

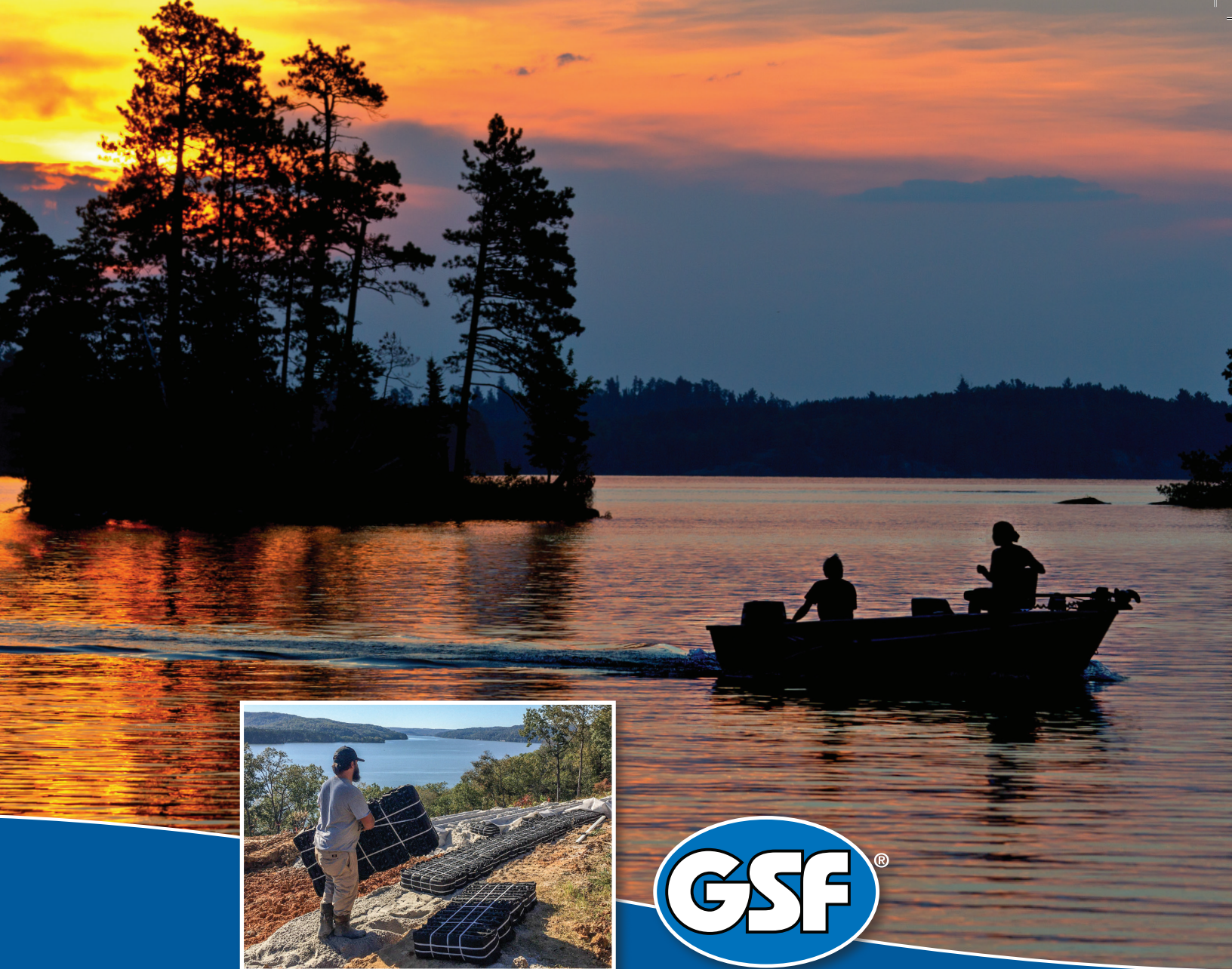
# THE Onsite Journal

## MEGA-CONFERENCE DRAWS 500



**NOWRA**  
National Onsite Wastewater Recycling Association  
**WINTER 2021-22**

**INSIDE: SUCCESS!  
INFRASTRUCTURE ACT SIGNED, 8**



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**Braden wins Roe-D-Hoe®  
See Conference Recap, 10**



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## EXECUTIVE DIRECTOR'S MESSAGE



### Thomas Groves, Exec. Director

It was great to see everyone and have an old-fashioned in-person conference once again. People were anxious to get out and attend an in-person training, and we were able to provide that in a safe setting. For those of you who attended the 2021 Onsite Wastewater Mega-Conference, thank you for your support and attendance.

There were many memorable technical sessions, committee meetings, and events. NOWRA and our conference partners (NAWT, SORA, and TOWA) were pleased with the turnout both in-person and virtually with over 500 attendees in all as well as the technical content of the presentations. Thanks to all of our sponsors and exhibitors for also helping to make a successful event – we could not have done it without them. And lastly, the Planning Team did a great job all throughout the conference - starting with our registration bag stuffing party on Saturday afternoon, right through the last bus returning from the field trip. A big shout out goes to Conference Committee Chairperson, Tammy Trantham. I'm looking forward to working

with her again on our 2022 event which will be right in her backyard in Springfield, Missouri. For more information and pictures from our 2021 Mega-Conference, check out the article on page 10.

I am pleased to report that we have met our goal of publishing four successful Onsite Journal issues for calendar year 2021. Although the December/Winter issue may not arrive in your mailboxes until January, we have worked hard to increase the technical content and information in the Onsite Journal (OSJ). I hope you like what we have done. Please feel free to drop me a note with your thoughts or suggestions for improving the OSJ even further.

As NOWRA approaches 2022 and I come up upon my one-year anniversary on the job, I am excited to see some of the recent developments in Washington D.C. that will benefit our members and the onsite industry. As I write this message, the President is about to sign the largest Infrastructure package in the history of this country – and onsite wastewater is included! We no longer need to feel like the forgotten stepchild of water funding needs. For more information on the progress of NOWRA's

lobbying activities, check out our regular column on page 8 inside.

Watch for NOWRA in 2022 at upcoming State Affiliate conferences as well as at the WWETT Show in February. NOWRA will once again be presenting an educational track at the WWETT Show in Indianapolis as well as hosting the 2022 National Backhoe Roed-Hoe® championship.

I'm pleased to report that NOWRA has four new directors after our fall elections. These new members come to the board with their own ideas and visions for the industry, and I am excited to have them on board. I would also like to thank our board members who have completed their terms, but no need to worry, they are not going away, they will continue to volunteer for NOWRA through some of our various committees. To find out more about the Board of Directors, check out the listing on page 22 inside this issue.

Thank you for allowing me to serve as Executive Director of this organization. This first year has flown by and has been extremely rewarding. I look forward to what will be coming in the next year and beyond.

### ONLINE LEARNING AT NOWRA.ORG

#### In need of continuing education training hours for your state certification or license?

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Check out NOWRA's Online Learning for a full listing of state and nationally approved courses on treatment, installation, design, soils, troubleshooting, etc. at <https://www.nowra.org/training/>

# A NOTE FROM THE PRESIDENT

## Success!

The last few weeks and months have been filled with successes for NOWRA. These successes come from the hard work of our executive director, lobbyist, and most importantly those who volunteer time and financial support to the organization. I've highlighted five recent successes below:

1. During challenging times, NOWRA hosted a successful in person conference with a virtual option in partnership with the TOWA, SORA, and NAWT with over 500 people in attendance. It was a great conference filled with both familiar and new faces.

2. Hosted a research symposium at the conference to synthesize the results of hundreds of people from across the industry and the U.S.

(see page 14) to develop a prioritized list of research needs.

3. Obtained federal funding to support upgrades of septic system across the U.S. This section supports \$150 million for the installation, repair, or replacement of domestic septic systems targeting 50 percent of this investment to low-income households (see page 8).

4. Received funding through the Rural Community Assistance Program (RCAP) to develop educational materials.

5. Elected 3 new board members – welcome to Chris Chapman, Claude Goguen, and Tricia Scott, and reappointed one more, Josh Gunia.

As recently deceased Colin Powell



Sara Heger, President

stated, "There are no secrets to success. It is the result of preparation, hard work, and learning from failure." Let us continue to prepare for the future and learn from the past. I am so proud to be part of this organization and hope you are as well! I am looking forward to a 2022 filled with more opportunities to support and grow the decentralized wastewater treatment industry.



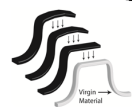
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## STATE AFFILIATE NEWS

### MICHIGAN ONSITE WASTEWATER RECYCLING ASSOCIATION (MOWRA)

The MOWRA Board has announced that the Michigan Onsite Wastewater Conference will be a VIRTUAL event this year. We are squeezing our traditional three-day, in-person conference into a nine-hour total virtual event over two days. The conference will be held on January 11-12. As a reminder, this is not just a MOWRA event, but is coordinated with multiple organizations/agencies involved in the wastewater industry within the state of Michigan.

### OHIO ONSITE WASTEWATER ASSOCIATION (OOWA)

Greetings from the Buckeye State! The Ohio Onsite Wastewater Association (OOWA) has been busy with a few events the past couple of months. In mid-September, OOWA welcomed John Thomas with the Washington On-Site Sewage Association to conduct two regional trainings on Safety for Workers in the Onsite Industry. Then in mid-November, Sara Heger and Tim Haeg, both from Minnesota, presented at the Operation and Maintenance Service Provider Training. There were over 150 contractors at the Service Provider event held in Columbus.

OOWA also just concluded their annual conference on January 4-5 at the Nationwide Conference Center in Lewis Center. Mike Stiger of Stiger Precast Inc. was awarded the Trent Lydic Memorial Ohio Onsite Wastewater Association Distinguished Service Award and Mike Rogich of Delaware General Health District presided over the event. The annual membership drive is underway, and we are excited to see what 2022 has in store!

### NORTH DAKOTA ONSITE WASTEWATER RECYCLING ASSOCIATION (NDOWRA)

NDOWRA is pleased to announce that our legislation for a statewide code passed in the legislature by huge majority and was signed by the governor. That was a lot of work. The next task will be getting committee work done. The members of the committee were appointed in November, and we began holding meetings in December. There are four installers and four public health/environmental health practitioners on the committee. The NDOWRA onsite wastewater training conference is scheduled for February 24, 2022 in Jamestown, North Dakota.

### WASHINGTON ON-SITE SEWAGE ASSOCIATION (WOSSA)

reFRESH, reNEW, reFOCUS. These last couple of years have been a challenge to say the least ... as we push forward, we are excited to hold a full-scale SEPTIC-CON 2022 Conference in Tacoma, WA on January 28 and 29. SEPTIC-CON 2020 proved to be WOSSA's best conference to date, with 700 total people in attendance including speakers and business/manufacturing representatives. WOSSA is dedicated to providing another epic SEPTIC-CON in 2022.

WOSSA continues to partner with organizations throughout the U.S., teaming up to deliver industry-specific safety training for on-site professionals. Through both federal and state grant funding sources, WOSSA is often able to offer this training at no cost to attendees. WOSSA was just awarded its 10th safety-specific training grant for workers in the on-site industry, titled: Workplace Safety and Health Training on Infectious Diseases, Including COVID-19 for On-Site Septic Professionals. Funding for this

grant is provided by OSHA's Susan Harwood Training Grant Program.

WOSSA has been active in the revision of the Washington State code for On-Site Septic Systems (WAC 246-272A). WOSSA and several of its members participated on a rule revision committee with the DOH and other stakeholders that convened over a two-year period. This rule revision, upon approval, is scheduled to take effect in 2023.

We are very excited to have been able to resume in-person on-site trainings across the state. WOSSA has been delivering training in numerous regions throughout Washington with a promising level of participation. It's great to see on-site professionals once again dedicating time to expanding their knowledge in the profession.

### YANKEE ONSITE WASTEWATER ASSOCIATION (YOWA)

The Yankee Onsite Wastewater Association (YOWA) Board of Directors (BOD) held its first in-person meeting since the start of the pandemic on October 13. Much was covered, including a decision to partner with Empower Success Corps (ESC) on a Membership Initiative for 2022. The goal of the membership initiative is to increase membership to better influence policy with regulators and legislators, in Massachusetts and across New England. YOWA's Board of Directors is looking forward to working with ESC and is eager to get the process started.

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NOWRA conducts bimonthly calls with our state affiliate organizations. For more on NOWRA's affiliate state organizations, visit our web site at: [www.nowra.org/about/state-organizations/](http://www.nowra.org/about/state-organizations/)

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### by Tracy Hammond, Polsinelli

After months of negotiations, House Democrats approved a \$1.2 trillion bipartisan infrastructure package on November 5. The final vote tally on the bill was 228-206, with 13 Republicans crossing the aisle to support the measure, while only six Democrats voted no. The Senate previously and overwhelmingly passed the bill 69-30 on Aug. 10, with 19 Republicans joining all 50 Democrats in support. President Biden signed the bill into law on November 15, 2021.

While the Infrastructure Investment and Jobs Act (H.R. 3684) would extend surface transportation programs for five years, additional funding would be authorized for energy, water, and broadband infrastructure. Of particular interest to NOWRA members is the inclusion of language that will create the first dedicated EPA grant program for decentralized systems—the Decentralized Wastewater Grant Program. The NOWRA Board of Governors and our government relations team in Washington have been working with bipartisan congressional champions in the House and Senate to enact this program for several years, and we are all excited to see these efforts bear fruit. In June, NOWRA members from across the country also participated in a virtual advocacy day on Capitol Hill asking lawmakers to support the Decentralized Wastewater Grant Program. We thank all the NOWRA members that participated in this year's advocacy day. Your collective voices helped make a difference and pushed Congress to pass this legislation.

## LEGISLATIVE UPDATE

Section 50208 of HR 3684 authorizes \$50 million of funding for each of the Fiscal Years 2022 – 2026, for a total of \$250 million. Eligible households can receive grants up to \$15,000. The funds can be used by households “for the construction, repair, or replacement of an individual household decentralized wastewater treatment system.” - Funds can also be used “for the installation of a larger decentralized wastewater system designed to provide treatment for 2 or more households.”

The EPA will now begin the process of drafting new rules and regulations to implement this grant program. NOWRA will remain in communication with our partners at the Agency throughout the process to ensure the program best serves homeowners who rely on decentralized wastewater systems; as well as those who serve and supply them.

While HR 3684 authorizes up to \$50 million annually for the grant program, Congress still must appropriate the money each year to the EPA. It will now be up to NOWRA's members and our team in Washington to work with congressional appropriators to secure funding for this new program through the annual appropriations process beginning in 2022. The House and Senate Appropriations Committees will begin soliciting and reviewing stakeholder funding requests in February and March next year.

Congressional Democrats and the White House are also developing a larger economic recovery and stimulus package through the budget reconciliation process that may provide additional funds for homeowners in need of new decentral-

ized systems. Currently, the bill under consideration by the House of Representatives would direct \$150 million to the EPA in the 2022 Fiscal Year to provide grants to states, municipalities and non-profits to disburse to homeowners looking to install, repair or replace their decentralized wastewater systems. NOWRA's Washington, D.C. representatives continue to work with Congress to insure these funds remain in the final package.

Finally, in addition to the new EPA efforts, NOWRA continues to advocate for funding for USDA's Decentralized Water Systems program. This program is on track to receive \$5 million in the current 2022 fiscal year, the same amount it received in FY '21. NOWRA will work with other stakeholders and congressional allies to increase this funding in the coming year to provide additional assistance to those in rural areas who need assistance to install, repair or replace decentralized treatment systems.

NOWRA members and our team in Washington will continue to advocate for increased money for decentralized systems and for those households who rely on our products and services for their wastewater treatment. There is no question that your advocacy continues to help shape policy in Washington, D.C., and we look forward to building on these accomplishments as we turn to 2022!

---

Tracy Hammond is a Senior Policy Advisor with Polsinelli's Public Policy Group in the firm's Washington Office. He advises clients on federal legislation and regulation in the areas of infrastructure, water and environmental policy and serves as one of NOWRA's lobbyists in Washington, DC.



# INDUSTRY NEWS

## ELJEN CORPORATION RECEIVES HIREVETS PLATINUM MEDALLION AWARD

Eljen Corporation, a veteran-founded wastewater and environmental products manufacturer based in Windsor, Connecticut, has received HIREVets Platinum Medallion award from the U.S. Department of Labor for 2021. This marks the third consecutive year that Eljen has received this award, which was publicly announced during a national awards ceremony by the U.S. Department of Labor on November 10, 2021.

The award was instituted by the 2017 HIREVets - Honoring Investments in Recruiting and Employing American Military Veterans - Act. This award is the only federal-level

veterans' employment award that recognizes a company or organization's commitment to veteran hiring, retention, and professional development. It shows that Eljen Corporation has a commitment to hiring veterans, ensuring that they have a long-term career and growth plan that uses the diverse skills they acquired through their military service.

Eljen Corporation actively recruits veterans re-entering the workforce and is committed to several organizations that specifically support veterans in need.

## INFILTRATOR HIGHLIGHTS NEW HIRES, PROMOTIONS

Among several new additions to the company this year, Infiltrator

Water Technologies highlights the hiring of Emmy Radich as Wastewater Research Engineer, Joe Fayan as Product Manager for the Delta Advanced Strategic Business Unit, and the re-hire of Jessica Stiner as Environmental Engineer; also we're pleased to announce the promotion of Evan Dalton to Engineered Systems Consultant for the Northeast U.S. and Eastern Canada.

Stay up to date on news from NOWRA corporate members in this recurring feature, which highlights new staff members, retirements, corporate acquisitions, promotions, special projects, anniversaries, etc.



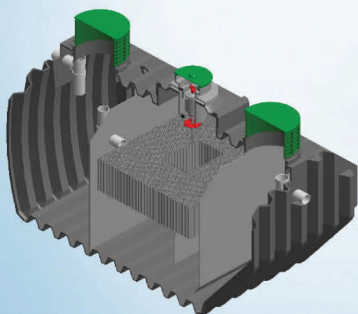
### Accu-Tab® Wastewater Tablets

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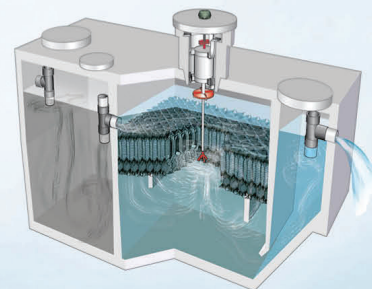
### Illumi-Jet UV Disinfection Unit

- Hermetically sealed electrical components
- High capacity disinfection reservoir
- Kapton seals improve serviceability



### Residential & Commercial Treatment Plants

- Concrete and rugged polyethylene material
- 500-1500 GPD Residential Systems
- 1500-300,000 GPD Commercial Systems
- Up to 800 GPD in plastic design
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# CONFERENCE RECAP

**by Thomas Groves, NOWRA Executive Director**

After what seemed like forever (but was only two years), NOWRA was excited to once again hold an in-person conference in 2021 in San Marcos, Texas. And from the turnout and reception of the conference attendees, everyone was excited to be meeting back in person again.

NOWRA hosted the 2021 Onsite Wastewater Mega-Conference on October 17 through 20 at the Embassy Suites Hotel and Conference Center in San Marcos, Texas along with our collaborating sponsoring organizations, the National Association of Wastewater Technicians (NAWT), the State Onsite Regulators Association (SORA), and NOWRA's Texas affiliate, the Texas Onsite Wastewater Association (TOWA). The Mega-Conference is the largest event of its kind and offers onsite/decentralized professionals the highest quality education and training available. This annual conference was held virtually in 2020 due to the pandemic and was last held in-person in Colorado in 2019. With over 500 attendees both in-person and virtually for the 2021 Mega-Conference, we are proud to call the 2021 event a success.

The 2021 Onsite Wastewater Mega-Conference featured technical and educational sessions, an exhibit hall with the latest in onsite technology, committee/board meetings, optional field trips, and an invitation-only research forum held at the conclusion of the conference. There were also plenty of opportunities for attendees to network with their peers – something that had been missing the last two years as everything went virtual.

In order to successfully meet in person, the conference organizers took the necessary precautions to make sure



*Conference committee chairperson Tammy Trantham and NOWRA Executive Director Thomas Groves.*

that the meeting was safe for all attendees. Protective face masks were provided to all attendees upon check-in and were recommended for use whenever possible, ample sanitation stations were set up around the conference, and meeting room spaces were doubled in order to provide social distancing for all attendees. NOWRA's new Executive Director, Tom Groves, stated "I could not have been more pleased with the participation, support, and enthusiasm of the attendees and volunteers. Whereas this was my first Mega-Conference as Executive Director, I was a bit nervous in making this all come together especially in the current post-pandemic times, but it all came together thanks in great part to the many volunteers."

Over 50 technical sessions were presented as part of the Mega-Conference, which included an opening general session for all attendees and five concurrent tracks. Tracks included hot topic areas of Policy & Education, Installation & Management, Equipment & Advanced Treatment, Challenges in Wastewater, Funding & Business Management, and focused tracks on NAWT





*NOWRA President Sara Heger presented the Otis Achievement Award to Ron Suchecki's family during the opening session.*

and TOWA issues. A virtual session was also provided for those who could not attend in person this year with almost 100 attendees present virtually. All opening session talks, as well as one full conference track with several additional recorded presentations, were provided to the virtual audience.

The opening session was facilitated by NOWRA President, Sara Heger, Ph.D. and it provided thought provoking/high level topics for attendees to contemplate with keynote presentations on Resiliency, Sustainability, and Onsite Wastewater – What We Have Accomplished and the Projected Future, by John Blount, P.E. of Harris County, Texas, and The Science of Science: Identifying Strategic Research Needs for Environmental Science, Engineering and Public Health, presented by Bryan Brooks, Ph.D., Baylor University. These presentations set the stage for the conference and were followed by updates on policy development and representation with a US EPA Update by Andrew Sawyers, Ph.D., and How NOWRA Represents Your Interests in Washington, DC, by Tracy Hammond, Polsinelli, LLC.

At the conclusion of the Opening Session, President



*Dr. Bryan Brooks answers questions from attendees during his keynote presentation.*

Heger announced that the 2021 Richard J. Otis Industry Achievement Award was being awarded posthumously to Ronald Suchecki, Jr. Ron was a devoted volunteer to NOWRA and TOWA and the onsite wastewater industry, as well as a devoted husband, father, son, and friend to many. It was appropriate for this award to be given in his memory at the Mega-Conference in his home state of Texas. Heger presented the award to Ron's family, who were in attendance to receive the award.

Two successful field trips were provided as an option to attendees to learn more hands-on about High Strength Waste or Water Reuse. Attendees of these field trips were able to visit several sites featuring the latest in technology and to learn about how these wastewater issues are handled in Texas. The High Strength Waste field trip attendees even got to experience some good old-fashioned Texas barbeque at the beautiful Dripping Springs Distilling Company after visiting several commercial sites.

We were also pleased to have an in-person exhibit hall once again to afford an opportunity for onsite



wastewater product manufacturer representatives to meet one on one with attendees, industry representatives, regulators, and others. Forty-one companies exhibited at this year's Mega-Conference, which featured networking time during breaks, lunches, and cocktail hour to meet and converse with attendees. We could not have held such a successful conference without the support of our exhibitors and sponsors.

While networking was going on in the exhibit hall, there was a lot of action going on in the parking lot as NOWRA hosted the 2021 National Backhoe Roe-D-Hoe® finals. Many attendees showed off their skills as they competed for prize money, a belt buckle, and bragging rights. The 2021 winner of the National Backhoe Roe-D-Hoe® was Michael Braden from LBC Manufacturing, LLC of Fayetteville, Texas.

The last day of the Mega-Conference provided a discussion forum on the NOW-R2, or Needs for Onsite Wastewater Recycling Research, which was a survey launched earlier this year by NOWRA and Baylor University. The survey provided an opportunity to identify priority research needs for decentralized wastewater treatment and resource recovery. The forum was a means of sifting through the data gathered and prioritizing it for next steps. NOWRA President Heger stated, "The research symposium was a great opportunity to bring together people from across the U.S. with very different roles, responsibilities, and perspectives and there is no doubt that this activity will drive research priorities in our industry in the future." For more information on the Research Forum, see the related story on page 14.

With the 2021 Onsite Wastewater Mega-Conference successfully behind us, NOWRA and our partner organizations are eagerly looking forward to October 30 – November 2, 2022, when we will be in Springfield, Missouri for the next Mega-Conference working closely with our Missouri affiliate, Missouri Smallflows Organization. We hope you will join us then!



*Eljen Corporation staff interact with attendees in the exhibit hall.*



*Michael Braden shows off his skills in the Backhoe Roe-D-Hoe®.*



*Field trip attendees learned about wastewater reuse at an RV park.*

NOWRA's Board of Directors thanks its Corporate Members for their support of NOWRA's activities:

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**Gold Level:**

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Polylok

**Bronze Level:**

Geoflow, Inc.

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Netafim USA

WaterColor Management

**Copper Level:**

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Orenco Systems

Residential Sewage Treatment Co.

Roth Global Products

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**Why You Should be a NOWRA Corporate Member for 2022**

**Increase your visibility with industry professionals**

Corporate Membership in NOWRA is an investment that enhances your business marketing efforts while showing your support of our mission to advance and grow the Onsite and Decentralized Wastewater Industry.

**Corporate Membership Benefits**

- Conference Booth, Sponsorship, and Advertising Discounts
- Onsite Journal Advertising Discounts
- Individual NOWRA Memberships
- Participation in the Legislative DC Fly-in
- Recognition in the Industry
- Federal Advocacy on Your Behalf

**Advocacy Successes**

1. NOWRA worked with Congress on the Infrastructure Investment and Jobs Act (H.R. 3684) that was just signed into law by President Biden on November 15, 2021. The water infrastructure bill creates a Decentralized Wastewater Grant Program for the repair or replacement of failing or non-existent septic systems owned by low-income homeowners. The Act authorizes \$50

million of funding for each of the Fiscal Years 2022 – 2026, for a total of \$250 million.

2. NOWRA is working with EPA on implementation of legislation we sponsored which was passed into law as part of the 2018 Water Bill (America's Water Infrastructure Act of 2018) requiring EPA to create a Decentralized Technology Clearinghouse and to share information about the cost-effectiveness of decentralized systems with local governments and other groups. EPA must regularly report back to Congress about how they are supporting the increased use of decentralized systems.
3. NOWRA is monitoring the U.S. Census Bureau's efforts to include a "sewer or septic" question added to the Annual American Community Survey (ACS). This question was removed from the decennial Census after 1990. NOWRA worked with EPA to get them to submit a request to have this question included on the survey. In October 2018 the U.S. Census Bureau accepted the EPA proposal and the question is moving forward to the next stage of cognitive and field testing. This is on track for addition to 2026 ACS.

**To learn more about or to join NOWRA's Corporate Membership program, please contact us at (978) 496-1800, by email at [info@nowra.org](mailto:info@nowra.org), or on our website at [www.nowra.org/about/corporate-members/](http://www.nowra.org/about/corporate-members/).**

# UPDATE ON NOW-R<sup>2</sup>

## Research Symposium held at 2021 Mega-Conference

**Bryan W. Brooks, Ph.D., and Sara F. Heger, Ph.D.**

Earlier this year we launched NOW-R2, or Needs for Onsite Wastewater Recycling Research, an exceptionally unique opportunity to identify priority research needs for decentralized wastewater treatment and resource recovery. NOW-R2 generally follows a model employed for previous horizon scanning exercises that have identified ongoing challenges, and problems and opportunities facing a field or research community within the next few years. The NOW-R2 initiative started with a survey, which asked professionals from industry, academic institutions, government agencies, and nongovernmental organizations several key questions related to technical scientific and environmental management research that, if answered, would advance the science and the practice of decentralized wastewater over the next decade. Again looking to a horizon of the next 5-10 years, survey participants were also asked what decentralized challenges or opportunities will require new or modified approaches or technologies, and what resources or tools will be needed within the practice of decentralized wastewater treatment and resource recovery. We are grateful to everyone who took time to take the survey.

We received responses to the NOW-R2 survey from hundreds of professionals across disciplines and sectors. These responses were then partitioned among common themes by a steering committee representing multiple stakeholder groups. These themes were comprehensive and diverse, ranging from treatment, performance and resource recovery, and resiliency, efficacy and sustainability, to environmental quality and public

health, regulation, enforcement and environmental justice, and information systems and data.

As part of the National Onsite Wastewater Recycling Association (NOWRA)'s 2021 Mega-Conference in San Marcos, Texas, a workshop with breakout groups was held on October 20 with ~30 attendees, representing the broader practice and scientific and engineering communities and thus mirrored survey respondents. Again following a well-established approach, workshop attendees further synthesized submissions from the NOW-R2 survey to finalize consensus-based priority research questions and priority problem statements.

Over the next few months, we will be preparing a full manuscript for submission to a major international journal. Next steps will then include broader outreach by NOWRA and our partners to

engage leaders and decision makers within non-governmental organizations, private industry, and government agencies. We are sincerely grateful to everyone who took time to take the survey, and to the workshop participants, for their commitment to NOW-R2 and advancing decentralized wastewater treatment and resource recovery.

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About the Authors: **Bryan Brooks, Ph.D.** is Distinguished Professor in the Department of Environmental Science, and Director of Environmental Health Science at Baylor University in Waco, Texas.

**Sara Heger, Ph.D.** is a researcher and instructor at the University of Minnesota in the Onsite Sewage Treatment Program in the Water Resources Center and is an Adjunct Assistant Professor in the Bioproducts and Biosystems Engineering Department. She is the current president of NOWRA.

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Images from breakout groups at the NOW-R2 Workshop on October 20.

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Research teams inspecting newly installed onsite wastewater reuse technology.

# TAMU ONSITE WASTEWATER RESEARCH

**Anish Jantrania, Ph.D., P.E., MBA**  
**Associate Professor and**  
**Extension Specialist at Texas**  
**A&M AgriLife, Biological and**  
**Agricultural Engineering**

Research is necessary for the advancement and progression of any industry, including the onsite wastewater industry. However, funding a strong, sustained, research program at a state level is quite challenging. In the early '90s, Texas State legislators debated and passed a law requiring the state's environmental regulatory agency to award competitive grants supporting applied research and demonstration projects regarding on-site wastewater treatment technologies. It was famously called the "\$10 research fee law" which required all local permitting entities to send \$10 per permit processed to the state agency that supported research efforts for two solid decades, from 1992 to 2012. The Onsite Wastewater Center at

Texas A&M University (TAMU) is one of the programs started with the support from this funding.

The \$10 research fee law was sunset (expired) in 2013, and state funding for onsite wastewater research stopped. However, in 2015, the Texas Onsite Wastewater Association (TOWA) got involved to reinstate the research funding through political lobbying efforts, communication with state academic institutions, and working with the other public entities interested in continuing the onsite wastewater research in Texas. In 2017, the 85th Texas Legislative Session passed House Bill 2771 and renewed the requirement for the state environmental regulatory agency to award competitive grants in support of applied research related to on-site wastewater treatment and reuse technologies. Since then, two rounds of research projects have been funded, first in 2019

and a second round in 2021. Texas A&M's onsite wastewater research team successfully secured the research funds from both rounds. The team completed three research projects (ATU, LPD, and Reuse) in August 2021, funded through the 2019 funding round, and draft final reports are scheduled for submission to the funding agency in late November 2021. Three papers were presented by the Principal Investigators (PIs) of each project at the NOWRA Conference in San Marcos, Texas in October 2021, giving details on all three projects. Visit TAMU's onsite wastewater website page (<https://ossf.tamu.edu/togp-research/>) to download papers and get future updates.

Despite the ongoing challenging work conditions caused by the COVID-19 Pandemic starting in March 2020, the TAMU research team was able to accomplish five



major items during the two-year research program:

1. Installed three new aerobic treatment units (two for ATU project and one for Reuse project) and three designs of pressure dispersal for LPD project.

2. Set up six automatic refrigerated samplers for collecting influent and effluent samples from treatment units and installed high-tech moisture samplers in the new LPD field for measuring soil moisture content continuously under the LPD trenches.

3. Completed RELLIS campus main sewer line realignment project to increase the flow of raw wastewater to the research center for supporting current and future research projects.

4. Conducted nine months of sample/data collection programs, generating >2,200 effluent quality data points, and >300,000 soil moisture/effluent level data points for analysis and answering research questions raised in all three projects.

5. Installed a new field laboratory building (450 square feet of workspace) to support future research and workforce development/training programs related to onsite wastewater treatment and reuse projects.

RELLIS Campus located in Bryan, Texas (about 20 minutes from the TAMU main campus in College Station, TX) is the newly renovated campus in the Texas A&M University System specifically focused on field research and workforce development programs. Visit their website <https://rellis.tamus.edu/> for more information on this campus.

Besides supporting the state funded onsite wastewater research programs, the onsite wastewater center is also used for hosting a five-week Research and Extension Experience for Undergraduate (REEU) project funded by a federal agency, National Institute for Food and Agriculture (NIFA), in which the

TAMU research team offers hands-on research and extension activities related to reuse water quality to selected undergraduate students.

Since the beginning of the program in 2017, a total of 47 undergraduate students from various backgrounds have successfully completed the program and enjoyed getting hands-on experience working with a variety of onsite reuse water quality assessment projects. For more information on the program, including the application process for 2022 application

process visit <https://reeu.baen.tamu.edu/>. **17**

Thus, with the research funding support from both state and federal agencies, and with the fees collected from the education and training activities offered online and in-person, TAMU onsite wastewater team can operate research and workforce development center on the RELLIS campus and meet the demands for science-based information to advance proper use of onsite wastewater treatment and reuse systems in Texas and elsewhere.

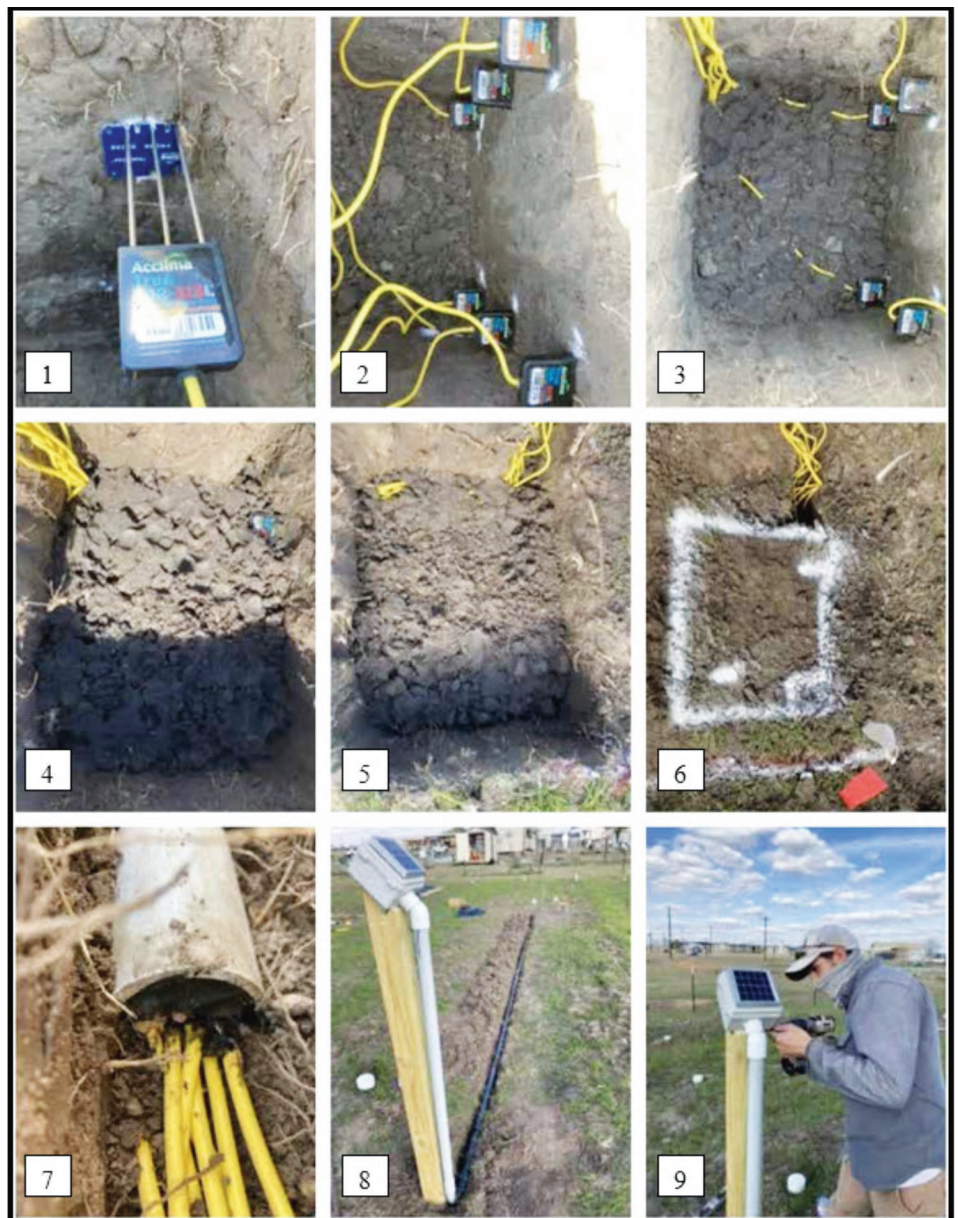


Photo collage showing installation of the TDR samplers and data collection wiring for continuous soil moisture monitoring under the LPD trenches.

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are sometimes faced with systems experiencing problems or out of ordinary situations. This course walks through a typical treatment train starting with the flow coming from the structure and then walks through component troubleshooting including septic tanks, pumps and controls, soils, media filters, aerobic treatment units and finally soil treatment units.

## DESIGN COURSE

NOWRA has developed seven courses in the critical area of design of decentralized systems. These courses lay the groundwork for design and will be expanded over the next several years. This course includes modules on topics such as aerobic treatment units, soil properties, soil water movement, making infiltrative decisions, and pressure distribution.

## MEGA MODULES

NOWRA has developed 12 courses from presentations at the 2020 Virtual Onsite Mega-Conference. These courses cover a wide variety of topics and were selected due to their continued relevancy to the decentralized industry. Modules include topics such as planning for sustainability, research updates, reuse, brewery waste treatment, nitrogen balance, urine diversion, and more.

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For more information about the online courses available through NOWRA and which ones are applicable to the state where you operate, go to <https://www.nowra.org/education/online-education/courses-developed-by-nowra/>

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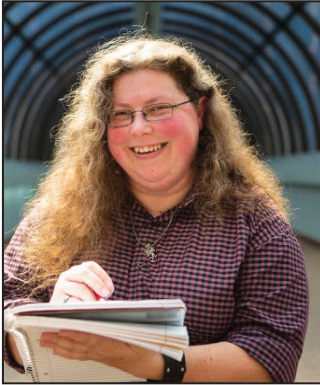
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# Welcome Our New Directors

Elections were held this fall for the new slate of directors. Each of these directors will serve a three-year term.



**TRICIA SCOTT**  
CATEGORY: REGULATOR

Tricia is a lifelong resident of Nebraska who grew up in a small town very close to the Wyoming border. She graduated from the University of Nebraska-Lincoln with a degree in geology. After college, she started working for the State of Nebraska in the Division of Weights and Measures. In 2014, Tricia took a position with the Nebraska Department of Environmental Quality in their Field Services and Assistance Division. In 2016, she moved to the Onsite Wastewater Section, where she worked as a Staff Assistant until being promoted to an Onsite Wastewater Program Specialist in 2019. Tricia has 17 years of experience working in state regulatory agencies, and five years of experience working in onsite wastewater regulation. She is currently employed as an Onsite Wastewater Program Specialist for the Nebraska Department of Environment and Energy. In her free time, she enjoys writing, reading, and riding her moped.



**CHRIS CHAPMAN**  
CATEGORY: SERVICE PROVIDER

Chris received a Bachelor of Science in Business Administration with emphasis in Management and Marketing from Columbia College, Columbia, MO in 2008. He then continued his education in Soil Sciences at the University of Missouri under the guidance of Dr. Randy Miles and is now one of the top Onsite Soil Evaluators in the state of Missouri for Onsite Wastewater Applications. After finishing schooling and state certifications he began his own company, Show Me Soils, specializing in soil evaluations for onsite systems in Franklin County and surrounding counties. Chris holds Missouri State Certifications as a Basic and Advanced Installer, Onsite Soil Evaluator and Inspector for Real Estate Transactions. He also holds Illinois State Certifications in Private Sewage Installation. Show Me Soils services approximately 1,500 systems a year, and this number continues to grow. These certifications and experience along with Chris' background growing up installing wastewater systems in the family business has given him a well-rounded view of the process these systems involve.



**CLAUDE GOGUEN**  
CATEGORY: SUPPLIER/MANUFACTURER

Claude is a civil engineer having worked in the concrete and construction industry for over 26 years. Since 2008, he has been working for the National Precast Concrete Association (NPCA) and currently serves as director of outreach and technical education. Shortly after starting with NPCA, he was asked to serve as liaison to the wastewater products committee. Since then, he has been heavily involved in the onsite industry. Claude has presented numerous times to many state and county wastewater groups, as well as at national industry events organized by NOWRA, WWETT Show, NEHA and WEFTEC. He has served on committees related to onsite wastewater, including ASTM Committee C27, NAWT Educational Committee and NOWRA Technical Practices Committee. As a result of this experience, Claude has learned a lot talking to people in the industry and has done his best to represent NPCA members in supporting the onsite wastewater industry.



**JOSHUA GUNIA**  
**CATEGORY: INSTALLER**

Josh is co-owner of A-Advanced Septic & Construction Services and current WOSSA Past President. He also currently sits as an Installer Representative on the NOWRA Board having being appointed to fill out a term. His company provides septic pumping, operations, maintenance, installation of septic systems and construction services. They are also an O/M service provider, and he is currently licensed in all of these areas.

The onsite industry has been directly affected by changing regulations, increasing economic pressures, and continuing technological change. Over the past decade Josh has worked directly with the Pierce County Health Department as a voice for not only small business interests but also homeowners who have been faced with the challenges of meeting these ever-changing regulations. As a WOSSA member, he strongly supports the efforts of WOSSA as a voice for the Industry. WOSSA has provided affordable training and forums to discuss the important issues facing all the professionals in our industry.

With over 20 years of experience, Josh has faced the same challenges all other maintenance providers have faced and needed to overcome. They provide pumping and O&M inspections under new regulations and advise the health department where new programs potentially threaten all industry viability and the homeowners' best interest. As the NOWRA installer representative, he will continue to advocate these efforts to the wider on-site community and will encourage focus on business viability in this changing environment.

**25**  
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Board of Directors and Committee Chairs at the October 17, 2021 NOWRA Board of Directors meeting (from left to right): Anish Jantrania, Ed Schloss, Josh Gunia, Curtis Moore, Kate Carney, Morris Smith, Sara Heger, Chris LeClair, Allison Blodig, Tom Schimelfenig, Carl Thompson, and Tom Groves

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Onsite Wastewater Program Specialist  
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**Morris Smith, P.E.**

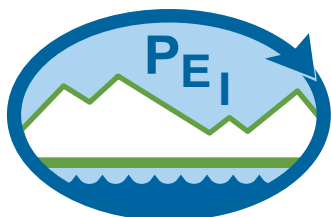
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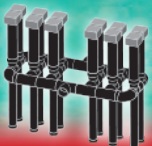
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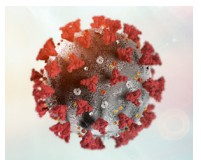


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