler, Project & Administrative Professional and Technical Sales Consultant.OOWA has been working closely with our education partners to ensure that our members have access to courses that will provide them with the aptitudes they need to achieve their chosen RPP designations. Members enrolled in the 'In-Development Stream' of the RPP can now get special recognition for their dedication to skills and professional development on our new Find an Expert directory while working towards their RPP designations . Go to www.oowa.org to see the new directory and to learn how you can enroll and get placed on the directory now.

OOWA collaborates with other associations in communicating to government with one united voice on issues that are of mutual concern to our industries. OOWA is proud to inform our members know that you can access membership rates for events and resources provided by our association partners:

- **The Ontario Association of Septic Industry Service**
- **The Ontario Building Officials Association**
- **The Ontario Ground Water Association**

To get more information on these member benefits please visit our website at: www.oowa.org/about/join-oowa/

NEW & RENEWED MEMBERS LISTING

March 1-July 25, 2017

NEW MEMBERS

Debbie Balika, Kawartha Region Conservation Authority
Brad Billings, Billings Construction
Steve Boyd, Boyd Excavating & Landscaping
Katie Burley, Muddy Men Construction
Shannon Card, Waterloo Biofilter Systems
Dan Couture, D.C. Excavations
Ken Curry, Amalgam LLC
Christos Daikopoulos, Young Professional
Doug Elliott, Shepherd Environmental Services
Stephen Emslie, University of Guelph
Andrew Faris, Faris Excavating
Richard Gionette, Algoma Bio-Septic Technologies
Paul Greer, Paul Greer & Son's Excavating Ltd.
Stephen Hamilton, Morris Shelswell & Sons Excavating
Matthew Hannah, Gary's Landscaping
David Hufnagel, MTE Consultants Inc.
Andy Jones, Town of Gravenhurst
Brent Kempton, Kempton Construction Inc.
Jordan Kuipers, Kuipers Construction
Peter Libicz, Home Inspection Right Away
Glen Luciano, Real Landscaping Plus Inc.
Derk Maat, Scicorp International Corp.
Garry McCartney, Township Of Oro-Medonte
Todd McCulloch, Town of Innisfil
Lauren McGregor, Student, McMaster University
Charles-Edouard McIntyre, Premier Tech Aqua
Sherri Moore, Township of Oro-Medonte
Natalie Moroz-Cornell, City of Quinte West
Mary Pengelly, Town of Gravenhurst
Darian Petrisca, Homes Water
Vince Pileggi, Ministry of the Environment and Climate Change
Dave Readman, The Corporation of the Township Of Ramara
Eric Rozema, Rivercourt Engineering Inc.
Andrew Shepherd, Shepherd Environmental Services
Steven Shepherd, Shepherd Environmental Services
Falko Thoennes, Haddad Geotechnical Inc.
Brendon Underwood, Underwood Construction Ltd.
Brent Underwood, Underwood Construction Ltd.
Mark Visser, Rock Solid Septic
Todd Webb, Lodder Brothers Limited
Jazmyne Woolley, Georgian College
Ross Zwierschke, Zwierschke Bros. Ltd.

RENEWED MEMBERS

Jason Anderson, Anderson Construction
Giles Ardiel, Ardiel Septic Services
Joe Bartucci, Eco Septic Services
Jeff Binnie, G.E. Binnie Haulage & Excavation Inc.
Terry Brinks, Muddy Men Construction
Mark Bunker, AAAA Sanitation/ Frank Cooper Construction
Darren Bunker, AAAA Sanitation/ Frank Cooper Construction
Brent Bunker, AAAA Sanitation/Frank Cooper Construction
Steve Carkner, Pentair Canada
Josh Coghlan, Cambium Inc.
Kevin Cooney, Cooney Construction & Landscaping Ltd.
Ron Cousins, Cousins and Johnson Inc.
Eric Cousins, Cousins and Johnson Inc.
William Dainty, Headwaters Construction Ltd
Robert DeAcetis, Deson Construction
Larry Dedrick, Dedrick Bros. Excavating Ltd.
John Desbiens, Cambium Inc.
Ryan Dobie, Town of Innisfil
Dave Dobinson, Dave Dobinson Excavating Inc.
Stewart Dolstra, Cambium Inc.
Joshua Doornekamp, Aarde Construction
Eric Draper, The Septic Store
Helena Draper, The Septic Store
Darren Drury, Drumax Construction
Bill Drury, Drumax Construction
Gillian Dumencu, Clearford Water Systems Inc
Hassan Elmi, ADS Canada
Fritz Enzlin, Norfolk County
Mike Esselment, ESSE & Associates Inc.
Juanita Evans, City of Quinte West
Daniel Filion, Jean Marcel Filion and Sons
Steven Filipowitz, Ontario Parks/MNRF
David Finch, Wes Finch & Sons Excavating
Graham Fisher, Haddad Geotechnical
Sylvie Fracassi, South Nation Conservation
Dan Friesen, Exact Septic Installations
Peter Froehlich, Brooklin Concrete
Nilou Ghazi, E3 Labratories Inc.
Perry Gingerich, P. Gingerich Excavating
Kevin Grant, Waste Water Solutions
Robert Hall, Muddy Men Construction
Gary Hannah, Gary's Landscaping
Seth Harder, Tamarack North Ltd.
Allan Hazelton, Great Lakes Clean Water - LP
Andrew Hellebust, Rivercourt Engineering Inc.
Mark Hernandez, Orbit Excavating
Lesley Herstein, WaterTAP Ontario
Peter Heywood, Oxford County Public Health
Paul Honeywell, Honeywell Works Inc.
Paul Imrie, Imrie Group
Glenn Imrie, Imrie Group
Patricia Johnson, WaterTAP Ontario
Kirk Johnstone, Northumberland County
Daniel Kern, HomeWorks Inspection Services
Jocelyn Kerrigan, County of Lambton
Gerry Knoop, Denby Environmental Services
William Kollaard, Kollaard Associates Inc.
Joe Kuipers, City of Belleville
Kaleb Lakew, Kollaard Associates Inc.
Kaleb Lakew, Kollaard Associates Inc.
Norm Langman, Morris Shelswell & Sons Excavating
Phillip Lappan, City of Quinte West
Terri-Lyn Latimer, Latimer Excavating Ltd.
Kevin Lehan, Town of Gravenhurst

NEW & RENEWED MEMBERS LISTING

March 1-July 25, 2017 - *continued*

RENEWED MEMBERS CONTINUED

Jacques Levert, South Nation Conservation
Steve Little, Norfolk County
Kevin Loiselle, Clearford Water Systems Inc.
Andrew Lutyk, Chantler Barging
Miles MacCormack, RH2O North America
Chad Mann, Lloyd Collins Construction
Bozena Manowski, Ministry of the Environment
Frank McAughey, Pinestone Engineering Ltd.
Robert McAuley, County of Prince Edward
Jamie McLellan, J.J. McLellan & Son
Dominic Mercier, Enviro-Step Technologies
Kim Millen, Norfolk County
Corrine Nauta, County of Lambton
Timothy O'Connor, Isaacs Glen Contractors
Brendan O'Connor, Isaacs Glen Contractors
Dave Parent, Septic Consulting & Design Services
Martina Podolinska, Pentair
Nick Preikschas, MTE Consultants Inc.
Jason Rail, The Septic Store
Richard Raison, R. R. Equipment Rental
Laura Reavie, Skootamatta Environmental Consulting Inc.
Ross Reed, DC Equipment Services
Peter Reinhardt, Pentair Canada
Darryl Robins, Darryl M. Robins Consulting Inc.
Leroy Robinson, RH2O North America
Scott Robinson, Unit Precast
Todd Rumble, Rumble & Associates
Monique Sauve, South Nation Conservation
Brad Schildroth, Englobe Corp
Michelle Scott, City of Quinte West
Kim Shelswell, Morris Shelswell & Sons Excavating & Grading Ltd.
Mike Shepherd, Shepherd Environmental Services
Aaron Shoup, ESSE & Associates Inc.
William Sikkema, City of Quinte West
Robin Smith, Robin Smith Engineering
Edward Smith, Ted Smith Construction
Glenn Snow, Snow Brothers Contracting
Brigitte South, Pinestone Engineering Ltd.
Mark Steele, Town of Innisfil
Wilf Stefan, Clearford Water Systems Inc.
Bernie Taylor, Cambium Inc.
Jeremy Tracey, Cambium Inc.
Peter Vanderboom, Alpha Excavation
Joseph Voisin, Pinestone Engineering Ltd.
Yuxin Wang, Clearford Water Systems Inc.
Kevin Warner, Cambium Inc.
Ryan Weddel, Newmarket Precast Concrete Products Ltd.
Dave Whidden, Waubaushene Septic & Landscaping
David White, Ken White Construction
Dave Wilhelm, MTE Consultants Inc.
Joe Witlox, Newterra Ltd.
Mike Zollner, Muddy Men Construction

OOWA E-MAIL COMMUNICATIONS TO MEMBERS: IMPORTANT INFORMATION

OOWA is communicating directly with our membership primarily through E-mail.

Here are the important E-mails you get from OOWA staff:

1) **Membership Renewal Notices:** These reminder notices are E-mailed in 60 and then 30 days in advance of the renewal month of a member's renewal date. OOWA no longer mails hard copies of renewal notices or reminders.

2) **Membership Renewal Receipts & Packages:** Your receipt of membership payment is E-mailed to you immediately after your payment is received and processed by OOWA staff. Your E-mailed receipt is then followed up by a Renewal Package that is E-mailed separately a few days later. We experience the largest number of renewals between January and March so please be patient with us during this time!

3) **Lapsed Renewal Reminders:** These reminders are E-mailed out 30 and then 60 days after a member's renewal month. If a membership is not renewed after 90 days of their renewal month they are removed from our on-line member directory.

4) **Information Products:** OOWA E-mails our monthly Training Bulletin, monthly E-Newsletter, event notices, and other special communications. You can request to have a hard copy of our tri-annual print newsletter, 'Onsite' mailed to you on your membership renewal form.

PLEASE READ!

To ensure that these important E-mails are reaching the right people in your business or ogranization, please be sure to provide the E-mail addresses of the staff person responsible for processing payments and the E-mails for the person or persons whose name (s) are on the membership. The OOWA membership renewal forms provides the required fields to provide this contact information. The above mentioned E-mails provide members with the information required to remain in good standing and to remain engaged and informed professionals. If a person is an OOWA member but is not the point person on E-mails coming into the business, please provide us with the E-mail address of the person who can share this information with those who need to see it. Thanks for helping us to communicate more effectively with you!

Upcoming Events

Keeping Members Connected and Informed

September's Burgers and Beer

Thursday, September 7th

The Central Ontario Regional Networking Group's third Burgers and Beer event will take place on Thursday, September 7th at Dave Dobinson Excavating, 2740 9th Line, Innisfil, ON.

2018 Convention and Expo: Location Announcement

April 2018

OOWA is excited to announce that we will be returning to Deerhurst Resort in April of 2018 for our Convention and Expo. More details will be available in the coming weeks on our website and through our E-newsletter. Stay tuned!

In Development: 'Solutions for High Strength Wastewater Producers'

Watch for news from OOWA about an event in September that will feature solutions for producers of high strength wastewater. Watch your inbox and OOWA's website for more details.

OOWA's Regional Meetings

October-November 2017

These regional meetings keep members updated on regulatory changes, informed as to provincial and local issues, and also provide an opportunity for them to connect with colleagues. Meetings will be held in Southern Ontario, Central Ontario, the Greater Golden Horseshoe, the Peterborough Region, the Near North/Muskoka Region and Eastern Ontario. This year, our Regional Meetings will feature exhibitors showcasing the lastest in onsite technologies and services. Early bird specials for sponsorship and exhibitor packages are now available with details on our 'Regional Meetings' web page. Details will also be available through our E-newsletters in the coming months. You can also check out website's Events Calendar for more details on each individual meeting. *Please contact us for more information at 1-8888-905-6692 ext. 101 or via email at outreach@oowa.org.*

Regional Meeting Dates & Locations

Golden Horseshoe Region
Stony Creek Municipal Centre, Stoney Creek
October 26, 2017

Peterborough Region
Knights of Columbus Centre, Peterborough
November 09, 2017

Southwest Ontario Region
BMO Centre, London
October 13, 2017

Central Ontario Region
Innisfil Municipal Building, Innisfil
October 19, 2017

Eastern Ontario Region
North Grenville Municipal Centre, Kemptville
November 23 or 24, 2017

Near North & Muskoka Region
Port Carling Community Centre, Port Carling
November 17, 2017

Go to the 'Events Calendar' on OOWA's website for more information on all of the above events in the coming weeks.

Burgers & Beer

Central Ontario Regional Networking Group Update

Spring Session

On Thursday, May 11th, over 30 attendees joined OOWA for the spring session of the Central Ontario Regional Networking Group's Burgers and Beer event. Mark Goodman of Eisses Pumping Services hosted the event at his shop in Innisfil. Thanks to our speakers Peter Reinhardt from Pentair Pumps and Marc Youell from Joe Johnson Equipment. Peter showcased Pentair's new grinder pump series and Marc demonstrated the Envirosight's push camera which is ideal for septic inspections.

Left: *Marc Youell of Joe Johnson Equipment demos the Envirosight push camera.*

Summer Session

On Thursday, July 7th , Bill Robinson hosted 29 attendees at his shop for OOWA's first compact equipment rodeo and a demo by Ray Foster of L.M. Ent Water of the Clear Pod system that has just been approved for Ontario. The weather was perfect for this outdoor event! Thanks again to CRS for the donation of the BBQ and to Bill and his crew for pulling it all together. Thanks also to Toronmont Cat , Church's Farm Supply and Bobcat of Barrie for providing the equipment for the rodeo.

Left: *OOWA member John Faris of Faris Excavating tests his skills in the rodeo.*

THANKS TO OUR BURGERS & BEER SPONSORS

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SILVER LEVEL SPONSORS

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BRONZE LEVEL SPONSORS

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SPECIAL THANKS

CRS CONTRACTORS RENTAL SUPPLY

OOWA'S REGISTERED PROFESSIONAL PROGRAM (RPP)

You'll be in Good Company

What is it?
The RPP is OOWA's skills and professional development program available exclusively to our members. The RPP provides special designations that cover all job descriptions in the onsite and decentralized industry. Depending on your experience and aptitudes acquired through formal study and course completion, members can apply directly to get any one of these designations. Another pathway way to an RPP designation is by registering in the In-Development Program. This program gets you on our exclusive on-line 'Find an Expert' directory and gives you three years to take the courses you need to meet your chosen designation requirements.

What's in it for me?
We know that onsite system owners want to hire only the best people. Your RPP designation tells potential clients that you are a qualified professional, that your skills and knowledge are current and that you are engaged with and care about your industry. An OOWA RPP designation also sets you apart from your competition and can serve as an effective marketing tool. Pursuing this designation also builds your career by positioning you as a desired individual for new opportunities.

What designations are available?
Below are the designations available through the RPP:

- Designer
- Installer
- Private Installer
- Project & Administrative Professional
- Regulatory Inspector
- Residuals Transporter
- Technical Sales Consultant
- Wastewater Service Technician

How do I enroll?
Go to OOWA's website and then find the 'Training' tab at the top of the home page. For the documents mentioned below, scroll down to the 'RPP Documents and Resources' page where you can download them for your reference.

1. Review the RPP How to Apply document.
2. Review the RPP Background document.
3. Select one or more RPP designations that apply to you and review the Aptitudes by Designation document to see what courses/aptitudes you still need of if you can apply directly to your chosen designation.
4. Check out the FAQ document to help with some specific program requirements.
5. Download the In-Development Registration Form if you need to acquire more skills or courses to secure your desired designation.
6. Download the full RPP Application Package
7. Contact us with any questions at 1-855-905-6692 ext. 101 or via email at outreach@oowa.org.
8. Begin the process today!

BE RECOGNIZED AS A TRUSTED PROFESSIONAL!

Register in OOWA's RPP or the In-Development stream and join the ranks of other onsite professionals already getting recognition for their continuing education efforts in serving our industry on our website's 'Find an Expert' Directory.

- **Robin Allen**, North Bay Mattawa Conservation, *Inspector*
- **Jason Berry**, ESSE Canada, *Private Inspector (In-Development)*
- **Brenda Burrows-Rabb**, Rabb Construction Ltd., *Installer*
- **Greg Cherniak**, *Regulatory Inspector (In-Development)*
- **Paul Davis**, Durham Region Health, *Regulatory Inspector (In-Development)*
- **Anne Egan**, R.J. Burnside & Associates, *Designer (In-Development)*
- **Ray Foster**, ESSE Canada, *Wastewater Service Technician*
- **Rene Goulet**, Rene Goulet Septic Pumping & Design, *Designer*
- **Stefan Gruesch**, LSK Septic and Drain, Residuals Transporter (In-Development)
- **Dean Kerr**, Willis Kerr Consulting, *Installer*
- **Willis Kerr**, Willis Kerr Consulting, *Installer*
- **Bert Knip**, Makeway Environmental Technologies, Technical Sales Consultant & Wastewater Service Technician (In-Development)
- **Don Krauss**, Infiltrator Water Systems, *Technical Sales Consultant (In-Development)*
- **Peter Libicz**, Home Inspection Right Away, Private Inspector (In-Development)
- **Jessica Lynn Morin**, ESSE Canada, *Project Admin Professional (In-Development)*
- **Jasmine Marshall**, ESSE Canada, *Project Admin Professional/Technical Sales Consultant (In-Development)*
- **Kim Millen**, Inspector, Norfolk County
- **Robert Palin**, North Bay Mattawa Conservation, *Inspector*
- **Jason Rail**, The Septic Store, *Wastewater Service Technician*
- **Dave Ruppert**, Ruppert Haulage, *Installer*
- **Paul Sharp**, Plumaid/Earthmoves, *Onsite Installer (In-Development)*
- **Deanna Simpson**, ESSE Canada, *Project Admin Professional (In-Development)*
- **Brady Straw**, Waterloo Biofilter Systems, *Designer (In-Development)*
- **Simon Thoume**, James Thoume Construction Ltd, Installer (In-Development)
- **Kevin Warner**, Cambium, Private Inspector & Designer (In-Development)
- **Kara Yokom**, ESSE Canada, *Project Admin Professional (In-Development)*
- **Jane Zima**, SimbiH2O, *Project Admin Professional (In-Development)*
- **Brian Zingula**, ESSE Canada, *Regulatory Inspector (In-Development)*

MEMBER PROFILE

Brenda Burrows-Rabb, P.Eng

RPP Onsite System Installer Designation

BRENDA BURROWS-RABB, P.ENG
RPP Onsite System Installer Designation

Name of Business
Rabb Construction Ltd. Incorporated in 1992

Owners
Brothers Rick Rabb and Mark Rabb own Rabb Construction Ltd. I joined Rabb Construction in January 1998.

Services
Rabb Construction Ltd. is a heavy equipment and civil site work contractor. Rabb Construction is a full service contractor that provides services including excavation, backfill, watermain, storm and sanitary sewer installation, live watermain tapping, contaminated waste clean-up, and on-site sewage systems.

Service Area
Rabb Construction Ltd. services the greater Ottawa area. It is always a treat to be successful at obtaining projects that are located close to Richmond.

Number of Years in Role
Incorporated in 1992, Rabb Construction celebrates 25 years in business this year. As in any small business, we all have many roles in the business. I am involved in customer service, estimating, on-site sewage system design, and business, financial and staff management. I am a 'jack of all trades'. My job takes me on-site for layout and supervision of on-site sewage systems and other site work projects.

What got you started in the onsite and decentralized wastewater industry?
Rabb Construction began as a small heavy equipment company, beginning with equipment rental. After earning their engineering degrees in 1991, Rick Rabb and Mark Rabb expanded the business to include both small and large on-site sewage systems. Prior to joining Rabb Construction, I worked at an engineering consulting firm and was involved in on-site sewage treatment and leachate treatment systems. This experience proved helpful in my role at Rabb Construction. My favorite projects are installing the large commercial on-site sewage systems.

Give us one reason/secret for your success
I can provide a couple of reasons for our success, although, I would not call them secrets because I discuss them often!

Be honest, truthful and never stop learning. As professionals, we discuss what we know with our clients; however, we are never afraid to say what we don't know. We take the opportunity to learn, to gather the required information, and then communicate options on how to solve the problem.

Be professional and communicate wisely. We are professional in our work, our written estimates, and in all of our project documentation. This accurate documentation is particularly important in the on-site wastewater industry.

Good communication is essential to a successful business. When an estimate contains a detailed scope of work, it provides a clear message to the client. This clear communication prevents misunderstandings that can arise when the project is completed and the invoice is delivered. The septic system as-built documentation should also be very clear; the detailed as-built documentation is critical for both the Regulator's and the client's records. Recommendations from clients and 'word of mouth' is absolutely the best way to grow your business.

Where do you see the onsite and decentralized industry going?
The on-site sewage industry has made tremendous progress over the last 10 years. Introducing the professional organization was a very good start. I believe that the Level IV treatment systems are becoming much more common and the designs are becoming more complex. In our area, engineering consultants are designing many of the on-site septic systems. This design approach enables septic system installers to bid on a clear and consistent scope of work. Bidding on a clear scope of work provides a fair tendered competition for the work. I believe that the decentralized on-site sewage treatment industry is on the verge of more widespread acceptance as an alternative to providing sewage treatment to new developments. This is a great thing for our industry.

What can the onsite and decentralized industry do to improve?
Our industry must continue to educate and build awareness about on-site sewage treatment. The courses that are currently offered are fantastic. Our industry, however, must continue to educate more than just our own members, including politicians, real estate agents, homeowners serviced with on-site sewage treatment and even homeowners serviced with a sanitary sewer at their home. When centralized sewage treatment plants are pushed into an overflow situation, untreated sewage is discharges directly into our waterways. This overflow is primarily due to surface water entering the centralized sewage network. This occurs repeatedly in Ottawa and it occurred in our small community this spring. On-site treatment could help alleviate the frequency of this situation by providing an alternative to a sanitary sewer connection. On-site sewage treatment options are available to service new development that would prevent additional flow being added to the already volume strapped centralized waste water treatment plants. I believe the key to orchestrating this change is through education about our industry.

Updating the Ontario Building Code: Demystifying the Process

Anne Egan, OOWA President

The Ontario Building Code (OBC; "the code") is reviewed and updated on a regular basis (every five years) by the Ministry of Municipal Affairs (MMA).

The government may also make changes to the code as interim amendments, which can take effect between editions. Have you ever opened a new edition of the code and wondered, "where did that come from?", or "why did they change that?" I think it is safe to say that most of us do not sit down and read through the code on a regular basis (although it could be a useful sleep-inducing read). Sure, we use it during our day-to-day work, but we might only reference it on an as-needed basis for the specific sections we need at that time, whether we are looking up a design flow value, a particular clearance distance, or some other specific code clause. When a new edition of the code is published, there may be subtle changes that we do not realize right away. OOWA works hard to ensure our members are kept up to date when there are changes (or potential changes) to the OBC that could have an impact on our day to day work.

Are there changes that you would like to see to the code? There is a process to submit suggestions for changes to the OBC. Many of us are likely familiar with this process, but there may be other practitioners who are unaware that it exists. The best place to start is to search the MMA website for their Guideline for Requesting Changes to the Building Code. Many times, we only think of changes to the code as we are reviewing what the government is already proposing to amend. If you wait until the government launches the public consultation process for code changes, you are too late! When it comes time to develop another edition of the code, MMA will review code change proposals that have already been submitted over the years since the last edition of the code. They may also develop additional code change proposals internally, and then the change proposals that have merit are compiled and made available for public consultation.

In December 2016, MMA launched a public consultation process for changes to the 2019 edition of the code, and there were seventeen changes proposed for Part 8. This included seven changes that were proposed to be interim amendments to the current, 2012 code (which have since been passed and will take effect January 1, 2018), as well as ten changes that would potentially be incorporated into the 2019 OBC.

As part of the process, MMA then forms a Technical Advisory Committee (TAC), the purpose of which is to review and make recommendations to the MMA regarding the technical aspects of potential code amendments, including a review of comments received during the public consultation process. The TAC for Part 8 of the Code was represented by a number of stakeholder groups, including OBOA, OASIS, MOECC, CPA, ORWC, and OOWA. We are proud to say that OOWA had two representatives on the TAC and that representatives of the other participating associations were also OOWA members. This group reviews the details of all the proposed changes for Part 8 and any related documents, and provides input as to the technical merits, and in some cases, potential implications or unintended consequences, for each code change proposal. It is important to note that while the TAC makes recommendations to MMA, what ends up in the next edition of the code is ultimately still decided by the government.

If there is a particular section or clause in the code that you think needs to be amended, or a new clause added, consider submitting a code change proposal. The MMA website contains an online form and identifies what supporting information and documentation is required with the submission. OOWA's Onsite Technical Committee also reviews and submits code changes on behalf of the association. If you are think the code can be improved, discuss your ideas with your colleagues, your local regulator, and reach to OOWA.

Practitioners that use the code on a regular position are best equipped to help guide the process of changing and updating the code, so I would encourage you to speak up when you think a change is needed.

Septic Pumping Directly Affected by Household Water Habits

By Sara Heger, Ph.D.
Water Resources Center, University of Minnesota

The results of this study reinforce everything you've been explaining to your customers about the need for septic care.

The Otter Tail Water Management District in Minnesota provided a unique study opportunity for the analysis of household practices and maintenance needs of septic systems. The district is comprised of approximately 440 (26 percent) permanent residences and 1,260 (74 percent) seasonal residences. This study looked for correlations between household practices and the accumulation of sludge and scum. Homeowner surveys (response rate 27 percent) were coupled with septic tank inspection and monitoring records kept by the OTWMD since 1981. The 1,500-gallon two-compartment septic tanks were cleaned when more than 25 percent of the liquid capacity was storing sludge and scum. The frequency at which septic tank pumping occurred and the average length of time between septic pumping events were evaluated for both seasonal and full-time residences.

There were 28 household factors that were tested against the two cleaning categories. Of the 56 factors tested, 17 were found to have an impact on the need for septic tank cleaning based on sludge and scum accumulation.

Septic tank cleaning frequency and average time between tank cleanings were found to be significantly different based on property use (e.g. full vs. part time), meaning those who lived in a home full time had their septic tanks pumped more frequently. Since 1981, the average frequencies for septic tank cleanings between property use categories were 2.4 times for warm-month (May to September) part-time residents, 3.2 times for full-time residents and 2.7 times for all-season part-time residents. The average of average time between septic tank cleanings between property-use categories were: 8.9 years for warm-month part-time residents, 4.9 years for full-time residents, and 7.9 for all-season part-time residents.

Well water use was found to have an impact on average time between septic tank cleanings. This may be due to increased awareness of water usage if paying for city water, unlike well water where there is no city fee. Septic tank cleaning frequency and average time between septic tank cleanings was impacted by the presence of a dishwasher or washing machine. This is likely due to increased water usage associated with dishwashers and washing machines and the use of detergents. To ensure maximum water efficiency, washing machines and dishwashers should be set on proper load cycles and lint should be captured from the washing machine. Unlike other similar studies, the presence of a garbage disposal did not impact the frequency of septic tank cleaning. This may be due to the small size of the particles not settling out well in the septic tank or the seasonality of the majority of the properties. Septic tank cleaning frequency and average time between septic tank cleanings were impacted by the presence of a water softener, hot tub and fixture leaks, which all add extra water to the septic system. Water is relatively hard in the Otter Tail area, with most homes having a softener, so there is a potential for excess sodium loading in water softener discharge, which can also affect septic tank performance. There was no impact due to the use of septic system additives, which supports the principle that additives cannot be used in place of tank cleaning.

The results of the study indicated an assessment every two to four years is still recommended to evaluate the need for pumping and to evaluate other system and use issues, which can affect long-term system performance.

A full copy of the report can be found at septic.umn.edu/research .

This material is extracted from the full page article in the June 2017 issue of Onsite Installer magazine, published by COLE Publishing Inc., www.onsiteinstaller.com. It is reprinted by permission.

On-Site Sewage Systems under the Ontario Building Code (OBC)

By Jeffrey Chalmers, CET, CBCO

Sewage System Designer roles and responsibilities

What is a Designer?

Subsection 15.11(5) of Building Code Act (BCA) contains requirements for qualifications of designers who prepare a design or give other information or opinion, in connection with, an application for a building permit, a notice of change, or a general review report. In 15.11(6) "design" is defined as including a plan, specification, sketch, drawing or graphic representation respecting the construction of a building. The definition of "building" in the BCA includes a sewage system.

The role of the designer as outlined in the BCA Subsection 1.1(2) requires the designer to ensure that their design complies with the BCA, the OBC, and contains enough information that it can be evaluated for compliance and constructed by the builder. On the "Application for a Permit to Construct or Demolish", the designer is required to complete the "Schedule 1: Designer Information" form and sign the declaration. The OBC Division C, Subsection 3.2.4. requires the designer to have passed the examination program of the Ministry of Municipal Affairs and Housing (MMAH), to have insurance and to be registered with the Ministry. The designer of a sewage system is exempt under Clause 3.2.4.1.(3)(e), from the requirement to be registered if the designer is registered as an installer under Article 3.3.3.2.

Installer roles and responsibilities

What is an Installer and an Installer Supervisor?

Subsection 15.12(1) requires installer(s), who are the persons engaging in the business of constructing on site, installing, repairing, servicing, cleaning or emptying sewage systems, to be qualified and notify the chief building official of the specified person.

The OBC Division C, Subsection 3.3.3. requires the registration of the installer to include the person who will supervise the construction, and for that person to have successfully completed the examination program of the MMAH. That person would be the Installer Supervisor.

On the "Application for a Permit to Construct or Demolish", the installer is required to complete the "Schedule 2: Sewage System Installer Information" form including the information about the qualified supervisor and sign the declaration. Under BCA 1.1(3), the builder's (installer in the case of an on-site sewage system) role includes ensuring that the permit is applied for and issued before construction starts, ensure that the construction is in accordance with the permit, ensure that proper building techniques are used to achieve compliance, and when site conditions affect compliance, to notify the designer and building official so a change can be made to the permit.

JOIN AN OOWA COMMITTEE!

Want to really make an impact in the industry?

Why not contribute to our collective efforts in getting onsite and decentralized recognized as viable and critical rural infrastructure? OOWA is looking for enthusiastic and engaged individuals to help move the industry forward.

Contact Mike Gibbs to find out how to join our ranks!

outreach@oowa.org

On-Site Sewage System Training, Examinations and the Qualification Registration Process

7:00pm-8:00pm, Thursday, September 7th Teleconference

This short teleconference/webinar session will guide participants through the requirements process in order to obtain the Ministry of Municipal Affairs and Housing (MMAH) registration.

Learning Objectives

At the end of this session, participants will be able to understand:

- Where to find information about the Qualification and Registration process
- Where to find training in Part 8 of the Ontario Building Code
- How to apply for registration and obtain a BCIN number
- How to apply for the On-Site Sewage System Examination
- The examination format
- How to register your qualifications with the Ministry
- Where to find other information

Who Should Attend?

Anyone wishing to:

- Obtain their MMAH registration to Design On-site Sewage Systems
- Become a Sewage System Supervisor, or
- Inspect sewage systems.

Contact JM Consulting at 416-939-8936 for more information for more information or go to www.jmconsulting.agency/upcoming-events/ to register.

Your Instructor

Jeffrey Chalmers, CET, CBCO

MEMBER PROFILE

Scott Robinson
Unit Precast & RH2O North America

SCOTT ROBINSON
Unit Precast & RH2O North America Inc.

Name of Business
Unit Precast & RH2O North America Inc.

Service Area
Unit Precast manufactures precast concrete products and supplies wastewater treatment systems throughout southern Ontario. RH2O manufactures and distributes decentralized wastewater treatment systems, control panels and water conservation systems (rainwater harvesting and greywater recycling) across Canada and USA.

Number of Years in Operation
16 years at Unit Precast and 11 years at RH2O

What got you started in the onsite and decentralized wastewater industry?
I grew up at our family precast business from being looked after in the office by my mother to working in the shop as a teen with my father. I was looking to explore a different career path after graduating from the University of Guelph, but the company's launch into residential and commercial wastewater treatment systems really brought me back into the family business.

Give us one reason/secret for your success.
Strong family values and beliefs built on integrity, commitment and hard work. Our teams are both passionate about the onsite industry and providing innovative solutions that work well and are easily maintained and serviced. The experience that we have gained through servicing of onsite systems has been instrumental in our understanding of real-world treatment requirements and product/process innovation.

Where do you see the onsite and decentralized industry going?
Advances in technology (smartphone, IOT, real-time sensors, etc.) and more focus on onsite systems management will drive improvement in system performance and reliability, which will ultimately provide a higher confidence level in the decentralized system industry and better protection of our environment and water resources. All wastewater systems can now easily be managed remotely with data analytics and measurements allowing proactive vs. reactive based maintenance. Our goal is to have fully automated treatment systems that adapt to hydraulic and organic loading with the help of smart sensors and remote monitoring. The use of paperless maintenance programs and cloud based management platforms allow full transparency for the service and performance of systems for all stakeholders.

What can the onsite and decentralized industry do to improve?
There is a great need for harmonized standards and certification across Canada and the USA to reduce the regulatory burden and cost for technology approvals. The incorporation and evaluation of field performance data is an important and under-utilized element that should be applied for certification or enforcement of already approved systems. We need to continue to lobby and educate policy makers on the benefits and advantages of decentralized wastewater treatment vs "big pipe" solutions. Our industry also needs to mandate continuing education credits and enforce operation and maintenance on all onsite systems including conventional septic systems.

OOWA HAS GONE DIGITAL!

One of the benefits of being an OOWA member is getting access to all of the information products that we produce. During the third week of every month, OOWA emails a newsletter to all members containing important association news, regulatory updates and news on emerging industry trends.

To support the skills and professional development of our members, OOWA also emails our Training Bulletin on the first of every month. This bulletin lists courses offered by our training partners that are specific for onsite and decentralized wastewater professionals. Please share the Training Bulletin with your colleagues and managers to grow interest in the courses and to help raise the bar of the skills of everyone in our shared industry!

Make these emails the ones you look forward to getting!

Appealing to the Building Code Commission

Kathryn Stasiuk, WSP & Rick Esselment, ESSE Canada

Did you know that certain decisions made by your local building department can be appealed to the Building Code Commission?

What is the Building Code Commission?
The Building Code Commission (BCC) is an administrative agency authorized by the Building Code Act to act in an adjudicative capacity. There are three items which fall into the mandate of the BCC: to resolve disputes concerning (1) the sufficiency of compliance with the technical requirements of the Building Code, (2) time period disputes for site inspections and (3) time period disputes for processing permit applications. Any member of the public can make an application to the BCC. Parties to the BCC are typically builders, developers, architects or engineers as the applicant, and the respondents would typically include the municipal plan reviewers, building inspectors, registered code agencies (RCAs) and health officials.

Why appeal to the BCC?
One would typically apply to the BCC to resolve a dispute between an applicant and the regulator. The dispute may relate to a disagreement regarding the technical aspects of the application and compliance with the code, or it could be related to the length of time for the application or an inspection to be completed.

It is important to note that the decision made during a BCC hearing is final.

How to Appeal to the BCC – What are the steps in the process?

1. Fill out and submit an application form and the appropriate application fee to the Secretary of the BCC (refer to MMA website for the application form and details: http://www.mah.gov.on.ca/Page7394.aspx).

2. The Secretary sends a Confirmation of Dispute document to the applicant. This document may require the applicant to prepare and submit additional information.

3. Participate in a Hearing. The hearing would take place with the applicant, respondent, and member(s) of the BCC. If the dispute is of a technical nature, a technical representative from the MMA's Building and Development Branch would be present for the hearing. If the dispute is related to time frames, Building and Development Branch technical staff would not be involved.

All BCC rulings are publicly available on the MMA website, and contain the details of the dispute, the BCC ruling, and the supporting justification for the ruling. While BCC rulings are site specific and are not precedent-setting, it may be useful to review other similar applications before filing your application.

For more information about the BCC, visit the MMA website (http://www.mah.gov.on.ca/Page7394.aspx), speak with your consultant, or contact the BCC Secretary.

Codifying a Mandatory Septic Tank Pump-out Frequency?

OOWA brings you updates from the Minister's Office

The Ministry of Municipal Affairs (MMA) is currently reviewing a number of proposed changes to the Ontario Building Code (please see Anne Egan's article on page 14 that details this process). In 2014, OOWA submitted several code change proposals that the board of directors felt confident would support and improve the management, regulation and performance of onsite wastewater treatment systems if adopted. With two representatives currently on the Technical Advisory Committee (TAC), OOWA is providing input on all the code change proposals being considered by MMA for the next edition of the OBC. One of the proposed changes to the code that has generated much discussion is Code Change Proposal B-08-09-03, which proposed the rewording of article 8.9.3.4(1) of the OBC to require septic tanks and other treatment units to be cleaned whenever the sludge and scum occupy one-third of the working capacity of the tank or within five years of the last pump out, whichever occurs first. OOWA has taken the position that mandating pump outs based on timelines, as opposed to the actual measurements in the tank may be problematic. The need for a pump out should be determined based on actual measurements; an evidence-based approach is a more prudent approach, avoiding the cost of unnecessary pump outs that could also place more strain on the existing septage receiving facilities in the province. System owners who have invested in larger capacity septic tanks and some seasonal properties may go well over 5 years before the sludge and scum occupy one third of the working capacity of the tank when measured.

Many municipalities voiced concerns to MMA, that the proposed code amendment had the potential of becoming an additional administrative burden on their existing resources to monitor and enforce this requirement for mandatory pump outs. Some Council members questioned the need for any requirements for ongoing

maintenance and management of septic systems because they had not heard of cases of septic systems polluting the environment or endangering human health. Appeals were made directly to the Ministry and to the Minister, Bill Mauro, outlining their concerns. Subsequently, the Minister issued a statement to all Heads of Council stating that:

The Ministry will not be moving forward with the proposals requiring regular inspections, pumping out of septic tanks and keeping of the septic tanks and treatment units' maintenance records put forth in Phase One of the Building Code consultation.

The statement from the Minister's office relates to the specific code change proposal that was on the table (i.e. B-08-09-03), and does not specifically relate to other maintenance requirements that are already part of the OBC, including the existing requirements related to municipal re-inspection programs.

It is OOWA's position that septic systems are a critical piece of rural infrastructure and require ongoing maintenance and management with Regulatory support and oversight, but that mandating a pump out every five years is not necessarily the best way to achieve this. Although MMA has indicated that this particular code change will not be carried forward to the next edition of the code, our industry must continue to advocate for proper management of onsite systems and appropriate Regulatory tools and resources for municipalities. Owners need to be vigilant to operate their systems with care, and regulators need to continue their efforts to enforce the existing maintenance provisions in the code. There are some gaps in the data we have in this province. Government does not have an accurate picture of the age, functionality or number of septic systems in Ontario but this can be improved over time. As industry professionals, we have the continued responsibility of educating the public with respect to the importance of proper maintenance and management of onsite systems. In order to protect our precious groundwater and surface water resources OOWA will continue to work with all levels of government to promote sound regulations to govern the safe installation, operation, and maintenance of onsite wastewater treatment systems.

MEMBER PROFILE

Jane Zima

SimbiH2O (Symbiotic Water)

JANE ZIMA
SimbiH2O (Symbiotic Water)

Name of Business
SimbiH2O (Symbiotic Water)

Services
SimbiH2O provides digital management and market consulting services.

Number of Years in Operation
SimbiH2O has been operating since January of 2015.

What got you started in the onsite and decentralized wastewater industry?
I think that water resource management and protection are essential for ensuring the health and prosperity of both people and the planet. Knowing that every community in the world requires drinking water and wastewater management, I saw the opportunity to serve fundamental community needs. Though water resource management is made up of many disciplines, I found that studying environmental and public health brought me into this opportunity to manage our impact on the environment and our water quality. I did work in Public Health and private industry, and found I really wanted to be an entrepreneur. The wastewater industry may not be glamorous, but it is unequivocally essential to managing our impact on our properties, community health and the environment. That is why proper wastewater system design, installation, operation and maintenance are so important, and why I am so dedicated to the industry.

Give us one reason/secret for your success.
Collaborating and working with like-minded and inspired wastewater industry professionals provides a synergy that allows for real and meaningful results with practical and alternate solutions. OOWA is a great example of participation in a community where some of those wonderful people can be found. The wastewater industry is also aligned with other meaningful industries and connecting, understanding and learning from them is essential to reaching our collective potential. Keeping things simple, straight-forward and honest helps to make improvements and progress attainable and efficient.

Where do you see the onsite and decentralized industry going?
The onsite and decentralized industries will have tremendous opportunities to impact the way communities are planned, designed and constructed given our growing global and local populations. The evolution of alternate solutions allows for dramatically lower-cost community and individual servicing options. This changes how and where we build and grow future communities, and whom for. The onsite wastewater industry in particular will benefit from this, if we are able to support users and owners in their operation and maintenance, and constructors in appropriate installation.

What can the onsite and decentralized industry do to improve?
We need to do a much better job of taking responsibility for existing and underperforming or failed systems. This needs to be a collective and industry-wide effort, and requires us to continuously step up to the mistakes of the past, and the outcomes of systems that have reached the end of their natural life-cycle. Homeowner support and user education, better system design for longevity and performance, and installation with integrity are all a part of the solution.

Our industry has so much potential, but it will only be reached if we stop undermining our work and damaging one other. We need to elevate each other and the importance of our work instead.

Promote Your Product Information Sessions with OOWA

Let OOWA help promote your product info sessions through our E-newsletter and Training Bulletin that are emailed directly to 550+ individual members throughout the province every month. Contact Mike Gibbs at outreach@oowa.org or 1-855-905-6692 ext. 101 to get more details.

Maintenance Required

Jason Berry, Inspections Services Manager, ESSE Canada

The concept of septic system maintenance is one that has long been overlooked and undervalued. Historically, maintenance has been relegated to (at best) a pump out of the tank at some routine interval with little thought or investigation into the actual health or performance of the system. This is especially true with standard or conventional-type systems which typically have very few working components.

It stands to reason then that these standard systems, the most basic and widespread type of septic systems, are also the most neglected. I believe this is partly due to an all-to-common "bury it and forget about it" attitude as well as an almost pervasive fear of septic systems in general by most current or potential homeowners based on a lack of understanding how the system actually works.

I can't tell you the number of times while talking to the owner of a septic system that I have heard a phrase like "You never have to pump the tank as long as you take care of it" or "they built these systems so well back then (e.g. 50 years ago), that they'll last forever." I usually counter a statement like that by asking them what they think might happen to their car if they never change the oil? Sure, it might continue to drive for a little while, but the engine is eventually going to seize up and then you're into looking for a new vehicle.

This kind of misinformation and laissez faire attitude is all too common and the only way to start shifting the paradigm of thought with respect to septic system maintenance starts from a first principles approach of helping people understand how a septic system functions and how it should be looked at as a more of a benefit and less of a burden.

To put it in more exciting (and dramatic) terms: a properly functioning septic system is a combination of physical, chemical and biological wastewater treatment processes which when combined are capable of taking a raw waste product and turning it into something which can be safely discharged back into the local environment where it can be sustainably reused for generations to come. Now I'd say that is pretty remarkable!

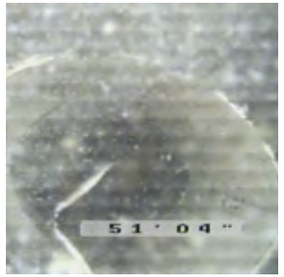
In essence, with a little proactive maintenance at a reasonable cost and frequency, you could avoid a much larger and costly problem. Initial expense might not be the only concern should an existing septic system fail prematurely based on a lack of attention and/or from homeowner use and abuse. More stringent and restrictive changes to the building code over the past couple of decades could impact the Class of system that would be permitted to be installed as a replacement and could therefore affect the overall value and carbon footprint of the property.

By implementing some sort of regulated routine inspection and maintenance program the owner would give their system the best chance at a longer and successful life, but they must be able to understand and accept the 'what and the why' before they would be willing to invest their time and/or money into either hiring someone such as an onsite industry professional or taking on the task of doing it themselves.

The obvious and catastrophic failures such as surface breakouts or sewage overflows are usually able to be easily recognized however the real skill lies in the ability to identify and communicate the subtle deficiencies which,

Deteriorating septic tank wall and root infiltration

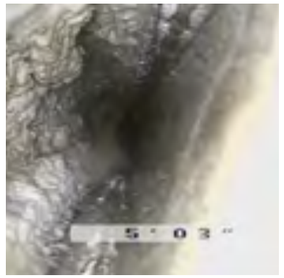
Root and soil intrusion into clay tile lateral



Kinked lateral pipe, full of effluent

Surface breakout

Direct discharge of sewage to ground surface near lake



Grease/sludge buildup inside discharge pipe

Dyed sewage in sump pit

Inoperative outlet bafflepipe

Crack in underside of tank lid

Saturated test pit 1

Saturated test pit 2

Saturated test pit 3

if go unaddressed, can lead to an untimely malfunction or, at the least, significantly reduce the performance, posing a risk to the property which it serves along with its neighbours.

Observations such as loose or deficient baffles, saturated distribution pipes, changes in site grading or trees/gardens planted within the leaching field envelope are all early indicators of creeping failure which require immediate attention along with an action plan as early as possible to avoid premature system replacement.

Something less apparent, like the changing weather patterns which we've all been witness to in the recent months and years, could also impact the condition and performance of an onsite system. Factors such as the proximity to a lake or shoreline in the event of rising surface water levels or a significant increase in the height of the groundwater table can change the dynamics of how the system performs and could therefore be identified in advance of serious complications by taking a more in-depth look at the system at some regular interval.

To try and put it in perspective, not as many people in general seem to be opposed to the idea and practice of going in to see the doctor for a physical every couple of years. Even if we consider ourselves to be in perfect health, we do it to be proactive in the hopes of catching a small issue and fixing it before it balloons into something larger that could involve a lot more time, expense and heartache.

I think it's time to start thinking of our onsite infrastructure in a similar way that we view our cars or our bodies in order to get an upper hand on better protecting our environment, our property values and our future.

Self-management of septic systems can only be successful when the property owner fully understands the functional requirements, maintenance requirements and performance requirements of their system.

CASE STUDY

A Cost-Effective Onsite Wastewater Treatment System for Craft Breweries

Premier Tech Aqua

Project: *Cartwright Springs Brewery, Pakenham, Ontario*

Open in July 2015, Cartwright Springs Brewery is located in the small town of Pakenham, west of Ottawa, and is Mississippi Mills' first brewery. The company features a lineup of craft beers made using locally sourced products – including their beers' main ingredient: natural spring water.

Facts

In recent years, the number of small craft breweries has greatly increased and so has the wastewater generated by brewers. As for all other food and beverage sectors, effluents from microbreweries are regulated and required to meet the wastewater discharge compliances. In terms of treatment efficiency, footprint and cost, very few wastewater treatment technologies proved to be up to the challenge, which in part explains why most microbreweries discharge raw effluent to a municipal wastewater treatment plant (WWTP) instead of having a dedicated onsite treatment system.

Challenges

In April 2015, the Cartwright Springs Brewery, together with its representative Fieldstone Engineering, was looking for a solution for treating wastewater generated by its newly constructed microbrewery, located in a rural zone of Pakenham, Ontario. The brewery production capacity was limited to 2,000 L/week, which suggested that wastewater generation would approximately be around 10,000 L/week. The wastewater to be treated was a combination of all the streams: the yeast dump and mash dump (i.e. high strength, low pH), wash water (i.e. low strength, high pH) and domestic wastewater from the pub (950 L/day). The combined flow after 7 days of equalization was estimated to be 2,380 L/day.

Solution

After an extensive sampling campaign performed by the engineering firm on similar installations, the EcoprocessTM MBBR from Premier Tech Aqua (PTA) revealed to be the best technology available to treat that type of wastewater. In compliance with the Ontario Building Code (OBC), the objective-based design suggested that the combined streams be pretreated with EcoprocessTM MBBR to primary domestic effluent (i.e. BOD: 100 mg/L to 180 mg/L) and then discharged by gravity to a leaching bed. The chain of treatment therefore included a balancing tank, septic tank, MBBR units (two stages), final clarifier with sludge management and leaching bed. To benefit from lower electricity rates, the treatment unit integrated a smart control strategy that was offering the possibility of operating mainly at night, whenever the incoming wastewater flow is lower than the one set for the design.

Results

The system was put in operation in July 2015 and has performed extremely well since then. BOD concentration at the inlet varies between 1500 and 2500 mg/L and the laboratory results show a steady removal rate of 99%.

The Moving Bed Biofilm Reactor is a compact and high-performance treatment system available as a ready-to-use solution or in cast-on-site concrete basin. It applies to a host of commercial, institutional and municipal projects, including those to increase the performances of aerated lagoons. It was developed thanks to the vast expertise of PTA in the design of ready-to-use Ecoprocess™ treatment systems, its know-how in packaged solutions and the exceptional efficiency of the proven media.

- Ideal for restaurants, recreation and tourism facilities
- Compact and ready-to-use system
- Applicable to a multitude of projects

Finished System at Cartwright Springs Brewery, Packenham, ON

MEMBER PROFILE

Irene Hassas

Director of Strategic Planning and Partnerships

Name of Business

Aslan Technologies Inc.

Services

Aslan technologies is a provider of conventional onsite and membrane based communal, municipal and industrial water, wastewater and sewage treatment systems. Both site constructed and prefabricated and integrated modular plants come complete with sophisticated automation and Scada systems. Innovative design and sustainable manufacturing provide reduced life cycle cost and minimize complexity in operation and maintenance. Our total package solutions supported by strong partnerships, real-time monitoring and long term service eliminate risks and enable sustainable growth in communities and industries.

Service Area

Aslan has a global presence through a strong rep network and to support Ontario economic development efforts and local job creation, focuses on in house design and manufacturing in Ontario, exporting equipment to 26 countries worldwide.

Number of Years in Operation

25 years

What got you started in the onsite and decentralized wastewater industry?

Working for over 25 years with small communities and municipalities, Aslan has recognized the challenges with capital investment, the importance of reducing the life cycle cost of installations and the value of minimizing the operational and maintenance complexities through user friendly automation to enable the communities to be more sustainable and assisted them with long term planning for their economic development and growth.

Give us one reason/secret for your success.

Developing long term partnerships with industry clients and communities, educating them and providing continuous support and service through monitoring of their systems' operation has been key in reducing our client's risks and making them successful. Customization of technological solutions for each client has been also key to provide the communal package plants that suit their long term needs. Through our "Innovate, Design, Build" approach, we continue providing unbiased solutions by fully understanding financial, operational and geographical challenges of our communities, rural settings and new developments.

IRENE HASSAS

Director of Strategic Planning and Partnerships

Where do you see the onsite and decentralized industry going?

As more stricter regulations are adopted for discharge to the environment, cost of water increases, reuse of wastewater becomes critical in certain regions, new off grid communities are developed and building centralized treatment plants become financially unsustainable due to lack of capital, the need for decentralized treatment plants become more apparent. Also, the climate change impacts such as flooding on our communities emphasizes the need for resilient and low impact urban developments which requires new financing, operational and servicing models for decentralized treatment approaches.

What can the onsite and decentralized industry do to improve?

By understanding the requirement of different communities, their geographical limitations, and their financial and human resources and operational challenges, both new generations of conventional solutions and new innovative technologies can be considered to address their water and wastewater treatment requirement through a decentralized approach. The key to success will be to offer unbiased solutions to our clients through integration and customization of technologies that will reduce risk and life cycle cost and help them with their long term economic and sustainability plans.

New models of financing and operation, continous education and knowledge sharing and long term partnerships can address different stakeholders' risks and concerns with unknowns, help this industry grow and create opportunities for more innovation.

newterra Makes Decentralized Water & Wastewater Treatment Simple

Robert Sedge, newterra

A company headquartered in Brockville, Ontario is using it's "Inside the Box" thinking to offer cost-effective wastewater treatment systems to a growing segment. Developers and small communities are now choosing decentralized wastewater treatment systems; a practical, affordable – and simple alternative to the traditional municipal wastewater plant.

By offering a smaller footprint, systems can fit easily into most developments, like this system located on the St. Lawrence River near Gananoque, ON.

newterra has been providing water treatment systems for numerous development projects in Ontario and across North America. In fact, their first modular MBR (Membrane Bioreactor) system in Ontario was installed in 2008 and has been operating continuously since then. A recent example is a residential development, located in Talbotville, Ontario that will be employing *newterra*'s MBR treatment system – a project that has both stringent effluent criteria and a very tight timeline. "We worked very closely with the developer to select the best wastewater treatment option for the project and for our community," says the township's Chief Administrative Officer. "The solution presented by *newterra* offers significant savings over traditional infrastructure – and allows cost-effective expansion of the system going forward."

The development will have 67 detached homes in Phase One, and up to 600 homes in subsequent phases. "The decentralized, modular approach that *newterra* is providing will allow us to move the project ahead much more quickly than I expected. They're also assisting us through the permitting process, which is extremely beneficial." When fully built out, the *newterra* MBR plant will have capacity to treat 1,250 m3/day (330,215 GPD) – enough to support 1,000 new and existing residences.

newterra has distinguished itself by offering advanced treatment technology in a very cost effective, modular format, explains Joe Witlox, Business Development Manager at *newterra*. "We recognize the importance of total installed costs and have focused our efforts on providing fully built, fully tested systems that can be dropped on site and commissioned within days." *newterra* systems are factory-built in the company's 3-acre production facility in Brockville, Ontario, where they also undergo full electrical, hydraulic and controls testing prior to shipping. The company also makes hybrid and loose shipped systems that utilize inground tanks.

Three factors that are driving the adoption of *newterra*'s systems are rapid deployment, high quality effluent, and cost savings. Those three factors were key to another Ontario client's selection of a decentralized system for a new development in Ottawa. After doing a cost analysis of a conventional "brick and motor" installation and *newterra*'s modular offering, the solution was crystal clear. The client favoured the installation of modules in phases rather than a large civil project. "With *newterra*, they're saving significantly and getting technology that treats wastewater to a higher standard in a much more compact solution," says Witlox. "It was a very easy decision for them."

newterra *has distinguished itself by offering advanced treatment technology in a very cost effective, modular format.*
Joe Witlox, newterra

In their 24 years operating and manufacturing in Ontario, *newterra* has worked with many engineering firms and environmental agencies across the province on wastewater systems. "Our engineers have consistently chosen *newterra*'s MBR technology. It proves to be the best available technology economically achievable (BATEA)," says Andrew Vitaterna, P. Eng. Manager, Water and Wastewater Operations, ASI Water.

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Andrew Vitaterna, P. Eng. Manager, Water and Wastewater Operations, ASI Water

Since *newterra* systems are designed and built to expand as the community grows, modular treatment units can easily be added in stages to match the growing capacity. Expanding in stages defers the project cost over the development, as opposed to paying the large cost of the full system up front. As an alternative, they also design and build skidded components that integrate easily into new or existing treatment structures. *newterra* offers treatment solutions for the wide range of capacity requirements of towns, communities and private developments – from 7.5 to 2,000 m3/d and beyond. Employing a high end technology like the MBR provides a much more consistent and improved level of quality treated water. This translates to many more options for treated water discharge receivers which means more flexibility for treatment plant location.

newterra systems can be clad to easily blend in with their surrounding like this rendering of a small wastewater treatment plant currently being built for a new housing development in Talbotville, Ontario.

newterra also builds systems to fit a new or existing structures like this new small community water treatment plant located outside of Trenton, Ontario.

The team at newterra *have very ably assisted us and our engineers in every step of the lengthy approval and then design process with the detailed information required for municipal and provincial approval levels. Their team exhibited honesty, technical expertise, patience, professionalism and courtesy at every level.* newterra *delivered their equipment to the plant location on time and on budget.*
Andy Geertsma, President, GCL Developments

newterra is a leading provider of modular water, wastewater and groundwater treatment solutions to the resource, power generation, industrial, private development and municipal markets. With its suite of patented technologies and capabilities that include design, engineering and manufacturing in its own facilities, *newterra* maintains control over the high quality and ontime delivery of its systems. Operations in Canada, United States, Germany and Chile allow *newterra* to address the needs of clients on a global basis. In addition to being selected as a Cleantech Top 100 Company in 2013 and 2105, *newterra* has also achieved Platinum status as a distinguished recipient of Deloitte's 50 Best Managed Companies Award for the past eight consecutive years.

Throughout Ontario and North America, *newterra*'s decentralized, MBR sewage treatment systems are being adopted by more and more towns, communities and private developments.

The advantages are significant – permanent, prefabricated, expandable systems that provide municipal level treatment that meets the most stringent regulatory requirements at a much lower cost. That's Simple!

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