

# Onsite

## ONTARIO ONSITE WASTEWATER ASSOCIATION NEWSLETTER

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**Ontario Onsite**  
Wastewater Association

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## Opening the Honey Pot

Septage review sparks interest in best practices.

*By Saul Chernos*

All eyes are on better practices as Ontario's environment ministry reviews rules that allow untreated septic and holding tank sewage to be spread on farmland and emptied into municipal wastewater systems. Current standards have long been a concern.

Back in 2000, The Globe and Mail pointed to a 1998 ministry reference document that said up to 1.75 million cubic metres of sewage is pumped from more than a million septic tanks in Ontario every year. Much of this septage can be dumped directly onto rural land, regardless of heavy metal and pathogen levels. For private sewage haulers, all that's required is a ministry certificate of approval spelling out the setbacks from roads and neighbours and how long sewage-soaked soil must sit before it can be used for crops and livestock.

Ontario is in good company. Two years ago, 30 people protested in Clinton, British Columbia after a truck hauling raw sewage, destined for use as fertilizer, overturned on an icy road near Big Bar Lake. "A lot of people weren't aware that biosolids were being dumped in the Big Bar region for years," the Vancouver Sun quoted protest spokesperson Amanda Bourgeois. The regional district responded with a statement noting that the biosolids were non-toxic and not considered



This tiny lagoon is the first stop for septage at Baird Septic Tank Pumping's treatment facility in Nova Scotia. Floating sludge, as seen in the middle, will be skimmed off. Water from this lagoon passes through a filter and drains to a much larger lagoon.

to be a hazardous material, maintaining they were "a treated, nutrient rich by-product of the wastewater treatment process used to enrich soils and stimulate plant growth." However, the incident sparked concerns that were not easily quelled. Even with relatively lax rules regarding treatment, illegal activity occurs. Earlier this year, a Prince Edward Island septage hauler was sentenced to four months in jail and ordered to pay more than \$10,000 in restitution after dumping untreated sewage onto farmland without a permit.

### Ontario review

When Ontario launched a review of the province's hauled sewage policy two years ago, the ministry said it was considering a range of approaches, from geographically-based rules to something more province-wide.

*continued on page 4*

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## PRESIDENT'S MESSAGE

As we near the end of 2018, I know the early onset of winter has many of us scrambling to finish up this season's projects. Fall is always a busy time of year, but I hope that you found time to attend one of our Regional Roundups. If you did, please give us your feedback! We changed the format of these meetings this year to provide enhanced opportunities for networking with other industry professionals in your part of the province. OOWA is your association and we want to hear from you as to what worked well, and what could be improved for next year.

As usual, our OOWA committees and volunteers have been busy working on behalf of our members. Our Membership committee continues to bring us new member benefits, and our Onsite Technical Committee is busy working on our next set of Best Practice Documents, including one on Flow Balancing Best Practices. Stay tuned for updates on this topic, as we assemble the technical content and prepare a draft document for our members to review. If you can contribute to this initiative or one of the other OOWA committees, please contact the office to volunteer.

Our External Relations Committee continues to collaborate with WaterTAP to reduce barriers for the onsite and decentralized infrastructure. A working group is being established with industry representatives from OOWA and WaterTAP, and government representatives from the Ministry of the Environment, Conservation and Parks. The objective of this working group will be to work collaboratively with

government to identify ways to improve the approvals process for onsite and decentralized servicing solutions.

Looking ahead to next year, 2019 will be an exciting year for OOWA! We have come a long way as an association over the years, and 2019 marks our 20th Anniversary. We have grown to more than 500 members, and we have representation from all aspects of the onsite industry, all across the province. Come celebrate 20 years with us! Planning is well underway, and registration is now open for our OOWA 2019 Conference. Where were we as an industry 20 years ago? Where are we headed? I think that the future looks bright for our industry and our OOWA members, who are recognized as the industry experts. I am excited to see what next year will bring as we continue.

Anne Egan  
President



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



# Opening the Honey Pot

*Continued from page 1*

After the provincial election in June saw the Conservatives replace the incumbent Liberal government, the ministry has been waiting for direction said spokesperson Gary Wheeler. "At this stage, providing comment about the policy and the review would be premature," he said.

Rick Esselment, government relations chair with the Ontario Onsite Wastewater Association, said he hopes Ontario's review will determine how much raw sewage ends up on farmland and in local treatment systems, define acceptable levels of treatment, and ensure municipalities are adequately funded to build out receiving capacities.

"A lot of Ontario has no wastewater treatment plant within a reasonable distance that would have the receiving capacity," said Esselment. "We really need a blended approach."

Esselment noted that personal hygiene products, pill bottles, and other inorganics people flush down the toilet should be filtered out prior to land application. "Maybe not a full wastewater treatment process, such as a municipal treatment plant, but something at the very least to screen out non-biodegradable materials and then stabilize the waste so there's less pathogenic risk being dispersed onto the environment."

Esselment pointed to Goulet Septic Pumping and Design in Green Valley, near Cornwall, Ontario, which operates a lagoon and reed bed filtration system, as an example of an innovator in processing septage.

Owner René Goulet said his 18-hectare site, built in 2006 on former agricultural land, has shallow soil atop limestone and is zoned for waste disposal. The system was launched as part of a province-wide pilot and, while the research has concluded, Goulet continues to abide by his certificate of approval. "We have to stay 100 feet away from the road and from neighbours as a buffer zone," Goulet said.

Goulet's system operates much like a giant septic system. When his truck brings in a load, a homemade bar screen weeds out plastics and other debris before dumping the organic matter into reed beds, where it percolates before the liquid is pumped into an adjacent 56-by-100-metre lagoon. The solids settle and, when the lagoon fills, the water on top is pumped through a 2,000-metre-long pipe and water cannons spray

it onto poplar trees, which absorb the nutrients, ultimately delivering clean water to the aquifer.

"The poplar trees grow very fast and suck up a lot of juice," Goulet said.

Holding tank waste goes directly into the lagoon, as it is mostly effluent with some sludge. So does septage that exceeds what the reed beds can handle. Key to the system's overall functionality is the clay base covered by a double liner—one felt, the other rubber—which prevents rocks from intruding. Tencentimetre perforated PVC pipes, placed on top of the liner and covered with layers of differently-sized gravel and sand provide air flow to assist the reed beds.

The dewatered sludge from the reed beds is removed every seven -to-ten years and spread on nearby farmland, while sludge from the lagoon decomposes onsite. Goulet hauls inorganic waste—everything from beer caps and sanitary napkins to golf balls and underwear—to the local landfill.

Goulet sends samples from his monitoring wells to Ontario's environment ministry for analysis and reports the number of septic and holding tanks his company pumps and the total volume deposited at his site. Having seen his system go from trial to fully operational, Goulet is keen to see the results of Ontario's review. "It's 2018," he said. "Spreading sludge directly on land without being treated is not the way to go anymore."

## Atlantic approach

Ontario could look to Nova Scotia, which has made considerable strides since banning land application of untreated septage in the 1990s and auditing all lagoons in 2000. "None of us was in total compliance," Baird's Septic Tank Pumping owner Allan Baird recalled. "They gave us until 2010 to be in total compliance."

Realizing his lagoons are his biggest asset, Baird participated in a government program to offset the \$400,000 price tag of an upgrade and by the end of the fourth year was fully compliant. "I was probably one of the first ones to put in a wetland," he said. "The effluent that leaves my lagoons and wetland goes into a brook that's cleaner than what comes out of any municipal sewage treatment plant."

Baird's three lagoons are separated by filters to screen out solids and other undesirables. Gravity serves as the main actor, with the lagoons flowing into a maze-shaped wetland where cattails absorb the waste. "The last two or three rows before the water is discharged, there's no cattails because there's no nutrients left in the water," Baird said. "I wouldn't drink it, but it's visibly clear."



Allan Baird points towards the lower part of the wetland where the treated water ends up. "There's no cattails, because there's no nutrients left in the water," Baird said.



Allan Baird looks down from a wharf overlooking his largest lagoon. The green pipe leads towards a filter that traps solids and drains to a third, smaller lagoon, which, in turn, drains into a wetland.



Rene Goulet's reed beds was built first by installing cement sand over the two types of gravel, with a felt liner at the bottom to ensure the bed would not contaminate the water table.

Baird uses an excavator to dredge solids from his middle lagoon, places the sludge on a drying pad that drains all liquid back into the lagoon, and hauls the dried waste to a nearby composting site, after which it can be land applied.

Others in Nova Scotia have followed Baird's lead. "Mine was the first my engineer ever designed, but since then he's done several other ones," Baird said.

Lamenting the illegal dumping he hears about all too often, Baird said the jail sentence awarded in P.E.I. "surprised a lot of people." Still, after spending a small fortune to do the right thing, he expressed little sympathy. "When there's other people who aren't in compliance, it irks you." WC

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# OOWA'S 20<sup>th</sup> ANNIVERSARY

## Ontario's Only Convention & Expo for the Onsite & Decentralized Wastewater Industry is Back!

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OOWA's Convention is your one-stop-shop to get caught up on industry trends and regulatory updates!

We're working on another high-quality agenda focused on how far we've come in the last 20 years and looking forward to the next 20 years. The Agenda will be out soon! Stay tuned!

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- **Member Full Convention Package (after January 31st, 2019):**  
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# MEMBER PROFILE

## Sandy Bos

Building Inspector

### Name of Business:

Township of Muskoka Lakes

### Mandate:

Building Inspector (Sewage Systems, Plumbing) and maintaining groundwater and surface water quality in Muskoka Lakes

### Services:

Our services include detailed design of new and replacement sewage systems, consulting, system assessments, procurement of approvals and construction, for residential, commercial and recreational land uses.

**Service Area:** Muskoka Lakes Township

### Number of Years in Role:

35 years in the Onsite Sewage Treatment Industry

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

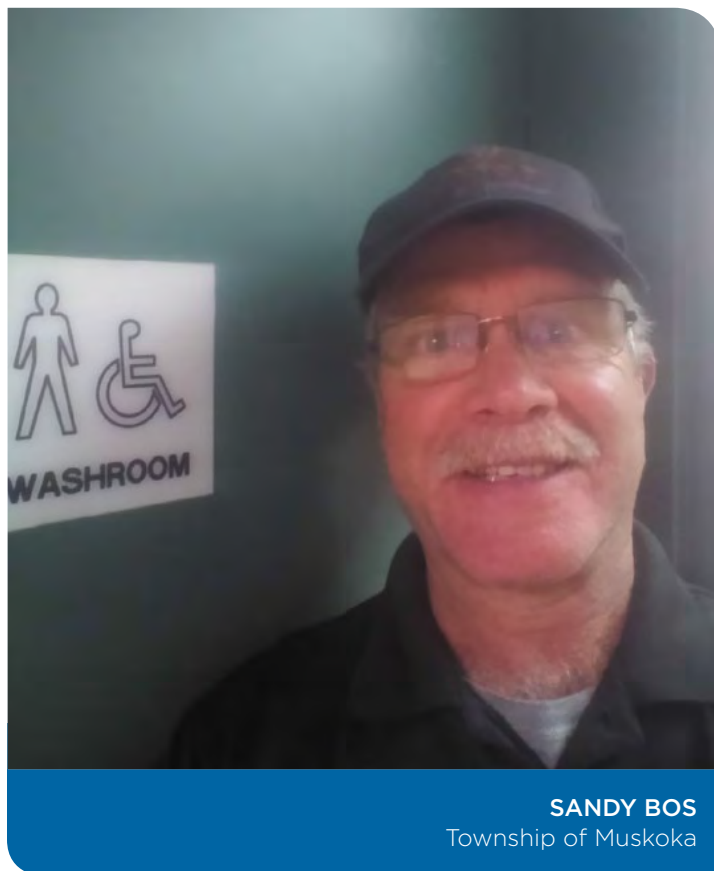
I was always interested in the environment and wanted to work in the environmental field as a kid. I went to Trent University to take Environmental Science and my first (environmental) job was with the Ministry of the Environment in the early 1980's as a "Cottage Pollution Control Program" Inspector. Part VII (Ontario Regulation 374/81) under the Environmental Protection Act, governing onsite sewage systems, and the re-inspection program was in its infancy as was the knowledge of appropriate treatment of sewage.

The typical sewage system serving a cottage was a 150 Imperial gallon (680 Litre) steel septic tank and a few feet (metres) of clay or, if they were real modern, plastic distribution pipe. Greywater from the kitchen sink went to a hole in the ground or greywater pit of some configuration. The washroom consisted of a flush-a-matic toilet, a sink and, if you were very lucky, a tub and shower. As far as location in relation to the lake or water body... "what set-back?" was the common refrain. The steel septic tank went right below the toilet and was usually partially under the cottage, with a few feet of distribution pipe installed in whatever soil you had.

I noted early that there was a lot of work in improving sewage treatment facilities in Muskoka, so that's where it all started.

### Give us one reason/secret for your success:

Hands on experience!! I have been an inspector and designer of sewage system for over 35 years in the Muskoka Area. The EPA and Building Code do not include Muskoka in the title. The bedrock, groundwater and topographic conditions require "out of the box" designs. Every site is different. Pre-site inspections consist of predesign



**SANDY BOS**

Township of Muskoka

inspections, thoroughly assessing the property for the most suitable (insitu conditions providing natural based treatment) location or treatment type.

**Where do you see the onsite and decentralized industry going?**  
Outer Space!!!

### What can the onsite and decentralized industry do to improve?

Good question considering today is World Toilet Day (November 19). We have a long way to go to improve sanitation around the world. 62.5% of people around the world do not have access to safe sanitation. 1.8 billion people use a drinking water source that could be contaminated with feces.

I am reviewing designs and inspecting (3000 litres/day to 8000 litres/day) sewage systems designed to service 4 to 8 bedroom cottage (summer homes) with 4 to 8 three piece bathrooms and used maybe one month of the year, while 4.5 billion people live without a safe toilet.

The typical three-bedroom 1 toilet cottage is gone forever. Working in Muskoka has made me very cynical...there does not appear to be an end to the money spent here. From millions of dollars spent on windows or decks constructed with rare and likely illegally harvested material (mahogany type wood from the Amazon rainforest) one becomes somewhat misanthropic regarding humankind, but don't get me started.

The onsite industry needs to do a better job educating the public and especially starting when they are young and in school. I believe we need to provide schools with an ABC's of onsite sewage treatment oriented toward children/young teens. Children use the toilet too and educating them early about what can be flushed and where their waste goes and how it is treated is something that we have not focused on at all.

# 2018 Regional Round Up Wrap Up

OOWA made some significant format changes to our regional meetings this year. The changes we made were to ensure that these meetings were more accessible and less formal while retaining the most valuable learning and networking opportunities.

## Thanks to all of our panelists!

### Southwestern Ontario Round Up

*October 4th, Cowbell Brewery, Blyth*

- **Larry Fulton**, Huron County Health Unit
- **Jason Stephens**, Stephens Excavating
- **Jeanette Zimmer**, Huron County Health Unit

### Peterborough Regional Round Up

*October 11th, Smithhaven's Brewery Company, Peterborough*

- **Julie Ingram**, Peterborough Public Health
- **Kevin Warner**, Cambium Inc.

### Greater Golden Horseshoe Regional Round Up

*October 18th, The Powerhouse Restaurant, Stoney Creek*

- **Randy Deguire**, Township of Wainfleet
- **Dave Morlock**, Flowspec Engineering

### Near North and Muskoka Regional Round Up

*October 25th, Gravenhurst, Sawdust Brewery*

- **John Adams**, Adams Bros Construction
- **Sandy Bos**, Township of Muskoka Lakes
- **Wayne Moore**, Cottage Country Environmental Services

### Eastern Ontario Regional Round Up

*November 1st, Big Rig Brewery, Kanata*

- **Eric Kohlsmith**, Ottawa Septic System Office
- **Matt Rainville**, Gemtec Consulting Engineers and Scientists
- **Dave White**, Ken White Construction

### Central Ontario Regional Round Up

*November 8th, Red Line Brewery, Barrie*

- **Tom Keane**, Gunnell Engineering
- **Bill Robinson**, Robinson Excavating and SepticCheck.ca

*A big thanks also to Anne Eagan (OOWA President) and Brady Straw (OOWA VP) for helping to moderate the panel discussions!*

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## MEMBER TESTIMONIAL

### What value do members get from attending the OOWA regional meetings?

My first OOWA event was the most recent Eastern Ontario Regional Roundup, and it will certainly not be my last. I found the networking, insight and social aspects very valuable.

The regional meetings give you the opportunity to interact with and meet people from the industry that you may not cross paths with otherwise. There were suppliers, contractors, inspectors and engineers present. The event truly caters to and benefits everyone involved. Having the various industry perspectives made the discussions that much more beneficial. It was very interesting for me to hear the different ideas and new perspectives that other members had to offer. The discussion was engaging, and the atmosphere promoted involvement.

The venue was so comfortable: it fostered an environment conducive to participation. Therefore, even though the discussions were meant to be a learning opportunity, it felt like a fun, social event first and foremost.

— David White





Anne Egan leads the Southwestern Ontario Part 8 Panel Discussion



The Cowbell Brewery was the perfect location for our crew to get together!



Brady Straw moderates the Golden Horseshoe Regional Part 8 panel discussion.



Packed house for the Muskoka Regional Round Up at Sawdust Brewery.



Lively discussions in Kanata at the Big Rig Brewery!



Full house for the Eastern Ontario Part 8 panel.





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# NEW & RENEWED MEMBERS LISTING

August 25th – November 27th

## NEW MEMBERS

**Kim Byers**, Caduceon Environmental Laboratories  
**Cameron Curran**, University of Guelph  
**Jeremy Hein**, Groundwork Engineering Limited  
**William Marchington**, Marchington Excavation  
**Don Taylor**, Mr. Septic

## RENEWED MEMBERS

**Bassim Abbassi**, Ontario Rural Wastewater Centre  
**Alexandra Anderson**, Camping in Ontario  
**Richard Barg**, Xylem Inc. Goulds Water Technology  
**Roddy Bolivar**, Bolivar = Phillips  
**Janis Bortolotti**, LaSalle Backhoe Service  
**Kevin Bossy**, Bishop Water Technologies  
**Martin Burger**, Groundwork Engineering Limited  
**Gary Cameron**, Waste Water Nova Scotia  
**Carolyn Chan**, GM BluePlan Engineering  
**Mike Crain**, Arnott Brothers Construction  
**Gary Deppe**, Polylok  
**Lesley Desjardins**, Alberta Onsite Wastewater Management Assoc.  
**Gerry Dignard**, Canadian Shield Consultants  
**Justin Dignard**, Canadian Shield Consultants  
**Don Dillman**, Dillman Sanitation  
**John Doner**, Wescor Wastewater & Environmental Systems  
**Cliff Eborall**, Walters Custom Works Inc  
**Mike Eisses**, Eisses Bros. Excavating  
**Dave Fedoriw**, Township of Georgian Bay  
**John Fulton**, Near North Supply  
**Mark Goodman**, Pump My Tank Inc.

**Stefan Gruescu**, LSK Septic and Drain  
**Rudy Hartfiel**, OWSIM  
**Mark Heeg**, Dynamic Fusion  
**Ben Hyland**, Strik Baldinelli Moniz Ltd  
**Randy Knight**, Glen Knight Septic Service  
**Mario Lamoureux**, Lamoureux Pumping Inc  
**Caitlin Larwa**, WSP Canada Inc  
**Nathan Latchford**, MacGregor Concrete Products  
**Perry Leifso**, Interpump Supply Ltd.  
**John MacGregor**, MacGregor Concrete Products  
**Peter McGrath**, Mr. Rooter Plumbing  
**Troy McMillan**, Lloyd McMillan Equipment  
**Lloyd McMillan**, Lloyd McMillan Equipment Ltd  
**Kevin Moniz**, Strik Baldinelli Moniz Ltd  
**Caely Nicholson**, Township of Georgian Bay  
**Murray Parish**, Parish Home Inspections  
**Grant Parkinson**, GM BluePlan Engineering  
**Marty Price**, MacGregor Concrete Products  
**Jami Quathamier**, Brooklin Concrete Products  
**Terry Rees**, Federation of Ontario Cottagers Associations  
**John Roy**, Wastewater-Solutions  
**Mac Taylor**, Mac Taylor Corp  
**Graham Taylor**, Student  
**Marilyn Taylor**, Mac Taylor Corporation  
**Claus Trost**, Laurentian Valley Twp.  
**Numair Uppal**, OASIS  
**Andrew Vitaterna**, ASI Water  
**Mathew Walters**, Walters Custom Works Inc  
**Karen Wilkie**, Upper Thames River Conservation  
**John Winkup**, LaSalle Backhoe Service

## 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](mailto:outreach@oowa.org)



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# 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'

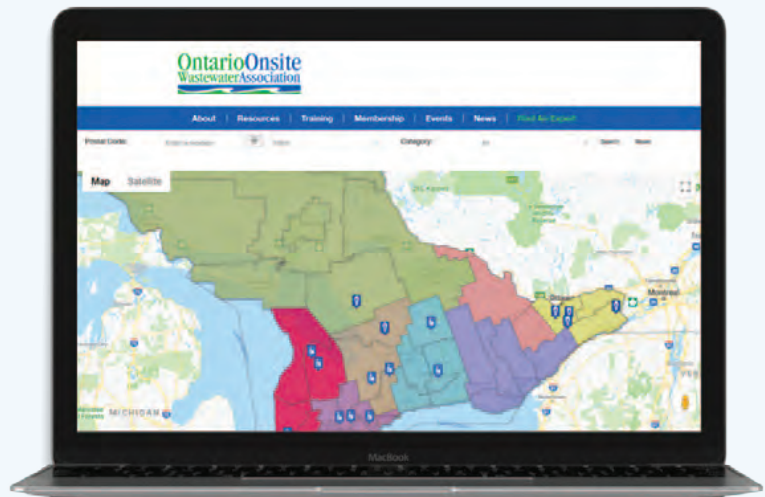
page where you can download them for your reference.

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](mailto:outreach@oowa.org).
8. Begin the process today!

## OOWA'S "FIND AN EXPERT" DIRECTORY

Where the Public Goes to find Dedicated Septic Professionals

One of the big benefits of being a participant in OOWA's 'In-Development Stream' of the **Registered Professional Program** is being featured on our website's interactive "Find an Expert" directory. This listing is separate and apart from our Membership Directory. All of our RPP graduates and 'In-Development' participants are highlighted here so that members of the public can find the onsite professionals who are committed to ongoing professional and skills development. Get more information about the 'In-Development Stream' of the RPP on our website under the 'Training' tab and set yourself apart from your competition!





# 2018 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](mailto: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 workwear, coveralls and overalls, casual wear, work gloves, and all CSA footwear. Present it at any location to receive your discount.



Grand & Toy is your one stop shop for all your office needs including ergonomics, furniture, computer supplies, PPE, Janitorial/Sanitary. OOWA's partnership with G & T provides preferred pricing on 240 commonly consumed essentials, **plus 10% off market competitive web pricing**. Each member can add a customized price list of up to 25 items reflecting your business needs. Your savings could easily offset OOWA membership dues!



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



OOWA members get guaranteed and discounted rates on car and trunk rentals.



OOWA has redeveloped the **Registered Professional Program (RPP)** to include an 'In-Development Stream' that addresses 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. Go to [www.oowa.org](http://www.oowa.org) to see the new Find an Expert directory and to learn how you can enroll and get placed on the directory.



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/](http://www.oowa.org/about/join-oowa/)*

# MEMBER PROFILE

## David White

Ken White Construction Ltd.

### Name of Business

Ken White Construction Ltd.

### Owners

David White

### Services

- Septic Systems
- Retaining Walls
- Demolition
- Excavation
- Equipment Rentals
- Water Storage Tanks
- Site Preparations
- Boat Ramps
- Parking Lots

### Service Area

Greater Ottawa Valley Area

### Number of Years in Operation

Ken White Construction is currently in its 50th year of operation. I have been working with Ken White Construction, full time, for 35 years now. I took over as President and Owner in 2000.

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

My father was in the trucking and site preparation industry. I started working with him full time when I was 18 years old. Our start in the onsite wastewater industry was not intentional actually. Our customers pushed our business in that direction. We found that our customers wanted to deal with one contractor for their site work where possible. This made it easier for them and created larger jobs for us. Moving into the onsite wastewater industry became a lucrative option for us because we were already on site. We were working on the same project, just different aspects. We took the courses, wrote our exams and became licensed installers together. The rest is history as they say.

### Give us one reason for your success

Of course, there is no one or easy secret for success. But out of everything, my father instilled in me the work ethic, reliability, quality service and attention to customers necessary to make it in this industry. Everything he did, made it easier for me. We're a family owned and operated business so every



**DAVID WHITE**  
Ken White Construction Ltd.

generation paves the way for the next. I hope that my son will say the same thing about my father and I in the future. We learn, grow and work as a family. Our family lays the groundwork and trust is the key: between each other and our customers.

### Where do you see the onsite and decentralized industry going?

With society becoming increasingly technology-based, I believe that we will see the same trend in the onsite industry. Perhaps all systems will eventually be monitored over Wi-Fi to keep track of pumps, controls, and daily flows for example. With enhanced, constant monitoring, this shift would likely lead to less complete system failures as well. I also believe that the onsite industry will become increasingly environmentally friendly in our practices and materials. This could mean more recycling of materials or more environmentally friendly materials used altogether.

### What can the onsite and decentralized industry do to improve?

In order to improve, I believe the onsite industry needs to move towards becoming a more recognized, professional trade. For example, a minimum number of hours worked in the field could be required to become a fully licensed installer. Implementing an apprenticeship-based system that incorporates these hours and schooling would be beneficial to the industry as a whole. In turn, people in the industry would be easier to recognize as professionals. This would benefit both the customers and industry players.

# Split Flows & Multi Dwelling Flows

*At each of our 2018 Regional Round Ups, OOWA put together panels comprised of installers, regulators and designers to discuss numerous areas of Part 8 of the Ontario Building Code that could use some additional clarification to help ensure sound Code implementation. These sessions generated many productive conversations amongst attendees and an increased the understanding as to how and why certain parts of the Code are interpreted the way they are by regulators and installers alike. This is the second article prepared by staff of the North Bay Mattawa Conservation Authority that builds on OOWA's efforts to support our members in sound regulation and effective design and installation of onsite systems.*

When we look at total daily design sanitary sewage flows (residential occupancies), the OBC states that it shall be determined from **Table 8.2.1.3.(1)**. It calculates these flows by occupancy or in this case, "dwellings".

**8.2.1.3(1)** For residential occupancies, the total daily design sanitary sewage flow shall be at least the value in Column 2 as determined from **Table 8.2.1.3.A**.

When an applicant's system is too small to accommodate additional flows (added bedrooms, fixture units or more than 15% floor area) and they propose to construct a new system for an addition only, I feel that I cannot issue a permit for part of a dwelling as I have no control over the use of the building. I believe that the intent of the code is that the system must be sized to accommodate the entire dwelling, not part of it and the flows shall be calculated by "at least the value ... (see table)". A dwelling unit is defined and usually contains cooking, eating, living, sleeping and sanitary facilities.

Further, I have no way to control or police that one portion of the dwelling is used and only receives flows from persons occupying the new addition only. The system has the potential to become overloaded. The OBC does not permit the calculation of sanitary sewage (for Class 4 systems) by fixture units, bedrooms or floor area individually. It is a collective calculation.

When an applicant proposes a secondary dwelling unit (bunkie, boathouse, granny flat, cabin etc.) on a lot which has a system for a main dwelling, the "secondary unit" flows (extra bedrooms and floor area) should be taken into consideration when no sanitary facilities exist within said "secondary unit". The assumption would be that persons occupying the "secondary unit" will cook, eat, shower etc. in the main dwelling. If however, the "secondary unit" is self-contained (equipped with washroom or kitchen facilities), it can discharge to its own system, or a shared system (sized accordingly). It then meets the definition of a dwelling unit.

*Thanks to Robin Allen of the North Bay and Mattawa Conservation Authority for preparing this article.*



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# Partnership Update: Improving Approvals for Onsite/Communal Wastewater Environmental Compliance Approvals (ECAs)

*By Trish Johnson, Small Systems Practice Lead, Change Leaders Lab, WaterTAP*

WaterTAP's Change Leaders Lab and the Ontario Onsite Wastewater Association (OOWA) have been collaborating to identify and address issues that can slow or prevent the implementation of onsite and communal wastewater systems in Ontario. These adoption issues can limit the success of companies that offer these wastewater solutions, as well as have impacts for the municipalities that could benefit from these small system technologies.

In the last edition of Onsite, we shared how OOWA, WaterTAP, and other industry experts have been partnering to identify and address onsite challenges linked to the Provincial Policy Statement (PPS) and Municipal Responsibility Agreements (MRAs).

Together, WaterTAP and OOWA are also seeking to increase the efficiency of the Environmental Compliance Approval (ECA) process. This update explains progress on this important issue.

## Work to Date

In September 2017, WaterTAP and OOWA hosted a one-day consultation session titled Challenges and Opportunities for High Strength Wastewater from Design to Implementation and began initial discussions with the Ministry of Environment, Conservation and Parks (MECP) Approval Services staff about challenges with ECA approvals for onsite and communal wastewater systems. More than 45 industry and government representatives attended the session that featured presentations on three case studies and an interactive panel on approvals issues.

On the heels of this event, WaterTAP and OOWA created a working group that meets monthly to further discuss and work to address these challenges. In addition, the two organizations hosted a panel discussion featuring industry experts at OOWA's Annual Conference and Exhibition in April 2018, to gather additional stakeholder input on the approvals topic. In September 2018, they hosted conference call with onsite industry representatives, the working group, and members of MECP Approval Services to further discuss concerns with the ECA one-year service standard and related challenges for onsite and communal systems.

## Identified Challenges and Proposed Solutions

To date, industry stakeholders have identified these challenges and offered potential solutions:

### 1. District offices:

**Challenge :** Some MECP district offices are more responsive to requests for pre-consultation than others. There are also a range of requirements across offices in terms of how each office should be contacted and the information required by each office.

**Solution :** Standardize practices and procedures for all offices.

### 2. Technical review:

**Challenge :** Although there is a one-year service standard for ECAs, the one-year standard does not account for the pre-consultation review. Further, industry stakeholders report that they often receive multiple versions of comments from a single reviewer, which makes it difficult to know when the reviewer's comments are complete and adds to project costs.

**Solution :** Establish a streamlined and efficient review process to reduce the staff time and costs associated with the response process.

### 3. Pre-approval tracking numbers:

**Challenge :** Tracking or reference numbers are not being used in the pre-consultation process; or if they are being used, they are not shared with proponents.

**Solution :** MECP could assign tracking numbers during the pre-approval process to simplify inquiries during this process.

### 4. Sewage Works Guidelines:

**Challenge :** The 2008 Design Guidelines for Sewage Works are most suitable for applications to large sewage treatment plants, rather than smaller onsite/communal systems. In many cases, data shows that smaller systems require lower flows than indicated in the 2008 Guidelines. There is a need to address these subsurface guidelines with the Technical Assessment and Standards Development Branch to avoid oversizing systems, which can add capital and operating costs and lead to suboptimal performance.

**Solution :** The OOWA Technical Committee could work with the MECP Technical Assessment and Standards Development Branch to develop design guidelines that are better suited for onsite/communal applications.

## 5. Statement of the municipality:

**Challenge :** Many townships and Chief Building Officials (CBOs) misinterpret the certifying statement in the ECA application as the municipality granting technical approval or accepting responsibility for the system. These municipalities are not aware that the certifying statement only establishes consent of the municipality with the proposal. Townships and CBOs often hesitate to sign the document because they are concerned that signing it may be considered an approval with potential liability. In fact, this is not the case as the proposal must still undergo a technical review by MECP before it is approved. Dealing with this issue can add significant time to the approval process for developers, technology providers, and municipalities.

**Solution:** Update the explanation of the certifying statement within the ECA application to clarify that it reflects awareness and is not a technical approval and move the location of the explanation so that it is immediately adjacent to the application's signature field.

## What's Next: Cross-Divisional Collaboration

After its September 2018 meeting, the working group identified the need for cross-divisional collaboration in addressing these challenges. For instance, several issues require the attention of the MECP district offices (Drinking Water and Environmental Compliance Division) and potentially with Water Standards (Environmental Sciences and Standards Division). Therefore, this discussion extends beyond the responsibilities of the Environmental Assessment and Permissions Division review engineers that had been participating in the working group's efforts up to this point.

At the suggestion of Approvals Services staff, the working group has written to the MECP to outline the challenges and request a meeting to coordinate a broader group of MECP staff with goals to address the challenges across divisions and increase efficiencies for approvals. WaterTAP and OOWA will also continue discussions and gather further stakeholder input on approvals issues with a panel session at OOWA's Annual Convention and Expo in Deerhurst, Ontario from March 17-19, 2019.

The working group welcomes further stakeholder involvement.

If you have further insights on ECAs that you would like to include in future approvals discussions, please send the details to Trish Johnson at [trish.johnson@WaterTAPontario.com](mailto:trish.johnson@WaterTAPontario.com)



*Trish Johnson is the Small Systems Practice Lead of WaterTAP's Change Leaders Lab. The WaterTAP Change Leaders Lab (CLL) sparks and supports the type of change that the water sector requires to address critical complex challenges and open the door to water innovation opportunities.*

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# Septic Care: Iron Filters And Septic Systems

*3 potential problems can be caused by discharge of regeneration water to a septic system*

*By Sara Heger, Ph.D.*

Neither iron nor manganese in water present a health hazard. However, their presence in water may cause taste, staining and accumulation problems in the plumbing system. Iron and manganese deposits will build up in pipelines, pressure tanks, water heaters and water softeners. This reduces the available quantity and pressure of the water supply.

Iron and manganese accumulations become an economic problem when water supply or softening equipment must be replaced. Also, pumping water through constricted pipes or heating water with heating rods coated with iron or manganese minerals increases energy costs.

A related problem is iron or manganese bacteria. These nonpathogenic bacteria feed on iron and manganese in water. They form red-brown (iron) or black-brown (manganese) slime in toilet tanks and can clog water systems.

Standards for iron and manganese are based on levels that cause taste and staining problems, and are set under EPA Secondary Drinking Water Standards. For most individuals, 0.3 ppm of iron and 0.05 ppm of manganese is objectionable. Usually iron and manganese do not exceed 10 ppm and 2 ppm, respectively, in natural waters. Iron and manganese are found at higher concentrations, however that is rare.

## How do filters work?

For household water containing high levels of iron and manganese, the most common solution is a process using oxidation followed by filtration. Oxidation converts soluble contaminants during a chemical reaction to soluble byproducts or insoluble products that can be filtered. Oxidation of iron and manganese is caused by either oxygen from the air, chlorine or potassium permanganate. The oxidized compound is a particle that is mechanically filtered. These particles are removed from the filter during the backwash cycle. Most iron filters remove both clear-water iron and ferric iron (rust). Even water that is clear in color may contain high levels of iron. This is known as 'ferrous' or clear-water iron.

Iron filters take this clear iron and transform it to rust or ferric iron in the process known as oxidation in an aerobic environment. These



Iron staining on a lateral system.

trapped particles are periodically and automatically backwashed out with the flush or backwash of the filter, usually once or twice a week. This typically results in 150 to 200 gallons per backwash cycle, resulting in 10,000 to 20,000 additional gallons of wastewater annually containing these solids if discharged into the septic system.

It is uncertain what happens to these particles that are backwashed in the filter, but there are a number of potential options for those connected to septic systems: they settle out in the sludge layer of the septic tank and will increase the need for maintenance.

During times of turbulence or if sludge depths get too thick, this material may travel through the septic tank to downstream components. This material can create challenges in pretreatment systems and/or the soil treatment area. In the soil treatment area, it may cause growth and plugging in the piping systems, and plugging in the soil itself.

In the anaerobic environment of the septic tank, the insoluble iron is converted to soluble iron going into solution and traveling out of the septic tank and downstream. There is then the risk in the aerobic environment following the septic tank that the iron will be made insoluble again, form a precipitate and potentially clog piping and the soil treatment system.

## Can a water softener be used to remove iron?

Water softeners remove hardness using a resin and also remove dissolved clear-water iron by a process known as ion-exchange. However, iron, manganese and/or hydrogen sulfide gas will eventually overwhelm the resin, causing fouling, and ruin the ion-exchange resin. If the customer's water contains less than 2 ppm of iron and manganese combined, and no sulfur odor, then a good-quality water softener with a special type of resin cleaner in the brine tank will work. The resin cleaner will help clean the resin when the softener is being regenerated with the brine solution. If not, a home may need both an initial iron filter followed by a water softener. In this case the water softener discharge water should be dealt with in the same manner as the iron filter discharge.



## What problems can be caused by discharge of regeneration water to a septic system?

There are three potential challenges related to iron filters and septic systems:

- Iron filter recharge chemicals may contain a bleaching or sanitizing agent, which is detrimental to bacterial action in the septic system.
- The additional water (150 to 200 gallons to recharge and backwash) several times a week adds additional wastewater into the system. Depending on other use in the home, the additional water to the septic tank and soil treatment area may cause problems with septic system operation or may overload it.
- If not properly settled and removed in the septic tank or re-solubilized, the solids may plug downstream components, particularly reducing the media filter's and the soil's ability to infiltrate water due to high iron content.

## What should be done with this wastewater?

First, if possible the water used for outside use and irrigation should not be filtered. This will reduce the amount of water treated and the amount of particles. Discharge of iron filter backwash to a septic system is not recommended due to the nature of the solids. Below are some options to consider:

1. Is it a new home? If an iron filter is anticipated due to the source water at the home, then the backwash discharge may be incorporated into the design of the septic system. In this case there are two options:
  - a. Preferred: Install a separate soil treatment system for the regeneration water that includes a septic tank to settle out the solids. If a septic tank is not installed, the separate system will likely plug over time. The trench bottom must be above the periodically saturated soil or bedrock, and the trench must meet water supply well setbacks.
  - b. Secondary option: Discharge to the surface, but not directly into a surface water, wetland or intermittent stream, where water must soak into the ground where it has been discharged. Discharge must stay on the property and not cause erosion or nuisance conditions.
  - c. Less-preferred: Install a larger septic tank (double the capacity is the recommended minimum) with an effluent screen and alarm, and clean the septic tank annually, evaluating sludge levels.
2. Is it an existing home? The best solution for an existing home will depend on the plumbing system and the related costs. This may require the installation of a sump in the basement or crawlspace to collect the backwash water.
  - a. Whenever possible, the backwash water should be routed to another location (see a and b above).
  - b. Maintain the septic tank annually to remove settled particles.

## Additional information

Below are links that provide more information on iron removal:  
[www.extension.umn.edu/environment/water/property-owners/drinking-water/iron-and-manganese-removal/index.html](http://www.extension.umn.edu/environment/water/property-owners/drinking-water/iron-and-manganese-removal/index.html)

[www.water-research.net/Waterlibrary/privatewell/iron.pdf](http://www.water-research.net/Waterlibrary/privatewell/iron.pdf)

This article first appeared in the January 2017 issue of Onsite Installer magazine published by COLE Publishing Inc. [www.onsiteinstaller.com](http://www.onsiteinstaller.com). It is reprinted by permission.



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# MEMBER PROFILE

## Jessica Goulet

Goulet Septic Pumping & Design Ltd.



JESSICA GOULET

Goulet Septic Pumping & Design Ltd.

### Name of Business:

Goulet Septic Pumping & Design Ltd.

### Owners: Rene Goulet

### Services:

Septic pumping, designs, and septic evaluations for real estate/permit purposes

### Service Area:

Glengarry, Dundas, South Stormont and Champlain County

### Number of Years in Operation:

Our business has been in operation for 37 years. I've been lucky enough to have had a role in it for most of my adult life.

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

I have a dad that has been a leader in the industry for as many years as I've been involved. Seeing the progress and the changes that have been fueled by the "average joe" inspires the thought that we can make a difference as individuals, but we can also promote change as an industry.

### Give us one reason/secret for your success:

Motivation and discipline! Modern day knowledge and old-fashioned hard work are key factors in the advancement of the industry and in our own success as a small family-run business. There are always new things to learn but you must remember your roots and remember that sometimes, it just takes old fashioned hard work and determination to succeed.

### Where do you see the onsite and decentralized industry going?

I feel the onsite industry is focusing in the wrong direction. Instead of growing in size, we need to focus on growing in strength. Knowledge is power. Clarity in communication promotes the knowledge we have and the discoveries we make to form a solid force to be reckoned with.

### What can the onsite and decentralized industry do to improve?

Simplify! The sewage industry is simple. We must collect, treat and redistribute wastewater and solids. We need to remember not to reinvent the wheel however, we need to make it work more efficiently and with less breakable parts.

## 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](mailto:outreach@oowa.org) or 1-855-905-6692 ext. 101 to get more details.

# Why Your Business Should Be Using Social Media

*By Emily Baillie, Compass Content Marketing*



Social media can be a quick and budget-friendly way for businesses of all sizes to connect with prospects, customers, partners and associations. When used effectively, free tools like Facebook, Twitter, Instagram and LinkedIn can help your business to showcase your services, build your reputation, drive sales, and gain new customers.

That all sounds well and good, you think, but *who's got time for all of that?*

The most common complaints that I hear from business owners is that they don't have the time or skills for social media marketing and they feel it is not relevant to their business.

Over the past few years, I've helped dozens of brands use Facebook, Twitter, Instagram and LinkedIn to increase awareness of their product or service. From service providers to tourism brands to healthcare startups, I've worked with brands of every shape and size.

While there is no one-size-fits-all approach to social media marketing, here is a good rule of thumb: if your competitors are active on social media and you aren't, you may be missing out on opportunities to connect with people.

So how can you make social media work for you? Here are some tips to get you started.

## 1. Think About Your Customers First

If you want to use social media to promote your brand, focus on the platforms where your target customers are already spending time. You know your customers best. How much do they use social media? What site do they use often? This information will help inform your social media strategy. For example, are you targeting the young millennial group? Invest in Instagram. Trying to catch the Baby Boomer crowd? Focus more on building up your Facebook page.

## 2. Be Consistent

Have you ever looked at a brand's Facebook or Twitter feed and noticed that they haven't posted anything new in months? You might start wonder what's going on there, and you may even wonder if they're still in business.

Sharing new content on Facebook, Twitter and other social media platforms regularly and consistently shows commitment to your business and helps to build long-term relationships with your audience.

Your organization should be posting at least once a day if possible. Don't have the time to make this happen? You can use a social media tool like Hootsuite to create and schedule your posts ahead of time. Or, consider outsourcing your social media management to a pro. This way, you'll have more time to focus on other parts of your biz.

## 3. Perfect Your Bio/Profile

When you're in the process of building your brand online, letting people know what your organization does and where you are located is crucial. Be sure to completely fill out the "Bio" or "About" section of every social media platform you're using. Don't forget to Include a link to your website so that curious people can get more information about you with the click (or tap) of a button!

## 4. Use Photos & Videos

Do you enjoy reading large amounts of text on a screen? I didn't think so.

Since most people skim, rather than read, written text it's a good idea to get their attention with an image or a short video. Share photos that show off your product or service in action. Show behind-the-scenes photos of your staff at work. Share videos that provide tips to help your customer solve a problem they're facing. Make sure your videos aren't too long and convey the most important piece of information at the start of the clip.

Don't have enough content? No problem! Take photos and videos with your smartphone if needed - the new iPhone or Android smartphone cameras are very high quality!

## 5. Have Fun With It!

Remember that social media is designed to promote conversation and two-way interaction. Your social media should be lighthearted and friendly in tone. Don't worry if you don't have a ton of followers yet. Your goal is to build engagement and interaction over the long term.

To help show that you appreciate your followers and customers, occasionally 'like' or comment on their posts, ask your audience their opinion on certain things, and respond quickly to comments or reviews on your Facebook page. Don't try to sell or pitch anything directly. Instead, show your organization's personality and celebrate your successes. Most importantly, have fun with it!

*Emily Baillie is a social media marketing pro who founded her business Compass Content Marketing to help small & medium sized brands build effective social media marketing campaigns. She teaches social media marketing at Humber College & McMaster University and she is a member of the Canadian Marketing Association. Emily can be reached at [emily@compasscontent.ca](mailto:emily@compasscontent.ca).*



# Nova Scotia resort utilizes on-site distributed wastewater disposal systems

*By Allison Blodig, Infiltrator Water Systems*

Forest Lakes Country Club is a four-season resort community under construction in Ardoise, just outside Halifax, Nova Scotia. The development will ultimately include 2,700 single-family, townhouse and multi-unit residential units, the only Nicklaus Design championship golf course in Atlantic Canada, and a village centre with commercial and retail operations. Several of the resort's neighborhoods will be adjacent to the golf course.

The Forest Lakes village centre will be accessible from all areas of the resort and will include retail shops, cafes, hotels, restaurants, a family entertainment centre, and a spa and wellness centre for residents and non-residents. Additionally, three lakes, a boathouse, walking trails and a horse riding area will all appeal to those looking to live in a natural setting, with the traditional housing, services and amenities typical of a modern municipal community development.

The Ardoise area's topography includes wetlands, rocky areas and a variety of soils, with no centralized municipal sewer or wastewater treatment infrastructure. In developing the Forest Lakes project, Terra Firma Development Corporation embraced a low impact strategy that would retain the rural nature of the area, while providing a wide range of housing units and recreational opportunities. The resort site development plans, including the wastewater collection, treatment and disposal approach, had to minimize environmental impact, while facilitating the growth of the development over time.

## Sustainable Building Focus

The homes at Forest Lakes incorporate the latest in sustainable building practices to reduce energy and water consumption. The developer is a member of the Canada Green Building Council.

Due to the overall size of the resort community and the wide range of developments at the site, traditional on-site wastewater treatment was not a viable option for most of the community. Minimum lot sizes for individual dispersal fields would have greatly impacted lot sizing and layout and reduced valuable and developable area that might otherwise be available for housing units, green spaces and resort facilities.

Instead, the developer chose cluster-type configurations with large green spaces between and around homes and recreational areas.

This enabled planned residential and recreational development, while also protecting environmentally sensitive areas. It simplified the provision of essential water, sewer and other utility services. Large open spaces in the clustered neighbourhood development also provided better opportunities for locating dispersal areas to minimize any possibility of adverse environmental impact.

The Nicklaus Design golf course incorporates the wide-ranging topography of the area, including forests, lakes, ponds, rock outcroppings and natural wetlands. Its design aims to enhance the surrounding environment and minimize environmental impacts by incorporating sustainable landscaping



The initial neighborhood system, serving 50 single family and semi-detached homes, is designed to treat a peak flow of 51,200 litres per day of residential sanitary wastewater.

principles to maximize the use of recycled or reclaimed water for irrigation.

## Wastewater Treatment System Specifics

Each neighbourhood at Forest Lakes utilizes a decentralized wastewater collection, treatment and disposal system. A key design consideration for these systems was that they work reliably in the northern, maritime climate typical of Nova Scotia. WSP Canada's project engineers worked with Orenco Systems®, Inc. and Infiltrator distributor, Atlantic Purification Systems Ltd., to design several of the neighborhood wastewater treatment systems.

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The initial neighborhood system, serving 50 single family and semi-detached homes, is designed to treat a peak flow of 51,200 litres per day of residential sanitary wastewater. It includes a watertight septic tank effluent pump (STEP) pressurized effluent sewer collection system that delivers primary effluent via small-diameter mainlines to an AdvanTex® AX100 secondary wastewater treatment plant .

Treated effluent from the AX100 system is directed into the dispersal system dosing tank where it is pumped, on a timed and intermittent basis using pressurized micro-dosing, to a multi-celled, soil dispersal system that incorporates Infiltrator Quick4™ Plus Standard Chamber laterals in an area bed arrangement. The area beds provide on-site secondary effluent dispersal and treatment in two cells, each with five zones. A hydraulic distributing valve at the head of each cell automatically and sequentially directs the pumped flow to the appropriate zone.

The AdvanTex AX100 and Infiltrator treatment systems were selected because of the low operation and maintenance requirement of these passive treatment processes. Infiltrator and Orenco manufacture components that

are pre-engineered, robust, and designed to be readily accessible for inspection, maintenance, removal and/or repair as required. The dispersal field, for example, incorporates cleanouts and pressure testing components to facilitate periodic inspection and monitoring of system conditions.

AdvanTex AX100 packed-bed textile filters are passive filtration and biological treatment systems, with high loading rates resulting in a footprint that is several times smaller than traditional sub-surface contour beds or sand filter treatment options. The modular nature of the AX100 textile filters allows developers to defer infrastructure costs by minimizing initial system size and adding modular treatment capacity to accommodate build out as the development grows.

The Infiltrator chambers simplify large bed construction, while providing savings on traditional materials and associated transportation costs. The chamber beds provide improved maintenance access and additional storage compared to traditional methods. The open bottom chamber system design preserves the infiltrative capabilities of the soils, which is especially helpful on larger sites where construction traffic is common.

To minimize impact on usable and buildable areas of the resort, most system tankage, treatment filters, the control building, and ancillary equipment for each neighborhood are in the distributed treatment plant area. The dispersal fields are located directly adjacent to the treatment plant. A small control building houses electrical power distribution and system control panel, the flow meter, and associated miscellaneous maintenance equipment. This facilitates safe and easy access to electrical and controls equipment during all weather conditions.

The system is controlled by an Orenco TCOM real-time remote telemetry panel that is capable of 24/7 monitoring and data logging of key equipment and plant conditions. It can email alarm notifications to operators and provide real-time remote control and adjustment by the operator from any Windows-based PC with an internet connection.

*Allison Blodig, REHS, is with Infiltrator Water Technologies.*

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# MEMBER PROFILE

## Matthew Rainville

C.E.T.

### Name of Business

GEMTEC Consulting Engineers & Scientists Limited  
(formerly Houle Chevrier Engineering Ltd.)

### Services

- Geotechnical Engineering
- Environmental Engineering
- Pavement Engineering
- Hydrogeological Services
- Materials Testing and Inspection

### Service Area

Eastern Ontario (Ottawa office), Ottawa Valley (Petawawa Office), Quebec (Montreal office), Atlantic Canada (offices in New Brunswick, Nova Scotia, and Newfoundland).

### Number of Years in Operation

Houle Chevrier Engineering Ltd. was founded in 1994.  
Gemtec was founded in 1986. I have been in my current role for over 15 years.

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

Shortly after joining Houle Chevrier Engineering Ltd. in 2003, I was asked to take on the task of providing septic system design and consultation services. Prior to this, I had very little experience in that area. I was fortunate to have great support and mentorship from those in my office. As well, those in the industry, from installers to regulators, have always been helpful and willing to answer questions and provide suggestions and input.

### Give us one reason for your success.

Again, I have been fortunate to work in a field where, in my experience, so many of those involved are interested in working together to achieve positive solutions and outcomes. I have always made an effort to work constructively with all those involved in our industry, and this has been reciprocated.



MATTHEW RAINVILLE

GEMTEC Consulting Engineers & Scientists Limited

### Where do you see the onsite and decentralized industry going?

I have seen a lot of positive, forward movement during my time in the industry. There is a continually growing effort being put towards promotion, education, and advocacy, and I don't see this slowing anytime soon, which, in my opinion, will stimulate the continued growth of our industry.

### What can the onsite and decentralized industry do to improve?

While there have been leaps and bounds in terms of adoption and advancement of new methods and technologies over my years in the industry, I feel that some areas have remained unrefined, and perhaps have not kept pace with others. Simple, long standing practices (eg. prescribed design flow values) can easily be overlooked rather than reconsidered as part of the whole movement towards improvement. We shouldn't overlook the whole picture and remember to return and give the basics a look from time to time.

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### ... work in the onsite industry?

Why don't you join the Ontario Onsite Wastewater Association! The onsite industry is at the front line of environmental protection. Only as a team can we build the profile and recognition that our industry deserves. We have discounts for corporate multiple memberships.



# Rural Ontario Town Benefits from Collaboration and New Options for Advanced Wastewater Treatment

By Lars Bergmann, Bergmann North America



We are proud to introduce Bergmann North America Inc. (BNA) as the exclusive distributor for the WSB® wastewater treatment technology and for click+clean® control panels and remote management in North America. Combining both, we will be able to provide you a competitive advantage from one source.

Our key partner company, the Bergmann Group from Germany has been marketing and selling wastewater treatment systems for residential and commercial applications in Canada since 2006. Right now, there are more than 50,000 WSB® installations in 27 countries. Approximately 10,000 systems are monitored remotely.

With the reliable original moving bed biofilm reactor technology you are accustomed to from WSB®, our leadership team is focused on bringing innovation and creativity to your toughest projects and keeping you at the leading edge of onsite solutions.

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BNA specializes in both residential wastewater treatment systems, which are certified standard package systems designed for single-family homes that are

pre-fabricated for rapid delivery, and commercial wastewater systems that are custom designed and produced to specification.

The WSB® clean wastewater product offering is modular and fully customizable for various applications, loadings, nutrient reduction and effluent quality specifications depending on the discharge requirements. The click+clean® control solutions are a unique remote managed platform that is available as integrated or standalone controllers that are designed for water, wastewater, and sewage collection systems and can provide real-time 2-way communication, alarm notification, and data logging.

One of the first projects installed by BNA is a WSB® wastewater treatment plant for the Village Market and Lynn Street Plaza, Stroud, ON. The design flow for the system is 35.3 m<sup>3</sup>/d. The design influent quality is 950 mg/L CBOD<sub>5</sub>, 500 mg/L TSS, and 80 mg/L TKN. Original WSB® design and parts combined with the click+clean® remote monitoring ensure effluent quality objectives of CBOD<sub>5</sub> ≤ 10 mg/L, TSS ≤ 10 mg/L, and a total inorganic nitrogen limit of ≤ 10 mg/L on a monthly average basis as well as a peace of mind for everyone involved. We are very grateful for the support of WSP Canada Inc., the great work of Bruno Pignatelli and his team from Reg-Con Inc. and the superior quality concrete tanks from Newmarket Pre-Cast and Porter's Concrete.

*The BNA vision is to deliver sustainable and innovative solutions, respecting our environment and communities. If you want to learn more about our technologies and our projects, we welcome you to visit our office and warehouse space located at 20 Steckle Place, Unit 7, Kitchener, ON, N2E 2C3, or please visit our website at [www.bna-inc.ca](http://www.bna-inc.ca), our LinkedIn profile and follow us on Twitter @Bergmann Inc.*







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