THE LITTLE DIGGER

MOWA minnesota onsite wastewater association

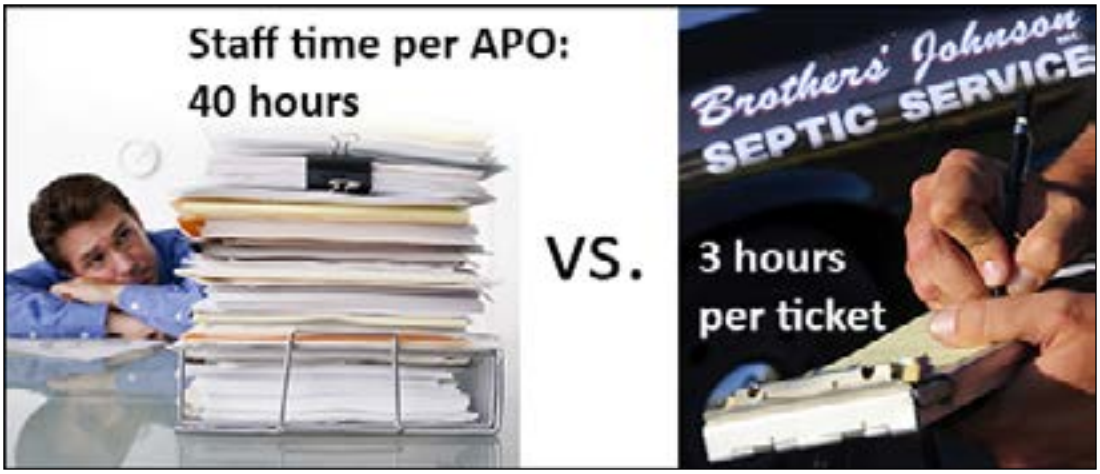
April / May 2015 - Vol. 30, Issue 2

A bi-monthly publication

New MPCA SSTS ticketing authority aimed at more efficient enforcement of minor rule infractions

By the MPCA

A measure passed in the 2014 legislative session provided the MPCA with the authority to issue tickets for violations of certain SSTS rules. MPCA enforcement staff will begin using this authority in April.



MPCA SSTS Manager Jim Ziegler says the agency asked for the authority after an internal study showed that the amount of time MPCA staff spent processing an administrative penalty order (APO) in minor enforcement cases was about 40 hours, compared to roughly three hours to process a ticket.

"Support for this authority was expressed by the Legislature, counties and members of the SSTS Advisory Committee and the SSTS Task Force whose members come from a variety of stakeholder groups, including counties and SSTS professionals," Ziegler said.

SSTS Ticketing, *Continued on Page 4*

In this Little Digger

Wieser Concrete celebrates its 50th!

Wieser Truck Fleet, 2012

On April 25, 2015, Wieser Concrete Products celebrated 50 years of business in the precast concrete industry. To honor this accomplishment they held an open house on Friday, April 24, 2015, at the Maiden Rock location.

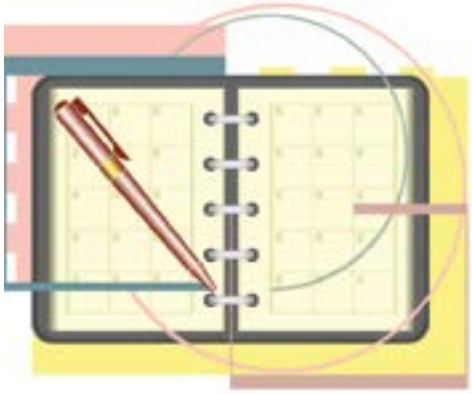
Wieser Concrete Products, Inc. manufactures an extensive line of precast concrete products for the Agricultural, Underground, Highway, and Commercial markets. This diversity and flexibility has

50th Celebration, *Continued on Page 5*

HOLD THAT DATE! SUMMER SEMINAR SET FOR AUGUST 19TH IN CHASKA

Theory Meets Practice at 2015 Summer Seminar

MARK YOUR CALENDAR!!



MOWA, in association with the University of Minnesota and the MPCA,

Proudly Announces Its

2015 Summer Seminar

August 19, 2015

Minnesota Landscape Arboretum
Chaska, MN

Please visit our Web site for updates:
www.mowa-mn.com

MOWA
5200 Willson Road
Suite 300
Edina, MN 55424
(952) 345-1141

Registration forms will be available soon

From the Executive Director's Office

By Pat Martyn, MOWA Executive Director

Do you ever wonder how MOWA sets its work plan for the year? How do we decide on what needs to be done, or is it whatever wheel is the squeakiest? Or do we just address things that come into the inbox on a random basis? We think we can do much better than that.

Each year we have a deliberative process where we sit and think and discuss what will best serve our membership. This year, we got together in March to have a board meeting entirely devoted to planning. Plan your work and work your plan is a guiding thought for us as we set out on a set of tasks that will carry us into 2016.

We call it strategic planning. What is a strategic plan? It is an exercise in thought and preparation that helps an organization establish goals and determine how to apply human and financial resources to accomplish those goals. We want to get everyone on the same page so we can get tangible results in 2015. A priority for us is to address any problems that have been reported to the Board, visit about any complaints the year, incorporate determine what is our improving the organization membership.

You are invited to pick up the phone and call... or e-mail MOWA Board members!

we have had during suggestions and also best approach for and the benefits for the

And then we keep track done by regularly measuring it is we set out to do. Last as a goal the creation of an

about what we have ourselves against what year, we established enterprise that would try to do some good works around the state for deserving non-profits. We not only set up what we call the Foundation, but actually got a project planned, underway and completed. It looks like this year we will be involved in an exciting project at the Minnesota Landscape Arboretum, and we will connect the project to a soils seminar opportunity for continuing education. If you would like to be involved in this or make a contribution, be sure you let the office know.

At the end of the strategic planning session, we like to have a roadmap so that we can focus our work, and try to improve MOWA.

You will find a listing of the Board Members in this newsletter to your right. You are invited to pick up the phone and call, or e-mail any of them, and let them know how you feel about the organization. President Brian Koski would appreciate it very much.

Calendar of Events

MOWA Events

August 19, 2015 – Summer Seminar—Minnesota Landscape Arboretum – Chaska, MN (visit www.mowa-mn.com for details)

Industry Events

November 3-6, 2015— NOWRA-VOWRA-SORA-NAWT to Hold Joint Onsite Mega-Conference, in Virginia Beach Virginia - NOWRA is partnering with the Virginia Onsite Wastewater Recycling Association, the State Onsite Regulators Alliance, and the National Association of Wastewater Technicians to host a major industry conference at the Virginia Beach Convention Center this fall. It will serve as the annual meetings for NOWRA, VOWRA and SORA and the Annual Treatment Symposium for NAWT. This will be a must attend event. Watch www.nowra.org for more information. http://071812c.membershipsoftware.org/Files/Conferences/2015Annual/WWETT%20Promotional%20Flyer.pdf

MOWA
2015 BOARD OF DIRECTORS

Brian Koski, President
Septic Check
brian@septiccheck.com
320-983-2447

LeeAnn Weigt, President-Elect
Olson's Sewer Service, Inc.
lee@olsonsinthepink.com
651-464-2082

Shane Steinbrecher, Secretary
Steinbrecher Companies
shane@steinbrechercompanies.com
612-221-8675

Pete Otterness, Treasurer
Blue Earth County
potterness@co.nicollet.mn.us
shorttails2@yahoo.com
507-934-7076

Andy Winkler, Past-President
Wieser Concrete
winkler@wieserconcrete.com
715-647-2311

Roger Berggren
McLeod Co. Environmental Services
roger.berggren@co.mcleod.mn.us
320-864-1214

Tony Birrittieri
Petersen Supply, LLC
tony@petersenproducts.com
262-692-2416

Charlie Bohn
Bohn Well Drilling Co.
charlie@bohnwell.com
952-445-4809

Nick Haig
MPCA
nick.haig@state.mn.us
651-757-2536

Dean Flygare
Flygare Excavating, Inc.
flygare@lakedalelink.net
320-980-3856

Greg Halling
Halling Engineering, Inc.
grhalling@hallingeng.com
952-440-1680

MPCA Updates—Be Sure To Check Approved Tank List

Some tanks added, others dropped from latest MPCA approved list

By the MPCA

The list of sewage tanks approved by the MPCA for use in Minnesota was updated in March. Some tanks have been dropped from the list and others have been added so be sure to check the list before picking tanks for your 2015 projects. Names and other contact information associated with the various manufacturers has also been updated.

The MPCA maintains two lists: the "big" "List of Registered SSTS Sewage Tanks" that includes detailed information for each tank manufacturer and the "At a Glance Listing of Sewage Tanks" quick reference guide. Both lists can be found on the MPCA web site at http://www.pca.state.mn.us/index.php/water/water-types-and-programs/subsurface-sewage-treatment-system-ssts/sewage-tanks-product-registration.html

SSTS Ticketing, *Continued from Page 1*

The specific categories that tickets can be issued for are outlined in Minn. Stat. 116.073 Subd. 1 (a) (5) and (6). The categories include common SSTS violations such as:

- Working without the proper SSTS license;
- Failure to maintain a local permit for SSTS work;
- Failure to submit as-builts or compliance inspection forms to LGUs by the required time;
- Failure to maintain land application records in accordance with 40 CFR 503 requirements; and
- Failing to treat septage and/or land apply in accordance with 40 CFR 503 requirements.

Ticketing example:

The penalties associated with a violation for each category are outlined in Minn. Stat. 116.073 Subd. 2 (16) - (22). Penalties per violation for each category range from $250 to $500. Each category can be cited multiple times depending on the number of times the category was violated. The penalty for each category cannot exceed $2,000; however, if a ticket includes violations of multiple categories, the overall penalty may exceed $2,000.

The following is an example of an enforcement case that could be addressed through issuing a ticket and penalty.

The MPCA determines that SSTS installer installed two septic systems without acquiring a local permit from the LGU for the SSTS installations. Since this violation occurred in two separate situations the installer would be cited twice for the violations. The penalty associated with failure to acquire or maintain a required local permit for SSTS activities is $500 per violation. The final penalty amount that would be included in the ticket would be $1,000.

A ticket will include the following:

- A summary of the violation that occurred;
- The Minn. Stat. or Minn. R. (s) that was violated;
- The resulting penalty amount; and
- The corrective actions required to be completed.

The responsible party must pay the penalty and complete any corrective actions included with the ticket within 30 days.

Those getting a ticket have the right to appeal the field citation under the procedure outlined in Minn. Stat. 116.072 Subd. 6. If a notice for a request for a hearing is not received within 15 days of issuance of the ticket it becomes a final order.

The MPCA will continue to issue APOs, Stipulation Agreements, and Schedules of Compliance for more complex and/or repeat violations of SSTS rules.

50th Celebration, *Continued from Page 1*

The Wieser fleet,1976 - this photohelped set the theme for the 50th Anniversary

1965 First Tank Installed: Joe Wieser installed the first tank in 1965 for Clem and Isabel Horn in rural Maiden Rock.

aided Wieser Concrete in maintaining a sound, successful operation.

The Joseph and Mary Wieser family moved from La Crescent, Minnesota to the peaceful valleys in Maiden Rock, Wisconsin in April of 1965.

Joe started Wieser Concrete Products, Inc. and the first product produced were precast septic tanks. Other concrete products such as small agricultural products, precast steps, and sanitary sewer manholes were gradually added to the product line.

During the early 1970s, Joe developed and perfected the Wieser Dri-Caster concrete machine for making slatted floors. This development to produce superior strength and consistent quality products has proven to be a major breakthrough that was needed to not only revolutionize the precast concrete industry, but to produce many new products such as manure storage panels, slope blocks, wall panels, and erosion control blocks in Alaska.

Throughout the years, new and improved products and additional manufacturing plants grew to include locations at Menomonie, Portage and Fond du Lac, Wis., Roxana, Ill., along with a distribution location in Spooner, Wis., that was added to the growing business. The company has grown from a one-man team to employing over 140 employees.

There are many employees throughout the years that have played key roles in the success and growth of Wieser Concrete Products, Inc. Since Joe's retirement in 1999, the company has been managed by Joe's three sons, Dan, Andy, and Mark Wieser. For more information about Wieser Concrete Products, Inc. view their website at www.wieserconcrete.com

Above: *2012 aerial view of the Wieser facility.*

Left: *1972 photo of Wieser fleet. Every year from 1965 to 1971, the company had a local contractor build their truck booms.*

NEW PRODUCT
NEW PRODUCT
NEW PRODUCT

POLYLOK™ Inc.
Innovations in Precast, Drainage & Wastewater Products
Zabel® A Division of Polylok Inc.

24" PIPE RING - *(3008-CPA)*

Polylok's newest product to be released is the versatile 24" Pipe Ring for 24" corrugated, 24" ribbed, and 24" smooth wall pipe. The 24" Pipe Ring can be directly cast into a concrete slab (3" - 6") or retrofitted to a variety of 24" Polylok products. Polylok makes it simple to bring your access port to grade by using the 24" Pipe Ring.

POLYLOK™ Inc. BEST TECHNOLOGY

PL-68 PL-122 PL525/625 GF-10 12x20 4x22 4x18

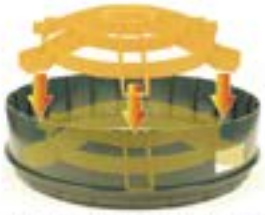
EFFLUENT FILTERS

HEAVY DUTY GRATES ARE ALSO AVAILABLE!

HEAVY DUTY COVERS - *(12", 15", 18", 24" & 30")*

SAFETY PRODUCTS

Universal Safety Screen
3008-RSSCONC / 3008-RSSPIPE



Riser Safety Screen
3017-SS / 3009-SS / 3008-SS

Riser Safety Pan
3009-RP / 3008-RP

Dual Safety Screen
3009-KYDC / 3009-JD

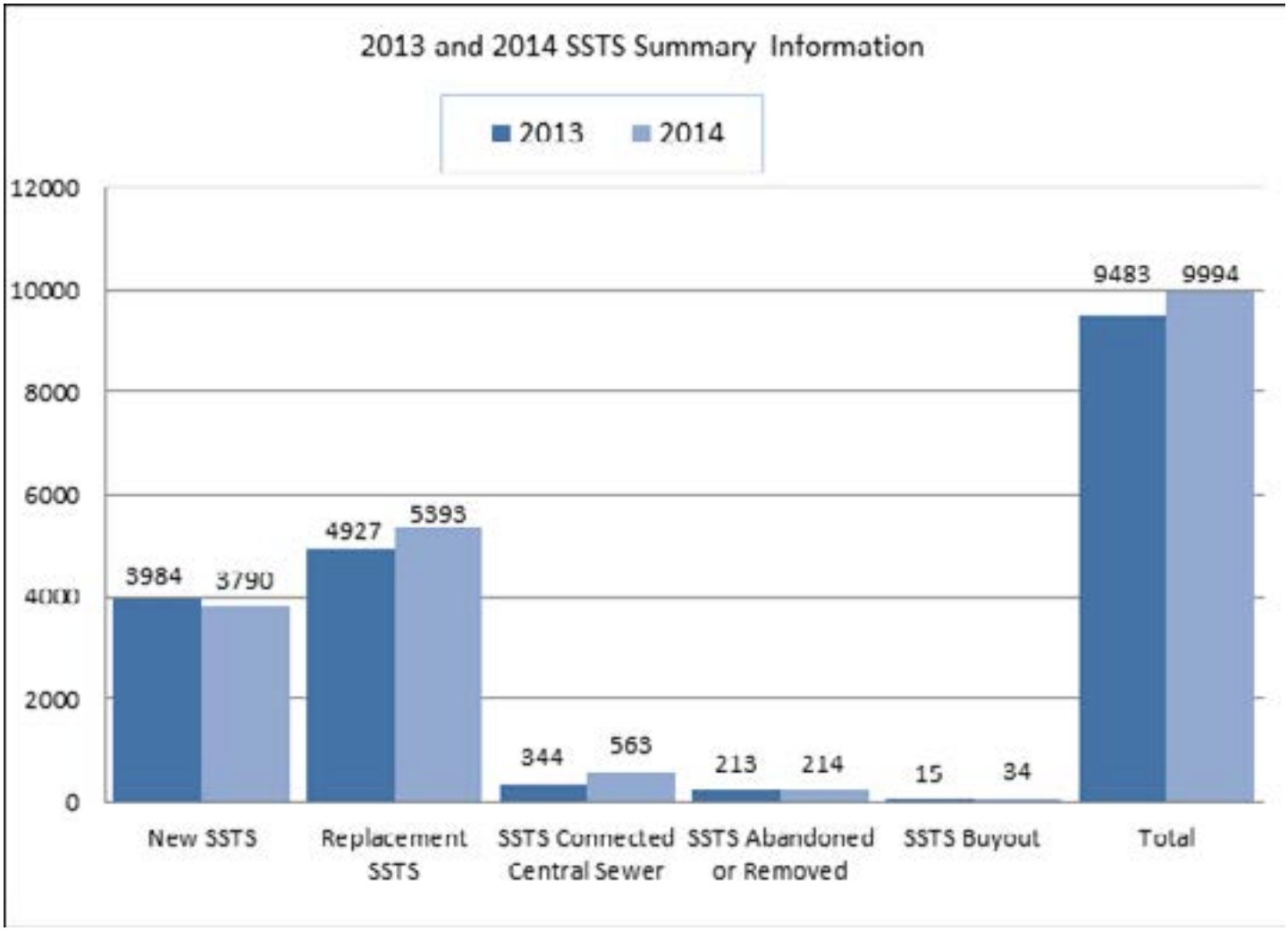
20" & 24" Lid-Lok
3009-LOK / 3008-LOK

Polylok, Zabel & Best filters accept the SmartFilter® switch & alarm

1-855-893-5461
www.polylok.com

2014 SSTS Annual Report Released: Replacements Up

Preliminary 2014 SSTS annual report data show inspections and fixes up from 2013



Annual report summary for inspections in 2013 and 2014 and number of non-compliant properties connected to central sewer, abandoned or removed and mitigated though a buyout.

By the MPCA

The numbers are up for 2014! Annual report data related to inspections and other activities reported by counties and other local program administrators to the MPCA for the past two years are shown above. Overall, the number of inspections and other improvements were higher in 2014 than 2013.

In 2014, there were 9,420 construction inspections for new and replacement systems and 12,805 compliance inspections for existing systems. In addition to replacing 5,393 non-compliant systems, 592 were connected to a central sewer, 214 were abandoned and 34 were mitigated through a buyout.

Altogether during the past two years, there were nearly 43,000 system inspections (construction for new and replacement systems, and existing system compliance inspections) and 1,407 improvements (connection to central sewer, abandoned/removed, and buyouts).

These 43,000 inspections reported by more than 200 local SSTS programs the past two years represent roughly 8 percent of the total number of septic systems reported statewide.

County Report - Clean Water Legacy Funds Still Available

Grants available to help counties review large-flow SSTS designs

By the MPCA

As the SSTS construction season nears, grants remain available to counties to compensate them for 75% of the cost to review new and replacement SSTS with design flows of 2,500 gallons per day or more. Funds for this grant were made possible by the Clean Water Legacy Act to protect groundwater and surface water from impacts resulting from the improper design and/or construction of subsurface sewage treatment systems.

The support is provided through a Joint Powers Agreement (JPA) executed between the MPCA and an interested county. The Advanced Inspector may be a Qualified Employee Advanced Inspector of the county where the work is occurring, a Qualified Employee Advanced Inspector of another local unit of government working through an agreement between the local governments, or a private Advanced Inspector under contract with the county. (Qualified Employees are individuals who are certified in a specific license area by the MPCA and then employed by a local unit of government.)

Only work completed by an Advanced Inspector after a JPA has been executed between a county and the MPCA is eligible for funding. Once a JPA has been fully executed, it will cover any number of projects completed during the effective period. Each project does not require a new JPA.

Traverse County homeowners go ape for SSTS workshop

Made Ya Look!

Going ape got their attention! (shown above). *Fifty homeowners* (shown right) *came to the Travers County SSTS workshop.*

By the MPCA

In March, Traverse County staff hosted a successful SSTS homeowner's workshop led by presenter Sara Heger, an engineer with the University of Minnesota's Onsite Sewage Treatment Program (OSTP).

Sara Gronfeld, administrator for the Traverse County Soils and Water Conservation District/Land Use, said she was very impressed with the attendance by 50 homeowners. "The boost in attendance may have been partly due to the promotional props we set up in front of the venue the day of the workshop," she said.

MOWA Welcomes New Members!

Lon Little
Lon Little Excavating, Pumping, and Drain Services
Dundas, MN

UNIVERSITY OF MINNESOTA
Onsite Sewage Treatment Program

Customizable onsite system owner's guide goes online

With over 30 percent of new neighborhoods installing decentralized wastewater systems, the creation of a simplified, individualized web-based operation manual for individual homeowners or those living within a community septic system only made sense.

"You can have the most state-of-the-art onsite wastewater treatment system, but if homeowners are unaware of the on-going, routine maintenance the system requires to properly protect the environment and water quality, the system will deteriorate and public health as well as water quality will be jeopardized," says Sara Heger, the lead member of the team that developed *The Community System Owner's Guide*.

Christened *H20&M—The Community System Owner's Guide*, the online customizable manual template uses site and system information entered by the homeowner or small community to create a specific plan for operation and maintenance of their onsite treatment systems. Septic system professionals will use the interface to create site specific graphics and language understandable to users, as well as creating customized content that addresses the needs of each system, site and local permitting requirements. The website will also be a resource for septic system designers, septic professionals and facilitators.

Users can save templates and the projects can be modified at any time.

Sara Heger, Dave Gustafson, Kitt Ferrell-Poe, Dan Olson, Nancy Deal, Dendra Best, Shelia Craig and Aaron Wills participated on the project development team which was funded by the USDA National Institute of Food and Agriculture.

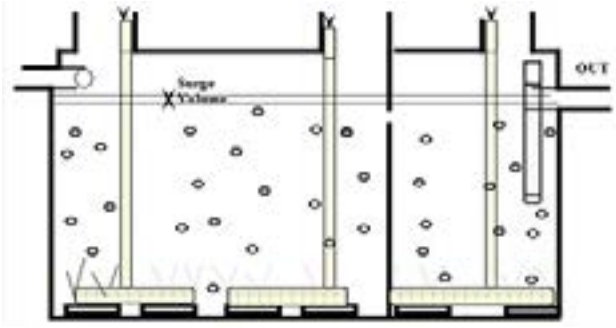
The guide will be available in summer 2015.

SMART-Treat™ MBBR

Moving Bed Bio-Reactor for Small Flow
and On-Site Wastewater Treatment

Design Assistance Available.

Cross -Section of a SMART -Treat™ Moving Bed Biofilm Reactor in Typical Tank.



√ High -Strength Wastewater Treatment
√ Small footprint LARGE CAPACITY
√ Systems of any size
√ Retrofit or New
√ Energy efficient
√ Easy to operate and maintain
√ Designed to a specific application; you can design for growth but never have to overbuild

featuring BIOWATER TECHNOLOGY
BIOFILM CARRIERS
www.biowatertechnology.com

Distributed by:
wexco ENVIRONMENTAL

Eric Larson
Office: 320-983-2447
Cell: 320-630-2589
Email: eric@ WEXCO enviro.com
A Division of WEX Companies, Inc.
www.WEXCO enviro.com

Governor's Emergency Order Lifting Load Restrictions

Winter without snow brought freezing problems for septic systems in many places, especially central Minnesota

By the MPCA

Just a small amount of snow cover during the winter usually provides enough insulation to prevent the average septic system from experiencing any problems with freezing up. But the ground across most of Minnesota remained virtually bare throughout the winter.

"I haven't seen this kind of thing in 12 years," said Terry Busse of Busse Septic in Palmer in an article in the Sherburne County Citizen in mid-march. (http://www.citizennewspaper.com/news/warmer-temps-no-cure-septic-freeze-ups) He and his son were virtually on call 24 hours a day for several weeks to meet demand for their services, which averaged 20-25 calls a day.

Other septic service providers reported similar conditions and a large number of service calls. Art Betker of Fiedler's Septic service is shown in the photo at right using a device that jets warm water from the septic tank through the pipe toward the house to clear frozen blockage.

The Sherburn County Citizen article said the entire state experienced problems with septic systems freezing, but a five-county area in central Minnesota was hit the hardest because it received the least amount of snow along with very cold temperatures.

While the crises has passed for most homeowners, some may still be having problems and are using their septic tank as a holding tank until their system thaws completely and starts working again. That's why Governor Dayton signed an emergency executive order in March that suspends seasonal load restrictions on Minnesota roads for trucks used to pump or transport septic systems until June 1.

Do you have a story to tell, a tip to share or point-of-view that needs expressing? Submit an article to the Little Digger! (see below)

The ***LITTLE DIGGER*** is a bi-monthly publication of the Minnesota Onsite Wastewater Association.
Editor: Carla Tourin E-mail: MOWAcarla@aol.com The articles printed in the publication do not necessarily reflect the opinion of this organization. Readers are encouraged to respond to the articles with their own points-of-view. We welcome industry-related comments or articles. Information or inquires should be sent to any of the following: MN Onsite Wastewater Association, 5200 Willson Road, Suite 300, Edina, MN 55424 Phone: (952) 345-1141 Toll Free: 888-810-4178, Website: www.mowa-mn.com

Precast Systems
Concrete Products
Serving the area for over 40 years!
116 E. Hwy. 12 • Darwin, MN 55324
Toll Free 888-693-8440
320-693-8440 • Fax: 320-693-9593
www.darwinconcrete.com

Septic Tanks
Holding Tanks
Traffic Load Rated Grease Interceptors
Septic tanks are designed to exceed industry standards.
Guaranteed water tight.
Vacuum testing available.
Prompt Delivery.

OVERLAND INSURANCE AGENCY
Our office has been the Administrating Agency for over 20 years. We know the Wastewater Industry.
Call us for your Bonding or Insurance questions.
Mike Overland
Nate Overland
Harold Overland
Phone: (888) 346-6250
Fax: (218) 346-9261
Website: http://www.overlandinsurance.com
255 3rd Ave SE
P.O. Box 150
Perham, MN 56573

RENT

HERE.

Rent the best. Rent Ziegler.

Ziegler CAT has the largest rental fleet in the Upper Midwest. From the biggest machines to the smallest tools, we have it all. Plus, we have something no other rental store has — a full line of Cat® equipment. Our rental equipment is ready to go and comes with Ziegler customer service and product support. Why not rent the best?

We have the equipment you need to get the job done right:

- Construction
- Compaction
- Concrete
- Earthmoving
- Landscaping
- Material Handling
- Power Generation
- Roadwork

View our rental rates online at:

www.zieglercat.com/rental

ZIEGLER CAT THE Rental STORE®

Tony Ruppert Scholarship Application

The Minnesota Onsite Wastewater Association (MOWA) is pleased to announce that applications are now being accepted for the Tony Ruppert Scholarship Fund. Up to $5,000 in scholarships are available to high school graduates (as of June 2015) who will be enrolled as a full-time student in post-secondary undergraduate education during the 2015- 2016 school year. In 2014, MOWA awarded five scholarships for a total award of $5,000.

Applicants must be no more than 26 years old as of June 1, 2015 and be a MOWA member, or a child, sibling, grandchild, or niece/nephew of a MOWA member. Students may only win this scholarship once. Students must complete an application, write an essay, and provide certification of the relationship to a MOWA member or member's employee.

A complete application must include: (3 items)

Item 1: Application Form: (To be completed by the student; you may use this form or print all required items on a separate sheet.) Please type or print clearly:

Name: _____ Social Security #: _____

Address:_____City/State/Zip:_____

Phone:_____ E mail address _____

Year graduated from high school _____ MOWA Member Name _____

Name of school you are/will be attending: _____ (Must be a full time student)

Curriculum you are/will be enrolled in: _____

All of the above information is true and correct and I hereby grant permission to MOWA to reprint my essay or abstract in whole, or in part, or use the created digital media for informational or advertising purposes, such as on the MOWA website or as a MOWA newsletter article or press release.

_____ (Applicant's signature)

Item 2: Essay. (See Essay Content Form)

Item 3: Certification Form: (To be completed by the MOWA member)

Name of Applicant for Tony Ruppert Scholarship: _____

The Tony Ruppert Scholarship Fund Applicant is my:_____(insert relation).

I agree that the information contained in this form is true and correct to the best of my knowledge:

MOWA Member Name (printed): _____

MOWA Member Signature: _____ Date: _____

Business Name and Address: _____

All applications must be submitted to MOWA no later than August 15, 2015. Applications will be rated by a panel of MOWA members. Winners will be notified in September 2015.

Send the complete application in Word format to: mowacarla@aol.com

Tony Ruppert Scholarship Essay Tips & Format

The Tony Ruppert Scholarship essay is to be completed by the applicant. The applicant can choose a topic to write about that is related to the environment, water quality and quantity, and wastewater treatment. The sponsor of this scholarship is the Minnesota Onsite Wastewater Association (MOWA). MOWA is associated with the onsite/decentralized wastewater industry (a.k.a. septic systems). The sections of Introduction, Literature Review, Conclusions and References shall be included in the essay. Start your essay by centering the TITLE, AUTHOR and DATE on the title page.

I. INTRODUCTION

What is the problem/issue? Keep the introduction brief, but do indicate the purpose of the paper as well as present appropriate background. Make sure that the reader knows enough to appreciate the relevance of the issue and why it is appropriate to ask the question that you will address with your paper. State what angle is going to be explored and arrange key issues that will be addressed in this review by answering questions that you have personally developed and are tailored to fit your topic. Typical length 2-4 paragraphs.

II. LITERATURE REVIEWED

This section is a summary of information, references and research that has been published about your particular subject. It provides the reader with an idea about the current situation in terms of what has been done, and what we know. Sometimes it includes suggestions about what needs to be done to increase the knowledge and understanding of a particular problem. This is the longest section of your essay and will range from one to several pages.

III. CONCLUSION

Effectively wraps up the review. Summarize the points of comparison or contrast among the works based on information and literature reviewed. It should also provide insight of relationship between the topic of the review and a larger area of study such as a specific discipline or profession. Typical length 2-4 paragraphs.

IV. LITERATURE CITED

Literature citations in the body of your paper should be in parentheses and contain only the author's last name and the date; for multiple authors include the last name of the first author, et al., and the date. If the author's name is used in the text then just the date in parentheses is sufficient. For example: (Monod, 1949) (Neidhardt et al., 1990) or Monod (1949) compared the reaction….. List all literature cited in your report in alphabetical order by the last name of the first author in a separate section. Use the proper form for citations. If the citation is to a specific page add the page number. For a technical paper you will need to review several sources. For this essay a minimum of four citations is required.

Examples:

For scientific papers:

Monod, J. 1949. The growth of bacterial cultures. Annu. Rev. Microbiol. 3:371-394.

For a book:

Neidhardt, F.C, Ingraham, J.L. and. Schaechter, M. 1990. Physiology of the Bacterial Cell. Sinauer Associates, Sunderland, MA.

For a newspaper article:

McKay, D. 2000. Arsenic: how much is safe? Albuquerque Journal. July 30, 2000, p. A1.

For a web site:

National Research Council. 1999. Arsenic in drinking water. Subcommittee on Arsenic in Drinking Water. http://www4.nationalacademies.org/news.nsf/isbn/030906337?OpenDocument.

For a personal communication:

Sanchez, R. 1993. City of Socorro, Water Utilities Division, Socorro, NM. Personal communication.

Tony Ruppert 2014 Scholarship Winners: 1st Place Essay

Secure Water. Secure Life.

By Alyssa Menke of St. Cloud, 1st Place Tony Ruppert Scholarship Winner

On a hot summer's day, after spending the day at the pool, I reach in the freezer and fill my glass with ice cubes. I proceed over to the sink where I fill my glass with cold water. I don't give it a second thought; most people wouldn't. I know clean water will be available whenever I want.

Meanwhile in Moshi, Tanzania, a young girl named Marolene wakes up before the break of dawn to walk down a beaten path. Using old water bottles as shoes for her feet, she carries dirty buckets to a well near a farm. After travelling over four miles, the sun has broken the horizon and the heat starts rising. Once she arrives, she places those buckets down the well. The water is slightly musty with a tinge of brown. She's thankful for this water, since last time the well was empty.

A distance of nine thousand miles shows two opposite ends of the spectrum. I am surrounded with as much water as I could ever care for, while Marolene struggles to provide enough for her family.

In 2012, I was fortunate enough to travel to Tanzania for a mission trip and meet Marolene. There we visited a village called Mikocheni which is near Moshi. The community of Mikocheni makes the most out of what they have, but they can only make it so far. Without basic necessities such as water, there is no opportunity for progress and growth. The community was in desperate need of assistance. While we were working with the village, we asked them what they needed most; the answer humbled us. "Maji," they said. "Water". The closest access for water was six miles away, and that supply was not even sanitary.

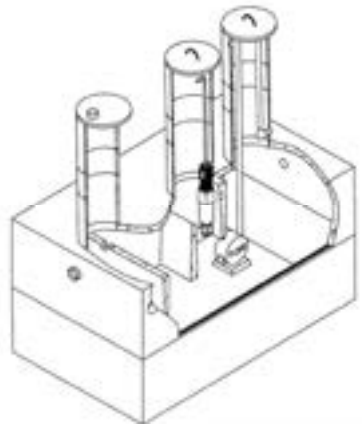
Marolene shouldn't have to have her life revolved around finding access to clean water. This was not her choice. With water being vital to physical and mental health, it also plays important roles in promoting education and eradicating poverty. Access to clean water has been a debated issue among organizations trying to solve this complex problem side by side with engineers. Without a single doubt water security is the most concerning issue the world must address immediately.

Menke Essay, *Continued on Page 15*

WILLMAR PRECAST COMPANY

Products, Services & Solutions for Your Septic Installation

"Helping put money in your pocket and not down the drain."



Concrete Drop Boxes
Straight 1000-3500 Gallon Septic Tanks
1500-3500 Gallon Combination Lift Tank & Septic Tank
Complete line of Zoeller pumps, gravelless drain field and filter fabric

- Complete line of tanks to accept effluent filters
- Prompt delivery on your schedule
- Entry to the tank can be made from either side or the end
- Tanks designed to conform to standards set by the Minnesota Pollution Control Agency
- Engineer designs available upon request

For ordering, pricing and other information, please contact:

Willmar Precast Company
Toll Free: 1-800-559-8527

Menke Essay, *Continued from Page 14*

Water is essential to the human diet. Since our body is made up of 67% water, proper hydration is necessary to function (Morrison, 2013). Without adequate nourishment, our bodies immediately start to feel the effects of dehydration. More important than food, water is the most important component to the human diet. Drinking water regulates all systems of the body. For example, blood is composed of 84% water (Meyerowitz, 2001). A decrease of even 2% water supply causes noticeable symptoms. Steve Meyerowitz explains in his book, Water The Ultimate Cure, the importance of dehydration. Early signs of dehydration include fatigue, cravings, and headaches. Moderate dehydration can cause heartburn, joint and back pain, and fibromyalgia. Severe water deprivation can cause asthma, diabetes, hypertension, and even autoimmune diseases. This goes to show that a lack of water causes a lot more problems than thirst. While proper hydration is important, it is just as important to monitor the cleanliness of the water.

Contaminated water is a cause for 3.4 million deaths each year (The Water Project, 2014). This is outrageous to imagine, especially since media isn't advertising this issue. Since water makes up two-thirds of our body weight, all of the pollutants and contaminants in water end up throughout the entire body.

Figure 1: Water Source vs. Human Development Index
Taken from www.gapminder.org

When it comes down to the numbers, a striking 99% of all drinking water deaths come from developing countries (The Water Project, 2014). This is 100% preventable. Access to clean sanitary water is not only vital for health of developing countries, but also education, poverty, hunger for these countries.

Menke Essay, *Continued on Page 16*

Menke Essay, *Continued from Page 15*

Water access has the capability to eradicate poverty and hunger while improving global health and education. It may seem far-fetched, but it is all interconnected and more than possible. According to the data given by Gapminder, *(see graph on Page 15)* graphs display the necessity of water in a new perspective. Gapminder was created by Hans Rosling in an effort to find correlations between global issues among other factors. Each dot represents a country, the size it's population. Then the dots can be organized by different vertical and horizontal axes. In more cases than one, water supply shows a direct correlation to poverty, food supply, education, and life expectancy.

While the don't seem related, the education system is completely dependant upon water security. Children, especially girls, are often held responsible for gathering the water for the family. In countries such as Tanzania, most water gathering needs to be done in the morning to avoid high temperatures in the afternoon. When families need more water, less children attend class. Education is proven to be the best way out of the vicious poverty cycle.

According to Gapminder, water supply is improving. Since 1990, water supply in Kenya has increased from 14% to 44% (Rosling, 2012). This is a huge feat within the last 25 years, however 44% is still not ideal. This data doesn't take into account water cleanliness either.

Explanation to this increase can be attributed to the recent advances in technology and the applications made with them. One alternative method of obtaining clean fresh water is the process of desalination.

Desalination is the process of taking the saline, or salt, particles out of the water. Fresh water is defined at less than 1,000 ppm. Ocean water contains about 35,000 ppm (Honan, 2014). While water makes up most of the planet, most water is not drinkable. A striking 97% of the world's water supply is salt water. This means only three percent of the water on earth is fresh water, not necessarily clean and accessible. This makes desalination of ocean water timely, and costly. While it may be expensive, new energy alternatives can help offset cost. Solar energy is being experimented with to make desalination processes more efficient. Desalination has great potential to aid in providing water security and is currently being investigated by organizations such as Engineers Without Borders (EWB).

While studying in my first year of college, I joined the University of Minnesota chapter of EWB. This program connects college student with engineer mentors to design solutions for communities in developing countries. The majority of the projects EWB develops involve water. Coming in as a freshman, my university's group was just starting a new project from the ground up. The project was to design a rainwater catching system for a small community in Uganda. This project was geared to support health and sanitation towards the school. While working with the group, I learned that water projects are easier said than done (Engineers Without Borders, 2013).

Water supply is an issue, but people have attempted to invest in water systems for communities. However, this is too simple an answer to this complex problem. Water supply and water security are two different concepts. Security grants the community water as a sustainable resource that can be utilized for generations.

People along with charities have invested millions of dollars in order to provide clean water to communities in need. This is one prime example which goes to show that money is no substitute for knowledge and education. It is common for water systems to be installed with no effort towards making sure that there is someone from the community trained with the proper skills to maintain the water supply.

Some people assume there is simply not enough water to go around. This is incredibly false. There is enough freshwater to supply all seven billion people of the world, however it is poorly distributed, and often polluted, wasted, or ill managed

Menke Essay, *Continued on Page 18*

MOWA Classified Ads

Do you have an item that seems appropriate for a classified? Free to MOWA Members: Pease submit your ad to mowacarla@aol.com. No services, manufactured equipment, or items that are part of the usual course of business. Ads should include contact information (email or phone number). Please resubmit each time the Little Digger is published. MOWA does not warrant or verify any representation of your item.

We have been with the same septic maintenance software company for about 15 years now, but have recently become frustrated with their support division ... enough so that we think maybe it's time for a change. We have done some research and found a few options that look like a good fit, but since this is a big investment in our business, we are looking for testimonials from our fellow MOWA members. Our members are a wealth of knowledge and we are looking for you to share your experiences with those of us who are looking or might be thinking of making a change to a program that might better fit their needs.

What database program are you using for your septic maintenance business?

How long have you been using it?

What are your pros and cons with the software?

Any other comments you would like to share?

Please contact Wendy at Honey Wagon with your responses: honey.wagon.llc@live.com

BOHN WELL DRILLING SEPTIC & EXC.

JOB OPENINGS IN THESE FIELDS:

SEPTIC DESIGNING & INSPECTING

DUMP TRUCK DRIVERS CLASS A OR B

LABORS / SERVICE TECH FOR WELL AND SEPTIC

CHARLIE BOHN 612-919-1542

BUILD STRONG — BUILD SAFE

With Precast Tanks to 40,000 Gallons

- Quality- Engineered
- Superior Construction
- Easy Installation
- Septic, Holding, Grease
- HS-20 Traffic Loading Tanks Available
- Latest Technologies
- Guaranteed Water Tight
- Vacuum Testing Available

Providing Complete Underground Precast Solutions!

Wieser Concrete has precast solutions for every underground project from basic manholes to custom designed storm water applications.

WIESER CONCRETE *Innovation, Quality and Service since 1965*

www.wieserconcrete.com

NPCA CERTIFIED PLANT

SERVING ALL OF MINNESOTA

Maiden Rock, WI 800-325-8456

Jordan, MN 877-746-6211

"Where Quality is a Standard Not an Extra"

2015 OSTP Certification Course - Descriptions and Offerings

University of Minnesota
Onsite Sewage Treatment Program

Introduction to Onsite Systems (15 Direct Credits)
Fee: $355 - Exam: Yes
This 15-hour workshop is the foundation for all SSTS certification courses and is best completed prior to the other workshops. It prepares participants for the Basic exam and provides an overview of onsite treatment options and concepts. Enrollment in this workshop includes a copy of the *Manual for SSTS Professionals in MN*
Topics include:
- Treatment of wastewater
- Site evaluation
- Wastewater characterisitcs
- Soil treatment systems

10-3 Alexandria - Douglas Cty Public Works Building 11/30-12/2/15 Deadline: 11/23/15

Installing Onsite Systems (12 Direct Credits)
Fee: $260 - Exam: Yes
This 12-hour workshop prepares attendees for the Installer exam and provides information about proper installation practices.
PREREQUISITE: Introduction to Onsite Systems
Topics include:
- Construction planning
- Tools for installing
- Construction practices
- Pipelayer certification

112-3 Alexandria - Douglas Cty Public Works Building 12/3-4/15 Deadline: 11/26/15

Enroll online at: septic.umn.edu
Classes are filled on a first-come, first-served basis.
OSTP, 173 McNeal Hall, 1985 Buford Ave., St Paul, MN 55108
Fax: 612-624-6434 **Phone: 800-322-8642**

Inspecting Onsite Systems (12 Direct Credits)
Fee: $260 Exam: Yes
This 12-hour workshop identifies Minnesota requirements for existing and new system inspections and prepares participants for the Inspector exam.
PREREQUISITE: Introduction to Onsite Systems.
Topics include:
- Administrative requirements
- New system inspection
- Existing system inspection
- Tools and procedures

30-1 St. Cloud - Moose Lodge 6/2-3/15 Deadline: 5/26/15

Soils (15 Direct Credits)
Fee: $305 or $470 with Munsell Color Guide Exam: Yes
This 15-hour workshop prepares attendees for the Soils exam and provides participants with a detailed understanding of how particular soils affect the treatment of sewage. Participants will also receive instruction at a field location. Munsell Color Guides are available for $165 and Sand Cards for $10.
PREREQUISITE: Introduction to Onsite Systems
Topics include:
- Percolation testing
- Soil characteristics
- Field evaluations
- Soil survey use

515-1 New Ulm- Holiday Inn 5/19-21/15 Deadline: 5/12/15
515-2 Brainerd-Arrowwood Lodge 6/16-18/15 Deadline: 6/9/15

Service Provider (21 Direct Credits)
Fee: $485 - Exam: Yes
This 21-hour workshop prepares attendees for the Service Provider exam and offers an in-depth look into the care of all system types. This course is based on the National O&M Service Provider materials and will include a field component. It is intended for system maintainers, designers or MPCA certified operators who need training for soil-based system management.
PREREQUISITE: Introduction to Onsite Systems
Topics include the management of:
- Type I systems
- Type IV systems
- Cluster systems
- System troubleshooting

49-2 St. Cloud - Moose Lodge 10/6-9/15 Deadline: 9/30/15

Menke Essay, *Continued from Page 16*

(Jardine, 2014). Maintaining large amounts of clean water is timely, costly, and complex to say the least. So many separate factors needed to be considered to accommodate to the needs of the community. This is where engineers work to provide solutions regarding efficiency and supply maintenance. Engineers study the cycle of water supply and look on ways to keep the cycle going smoothly and efficiently. Industrial and systems engineers specialize in maintaining such systems.

My original plan when I came to the University of Minnesota was to study biomedical engineering. My experience with Marolene and the community of Mikocheni have led me to change my course of study. I am now studying industrial and systems engineering and aspire to work with companies to provide alternative energy systems to maintain water supply around the world. With such a simple yet complex molecule as water, it is intriguing to see how water security for communities can improve their overall human development index.

It may have taken me some time to realize how important water truly is. It is easy to overlook its importance when it is so accessible and carefree in my daily routine. But after meeting Marolene and hearing her story I realized how fortunate my life truly is. While water is necessary for health and hygiene, it is scarce in developing countries. This hinders growth and progress leaving communities stuck in the poverty cycle. However, Hans Rosling has shown how progress towards water security has improved over the past decade. Information such as this can help organizations along with engineers to implement new plans with better angles. Water is a part of our daily routine, whether inside our bodies or out. I aspire to understand the complexity of water and make sure water security is global. Everyone should have access to enjoy a tall glass of ice water after a hot summer day.

2015 MOWA MEMBERSHIP APPLICATION

MOWA minnesota onsite wastewater association

Membership: ❑ **Renewal** ❑ **New Member**

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

Note: Your MOWA Membership includes one NOWRA membership

Memberships are based on calendar year - After July 1st, new members pay $140-individual / $190-business or gov't groups for remainder of 2015

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

• 1st Member _____ Company Name _____

Address _____ City/State/Zip _____

Title _____ Phone _____ Mobile/800# _____ Fax _____

Email _____ Website _____ County _____

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

Statewide 88

Aitkin....1
Anoka....2
Becker....3
Beltrami....4
Benton....5
Big Stone....6
Blue Earth....7
Brown....8
Carlton....9
Carver....10
Cass....11
Chippewa....12
Chisago....13
Clay....14
Clearwater....15
Cook....16
Cottonwood....17
Crow Wing....18
Dakota....19
Dodge....20
Douglas....21
Faribault....22
Fillmore....23
Freeborn....24
Goodhue....25
Grant....26
Hennepin....27
Houston....28
Hubbard....29
Isanti....30
Itasca....31
Jackson....32
Kanabec....33
Kandiyohi....34
Kittson....35
Koochiching....36
Lac qui Parle Lake....37
Lake....38
Lake of the Woods....39
Le Sueur....40
Lincoln....41
Lyon....42
Mahnomen....43
Marshall....44
Martin....45
McLeod....46
Meeker....47
Mille Lacs....48
Morrison....49
Mower....50
Murray....51
Nicollet....52
Nobles....53
Norman....54
Olmsted....55
Otter Tail....56
Pennington....57
Pine....58
Pipestone....59
Polk....60
Pope....61
Ramsey....62
Red Lake....63
Redwood....64
Renville....65
Rice....66
Rock....67
Roseau....68
Scott....69
Sherburne....70
Sibley....71
St. Louis....72
Stearns....73
Steele....74
Stevens....75
Swift....76
Todd....77
Traverse....78
Wabasha....79
Wadena....80
Waseca....81
Washington....82
Watonwan....83
Wilkin....84
Winona....85
Wright....86
Yellow Medicine....87

Information: **(Check all that apply)**

❑ Installer ❑ Pumper ❑ Designer ❑ Inspector ❑ Gov't Regulator ❑ Educator ❑ Service Provider ❑ Student
❑ Soil Scientist ❑ Professional Engineer ❑ Manufacturer ❑ Operator/Maintenance ❑ Supplier ❑ Other: _____

Additional Business/Government Members:

• 2nd Member _____ Title _____ County _____

Address _____ City/State/Zip _____

Phone _____ Mobile/800# _____ Fax _____ Email _____

• 3rd Member _____ Title _____ County _____

Address _____ City/State/Zip _____

Phone _____ Mobile/800# _____ Fax _____ Email _____

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

Publications: Would you prefer receiving 'Little Digger' newsletters via ... ❑ Regular Mail ❑ Electronically

We currently send one publication per address to business/government groups. Contact the MOWA office if you'd like additional copies.

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

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

Payment: *(Please print)*

MOWA Membership $_____ + Add'l NOWRA Memberships = **Amount: $** _____

❑ Check enclosed (Payable to MOWA) ❑ VISA ❑ MasterCard

Card Number: _____ Expiration Date: _____ Cardholder Name: _____

Signature: _____ Date _____

MOWA, 5200 Willson Road, Suite 300, Edina, MN 55424 Phone: 952.345.1141 Fax: 952.920.1533

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

MOWA
minnesota onsite wastewater association

Presorted
Standard
U.S. Postage
PAID
Rochester, MN
Permit No. 289

RETURN SERVICE REQUESTED

MOWA
5200 Willson Road, Suite 300
Edina, MN 55424
(952) 345-1141 ● (888) 810-4178

www.mowa-mn.com

ONSITE CONTROLS

SJE-Rhombus®

No matter the application, we've got you covered, from float switches to event monitoring control panels, and everything in between. Now backed by our industry-leading five-year limited warranty!

5 YEAR LIMITED WARRANTY

www.sjerhombus.com

New & Improved PS Patrol® System
The newly enhanced PS Patrol® system features a sleek angled clear enclosure with a removable cover for easy access for field wiring. All components are sealed within the cover for protection from the elements. Red LEDs illuminate cover for 360º visual of alarm condition.

IFS Panels with C-Level™ Sensor
C-Level™ sensor detects the liquid level in the tank and sends a signal to the IFS panel. Pump activation and alarm levels are adjusted on the panel touch pad, eliminating the need to go into the tank. One C-Level™ sensor simulates up to four (float) levels.

Tank Alert® EZ Alarm System
This new alarm is all about making installations easier! It features an innovative enclosure which integrates the red LED beacon, external mounting tabs for quick installation and a removable cover which allows greater access for easier field wiring.