

ONSITE *journal*

Summer 2008

NEWS FOR THE DECENTRALIZED WASTEWATER INDUSTRY

Vol. 17 No. 3

Back to School—Installer Academy



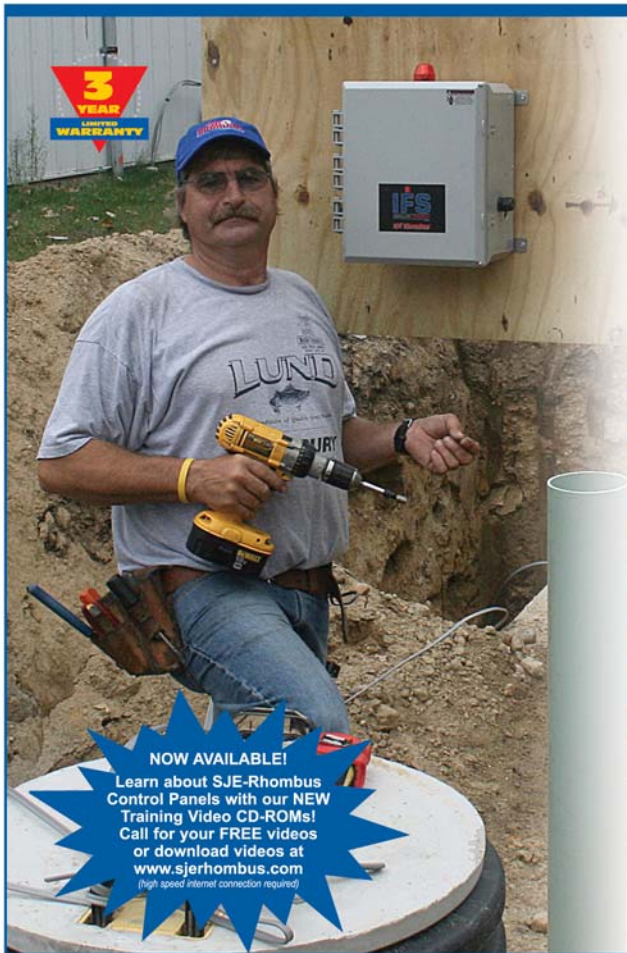
Featuring this Month:

- **Safety Matters for Installers**
- **Arizona Demo Site Revs Up**
- **Installer Academy Registration OPEN!**
- **VOTE! Board of Directors Election**

**Back To
The Future:
NOWRA'S New Focus**

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NEWS

from NOWRA HEADQUARTERS

By Alan Gale, Executive Director

Since BTF Enterprises' assumption of NOWRA's management and the consequent start of my tenure as your Executive Director, I have been stressing the importance of building a solid foundation from which to grow. My belief is that we are well on the way to becoming a new NOWRA. Please read the letter to the NOWRA membership from Jerry Stonebridge and Tom Groves regarding the recent strategic planning meeting. The important steps necessary to reform have been defined—consolidate our strengths, build relationships, solidify processes, and become a more effective team. I look back over these first eleven months of managing NOWRA, with satisfaction while knowing that there is a lot of work yet to be done.

An austerity program was created to curb costs and secure NOWRA's bottom line. In the first six months of 2008, NOWRA saved \$172,000 in operating expenses. That is a huge accomplishment that I am particularly proud of. These savings were accomplished by negotiating new contracts with existing vendors and using some of BTF Enterprise's suppliers, curbing conference-event spending, curbing expenditures on telephone conference calls, obtaining better and more cost-effective insurance, negotiating payment plans to pay off old debt, and working with our Treasurer to scrutinize every expenditure. Increasing NOWRA's available resources by spending money wisely helps to deliver the member benefits you want.

There are many accomplishments in operations to be proud of, also. Hiring the right people is extremely important to success. Jessica Finney, your Account Manager, joined the team before the Annual Conference. She made an immediate, positive impact because of her excellent background and education. If you have not already met her, you will get a chance to do so at the Installer Academy, December 8–10 in Las Vegas. The benefits of hiring an association-management company include the instant resources that are available. At present, there are eight BTF Enterprises people working on NOWRA projects in one capacity or another. We are trying very hard to improve existing programs, create new benefits, and help transition to the future.

Conference Committee, Education Committee, and BTF Enterprises personnel brought two conferences to you in the first six months of my tenure. New contracts, new events, new agendas, exciting venues, great teams, all consolidated to bring you new conference experiences. When I hear comments such as, "I thought the meeting in Memphis was very good" and "I sense that NOWRA is getting back on track," I gain confidence that NOWRA is headed in the right direc-

tion. If you have not already done so, I recommend that you attend one of the NOWRA conferences or an Affiliate's event. They are all fantastic.

I am particularly excited about NOWRA's new database, which brings greater accuracy to the Septic Locator, new tools for Affiliate administrators, new membership communication tools, and even revenue opportunities for NOWRA and the Affiliates.

I cannot stress enough the importance of relationships, especially in the onsite industry, a tight-knit community. We have spent time talking to many of you, discussing issues, and getting your input on areas in which NOWRA can improve. It is critical to continue to foster those relationships and new ones. This is a difficult time for the U.S. economy, our industry, NOWRA, the Affiliates, manufacturers, and stakeholders. We will make it through these difficult times if we stick together and keep the common mission in mind: to advance and grow the onsite industry.

These accomplishments have enabled NOWRA to rebuild the foundation of a solid organization. It is important to understand our past struggles in order to create a brighter future. Key individuals have contributed tremendously in time and ability to strengthen NOWRA's hand in serving its members and influencing the onsite industry. The Board of Directors and the committees—especially the Executive Committee—have worked very hard with BTF Enterprises to improve NOWRA. I hope that you, as a NOWRA member, realize the importance of your involvement in the Association and in the industry at large. I look forward to working with all of you in the future as we move NOWRA forward as an industry leader. ■



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ONSITE[®] journal

Summer 2008

NEWS FOR THE DECENTRALIZED WASTEWATER INDUSTRY

National Onsite Wastewater Recycling Association, Inc.

Vol. 17, No. 3



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NOWRA's first Annual Conference was held in 1992 at Lake Buena Vista, Florida. There were six exhibitors: Clearstream Wastewater Systems, Inc.; Klargestar, Inc.; MultiFlo Waste Treatment Systems, Inc.; NORWECO, Inc.; Scienco/Fast Systems; and Waste Water Systems, Inc. There were approximately 100 people in attendance (including exhibitors and attendees). The association had around 170 members then. Now it has 5000 members.

The continued growth and success of NOWRA over the past sixteen years have been fueled by the strength and support of its diversified members/volunteers. As diverse as we are, there is a common thread that binds us together—our passion for promoting the onsite/decentralized, distributed, integrated water management concept as a choice for sustainable infrastructure. For me, it is the *only* sustainable infrastructure.

Nowadays, the United States and many other countries are turning "green" in their attempts to meet their water needs. NOWRA has always been "green." Erma Bombeck talks about it in her 1978 book, *"The Grass Is Always Greener Over The Septic Tank."* The reuse of wastewater (a better term is "nutrient-rich water") for fertilizing landscapes and

eventually recharging groundwater and surface water is what the decentralized industry does. Even in the beginning, the founders of NOWRA realized that recycling wastewater was a very important part of its mission—hence our title "National Onsite Wastewater Recycling Association."

As water becomes scarcer, there will be a rising demand to invoke the four Rs: Reduce, Reuse, Recycle, Reclaim *all* water: potable, waste, storm, irrigation, and industrial. NOWRA has the members who know how to apply the four Rs. We do it now and now is the time for our membership to step to the plate and support NOWRA as the leader in the field of distributed sustainable infrastructure.

Yes, we are all pulled in many directions—making a living, caring for families, supporting causes . . . all of these activities take time and energy—but, as the president of NOWRA, I am asking every one of you to put a little more of your energy and time into your support of NOWRA. Become involved – serve on a committee, for example.

The future of distributed sustainable infrastructure is NOWRA's future. All we have to do is reach out and grasp it.

We need your support. GET INVOLVED! Call Alan Gale, our Executive Director, at 1-800-966-2942. ■

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Back to the Future: NOWRA's New Focus

Our nation is immersed in anticipation and renewed energy as it faces a change in leadership. NOWRA, too, must face at this time its own need for change. The Board of Directors has heard from people who cherish the value and promise of NOWRA's position as a leader of the onsite industry—they call for us to meet the changing needs of NOWRA's members who face new challenges and widening horizons. The Board concurs with the call to adapt. It recognizes the threat of eventually encountering crisis if it does not act now.

To meet the challenge and chart the future for NOWRA, more than twenty stakeholders representing a cross section of NOWRA's leadership and membership met in Memphis, TN, for three days in August. Overall, the meeting was both

positive and productive with open and honest dialogue. Everything that NOWRA currently is and does was open for discussion, dissection, and evaluation. The history of why some past approaches and programs did not succeed was laid out on the table. We made peace with that history and are looking to the future.

Though the gathering was originally termed a strategic planning meeting, what came out of it was the foundation of a business plan. NOWRA's mission remains unchanged—"to advance and grow the onsite and decentralized wastewater industry by promoting sustainable wastewater management on a watershed basis through education and outreach." Likewise, NOWRA's inclusive spirit remains the same with a vision of "developing the best and broadest network of people dedicated to developing sustainable decentralized water recycling systems."

So what will change, you may ask? As we looked at our membership base during the meeting, we recognized a clear answer to the question "Who are our primary customers?" The answer: our state Affiliates and the manufacturers. Those two groups are the core of the NOWRA membership, and they will benefit from new structures and initiatives. Our focusing on the Affiliates will allow us to streamline NOWRA and become more efficient in delivering service to onsite professionals through them; after reinforcing the foundation of our relationship with current Affiliates, we will endeavor to establish and grow new Affiliates in additional states, thereby bringing more states under the national umbrella. A focus on the manufacturers will build a reciprocal relationship, identifying and creating benefits that meet the needs of those core sponsors. The business plan will be crafted to ensure that all the other important categories of NOWRA membership, such as regulators, academia, installers, service providers, and

engineers, will continue to be included as essential recipients of NOWRA benefits. These sectors are still very much affected by the national presence of NOWRA and will benefit from a strong national organization. Delivering member benefits efficiently, will enable us to devote more time and resources to strengthening NOWRA's national voice, leadership, and strategic partnerships.

Throughout the deliberations of the strategic planning meeting, the NOWRA Annual Conference surfaced as a unique and valuable venue for using the exchange of ideas and information to blend together the different sectors of the onsite industry. The conference was seen to be a national platform for promoting the value of decentralized

systems and the place to learn about new research and hot topics in the industry. It provides NOWRA with opportunities to expand its network beyond its own industry and to tap into the emerging sustainable-resources movement.

We will not be building a new house. Rather, we will be strengthening the foundation of our current house and remodeling for the future. Several new or redesigned programs are being proposed as part of the new plan. To help shape the final products, we will be soliciting feedback on the details from the Affiliates, manufacturers, and other affected member categories.

Following through is crucial. The strategic planning task force and the management team are committed to completing a solid, feasible business plan by December, when it will be presented to the Board of Directors at the Installer Academy. If accepted by the Board, the new plan will be revealed officially to the membership at the beginning of 2009.

We hope you will continue to support NOWRA as we take this stride to becoming the "go to" organization for the onsite industry.

Sincerely,

NOWRA EXECUTIVE COMMITTEE

JERRY STONEBRIDGE
President

TOM GROVES
Vice President / President-Elect

BRIAN MCQUESTION
Secretary-Treasurer

RAYMOND PEAT
Past President

NOWRA Members . . . Your Involvement Counts

By Hilary Moore, *Affiliate Leaders Committee Chair*

Recently, I wrote an article entitled “Help Shape DOWRA; Getting Members Involved.” By reading the title you can recognize that the purpose of the article was to help our DOWRA Affiliate put vigor into its membership participation. But that is a task that every group, including NOWRA, seems to struggle with. We sometimes forget that we have obligations to NOWRA as well as to our own Affiliate. It is important that we act as a team and work together for the common goal.

Many members of the onsite community may not have a lot of time or resources to give. However, there are many ways to get involved, even without leaving the comfort of your own home! Here are some of the things you can do to make the most of your membership and strengthen NOWRA as a leader in the onsite industry.

Understand What NOWRA Is

The first step to getting involved is understanding what NOWRA is. Learn about the organization by visiting its website www.nowra.org. The website provides an overview of NOWRA’s mission, vision, and goals. It presents NOWRA’s bylaws, board of directors, committees, educational tools, events calendar, Affiliates’ contact lists, and more. The resources in that “more” category will be expanded in the coming year. Already available is the *Septic Locator*, a directory of septic products, services, and industry professionals organized by local areas. That directory is a valuable search tool available free to NOWRA members and the public. As such, it is an ideal advertising tool for members—check to make sure that the details of your membership are listed correctly!

Provide Educational Support

NOWRA continues to increase the quantity and quality of educational material presented in its quarterly *OnSite Journal*. It relies on each affiliate to report activities in its own geographical area—legislative updates, regulatory updates, committee activities, emerging ideas, fulfilled ideas, professional accomplishments, etc. Technical and educational articles published in Affiliates’ newsletters can provide local perspectives of interest and value to the *OnSite Journal*’s national readership.

Support Conferences and Educational Seminars

NOWRA hosts two conferences each year—the Annual Conference and the Installer’s Academy—and makes it a practice

to support the Affiliates in producing their own conferences and seminars. Likewise, it is important that each Affiliate supports NOWRA in achieving success in its national-conference activities. Affiliates can help by disseminating information to their members in many ways, such as emails, website notices, and articles or displays in newsletters.

Attendance at a NOWRA conference provides support to the national association but also gives the attendee opportunities to gain nationwide industry contacts and learn of new studies and technology advancements within the industry.

Become a Committee Member

NOWRA hosts committees that support the needs of the Association and its membership. To serve their purposes, the committees need to draw on the cumulative knowledge and experience that reside in the members themselves. The committees’ spheres of interest are revealed in the names: Education, Executive, External Affairs, Conference, Finance, Government Relations, Marketing/Communications, Model Code, Local Affiliate Leaders, and Technical Practices. One of the most valuable forms of involvement in your Association is serving on one of those committees.

Support Your Affiliate’s Liaison Contact

On the last Thursday of every month, all the Affiliates’ liaison contacts participate in a conference telephone call. The purpose of the call is to disseminate information pertaining to NOWRA’s Board of Director meetings, committee meetings, and other activities. The conference call is also a forum for each Affiliate’s liaison contact (usually a board member, executive director, or manager) to voice concerns and ideas pertaining to the onsite industry. The calls provide the strong communication link that makes the work of the national organization and the local Affiliates most effective.

Get to Know Someone

NOWRA offers a wide variety of forums and facilities whereby you can voice your opinions and get to know other members—conference calls with set agendas for discussion, annual and local conferences, the membership directory, the Board of Directors directory, etc. Your participation will make a difference. You can write a letter, participate actively at a meeting, or serve on a committee or board of directors—no matter what level or type of involvement you choose, your views and opinions will be shared with your peers and will influence the future of the onsite industry. ■

Excavation Safety

*Excerpted from CIDWT National Installer Training Curriculum
for the Onsite Journal by Nancy Deal*

*By Bruce Lesikar¹, John Buchanan², Sara Christopherson³,
Nancy Deal⁴, Kitt Farell-Poe⁵, David Gustafson⁶, David Kalen⁷,
David Lindbo⁸, George Loomis⁹, Rebecca Melton¹⁰, Randy Miles¹¹*

Every person on a job site is responsible not only for his or her own safety but also the safety of those around them. If safety is the most important goal on the site, everyone gets to come back to work the next day. Companies in this industry do not typically have an employee assigned specifically to oversee safety. That means that the supervisor or crew leader is often the “competent person” according to Occupational Safety and Health Administration (OSHA) standards. Workers should always feel free to express their safety concerns to the crew leader on the site at any time. When they do, the leader should stop, listen to the worker, and evaluate the potential safety issue that has been raised. Installers must identify critical issues, follow OSHA standards, and have a written safety plan that is followed by all. Under these conditions, an accident is an unforeseen incident that occurs while following established protocol instead of an incident resulting from an unsafe condition on the site.

As the use of advanced pretreatment components becomes more frequent, deep excavations for installations become

more common. Such units must be installed level and this means that personnel must sometimes enter the excavation to adjust the grade. One cubic yard of soil can weigh 3000 pounds. Identifying and mitigating potential hazards related to excavation is obviously critical.

An excavation greater than 4 feet deep is considered a confined space according to OSHA standards. If employees will be working in such an excavation, OSHA standards apply including the requirement for a “competent person” on the site. The competent person must have a higher level of training in order to make decisions regarding the types of hazards present on the site and appropriate safety precautions. OSHA standards state that a “competent person” meets all of the following criteria:

- By way of training and/or experience, is knowledgeable of applicable standards.
- Is capable of identifying commonly foreseeable workplace hazards.
- Is designated by the employer.
- Has authority to take appropriate actions.

Soil Classification

The competent person is responsible for general safety requirements, but in particular, (by law) the competent person is responsible for classifying the soil on the site. This classification is different from the United States Department of Agriculture (USDA) Classification. It is critical that the installer understand the distinction between the two classification systems. The USDA classification is essentially based upon the size of the particles present in a given soil. The OSHA system is also based on particle size but includes additional criteria regarding soil stability. The OSHA classification determines what sort of protection systems must be used for a given excavation and is based upon the relative risk of cave-in of an excavation. When one considers that most trench fatalities occur in trenches that are 5 to 15 feet deep, it makes sense that the soil classification is a critical component in any installation. The competent person must make decisions that determine the safety of all employees working in and around excavations.

continued on page 8

Authors' Affiliations

¹ Texas AgriLife Extension Service Department of Biological and Agricultural Engineering

² University of Tennessee Center for Decentralized Wastewater Management, Biosystems Engineering and Soil Science

³ University of Minnesota Onsite Sewage Treatment Program

⁴ NC State University Soil Science Cooperative Extension

⁵ University of Arizona Agricultural & Biosystems Engineering, Yuma Agricultural Center

⁶ University of Minnesota Onsite Sewage Treatment Program

⁷ University of Rhode Island, New England Onsite Wastewater Training Program

⁸ NC State University Soil Science Department

⁹ University of Rhode Island, New England Onsite Wastewater Training Center

¹⁰ Texas AgriLife Extension Service, Department of Biological and Agricultural

¹¹ University of Missouri Department of Soil, Environment, and Atmospheric Sciences

Protective Measures

The purpose of classifying the soil is to determine what protective measures are required to prevent a cave-in and keep workers safe around excavations. Sloping, shoring, and shielding are the three standard preventive measures used in excavations less than 20 feet deep.

Sloping the sides of an excavation is one way to prevent a cave-in. The amount of sloping required is dependent upon the OSHA soil classification as shown in Table 1. Note that excavations in Type A soils that are less than 12 feet deep and will remain open for less than 24 hours can have a 1/2:1 slope. However, it is critical that the competent person obtain appropriate OSHA training prior to making such decisions.

TABLE 1.
Maximum allowable slope for excavations less than 20 feet deep based on soil type.

Soil or Rock Type	Maximum Allowable Slopes (H:V*) for Excavations Less Than 20 Feet Deep
Stable Rock	Vertical (90 Deg.)
Type A	3/4:1 (53 Deg.)
Type B	1:1 (45 Deg.)
Type C	1 1/2:1 (34 Deg.)

* Horizontal to vertical ratio of slope

Benching is a protective measure achieved by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels.

Shoring is a protective measure that uses aluminum hydraulic shoring to stabilize the walls of the excavation. The OSHA standard (Appendix D of Subpart P of standard 1926) provides information on the maximum vertical and horizontal spacing required according to the size of the aluminum members and the hydraulic cylinders used. Such structures should be designed by qualified individuals who have the appropriate knowledge, training, and experience.

Shielding involves the use of trench boxes in the excavation. Do not subject a trench box to loads exceeding those which the system was designed to withstand. Install and remove trench boxes in a manner that protects employees from cave-ins. Workers should never be inside of a trench box as it is being moved.

Access and Egress

If personnel will be working in the excavation, access and egress (a means of exit) must be provided every 25 feet of

lateral travel. Ladders must extend 3 feet out of the excavation (at least one rung above edge). Make sure ladders are rated for the appropriate load (250+ pounds). If ramps are provided as egress, personnel must be able to walk out without the use of their hands.

If there is a risk of falling loads (as there typically will be with the installation of a septic system), do not permit employees to work underneath loads handled by lifting or digging equipment. Any risk of overhead exposure means that employees should be provided with hardhats. Some states have additional requirements for high-visibility vests under these conditions.

Stability of Adjacent Structures

Note the relative stability of structures that may be adjacent to the location of the installation. Additional measures may be needed to ensure that adjoining buildings, walls, footings, foundations, retaining walls, sidewalks, or other structures are not compromised as a result of the excavations for the tank and soil treatment area. Measures might include shoring, bracing, or underpinning of these structures. Such protection must be designed by a professional engineer. If the installer suspects that excavation may compromise existing structure, they should consult the designer.

Water Accumulation

Employees should not be allowed to work in excavations where there is accumulated water. Appropriate options for dewatering excavations for tanks or other components should be implemented. If dewatering is not performed, protective systems must be installed to prevent cave-in. Workers entering an excavation containing water will be entering a confined space and must therefore have confined space entry training. This includes training in how to utilize confined space entry equipment such as safety harnesses and life lines.

If conditions indicate the need for dewatering of soil treatment areas, the installer should contact the designer immediately because such conditions should not be present at the depths typically excavated for trenches or beds.

Clear Line of Site

When the equipment operator does not have a clear and direct view of the edge of the excavation, certain safety procedures must be followed. Either use a barricade (such as guard rails, stop logs, or fences) or hand/mechanical signals conveyed from someone on the ground. The system of signals must be uniformly followed by all personnel, but only one person at a time should be designated to give signals to the equipment operator.

continued on page 35

Warning to People Working in the Field: Mosquito- and Tick-Borne Illnesses Are No Joke!

By Janet Murray, R.E.H.S.,
President, Missouri Smallflows Organization

If you make your living installing, inspecting, designing, demonstrating, or doing anything else that requires you to be outdoors in fields, gardens, high brush, woods, territory close to still or sluggish water, etc., the information that follows could help you avoid ending up how I ended up. I was flat on my back in a hospital bed with a raging headache, high fever, low blood pressure and white count, one arm hooked to an IV apparatus, the other being stabbed by a lab technician—well, you get the picture.

I had an unusually severe case of an infection that is one of many caused by tick bites and mosquito bites. The infections are of two types:

1. Viral—caused by a virus, in this context Arbovirus
2. Bacterial—caused by bacteria, in this context Ehrlichia

The Arbovirus is maintained in nature by biological transmission via blood-feeding arthropods (mosquitoes and ticks). In most humans, the infections are asymptomatic or result in a

non-specific flu-like syndrome. Sometime, as in my case, symptoms have a quick onset with fever, headache, myalgia, malaise, and prostration. Occasionally, the infection leads to Encephalitis (swelling of the brain), which can cause death.

The Ehrlichia bacteria also maintain biological transmission via blood-feeding arthropods but not via the mosquito. Symptoms are similar to the quick-onset symptoms of the Arbovirus infection, but in the Ehrlichiosis case there is an incubation time of 5 to 10 days after the tick bite. Untreated, Ehrlichiosis can be a very severe disease—as many as 50% of patients require hospitalization. Mortality is generally 2% to 3%, but immune-compromised patients have a significantly higher risk of death.

The key to preventing both tick- and mosquito-borne infections is to avoid exposure. However, in the work that we do in the onsite industry, that is next to impossible. So, personal protection becomes the most important key (see tips below).

Mosquito- and tick-borne illnesses can make you really sick in a really short time. Consider where you will be working and take the appropriate personal protection. Don't end up flat on your back like I did! ■

How to Protect Yourself from Exposure to Ticks and Mosquitoes

- Wear light-colored, long-sleeved clothing. This will help you to see ticks crawling on your clothing, as well as protect you from mosquitoes.
- Tuck your pants into your socks or boots so that ticks cannot crawl up your legs.
- Use an insect repellent that contains DEET and reapply every couple of hours. Apply the repellent liberally on your footwear and lower clothing.
- Upon returning from the field excursion, immediately conduct a tick check on your clothing and remove any that you find. Later, at home, conduct a tick check on your whole body and remove any ticks that you find.
- If you find a tick “dug in,” carefully remove it, keeping the head intact, and place it into a Ziploc bag; label and date the bag; put the bag in the freezer. If you become ill, the specimen may be of diagnostic value.

AzOWRA Revives Northern Arizona Demonstration Site

*By Richard Sinclair, AzOWRA President and
Justin O. Ramsey, Chairman of AzOWRA-NAU Steering Committee*

From 1999 to 2001 Northern Arizona University (NAU) applied grant funding from the Arizona Department of Environmental Quality (ADEQ) to the design and construction of an Onsite Wastewater Demonstration Project (OWDP) on the campus of the university. The goal of the facility was to demonstrate technologies available for use in Arizona. The facility was open to the public for several years and tours were given regularly to many organizations. Also, instruction in soil evaluation and in site evaluation, operation, and design was provided. Unfortunately funding slowed to a halt, and the OWDP eventually was mothballed.

The leadership of the Arizona Onsite Wastewater Recycling Association (AzOWRA) has generated new interest in the NAU OWDP facility, and an ad hoc committee has been formed to determine whether it can again be used to meet some of the decentralized wastewater needs of Arizona. The ad hoc committee eventually has transitioned into an actual steering committee, which currently is developing a strategic plan. The steering committee will be expanded to include representatives of:

- County Health Officials
- ADEQ
- University of Arizona (UofA)
- Arizona Water Pollution and Control Association (AWPCA)
- Arizona Water Institute (AWI)
- National Onsite Wastewater Recycling Association (NOWRA).

Through the generosity of vendors and practitioners, wastewater is flowing again through the NAU OWDP facility after a more than five-year hiatus. At this time, the wastewater is not being treated—it is simply flowing through the gravity sewer system into a revitalized lift station and being pumped back into the NAU sewer system. Soon, the university will be taking samples from the lift station to quantify and categorize the influent.

Much work needs to be done to develop a method for distributing the incoming wastewater to various treatment systems throughout the OWDP. When an existing Septi-Tech

processor (installed at the 2007 AzOWRA conference) becomes operational, it will be used as a test facility while a new dosing system is designed and installed.

Two members of the new OWDP Steering Committee will visit two successful facilities:

1. A county-run, third-party testing facility in Massachusetts that has 21 test cells on two acres of land. All test cells currently are in use, and there is a waiting list of systems to be tested.
2. A facility in Rhode Island that is strictly a training site with above-ground static displays.

They will be accompanied by NOWRA's President-Elect Tom Groves, who will visit the Massachusetts facility, and Board Member George Loomis, who will visit the Rhode Island site.

The steering committee's goal for the NAU OWDP is to use it as both a testing facility and a training facility. The trip east is a data-collection mission aimed at incorporating successful models into our unique facility. It is hoped that the facility will be representative for the western third of the U.S., but its primary goal is to meet the needs of Arizona specifically.

The next scheduled meeting of the AzOWRA-NAU steering committee will be held in November. At that time, the information received from the Massachusetts/Rhode Island trip will be disseminated and a detailed strategic plan for 2009 will be developed. ■

ABOUT THE AUTHORS

Richard Sinclair is a graduate engineer (Pennsylvania State University) with a career-long presence in the fluid-processing industry. During the past fifteen years, his focus has been the treatment of industrial wastewater; in the latest five years, his scope of work has grown to include biological wastewater treatment systems ranging in size from residential through 2 MGD. He is a founding member and current president of AzOWRA and a long-time member of AWWA, WEF, and AWPCA.

Justin Ramsey is an Engineer at Environmental Hydrosystems, Ltd., in Flagstaff, Arizona. He is also Part-Time Faculty at the College of Engineering, Forestry and Natural Sciences at Northern Arizona University.

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PROGRAM HIGHLIGHTS

This unique education and training program focuses on advancing the knowledge, skills, and professionalism of practitioners in the decentralized wastewater industry. The 2008 Installer Academy program has been expanded to meet the ongoing needs of installers and service providers. Here's a preview of some of the program's features:

- The **2nd Annual Roe-D-Hoe** consists of timed skill activities on Bobcat equipment, testing Installers' abilities. Participation in the Roe-D-Hoe allows Installers a chance to display their skills and experience while enjoying themselves at the same time. The national champion will win both a \$1,000 cash prize and a commemorative belt buckle with runner-up prizes for 2nd and 3rd place. The event will culminate with the National Roe-D-Hoe Championship Awards Ceremony and Reception in the Exhibition Hall with food and refreshments provided.
- The **CIDWT Installer Training Curriculum** will again be presented during the 2008 Installer Academy. These comprehensive, peer reviewed training materials are being developed in conjunction with NOWRA and NEHA. This program is designed to support the NEHA Certified Installer of Onsite Wastewater Treatment Systems (CIIOWTS) certification.
- This year's program includes a diverse range of **educational sessions** presented by over twenty onsite professionals. Technical, Practical, Business/Management and Credential/Legislative sessions will provide learning opportunities for everyone.
- **NAWT Vacuum Truck Technician Training** is a new addition to the Installer Academy line up this year. This full day training is for service providers who own or operate a vacuum truck used to clean septic tanks, aerobic treatment units, holding tanks or grease traps.
- **Vendor Product Training Rooms** are available for companies to provide hands-on instruction and education about their equipment and products. These sessions give attendees a valuable opportunity to learn directly from the source about the

attributes and capabilities of control panels, pumps, filters, wastewater treatment systems and other wastewater products.



Networking receptions in the Exhibit Hall give attendees the opportunity to connect with key manufacturers to learn the latest about their products and services.

- **Southwest Forum**—Participants for the Southwest states will discuss development of training and educational programs, as well as the challenges of designing onsite systems in this region for long-term sustainability of environmental resources.
- Attendees at all sessions receive **CEUs for professional advancement** (not applicable to licenses in all states). The Installer Academy provides incredible networking opportunities to learn the latest technologies that support customer needs and increase business.

PROGRAM OVERVIEW

DAY 1 MONDAY, DECEMBER 8

GENERAL SESSION

Keynote: *Tying It All Together—Design, Installation, O&M, Pumping*

Presenter: Tim Frank, Tim Frank Septic Tank Cleaning Co., Past NOWRA President

PANEL DISCUSSION: *Relationships and Troubleshooting among Designers, Installers, and Service Providers*

PANEL DISCUSSION: *Keeping Your Business Afloat in Tough Economic Times*

EDUCATIONAL SESSIONS

- Business & Management Sessions
- Credential & Legislative Programs
- Technical Education Sessions
- CIDWT Installer Training
- Exhibit Hall Opening Reception

DAY 2 TUESDAY, DECEMBER 9

- Roe-D-Hoe Competition (open all day)
- CIDWT Installer Training
- NAWT Vacuum Truck Technician Training
- Technical Education Sessions
- Vendor Product Training Rooms
- Roe-D-Hoe Award Ceremony and Reception

DAY 3 WEDNESDAY, DECEMBER 10

- CIDWT Installer Training
- Technical Education Sessions
- Southwest Networking Forum
- NEHA Exam

“I have attended many onsite training courses over the years, but I learned more here than ever before.”

— Kansas Installer



Roe-D-Hoe

NOWRA's 2nd Annual National Roe-D-Hoe skill competition is being held at NOWRA's 4th Annual Installer Academy on Tuesday, December 9th. This one-day event consists of timed skill activities on Bobcat equipment, testing installers' abilities.

Participation in the Roe-D-Hoe allows installers a chance to display their skills and experience, while enjoying themselves at the same time. The backhoe Roe-D-Hoe is "fun," but takes skill and "tests even the most seasoned operator." The winner must successfully complete all tests in the shortest total time. The national champion will win both a \$1,000 cash prize and a commemorative belt buckle with runner-up prizes for 2nd and 3rd place.

The Roe-D-Hoe will culminate with the Grand Finale National Roe-D-Hoe Championship, followed by the Awards Ceremony and Reception in the Exhibition Hall with food and refreshments provided. The participation fee is \$20. **You may pre-register with your Installer Academy registration or at the event.**

For more info about the Roe-D-Hoe, please contact:
NOWRA Headquarters • 800-966-2942 • info@nowra.org

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EDUCATIONAL SESSIONS

BUSINESS/MANAGEMENT

Mon. Dec. 8th • 1:00 – 1:45 pm • Royale 7

Design Options and Your Business Plan, Eric Larson, Septic Check, Inc.

This presentation will address design and installation with your business model and your customers' long term needs in mind.

Mon. Dec. 8th • 1:45 - 2:45 pm • Royale 7

Routing and Mapping your Customers Effectively, Jon Denney, SAFE Software

Attendees in this session will learn the basics of mapping, software tools available, importing data and how mapping will reduce costs and increase productivity.

Mon. Dec. 8th • 3:15 – 4:00 pm • Royale 7

Post Construction Site Evaluation: The Beginning of the Onsite Septic Management Program, Albert Royster, Volusia County Health Department

A post inspection after the installation can make a star out of the contractor. This session will cover what you can do during the inspection to validate system performance, which will lead to a positive relationship with the system user.

Mon. Dec. 8th • 4:00 – 5:00 pm • Royale 7

Onsite Wastewater Management through Aggressive Technology Application, Eric Evans, Kitsap County Health District, Bremerton, Washington

A local health regulator faces major obstacles with respect to the management of onsite wastewater treatment systems. Information will be presented depicting the successful application of an onsite management model, thus demonstrating how partnered management and technology may reduce critical failures of onsite wastewater treatment systems while contributing to the financial sustainability of the regulatory community

“I always learn something here! I appreciated the business track by people who understand our industry.”

– Terri Jakoubek, 2007 IA attendee

TECHNICAL/PRACTICAL

Mon. Dec. 8th • 1:00 – 2:45 pm • Capri 114/115

Natural Wastewater Systems, David Del Porto, Ecological Engineering Group, Inc.

Increasingly, on-site natural systems, such as phytoremediation, zero-discharge evapotranspiration, sequenced aquatic ecosystems, and subsurface flow constructed wetlands are finding their way into communities across the globe. Installers will learn what they are, how they work, installation issues and how to maintain them.

Mon. Dec. 8th • 3:15 – 5:00 pm • Capri 114/115

Onsite System Layouts, Kathy Morris, Certified Subsurface Operator, February Associates, Inc.

Onsite system layout is the physical marking on the site of the proposed location of components such as tanks, trenches, and distribution systems. This presentation will focus on identifying contours, determining how topography influences siting of onsite systems and employing laser levels.

Tues. Dec. 9th • 8:00 – 9:00 am • Capri 114/115

A Comprehensive Approach to Design of Conventional and Alternative Systems, Eric Larson, Septic Check, Inc.

The customer can be as important a variable as the site conditions when selecting system options. This discussion will address appropriate design options based on site, local government unit (LGU), and the customer.

Tues. Dec. 9th • 9:00 – 10:00 am • Capri 114/115

Design of Onsite Systems: Gravity Distribution, Kathy Morris, Certified Subsurface Operator, February Associates, Inc.

A basic onsite system consisting of a septic tank, a drainfield, and a scheme for distributing effluent from the tank into and through the field needs to be designed with critical factors in mind. Attendees in this session will learn to calculate component sizes using waste load and soil characteristics, compare gravity distribution options and devices, and determine how topography affects gravity systems.

Tues. Dec. 9th • 10:30 – 11:30 am • Capri 114/115

Alternative Disposal Area Technologies from a Regulatory Perspective, Russell Martin, Director, Division of Environmental Health, Maine DHHS

This session will provide a comparison of the various alternatives to stone disposal fields and include how stone systems and “proprietary devices” are sized.

Tues. Dec. 9th • 11:30 am – 12:30 pm • Capri 114/115

High Strength Wastewater, Russell Martin, Director, Division of Environmental Health, Maine DHHS

A discussion of factors affecting the composition and strength of domestic wastewater and why facilities such as restaurants need special consideration in the design and construction phases will be presented.

Tues. Dec. 9th • 1:00 – 2:00 pm • Capri 114/115

Design of Onsite Systems: Simple Pump Systems, Kathy Morris, Certified Subsurface Operator, February Associates, Inc.

Pumps are added to basic conventional onsite systems to achieve lift to a higher dispersal site, transport to a distant dispersal site, and/or pressure distribution to a site that for some reason is not suited to gravity distribution. Pump size depends on flow rate, elevation change, horizontal distance, and pipe size. This session will address pump-to-gravity and pump-to-simple-pressure-manifolds.

continued

EDUCATIONAL SESSIONS *(continued)*

Tues. Dec. 9th • 2:00 – 3:00 pm • Capri 114/115

Pump Selection and Control Basics, Darren Meyers, Zoeller Pump Company

This presentation will cover different pump styles and their suitability in different applications. It will also include pump sizing basics, control systems and components, as well as provide some trouble shooting tips.

Tues. Dec. 9th • 3:30 – 5:30 pm • Capri 114/115

Use of Imported Soil for Onsite Wastewater Systems in Marginal Soil-Site Conditions: Implications for Regulators and Installers, Randall Miles, Associate Professor, University of Missouri

This session will present data from the Table Rock Lake Water Quality Project in which imported soil was used for various onsite wastewater systems on limited area lots as well as in sloping and restrictive depth to bedrock situations. The discussion will cover the use of NSF Class I aeration followed by time dosed drip technology as well as the tight specifications of the soil, soil movement and placement, installation of the technology, and the rigid environmental conditions needed during installation. Both regulator and installer perspectives on the use of new technologies will also be discussed.

Wed. Dec 10th • 8:00 – 9:00 am • Capri 114/115

Design, Operation, and Maintenance of Large Onsite Wastewater Systems, Dennis Hallahan, Infiltrator Systems, Inc.

In this presentation we will explore the technology and design criteria for large community systems for residential development, wastewater treatment plant extensions, and commercial projects such as stadiums and large casino projects. We will also discuss opportunities and approaches for recycling and reuse of treated wastewater.

Wed. Dec 10th • 8:00 – 9:00 am • Capri 112/113

Troubleshooting Conventional Gravity Flow Septic Systems, Dan Tucker, NEHA CIOWTS, Alpine Excavating, LLC

The wastewater is backing up into the structure — now what do you do? This session will discuss how installers can prevent many, if not most, problems by installing systems correctly, thereby proving that prevention is far cheaper than repair. Topics to be covered include: finding the components (the septic tank, drain field, cleanout/access points); locating and assessing problems, and developing approaches to fix problems.

Wed. Dec 10th • 9:00 – 10:00 am • Capri 112/113

A Tool for Troubleshooting Conventional Residential Systems, Bill Stuth, Sr., Aqua Test, Inc.

This talk will focus on an extremely valuable tool, the troubleshooting checklist. Using a checklist not only provides the professional information needed for diagnosing the system but also can make the homeowner realize what they may be doing that is contributing to their failing system. The presentation will also include a discussion of the limitations of conventional systems.

Wed. Dec 10th • 9:00 – 10:00 am • Capri 114/115

Component Quality – Short-Term Choices Affect Long-term Costs, Darren Simmie, Sales Manager, Orenco Systems, Inc.

A wastewater treatment system is a harsh environment that can take its toll on the parts, pieces, and components that we choose to use for construction. The decisions that you make concerning the components that make up the systems will have a huge impact on the cost and longevity of that system. This presentation will challenge designers and installers to assess the suitability and durability of the parts they use or specify.

Wed. Dec 10th • 10:30 – 11:30 am • Capri 112/113

Erosion Control and Subsurface Wastewater Systems, Russell Martin, Director, Division of Environmental Health, Maine DHHS
A discussion of factors affecting the erosion of soil and why erosion control is important will be made.

Wed. Dec 10th • 10:30 – 11:30 am • Capri 114/115

Proving Decentralized Wastewater Sustainability, Eric Evans, Kitsap County Health District, Bremerton, Washington

The focus of this presentation is to create an open discussion about the preconceptions and myths regarding management and sustainability of the decentralized wastewater treatment model. Discussion points will include a review of the frequency of surfacing effluent, pump failure rates, and repeated deficiencies of decentralized wastewater treatment systems that are maintained by certified professionals.

continued

SOUTHWEST NETWORKING FORUM

Wed., Dec. 10th • 10:30 am – 12:30 pm
Room: Royale 7

During this networking forum, participants from the Southwest states will discuss approaches to developing and implementing training and educational programs as well as the challenges of designing onsite systems in this region for long-term sustainability of environmental resources.

EDUCATIONAL SESSIONS *(continued)*

CREDENTIAL/LEGISLATIVE PROGRAMS

Mon. Dec. 8th • 1:00 – 1:45 pm • Capri 112/113

NEHA Certified Installer Credential Program, Christl Tate, National Environmental Health Association

An overview of the Certified Installer credential will be given in addition to new developments in the areas of training and credential qualifications. The discussion will include a description of the new training program being developed by the Consortium of Institutes for Decentralized Wastewater Treatment (CIDWT) – how it works with the Certified Installer credential and when it will be available.

Mon. Dec. 8th • 1:45 – 2:45 pm • Capri 112/113

Legislation, Is It a Necessary Evil of the Onsite Wastewater Industry? Roxanne Groover, Executive Director, Florida Onsite Wastewater Association

A practical look at the approach Florida is taking regarding Onsite Wastewater's rules, regulations, and legislation.

Mon. Dec. 8th • 3:15 – 4:00 pm • Capri 112/113

Alaska's Certified Septic Installer program – there's no reason YOU can't just do it..., Dan Tucker, NEHA, CIOWTS, Alpine Excavating, LLC

Alaska's 10 year old proven program whereby installers can take a class, then a test to become certified, will be presented in this session. Certified installers can completely install and document a conventional septic system – within parameters set by the program. The approach is that installers can assess sites and soils, plan/design, install and document many, if not most, 'cookie-cutter' conventional systems without layers of oversight and days of time.

Mon. Dec. 8th • 4:00 – 5:00 pm • Capri 112/113

Being the Advocate for Mandated Licensing and Mandated Maintenance Programs, K. R. "Trapper" Davis, Coastal Plains Environmental Group

In 2007 Virginia passed a new law that will require practitioners in the onsite wastewater treatment industry, including soil evaluators, installers and companies providing operation and maintenance (O&M) services, to be licensed through the Department of Professional and Occupational Regulation (DPOR) in 2009. Challenges associated with implementing this law, including controversies concerning mandated examinations for all professionals as well as necessary experience and education requirements, will be discussed.



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VENDOR TRAINING ROOM

Tues. Dec. 9th • 8:00 - 10:00 am • Royale 7

The Eljen Geotextile Sand Filter, Jim Donlin, Eljen

The Geotextile Sand Filter functions as a passive alternative for obtaining a secondary level of treatment. Internal surface area comparisons and results from recent treatment testing conducted at the Massachusetts Alternative Septic System Testing Center (MASSTC) will be presented. Installation procedures for a wide variety of site conditions will be explained in detail.

Tues. Dec. 9th • 10:30 - 11:30 am • Royale 7

Advancements in Septic Tanks Shape the Future of Onsite Treatment, Dennis Hallahan, Infiltrator Systems, Inc.

New manufacturing processes are allowing for vast improvements in the world of septic tanks, providing structurally reliable, and exceedingly strong new versions of plastic tanks. These tanks are a revolutionary improvement in plastic septic tank design, offering exceptional strength comparable to concrete tanks and are easier to transport and install than concrete tanks but with all of the performance benefits. This presentation will explore the manufacturing advancements that have enabled the production of the evolved septic tank and provide project examples of its use.

Tues. Dec. 9th • 1:00 - 3:00 pm • Royale 7

Plop, Plop, Fizz, Fizz. Oh What a Relief It Is . . .

Remediating Biologically Clogged and Hydraulically Overloaded Drainfields, Judd Efinger, Infiltrator Systems, Inc.

The modern household often uses too much water, and heightening the problem, often concentrates water usage during a few hours of the day – in the morning and evening. One cost effective solution for hydraulic overload is to spread out the peak flows over the entire 24 hour period. This session will demonstrate how the Aerobic Bacteria Generator (ABG) and timed dosing technologies are excellent alternatives to the high cost of a full drainfield replacement.

Tues. Dec 8th • 3:30 – 5:30 pm • Royale 7

Fixed Film Media, Trent Lydic, Jet, Inc.

A discussion of the basic requirements for installing, servicing and maintaining media systems will be presented. Also covered will be scientific principles of the fixed film and suspended growth treatment process, troubleshooting plants and disinfection systems.

CIDWT PILOT INSTALLER TRAINING PROGRAM

Sessions in this track run Monday through Wednesday. The Consortium of Institutes for Decentralized Wastewater Treatment (CIDWT) is an organization of professionals from educational institutions, training entities, private industry, regulatory agencies and citizens' groups who cooperate on decentralized wastewater research, outreach training and education. CIDWT, NOWRA, and the National Environmental Health Association (NEHA) are cooperating to establish and communicate a set of minimum guidelines for the installation of onsite wastewater treatment systems. The National Installation Training curriculum under development by CIDWT defines the body of knowledge for professional installers and supports the NEHA Certified Installer of Onsite Wastewater Treatment Systems (CLOWTS) credential. **The NEHA CLOWTS examination will be administered at the conclusion of the pilot training event for those who wish to pursue this important national certification.**

MONDAY, DECEMBER 8

Mon. Dec. 8th • 10:15 -11:15 am • Room: Royale 8
Welcome and Introduction, Bruce J. Lesikar, Ph.D., P.E., CLOWTS, Texas A&M University – An overview of the CIDWT National Installation training program will be provided. A professional installation requires effective communication among the installer, facility owner, designer and regulatory community. Documentation that facilitates this effective communication will be discussed. Available educational resources for use by the professional installer will be described.

Mon. Dec. 8th • 11:15 am -12:00 pm • Room: Royale 8
Professional Ethics, Bruce J. Lesikar, Ph.D., P.E., CLOWTS, Texas A&M University – Ethics are important in any business endeavor since it determines the level of respect that professionals earn from their clientele as well as their peers. The pathways to gaining this respect will be described and explored relative to the professional installer.

Mon. Dec. 8th • 1:00 -1:45 pm • Room: Royale 8
Soils and Site Evaluation for Installers, David Lindbo, Ph.D., NCLSS, CPSS, North Carolina State University – Part of the installation process is having a system that is appropriate for the soil and site conditions. The processes that affect water movement through soils are also discussed with respect to installation activities that may influence system performance. This discussion includes information to help the professional installer be able to identify and understand soils information and interpret soil and site conditions in order to install an effective and sustainable system.

Mon. Dec. 8th • 1:45 – 2:45 pm • Room: Royale 8
Distribution, Nancy Deal, M.S., R.E.H.S., CLOWTS, NC State University – Distribution is a critical mechanism for initiating contaminant removal in wastewater treatment systems. This section discusses loading rates, appropriate use of gravity and pressure regimes according to site limitations, and typical system configurations. The general requirements for installing components to maximize treatment capabilities of components while maintaining the natural soil conditions of the site are presented. The critical nature of providing accessibility for operation and maintenance is also discussed.

Mon. Dec. 8th • 3:15 – 4:15 pm • Room: Royale 8
Installation Safety, Nancy Deal, M.S., R.E.H.S., CLOWTS, NC State University – Safety is a necessary consideration for any business. OSHA construction practices must be followed on the job site to limit

the risk of worker injuries and the installer's liability exposure. OSHA terminology and safety practices are presented. General and specific site safety issues are identified and discussed and first aid and emergency response are highlighted.

Mon. Dec. 8th • 4:15 – 5:00 pm • Room: Royale 8
Installation Techniques and Materials, Sara Christopherson, M.S., University of Minnesota – Proper installation techniques, materials, and equipment must be used during construction of onsite wastewater treatment systems to help ensure adequate treatment and acceptance of the wastewater. This section discusses these topics on the basis of maintaining the natural soil conditions of the site while installing a system at the proper depth and elevation.

“The Installer Academy is a very good venue for beginners in the industry”

– 2007 IA attendee

TUESDAY, DECEMBER 9

Tues. Dec. 9th • 8:00 – 9:15 am • Room: Royale 8
Installation Planning, George Loomis, University of Rhode Island – Planning is the first step in the installation process. A construction plan that matches the constraints of the site and the capabilities of the installer must be developed and implemented. Approaches and considerations for achieving this are presented including planning, staging and scheduling.

Tues. Dec. 9th • 9:15 – 10:00 am • Room: Royale 8
Installation of Piping, Sara Christopherson, MS, University of Minnesota – Piping is used to convey influent and effluent to system components. Critical information describing methods for installing piping in a manner that limits movement following installation are presented. Key methods for facilitating long-term management are included.

Tues. Dec. 9th • 10:30 – 11:15 am • Room: Royale 8
Watertight Tanks, Nancy Deal, M.S., R.E.H.S., CLOWTS, NC State University – Tanks are constructed of various materials and serve a variety of purposes in onsite treatment systems. Stable and watertight installation of tanks with accessibility for performing appropriate operation and maintenance facilitates long-term performance of the system as a whole. The key steps of installation are presented.

continued

CIDWT PILOT INSTALLER TRAINING PROGRAM *(continued)*

Tues. Dec. 9th • 11:15 am – 12:00 pm • Room: Royale 8
Installing Pumps & Controls, David Kalen, University of Rhode Island – Pumps are used to convey sewage and effluent in onsite wastewater treatment systems. The different types of pumps and their associated purposes are discussed. Proper pump selection and sizing criteria are identified. Appropriate construction methods for installation of pumps, controls and discharge assemblies are presented.

Tues. Dec. 9th • 1:00 – 2:15 pm • Room: Royale 8
Media Filter Installation, George Loomis, University of Rhode Island – Media filters are discussed with respect to their expected operational criteria. Critical construction practices for media filter components used for advanced treatment will be presented with respect to facilitating operation and maintenance for optimal long-term performance.



“I encourage anyone who has not attended a NOWRA conference not to miss the Installer Academy. It provides learning opportunities, educational materials, and exhibits—not to mention the fun of Vegas and the chance to win a thousand bucks!”

—Bill Morton, 2007 NOWRA Roe-D-Hoe Winner

Tues. Dec. 9th • 2:15 – 3:00 pm • Room: Royale 8
Installing Disinfection Systems, George Loomis, University of Rhode Island – Disinfection is a critical part of many treatment trains located across the country. The disinfections methods used and effective approaches to installing these systems will be discussed.

Tues. Dec. 9th • 3:30 – 4:45 pm • Room: Royale 8
ATU Installation, Bruce J. Lesikar, Ph.D., P.E., CIOWTS, Texas A&M University –The components of an ATU system, their operational criteria and associated installation practices will be presented. Construction techniques that facilitate system stability, accessibility, and long-term performance will be discussed.

Tues. Dec. 9th • 4:45 – 5:00 pm • Room: Royale 8
Homework Distribution and Concluding Remarks

WEDNESDAY, DECEMBER 10

Wed. Dec. 10th • 7:30 – 8:30 am • Room: Royale 8
Homework Review, David Kalen, University of Rhode Island – In this presentation the homework problems will be reviewed and critical calculations will be discussed.

Wed. Dec. 10th • 8:30 – 10:00 am • Room: Royale 8
Installing Soil Treatment Areas, Sara Christopherson, MS, University of Minnesota – Soil treatment areas (STAs) are the final component of the onsite wastewater treatment system. The soil distribution technologies and their associated components are presented with a discussion on estimation of material needs. Topics related to installation of below grade soil treatment areas will be presented, including staking, excavation, placement of trench media and final cover. For installation of above-grade systems, staking and site preparation, placement of imported material and media as well as final cover will be discussed. The key considerations for installation of soil distribution systems that will be able to accept and treat wastewater will be identified.

Wed. Dec. 10th • 10:30 – 11:45 am • Room: Royale 8
Installing Drip Distribution Systems, Bruce J. Lesikar, Ph.D., P.E., CIOWTS, Texas A&M University – Drip distribution system components and potential treatment trains will be discussed. The critical considerations regarding the installation of the drip distribution technology components in a manner that facilitates long-term performance are presented. Key differences between drip distribution and other pressure distribution methods will be highlighted.

Wed. Dec. 10th • 11:45 am – 12:00pm • Room: Royale 8
Summary and Concluding Remarks

**NEHA Examination for Credential as Certified
Installer of Onsite Wastewater Treatment Systems**

Wed. Dec. 10th • 1:00 – 4:00 pm • Room: Royale 8

Visit www.neha.org/onsite for more information

NAWT VACUUM TRUCK TECHNICIAN TRAINING

Full day training on Tuesday • 8:00 am – 5:30 pm • Room: Capri 112/113

Presenter: Bruce Fox, Past President of the National Association of Wastewater Transporters, Inc. (NAWT) and a trainer for the Pennsylvania Septage Management Association

8:00 am INTRODUCTIONS AND HOUSEKEEPING

8:15 – 10:00 am CLASS TIME

Goals: Participants should be able to recognize trucks and their associated equipment, understand the equipment's function, understand the vocabulary of pumping, learn how to apply safety principals and how to operate equipment safely, recognize materials they will encounter and some they may have to avoid, recognize how their job is regulated by government, and learn how to speak to customers with confidence

Definitions: All professionals must understand and use the proper terms when referring to equipment and activities associated with onsite wastewater treatment systems.

Materials: Vacuum trucks are called upon to load and transport a wide range of materials. The operator should be aware of materials that he or she may encounter that should not be loaded into the truck. Often that final decision is made by the operator.

Government Regulations: The hauling and final disposition of septage, portable toilet waste, grease trap waste, etc. is regulated by many levels of government. The operator must have an awareness of Federal, State, and Local regulations.

Field Safety: It is the sole responsibility of the operator to be sure that what they do is done safely. Usually, the operator is responsible for either compliance with the law or a costly violation for the employer.

Pumping: A discussion on the procedures for proper tank cleaning based on the NAWT Pumping Standards will be presented, including safety considerations for positioning of the truck, notification of the owner of arrival, scanning of the area for obstacles and hazards, locating the tank to be pumped, and verification of contents of the tank.

Understanding Vacuum-Understanding Pressure: The pumping system on modern vacuum trucks is designed to move only air. In layman's terms the physics of vacuum and pressure is explained.

Vacuum Equipment: Rotary vane pumps, the most commonly used pumps, are explained in detail. The four way valve that allows air to move into and out of the truck tank is thoroughly explained.

Other Pumps: Other pumps may be used in various applications. Liquid Ring, rotary lobe, diaphragm, and centrifugal pumps are explained.

Drive Mechanisms: Any of three drive mechanisms (direct drive, belt drive, and hydraulic drive) may be installed to transmit the engine's power to the pump. An description of each is given.

Equipment Configurations: All of the components found on vacuum trucks can be configured in many ways to accomplish the purpose of moving materials. Straight trucks, semi's, tow behind trailers, and skid mounted equipment are the most common configurations.

10:00 – 10:15 am BREAK

10:15 am – Noon CLASS TIME

Tools: Vacuum trucks carry a varying assortment of tools to make the technician's job easier and more efficient. Lists of recommended equipment are provided.

Locating Tanks: A procedure is given on how to locate septic tanks.

Accessing Tanks: Pumping the tanks through the proper access is stressed. Pumping through an observation point prevents a thorough cleaning.

continued

VENDOR OPPORTUNITIES

Gain great exposure and connect with new buyers by exhibiting at the only in-depth educational venue for installers.

With attendance growing each year, this show is a great opportunity for you to expand your market and increase sales. Sponsoring an activity or advertising in the conference program are other excellent ways for your business to reach the 250+ attendees at NOWRA's 4th Annual Installer Academy.

Visit www.nowra.org/exhibitor for more information.

NAWT VACUUM TRUCK TECHNICIAN TRAINING *(continued)*

Service Call Reports: It is emphasized that part of the pumping service is to report your findings to the system owner. A sample report is provided.

Filters: The procedure to properly clean and encourage the use of effluent filters is presented.

Hose Handling: Vacuum hoses, tubes, suction nozzles and connectors are all designed to convey materials. Some work best with solids, other with granular materials, and others with liquids. Safe hose handling is stressed.

Unloading: Various methods of unloading or transferring truck to truck are explained. Safety is stressed.

Tips & Tricks: Years of experience brings to the classroom tips and tricks learned. Audience participation is encouraged and everyone learns something new.

Teachable Moments: In the customer's eyes the technician is the expert. When you are on their property working on their system is the "Teachable Moment" when you have their attention. Participants are encouraged to use this opportunity to explain the system to the homeowner.

Noon – 1:00 pm LUNCH

1:00 – 2:00 pm Class time

Safety Equipment: A list of recommended safety tools is provided and safe practices encouraged.

Pre-Trip Inspection: In addition to the responsibilities of a person with a commercial driver's license (CDL) to check the truck before leaving the shop, a checklist is provided for the vacuum truck portion of the vehicle. Other topics considered are required paperwork, truck routing, and restocking of supplies for vehicle inventory.

Spill Response: Owners must provide written spill and emergency response plans that cover every type of material likely to be transported. The plans, which do not need to be lengthy, must include emergency contact phone numbers and must be readily available in the truck. A sample plan is provided.

2:00 – 3:00 pm FIELD TRIP TO VACUUM TRUCK

A hands-on demonstration of the workings of an actual vacuum truck is presented, providing an opportunity for participants to 'touch and feel' the components they learned about in the classroom.

3:00 – 3:30 pm BREAK

3:30 – 4:30 pm QUESTIONS, OPEN DISCUSSION, REVIEW

4:30 – 5:30 pm EXAMINATION FOR NAWT VACUUM TRUCK TECHNICIAN CERTIFICATION

HOTEL RESERVATIONS

RIVIERA HOTEL & CASINO

2901 Las Vegas Blvd., South
Las Vegas, NV 89109

800.634.3420

Conference Rates:

Single/Double Room – \$84.00

Deadline for reserving at
conference rates is
November 14, 2008.

RESERVE EARLY!

**Space at the Conference Rate
is based on limited availability.**



*Treat yourself and your staff to a great educational program
and the chance to do some team building in Las Vegas!*

REGISTER TODAY FOR THE 2008 NOWRA INSTALLER ACADEMY!

4th Annual Installer Academy - December 8-10, 2008

NOWRA offers Online Registration at www.nowra.org/academy

Registration Form

Online registration is available at www.nowra.org. If registering by mail, **please use one form per registrant** and photocopy this form for additional attendees (except spouses/guests). Please print clearly or type. If you do not receive conference confirmation within two weeks of submitting this form, please call NOWRA Headquarters at (800) 966-2942 or e-mail info@nowra.org. After Nov. 26, 2008, registration forms are only accepted onsite at Installer Academy.

First Name (as it will appear on name badge) _____ Last Name _____

Title _____ Organization _____

Mailing Address _____

City _____ State/Province _____ Zip _____

Daytime Phone _____ Fax _____

E-mail _____ NOWRA Membership # _____

☐ Dietary Needs _____ ☐ Special needs (wheelchair accessibility, audio, etc.) _____

Please mark one registration option below:

FULL Conference Registration (Includes educational sessions, Exhibit Hall and receptions)

- ☐ \$195 Member Early Bird Rate (By October 24) ☐ \$275 Non-Member Early Bird Rate (By October 24)
☐ \$295 Member (October 25 – On site Registration) ☐ \$375 Non-Member (October 25 – On site Registration)

ONE Day Training and Exhibit Hall (Includes educational sessions, Exhibit Hall and reception)

- ☐ \$150 Member Early Bird Rate (By October 24) ☐ \$245 Non-Member Early Bird Rate (By October 24)
☐ \$195 Member (October 25 – On site Registration) ☐ \$350 Non-Member (October 25 – On site Registration)

Date of Attendance

- ☐ Monday, December 8th ☐ Tuesday, December 9th ☐ Wednesday, December 10th
(no reception this day)

Exhibit Hall Only (Sessions and receptions are not included.)

- ☐ \$95 Member/Non-Member (By October 24)
☐ \$150 Member/Non-Member (After October 24)

Member Guest/Spouse (Includes Mon/Tues receptions and Exhibit Hall Pass.)

- ☐ \$120 Member/Non-Member (pre-registration)
☐ \$150 Member/Non-Member (on site)

Name(s) _____

ROE-D-HOE Competition

- ☐ \$20 Sign me up!

Pre-Register for Specific Tracks

- ☐ I plan on attending the CIDWT Training Sessions
☐ I plan on attending the NAWT Vacuum Truck Training

Please write your GRAND TOTAL \$ _____ NAWT Members Discount Code _____

Payment Options (Registration will not be processed unless accompanied by full payment)

- ☐ Check (payable to NOWRA) ☐ Credit Card Visa /MasterCard (circle one)

Credit Card # _____ 3-Digit Security Code _____ Expiration Date _____

Name on Card _____ Signature _____

**Please mail completed registration form and payment to: Installer Academy 2008, c/o NOWRA Headquarters
3540 Soquel Ave., Suite A, Santa Cruz, CA 95062. When paying by credit card, fax registration form to (831) 464-4881.**

Refund Policy: Registrations will be refunded less a \$50 administrative fee if written notice of cancellation is postmarked by November 3, 2008. No refunds will be provided after November 3, 2008.

4th Annual Installer Academy - December 8-10, 2008

NOWRA offers Online Registration at www.nowra.org/academy

Profile Questions

Please take a moment to answer these short profile questions.

Your input will help us better serve NOWRA conference attendees in the future!

1. How many times have you attended the Installer Academy? Circle one.

- a. First time
- b. 1 year
- c. 2 years
- d. 3 years

2. Please check all that apply to you:

- ☐ Installer
- ☐ Designer
- ☐ Manufacturer
- ☐ Builder
- ☐ Regulator
- ☐ Student
- ☐ Service Provider
- ☐ Educator
- ☐ Other _____

3. What are your main reasons for attending the Installer's Academy? Circle all that apply.

- a. Variety of Educational Topics
- b. Continuing Education Units (CEUs)
- c. CIDWT Installer Training Program
- d. NAWT Vacuum Truck Training.
- e. Exhibits/Trade Show
- f. Event Location
- f. Other (please specify) _____

3. Do you plan to take the NEHA exam?

Circle one. Yes No

4. How did you find out about the Installer Academy?

- ☐ NOWRA website
- ☐ Onsite Journal from NOWRA
- ☐ Direct Mailing from NOWRA
- ☐ NOWRA broadcast email
- ☐ State Association Newsletter
- ☐ State Associate Website
- ☐ Onsite Installer Magazine
- ☐ Pumper Magazine
- ☐ NAWT
- ☐ CIDWT (Consortium)
- ☐ Local licensing/CEU agency
- ☐ Other (please specify) _____

5. Are you a member of a state association?

- a. Circle one. Yes No
- b. **If yes**, which one? _____
- c. How long have you been a member? _____ years
- d. **If no**, are you NOWRA member at the national level?
Circle one. Yes No
- e. How long have you been a NOWRA member? _____ years

6. How far will you be traveling to attend the Installer Academy? Circle one.

- a. 0-50 miles b. 51-150 miles
- c. 151-500 miles d. 501-1,000 miles
- e. 1,001-2,000 miles f. 2,000+ miles

7. How many other professional meetings do you attend each year? Choose one.

- a. I don't attend other professional meetings
- b. 1-2
- c. 3-5
- d. 5+

8. In which events or meetings do you plan to participate? Check all that apply.

- ☐ Opening Session
- ☐ Breakout Sessions
- ☐ CIDWT Installer Training
- ☐ NAWT Vacuum Truck Training
- ☐ Southwest Forum
- ☐ General Session
- ☐ Exhibit Hall
- ☐ Reception

9. How often do you access email?

Check the option that fits best.

- ☐ Daily
- ☐ Once a week
- ☐ Every other week
- ☐ Once a month
- ☐ Hardly ever
- ☐ Never, but I DO have an email address.
Never, I do NOT have an email address.

PROMOTIONAL OPPORTUNITIES

INTRODUCE YOUR BUSINESS TO ONSITE WASTEWATER INSTALLERS!

Tradeshow Information

Booth Size: 10 x 10 draped booth area

Member Cost: \$1,000

Non-Member Cost: \$1,250

Additional Booth Personnel: \$175

Included in Fees:

2 Full Registrations

1 7" x 44" one-line, black on white identification sign

1 8' x 30" skirted tabled

Booth back drapes, 8' high with two 36" – high side dividers, supported by steel framework

2 chairs & wastebasket

Benefits of Exhibiting

- Connect with new buyers at the only in depth educational venue for installers.
- Receptions and activities in exhibit hall provide maximum exposure and contact with key players in the industry.
- Listing of exhibitor profiles in program guide.
- Pre and post show registration lists for marketing purposes and post show follow-ups.
- Affordable advertising in the program book.

Rent a Product Training Room to give buyers an exclusive demonstration of your product!

Exhibitors: \$300 for 2 hours or less / \$500 for 4 hours | Non-Exhibitors: \$500 for 2 hours or less / \$800 for 4 hours

Conference Program Advertising

The conference program is handed out to 250+ attendees during the registration process and provides an opportunity for business members to include advertisements promoting their businesses.

	Black & White	Color
Back Cover	\$1750	\$2125
Inside Cover	\$1350	\$1750
Full Page	\$950	\$1350
Half Page	\$700	\$925
Quarter Page	\$400	\$575

Reserve your space today!



**FOR A FULL
EXHIBITOR/ADVERTISER PROSPECTUS**

831-464-4884

INFO@NOWRA.ORG

VISIT WWW.NOWRA.ORG



Conference Sponsorship Opportunities

Sponsoring a particular item or event is another excellent way for your business to gain exposure to the 250+ attendees at NOWRA's 4th Annual Installer Academy.

Level 1 Options - \$5000.00 Contribution

- | | |
|-------------|-------------------|
| • Reception | • Roe-D-Hoe |
| | ○ Awards Ceremony |
| | ○ Equipment |

Level 2 Options - \$2000.00 Contribution

- Luncheon

Level 3 Options - \$1000.00 Contribution

- | | |
|-------------|-------------------------------|
| • Breakfast | • Convention at A Glance Sign |
| • AM Break | • PM Break |

Please call to discuss co-sponsorship opportunities.

CONFERENCE COMMITTEE

Submitted by Darryl Cloud

The Conference Committee serves as the working entity for NOWRA's two major annual events: the Installer Academy and the Annual Conference. In that capacity, the committee has the responsibility to provide liaison channels by which other committees and interested parties can work together efficiently on creating the events. It works closely with NOWRA's Executive Director to implement programs and activities, identify and support keynote speakers, and organize entertainment and social activities. It meets on a regular basis either in person or by conference call to explore, discuss, and create opportunities for attendees at the Installer's Academy and the Annual Conference. In addition, the Conference Committee provides regional input to the Education Committee on programs and forums that would be beneficial to NOWRA members and the onsite industry.

Installer Academy

The training agenda for the Installer Academy (December 8–10) is completed; reservations for exhibitor space are ahead of those at this time in previous years; and the Bobcat Company is celebrating its 50th anniversary and will be sponsoring the 2nd Annual National Roe-D-Hoe. There will be a grand prize of \$1000 cash and a commemorative belt buckle. (Registration details are available at www.nowra.org.) In addition, NOWRA will partner with the National Association of Wastewater Transporters, Inc. (NAWT) to present the NAWT Vacuum Truck Technician Training seminar.

Annual Conference

Excellent early progress has been made in planning for the Annual Conference in Milwaukee, Wisconsin, on April 6–9, 2009. It will be housed at the Midwest Airlines Center, an imposing 21st-century convention facility in the heart of downtown Milwaukee. NOWRA is privileged to have Ann Gryphan and the staff of the Wisconsin Onsite Wastewater Recycling Association (WOWRA) on hand locally with valuable contributions to ensuring that NOWRA's 18th Annual Convention will be a rich and memorable event. Mark your calendar now for this informative technical and educational conference, whose theme will be "Onsite—The Sustainable Wastewater Opportunity." The Conference Committee has settled on having this theme to reflect NOWRA's role in the "greening" and "sustainability" movement to protect the environment. So far into the planning, the 2009 conference

will feature: 1) a general session panel on decentralized wastewater treatment as a "green" issue; 2) an invitation to Milwaukee's mayor to speak on this issue; and 3) a pre-conference symposium addressing pharmaceuticals and personal care products in the water supply. ■

EDUCATION COMMITTEE

Submitted by Sara Christopherson

Committee Personnel

Judith Sims has assumed a leadership role in the Education Committee—she is chairing the education offering for the Installer Academy.

Recent Activities

- Coordination of the education program for the 4th Annual Installer Academy, to be held December 8–10, 2008
- Coordination of the NOWRA track at the Pumper Show on February 25, 2009
- Receipt of abstracts for the Annual Conference in Milwaukee.
- Development of the program for the Annual Conference in Milwaukee—preliminary summary:
 - Preconference on pharmaceuticals and personal-care products
 - Keynote address
 - Roundtable discussion
 - A to Z
 - Tours
 - Tracks based on abstracts received

Upcoming Activities

Over the next few months, the committee will be reviewing papers and continuing to develop the program for the Annual Conference in Milwaukee. Volunteers are needed, particularly for reviewing papers. If you are interested in contributing to the committee's work, please contact Sara Christopherson at shc@umn.edu.

The committee will conduct its conference calls on the third Wednesday of each month at 1:00 EST. Between meetings, committee members are expected to contribute to one or more of the committee's programs—a few hours a month or as much as is possible.

Over the next year, the committee will be working with the HQ office to assemble previous Proceedings and make them available online at NOWRA's website. New Proceedings will be added as they occur. ■

Community-Wide

Wastewater Solutions

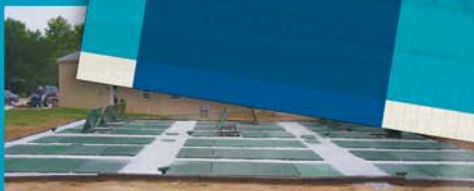
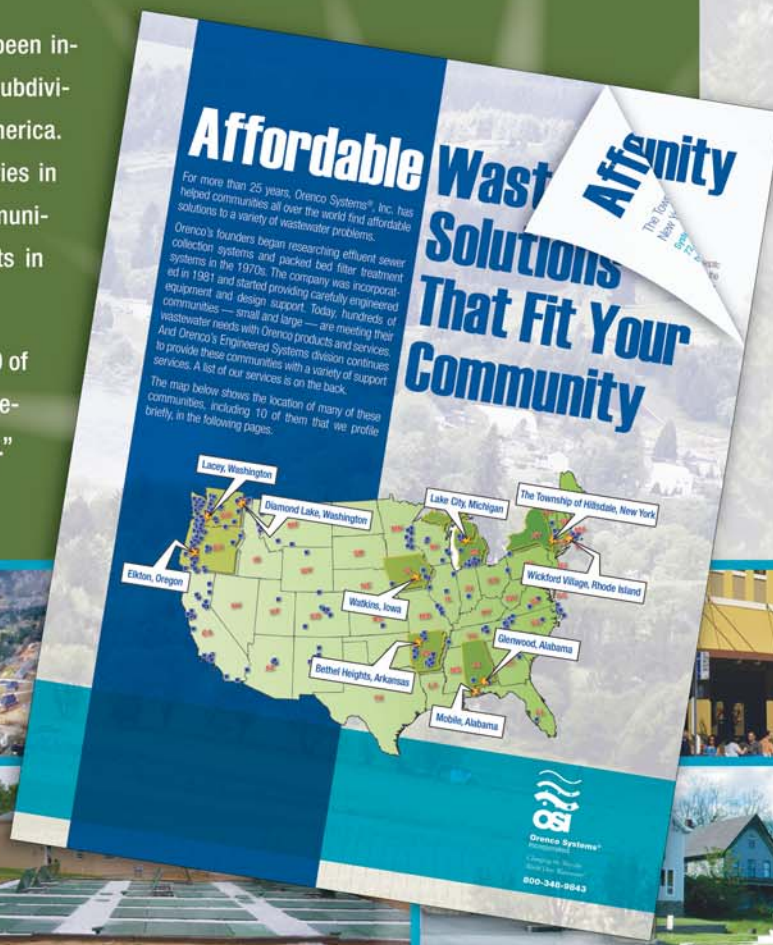
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For more than 25 years, Orenco Systems Inc. has helped communities all over the world find affordable solutions to a variety of wastewater problems.

Orenco's wastewater equipment has been installed in small-to-mid-sized towns, subdivisions, and resorts throughout North America. Also, on a drilling rig in Alaska, wineries in California, hotels in Greece, eco-communities in Australasia, and USAID projects in Central America.

We have a new brochure that profiles 10 of our projects. It's called "Affordable Wastewater Solutions That Fit Your Community."

Call us at 800-348-9843 for your free copy or to get more information about our technologies and services.



www.orenco.com



1



2



3



4



ONSITE INSTALLERS IN ACTION

- 1** Shoring and dewatering prior to setting tank at LA County Beach project in Malibu, CA. (Integrated Water Services Inc.)
- 2** Installing BioMicrobics FAST system for a single family home in the Table Rock Lake watershed, Missouri.
- 3** Upgrading the shower house and restroom with an advanced treatment system at the U.S. Army Corps of Engineers campground in the Table Rock Lake watershed, Missouri.
- 4** As part of a demonstration site, a new advanced treatment commercial system is installed at a restaurant Table Rock Lake watershed, Missouri.
- 5** Framing for concrete cover on treatment tanks for LA County Beach project in Malibu, CA. (Integrated Water Services Inc.)

Thanks to Dave Casaletto, Missouri Smallflows Organization,
and Peter Balas, California Onsite Wastewater Association,
for submitting these photos.



5

ELECTION BALLOT

NOWRA 2009–2011 BOARD OF DIRECTORS

NOWRA's 2008 elections for the 2009 to 2011 board cycle are now open. The candidate profiles may be found at www.nowra.org/bylaws.html. Click on the candidate name to view the candidate profile.

ALL BALLOTS must be received and dated by a postmark or fax by Midnight, October 31, 2008. All ballots must have a membership number and signature. Only one vote per individual member. Individuals with multiple memberships in states may only vote once. In order to be eligible to vote, your 2008 membership must be in good-standing, i.e., 2008 dues paid in full. All ballots remain confidential. **Ballots not completed properly with a valid 2008 membership number, signature and date will not be counted.**

Compliance Monitor / Regulator — Vote for one (1)

☐ Edward Corriveau

☐ _____ (Write-in Candidate)*

Operator / Manager / Maintenance – Service Provider — Vote for one (1)

☐ Eric Evans

☐ Tom Fritts

☐ _____ (Write-in Candidate)*

Site Evaluator/Soil Scientist, Designer/Engineer — Vote for one (1)

☐ Craig Gilbertson

☐ Robert B. Mayer

☐ _____ (Write-in Candidate)*

Supplier/Vendor — Vote for one (1)

☐ Colin Bishop

☐ Gregory D. Graves

☐ Doug Jatcko

☐ E. Craig Jowett

☐ _____ (Write-in Candidate)*

Academic/Researcher — Vote for one (1)

☐ Randall J. Miles

☐ _____ (Write-in Candidate) *

**THE BELOW INFORMATION MUST BE COMPLETED BEFORE YOUR BALLOT CAN BE COUNTED.
NO DUPLICATE BALLOTS ARE PERMITTED. ALL BALLOTS REMAIN CONFIDENTIAL.**

Membership Number _____ Signature _____

Print Name _____

Fax or mail completed ballot by October 31, 2008 to:

NOWRA | 3540 Soquel Ave., Ste. A, Santa Cruz, CA 95062, Attn: NOWRA Elections
Fax (831)464-4881

PLACE
STAMP
HERE

NOWRA
3540 Soquel Ave., Ste. A
Santa Cruz, CA 95062
Attn: NOWRA Election

FOLD, STAPLE, AND MAIL

ARIZONA ONSITE WASTEWATER RECYCLING ASSOCIATION

Arizona Onsite Wastewater Recycling Association (AzOWRA) invites members to a membership dinner meeting on November 7, 2008 at 5:00 PM. The meeting will be held at The Village at Market Street Condominium Clubhouse, 20801 N 90th Place, Scottsdale, AZ 85255. Please RSVP to Ed Swanson at EKS_HikesAZ@msn.com by October 31, 2008.

AzOWRA has set the date for the 2009 Onsite Wastewater Educational Conference. The conference will be held on June 17, 18, and 19, 2009, at the Radisson Woodlands Hotel in Flagstaff, Arizona. AzOWRA currently is soliciting abstracts of papers intended for presentation at the conference. Please contact Suzanne Ehrlich at suzanne.ehrlich@co.yavapai.az.us or 928-442-5409.

Planning for the AzOWRA/NAU On Site Wastewater Demonstrations Project is moving forward at a gratifying pace. The Steering Committee will meet on August 22, 2008, to set the framework for developing and funding the research and testing facility. Members of the Steering Committee are planning a trip to the New England testing facilities to see how they run their programs. This is a very exciting and important project. Data will be generated in the west, reflecting western environments and other circumstances. ■

MINNESOTA ONSITE WASTEWATER ASSOCIATION

Soils Seminar: MOWA, in conjunction with the University of Minnesota, held an Advanced Soils Training seminar in Laporte, MN., on August 20 and August 21.

Legislative Update: MOWA's 2008 legislative agenda included aggressive and successful participation in the process for modifying Minnesota's licensing requirements for professionals who design, install, or service septic systems up to 10,000 GPD.

MPCA: MOWA continues to deal closely with the MPCA as it addresses issues that are relevant to our industry. MOWA members are deeply involved in the processes of design

guidance development and product registration for individual, mid-sized, and large Subsurface Sewage Treatment Systems (SSTS).

MOWA 2009 Annual Convention: MOWA's Annual Convention is scheduled for March 2–4 at the Ramada Inn, Mall of America, Bloomington, MN.

Executive Director: Ken Olson retired as Executive Director of MOWA on March 1. Pat Martyn of Martyn Services, Inc., has taken over as Executive Director. Martyn Services, Inc. is an association management company located in Edina, MN.

Scholarship Program: The MOWA Scholarship program awarded \$1,000 scholarships to each of three freshman college students. ■

MISSOURI SMALLFLOWS ORGANIZATION

Missouri Smallflows Organization will host its Annual Conference at the Holiday Inn Expo Center in Columbia, MO. The Pre-conference Seminar will be held on Monday, January 19, 2009, from 9 am to 4 pm. The Conference will begin on Tuesday, January 20 and end on Wednesday, January 21.

The lead topic of the Pre-conference Seminar will be Aerobic Treatment Units (ATUs); it will be presented by Bruce Lesikar, Texas A & M University. Other topics will include Cluster Systems; Drip in Imported Soils; and others.

Check our website for future postings www.mosmallflows.org. ■

OHIO ONSITE WASTEWATER ASSOCIATION

The recipient of our 2008 Professional Development Grant for the Public Sector is Mary Ann Webb, Director of Environmental Health of the Highland County Health Department. Mary Ann received \$500 to help pay for expenses she incurred while attending the NOWRA Conference in Memphis, Tennessee. This is the fourth year that grants of up to \$500 have been awarded. Two grants are available each year—one to an OOWA member working in the private sector (e.g., installer, engineer, supplier) and one to a member working in the public

continued on page 30

sector (e.g. educator, regulator, research scientist). The funds can be used for any type of training or conference related to the onsite industry.

We are currently soliciting nominations for members of the Board of Directors. The terms of the following current Directors will expire at the end of this year: Tom Frank, George Hess, Mike Morrow, Adam Voris, and Jim Whitcraft. The new Directors will serve three-year terms from 2009 through 2011.

In compliance with recent legislation, the Ohio Department of Health has submitted two reports to the Sewage Study Commission. One report presented recommendations regarding standards for the siting, design, installation, operation, monitoring, maintenance, and abandonment of household sewage treatment systems and small flow on-site sewage treatment systems. The other report presented the results of the Department's survey of Ohio's Boards of Health concerning household sewage treatment operations and the failure rates of those systems. The executive summary, complete reports, and appendices may be found at the following link: www.odh.ohio.gov/odhPrograms/eh/sewage/sewage1.aspx.

Our first Vendors Day, held in August, was well received and we look forward to presenting another one next year. Now we are finalizing plans for our Annual Conference and Trade Show, which will be held on January 14–15, 2009, at the Ramada Plaza Hotel and Conference Center in Columbus, Ohio. Topics to be discussed include: approved NPDES systems in Ohio, review of the Tyler Table, the effectiveness of trench drains, how the lobbying process works, and effects of pharmaceuticals in water. ■

WASHINGTON ONSITE SEWAGE ASSOCIATION

CORRECTED INFORMATION concerning the WOSSA article "Reaching Out to Our Consumers with Talk Radio" in the Spring 2008 issue: Prominent radio talk show hosts Kirby Wilber and Shaun Hannity will not be co-hosting the WOSSA community radio program. The article should have read, "In the manner of Kirby Wilber and Shaun Hannity, WOSSA will be joining the radio waves in order to reach new audiences and promote the onsite industry." ■

ATTN: NOWRA MEMBERS

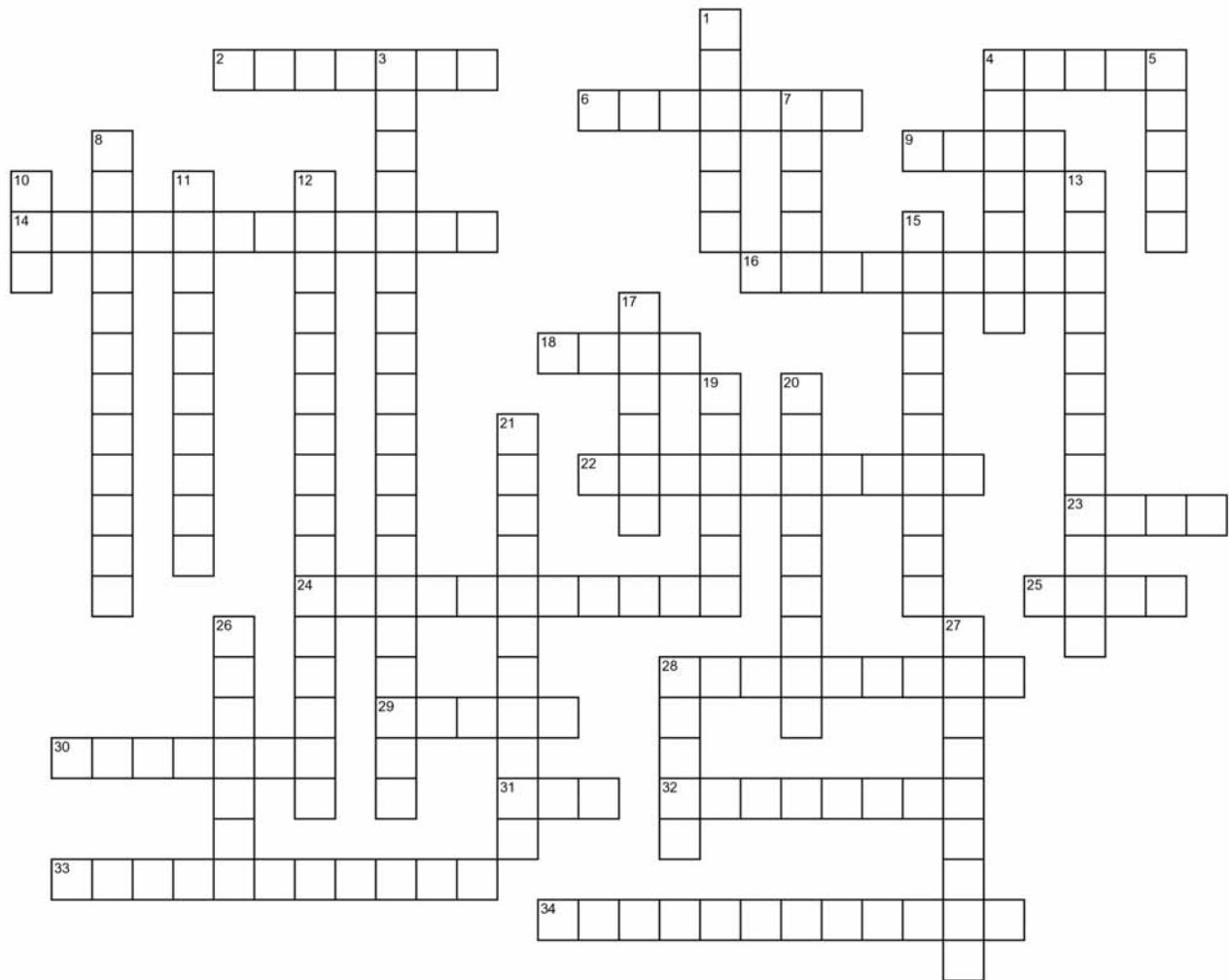
You are invited to submit articles for publication in the

ONSITE *journal*
NEWS FOR THE ONSITE WASTEWATER RECYCLING INDUSTRY

- Articles should be submitted as email attachments in Microsoft Word format.
- Author biographies limited to 100 words must be submitted with article.
- All references need to be correctly cited using ASABE guidelines.
- Articles may be submitted at any time to the Editorial Board of *Onsite Journal*.
- All submissions are reviewed by the Editorial Board. Submissions may be returned to the author for revisions. The completed submission is reviewed by the Editorial Board for a final publication decision. The Editorial Board reserves the right to delay or withhold publication of any article.
- All published articles are the property of NOWRA. Permission to reprint an article must be obtained from NOWRA.

Email articles to info@nowra.org with the subject line "OSJ Submission."

Septic Solutions



www.CrosswordWeaver.com

ACROSS

- 2 time saver
- 4 controls demand
- 6 sick system
- 9 distributor
- 14 regulator goal
- 16 make you sick
- 18 floaters
- 22 oversees
- 23 confined space
- 24 measuring tool
- 25 receiver
- 28 need to be sealed
- 29 wakeup call
- 30 sewage breakout
- 31 devise
- 32 what's in a name
- 33 keep it flowing
- 34 Personal Protective Gear

DOWN

- 1 W X L X H
- 3 active area (two words)
- 4 high water indicator
- 5 managed dose
- 7 for CEU's, go here
- 8 no patent (two words)
- 10 national honcho's
- 11 DO, pH, Temp
- 12 in compliance (two words)
- 13 UV Light
- 15 watching
- 17 industry waste hauler
- 19 sinkers
- 20 not black water
- 21 blackwater et. all
- 26 b-4 record drawings

- 27 unsubstantiated claims
- 28 tube

Compete and fax back for a chance to win a FREE registration for the Installer Academy!

A winner will be randomly selected from the entries submitted before October 17th. Only complete and correct entries will be entered into drawing. *Fax your entry to 831-464-4881.*

Name _____

Affiliation _____

Phone Number _____

Email _____

Answers will be printed in the next issue
of the *Onsite Journal*.

New Quick4® Equalizer® 24 LP Chamber from Infiltrator® Systems

The new Quick4® Equalizer® 24 Low Profile (LP) Chamber continues the Infiltrator Systems tradition of innovation. Designed to provide exceptional strength in trench or bed applications, the chamber's eight inch tall, low profile design makes it ideal for shallow placement applications. Still offering the quickest drainfield installation in the onsite wastewater industry, the new Quick4 Equalizer 24 LP features the Contour Swivel Connection™ which permits 15-degree turns, left or right. It is perfect for curved or straight systems.

The Quick4 EQ 24 LP chamber includes an exclusive combination of features not found in any other chamber.

- Eight inch chamber height allows shallow installations with four inches of cover
- Advanced contouring connection permits 15-degree right or left turns to easily follow contours.
- Four-foot chamber length are easy to handle and install
- Compact nesting provides added trench length in an equivalent stack height

The Quick4 Equalizer 24 LP End Cap features a simple snap in design and a universal flat construction that makes it easy to install on either end of the trench. The end cap easily accommodates up to 4-inch diameter gravity flow inlet pipes or small diameter pressure distribution pipe.

Infiltrator is the number one septic leachfield chamber system in the onsite industry with over 42 million units in-ground in all 50 states and 24 countries. Based in Old Saybrook,



Connecticut, Infiltrator Systems Inc. has a staff of over 30 Field Representatives and an in-house Technical Resources Department to serve its customers. Since its inception in 1987, Infiltrator has introduced innovative products that meet increasingly stringent environmental and regulatory onsite wastewater treatment requirements. Through their understanding of the marketplace and the integration of engineering and manufacturing expertise, science, and technology, Infiltrator continues to drive the onsite wastewater market.

For more information about chamber solutions from Infiltrator Systems or to find out about product training, demonstrations and instructional seminars visit our new website at www.infiltratorsystems.com or call 1-800-221-4436. ■

*Infiltrator Systems, Inc. is a Gold Member of
NOWRA's Business Benefit Program (BBP).*

*For more information about the BBP, contact
NOWRA at 800-966-2942 or visit www.nowra.org/bbp.html*

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ADS Arc™ 18 Septic Leaching Chamber Gains Oregon Approval

Advanced Drainage Systems, Inc. (ADS) Arc™ 18 Septic Leaching Chamber has been approved by the State of Oregon Department of Environmental Quality for use in septic leach field applications.

Part of the ADS Arc Chamber line, the Arc 18 provides a maximized infiltrative surface area and storage capacity along with an integral 20 degree articulation connection. The Arc chamber line is manufactured in the Northwest at the company's Olympia, Washington plant in addition to other plants throughout the United States, the five-foot long Arc 18 is made from high-density polyethylene (HDPE) with a positive "post & dome" joint connection that enables the units to be easily and quickly installed in straight or contoured applications. A diamond plate traction pattern on the external corrugations provides a tough non-slip surface. ADS also has available for the new Arc 18 an optional side port coupler that easily connects onto the end of the chamber for clean-out access or to provide additional plumbing options at any joint within the trench line. The coupler also has the non-slip traction pattern.

"The Arc 18 is part of the trend we're seeing throughout the United States for adaptive code changes by municipalities and states to authorize new technology to replace older, more labor intensive materials in a septic leach field application," stated Jim Clemans, Director of Allied Products, ADS.

"We're finding great acceptance of the Arc line in both new on-site residential and commercial wastewater systems installations and septic system repairs."



ADS Arc™ 18 Septic Leaching Chamber corrugated design provides sites with a strong system that has excellent infiltration and storage capacity. (Photo by ADS)

Weighing around 15 pounds, the five-foot lay length sections can be installed by one person. Its corrugated design provides increased load bearing in a trench, meeting the H-10 (16,000 lbs. per axle) specification. ■

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Fall 2008 Issue — October 17

*Theme: Regulations and
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IN THE NEWS

Were you or a NOWRA colleague the subject of a news story? The story could have been in your local newspaper, an association newsletter, online news or other format. Send copies of the article to NOWRA to be included in the next *Onsite Journal*!

PHOTOS WANTED!

Submit photos of NOWRA members in the news for publication in the *Onsite Journal*.

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Affiliate and NOWRA Upcoming Events

OCTOBER 2008

- 12–14 **Virginia Onsite Wastewater Recycling Association**
Conference and Tradeshow, Blacksburg, VA
Contact: Trapper Davis at 804-966-9190 or
www.vowra.org
- 14–15 **Delaware Onsite Wastewater Recycling Association**
12th Annual DOWRA Conference, Dover, DE
Contact: Hilary Moore, 302-739-9331 or
Hilary.Moore@state.de.us
- 18–22 **WEFTEC**
81st Annual Water Environment Federation Technical
Exhibition and Conference, McCormick Place,
Chicago, IL Contact: 800-666-0206 x2 or
www.weftec.org

DECEMBER 2008

- 8–10 **National Onsite Wastewater Recycling Association**
4th Annual Installer Academy, Las Vegas, NV
Contact: 800-966-2942 or www.nowra.org

JANUARY 2009

- 13–15 **Iowa Onsite Wastewater Association**
11th Annual Conference Polk Count Convention
Complex, Des Moines, IA. Contact Alice Vinsand,
Inc., at (515) 225-1051 or www.iowwa.com.
- 13–15 **Michigan Onsite Wastewater Recycling Association**
58th Annual Michigan Onsite Wastewater Conference,
East Lansing, MI. Contact Ted Loudon at
(517) 353-3741

- 14–15 **Ohio Onsite Wastewater Association**
Annual Conference and Trade Show, Ramada Plaza
Hotel and Conference Center, Columbus, Ohio
Contact Susan Ruehl at (866) 843-4429 or
oowa@ohioonsite.org

- 19–21 **Missouri Smallflows Organization**
Annual Conference, Holiday Inn Expo Center,
Columbia, MO. Contact David Casaletto at
417-739-4100 or mso@lvbw.net

- 23–24 **Washington On-Site Sewage Association**
13th Annual Conference. Contact: www.wossa.org

- 30–31 **Wisconsin Onsite Water Recycling Association**
2009 Annual Convention, Madison, WI. Contact:
Ann Gryphan at (608) 256-7701 or www.wowra.com

MARCH 2009

- 2–4 **Minnesota Onsite Wastewater Association**
2009 Annual Convention, Ramada Inn – Mall of
American, Bloomington, MN. Contact MOWA
(888) 810-4178 or 952-345-1141 or
information@mowa-mn.com

APRIL 2009

- 6–9 **National Onsite Wastewater Recycling Association**
Annual Conference and Expo, Milwaukee, WI
Contact: (800) 966-2942 or www.nowra.org

JUNE 2009

- 17–19 **Arizona Onsite Wastewater Recycling Association**
2009 Onsite Wastewater Educational Conference,
Radisson Woodlands Hotel, Flagstaff, AZ.
Contact (928) 443-0333 or www.azonsite.org

Excavation Safety *(continued from page 8)*

Excavated Material

Excavated material should be placed a minimum of 2 feet away from the edge of the trench. If placed too close and for too long a period of time, the combination of the equipment vibration and the weight on the edge of the trench can cause a cave-in. Material placed too close to the excavation effectively increases the overall depth. For example, a trench that is 3 feet 6 inches deep becomes several feet deeper if spoil is placed right next to it.

Re-inspection of Trenches

Trench excavations must be re-inspected by the competent person as needed. They must be re-inspected whenever hazardous conditions exist, prior to the start of work, when soil conditions change and after every rainstorm.

Conclusion

The most important safety device is under each employee's hat: each individual is responsible for not only for his or her own safety but also the safety of others on the site. Every company should discuss emergency response. Time is critical

and all should know the protocol for various emergencies including electrical shock, cave-ins, allergic reactions, and basic first aid. Excavation safety is a critical matter that the Onsite/decentralized industry must directly address by seeking guidance from appropriate sources, ensuring that safe practices are followed and all workers are protected. ■

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NOWRA 18th Annual Technical Education Conference

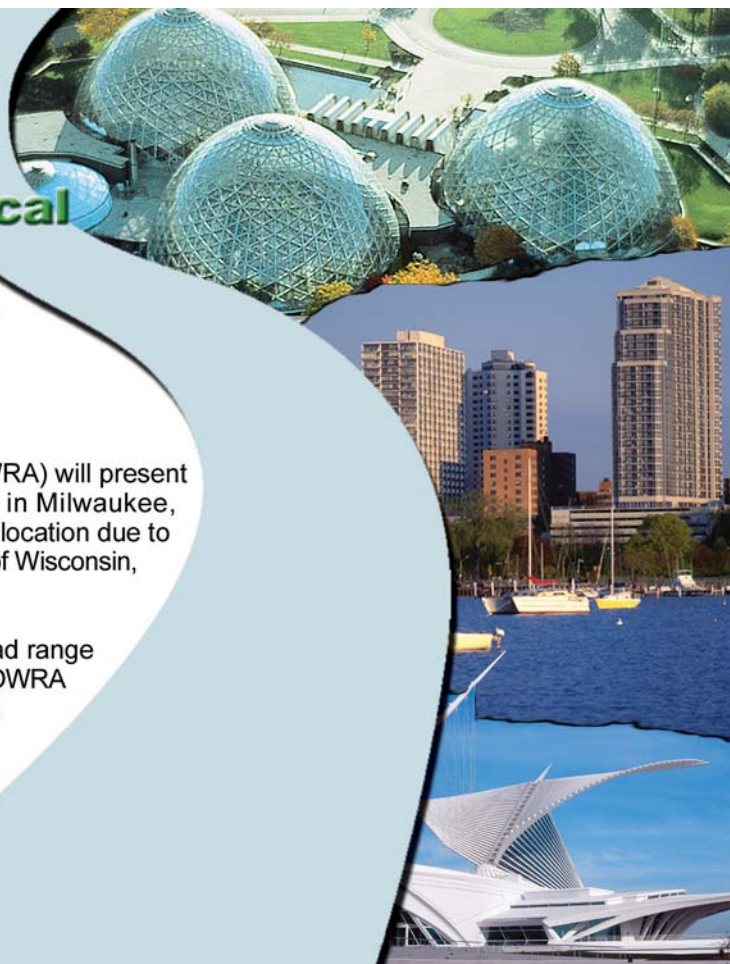
Midwest Airlines Convention Center
Milwaukee, Wisconsin
April 6-9, 2009

The National Onsite Wastewater Recycling Association (NOWRA) will present the NOWRA 18th Annual Technical Education Conference in Milwaukee, Wisconsin on April 6-9, 2009. Milwaukee will serve as a great location due to its position in the center of the Midwest, in the southeast corner of Wisconsin, on Lake Michigan's western shore.

In addition to the three day annual conference covering a broad range of topics relating to onsite/decentralize wastewater treatment, NOWRA will be hosting a pre-conference on April 6th focusing on Pharmaceuticals and Personal Care Products in Wastewater, Surface Water, and Groundwater and will have a track at the conference April 7th through April 9th focusing on the range of related issues.

For More Information Visit
www.NOWRA.org

Photos courtesy of Milwaukee Convention & Visitors Bureau



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