

THE

LITTLE DIGGER

MINNESOTA ONSITE WASTEWATER ASSOCIATION

A Bi-Annual Publication

Fall/Winter 2023 - Vol. 38, Issue 2

Driving the Industry Forward! 2024 MOWA Annual Convention is Feb. 4-6 in Duluth!



DRIVING THE INDUSTRY FORWARD

The 2024 Minnesota Onsite Wastewater Association Convention promises to bring informative keynotes, high-quality training, a robust fundraiser and trade show, networking and entertainment together February 4th through February 6th at the Duluth Entertainment and Convention Center (DECC).

A pre-Convention Opening Reception at Canal Park Brewery on Sunday, February 4th kicks off the MOWA get-together.

The Convention opens Monday, February 5th with keynote speaker Nicholas Dykes who will share a historical perspective in his talk, "OWTS Looking Back and Moving Forward."

Kenny Blumenfeld from the Minnesota DNR will follow with "Understanding Minnesota's Changing Hydroclimate."

MOWA members will once again be able to earn CEUs from 26 sessions offered in three training tracks.

MPCA will also offer a retesting opportunity on Monday afternoon. Events on Monday close out with the opening of the Trade Show, Roe-D-Hoe Trials & Championship, and the Silent Auction for the Tony Ruppert Scholarship Fund.

Convention goers will be able to network and relax during the evening's entertainment provided by Organized Chaos Music Bingo at Hoops Brewery, also in the Canal Park district.

Events set for Tuesday, February 6th include:

—a Tank Manufacturers meeting to be held Tuesday morning;

—a Membership luncheon meeting at which the slate of new Board members will be ratified, and member input will be sought on a number of issues that will determine MOWA activities during the next year; and

—a Board of Directors meeting, which will close out the Convention ■

In this Little Digger

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Register before January 8, 2024 and get substantial discounts on fees!

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A Message from the MOWA President

While it may be winter outside, convention-goers enjoy warm camaraderie at the MOWA Convention!

by Kurt Christopherson, MOWA President

Hello MOWA members:

As I am now sitting down and writing my last article as President of our incredible organization representing our on-site wastewater professionals, I am amazed all that we have done during 2023!

I think back to our incredible Winter conference held at Cragun's Lodge on Gull Lake in Brainerd; to our Summer Soils seminar held in at Tony Scully's shop in Hastings; our Legislative work, multiple committees that are working on behalf of all of us that are innately involved with the SSTS industry—and then I realized that we are now preparing for 2024!!

Our 2024 planning of events is well underway including what I believe will be the best Winter Conference yet, being held at the Duluth Entertainment Convention Center February 5th and 6th 2024!! We have an exciting agenda including valuable interesting CEU classes, networking, vendor trade show, scholarship auction and the Roe-D-Hoe competition.

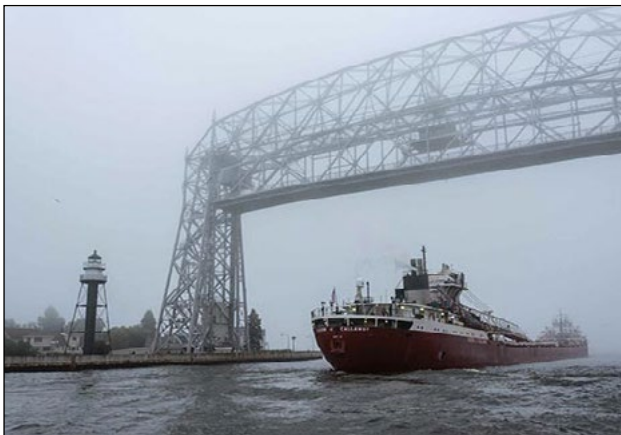
We also have committees working on Legislative, Mentorship and Land Application initiatives that benefit literally all of us including the environment! One of our greatest assets (probably the least spoken about) is our ability to treat our sub-surface wastewater to levels that enable us to recycle and reuse the treated effluent to ultimately help recharge water aquifers responsibly on a localized basis!

Our organization is in a wonderful position to continue to lead the advocacy across our entire state alongside are valuable partnerships with the U of MN OSTP and MPCA! That being said, we also need volunteers that are willing to join our Board of Directors. At our Winter Conference coming up in February, I will become the Past-President and Jake Bell with Bell Excavating out of Stillwater will be our new President! We are in outstanding hands with Jake at the helm!

In closing, it has been humbling, rewarding and fun to be a part of MOWA over the many years and I look forward to seeing many of you in Duluth in February!! ■

Sincerely,

Kurt Christopherson



MOWA's Annual Convention Feb. 4-6, 2024 brings member to Duluth—Minnesota's port city on Lake Superior—for a winter get-together!

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**This is a bi-annual publication of the Minnesota Onsite Wastewater Association.
Editor: Tammy Trantham, Email: mowaexec@gmail.com**

The articles printed in the publication do not necessarily reflect the opinion of this organization. Readers are encouraged to respond to the articles with their own points-of-view. We welcome industry-related comments or articles. Information or inquiries should be sent or made to any of the following: MN Onsite Wastewater Association, MOWA, 11468 Marketplace Dr. N., Ste. 600-PMB392, Champlin, MN 55316 - Phone: 612-361-9629 - www.mowa-mn.com

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2024 MOWA Convention

Driving the Industry Forward

Duluth Entertainment Convention Center (DECC), Duluth, MN

Sunday, February 4, 2024

3:00 PM	5:30 PM	Registration Opens - 2nd Floor Foyer (Outside Horizon Rooms)
3:00 PM	6:00 PM	Vendor Set-up in South Pioneer Hall
6:00 PM	8:30 PM	Opening Reception at Canal Park Brewery

Monday, February 5, 2024

Start	Finish	Schedule, General Session, Room: Harbor Side Ballrooms		
7:00 AM	9:15 AM	Registration Opens, Location: 2nd Floor Foyer		
7:00 AM	11:00 AM	Vendor Set-up in South Pioneer Hall		
7:30 AM	8:30 AM	Continental Breakfast, Location: Foyer outside Harbor Side Ballrooms		
8:15 AM	8:30 AM	MOWA Update, Kurt Christopherson, MOWA President		
8:30 AM	8:45 AM	NOWRA Update, Chris LeClair, NOWRA President-Elect		
8:45 AM	9:35 AM	MPCA SSTS Program Update, Nicole Blasing, MPCA (1 Direct CE)		
9:35 AM	10:25 AM	Keynote: OWTS Looking Back and Moving Forward, Nicholas Dykes (1 Related CE)		
10:25 AM	10:40 AM	Break		
10:40 AM	11:30 AM	Keynote: Understanding Minnesota's Changing Hydroclimate, Kenny Blumenfeld, MN DNR (1 Related CE)		
11:30 AM	2:30 PM	Trade Show with lunch provided - South Pioneer Hall		
1:00 PM	5:00 PM	MPCA Exam Re-Testing Opportunity, Room: Harbor Side 302		
Tracks		Track I - Maintenance	Track II - General Topics	Track III - Design
Room		Horizon 203	Horizon 204	Horizon 205
2:30 PM	3:20 PM	Maintainer/Service Provider Open Forum Tristan Ende, Ryan Lashinski (2 Direct CE)	MPCA Technical & Policy Update Cody Robinson (1 Direct CE)	Mound Replacement Dave Gustafson (1 Direct CE)
3:20 PM	4:10 PM		Wells & Subsurface Sewage Treatment Systems Jeff Grugal (1 Direct CE)	Domestic Strength, really? Dominic Mercier (1 Direct CE)
4:10 PM	6:30 PM	Trade Show with refreshments - South Pioneer Hall Roe-D-Hoe Trials & Championship; Silent Auction for Scholarship		
7:00 PM	9:00 PM	Evening Entertainment at Hoops Brewery! Join us for finishing the Silent Auction, Music Bingo with Organized Chaos, and refreshments!		

2024 MOWA Convention - *Driving the Industry Forward*

DECC, Duluth, MN

Tuesday, February 6, 2024

7:00 AM	8:15 AM	Continental Breakfast, Location: Foyer outside Horizon Ballrooms		
Tracks		Track I - Installation/ Maintenance	Track II - Inspection/LGU	Track III - Design
Room		Horizon 203	Horizon 204	Horizon 205
8:00 AM	8:50 AM	The Do's and Don'ts of Wastewater Jim King (1 Related CE)	Inspecting Onsite Systems for Real Estate Transactions Todd Stair (1 Related CE)	Design Open Forum Stacey Feser and Wayne Johnson (2 Direct CE)
8:50 AM	9:40 AM	UMN/MnDOT Septage and Septic Tank Bioaugmentation Sara Heger (1 Related CE)		
9:40 AM	10:00 AM	Break, Location: Foyer outside Horizon Ballrooms		
10:00 AM	10:50 AM	Tank Manufactures' Meeting, Room: Harbor Side 302		
10:00 AM	10:50 AM	Land Application Best Practices Dave Gustafson (2 Direct CE)	Inspector Open Forum Shane Steinbrecher, Rick Smith, Tim Haeg (2 Direct CE)	Replacement Systems Nicholas Dykes (1 Related CE)
10:50 AM	11:40 AM			Changing How we Soil Test and Design Systems using the Newest Tech Todd Stair (1 Related CE)
11:45 AM	1:00 PM	Lunch provided with Membership Meeting, Location: Harbor Side Ballrooms		
1:00 PM	1:50 PM	Installer Open Forum Tony Scully & Rick Viita (2 Direct CE)	Floodplain Regulation & Risk Considerations for SSTS Ceil Strauss (1 Direct CE)	SSTS Design Forms - How to use them & find information Stacey Feser & Pete Otterness (1 Direct CE)
1:50 PM	2:40 PM		Plumbing Code & Septic Design Samuel Padelford (1 Direct CE)	SSTS Design Evaluation & Reporting Jesse Kloeppner (1 Direct CE)
2:40 PM	3:00 PM	Break, Location: Foyer outside Horizon Ballrooms		
3:00 PM	3:50 PM	Future of Onsite Industry Travis Johnson (1 Related CE)	LGU Open Forum John Otterbein & Eric VanDyken (2 Direct CE)	Design & Maintenance Solutions for Vacation Home Rentals Sara Heger (1 Related CE)
3:50 PM	4:40 PM	Challenges & Misconceptions of gravity distribution Dominic Mercier (1 Related CE)		Wastewater & Marijuana Jim King (1 Related CE)
4:45 PM	6:00 PM	Board of Directors Meeting, Room: Harbor Side 302		



MOWA 2024 Winter Convention
February 5-6, 2024
DECC, Duluth

Attendee Registration Form
Early Bird Deadline:
January 8, 2024

One form per person, make additional copies for additional individuals.

MOWA Members

Wait! [Register online:](#)

Before January 8, 2024:

Full Conference 1st Company Rep = \$325 _____

Full Conference Subsequent Rep = \$275 _____

After January 8, 2024:

Full Conference 1st Company Rep = \$425 _____

Full Conference Subsequent Rep = \$375 _____

For Business/Government members, 1st attendee registers at the "1st Company Rep" rate; all other attendees who are member of the same organization receive "Subsequent Rep" rate.

Non-Members

Join or renew your membership today to receive special member conference rates!

WAIT! [Register online.](#)

Before January 8, 2024:

Full Conference = \$405 _____

Subsequent Rep = \$355 _____

After January 8, 2024

Full Conference = \$505 _____

Subsequent Rep = \$455 _____

Registrant Information for Full Conference

First Name: _____ Last Name: _____

Company Name: _____

Email: _____ Preferred Phone: _____

Preferred Mailing Address: _____

City: _____ State: _____ ZIP: _____

Guest Registration Fee: This is for non-certified individuals. If you are certified, please use above pricing.

Name: _____ Company: _____ Fee: \$150 _____

Name: _____ Company: _____ Fee: \$150 _____

Total Amount Due: Registration \$ _____ + Guest Fee \$ _____ = \$ _____

[Pay by credit card: PAY ONLINE!](#) Log in to the Member Portal on our website to register!

Please provide a phone number for MOWA to call you for payment. We no longer accept credit cards written on the forms. Phone: _____

Cardholder Name: _____ Signature: _____

By this signature, I authorize MOWA to process fees pertaining to the MN Onsite Wastewater Convention.

Pay by check. Allow up to three weeks for processing.

Make payable to MOWA; Mail to: MOWA, 11468 Marketplace Drive N., Suite 600 – PMB392, Champlin, MN 55316
 (Phone: 612.361.9629)

I agree to indemnify and hold harmless Minnesota Onsite Wastewater Association (MOWA), from any and all liability, loss, damage, or expense from any incident which may arise while attending any portion of the 2024 MOWA Annual Convention. If applies, I authorize any photos taken of me at this event to be published in MOWA's Little Digger and/or other MOWA-related promotional materials.

Signature: _____ Date: _____



MOWA 2024 Winter Convention
February 5-6, 2024
DECC, Duluth

Attendee Registration Form
Early Bird Deadline:
January 8, 2024

One form per person, make additional copies for additional individuals.

MOWA Scholarship Sponsorship!

Support the Tony Ruppert Youth Scholarship Program by donating to the scholarship fund!

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Acknowledgement on Conference Signage

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_____ **Platinum Sponsor - \$250**

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Deadline to be in Conference Program - January 10, 2024.

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CONVENTION EVENTS!

**MOWA Annual Convention
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**SUNDAY, FEB. 4, 2024
6:00 - 8:30 PM**

**MOWA Annual Convention
ENTERTAINMENT**

**MONDAY, FEB. 5
7:00 - 9:00 PM
at**

**HOOPS
BREWING**





Trade Show Spots Still Open! Sign Up Now!

It's not too late to lock into a spot at the 2024 MOWA Trade Show!



Special events at the Convention include the Trade Show (shown left), Roe-D-Hoe Trials & Championship (below) and special entertainment! This year, Organized Chaos Music Bingo will be bringing the laughs to MOWA members at Hoops Brewery.



There's no substitute for making one-on-one connections, and the MOWA Trade Show offers exhibitors just that opportunity.

The Show, set for February 5th and running through the end of the Convention on February 6th, is a very important part of the MOWA networking experience.

By exhibiting at the Trade Show, manufacturers and suppliers will be able to interact with Minnesota's industry professionals while showing support for MOWA at the only onsite wastewater convention in Minnesota, which is attended by up to 250 MOWA members each year.

MOWA is offering over 25 booths at the Duluth Entertainment & Convention Center during the two-day convention.

To lock into a space, go to www.mowa-mn.com and click on <https://mowa-mn.com/exhibitor-registration/> You'll find all the information you need there, but if you have questions, call 612-361-9629 or Email: mowaexec@gmail.com.

Exhibitors will be available throughout the Convention. The exhibitor booth fee includes all CEUs, meals and entertainment! MOWA will host games geared toward exhibitor-attendee interaction to help boost attendance.

All exhibitors are required, as part of their booth fee, to either become a Tony Ruppert Scholarship sponsor or provide an "industry related item" of at least \$50.00 in value to be auctioned off at the Convention's Silent Auction. Exhibitors may elect to pay a \$50.00 Registration Fee in lieu of donating an auction item. The Convention Committee will then purchase an auction item on your behalf. All proceeds will benefit the MOWA Scholarship Program. Exhibitors may also become Event Sponsors!

Another popular offering at the Trade Show will be the Roe-D-Hoe® Trials and Championship. All attendees are invited to test their skills on the backhoe. The winner will advance to the national Roe-D-Hoe championship to be held at the annual WWETT Show.

More information on the Trade Show, MOWA's new Business Partnership Program, MOWA advertising, and general MOWA membership benefits are included in the registration packet ■

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Meet MOWA's President-Elect Jake Bell!

In Minnesota, Recruiting and Retaining Workers Is Job No. 1

In a tight job market for skilled trades, it's critical to find young talent and take care of your team

State Snapshot, August 2023, www.pumper.com

Name and title or job description: Jake Bell, owner-operator along with my father Jon Bell and my uncle Chad Bell, the founders

Business name and location: Bell Excavating, Inc., Stillwater, Minnesota

Services we offer: We do septic installations, design and repair, as well as camera work and line cleaning. We also provide private utility locating. We don't provide pumping services but we network with a few good pumpers. We refer them and they refer us for installations and repair, which works out well.

Age: 36

Years in the industry: 24. I started helping out in the summers and after school.

Association involvement: I've been a member of the Minnesota Onsite Wastewater Association for about eight years. I'm now on the Board of Directors, going into my second year. I got involved in 2015 when our company bought out Bill Wolfe Excavating, which had been a member for 20 years.

Benefits of belonging to the association: The big thing for us is networking with other contractors, not only in our area but across the state. We enjoy getting to know these guys, being on a first-name basis with them and having the opportunity to call them with questions. The other main benefit is being able to voice our opinions and be involved in the state rule-making processes.

Biggest issue facing your association right now: We're doing well right now but we recently had a few rocky years in between executive directors. The last couple years we've had a really good team so we're regrouping and getting our feet back under us. We're focusing on recruitment and retention. We are also trying to show companies across the state the training and networking benefits we can bring to them.

Our crew includes: My mom Renae Bell does all the office work. Chris Rigney has been with us for 13 years and is our go-to guy for everything. He's reliable and knowledgeable, wears a lot of different hats and can pretty much do anything. My cousin Zach Bell is our newbie. He graduated from high school, got his CDL and last year came to work for us. It's been nice to have that breath-of-fresh-air younger guy getting into it because you don't get a lot of that and we're all getting older.

Typical day on the job: I take care of getting all the supplies ready for the jobs. I make sure the truck is loaded and ready. Then



Jake Bell with a 2001 Peterbilt 379 dump truck with an 18 foot J-Craft dump body.

I'm out with the crew doing installations. If I need to help with a design, look at a job or meet with customers I'll break free and do that, as my dad prefers to be out in the field running equipment.

The job I'll never forget: We were putting in a new system for a house on the St. Croix River and they wanted to add sewer for their boathouse. We had to directional-drill down to the boathouse. The only way to get the pipe back up was to float it out into the water so we could get it all strung out. We had 2-inch pipe that was coiled and then we had other pipes so we could pull back the sewer line up to the house. As we got back up the hillside the head on the drill broke so we ended up having to go over a little bit of cliff and dig it up and finish bringing the pipe up manually into the house. But it was a cool job.

My favorite piece of equipment: Our Caterpillar 308 excavator is a jack of all trades. We have various attachments for it and can get it into every job, big or small. I also like our vLocPro3 utility locator (Vivax-Metrotech). It makes our life a lot easier.

Most challenging site I've worked on: A couple years ago we worked on a very tight site built into a hill. Everything from the tank to the mound was on a slope. To set the tanks we had to load all the dirt onto a dump truck, haul it offsite, then bring it back for the backfill. The mound was 150 yards up a hill so everything had to get pushed up the hill with a dozer. It was a job that you'd think would take two or three days but it ended up taking us five. Everything we thought would be okay, just

Meet MOWA's President-Elect, *Continued on Page 12*



MOWA Mentorship Program “In the Works”!

Strategic Planning prioritizes Mentorship Program as high need!

by Jake Bell, President-Elect of MOWA

In March, during the Strategic Planning Meeting the Board of Directors focused on a few different topics that we feel our industry needed to address. One of them being a solid reputable mentorship program for contractors in the state. We, as the Board, believe the guidelines set forth by the MPCA don't always set a contractor up for success after the minimum qualifications have been met.

Once the committee was formed, we realized the main area of expertise we wanted to focus on was installations. Setting up a Mentorship Program takes time and effort. We feel once we set the groundwork for this, we can easily conform the guidelines to the other industry areas to serve more professionals. We are hoping to have a mentorship program through MOWA that will

educate industry professionals and train them to be successful in their area of expertise. We plan to do that by setting higher standards which will include some of these items: business training, more field time with mentors, and having a mentor qualification process.

Our plan is to roll out a rough draft of the Mentorship Program at the winter convention for members to evaluate and give us feedback on features we could add or change to the program. We are very excited about this and feel it will be a huge benefit to the onsite industry in the state of Minnesota. MOWA is working to better our industry and we encourage you to attend the convention to hear about the program ■

Meet MOWA's President-Elect, *Continued from Page 11*

wasn't. Looking back, there are a few things I would have done differently. It was just one of those learning experiences we'll never forget.

Oops, I wish I could take this one back: We had a job for a big equine barn and an adjacent site with a house. We were trying to meet deadlines but with a record amount of rain that year we spent a lot of time waiting for things to dry out. Originally we were the septic contractor but they ended up hiring us to do all the site work and, looking back, I don't know that a company our size should have taken on the extra work. It would have been fine had the weather cooperated but trying to keep this project on track took us away from everything else we had scheduled and we had to put all our resources into it. It was one we probably should have walked away from.

The craziest question I've been asked by a customer: Last year I had a customer who was adamant that when I grade their mound out I make a bear shape out of it. I didn't even attempt it. I knew it was an impossibility and would be hard to maintain with the rain and everything. And I didn't think the inspector would like it.

If I could change one industry regulation, it would be: The biggest thing I've been working on, especially with our association, is our mentorship program. I feel there's something broken. You go to school, do your orientation, take a test, find a licensed contractor to be a mentor, and then do 15 installations under the mentor. Some of these experienced guys might do that in a month but somebody new with minimal knowledge of soils, different loading rates, time dosing and alarms, advanced treatment systems, just doesn't get enough knowledge in that short amount of time, in my opinion. But it's hard because

people are saying we need more people in the industry. I agree, but they do need to be educated and trained properly to do a good job because our wastewater needs to be treated properly.

Best piece of small business advice I've heard: When I was 18 and getting started, my dad hired me out to another company. It was a little bigger, 25 guys. The guy I was working for asked me if I planned on taking over someday, and I said I'd like to. He said, "Make sure you take care of your employees, I don't care how big you get, because your guys are everything. You think you can do it all but you can't. And keep a good image." We strive for that. We take care of our guys because without them we wouldn't be where we are. And we focus on image — show up with clean, tidy equipment that looks good and is well-maintained, along with yourself, because customers definitely notice.

If I wasn't working in the wastewater industry, I would: I was a full-time fireman for three years because I just had to try something else, having done septic work since I was a kid. So, if I didn't have this, I'd probably pursue that again.

Crystal ball time – This is my outlook for the wastewater industry: It's only going to get busier because there are more developments being put in. Moving forward, it's going to be a good industry to be in, especially with the technology coming up. We have great systems in place and they only seem to be getting better. And it's a safe industry to be in. Hopefully we can get more people into it so we can continue to provide good service to customers ■

This article first appeared online at pumper.com in August 2023 published by COLE Publishing, Three Lakes, Wis. It is reprinted by permission.



Septage Study findings to be heard at Convention

University of Minnesota Study on Septage provides MnDOT with data!

by Dr. Sara Heger Ph.D., - Onsite Septic Treatment Program, Water Resource Center, University of Minnesota



also taken at most locations before the tanks were pumped. The time since the tanks had last been pumped at the time of sampling varied from 7 months at the shortest to 36 months at the longest, with an average interval of 15 months. The results for a variety of wastewater characteristics are shown in the table on Page 12

The EPA *Guide to Septage Treatment and Disposal* provides concentrations of wastewater components considered typical for general septage, which were used for comparison with the results of this study. All biochemical oxygen demand (BOD) values identified by this study were lower than the maximum given by EPA. Mean BOD values were slightly lower than the EPA mean, while the lowest BOD values identified were below the EPA minimum. All identified chemical oxygen demand (COD) values were within the range given by EPA.

The Minnesota Department of Transportation (MnDOT) maintains a system of safety rest areas (SRAs) and travel information centers (TICs), many of which rely on onsite septic systems for the treatment of their wastewater. These systems are often under concentrated loads due to the source of the wastewater, which is primarily toilet flushing and hand washing, especially in facilities with low-flow fixtures. The data in this study may be representative of other facilities where the primary source of wastewater is toilet flushing with low amounts of graywater production. While the septage produced at these sites is known to be different from residential septage, minimal research has been conducted regarding its actual characteristics. Existing research has focused primarily on residential septage with little data available for these type of commercial systems.

This project sought to provide data on characteristics of the septage generated at Minnesota's rest areas. Septage samples were collected from the septic tanks at 25 rest areas throughout Minnesota during the schedule system maintenance, when the tanks are emptied by vacuum pump. Well-mixed, representative septage samples were sought; accordingly, all samples were taken from the septage pumped out of the first tank and load of the system. Sludge and scum depth measurements were

The highest identified phosphorus concentrations were lower than the EPA maximum. The mean concentration phosphorus was lower than the EPA mean, and the minimum was lower than the EPA minimum. Maximum and mean oil and grease values identified in this study were lower than the mean but higher than the minimum EPA values. The minimum identified concentrations were significantly lower than all other available grease concentrations, including the EPA minimum.

The acidity of septage samples collected varied considerably, from pH 5.3 at the most acidic to 7.4 at the most basic. Most samples were acidic, but all values were between the minimum and maximum given by EPA. Total Kjeldahl nitrogen (TKN) concentrations also varied greatly, from 28.8 mg/L to 1430 mg/L. The greatest TKN values exceeded the EPA maximum, while the minimum values were lower than the EPA minimum. The maximum and mean

ammonia concentrations identified by this study were higher than the EPA maximum ammonia nitrogen concentration, while the minimum identified ammonia concentration was four times the EPA minimum. The maximum total suspended

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Rest Stop Septage Study, Continued on Page 14

Rest Stop Septage Study, Continued from Page 13

solids (TSS) concentration identified by this study approached the EPA maximum. Mean values from this study were greater than the EPA mean, and minimum values were greater than the EPA minimum.

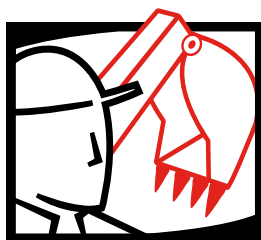
Out of the five sites tested, PFAS were detected at two: Grand Portage Visitor Center and St. Croix TIC. PFAS was not detected at another two sites, Fishers Landing and Oak Lake SRAs, and samples from the fifth site, Goose Creek SRA, are currently under analysis. The concentrations were much higher at St. Croix than at Grand Portage; this is expected because the groundwater around St. Croix TIC is known to contain PFAS from nearby contamination.

Samples from 12 sites were tested for arsenic, cadmium, chromium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc. Arsenic and cadmium were detected at only two sites, lead, mercury, and molybdenum at three each, chromium, and selenium at four each, and nickel at six. Copper and zinc were detected at all 12 sites. No metal concentration exceeded the EPA maximum and only one zinc concentration and one copper concentration exceeded the EPA mean. In general, the concentrations were very low, which was expected based on the source.

Some general trends were observed in the solid's accumulation data. Slight correlation was observed between scum thickness

Rest Stop Septage Study, Continued on Page 15

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Rest Stop Septage Study, Continued from Page 14

Analyte	Mean Concentration [mg/L unless otherwise noted]	Standard Deviation [mg/L unless otherwise noted]	Sites Sampled
BOD	5167	6031	24
COD	16765	19240	24
TSS	16712	21234	24
Nitrogen, Ammonia as	160	111	23
Nitrogen, Total Kjeldahl	479	445	24
Phosphorous, Total	90	103	24
Oil and Grease	748.0	1163.2	24
PFAS	209 [ng/L]	360 [ng/L]	4
Arsenic	0.05	0.16	11
Cadmium	0.003	0.006	11
Chromium	0.03	0.07	11
Copper	1.24	2.38	11
Lead	0.04	0.10	11
Mercury	0.69 [µg/L]	1.53 [µg/L]	12
Molybdenum	0.03	0.06	11
Nickle	0.05	0.11	11
Selenium	0.01	0.02	11
Zinc	5.93	10.1	11
pH	6.5 [units]	0.68 [units]	24

and concentrations of BOD, TSS, and oil and grease. A correlation with oil and grease in particular was expected, since these compounds form a significant part of the scum layer. There was also a slight correlation between scum thickness and septage acidity. Nearly half of the sites had wipes, needles, clothing, or other inappropriate trash; therefore, garbage cans and sharp containers are recommended to be added in the bathrooms.

The second tank in series typically had at least half as much, and sometimes nearly as much, sludge accumulation as the first. On the other hand, the last tank in series (typically the pump tank) tended to have no sludge or scum accumulation at all, except in

those systems that had gone the longest without maintenance. Finally, it was observed there was usually little to no scum accumulation in subsequent tanks, even when accumulation in the first tank was quite heavy.

The general takeaway from this study is that the septage from rest areas is very similar to the septage from normal domestic tanks.

For a complete copy of the report see: <https://septic.umn.edu/research> ■

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Board Report: Movement on septage issue

Long-term plan for uniform policies for land application are coming!

by Keith Valento, Chairperson, MOWA Land Application Committee

The MOWA Board has formed a committee this year to start working towards a long-term plan for the land spreading of septage in Minnesota.

During the 2023 MOWA Winter Convention, many of the maintainers that attended the convention shared their concerns of this topic. By the end of the convention, there was a lot of "buzz" on land spreading and what does the future holds for it.

MOWA brought together a great team of people to work on this subject, such as maintainers that utilize land spreading, LGU's that work with maintainers that land spread, educators from the University of Minnesota and the MPCA. Many of the individuals are either current board members or past board members, but all the members of the committee are interested in creating a long term plan that works for everyone. We are still in the very early stages of this process, and are building a road map on how we move forward. This will be a lengthy process and we expect some challenges along the way. The committee aims to improve aspects of the program that will serve the residents of Minnesota who depend on an on-site system and the professionals that maintain these systems ■



<https://www.tekportal.net/septage/>

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Septage Management Is Everybody's Business

Pumpers should drive home the point to customers, neighbors and local government that we're all responsible for disposal of human waste

By Jim Kneiszel, June 2017, www.pumper.com

"It's a common refrain pumpers hear from the public when it comes to land application of septage — not in my backyard!

As metropolitan areas grow past established suburban boundaries, the big pipe of municipal sewer usually stops well short of the creep of people who want to build dream-home estates in the countryside.

When it comes time to build and the only feasible way to deal with wastewater is an onsite septic system, these homesteaders are happy to have a private treatment alternative. But then, right after the picket fence goes up and they invite their new neighbors over for a cookout, their interest in dealing with wastewater comes to an end.

The new rural residents don't want to see, smell or hear any evidence that septic tanks are being pumped and their contents are being disposed of. They help create the waste stream, but they'd be happy if pumpers could wave a magic suction hose and make it all disappear from their new neighborhood.

But you and I know it's not that simple."

For the rest of the story, go to https://www.pumper.com/editorial/2017/06/septage_management_is_everybodys_business



Worker benefits are add-ons to union membership

We succeed together: Local 49 can help you recruit and retain a safe, efficient workforce

By Dan Snidarich, Business Agent, I.U.O.E Local 49

When you hear the words "trade union," you might not immediately think "partner." But as one of the largest, most respected construction unions in the state, the International Union of Operating Engineers Local 49 offers solutions that benefit not only workers but also their employers.

Local 49 is proud to be a new member of MOWA, because we all succeed when we work together. And Local 49 wants to help you recruit and retain a workforce you can depend on for years to come.

With nearly 15,000 members in Minnesota, North Dakota and South Dakota, Local 49 represents the safest, most efficient equipment operators in the business today. Founded in 1927, our union has helped build everything from underground infrastructure and roads in our local communities to interstate highways and U.S. Bank Stadium. Our members maintain and repair heavy equipment and keep our streets plowed and safe in the winter. They dig, push, lift, fix, mine, log, dredge, haul, install and repair much of what makes our lives better.



Union of Operating Engineers Local 49 , Continued on Page 18



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For more information visit local49.org, or contact Dan Snidarich at 218-290-2694 or dsnidarich@local49.org

MOWA Summer Soils Seminar 2024



Save the Date for the 2024 MOWA Summer Soils Seminar!

When: August 9, 2024

Where: Grand Rapids, MN

Plan to attend to learn about complexity in our soils from sandy soils to gravel dominated soils. Light breakfast and lunch will be provided. We are also planning a lunch break with demonstrations from various sponsors. More details will be provided in 2024. Make sure you are a MOWA Member to hear about registration first for this event!

***Typically, 6 CEs for soils are awarded for this event. CEs will be submitted for approval to MPCA in 2024.**

Union of Operating Enginners Local 49 , Continued from Page17

We offer industry-leading family health care coverage and reliable retirement options to our contractors and members. Backed by hundreds of employers, our health and retirement plans provide a level of benefits and security that's difficult for companies to rival on their own.

Local 49 members have access to our state-of-the-art training facility in Hinckley, Minnesota, and another in Crosby, Texas, where they learn to meet the highest industry standards of skill and professionalism. They can train to efficiently move dirt, safely dig trenches, install underground utilities, operate vac trucks, acquire a CDL license, receive a national crane license, and obtain certifications for OSHA, MSHA, hazmat, asbestos, grades and stakes, rigging and signaling, to name a few.

As a giant in construction, Local 49 is a natural fit in the housing industry, because our members are trained and ready to do the work needed for your company. Our union already partners with 39 contractors in Minnesota that inspect, design, and install septic systems, dig house pads and basements, build driveways, landscape, clear and grub, pump systems, and maintain the equipment needed to perform this work.

One of our signatory contractors is Viita's Excavating, of Cook, Minnesota. Not only is owner Rick Viita on the MOWA board of directors, but he is also a proud Local 49 member who currently employs 10 49ers. Rick has also spent time as a trainer at the Local 49 Training Center in Hinckley. He's a great resource if you want to learn how Local 49 has created a partnership with his business.

Look for our booth at the 2024 MOWA Convention in Duluth. Stop by and test your skills on our CAT excavator simulator and ask questions about how I.U.O.E Local 49 can help boost your company to the next level.

We look forward to meeting you at the convention in February. As members of MOWA, we're eager to find ways we can help the Minnesota Onsite Wastewater Association move into a safer, brighter future for all its members.

Feel free to reach out with any questions or if you'd like to tour our Training Center in Hinckley. You can reach me, Dan Snidarich, at 218-290-2694 or dsnidarich@local49org ■



2024 MEMBERSHIP APPLICATION

Membership: ☐ Renewal ☐ New Member

- ☐ Individual Member \$240 (1 person)
 ☐ Business Group /Government Unit \$340 (up to 5 people; \$100 /person after 5)
 ☐ Student \$140 (1 person)
 ☐ Life-time ☐ Honorary

Note: Your MOWA Membership includes one NOWRA membership

Memberships are based on calendar year - After July 1st, new members pay \$140-individual / \$190-business or gov't groups for remainder of 2023

Individual/Group Contact: This person will be listed as the NOWRA member on the Septic Locator website. They will be listed first in all MOWA publications. Please print clearly.

1st Member _____ Company Name _____
 Address _____ City/State/Zip _____
 Title _____ Phone _____ Mobile/800# _____ Fax _____
 Email _____ Website _____ County _____

Circle the counties you work in: Needed for Directory and website.

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Becker 3	Cottonwood 17	Jackson 32	Meeker 47	Ramsey 62	Todd 77
Beltrami 4	Crow Wing 18	Kanabec 33	Mille Lacs 48	Red Lake 63	Traverse 78
Benton 5	Dakota 19	Kandiyohi 34	Morrison 49	Redwood 64	Wabasha 79
Big Stone 6	Dodge 20	Kittson 35	Mower 50	Renville 65	Wadena 80
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Carlton 9	Fillmore 23	Lake 38	Nobles 53	Roseau 68	Watsonwan 83
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Cass 11	Goodhue 25	Le Sueur 40	Olmsted 55	Sherburne 70	Winona 85
Chippewa 12	Grant 26	Lincoln 41	Otter Tail 56	Sibley 71	Wright 86
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☐ Soil Scientist ☐ Professional Engineer ☐ Manufacturer ☐ Operator/Maintenance ☐ Supplier ☐ Other: _____

Additional Business/Government Members:

2nd Member _____ Title _____ County _____
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 3rd Member _____ Title _____ County _____
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 Phone _____ Mobile/800# _____ Fax _____ Email _____

(Please list additional business/government group members on separate sheet with complete contact information.)

Publications: Would you prefer receiving 'Little Digger' newsletters via ... ☐ Regular Mail ☐ Electronically
 We currently send one publication per address to business/government groups. Contact the MOWA office if you'd like additional copies.

Additional NOWRA Memberships: MOWA membership fees include one NOWRA membership per company/organization. List names of members who want additional NOWRA memberships here: Cost - \$40 per person.

2) _____ 3) _____ 4) _____ 5) _____

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NOTE: Dues payable to MOWA are not deductible as a charitable contribution but may be deductible as an ordinary and necessary business expense.

MOWA estimates that 10% of your MOWA dues are used for governmental affairs issues and therefore are not deductible.

MISSION: Promoting professionalism in the onsite wastewater industry



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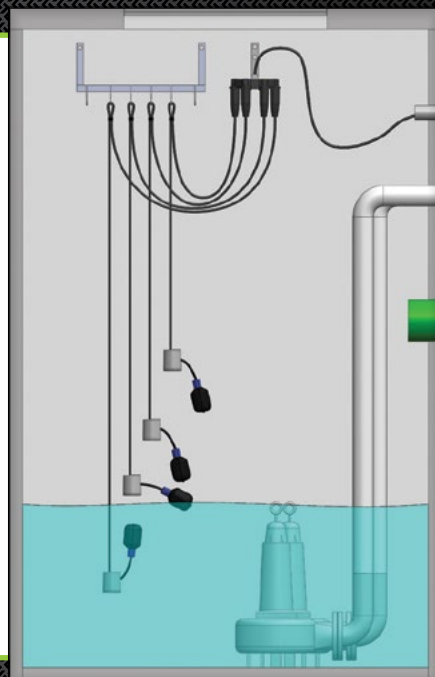
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