THE LITTLE DIGGER

MOWA minnesota onsite wastewater association

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A bi-monthly publication

With Water Issues "Front and Center" Statewide—

Washington County is a Progressive Model for Septic Regulation

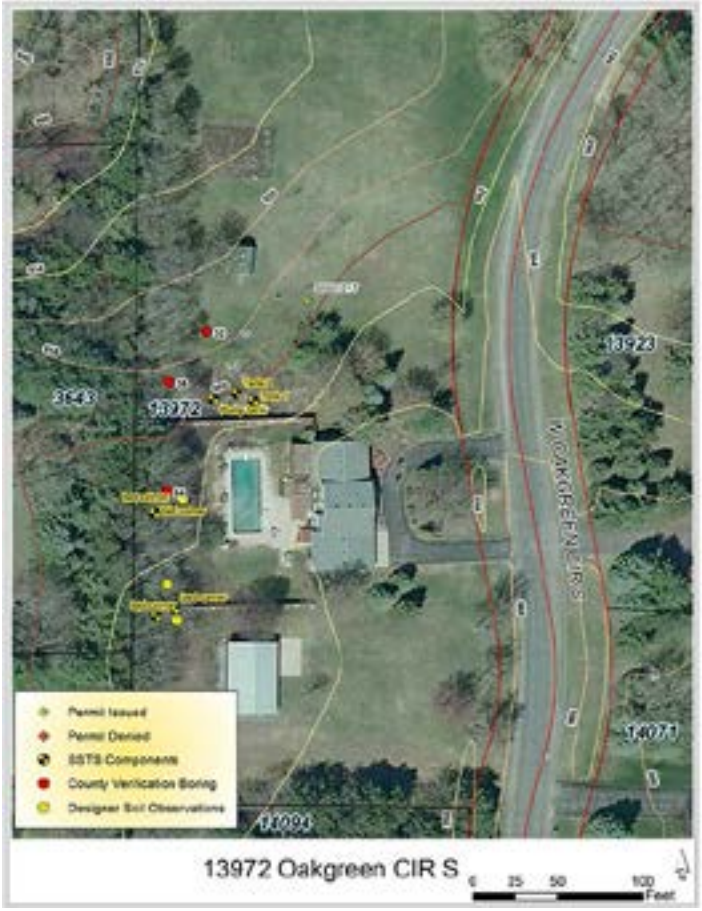
The following is a condensed version of an abstract submitted by Chris LeClair, Senior Environmental Health Specialist, Washington County Department of Public Health & Environment

As the only metro county in Minnesota with a Groundwater Plan, Washington County's Department of Public Health and Environment provides oversight to services that affect over 243,000 county residents. Although Washington County is home to a few suburban cities, the County is dominated by rural agricultural communities, with over 50% of the land use being undeveloped or used for farming and over 80% of the area not served by municipal sewer.

Overview Washington County's Septic Program began in 1972. Initially, the County conducted thorough inspections of subsurface sewage treatment systems (SSTS) installations and had an ordinance that is more restrictive than Minnesota's state regulations. Over the years the program has evolved to also include compliance inspection requirements and tracking, maintenance tracking and reminders, and the use of the latest available The County also launched a low-interest loan program in 2014 that allows homeowners that have been ordered to replace their systems to borrow the funds and have payment added to their property taxes. Repayment is spread over three, five or ten years.

Technology is relied upon heavily in the septic system program at Washington County. The daily use of ArcGIS in the office and Trimble GeoXT GPS units along with ArcPad in the field provide real-time data that is managed in three online databases.

In 2015, Washington County's septic system program went 100% electronic when it deployed a robust internet-based permitting and inspection program. Permit applications and payments; permit tracking by the applicant and contractors; inspections and inspection reports; pumping reporting; compliance inspection submittals and tracking; and operating permits can all be done online anywhere in the world with any device.



GPS Points Collected during Permitting and Installation

Washington County's Geology There are over 25,000 acres of surface water, including popular fishing and recreation lakes such as Forest Lake, Big Marine Lake and White Bear Lake, and two major rivers, the St. Croix River which divides much of Minnesota and Wisconsin, and the Mississippi River.

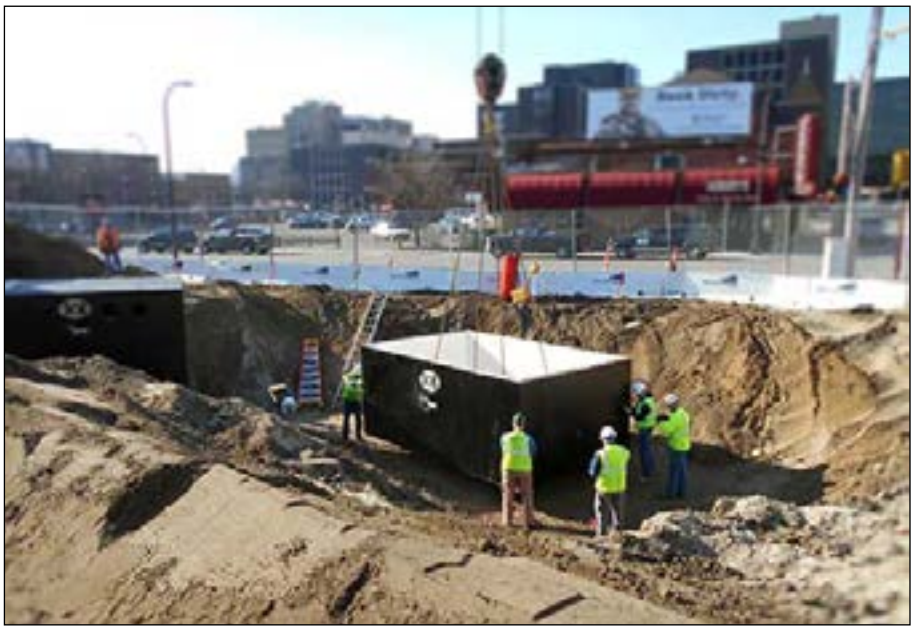
Washington County Profile, *Continued on Page 8*

In this Little Digger

MOWA Summer Seminar set for Friday, June 24 in Elysian, MN!

MOWA Member Highlights!

Wieser Concrete— On-The-Job at the New Vikings Stadium



When you think National Football League you may not think fountains, but with the new Vikings Stadium Wieser Concrete helped out with just that. Flair Fountains is one of the contractors helping to bring beautiful exterior aesthetics to the new stadium. When they contacted Wieser Concrete, water storage was needed for the fountains. Two 10,000 gallon vault tanks helped with just that need while one 4,000 gallon electrical vault tank houses the electrical components.

It took a total of five semi-loads. Project Superintendent Shawn was required to do a special safety training for two hours the week before setting. The crane arrived at 6:30 AM on a Saturday and all six tank pieces were set by 10:00 AM. The loads were spaced out within an half=hour as there was only room for one truck at a time. The set required a 275 ton hydraulic crane with two loads of counterweights. The set also required an extensive pick plan that took almost eight hours to put together.

U of M OSTP Contracts with Stacey Feser to Help Teach Soils Courses

The University of Minnesota's Onsite Sewage Treatment Program (OSTP) welcomes Stacey Feser of Feser Environmental PSC to its Subsurface Sewage Treatment Systems (SSTS) certification program. Stacey joins OSTP's Lead Soils Scientist Dan Wheeler, and Dave Gustafson as an instructor at OSTP soils workshops.

Stacey received a Master's of Science in Soil Science from the University of Minnesota. She has earned all Subsurface Sewage Treatment Systems (SSTS) certifications and designed over 100 residential and commercial septic systems. For seven years, Stacey was the Health Specialist and Wetland Specialist with Blue Earth County and also administered the county SSTS program.

The OSTP program is delighted to have Stacey as a soils workshop instructor; her expertise will continue the tradition of OSTP's high-quality soils education.

Dan Wheeler is the Soil Science lead for the OSTP, and continues to be the primary contact the OSTP for any soils-related training, research or technical assistance or related issues for the OSTP. He can be reached at 612-625-8791 or wheel027@umn.edu

From MOWA's Executive Director

By Pat Martyn, MOWA Executive Director

We are pleased to announce that our annual Summer Seminar will held on Friday, June 24 and hosted by James Brothers Construction in Elysian. See pages 4 and 5 for Summer Seminar details and registration. If you would like to be involved in this or make a contribution, be sure you let the office know. We are also pleased to announce the 2016 Tony Ruppert Scholarship. We will be awarding a total of $5,000 in scholarships this year to deserving college students. See pages 16 and 17 for details.

How does MOWA plan?

A. By greasing the squeakiest wheel?

B. Randomly clearing the in-box?

C. Or through strategic planning?

Correct answer - C.

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, the March board meeting was 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 2017.

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 2017. A priority for us is to address any problems that have been reported to the Board, visit about any complaints we have had during the year, incorporate suggestions and also determine what is our best approach for improving the organization and benefits of membership.

And then we keep track about what we have done by regularly measuring ourselves against what it is we set out to do. This year, in addition to work on public policy and mentorship, education was established as one of the goals of the organization. To this end, we are pleased to announce that we are working on offering a Safety Training sometime in the late Summer/early Fall. This will be in addition to the June 24th Summer Seminar, that will be hosted by James Brothers Construction in Elysian. You will find the listing of Board Members to the right. You are invited to pick up a phone or email any of them, and let them know how you feel about the organization. President Shane Steinbrecher would appreciate it very much.

MOWA
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Minnesota Onsite Wastewater Association (MOWA), in association with the Minnesota Pollution Control Agency (MPCA), is pleased to announce the 2016 Summer Seminar:

MOWA onsite wastewater association

◆Friday, June 24, 2016◆

Registration from 7:30 to 8:00 am

◆James Brothers Construction, Inc.◆

43963 – 43rd Street ◆Elysian, MN 56028

MOWA's 2016 Summer Seminar offers the opportunity for SSTS professionals to gain "hands-on" experience, earn continuing education credits and network with other professionals. The day will end with a cookout featuring fun, food, and prizes!

Track 1– Soils

6.0 Soils CEUs*

8:00 - Noon	Classroom Session: Geology of Des Moines till plain: How to determine depth of the periodically saturated soil in topsoil; site evaluation; factors affecting soil drainage.
Noon -1:00	Lunch (provided by MOWA)
1:00 – 3:30	Field Session: Critique and group discussion of soil pits.

Bring your:

- Munsell Color book
- Spray water bottle
- Small shovel or knife to removal sample from pit face
- Tape measure
- Sunscreen/bug spray
- Rain gear

Track 2 – Technology/Tour & Competition

6.0 Non -Soils CEUs *

8:00 - Noon	Cluster & Technology Tour: Overview of large cluster system being installed and performance review of existing pretreatment systems installed at the Singing Hills Girls Scout Camp.
Noon -1:00	Lunch (provided by MOWA)
1:00 –5:00	"Sept-a-Thon": Friendly onsite-related small group competition. Groups will work through challenges at 5 separate stations. Stations will test knowledge and troubleshooting ability in the following categories; Installer, Maintainer, Designer, Service Provider & Inspector/ Regulator. Prizes will be awarded

Schedule subject to change; CEUs are anticipated, based on MPCA approval

FREE Seminar registration for any new MOWA members between now and the Seminar! Contact MOWA for details

5:30 – 7:00 "First Annual Bellyachers Pig-Out" Cookout

7:00 - ? Games, Prizes, Fun! Including Texas Hold 'Em, Bean Bag Competition

EVENT HOST

Thank You to James Brothers Construction for Hosting the 2016 Summer Seminar!

Please visit our Web site for updated information:

www.mowa-mn.com or call 1-888-810-4178

Minnesota Onsite Wastewater Association
2016 Summer Seminar - Elysian, MN

(visit our Web site updates@www.mowa-mn.com)

Mail: MOWA
5200 Willson Rd.
Suite 310
Edina, MN 55424
Fax: 952.516.5550
e-mail: mowacarla@aol.com

REGISTRATION FORM
One form per person. Please copy for additional registrants

Name: _____ Organization: _____

Address:: _____

Phone: _____ Fax: _____ e-mail: _____

Friday, June 24, 2016

Hosted By: James Brothers Construction, Inc.

43963 – 43rd Street Elysian, MN 56028

Track 1: Soils Training – AM: Classroom Session / PM: Field Session

Designed to meet the additional 6.0 hours of Direct Soils Training required for Certified Inspectors & Designers*

Track 2: Technology/Cluster Tour & Sept-A-Thon – AM: Technology & Tour / PM: Sept—A-Thon

Designed to provide 6.0 hours of Indirect (Non-Soils) Training*

5:30– ? – Cookout and Games, Prizes, Fun!

*Schedule subject to change; CEUs are anticipated, based on MPCA approval

Check One:	MOWA MEMBER	NON-MEMBER**	
_____Track # 1 –OR- _____ Track #2	$135	$205	$ _____
_____# 1st Daytime/Evening Event Guest (no CEUs) - FREE			$ 0
_____# Add'l. Guest(s) @ $25 each for Daytime and/or Evening Event			$ _____
Registration Deadline: June 17, 2016 - Late Fee ($25 after 06/17/16)			$ _____

FREE Seminar registration for any new MOWA members between now and the Seminar. Contact MOWA for details

PAYMENT: **TOTAL COST** **$_____**

Includes course materials, breakfast, lunch, afternoon snack, and evening event

**For information on becoming a MOWA member, please visit: www-mowa-mn.com

A.____Please charge my credit card in the amount of $_____

B.____A check in the amount of $_____ is enclosed (payable to MOWA)

Circle one: Visa Mastercard

Name on card_____Signature _____

Account number_____ Exp. Date _____

I agree to indemnify and hold harmless Minnesota Onsite Wastewater Association (MOWA) and James Brothers Construction, Inc. from any and all liability, loss, damage or expense from any incident that may arise while attending any portion of the 2016 Summer Soils Seminar. I authorize any photos taken of me at this event to be published in MOWA's Little Digger and/or other MOWA-related promotional materials.

Signature: _____ Date: _____

Convention Session Wrap - The importance of Clarity

MOWA January 2016 Convention LUG/Inspector Discussion Panel

by Marilee DeGroot, Rice County and Pete Otterness, Nicollet County

An LGU is an executor of Multiple Responsibility requiring several hats to enact the roles of a Regulator, Interpreter, Mediator, Enforcer, Inspector, Educator, Communicator and Administrator. We could also add a Captain since the execution of the various roles requires a steady hand on the wheel to navigate rough waters encountered and to assist the Owner/Licensed Professional in staying on course with the State-Local Rules so we all arrive at the desired point of destination being the Island of Adherence.

The 2016 forum was comprised of Design Review discussion and the various methods of handling design review to assure values meet or exceed the requirements with flow, system size, and treatment/ Separation. The benefit of having a source to contact if ever stumped on a Design Review. Ways of encouraging Designers to be speedy in their submittal of necessary corrections to keep the project on course and the benefit of discussion and education with the Designer so the problem does not reoccur. There was also discussion regarding the Regulator being allowed to perform minor design revisions, what was considered minor from an LGU's standpoint and from the Agency's perspective, that some Counties perform minor revisions adding an initial and date on the design signifying the Designers approval of such.

Session asks questions like..

"Would tank liability fall on the Inspector if they sign off without looking and instead rely on the Maintainer to determine tank condition?"

and more about Design and Inspection!

Discussion involved whether the Inspector need to document the cycle counter number or can it be assumed the electrician marks such in the electrical box, pictures were presented of a properly installed pump, cam locks vs. fernco's and how much room inside the riser is necessary to be able to service a pump station without entering the tank which led to the question whether the septic tank(s) needs pumping to properly evaluate them for a Compliance Inspection. The majority of the LGU's present indicated they do require the tank be pumped. By a show of hands the overall consensus of attendees was that tanks should indeed be pumped for a compliance inspection. That raised discussion regarding the scenario of a tank requiring replacement after having been considered good by a Maintainer for a Compliance Inspection. Would the tank liability fall upon an Inspector if they sign off on a CI without looking at the tank and instead rely on the Licensed Maintainer to determine the tank condition?

The 2016 forum also included valuable discussion about methods that may be effective for an LUG to enforce and encourage continued monitoring and compliance of Operating Permits.

It was duly noted by several LGU's present that numerous hours of staff time is spent on tracking and enforcement of OP's. Some LUG's have strong ordinances assisting in continued compliance with OP parameters, some have a strong ordinance but lack support from the County Attorney for enforcement, some have ticketing authority. There was mention of a universal data base possibly being beneficial to track OP's but then determined too difficult to address the variables in local ordinances. Discussion related to the benefit of having a conversation with an Owner to explain the 'Risk' and the association between risk and parameter requirements of an OP before a system is even permitted to make them aware of the annual service requirements. Rice County shared that they compiled an Operating Permit brochure for distribution and offered to provide digital copies for customized formatting upon request. Another topic raised was the mention that Service Providers have difficulty in convincing customers of the O & M necessity and the need for the LGU to be consistent in their enforcement requiring such, and that they may refuse or be hesitant to continue service if owed money from the prior service. Discussion related to 'who' should actually be composing an OP and it was determined beneficial to involve the Designer to compile a well written OP. Tim Haeg said "Despite a well written OP or Management Plan, the key is to have the SSTS looked at" which I think we all would agree with.

When a Type III system with an OP has had a few years of monitoring developing a good track record should the OP be eliminated or parameters reduced? What if the property is sold could there be possible impacts? One Service Provider indicated he makes a point to meet with the new Owner(s) to educate them on their SSTS/OP requirements. Also asked was regarding lack of OP Compliance when is enough-enough for an LGU to issue a Notice of Non-Compliance.

The dialogue that occurs during these 'Open' Panel forums is priceless and beneficial to every person attending. The advantage of hundreds of licensed professionals having hundreds of collective years of experience present in the same room partaking in a discussion forum can only result in a bounty of a treasure.

Washington County Profile, *Continued from Page 1*

Groundwater Importance Groundwater provides 100% of the drinking water for county residents. (Stephanie Grayzeck-Souter, 2014) The county is currently the only metro county that utilizes groundwater planning authority granted under Minnesota State Statute 103B.255, initially adopting a groundwater plan in 2003. In 2014 the County Board adopted an updated groundwater plan after a thorough stakeholder process. The plan provides a framework for identifying issues, policies and strategies to address existing and future groundwater issues that relate to both quality and quantity.

The proper design, installation, maintenance, and operation of septic systems have been identified in the county's Groundwater Plan as a method and strategy to protect county's water resources. The Groundwater Plan also directs the county to develop an assessment that uses geologic data, nitrate testing/mapping, housing stock data, and a community approach to determine risk levels of existing systems.and to identify possible areas of concern for failing septic systems. This data will then be used to set up targeted inventory in areas of concern for failing septic systems. (Stephanie Grayzeck-Souter, 2014)

Septic Program History Washington County's septic program began on July 6, 1972 with the adoption of Washington County Ordinance #4, the Sanitary Sewer Disposal Ordinance. Since 1972, there have been eight ordinance revisions, 13 county inspectors, Federal 201 dollars used to replace systems, and the eventual assumption of all permitting and inspection duties for all cities in the county except for Dellwood. The septic program started in the planning department and was moved to the County Department of Public Health and Environment in 1992.

Currently, the county has three SSTS professionals. Two of the three inspectors are certified as Advanced Inspectors. On average per year, the county issues 260 septic installation permits, receives compliance inspection reports on 260 existing systems, and tracks the maintenance on over 3,700 septic systems per year.

Current Regulation Practices Given the unique geology and the importance placed on groundwater protection in Washington County, the regulation of septic systems has been very robust and progressive. Four areas of program activity are: soil verification prior to permit issuance; compliance inspection review; tracking of maintenance; and, the county's new low interest loan program.

Soil Verification Prior to Permit Issuance The county will issue a permit for a new septic system only after county staff conducts their own soil observation to verify that the proposed system will have adequate vertical separation to provide treatment. Over the years, this practice evolved to include

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detailed soil observation logs just like the soil observation logs required when a design is submitted for a permit. GPS coordinates, accurate to sub-meter, are also included on the soil observation log.

Occasionally, county staff will make observations that differ from the observations made by the system designer. In these cases, staff will contact the system designer to tell him the how the two observations differ. In most cases, the system designer and county staff will then meet at the site and conduct a joint soil observation to determine if any changes to the system design are necessary.

Compliance Inspections Since September, 2009, the county has required inspections of existing septic systems prior to sale of the property. The county's approach to non-compliant septic systems is unique in the state. In Minnesota, an existing system is deemed non-compliant if one of two conditions exists. First, a system is non-compliant and *failing to protect groundwater*, more commonly referred to simply as *failing*, if the soil treatment area does not have a minimum of 36 inches of vertical separation between the soil treatment area and any restriction. Second, a system is non-compliant and declared an *imminent threat to public health and safety (ITPHS)* if the system discharges sewage or sewage effluent to the ground surface, drainage systems, ditches, or storm water drains or directly to surface waters, or a system that causes reoccurring sewage backup into a dwelling or building.

If an inspection of an existing system finds the system to be non-compliant, the county issues orders for the system to be replaced within 90 days or six (6) months depending on if it's an *ITPHS* or *failing to protect groundwater*, respectively. A system that is found to be an imminent threat to public health and safety has dual orders: the first order gives the property owner ten (10) days to abate the public health nuisance condition that exists (surface discharge of septic tank effluent or sewage backing up into the building) via authority granted in Minnesota Statute 145A; the second order gives the property owner ninety (90) days to repair or replace the system. If an inspection of an existing system is found to be failing, the property owner is issued orders to replace the system within six (6) months. A one-time, six (6) month extension can be granted if the compliance date falls in the winter months, when the ground is frozen and the design and installation of a septic system is not allowed.

The county recognizes that not every system deemed failing by an inspector must be replaced if evidence exists to contradict the inspection that failed the system.

If the department receives a Compliance Inspection that indicates a failing system is NOT an imminent threat to public health and safety and was installed under a permit issued by

Washington County Profile, *Continued on Page 10*

Washington County Profile, *Continued from Page 9*

the county, then further investigation is warranted.

The county's historical permit record is identified and reviewed. If complete soil testing and verification observations by a county inspector are included in the permit record, the county will issue the property owner a letter stating the system does not have to be replaced.

If verification notes do not exist in the historical permit record, the county will conduct a site visit to conduct at least one soil observation. This observation will be compared to the observations in the permit, and the observations conducted during the compliance inspection. If the observation made by the county is consistent with the permit record, the property owner will receive a letter stating that the system does not have to be replaced. If the observations made the county are consistent with the compliance inspection, the property owner will be issued orders to replace the system within six (6) months.

Since January 1, 2009, the County has maintained a Microsoft Access database of all compliance inspections.. This allows the county to track compliance if orders have been issued, and to occasionally analyze the data.

Since January 1, 2009, the county has received 1,879 compliance inspections. Of those, 1,340 (71%) have been compliant, and 539 (29%) were found to be non-compliant. Of the non-compliant inspections, 431 (80%) were found to be non-compliant and were issued orders to be replaced, and 108 (20%) have been non-compliant but allowed to remain in place. There are approximately 16,500 septic systems in Washington County. With over 10% of the septic systems that exist in Washington County having been inspected since 2009, the County can report that roughly 75% of the systems in the County are compliant.

Of the 431 non-compliant systems issued orders to be replaced, 268 have been replaced. This is a 62% compliance rate. Efforts to allow the County to better track compliance are being developed in 2015.

Maintenance Tracking That state requires that maintenance of a septic system occur at a frequency of not less than three years. In 2000, the county developed a maintenance tracking database. When maintenance occurs on a septic tank, the licensed maintainer is required by ordinance to complete an SSTS Maintenance Report. This report is then submitted to the county for entry in the maintenance database.

This database allows the county to track maintenance and to send reminder cards to homeowners who have septic systems that are due for maintenance. Every six months, the county sends out approximately 2,000 reminder postcards.

Analysis of the data from the maintenance database shows that 80% of the septic systems in Washington County have been properly maintained within the last three years. The remaining 20% of septic systems vary in how long it has been since that last routine maintenance. There is no data on only 3% of the county's septic systems.

In 2015, the County revised its septic ordinance to require licensed maintainers to obtain a permit prior to performing maintenance. This provision will be implemented in 2016 along with the County's new online septic permitting software.

Septic Loan and Grant Program In 2013, the Washington County Board asked the department to develop financial assistance options for residents who have been ordered to replace their septic system. Washington County now assists property owners by offering low-interest loans to replace non-compliant septic systems. The loan program uses funds from the Minnesota Department of Agriculture (MDA)'s Agricultural Best Management Practice (AgBMP) Loan Program. Through this program, the county has become a "local lender" for the AgBMP program, and partners with the Washington County Housing and Redevelopment Authority (HRA) for program administration.

Property owners submit applications to the HRA. The HRA processes the applications, and if the applicant qualifies and the project meets the system criteria. the county makes the final decision regarding the details of the loanlending decision. Applications are accepted on a rolling deadline and processed on a first-come, first-serve basis.

Loans to qualifying property owners must not exceed $100,000. The loan becomes a special asessment on the owners' property taxes with repayments spread over five (5), eight (8) or ten (10) years as a special assessment on the owners' property taxes. The interest rate cannot exceed 3%.

For a septic system to qualify for this loan program, the system: must be an imminent threat to public health and safety; discharge directly to surface water via tile line, pipe or direct runoff; fail to protect groundwater; or be greater than 15 years old.

In 2014, eleven (11) loans totaling $162,047.60 were awarded to property owners to replace non-compliant septic systems. Using the Septic System Improvement Estimator developed by the University of Minnesota Onsite Sewage Treatment Program, the county estimates that 2,646 pounds of BOD_5, 1,462 pounds of TSS, 5.93 x 10^{14} CFU of fecal coliform bacteria, 86 pounds of phosphorus and 219 pounds of nitrogen, have been prevented from entering the watershed as a result of these 11 property owners use of the program. So far in 2015, the county has approved eight loans.

In addition to the low interest loan program, the county provided several "SSTS fix up grant" to residents who meet low income requirements. These grants were made possible via state funding from the Clean Water Fund. The county has awarded a total of ten fix up grants since 2013.

Washington County Profile, *Continued on Page 11*

Washington County Profile, *Continued from Page 10*

Use of Available Technology The county uses available technology to improve decision making in the septic system permitting and inspection process. ESRI's ArcGIS is the County's most utilized tool. Staff uses ArcGIS daily to look at historical permit records, which are linked to shapefiles that allow staff to look at physical features of a parcel and make regulatory decisions. The county's three databases are mapped every morning using a ArcGIS model customized by staff in the septic program.

Since 2005, septic staff members have carried Trimble GeoXTs during inspection and soil observations to collect coordinates related to the installation of a septic system. These handheld GIS units use ESRI's ArcPad to collect data accurate to within a meter. The types of data collected using the Trimbles include: designer soil observation locations, county staff verification soil observation location, well location, location of septic tanks and soil treatment areas. This data is checked out and checked back into a geodatabase on the County's GIS server.

Today, the county is transitioning from Trimble GeoXTs to iPads for collecting coordinates in the field.

In 2015, the county has been developing an online permitting, inspection, and data management system though the services of Rt Vision of Little Falls, Minnesota. This new software will allow staff to conduct all necessary functions in the field using laptops, smartphones, and tablets. Permitting, inspections, soil observation data, and historical permit records will be at the inspector's fingertips. In addition, the software will allow SSTS contractors to apply for permits online, track permit status, request inspections, and even enter septic tank maintenance data into the system while in the field through the purchase of online "keys" that unlock records for updating. This online tool will be deployed in 2016 and will revolutionize how staff, residents, and septic contractors conduct business in Washington County.

Conclusion Washington County residents expect safe drinking water and clean lakes and streams for swimming and fishing. Effective regulation of septic systems through the proper design, installation, inspection, operation and maintenance of septic systems is one method to meet that expectation.

REFERENCES

Gary N. Meyer, R. W. (1990). Geologic Atlas Washington County, Minnesota. St. Paul, MN: Minnesota Geological Society.

Stephanie Grayzeck-Souter, J. L.-P. (2014, September). Washington County Groundwater Plan 2014-2014. Stillwater, MN: Washington County.

MPCA Legislation Seeks To Ban Flushable Label

MPCA Proposal on Flushable Wipes

MPCA Proposal Would Prohibit Labeling Disposable Wipes as 'Flushable'

This League-supported measure could reduce operation and maintenance costs for municipalities across the state. (Published Feb 22, 2016)

Although often labeled as "flushable," disposable wipes (used for changing diapers, personal hygiene, housecleaning, and more) cause major problems- for homeowners and cities-when flushed down toilets. The Minnesota Pollution Control Agency (MPCA) is working with legislators to introduce legislation that would ban the use of the word "flushable" on these products' labels.

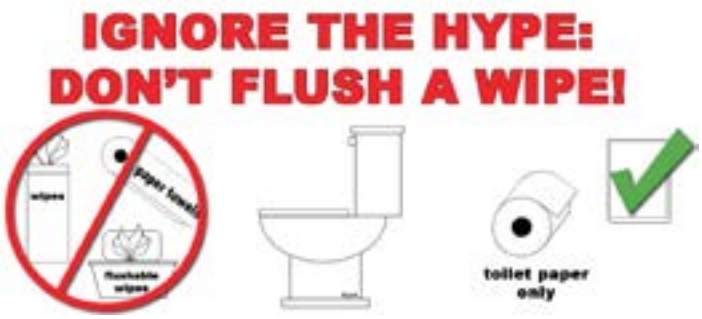
What's the problem?

These so-called "flushable" wipes don't break down the way toilet paper does. They clog homeowner and municipal sewer pipes, put stress on community wastewater collection and treatment equipment, and cause cities to spend thousands of dollars on premature equipment repair and replacement.

Wipes snag on any imperfection in sewer pipes, catch passing debris and grease, and create a "ball" that will grow to plug the pipe. Cities must manually clean screens or remove clogs.

Bill to be introduced this session

The MPCA bill, which will be introduced in the 2016 legislative session, is supported by long-standing League policy. Gov. Dayton's recent attention to water quality also brings renewed attention to this issue. Cities have frequently raised concerns about the problem of flushed wipes. In fact, Sauk Centre, Cold Spring, Princeton, Wyoming, and several other Minnesota cities are involved in a class-action lawsuit against companies that make "flushable" wipes. (Read about the lawsuit in the Forest Lake Times at: http:/florestlaketimes.com/2015/07/01/princeton-joins-wyoming-in-wet-wipes-lawsuiU.)



The proposed bill would:

*Ban "flushable," "septic safe," or "sewer safe" labeling from nonwoven disposable products (wipes) sold in Minnesota.- ·

*Help change public behavior and over time reduce the amount of such wipes being flushed.

Fewer wipes flushed wo ld reduce operation and maintenance costs for municipalities across the state.

Next Steps

The League will continue working with MPCA and other stakeholders on this issue during session and will enlist the help of cities. The League encourages you to mention this issue as you meet with your legislators in the coming weeks. The League will provide links to bills once they are introduced.

Your Help Needed-City Data:

If your city has any data on public works staff time and/or repair costs associated with these products being flushed into the wastewater system, please let League staff know (listed here: Contact Craig Johnson IGR Representative at (651) 281-1259 or (800) 925-1122 cjohnson@lmc.org or Contact Heather Corcoran IGR Liaison at (651) 281-1256 or (800) 925-1122 hcorcoran@lmc.org).

Other Resources:

*Policy/Proposal sheet from MPCA (pdf) at https://www.pca.state.mn.us/documenUieg-sy16-04pdf

*Video demonstration on flushable wipes: https://www.youtube.com/watch?v=OAI3Dttootw

*Star Tribune article: http://www.startribune.com/flushable-wipes-can-cost-thousands-to-fix-clogged pipes/298728221I

*Brainerd Dispatch article: http://www.brainerddispatch.com/news/3709654-disposable-flushable-wipes-wreaking-havoc-wadena-sewers

Reprinted from Cities Bulletin, Feb 22, 2016 issue online at: www.lmc.org

The 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 310, Edina, MN 55424 Phone: (952) 345-1141 Toll Free: 888-810-4178 Website: www.mowa-mn.com

2015 Tony Ruppert Scholarship 1st Place Essay

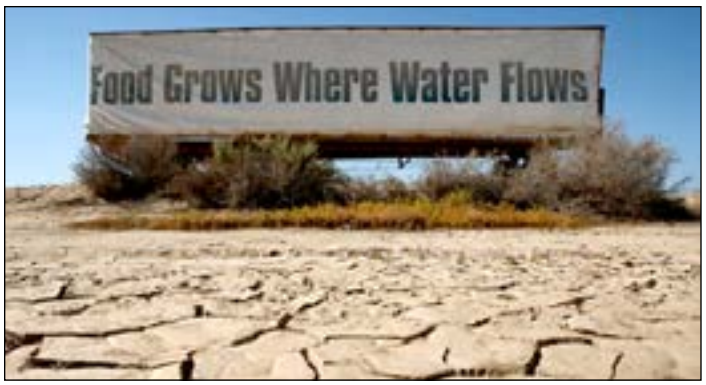
The California Water Crisis *by Luke Eicher, St. Michael, MN*

The past four years have brought on the worst drought in the history of California. Since California has a population of approximately 25 million people and 76,400 ranches and farms that produce 14.7% of our nation's agricultural exports, this is a huge problem. With water resources quickly diminishing, residents has been forced to start conserving water in order to prevent huge losses in agricultural produce, livestock and to prevent death. In 2015, Governor Jerry Brown announced the California's first ever mandatory water restriction—cutting water use by 25%. The only problem with these cuts is that they only affect the urban use of water, not agricultural use. The non-agricultural use of water in California only adds up to approximately 20% of the water used in the state. The other 80% of use is by agriculture. California simply doesn't have enough water for its population as well as its agricultural industries. When looking at the issue of the California drought, it is important for people to think about a few things: Why is there a drought in the first place? What is currently being done to fix the problem? What still can be done to fix the problem?

Why is California in such a bad drought? There are multiple reasons. Over the past four years, it has become apparent that there is a warming climate. This warming climate has caused there to be less snow in the Cascades and Sierra Mountain ranges. California's water supply depends upon snowpack. Snowpack is snow that gets compressed by winter storms and then melts into the lakes and streams. Not only has a warmer climate caused a reduction in snowpack, the lack of winter storms due to the polar vortex have also reduced the amount of snowpack formed. The lack of snowpack affects the state's water supply and its hydropower plants. Without the rivers, the plants cannot create electricity. Despite the lack of snowpack, the people of California take much of the blame for the drought.

Before the government cuts on water, many Californians had been wasting water. Many homeowners didn't have water meters and, hence, were unable and are still unable to limit their water usage. Many farmers also use outdated irrigation techniques such as open trenches. This method gives certain plants too much water and causes a lot of water to be lost to evaporation. California cattle ranches also use a tremendous amount of water. While the average human consumes only one gallon of water per day, the average cow consumes 23 gallons of water every day!

So, basically, a lot went wrong with California's water supply and usage. The next question to look at is: What is currently being done to help? The government of California has taken the lead. Governor Brown's water cuts have greatly



lessened the amount of water that is wasted. The government also had to set some rules like no hosing down driveways, wash cars only with buckets, use drought resistant plants in landscaping, and shorten showers. The people of California have responded very well to these demands and were actually able to cut 27% of their water usage. However, even with all of the success in having the population to cut usage, the agricultural business still uses up 80% of California's water. The problem is that without its agriculture, California would not survive economically.

So until things get really bad, they are unable to make large water cuts in the ag business. Many farmers have begun to make small water cuts, however, by ripping out certain plants that suck up large amounts of water. Some farmers are also looking at different irrigation techniques.

With the loss of water supplied by snowpacks, Californians have begun to drill into the aquifers.. Aquifers are bodies of permeable rock that hold water and are found underground. When Californians tap the aquifers, they are only temporarily solving the problem. Aquifers may contain large amounts of water, but they take anywhere from thousands to millions of years to form. Once the aquifers are depleted, they aren't coming back anytime soon, unlike the wells that we have here in Minnesota. Our wells are also pools of groundwater, but they are closer to the surface and only take years to fill. California is currently using approximately 29 million acre-feet of water per year from aquifers.

The final and most important idea to consider when looking at the California drought problem is: What needs to be done to help California? An idea that is commonly argued about is the use of desalination plants. Desalination is a process by which salt is extracted from ocean water in plants that are placed along the sea. It sounds really good in theory, but would be almost impossible for California to use effectively.

TRS Ist Place - California Drought, *Continued on Page 15*

TRS Ist Place - California Drought, *Continued from Page 14*

Desalination plants cost ridiculous amounts of money to build and can only produce limited amounts of water every day. In Carlsbad, CA they are building a huge desalination plant to make water for San Diego County. The plant will take money, energy, and time and only produce approximately 50 million gallons per day. This amount of water will only take care of 7% of the county's water needs. Even though this desalination plant may work extremely well, it is an example of how impossible it is for California to use desalination to provide a lot of their water. Desalination plants simply will not work because they take too long to build and can also be bad for the environment. Cuts in water usage by the agricultural industry are what really need to happen in order for California to produce the amount of water that it needs.

The best ways for farmers to cut water without losing crops and profit would be to change their irrigation techniques. Many farmers in California still use pour water into trenches that run through the fields and water crops. These trenches waste water because of evaporation and over-watering. There are many newer techniques for irrigation that Californian farmers could use. Something as simple as soil moisture monitoring is one technique. Soil moisture monitoring basically measures the moisture levels in the soil to see when the soil actually needs water. Some soils might not need water for multiple days while other soils might need it every day. This way, farmers would avoid simply watering all of the soil every day and wasting extra water. When a farmer plans out the times they are going to use water for certain fields or soil it is called irrigation scheduling. Irrigation scheduling is a huge way to save water. Other irrigation techniques that could be used by farmers are drip irrigation and center pivot irrigation. Drip irrigation uses a series of tubes with small holes in them to span over the entire field and drip only the necessary amount of water on plants. Center pivot irrigation is a system that is very common here in Minnesota. It uses a series of pipes that are raised up above the ground by wheels and that are able to turn 360 degrees around in a circle in a field to water the entire crop during a certain period of time.

The final way that Californians could save water is actually something that everyone in the United States could do. Yes, even though we aren't even close to California and think that we aren't affected by their drought, we need to help them out. If California continues to lose their water, the rest of the United States will be affected by the loss of agricultural products. The way in which everyone can help California is to change our diets—even in little ways. California is one of the leading producers of beef and almonds. Both of these products take huge amounts of water. As stated earlier, just a single cow drinks 23 gallons of water every day. So, for every pound of California beef that we consume, it takes 2,464 gallons of water. If we limit the amount of beef that we eat, the demand for beef would go down and California could begin producing different products that wouldn't use as much water. Everything we eat takes water. If we eat things that take less water, then it will be possible to use that extra water for important things, like ending the Californian drought.

So, there are many reasons why the drought in California is so bad. The loss of natural water resources, such as snowpack: the over-use of water in the ag business, and the large population in California using extra water all contribute to the loss of California's usable water. As this issue keeps growing, more things are being done to solve it. However, if this issue of water continues to grow and get worse in California, the rest of the United States is going to need to step in and help. The best way for California to fix their problem is by fixing what they can fix now. By following the 25% water cuts issued by their government, and using better irrigation techniques, California can improve its odds of outlasting this drought. Consumers can help by limiting consumption of beef and other ag products that take a lot of water to produce. I believe that it is extremely important in a situation like California's to look at the entire picture. Why is there a problem in the first place? What is currently happening? What needs to be done in order to fix the problem? All of these questions help us to see the big picture in order to understand and help the situation. The biggest problem with the California drought is that people have ignored it and allowed the problem to get

TRS Ist Place - California Drought, *Continued on Page 16*

Tony Ruppert Scholarship Deadline is August 15th

2016 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 2016) who will be enrolled as a full-time student in post-secondary undergraduate education during the 2016- 2017 school year.

Applicants must be no more than 26 years old as of June 1, 2016 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, 2016. Applications will be rated by a panel of MOWA members. Winners will be notified in September 2016.

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

TRS Ist Place - California Drought, *Continued from Page 15*

worse. It is important for people to know and understand the issue. Many times—just like the solution to the California drought—average people are the ones that can make the difference if they know how to save water. When you are dealing with water, our Earth's most precious resource, it is important to use it wisely.

Works Cited

Ball, Jeffrey. "Trapped in a Devastating Drought, California Needs to Take on Some Surprising Sacred Cows." N.p., n.d. Web. 11 Aug. 2015.

"California Agricultural Water Stewardship Initiative." *California Agricultural Water Stewardship Initiative*. N.p., n.d. Web. 11 Aug. 2015.

"California's Water Crisis By the Numbers." *Time*. Time, n.d. Web. 11 Aug. 2015.

"National Geographic News." *National Geographic*. National Geographic Society, n.d. Web. 11 Aug. 2015.

Tony Ruppert Scholarship Instructions & Tips

This 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.

TITLE

AUTHOR

DATE

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,

Calendar of Events

MOWA Events

June 24, 2016—Summer Seminar – James Brothers Construction – Elysian, MN (visit www.mowa-mn.com for details)

January 30 – 31, 2017—Annual Convention & Tradeshow – Duluth Entertainment Convention Center (DECC) (visit www.mowa-mn.com for details)

Industry Events

October 26-29, 2016—NOWRA 2016 Conference at The Nugget Hotel and Casino, Reno, NV (see www.nowra.org)

MOWA Welcomes New Members!

Bogart Pederson & Assoc.
Becker, MN
Jon Bogart

Executive Sanitation Inc.
Kensington, MN
Chase Johnson

2016 OSTP Certification Course Descriptions and Offerings

Introduction to Onsite Systems (15 Direct Credits)
Fee: $360 Exam: Yes
This 15-hour workshop is the foundation for all SSTS certifi cation 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 Minnesota.

Topics include:
- Treatment of wastewater
- Site evaluation
- Wastewater characterisitcs
- Soil treatment systems

10-3 St. Cloud - Moose Lodge 11/14-16/16 Deadline: 11/7/16

Installing Onsite Systems (12 Direct Credits)
Fee: $265 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 St. Cloud - Moose Lodge 11/17-18/16 Deadline: 11/10/16

Inspecting Onsite Systems (12 Direct Credits)
Fee: $265 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 Alexandria - Douglas County Public Works Building 6/14-15/16 Deadline: 6/7/16

Advanced Design & Inspection of Onsite Systems
(21 Direct Credits) Fee: $440 Exam: Yes
This 21-hour course includes a field portion and focuses on the design and inspection of Type IV systems with flows greater than 2500 gpd. This course explores high strength waste, site assessment techniques, and prepares participants for the Advanced Design exam.

PREREQUISITE: Full Certification as a Basic Designer or Inspector and successful completion of Intermediate exam.

Topics include:
- Collection system design
- Nitrogen & phosphorus removal
- Groundwater mounding
- High strength waste

29-1 St. Cloud - Moose Lodge 6/7-10/16 Deadline: 5/31/16

Installer Continuing Education (12 Direct Credits)
Fee: $265 Exam: No
This 12-hour workshop will meet the continuing education requirements for any certification but is specifically tailored for Installers. All information will be provided from the perspective of a system installer.

Topics Include:
- Construction safety
- Keys to proper installation
- Pumps and dosing
- Rule change implications

69-3 Grand Rapids - Sawmill Inn 11/29-30/16 Deadline: 11/21/16

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**

Soils (15 Direct Credits)
Fee: $310 or $475 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

515-2 Farmington - Dakota County Extension Office 6/22-24/16 Deadline: 6/15/16

Pipelayer Certification (2 Direct Credits, 1 Related Credit)
Course begins at 1:00PM Exam: Yes
Fee: $75 or $50 as add-on to enrollment in Installer CE
This 3-hour workshop is once again offered this year to accommodate a change in the Minnesota Plumbing Code that requires all septic system installers be either certified pipelayers, licensed plumbers, or registered apprentices in order to install sewer or water service pipes outside of a building in Minnesota.

Topics include:
- MN Plumbing Code
- Pipelaying
- Code compliance bond packet instruction

92-3 Grand Rapids - Sawmill Inn 11/30/16 Deadline: 11/22/16

Field Troubleshooting Systems Continuing Education
(6 Direct Credits) Fee: $240 Exam: No
This 6-hour workshop combines a classroom and field component to give all septic professionals additional knowledge about troubleshooting systems that are experiencing problems.

Topics include:
- Homeowner use issues
- Hydraulic and organic overload
- Afternoon Field visit
- Evaluating soil treatment systems

64-1 St. Cloud - Moose Lodge 6/28/16 Deadline: 6/21/16

General Continuing Education (12 Direct Credits)
Fee: $265 Exam: No
This 12-hour workshop is designed to meet the continuing education requirement for SSTS professional registration. The topics will be varied to give a wide range of information for SSTS professionals.

Topics include:
- Rule change implications
- Pressure distribution
- Working on difficult sites
- MPCA update

60-3 N. Mankato - Best Western 11/2-3/16 Deadline:10/26/16
60-4 Cloquet Forestry Center 12/7-8/16 Deadline: 11/30/16

Soils Continuing Education (6 Soils-Specific Direct Credits)
Fee: $240 or $405 with Munsell Color Guide Exam: No
This 6-hour course couples classroom and field training to meet soils-specific MPCA continuing educational requirements for designers and inspectors. Munsell Color Guides are available for $165 and Sand Cards for $10.

Topics include:
- Regional geology and soils
- Local soil hydrology information
- Soils observations
- System siting and design

55-1 Farmington - Dakota County Extension Office 5/17/16 Deadline: 5/10/16
55-2 Pipestone MN West College 6/1/16 Deadline: 5/24/16
55-3 Willmar Conference Center 6/30/16 Deadline: 6/23/16
55-4 St. Cloud - Moose Lodge 7/12/16 Deadline: 7/5/16
55-5 Detroit Lakes - Holiday Inn 7/26/16 Deadline: 7/19/16
55-6 Cloquet Forestry Center 8/16/16 Deadline: 8/9/16
55-7 Rochester South - Clarion Inn 9/20/16 Deadline: 9/13/16

2016 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 2016

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

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 310, Edina, MN 55424 Phone: 952.345.1141 e-Fax: 952.516.5550

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

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