

ONSITE_{journal}

Spring 2010

NEWS FOR THE ONSITE WASTEWATER RECYCLING INDUSTRY

**Successful Installer Academy and
Roe-D-Hoe held at 2010 Pumper Show**

**Model Code Success Story
in the Making in Colorado**

**Updated Homeowner
Folder Now Available**



NOWRA
National Onsite Wastewater
Recycling Association



National Onsite Wastewater Recycling Association, Inc.

EXECUTIVE COMMITTEE

President - Thomas Groves
Vice President - Richard Otis
Past President - Jerry Stonebridge
Secretary/Treasurer - Greg Graves

BOARD OF DIRECTORS

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(Terms Expire December 2010)

Supplier/Vendor - E. Craig Jowett
Installer/Contractor - Peter Balas
Engineer/Designer - Rodney Ruskin
Academic/Research - Judith Sims

2009-2011 Directors

(Terms Expire December 2011)

Engineer/Designer - Craig Gilbertson
Service Provider - Tom Fritts
Regulator - Ed Corriveau
Academic/Research - Randall Miles
Supplier/Vendor - vacant

2010-2012 Directors

(Terms Expire December 2012)

Supplier/Vendor - Doug Jatcko
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Education Committee - Sara Heger
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Governance Committee - Vacant
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Model Code Committee - Tony Smithson
Technical Practices - Allison Blodig
Web site Committee - Ron Suchecki
OSJ Editorial Board - Matt Byers
Installer Academy - Tom Fritts

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President
Thomas Groves

Welcome to the spring 2010 issue of the NOWRA Onsite Journal (OSJ). Well, it's finally official! Our long awaited partnership with the Water Environment Association (WEF) was formalized by both associations' boards in January. NOWRA and WEF subsequently entered into a three-year Group Membership and Shared Resources Agreement that began February 1, 2010. With that, the search for a new NOWRA Executive Director and the establishment of an office in Alexandria, Virginia has begun in earnest. By the time this Journal reaches you, we hope to have our new Executive Director on board.

As you can imagine, this partnership agreement has consumed a large portion of the NOWRA Executive Committee and Board of Director's time in 2009. We are relieved to have this behind us so we can concentrate on moving other initiatives forward, such as the NOWRA Model Code Framework. In addition, our relationship with WEF will allow NOWRA to enhance our membership benefits. We look forward to offering our members the kinds of benefits that can assist them and their small companies in this challenging economic environment.

The most recent NOWRA news comes from our successful Installer Academy and Backhoe Roe-D-Hoe held in February during the Pumper Show in Louisville, Kentucky. As many of you know, NOWRA's Installer Academy and Roe-D-Hoe was traditionally held in December in Las Vegas. This year the Pumper Show gave us an opportunity to see if this event could benefit and grow in a different venue and time of year. We were very pleased with the outcome and feedback that we received. Thanks to Sara Heger as Education Chair, and to Tom Fritts as Installer Academy/Roe-D-Hoe Chair for a job well done.

Inside this issue you will find an in-depth article on the educational sessions presented by NOWRA during the Academy and a description of the fun that was had by all during the Roe-D-Hoe competition. Many contestants vied for the \$1,000 cash prize as well as the championship belt buckle and bragging rights as the 2010 Roe-D-Hoe champion. Congratulations go out to Corey Hoover of Erie, PA for his performance and title as 2010 NOWRA Roe-D-Hoe champion. If you missed the action, make sure to mark your calendar for next year's Pumper Show as we hope to be back. A big thank you goes out to COLE Publishing for allowing us to become part of the Pumper Show and help to grow this weeklong event.

In addition, I would also like to thank COLE Publishing for once more assisting NOWRA with this publication and for their continued support of our organization and the onsite industry as a whole. This is our third issue of the Onsite Journal within the COLE Publishing Onsite Installer magazine. We are pleased with the results and we hope you that you enjoy it as well. We are very interested in your feedback on these combined publications so if you have any comments or suggestions, please send them along to the NOWRA office at info@nowra.org. If you

are a NOWRA member don't forget, this is a great opportunity to be seen by the larger Onsite Installer audience; so, make sure all of your information is current in NOWRA's online directory – SepticLocator (www.septiclocator.com).

Lastly, the NOWRA Board would like to give recognition and thanks to our past Secretary/Treasurer Brian McQuestion who resigned from that post in early 2010. Brian was NOWRA's Secretary/Treasurer for the past 5 years and was instrumental in keeping NOWRA afloat through not only these current tough economic times, but also through changes in the association's management personal. We wish him well, he will be missed. Greg Graves has assumed the role of Secretary/Treasurer and was endorsed by the NOWRA Board at the February Directors meeting.

We hope you enjoy this April issue of the NOWRA Onsite Journal. Let us know how we can better serve you.

Sincerely,

Thomas W. Groves
NOWRA President



A Message from Water Environment Federation

By Executive Director Bill Bertera

This is an exciting partnership for WEF and we are looking forward to working closely with the NOWRA membership in the years to come. The communities we serve increasingly expect the water industry to present an integrated approach to water and wastewater management, and that means in small communities as well as in large. This partnership positions both NOWRA and WEF to provide that integrated service.

Most importantly, this partnership enhances the ability of both organizations to share the most up-to-date information and technology with our respective memberships through conferences, publications and the web. Of course this is not only a partnership of two national organizations... both have networks of state and regional organizations which are integral to our respective memberships and our work.

NOWRA and WEF already share a significant number of joint members and supporting organizations in both the public and private sectors. This partnership is a natural fit that will work for us and the public interests we serve. This is the way the not-for-profit community is supposed to work. ●

Bill Bertera, Executive Director
Water Environment Federation

Sustainable Water Infrastructure for Cities and Villages of the Future

By Jerry Stonebridge



An international conference on Sustainable Water Infrastructure for Cities and Villages of the Future (SWIF) was held in Beijing, China on November 6-9, 2009. This event was organized by the Beijing University of Civil Engineering and Architecture and Co-Sponsored by the National Onsite Wastewater Recycling Association (NOWRA) and the Water Environment Research Foundation (WERF). Sponsorship was in name and help with organization, which was very much appreciated by the Conference Executive Chair, Dr. Xiaodi Hao, Professor.

The Conference was the continuation of themes that were presented at the Wingspread Workshop "Cities of the Future – Bringing Blue Water to Green Cities", Racine, Wisconsin, July 2006 and "Water for all Life: A Decentralized Infrastructure for a Sustainable Future" Baltimore, Maryland, March 2007.

A multi-disciplinary group of Keynote Speakers discussed the integration of water management, resource recovery, nexus of water and energy, ecological sanitation, and the role of nature's natural cycles in the context of a sustainable future. The conference consisted of three days of high energy presentations and discussions, with eighty technical papers presented. The papers covered topics from: Policy/Management/Economics, Stormwater Management, Fresh/Drinking Water Supply, Energy, Resource Recovery and On-Site Systems, Nutrient Removal and Recovery, and On-site Systems and Sludge Management.

An exciting aspect of this conference was the presentations and the interaction with the students of the many Universities. At least half of the attendees were students from all levels of their educational programs. It was a delight to talk with them and listen to what their concerns were about decentralized systems and the future of sustainability.

One PhD candidate in particular, Xia Chen, had definite opinions regarding the importance of a sustainable environment and clean water and why it had not progressed as it should. She believes "that the water issue is more related to society rather than technology" and "that more social and economical issues should be discussed at such conferences." Not a bad idea.

Many of the papers presented at the Conference will be published by the International Water Association, so check their Web site for details.

To make a paradigm shift to a sustainable future, it will take all disciplines working together to make it happen. ●

*Jerry Stonebridge
SWIF Keynote Speaker
Past President, NOWRA*



LOCAL AFFILIATES' UPDATES

FOR A LISTING OF NOWRA'S CURRENT AFFILIATE GROUPS,
VISIT OUR WEB SITE WWW.NOWRA.ORG/STATEGROUPS.HTML



Delaware On-site Wastewater Recycling Association (DOWRA)

DOWRA has elected Jim Williams as their new President. Hollis Warren will be DOWRA's Vice President, Ben Miller is the new Secretary and Lisa S. Wood will be the new Treasurer. Newly elected directors are Daniel R. String/Engineer, Bob King/Regulator and Ken Walsh/Installer. All other directors will remain the same.

DOWRA started their year out with a booth at the Delaware Rural Water Association Conference in February and will hold their Annual Clay Shoot in April. The quarterly BOD/Membership meeting was held March 9, 2010, at the Exhibit Hall, Delaware State Fair Grounds in Harrington. Please check DOWRA's Web site for their calendar of events. The Annual DOWRA Conference will be at Dover Downs October 19-20, 2010.

Any information needed, contact President Jim Williams @ (302) 492-3915 or (410)324-0738. The DOWRA Web site is www.dowra.org.

Minnesota Onsite Wastewater Association (MOWA)

Legislative/Regulatory

The MPCA (Minnesota Pollution Control Agency) has made significant changes to the SSTS (Subsurface Sewage Treatment System) Rules effecting on-site system design, installation, maintenance and inspection. These changes include: Advanced training and licensure requirements, increased septic tank requirements, and a new process for Product Registration for treatment and distribution products.

MOWA is scheduled to enter mediation this winter with MPCA over an issue related to design guidance and the newly revised Minnesota septic code. The Minnesota 2010 Legislative Session has recently commenced and MOWA scheduled a Day at the Capitol on February 9, 2010 to meet with state representatives and discuss critical issues for the wastewater industry. Unfortunately, this needed to be cancelled due to a snow storm. The MOWA Legislative Committee and lobbyist, Gary Botzek are monitoring legislative action and preparing to testify on behalf of our members if necessary.

Conventions/Seminars

MOWA held the Summer Seminar on August 27, 2009 at Camp Courage/Camp Friendship near Annandale, MN. Topics included:

- Describing and interpreting coarse sandy soils
- Requirements for land application or disposal of flammable waste traps, car wash waste, and sand traps.
- Discussion of the performance of the various distribution media products installed at this site.

- Tour of the Albertville Class A Wastewater Treatment Plant that uses reed plants for treatment and removal of phosphorus and UV disinfection.

The Annual MOWA Convention focusing on "Protecting our Most Precious Resource" was held February 1-3, 2010 at the Arrowwood Resort in Alexandria, MN. There were over 250 attendees and 35 exhibitors.

Educational sessions included:

- High Strength Waste
- New Nitrogen Reduction Requirements
- Ultraviolet and Chlorine Disinfection
- Motivational, business and legal presentations
- Open Forums to discuss new regulations, grease disposal, land application, and hazardous waste.

Approximately \$6,500 was raised in the Scholarship Auction at the Convention.

To learn more about the Minnesota Onsite Wastewater Association:

- Visit our Web site: www.mowa-mn.com
- Contact Pat Martyn, Executive Director: (952) 345-1141 or (888) 810-4178

Yankee Onsite Wastewater Association (YOWA) New England

YOWA has elected Russell Martin as their new President and Vic Giard as the Vice President for a two-year term that began on January 1, 2010. Dan Ottenheimer will serve another term as the Secretary/Treasurer of the association and Steve Corr will serve as past-President. Newly elected directors are Mary Clark, Joe Ducharme, Claire Golden, John Murphy, and Chuck Resevik – their three-year terms began on March 1, 2010. Directors appointed to a second term include Dave Clark, Douglas Coombs, Steve Dix, Michael Moreau, and Dave Potts.

YOWA's day to day activities are now being coordinated by the New England Water Environment Association (NEWEA) – the New England member association of WEF. NEWEA will assist YOWA with handling all membership renewals, membership questions, registrations for training programs, newsletter development, and support for the YOWA Board of Directors.

For 2010, the YOWA Education Committee plans to have multiple one-day workshops across New England. Scheduled at this point are a one-day Microbiology and Media Filter workshop in Vermont on April 6, and an Alternative and Innovative Technology workshop to be held in late May in southern Massachusetts. Look for more information on an additional Massachusetts workshop in June in Worcester.

For any additional information, contact YOWA's office at yankeeon-site@gmail.com or at (888) 969-2674. The YOWA Web site is www.yankeeonsite.org.

What Do You Think? DO PRESCRIBED DESIGN FLOWS COMPROMISE TREATMENT?

By Richard J. Otis NOWRA Vice President

Our country's rural landscape changed dramatically from the rapid economic growth that occurred in the late 1940's following WWII. With the baby boom in full swing and young and growing families looking for places to live, houses couldn't be built quickly enough. Subdivisions sprang up on the fringes of metropolitan areas faster than sewers could be extended. "Septic systems" were used but their regulation was lax or nonexistent. It wasn't long before large numbers of onsite system failures were observed and reports of contamination of private household drinking water wells received. These direct threats to public health raised serious concerns over the effectiveness of rural sanitation methods. In response, the Public Health Service, in cooperation with the Joint Committee on Rural Sanitation, initiated a 5-year study in 1946 to develop a factual basis for the design, installation and maintenance of seepage pits and septic tank soil absorption systems. This study culminated in the publishing of the *Manual of Septic-Tank Practice in 1957*¹, which provided design, installation and maintenance guidance for homeowners.

One of the recommendations made in the *Manual* was to use the number of bedrooms to determine the size of the subsurface infiltration system assuming two occupants per bedroom each of whom would generate 75 gallons per day (gpd) or 150 gpd/bedroom. The intent of the bedroom method was to provide an estimate of the maximum or peak day flow from homes to ensure the size of infiltration area would be sufficiently large so that the drainfield would seldom, if ever, operate at capacity. Since the systems were used as "disposal" systems, ensuring adequate hydraulic capacity in the drainfield was the primary concern. At the time this was a reasonable guideline because building materials were rationed, which kept houses small and usually necessitated sharing of bedrooms.

Today, this basis for estimating system design flows is prescribed by rule in most states and provinces though the required design flow varies generally from 120 to 200 gpd per bedroom. This practice remains despite dramatic changes in lifestyles and the increasing emphasis on targeted treatment to remove fecal coliforms, nitrogen, and in some cases phosphorus. The question is, is this method reasonable or even appropriate for sizing systems today?

Household Characteristics

The fact is the number of bedrooms in a home is a poor predictor of wastewater flows from the home. The 2008 American Community Survey conducted by the U.S. Census² reports that the average U.S. national household size in 2008 was 2.6 persons. Further, over two-thirds of all homes are 2 and 3 bedroom homes and that the number of occupants per room is less than one person in nearly 97 percent in all homes (see tables). These data suggest that there is little correlation between house size and family size and home occupancy that reaches or exceeds two persons per bedroom, is quite unusual. A recently completed Water Environment Research Foundation (WERF) study monitored daily flows from residential households during each quarter of 2008 at 17 homes in three different states; Colorado, Florida and Minnesota⁴. The average per capita water use for all 17 homes was 54.6 gpd with a median of 45.2 gpd per capita. The average daily flow was 174 gpd/home or a flow of 54 gpd/bedroom. A similar water use monitoring study of 1,100 homes was conducted by the American Water Works Foundation in 1999⁵. The average daily flow of all homes in this study was 69.3 gallons per capita. Monitoring of average daily flows in effluent sewers (sewers receiving septic tank effluent) have been reported to be 170 to 200 gpd per residential connection⁶. Together, these studies provide strong evidence that the traditional approach of using numbers of bedrooms for estimating household water use result in design flows that are 150 to 200% greater than the actual flows.

Inflating system design flows this greatly, can have serious unintended consequences for onsite treatment systems. The most notable are costs to the consumers, ineffective flow equalization and pressure distribution, and inability to adequately remove targeted pollutants such as nitrogen.

System Costs

An obvious consequence of inflated design flows is their impacts on system costs. Tony Smithson, Director of Environmental Health Services in Lake County Illinois and an active member of NOWRA, provided a good example of these impacts during a roundtable discussion held at

2006-2008 AMERICAN COMMUNITY SURVEY³
Housing and Occupancy Characteristics

Household Size				Bedrooms per House		Occupants per Room	
Occupied Households	Total	Owner Occupied	Renter Occupied	Number of Bedrooms	Percent of Homes	Number of Occupants	Percent of Total
	112,386,298	75,363,085	37,023,213	0	5.2%	≤ 1.00	96.8%
Size				1	10.6%	1.01-1.50	2.1%
1 person	27.5%	22.1%	38.4%	2	26.1%	≥ 1.51	1.1%
2 person	33.2%	36.5%	26.6%	3	38.5%		
3 person	15.9%	16.2%	15.2%	4	15.5%		
≥ 4 person	23.4%	25.1%	19.8%	≥ 5	4.0%		



the NOWRA Annual Technical Conference in Milwaukee, April 2009. This discussion explored the feasibility and practicality of regional rules. Smithson stated that in Illinois, design flows must be based on 200 gpd per bedroom or 100 gpd per person with two people per bedroom. The census data for Illinois shows that only 24% of all Illinois homes have 4 occupants or more. So, the probability of a 3 or 4 bedroom home occupied by 6 or 8 people who use water at the rate of 100 gpd per person (about twice the average national rate) is uncommon! Using reasonable assumptions for hydraulic loading rates on Illinois soils, Smithson calculated that if the state would use a design flow of 120 gpd/bedroom or 60 gpd per person instead of 200 gpd/bedroom, the cumulative savings from all new systems installed each year would be \$7,350,000! This savings was based on 4900 new system permits issued in the state per year and a cost \$2.50 per square foot of trench.⁷

Wastewater Treatment

Flow Equalization: This is a beneficial operation that is used to reduce the variability of influent flows, which enhances treatment and allows the treatment system to be sized based on the average daily rather than the peak day influent flow (check with your local jurisdiction first!). This component is usually installed between the septic tank and any advanced treatment units downstream. The equalization tank stores the septic tank effluent, which is pumped out uniformly at regular intervals over the 24 hour day. Assuming a 3 bedroom home sized at 150 gpd/bedroom and the flow equalization component set to discharge every 2 hours, the discharge volume for each event would be 450 gpd/12 events/day or approximately 40 gal/event. But, if the average daily flow were really 200 gals, only 5 events would occur each day (200 gpd/40 gal/event) primarily during the daily peak flow periods thus negating much of the advantage from including flow equalization in the treatment train.

Uniform Distribution: Pressure distribution networks for applying pre-treated wastewater to the subsurface infiltration system provide the advantage of achieving uniform distribution over the soil's infiltrative surface both spatially and temporally. Whether a rigid pipe or drip tubing network is used, uniform distribution only occurs when the pipe or tubing is fully pressurized. Therefore, the network should not be so large that large dose volumes are required to pressurize the network.

Rigid pipe networks are affected more by over sizing than drip tubing because of the pipe diameter is much larger. Using the example of the 3-bedroom home with a design flow of 450 gpd but actual average daily flow of 200 gpd, the length of the distribution piping would be 2.25 times greater for a 450 gpd system than for a 200 gpd system. Assuming four 70ft trenches using 1½-inch diameter laterals, the total volume of the network would be approximately 26 gallons. The commonly used rule of thumb is that a dose must be at least 5 times the volume of the distribution network piping to ensure the time of pressurization is long enough that the non-uniform losses that occurs during filling and draining of each dose is a small fraction of the total dose. This requires the dose volume to be 130 gal/dose. At design flow, this would result in 3.5 doses per day. However, at the average daily flow of 200 gpd, the network would only receive 1.5 doses per day thereby losing nearly all the advantage of using pressure distribution. The size of the dose volume cannot be reduced to allow more doses per day because the dose volume would be too small to achieve adequate pressurization time and uniformity in distribution.

BOD and Ammonia Removal: Advanced treatment systems use aerobic processes that are used to remove organic carbon (typically measured as the 5-day biochemical oxygen demand or BOD₅) and/or to nitrify organic and ammonium nitrogen (together referred to as Total Kjeldahl Nitrogen or TKN). The amount of oxygen that must be supplied to the treatment system to oxidize the organic carbon and TKN is determined by the mass of these pollutants discharged to the treatment system each day. To remove each pound of BOD₅, one pound of dissolved oxygen is required. However, the oxygen demand to nitrify TKN is nearly 5 pounds of oxygen for one pound of TKN. Thus, ammonia removal or nitrification has a large oxygen demand that must be satisfied to achieve treatment.

From the many of studies of septic tanks, we know generally in what concentrations these materials occur in septic tanks. What we seldom know is the actual mass of the pollutants. This requires that we know the flows at the time the concentrations are measured (Mass = Flow x Concentration). This is where the designer needs to be careful because an error in estimating the mass of pollutants to be removed, particularly TKN, has a significant impact on the amount of oxygen required and thus the size of the blowers to use!

Because of dietary needs and habits, a family will generate a mass of organic carbon and TKN, which is not likely to vary much from day to day. However, the concentration of these pollutants in the septic tank will change with differences in water use in the home. We have seen this in the increase in TKN concentrations from septic tanks over the last 15 -20 years due to the increasing use of water conserving fixtures.

Using the prescribed design flow and text book values for concentrations will usually result in substantial over sizing of equipment. For example, if the designer were to expect a TKN concentration from the septic tank from a 3 bedroom home of 60 mg/L, at the design flow of 450 gpd, the estimated mass of TKN would be 0.23 lbs/day (450 gpd x 60 mg/L x 8.34 x 10⁶) but if the actual average daily flow is 200 gpd, the estimated mass of TKN would only be 0.10 lbs/day, more than a 55% reduction. These differences can be significant and will impact performance in larger systems. The designer must be aware of the consequences in estimating the average daily flow for the new system and the pollutant concentration that would be appropriate for the particular use of the building to be served. If not carefully considered, the result will either be excessive aeration and increased power costs or under performing treatment.

Avoiding over aeration is difficult for small individual home systems because most treatment equipment that is available is sized for a minimum treatment volume of 500 gpd, which results in increased wastewater residence times in the unit with a corresponding increase of time under aeration. However, this can be a critical issue when designing larger treatment facilities where cost concerns and targeted treatment for nitrogen reduction is likely (see below).

Nitrogen Reduction: Carbon management is critical for single stage total nitrogen reduction treatment processes because the organic carbon is needed for the final step of denitrification. If the treatment is to be effective, it is imperative for the designer and operator to have accurate estimates of the available organic carbon (cBOD) and total Kjeldahl nitrogen (TKN) in the system. Nitrification requires 4 to 5 times the amount of oxygen needed for BOD removal. Consequently, much of the carbon is removed due to oxidation during the nitrification step, particularly when design flows are inflated and treatment vessels over sized.

The most reliable carbon source in single stage denitrification systems is the raw wastewater. After nitrification in the aerobic unit, the nitrified effluent is recycled to the septic tank where the organic carbon is available under anoxic conditions. Using a recycle ratio of 3 or 4:1 is commonly used to achieve 50 to 65% reduction in total nitrogen⁸⁹. To achieve a higher removal is difficult because fresh TKN that must be nitrified is added with each recycle. Also, the increase flow in the septic tank due to the recycle of the nitrified effluent requires that the septic tank be sized appropriately to accommodate the influent and recycle flows. It is also critical that the recycled flow does not return too much oxygen so that anoxic conditions are not maintained in the septic tank, which is needed to support denitrification. Using the prescribed design flow, which represents the estimated maximum daily flow will result in over aeration, loss of needed carbon, and the reduction of denitrification potential of recycling nitrified wastewater to the septic tank because of the addition of oxygen from the recycle flow.

Summary

It is unlikely that our onsite prescriptions for estimating design flows will change soon so our designs must consider how a proposed system should be operated to avoid loss of treatment efficiency due to inflated design flows. Good estimates of expected flow and pollutant concentrations from an existing or proposed system are necessary to determine how to approach the design. In my opinion, it will be most appropriate in most instances to include flow equalization designed for peak flow with the subsequent downstream system components designed for the actual expected average daily flow. Whether the local jurisdiction will allow this solution is another issue.

What do you think? (Please respond to think@nowra.org) ●

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- 2 - U.S. Census Bureau. (2009). American Factfinder. Housing, revised October 27, 2009 <http://factfinder.census.gov/home/saff/main.html?_lang=en>
- 3 - Op. cit., U.S. Census Bureau. (2009).
- 4 - Water Environment Research Foundation. (2009). Influent Constituent Characteristics of the Modern Waste Stream from Single Sources. Report No. 04-DEC-01. Alexandria, VA.
- 5 - Mayer, PW, et al. (1999). Residential End Uses of Water. American Water Works Association Research Foundation. Denver, Colorado.
- 6 - Electric Power Research Institute. (2004). Guidance Manual for the Evaluation of Effluent Sewer Systems. Palo Alto, California.
- 7 - Smithson, A. "The Cost of Regulatory "Safety Factors" in Illinois' Private Sewage Disposal Code. Journal of Environmental Health. (April 2010).
- 8 - Oakley, S. (2006). "Onsite Nitrogen Removal." Consortium of Institutes for Decentralized Wastewater Treatment. <<http://www.onsiteconsortium.org/>>
- 9 - Hazen and Sawyer, et al. (2009). "Literature Review of Nitrogen Reduction Technologies for Onsite Sewage Treatment Systems," Task A.2, Florida Onsite Sewage Nitrogen Reduction Strategies Study, Report to Florida Department of Health. <http://www.myfloridaeh.com/ostds/research/Index.html>

ACCOMPLISHING THE WORK OF Reports from Our Committees



Despite the downturn in our economy that created hardship for most of us in our industry, dedicated members of NOWRA's committees continue to give of their time to support our association and advance our industry. Many of our members volunteer their time and expertise to work on a broad range of issues that affect our industry, our affiliates, our businesses, our practices, our regulations, and the public we serve. Look below to see what they are doing. If you see an activity in which you have interest and feel you can help, please contact the committee chair for more details. Also, watch for "help needed" announcements from our committees in the On Site Journal, e-News or on our Web site asking for assistance with special needs and projects. Become involved not only for NOWRA's benefit, but your own!

Education

(Chair, Sara Heger, University of Minnesota-Twin Cities)

The Education Committee's mission is to provide member education on current and emerging issues through the Annual Conference, Installer Academy, specialty workshops, and roundtable discussions, which offer CEU's for attendees. The Committee also is available to

support Affiliate Conferences with educational programs.

In addition, the Education Committee works with the Installer Academy and Annual Conference Committees to organize and coordinate these two annual activities (see below).

Installer Academy

(Chair, Tom Fritts, Residential Sewage Treatment Co.)

The Installer Academy was held in conjunction with the Pumper Show in Louisville, Kentucky in February. This partnership with COLE Publishing, the sponsor of the Pumper Show, was very successful and we hope to continue this partnership in 2011!

In addition to two days of a variety of educational programs, six manufacturers offered over 15 hours of training in the proper application, installation and operation of their equipment. The Consortium of Institutes for Decentralized Wastewater Treatment (CIDWT) provided two days of training for system installation, which included their comprehensive "Installation of Wastewater Treatment Systems" manual. This committee also provided a NOWRA program for the Pumper Show's Educational Day. But it wasn't all just training or walking the Pumper

Show exhibition floor. The Backhoe Roe-D-Hoe Champion's Belt was up for the taking with the defending champion and state champions competing all week on the floor of the show. Check NOWRA's Web site to see who won!

Conference 2010

(Chair, Randy Miles, University of Missouri)

Though it is not yet confirmed whether we will hold the Annual Conference in 2010 because of the economic downturn, NOWRA is proceeding with plans to hold it in St. Louis, Missouri in October. The theme is to be "Surface Discharging Systems and General Permits." Watch for an announcement soon for whether the Annual Conference will proceed.

2011 Super Conference

(Chair, Craig Gilbertson, Ayres Associates)

The planning continues for the "Super Conference" to be held as partnership between National Environmental Health Association (NEHA) and the State Onsite Regulators Alliance (SORA) in Columbus, Ohio in June. The joint conference is expected to create significant synergy between the members of three sponsors, which will help to coordinate our individual efforts toward common goals. We expect that this joint conference will be a beginning of other similar partnerships of mutual benefit.

Marketing & Communications

(Chair, pending)

The Marketing & Communications Committee continues to work hard to maintain communication with our membership and other interested parties regarding NOWRA's current activities, accomplishments and other information relevant to our industry. These activities include:

- Publishing the monthly "e-News" to provide a timely summary of events and information of interest to our industry
- Working with the Web & Technology Committee on NOWRA's web site page to post a help wanted/jobs available page
- Assisting other committees in editing and publishing technical documents for our membership.

Recent documents completed for the Technical Practices Committee that may be found on NOWRA's Web site include:

- "Decentralized Wastewater Infrastructure: Protecting Our Water Resources into the Future"
- "Onsite System for Homeowners Guide"

The Marketing & Communications Committee is seeking a chairperson as well as volunteers to join the committee. If you have expertise in marketing, graphics, desktop publishing, web design and are interested in helping out, contact the NOWRA office at (800) 966-2942 or by email at info@nowra.org.

Technical Practices

(Chair, Allison Blodig, BioMicrobics)

The Technical Practices Committee's responsibility in NOWRA is to develop technical materials on proven and successful technologies, soil science, transmission, installation, and recycle/reuse practices that ensure the effective implementation of safe onsite systems and water quality protection.

The Committee completed a white paper, "Decentralized Wastewater Infrastructure: Protecting Our Water Resources into the Future" as part of "The NOWRA Perspective" series. This 5-page document promotes decentralized options to decision makers of small communities faced with upgrading their wastewater treatment services. This is also available on NOWRA's Web site.

With help from the Education Committee, "Onsite System for Homeowners Guide" has been upgraded. It is available on NOWRA's Web site and it is also printed in folder form for members to purchase for distribution to their clients. Space is provided on the folder for you to insert your business logo and address. Details can be found on the Web site.

The committee's has begun a new initiative to update fact sheets for the range of treatment processes and generic technologies available for onsite and cluster systems. These fact sheets will all follow a standard format and give basic introductory information for use by our installer members and their prospective clients and/or regulators unfamiliar with technology. Also to be included, is a guide for how to select appropriate treatment processes for given wastewater types and soil characteristics.

Model Code

(Chair, Tony Smithson, Retired Director of Lake County Environmental Health Department, Illinois)

The intent of NOWRA's Model Code Framework was to promote state and national policy and rule reform by providing a model code to be used by states for revising their rules and to adopt performance provisions. However, interest in the Model Code Framework has languished since it was approved by NOWRA's Board of Directors in 2007. After conducting a series of workshops across the country in 2007-2008, it became obvious that moving to performance-based codes is too great a leap without tools and other resources to help. (Colorado was one state that has used the Model Code Framework to help the state developed performance state rules, which is highlighted elsewhere in this issue of OSJ). A strategic multi-year plan has been developed to address some of these short comings. For 2010, the committee intends to complete the soil treatment document, which was meant to be part of the model code. Also, an effort is being initiated to develop code language for product approvals, which will be accepted as a regional rule. Target dates for completion of both are by the end of this year. Other initiatives outlined by the strategic plan will follow in future in OSJ.

Quality Installation Using Best Practices Task Force **(Chair, Ralph Benson, Clermont County General Health District, Ohio)**

This is a new initiative that will get underway during the second quarter of this year. Its objective is to develop an easy to use checklist for installers and regulators to ensure a quality installation is achieved. The checklist will be supported with best practices for completing the variety of tasks typically associated with an installation. Look for an announcement in March for volunteers to help with this important guide!

Resource Library Task Force

(Chair, Judy Sims, Utah State University)

The Resource Library was established last year to provide various resources for use by NOWRA's members. The committee is just beginning to post resources, which are expected to be available by the end of March. Links to each state's rules are currently being formatted. Searches for literature related to decentralized treatment, which was published in 2008 and 2009 have been completed and ready for posting on the site. Each of the two years searched found over 150 documents for which the citations and abstracts will be available in the Library. The committee will continue to identify other resources of interest and work to have them posted. ●

Colorado - Upgrading Onsite Regulations with Help from NOWRA's Model Code Framework for Decentralized Wastewater Infrastructure

By Ed Church CHURCH Onsite Wastewater Consultants

Colorado is in the process of reviewing the Statute and Regulations with respect to Onsite Wastewater, currently called Individual Sewage Disposal Systems ISDS. The existing Statute (Article 10, Individual Sewage Disposal Systems Act) and Regulations (Guidelines on Individual Sewage Disposal Systems) were passed in 1973-74 with minor revisions since then.

The need for changes has long been recognized. In 2002 a Steering Committee appointed by the Colorado Department of Health and Environment CDPHE recommended 13 revisions. Recommendations included changing ISDS to "Onsite Wastewater Systems" (OWS), developing a performance-based approach to OWS, authorizing renewable permits, developing strategies and programs for training/certification, and reviewing funding options. One of the recommendations, – review of what had been done in the first year following the issuance of the report, recognized that nothing had been accomplished. Several members of the Steering Committee organized a Colorado affiliate group of the National Onsite Wastewater Recycling Association (NOWRA), the Colorado Professionals in Onsite Wastewater (CPOW), in 2004.

In 2007 CPOW members testified before the Colorado Joint Budget Committee to support a CDPHE funding bill, which included funding for the one full-time employee (FTE) assigned to Onsite Wastewater at the State level, in lieu of the then existing 0.1 FTE. Passed in 2007, a fee of \$23.00 was added to each ISDS permit issued in the state with counties keeping \$3.00 and \$20.00 sending to CDPHE. The FTE was hired in spring of 2009.



The organization of CPOW involved state wide seminars, working with the state and counties and the Colorado Environmental Health Association (CEHA). By 2007 CPOW was ready to make an effort to upgrade the Statute and ISDS Guidelines. Mike Corry was sponsored by NOWRA to assist CPOW in organizing and developing a strategy for proceeding with performance-based regulations using the NOWRA Model Code Framework as a resource. In the

Fall of 2007, Richard Otis and Mark Hooks, sponsored by NOWRA came to Colorado and presented a workshop on to use the NOWRA Model Code.

CPOW worked through 2008 and early 2009 on developing a draft Model Code for Colorado. Discussions were held with legislators and lobbyists on how to proceed. In evaluating what was missing, the group decided it needed to talk to the Water Quality Control Commission (WQCC), which had been delegated responsibility for ISDS by the Legislature. After discussions with Dave Akers of the Water Quality Control Division (WQCD) and a presentation to the Water Quality Control Commission, it was determined that a stakeholders process organized through the WQCD, would be undertaken to review the Statute and Guidelines. At the same time Barbara Dallemund P.E. was hired to be the OWS Coordinator at CDPHE. Barbara Dallemund has been a NOWRA member for many years.

NOWRA's Model Code provided the basis for CPOW's work to consider Education & Certification; Performance based regulations and the risk involved with performance levels; and related maintenance levels. Drafts of what CPOW proposed for consideration to move ahead were prepared to provide members with an understanding of what new regulations might look like.

Based on discussion between CDPHE, WQCD and CPOW, a stakeholder's process was established with 7 sub-committees and a goal of bringing revisions to the Statute to the 2011 Legislature. The 7 sub-committees include: 1) Training and Certification, 2) Performance and Risk-Based Code, 3) Septage Management, 4) Graywater, 5) 2000 GPD - the current county permitting limit, 6) Funding and 7) Title Transfer Inspections, Use Permits and Maintenance. At this time each sub-committee has considered alternatives with pros and cons for their area and has made a presentation to the larger stakeholders group. The committees include state and county officials and the sectors of service providers, regulators, engineers, manufacturers and distributors, and pumpers/cleaners. CPOW members who have been instrumental in the process are Brian Scheffe, 2009 CPOW President, of Front Range Precast; Bob Wright and Kate Carney of CHURCH Onsite Wastewater, LLC; Lane Drager of Boulder County and 2010 CPOW President; Warren Brown of Tri-County Health Department; Kim Seipp of High Plains Sanitation Service; and Becky Roland, the CPOW administrator. Over 200 stakeholders are participating and input from many more will be required before finalizing changes. As the process goes forward, more involvement from the public and other stakeholders will be encouraged.

What is left? Mountains of work! The final documents for the proposed Statute revision must be prepared for submittal for review first by CDPHE and then consideration and hopefully inclusion of the proposed changes in the Call for the Legislative Session by the Governor in proposed 2011 legislation. Hopefully the Stakeholder process will provide wide support for performance-based Statute and Regulations. ●

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CALL FOR PAPERS

October 25-27, 2010

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The National Onsite Wastewater Recycling Association (NOWRA) welcomes abstracts for papers to be presented at the NOWRA 19th Annual Conference in St. Louis, Missouri on October 25-27, 2010. St.

Louis will serve as a great location in the heart of the US on the Mississippi River, and we are pleased to have the Missouri Smallflows Organization as the Local Host for this conference. This conference will highlight issues related to surface discharges: what

can be done, what are some appropriate technologies, and what are some successes as documented with case studies.

The NOWRA annual conference serves as the premier conference for the conveyance of new research, regulations and policy, and experience and practices in the decentralized wastewater industry. The traditional trade show will be taking a one-year hiatus, but will return in 2011 when NOWRA partners with NEHA and SORA for the "Super Conference."

NOWRA's 19th annual conference will be focusing on surface discharging issues, but abstracts covering the broad range of topics relating to onsite/decentralized wastewater treatment are encouraged. The deadline for submission of abstracts is April 15, 2010. For more information on the Call for Papers, see the NOWRA Web site at www.nowra.org/annual_conference.html or contact Sara Heger at heger001@umn.edu. ●



Membrane Bioreactor (MBR) Technology

By Reza Shams-Khorzani, Ph.D., BioMicrobics

This article is a summary of a short course given at the Installer Academy, 2010

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The term membrane bioreactor (MBR) defines a combination of a biological process and membrane separation. The MBR forms an important advancement in the treatment of wastewaters. In comparison with conventional treatment techniques the MBR technology displays several advantages such as very high effluent quality, limited space requirements and possibilities for a flexible and phased extension of the treatment plant.

Generally, treatment of the residential wastewater by the MBR system would produce effluent with non-detectable TSS, BOD concentration of less than 2 mg/L, ammo-

nia-nitrogen concentration of less than 0.5 mg/L, fecal coliform count of less than 20 per 100 mL, and with proper design, total nitrogen concentration of less than 5 mg/L. The MBR effluent can easily be considered for reuse in various applications. The MBR system is also ideal for treating challenging wastewaters such as low temperature conditions and compounds that are difficult to treat.

In the last 15 years, the MBR technology has extensively been applied to treat both municipal and industrial wastewaters. Currently, there are more than 2,000 small and large (56 MGD) MBR treatment plants in operation in the world. ●

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HOMEOWNER'S FOLDERS TODAY!

The NOWRA Technical Practices Committee, Educational Committee, and the Marketing Committee have joined forces to revise the HOMEOWNER'S SYSTEM GUIDE AND RECORD KEEPING FOLDER. This folder is the perfect place to keep all of a homeowner's paperwork and documents in reference to their onsite system. It also provides a basic septic system education as well as a comprehensive inventory of what is included at a site. The folder provides a space to personalize it with your company's contact information and is ideal for file cabinet storage.

Download an order form for packages of 25 folders to give to all your clients on the NOWRA Web site at http://www.nowra.org/onsite_guide.html. A PDF version of the folder can also be downloaded from this same Web site.



My Latest Visit to the Shrink

By Bob White

Being a long time installer can sometimes push you to the edge. I will admit that I have sought out professional help in the past from the famous wastewater psychologist and therapist, Dr. Brian Anthony Pumper. On my most recent visit Dr. B. A. Pumper urged me to share my thoughts with others. Something about “controlled venting.”

I was so upset I really unloaded on Dr. Pumper. Do you know how many jobs I am losing?... Have the Regulators lost their minds?... How many more times am I expected to let Billy Bob Backhoe undercut me selling products he bought from Onsite-R-Us?... And have you even taken a look at these new systems they are promoting?... Come on Doc, how is a mentally unstable installer expected to keep up with all these things?

“Slow down Bob. Remember, trying to deal with more than one issue at a time will drive anybody crazy,” exclaimed Dr. B. A. Pumper early in our session. “First of all there are a lot of people losing jobs to low bidders right now. Don’t think you are alone. And Bob you have come to me with this issue before. Remember? Take the high road. Maintain your quality. And remember what you told me you learned in one of your classes you took at your last state convention? All the jobs in the state are not enough if you are not making money.”

You’re right Dr. Pumper, but those regulators...sometimes I feel like telling them to... “Calm down Bob. You don’t understand,” Dr. B. A. Pumper said while scooting to the edge of his chair. “Aren’t they making the regulations stricter?” Yes. “And doesn’t that mean the homeowner will have to do more, not less with their system?” Yes... Oh I get it. The tighter the regulations the more they will have to hire the educated installer to install or repair their system. “Well Bob that’s true,” Dr. B. A. Pumper said calmly puffing on his pipe, “but only if you are qualified. Only if you have kept up on those continuing education classes offered by the state and national associations.” I suppose you are right Doc.

“Bob I’m going to let you in on something. I’m sure you know how important the doctor / client privilege is.” Sure Doc. “Well since we go way back I will tell you that you are not the only onsite installer who has sought out my help. In fact that company on the South side of town, you know the

one who has all the same color shirts with their names on them?” Yea I know the ones.

“Well he tells me he and his crew are extremely busy right now. He says that it is getting to the point where the only jobs he gets calls on are the most difficult ones. The ones where the homeowner doesn’t ask many questions about price just about whether you are qualified to do the work.” I wish we were that busy Doc. “Well it sounds to me like taking the classes to learn about these new systems would be a good idea. He also said he is actually making more money now with fewer jobs and less time. You know he won that fishing tournament last week.” I know Doc. I was too busy to go. But I could have beat him. “Sure Bob. I think you are too out of practice right now to challenge anyone to anything but a tail chasing contest.” That hurts Doc. “That’s what they say about the truth Bob. Remember the high road Bob? Well you have slipped off into the weeds. You have started lowering your prices to get work. That means lower profits. That means more work for less money. That means you are becoming that contractor you despise. I would suggest you make the time to learn more about the installation of the more advanced systems. Get out of the weeds and back on track. In this economy working smarter for your money is a lot better than working harder.”

You know Doc you may have a point. I guess I should take the time and money to learn how to install those advanced systems. Like you said, work smarter, make more money and have more free time.

“And Bob don’t forget that it will also make you a better contractor overall. The customer sees that, believes and trusts you and starts putting the cost of the system at the bottom of the list and hiring a reliable contractor at the top.”

I know you’re right Doc. How do you do this in 45 minutes?

“Well Bob I am going to have to charge you double for this session since I worked as both your analyst and your business consultant. See Bob, education doesn’t cost, it pays.” ●

This article is fictitious and intended to be humorous and hopefully thought provoking.

Changes continue to happen at NOWRA headquarters in between issues of the Onsite Journal.

Communicated through our “E-News” publication, updates are relayed to the NOWRA members on a monthly basis. For those of you who do not receive our electronic newsletter, please sign up. Just drop us a note at info@nowra.org and we will add you to the monthly electronic newsletter mailing list. You do not need to be a member to receive this vital piece of communication on industry topics and Association updates. All past issues of the E-news are posted on the NOWRA Web site at www.nowra.org/e-news.html.

Evaluation of Disinfection Units for Onsite Wastewater Treatment Systems: Summary of Report No. 2006-1

By Harold Leverenz, Jeannie Darby, and George Tchobanoglous, University of California, Davis

Disinfection systems for onsite wastewater systems are required by regulatory agencies for some applications, however, there is insufficient operation and maintenance data available to ensure reliable performance. A commercially available calcium hypochlorite tablet chlorination unit and ultraviolet (UV) disinfection unit were evaluated, under conditions within the operational range specified by the manufacturer, for suitability in onsite and small wastewater systems. The disinfection units were assessed based on overall performance, reliability and constraints, maintenance requirements, and estimated cost of installation and operation. Performance was evaluated by measurement of MS2 coliphage, total coliform, and fecal coliform inactivation. The disinfection systems were operated for nine months using biologically treated septic tank effluent. Both systems provided comparable results, frequently achieving 5 log removals. However, both systems were also subject to intermittent breakthrough events. Breakthrough in the chlorination system resulted from differential erosion of the calcium hypochlorite tablets. It was found that there was little control over the applied chlorine dose, with chlorine concentrations ranging from less than 1 mg/L to more than 500 mg/L. The UV system was subject to mineral precipitation on the lamp sleeve (note that the area where the test was conducted has hard ground-

water). The precipitate reduced the effectiveness of the UV system but could be removed with regular maintenance. However, the maintenance interval could not be predicted in advance without testing under the actual conditions. Water with less hardness in the groundwater are not expected to have the same degree of fouling as in this study. Other factors that were identified as important for effective performance included reliable pretreatment, flow equalization, and maintenance frequency. Based on these experiments, it is recommended that any disinfection system should be monitored closely after installation to determine the required maintenance frequency that will ensure performance. ●

Report 2006-1 is an independent assessment of disinfection processes used in onsite applications conducted by the University of California at Davis, and funded by the State of California Water Resources Control Board.

Contact Harold Leverenz for more information at hleverenz@ucdavis.edu

Why Belong to NOWRA

National Onsite Wastewater Recycling Association

BY JOINING THE NATIONAL ONSITE WASTEWATER ASSOCIATION (NOWRA), YOU ARE ENTITLED TO IMPORTANT BENEFITS AND OPPORTUNITIES THAT CAN HELP MAKE YOU MORE SUCCESSFUL.

As a NOWRA member, you can:

- Have your business, products and services listed and promoted nationally through the NOWRA Septic Locator
- Become directly linked with building and development interests for business opportunities
- Have access to national and international educators and other top industry professionals
- Stay up-to-date with on-site industry regulations, technology, products and services
- Earn valuable education credits for technical training leading to professional certification
- Have your business and professional interests represented by the only national organization with direct access to state and federal policy officials
- Participate in medical, life and health insurance program for small businesses
- Receive discounts and other promotional savings from national office supply chains
- Network with your peers from other parts of the U.S. and Canada to learn what is happening in other parts of the country and around the world
- Learn about the industry and regulatory trends that could impact your business
- Attend educational sessions (and earn CEUs) taught by leaders in the onsite industry

Other benefits include:

- Onsite Journal Subscription - Provides a valuable forum for what is happening around the country
- National Conferences & Training - In-depth information in a national & international forum for new information and research
- NOWRA - The only national organization that exclusively supports the on-site industry

For membership information, please call the NOWRA office at (800) 966-2942 or download a membership application and visit our list of local affiliate groups at www.nowra.org/join.html.

NOWRA National Backhoe Roe-D-Hoe

By Tom Fritts

It was a "Big Time in Derby Town" when the annual NOWRA National Backhoe Roe-D-Hoe was contested at the 30th Annual Pumper Show February 25th, 26th and 27th in Louisville, Kentucky. Hootin' and hollarin' was heard throughout the hall when 76 contestants on Thursday and 85 on Friday competed to be one of the top 5 to return on Saturday morning for the finals. Competition was brisk both days with sharp operators demonstrating several creative approaches at the 3 different events. The events included basketball, bowling and golf. The course was set up by

"Mr. Backhoe Roe-D-Hoe" Mick Heibert of IHI Compact Excavator Sales LLC. Mick has experience in both North and South America setting up challenging tasks for operators who brag about being the best at their trade. Thanks to Mick and IHI the technical aspects of the event went off without a hitch.

The Roe-D-Hoe kicked off Thursday morning with operators looking over the equipment and sizing up their chances to take home the grand prize of \$1,000. They soon found out that maintaining grade in an excavation might be a little different from shooting hoops, picking up a spare and chipping one in the cup with a backhoe. We had a collection of professional backhoe operators from Canada to Barbados watching, talking and privately figuring out "Do I try and scoop all three basketballs at once or just go for 2 and then sweep the last one for a respectable time? Or would it be better to try and pick up 2 bowling pins with that short dowel on the end of the bucket or just quickly swing and stab them one at a time? And what about keeping that golf ball from looking like a moth orbiting a porch light?" There were several techniques used to stay on the "Top 10" board which was displayed during the contest. It was not uncommon to see a top 10 contestant drop by to check the board only to find they had slipped off...Requiring another trip through the events with a possible change in technique, or maybe just more concentration, or both.

Saturday morning the "Top 10" board had been reduced to five, Kent House from Indiana, Chris Hartman from the home state of Kentucky, Vincent Sullivan of Austin Texas, Mike Smallwood from Ohio and Cory Hoover from Erie Pennsylvania. All had their eyes on the cash. You could tell there had been



Presentation of the First Place check for \$1000 and belt buckle for NOWRA's 2010 Backhoe Roe-D-Hoe. From left to right – NOWRA's President, Tom Groves; Grand Prize winner, Corey Hoover of Erie, PA; and prize sponsor JET, Inc. represented by Chris Madich. (Photography by Ed Wodalski)



The top 5 finalists from NOWRA's 2010 Backhoe Roe-D-Hoe are (from left to right) Kent House (Indiana), Runner-up Mike Smallwood (Ohio), Chris Hartman (Kentucky), Grand Prize winner Corey Hoover (Pennsylvania), and third place winner Vincent Sullivan (Texas). (Photography by Ed Wodalski)



some late night planning and strategizing. The five finalists were allowed one trip through the events for practice and then the real thing. The crowd was treated to a superb exhibit of skill. In the end it was Cory Hoover from Erie Pennsylvania taking home the grand prize of \$1,000.00 with a record time of 1 minute 50 seconds. What a great time Cory! Second place went to Mike Smallwood of Ohio and third to Vincent Sullivan from Austin, Texas. Along with the first place cash the top 3 finishers took home a belt buckle to show the folks back home that they really are the cream of the crop.

A special thanks to Jet Inc for their generous donation of \$1,000.00 for the grand prize, IHI Compact Excavator Sales for the machines, Mick Heibert of IHI for setting up the events, Ed Wodalski of COLE Publishing for some fine pictures, all the volunteers who took time from the show to work the event and the National Onsite Wastewater Recycling Association (NOWRA) for developing the National Backhoe Roe-D-Hoe.

We look forward to seeing everyone again next year at the NOWRA National Backhoe Roe-D-Hoe. ●

A Successful Fifth Annual NOWRA Installer Academy Count on the Installer Academy every year!

By Sara Heger, NOWRA Education Committee Chair

The fifth annual National Onsite Wastewater Recycling Association (NOWRA) Installer Academy was held February 22-23, 2010 in Louisville, home of the Kentucky Derby, prior to the Pumper show. The Academy can best be described in the words of one attendee: "Energetic, current, positive, and well-illustrated."

This conference provides great networking opportunities for contractors. For many conference attendees the education sessions were the highlight of the conference. As one installer from Pennsylvania stated: "I have attended many onsite training seminars over the years. I learned more here in two days than in years of others. Keep up the good work!" The conference began with a keynote talk by former NOWRA and NAWT President Tim Frank on "Professionalism Through Education." Following the opening session, there were three concurrent tracks held over the two day period with class sizes kept small to maximize interaction between speakers and attendees.

There were four types of education sessions provided:

General Installer technical training provided by CIDWT members: Nancy Deal, NC State University, Tom Fritts of Residential Sewage Treatment Company, Sara Heger from the University of Minnesota, and Randy Miles with the University of Missouri. Topics included business practices, soils and site evaluation, installation techniques and safety along with piping, tanks, soil treatment systems, pumps and controls, ATUs, media filters, disinfection systems and much, much more.

A full technical day on Onsite Drip Dispersal including design, installation and operation was provided by representatives from Geoflow and Netafim.

Special exhibitor training was provided by BioMicrobics, Norweco, Polylok, Bord na Mona, and Infiltrator.

A Zoeller Plant Tour highlighted the various pumps, effluent screens, and decentralized technologies being manufactured at the nearby Zoeller plant.

NOWRA would like to thank COLE Publishing for offering us the opportunity to provide this training at the Pumper Show, and to Zoeller Company for their lunch sponsorship. Also, thanks to our conference sponsors – NOWRA's Business Benefit Program members as listed on the back page of this Onsite Journal.

In addition to the Installer Academy, Sara Heger and Tom Fritts also represented NOWRA during the Pumper Show Education Day by providing a condensed version of NOWRA's A to Z course to a packed room.

Planning Already for Next Year!

The fifth year of the Installer Academy was such a success that 2011 planning is already underway. Please see www.nowra.org/academy.html or contact us at 800-966-2942 or at info@nowra.org for more information.

Count on the Installer Academy every year!

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For information on the benefits, or how to become a 2010 NOWRA Business Benefit Program member, check out our Web page at www.nowra.org/bbp.html or call the NOWRA offices at 800-966-2942. Many new benefits were added to the program for 2010, so act now and don't miss out!

SEPTIC LOCATOR - Your 24/7 Internet Sales Tool

With over 60 percent of people using the internet to find a service or product provider, it is more important than ever to have a Web presence for your business. And that is why NOWRA developed "Septic Locator."

Septic Locator steers customers to NOWRA business members, and it is the premier resource for placing their company's onsite wastewater products and services in front of homeowners, builders, realtors, regulators, and policy officials. No other Web site offers this kind of direct access to on-site wastewater professionals and products like Septic Locator.

As a free service to all NOWRA members, Septic Locator is easy to use and offers the flexibility of being upgradeable if the member wants to have a stronger presence on the Web.

If you are a NOWRA member, just go to www.septiclocator.com and click on "Add My Company." Fill out the simple form, hit "submit," and you are well on your way to having your information available to anyone in your area needing assistance. There is no easier way to make your NOWRA membership work for you 24/7 than on the world's most popular site for onsite services!

If you are not a member of NOWRA, isn't this a great reason to join? Visit us at www.NOWRA.org.

