

ServiceLine

— The Official Publication of the South Dakota Association of Rural Water Systems —

Make plans for the
2017 ATC

JANUARY 10-12, 2017 | PIERRE, SOUTH DAKOTA



YOU'RE OFF THE BEATEN PATH, BUT NOT OFF OUR ROUTE.

The water meter technology race is on.
Ferguson Waterworks is out in front.

With advanced metering technology, your business can be more efficient, more profitable and more service oriented than ever before.

Automated Meter Reading (AMR) and Advanced Metering Infrastructure (AMI) are more than industry buzzwords – they provide a steady flow of valuable data to achieve your business goals, and provide consumers critical understanding of their own usage habits. The result is better business and improved stewardship of our water resources.



Belfield

3358 Hwy 85 N
(800) 932-8759

Fargo

1917 1st Ave N
(701) 293-5511

Bismarck

1201 Airport Rd
(701) 258-9700

Blaine

1694 91ST Ave NE
(763) 780-9782

FERGUSON.COM/WATERWORKS

President's Message

Ron Gillen, SDARWS President



Join us at the 2017 ATC!

Association staff are currently very busy gearing up for the 2017 Annual Technical Conference in Pierre, South Dakota, January 10-12 at the Ramkota Hotel and Convention Center in Pierre. The conference features an exhibit hall and educational sessions.

We are pleased to have Mark Johnson as our Keynote Speaker at this year's ATC. Mark spent twenty years as a Special Forces, Green Beret officer in over fifty nations on four continents, much of this time in combat, remote locations, and other sensitive operations. He was decorated with the Bronze Star for his extraordinary actions during the Gulf War. Mark retired at the rank of Lieutenant Colonel in October 2000.

He has devoted much of his life to education and teaching. Mark taught at the U.S. Army Command and General Staff College, Fort Leavenworth, KS for more than eight years and his last assignment in the Army was as Chairman and Professor of the Military Science Department at Pittsburg State University, in Pittsburg, Kansas. You can learn more about Mark on page 21.

We are also hosting a spouse program this year, so make sure to bring along your significant other. See pages 17-21 for a full description of this year's event, as well as pages 16-17 for a handy pull-out agenda on all the great classes offered this year. Haven't registered yet? You can find everything you need to know about this year's conference on our website at: www.sdarws.com/atc.html, including registration information, updated agendas, and more! Make sure to register soon – the Early Bird discount ends December 16th!

Rural Water Rally

With the unpredictability of the government these days, we need to make sure that the voice of rural water is heard. I, along with NRWA Director Larry Wasland and SDARWS Executive Director Dennis N. Davis invite you to attend the Rural Water Rally in Washington, DC February 6-9, 2017 to show your support for continued rural water funding.

Your dedication to rural water makes a difference! It is important that we work together to focus our efforts on informing our elected leaders of the needs and concerns of water and wastewater utilities in South Dakota. Registration for this year's Rally is available online at <http://nrwa.org/rally>. To make hotel reservations at the Hyatt Regency on Capitol Hill, please call 202-737-1234.

Our greatest tool is sharing the ways that Rural Water assists small utilities everyday in the effort to supply their communities with clean, safe, affordable water. These stories are the proof that Rural Water operates effective programs that can reach every utility, from cities to the smallest and most rural community. Utilities who cannot attend the Rural Water Rally personally can still support Rural Water's Efforts to promote funding, technical assistance and sensible regulation for small utilities.

Has Rural Water helped your utility? Please consider writing an official letter detailing how Rural Water has assisted your utility and the value they provide to you. Submit this letter to SDARWS so we can carry your story with us into our meetings with our elected officials. ●

IN THIS ISSUE

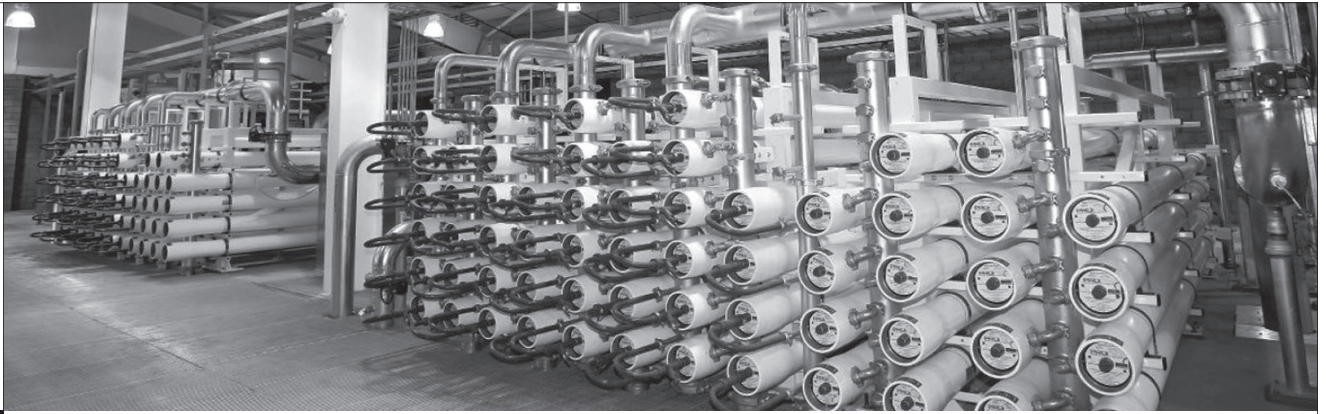
- 5 Training Calendar
- 9 SDARWS Membership Corner
- 10 NRWA Workforce Advancement Center
- 11 SDARWS Staff Directory
- 13 Rural Water Q&A
- 15 2017 ATC Information
- 16 2017 ATC Agenda
- 21 ATC Keynote Speaker Mark Johnson
- 23 Advertising Info
- 24 Prepare for Winter
- 27 Clean Meter Pits & PRV Valves with a HydroVac
- 28 USDA Programs Available
- 31 Trenching & Excavation Safety
- 33 Certification Questions
- 34 How to Get the Most Out of a Conference

Corporate Sponsors

Howalt+McDowell Insurance, Inc.
Risk Administration Services
Dakota Pump & Control
Dakota Supply Group
Engineering America, Inc.
Treatment Resources, Inc.
Banner Associates
Bartlett & West, Inc.
DGR Engineering
Maguire Iron, Inc.
HD Supply Waterworks
Dakota Pump Inc.
Hydro-Klean
CoBank
Milbank WinWater
AE₂S

ServiceLine is published bimonthly by the South Dakota Association of Rural Water Systems. Copyright 2016.

Send Correspondence to:
South Dakota Association of Rural Water Systems
P.O. Box 287, Madison, SD 57042
Phone 605.556.7219, Fax 605.556.1497
email: info@sdarws.com



Bridging the gap between idea + achievement



Sioux Falls 605.977.7740

Rapid City 605.791.6100

hdrinc.com



Local Service, Nationwide

2101 East 54th St. North • P.O. Box 85439
Phone: 605/339-2814 • FAX: 605/339-2632
Sioux Falls, South Dakota 57118-5439

2808 East Highway 44
Phone 605/716-9427 • Fax 605/716-9447
Rapid City, South Dakota 57703

CALL TOLL-FREE: 800-843-3799

waterworks.hdsupply.com

- SENSUS - Water Meters
- EBAA Joint Restraints
- Neenah Castings
- Locators
- Link Seals
- Watts Valves
- Plug & Butterfly Valves
- Cretex Specialty Products
- PVC Pipe & Fittings
- AFC Valves & Hydrants
- Ladtech HDPE Adjusting Rings
- Victualic Couplings
- Ford Brass & Pipe Products
- Ductile Iron Pipe & Fittings
- Automatic Control Valves
- Flanged Piping
- Copper Tubing
- HDPE Pipe & Manholes
- Air Release & Check Valves
- Contech Construction Products
- Pipe Repair Products
- Valve Box Centering Adapters

Training Calendar

DECEMBER

6-8 – WASTEWATER COLLECTION **Huron Crossroads Hotel** **100 4th Street SW, Huron, SD 57350**

This course covers the Association of Boards of Certification "Need to Know" requirements for the Class I through III Wastewater Distribution Collection Exams. This course only covers the material for Wastewater Collection. Operations Specialists who wish to attempt a Water Distribution Exam should attend the Water Distribution Course. Class begins each morning at 8:00 a.m. local time and wraps up around 4:30 p.m. on Tuesday and Wednesday and approximately 11:30 a.m. on Thursday.

14 – SUSTAINABLE MANAGEMENT OF RURAL AND SMALL SYSTEMS WORKSHOP **Tripp City Hall** **105 N. Main Street, Tripp, SD 57376**

Participants will conduct a guided self-assessment of their system and identify areas for improvement that are critical to success at your utility. This self-assessment will help you prioritize actions when resources are limited. You will also learn from other utilities who have faced similar challenges.

The workshop focuses on ten key management areas of effectively managed utilities, which make up a framework for a complete and well-rounded management approach. By making operational improvements in any of these areas, your utility will be able to deliver increasingly efficient, high quality services to your community.

This workshop is geared towards small water and wastewater systems and finance officers, mayors, city council members, and water/wastewater management are all encouraged to attend.

JANUARY

24-26 – BASIC WATER TREATMENT **Spearfish Holiday Inn** **305 N. 27th Street, Spearfish, SD 57783**

This course covers the Association of Boards of Certification "Need to Know" requirements for the Class I & II Water Treatment Exams. Class begins each morning at 8:00 a.m. local time and wraps up around 4:30 p.m. on Tuesday and Wednesday and approximately 11:30 a.m. on Thursday.

FEBRUARY

14-16 – BASIC WASTEWATER TREATMENT **Rapid City Ramkota** **2111 N. LaCrosse Street, Rapid City, SD 57701**

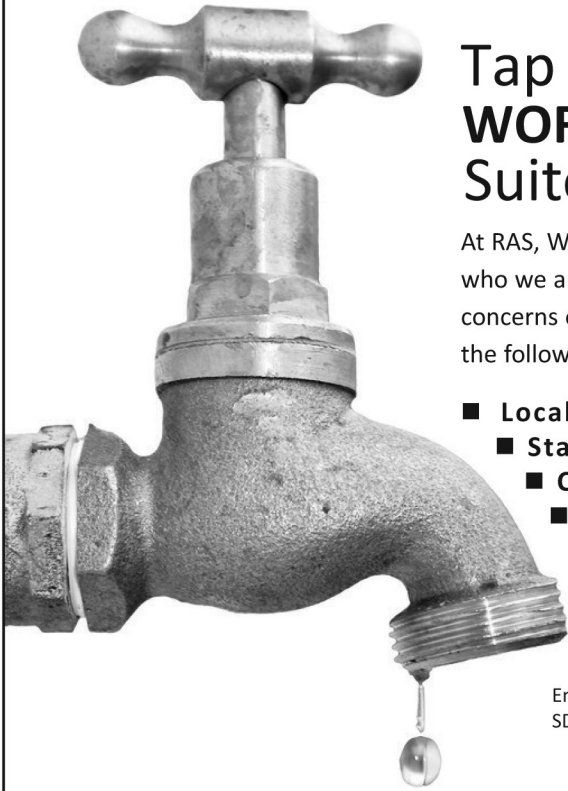
This course covers the Association of Boards of Certification "Need to Know" requirements for the Class I & II Wastewater Treatment Exams. This course does not cover the material included in the Stabilization Pond Exam. Operators who will be attempting the Stabilization Pond exam should consider the Stabilization Pond Workshops. Class begins each morning at 8:00 a.m. local time and wraps up around 4:30 p.m. on Tuesday and Wednesday and approximately 11:30 a.m. on Thursday.

22 – STABILIZATION POND **Aberdeen Ramkota** **1400 8th Avenue NW, Aberdeen SD 57401**

This course covers the material on the Association of Boards of Certification Stabilization Pond Exams. It does not cover material on the Class I or higher Wastewater Treatment Exams. This is a single day workshop starting at 8:30 a.m. local time and wrapping up around 4:30 p.m.

REGISTER FOR CLASSES ONLINE AT: go.activecalendar.com/sdarws

Course agendas, maps and registration are all available online at www.sdarws.com. All classes are free unless otherwise noted. For more info on these and other events, visit www.sdarws.com or call 605-556-7219.



Tap into a **WORKERS' COMPENSATION PROGRAM** Suited for You

At RAS, Workers' Compensation is our primary focus. It's what we do, and who we are. We have the knowledge and experience to address specific concerns or situations. We cover businesses across the spectrum and offer the following services:

- **Local Claims and Case Management**
- **Stay at Work/Return to Work Assistance**
- **Cost Containment Services**
- **Loss Prevention and Training**

For more information contact our association agency partner, Jack Miller, Howalt+McDowell Insurance Agency at 800.584.7054.

Endorsed Workers' Compensation carrier for the SD Rural Water Association for over 10 years.



RISK ADMINISTRATION SERVICES, INC.

WORKERS' COMPENSATION.
Our Focus. Your Opportunity.SM

www.rascompanies.com
1.800.732.1486



S. Hwy. 15 • P.O. Box 350
Milbank, SD 57252
1-800-743-2972
Fax 605-432-5447

*Large enough to handle any job,
but small enough to care about yours.*

- WATER PRODUCTS
- INDUSTRIAL PIPING
- WATER METER SYSTEMS
- PUMP SYSTEMS
- GEO TEXTILE FABRIC
- ROAD CASTINGS



POTABLE WATER MIXING/ICE PREVENTION

"These mixers give peace of mind, especially in winter."

Cary Johnson, water operations mgr., Rochester Public Utilities, Rochester, Minnesota



POTABLE WATER/THM REMOVAL

"GridBee in-tank aeration is effective and affordable."

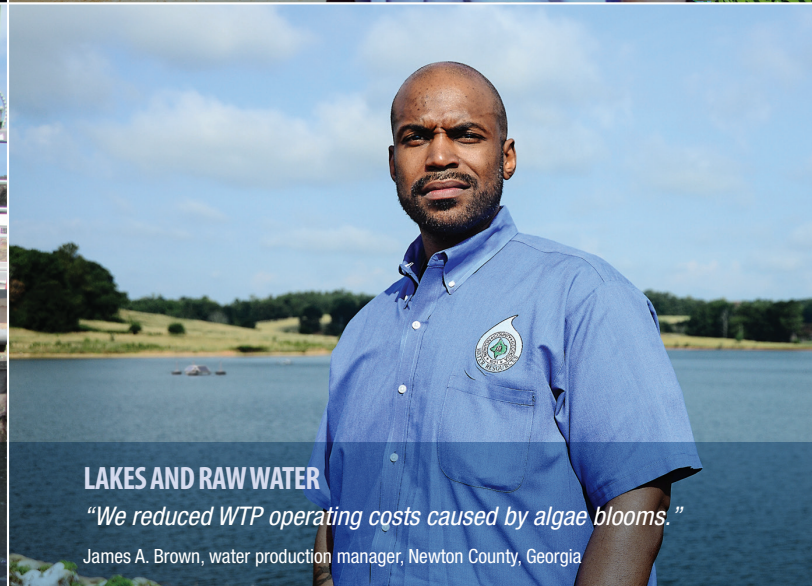
Tony Linder, WTP division chief, Dept. of Water Supply, County of Maui, Hawaii



WASTEWATER MIXING/BASINS AND LAGOONS

"We reduced our nitrate levels and lowered our energy costs."

John Willis, wastewater plant supervisor, Ventura, California



LAKES AND RAW WATER

"We reduced WTP operating costs caused by algae blooms."

James A. Brown, water production manager, Newton County, Georgia



WASTEWATER MIXING/WET WELLS

"Don't let wipes clog your pumps."

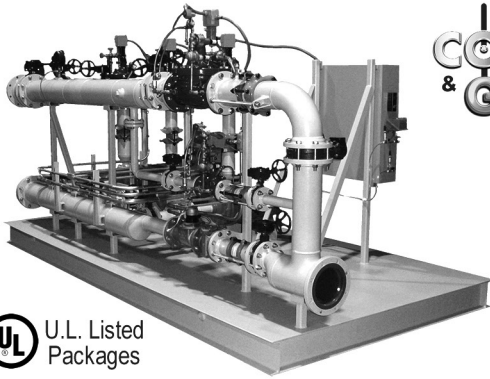
Curtis Rooth, foreman, Sewer Dept., Cromwell, Connecticut

Improve **all** of your water

Water operators and engineers rely on GridBee® electric and air-powered mixers and SolarBee® circulators to help reduce operating costs, achieve better compliance and improve water quality. Factory field service available.

Call us today for prompt, friendly service and fast, reliable results. 1-866-437-8076

DAKOTA PUMP INC.



CONNECT
& **G** Technology

The Total Solution

Water Pump Stations

- Modular Water Booster Stations
- Grade Mounted Water Booster Stations
- Water Booster Pump Stations
- Water Control Vaults



Sewage Pump Stations

- Wet Well Mounted Lift Stations
- Flooded Suction Lift Stations
- Self-Priming Lift Stations
- Obround Package Pump Stations



Why Prefabricated?

- Fully factory tested
- Ease of installation
- Simplified design
- Single source responsibility



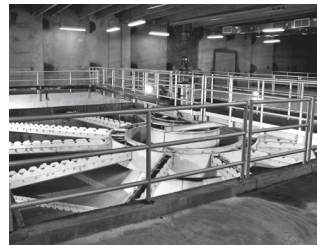
Dakota Pump Offices:

po box 947 ~ 25524 413th Ave ~ Mitchell, SD 57301 ~
ph.605.996.6636 ~ fax. 605.996.6067 ~ dakotapump.com



water
supply
treatment
storage
distribution

wastewater
collection
treatment



(planning) **START to FINISH** (operation)

Your success is our success

BANNER
engineering a better community

Brookings, SD Vermillion, SD
Sioux Falls, SD Rapid City, SD
Milbank, SD

605.692.6342
Toll Free 1.855.323.6342

www.bannerassociates.com



SDARWS MEMBERSHIP CORNER

SDARWS LICENSE PLATE DECALS



\$25 PER VEHICLE (2 DECALS)

SDARWS has license plate decals* for your South Dakota Emblem Specialty License Plates. Proceeds from the sale of these decals will go to the Rural Water Center for research.

**ORDER ONLINE AT:
[HTTP://BIT.DO/SDLICENSE](http://bit.do/sdlicense)
OR CALL 605-556-7219**

**Decals are only to be used with the non-profit/organizational license plates. If acquired during your regular renewal period, emblem plates do not require an additional application or fee outside of your regular registration fees. If the plate is acquired outside of your renewal period, there is an additional \$10 fee. Individuals are not required to have their decals on their plates before placing them on their vehicles.*



2ND ANNUAL SOUTH DAKOTA RURAL WATER WARRIORS FISHING TOURNAMENT

April 29, 2017

Open to current water/wastewater, associate or corporate members of SDARWS. \$100/team

For more info, visit sdarws.com, call 605-556-7219, or email morrisre@sdarws.com.



Washington, D.C.
February 6-8
2017

At the
Hyatt Regency Washington
on Capitol Hill

"Let your voice be heard!"

TENTATIVE SCHEDULE

MONDAY, FEBRUARY 6

Registration – 1-5:30pm
Welcome Social – 5:30pm

TUESDAY, FEBRUARY 7

Registration – 7:30-11am
Opening Session – 8:00 am
Congressional
Appointments

WEDNESDAY, FEBRUARY 8

Great American Water Taste
Test Finals – 12:00pm
Congressional
Appointments
Rural Water Social –
5-6:30pm

<http://nrwa.org/rally>

TWITTER

Are you on Twitter?
Follow us at
[@SDRuralWater](https://twitter.com/SDRuralWater)



FACEBOOK

LIKE us on Facebook
[www.facebook.com/
SDRuralWater](http://www.facebook.com/SDRuralWater)



NRWA ANNOUNCES CREATION OF WORKFORCE ADVANCEMENT CENTER

The National Rural Water Association, the nation's largest water utility association with over 31,000 members, announced the creation of the NRWA Workforce Advancement Center today during a joint ceremony with the Oklahoma Rural Water Association at NRWA's headquarters in Duncan, Okla. The Center will develop the WaterPro Apprenticeship Program, a nationally recognized standard that will be registered with the U.S. Department of Labor.

"The NRWA Workforce Advancement Center will ensure a well-trained and capable water sector workforce to meet the increasing demands of the water industry," said NRWA CEO Sam Wade. "Advancements in water treatment and supply technology have increased the skills and training needed to protect public health and the environment. The apprenticeship program will ensure we have the skilled and educated workforce we need well into the future."

NRWA State Affiliates will jointly make the announcement at training events for water and wastewater operations specialists in California, Oklahoma, Tennessee, Indiana, West Virginia and New York. The announcement and events will commemorate National Apprenticeship Week 2016 and will highlight the need for a national water sector apprenticeship initiative.

It takes over 380,000 highly skilled water and wastewater personnel to ensure the public supply of safe drinking water and to protect our lakes, streams and groundwater. Advancements in water treatment and supply technology have increased the skills and training required of this workforce. Water professionals are ultimately responsible for meeting stringent regulatory standards, replacing aging infrastructure, recruiting and training new operations specialists, and responding to and recovering from disasters.

In addition to increasing professional demands, utilities will soon be forced to replace many of their most experienced employees. Between 2010 and 2020, the water sector is expected to lose

between 30 and 50 percent of the workforce to retirement. Many of these employees have worked at the same utility for the majority of their careers, and they will depart with decades of valuable institutional knowledge.

NRWA and State Affiliates currently provide training on operator certification, financial sustainability, environmental compliance, utility management and governance to 80,000 water professionals annually in all 50 states. Last year, over 55,000 on-site consultations were delivered by NRWA's technical experts for water quality, energy efficiency, source water protection, technical assistance and emergency response. Today's announcement furthers NRWA's commitment to developing and enhancing the professionalism of the water sector workforce.

"I commend the National Rural Water Association on its new NRWA Workforce Advancement Center and its efforts to create a rural water workforce apprenticeship program," said USDA Rural Utilities Service Administrator Brandon McBride. "Both efforts will

strengthen our rural network of water and waste systems and create meaningful job opportunities in rural America. These actions also build upon the continuing partnership between USDA's Rural Utilities Service and NRWA to modernize water and wastewater infrastructure and to develop a new generation of experts who will successfully operate and manage that infrastructure."

The WaterPro Apprenticeship program will initially be tailored to water system operations specialists, wastewater system operations specialists, and water utility system customer service personnel. In addition, the NRWA Workforce Advancement Center will develop career pathways into the water sector for high school students, establish industry training certifications, connect workers with employers through a job network, and serve as an online clearinghouse for resources.

To support this initiative or obtain further information, contact NRWA or visit www.nrwa.org.



SDARWS STAFF DIRECTORY



DENNIS DAVIS

Executive Director
dndavis@sdarws.com
605-201-0166



STEVE ATTEMA

East River Circuit Rider
sattema@sdarws.com
605-270-1766



JIM ZECK

Training Specialist
jzeck@sdarws.com
605-201-9568



JERRY HEMEIER

Wastewater Technician
dndavis@sdarws.com
605-201-0170



SID MUNSON

Training Specialist
sjmunson@sdarws.com
605-201-6026



JEREMIAH CORBIN

*Source Water
Protection Specialist*
jcorbin@sdarws.com
605-270-3894



MORRIS ELCOCK

East River Circuit Rider
morrisre@sdarws.com
605-201-9561



ROBYN BROTHERS

Office Manager
rbrothers@sdarws.com
605-556-7219



NICK JACKSON

West River Circuit Rider
njackson@sdarws.com
605-641-4557



JENNIFER BAME

*Communications &
Marketing Coordinator*
jbame@sdarws.com
605-556-7219



MIKE MOELLER

West River Circuit Rider
mmoeller@sdarws.com
605-270-4989

Visit us online
www.sdarws.com

ELEMENTS OF YOUR SUCCESS

Vision. Value. Passion. Integrity. Relationships. Attitude.

These elements make up the structure of AE2S. What does that mean to you? Extreme client service, trusted relationships, a shared vision for your future, and passion for every project. They all translate into your success.



Advanced Engineering and
Environmental Services, Inc. (AE2S)
Offices located throughout the
Upper Midwest and
Rocky Mountain Region

www.ae2s.com



WATER ENGINEERING
WASTEWATER ENGINEERING
WATER RESOURCES
CIVIL ENGINEERING
SURVEYING/MAPPING/GIS
FINANCIAL SERVICES
ASSET MANAGEMENT
INSTRUMENTATION & CONTROLS
ELECTRICAL ENGINEERING
STRUCTURAL ENGINEERING
OPERATIONS OPTIMIZATION

Chemicals, Equipment and Service for Safe, Clean Water

Delivering the quality and service you can trust and depend on.

Water Treatment & Equipment:

- Potable Water
- Wastewater
- Raw Water Clarification
- Swimming Pools
- Industrial Water
- Collection Systems
- Agricultural Water
- Heating & Cooling Systems



Serving Customers Since 1938

Serving customers in 23 states
1.800.328.5460
www.hawkinsinc.com

Black Hawk, SD
605.787.6881
Fargo, ND
701.293.9618

Sioux Falls, SD
605.368.5793
Washburn, ND
701.462.8588

RURAL WATER



Q: What is the approximate water flow through a service line?

A: On a ¾" service line under 40 psi that is 50 feet long 24 gallons per minute. On a 1" service line under 40 psi that is 50 feet long 44 gallons per minute.

Q: What exactly is the WaterPro Community?

A: The National Rural Water Association's WaterPro Community allows you to network with utility personnel, access training on new technology and regulations, discuss utility-specific topics with your peers and stay up to date with the water & wastewater industry. Once logged into the OLC, you will be able to access the collective knowledge and experience of thousands of water experts, and share valuable ideas and resources, including documents, images and links. You will also find networking opportunities as you connect with water professionals who work in every aspect of the water industry – from operations and management, to accounting, regulations, and public relations. Collectively, you will be able to expand your knowledge and expertise through the blogs, forums, and by reading through our training and research files.

The \$49 membership includes membership in the National Rural Water Association, discounts on NRWA and SDARWS events, a subscription to the Rural Water Magazine, and more. To learn more, visit: www.waterprocommunity.org.

Q: There have been a couple of trench collapses in South Dakota this year. What can we do to keep our workers safe?

A: There are different types of protective systems you can put into place. Sloping involves cutting back the trench wall at an angle inclined away from the excavation. Shoring requires installing aluminum hydraulic or other types of supports to prevent soil movement and cave-ins. Shielding

protects workers by using trench boxes or other types of supports to prevent soil cave-ins. Designing a protective system can be complex because you must consider many factors: soil classification, depth of cut, water content of soil, changes due to weather or climate, surcharge loads (eg., soil, other materials to be used in the trench) and other operations in the vicinity. To learn more about trench safety, see page 31, or visit OSHA's website at: www.osha.gov/SLTC/trenchingexcavation/.

Q: How can we as water utilities provide better customer service to our members?

A: Customer service is vitally important to utilities. First off, get to know your utility, and know how it operates. Familiarize yourself with its organizational structure, governance, objectives, business plan, and your annual report.

Secondly, know your product. Water quality is a major concern for users, and you can help ease their minds by being able to explain the source of your water, treatment processes, and test results.

Lastly, know your job. From the customer's perspective, you are more credible when you resolve problems accurately and promptly. Regardless of your job description, because you work with the public, you need to be an expert at your job. You should have sound knowledge of the following:

- City/town code
- Utility daily operating policies
- General operating practices
- New service requirements
- Termination and restoration policies
- Requirements for payment plan

Knowledge is power, and it can help your utility remain in good graces with the public. 💧

Source: Focus First on Service: The Voice and Face of Your Utility, published by the American Water Works Association.

SPN & ASSOCIATES

ENGINEERS SURVEYORS GIS SERVICES

Schmucker, Paul, Nohr and Associates

2100 N. Sanborn Blvd – PO Box 398
 Mitchell, SD 57301
 Phone (605) 996-7761
 FAX (605) 996-0015
 www.spn-assoc.com

Water • Wastewater • Storm Water • Streets
 Airports • Solid Waste • Animal Waste
 Land Surveying • Site Development
 Geographic Information Systems (GIS)



**ENGINEERING EXCELLENCE
 SINCE 1961**

NEW for 2016... *HK P.I.P.E.*
PIPELINE INSPECTION and PROACTIVE EVALUATION

**Visit hydro-klan.com
 to learn more about this
 innovative new service.**

The P.I.P.E. Program delivers 360° of protection by providing:

- ➔ A thorough evaluation of all inspected pipe.
- ➔ Visual inspection of all manholes on the project.
- ➔ Report of recommended corrections for failing manholes.
- ➔ Prioritized recommendations of pipe deficiencies.
- ➔ In-depth manhole inspections on failing manholes.
- ➔ Cost-saving pricing structures for multi-year contracts.



1.855.845.5326 | Des Moines | Mankato | Rogers | Sioux Falls | Watertown



ATC 2017

SOUTH DAKOTA RURAL WATER'S ANNUAL TECHNICAL CONFERENCE

Winter is upon us, which can only mean one thing – time to make plans to attend our 42nd Annual Technical Conference in January! The 2017 ATC will be our largest training event of the year for managers, operation specialists and board members. This year's conference takes place January 10-12 at the Best Western Ramkota Hotel and Conference Center in Pierre, SD.

Registration

Save some money and register early – our early bird registration ends December 16th. Registration is open to members and non-members. To register, please visit our ATC website at www.sdarws.com/atc.html.

Training Sessions

This year's agenda offers a wide range of water and wastewater topics designed to educate and inform attendees on such topics as Chemical Storage, Safety & Handling, to Smartphone Data Collection. Our featured speaker is Mark "The Spark" Johnson. You can read more about Mark on page 21.

Take a look at the pull-out agenda on pages 16-17 in this issue of *ServiceLine* and plan out the sessions you would like to attend.

Special Pre-Conference Session by ESRI

This year we are excited to announce a special pre-conference session from ESRI. By making your water systems smarter, you can understand buried assets better, optimize performance, and extend the life-span of your assets. This two-part class will focus on location-based applications and dashboards help strategies flow faster, and help you respond quickly to main breaks and leaks. As an added bonus, this session is included in our regular conference admission.

Spouse Program

We are encouraging everyone attending to bring along their spouse. This year we will be creating burlap wreaths, as well as enjoying a nice breakfast and a catered luncheon in the Ramkota courtyard. Spouse registration is only \$25 and also includes entry into our Exhibit Hall and our Awards Brunch.

Exhibit Hall

One of the favorite elements of the ATC is the Exhibit Hall where you can check out the latest and greatest products available in the water and wastewater industry. Be sure to plan some time to visit the booths located in the hallways during the conference as well as inside the Exhibit Hall on Wednesday evening.

Limited Booth Spaces Available

For Associate Members interested in exhibiting at the conference, the exhibit booths are reserved on a first-come, first served basis, and spaces fill up fast. We are offering two different types of booths this year – Full Conference Hallway, and Wednesday Night in the Exhibit Hall. Reserve your space online by visiting www.sdarws.com/atc.html.

Exhibitors: Sign up for a Sponsorship

This year we are offering sponsorship opportunities to our exhibitors who would like to make themselves stand out at the conference. Put your logo on the conference T-Shirt, advertise in our program booklet, put your logo on the hotel room key cards, or have your fliers put in our conference bags. Call 605-556-7219 and talk to Jennifer, or view the sponsorship opportunities available at www.sdarws.com/atc.html. More information is available on page 19. ♦

Pierre Ramkota Hotel & Convention Center
sdarws.com/atc.html

JANUARY 10-12

ATC 2017

SOUTH DAKOTA RURAL WATER'S ANNUAL TECHNICAL CONFERENCE

PREMIER ATC SPONSOR



SCHEDULE OF EVENTS

TUESDAY

JANUARY 10, 2017

TIME	LEWIS & CLARK	ROOM D-E	ROOM F	ROOM G	LAKE SHARPE B
8AM-4PM	CONFERENCE REGISTRATION – Registration Desk		EDUCATIONAL SESSIONS SPONSOR 		
8AM-4PM	WATER PAC RAFFLE – Lobby Area				
8:00 AM	REFRESHMENT TABLE – Lobby Area				
10:00 AM	<i>Mix or Not to Mix</i>	<i>Water Distribution</i>	<i>Water & Wastewater Solutions in Tongo, West Africa</i>	*SPECIAL SESSION* ESRI: GIS Tools for the Water Industry	Quality on Tap! Editorial Board Meeting (This meeting is open to Rural Water managers, board members and office staff)
11:00 AM	<i>Water Storage Solutions</i>	<i>Water Distribution</i>	<i>Blue Green Algae</i>		
NOON	LUNCH – On your own				

AMPHITHEATER II

OPENING SESSION: Keynote Address – Mark Johnson (1:00 PM - 2:30 PM)

KEYNOTE BREAKOUT – Mark Johnson (3:00 PM - 4:30 PM)

2:30 PM	BREAK TABLE – Sponsored by DGR – Lobby Area				L. FRANCIS CASE
3:00 PM	<i>Rural Development Funding</i>	<i>Chemical Storage, Safety and Handling</i>	<i>MONOFORM Manhole Rehab</i>	*SPECIAL SESSION* ESRI: GIS Tools for the Water Industry	<i>Importance of High Resolution Data/Analytics</i>
	4:00 PM	<i>RD Apply (3:45 PM)</i>	<i>Kamstrup Meters (3:45 PM)</i>		<i>Micro Filtration for Wastewater (3:45 PM)</i>

WWW.SDARWS.COM/ATC.HTML

WEDNESDAY

JANUARY 11, 2017

TIME	AMPHITHEATER I	AMPHITHEATER II	L. FRANCIS CASE A-B	LAKE SHARPE B
8AM-4PM	CONFERENCE REGISTRATION – Registration Desk			
8AM-4PM	WATER PAC RAFFLE – Lobby Area			
8:00 AM	<i>Class A&B Member Caucus</i>	<i>The Impacts of Record Drawings</i>	<i>Using GIS to Streamline Meter Replacement</i>	SIGN UP TO USE THIS ROOM FOR CLIENT MEETINGS 605-556-7219
8:30 AM	8:15 AM <i>42nd Annual Membership Meeting</i> (This is the Official Business Meeting of the SDARWS)	<i>The Emergency Within the Emergency (8:45 AM)</i>	<i>SDWARN Informational Meeting</i>	
9:00 AM		BREAK TABLE – Sponsored by HR Green – Lobby Area		
9:30 AM				
10:00 AM	<i>Rural Water Center Annual Meeting</i>	<i>Gaining on Your Water Loss</i>	<i>Advancements in GIS</i>	SIGN UP TO USE THIS ROOM FOR CLIENT MEETINGS 605-556-7219
10:30 AM		<i>Understanding Chlorination (10:45)</i>	<i>Smartphone Data Collection for Water Systems (10:45 AM)</i>	
11:00 AM				
11:30 PM	LUNCH – On your own			
1:00 PM	<i>Legislative Panel</i>	<i>After Flint: Managing Water Corrosivity and Stability</i>	<i>Drones in the Sky</i>	SIGN UP TO USE THIS ROOM FOR CLIENT MEETINGS 605-556-7219
1:30 PM		<i>Retirement Planning</i>	<i>Mixers and THM Removal (1:45 PM)</i>	
2:00 PM				
2:30 PM	BREAK TABLE – Lobby Area			
3:00 PM	<i>Legislative Preview</i>	<i>ServLine Water Loss Insurance</i>	<i>Alternative Wastewater Treatment</i>	SIGN UP TO USE THIS ROOM FOR CLIENT MEETINGS 605-556-7219
3:30 PM		<i>Healthy Benefits Insurance</i>	<i>Low Pressure Sewer Systems</i>	
4:00 PM	LEGISLATIVE RECEPTION AND TECHNOLOGY EXHIBITS – Grand Galleria			

2017 AWARDS BRUNCH

THURSDAY JANUARY 12, 2017

8:00 AM	REFRESHMENT TABLE – Rooms D&E
8:00 AM	LEGISLATIVE OPEN FORUM – Rooms D&E
9:30 AM	AWARDS BRUNCH – Rooms A-B-C

**EARLY BIRD DISCOUNT ENDS
DECEMBER 16!**

Register online at www.sdarws.com/ATC.html

SPONSORSHIPS AVAILABLE

There are a few sponsorships still available!
Call 605-556-7219 for the most current listing
or visit: www.sdarws.com/atc.html

Deadline to advertise in the program booklet
is December 5, 2015

SPOUSE PROGRAM

WEDNESDAY JANUARY 11, 2017

- 9:00 AM Continental Breakfast
- 10:00 AM Burlap Wreath Craft with Jennifer
- 11:30 AM Spouse Luncheon
- 1:30 PM Rural Water Taste Test Finals



SPECIAL FOR 2017 ESRI Pre-Conference Session on Tuesday

*This is a tentative Agenda.
Session topics and times are subject to change.*

ATTENDEE INFORMATION

EARLY BIRD REGISTRATION ENDS DECEMBER 16, 2016!

Member Full Registration

\$230 (Standard)

\$200 (WaterPro Discount Standard)

\$205 (Early Bird)

\$175 (WaterPro Discount + Early Bird)

Member Full + Spouse

\$270 (Standard)

\$240 (WaterPro Discount Standard)

\$230 (Early Bird)

\$200 (WaterPro Discount + Early Bird)

Member Tuesday Only

\$155 (Standard)

\$125 (WaterPro Discount Standard)

\$130 (Early Bird)

\$100 (WaterPro Discount + Early Bird)

Member Wednesday Only

\$205 (Standard)

\$175 (WaterPro Discount Standard)

\$180 (Early Bird)

\$150 (WaterPro Discount + Early Bird)

Member Brunch Only

\$35 (Standard)

\$25 (Early Bird)

WANT TO SAVE \$30 ON YOUR ATC REGISTRATION? BECOME A MEMBER OF THE WATERPRO ONLINE COMMUNITY!

The **WaterPro Online Community** offers significant networking and professional advancement opportunities for NRWA members. The WaterPro OLC will allow you to network with utility personnel, access training on new technology and regulations, discuss utility-specific topics with your peers, and even manage your membership online.

Subscription to the Rural Water magazine – our award-winning quarterly publication has articles, legislative updates, commentaries and other timely information on local, state, national and world events. Individual membership is only \$49!

**IN ADDITION TO \$30 OFF AT THE ATC, GET \$10 OFF AT THE
2017 WEST RIVER EXPO, AND \$10 OFF 2017 LEADERSHIP TRAINING.**

As a member of WaterPro, you also become an individual member of the National Rural Water Association (NRWA)

As a NRWA Individual Member, you will receive the following benefits designed to strengthen your network with utilities and professionals in the water and wastewater industry:

- Discounts on merchandise at the Rural Water Store at the WaterPro Conference and online (coming soon)
- Access to the latest information on technology, regulation and funding through Water University webinars
- NRWA Membership lapel pin, certificate and wallet card
- Support funding for water and wastewater utilities – NRWA is a leading advocate for infrastructure funding, resulting in billions of dollars of funding
- Timely information on the impact your support is having throughout the water industry
- Verizon Wireless – Access to top tier discounts
- LifeLock Identity Theft Protection – Receive 30 Days Free + 10% off for the lifetime of your membership.

To learn more, please visit www.waterprocommunity.org/r/us/

DOES YOUR
SYSTEM HAVE
THE BEST
DRINKING WATER
IN SOUTH
DAKOTA

*Bring a glass quart jar of your water to the
41st Annual Technical Conference in Pierre*

All entries must be submitted to the registration desk by 2:00 pm on January 10th in order to be entered into the contest. Entries must be submitted in a glass jar and should be kept cold.

The winner's name will be announced at the ATC Awards Banquet on Thursday, January 12, 2017. The winner will go on to represent South Dakota at the NRWA Great American Water Taste Test in Washington, DC on February 10th, 2017.

EXHIBITOR INFORMATION

SDARWS offers two types of exhibitor booth spaces: two types of booth registrations: Full Conference Hallway (Tuesday and Wednesday), and Exhibit Hall (Wednesday evening). Booth spaces are limited – so make sure to register soon to reserve your space! Additional exhibit personnel will need to register as an attendee. All booth spaces are 8-feet wide and contain electricity, a table, and two chairs.

You must be a paid-up member of South Dakota Rural Water to reserve a booth. All registrations will be reviewed.

Exhibit Hall* – \$350 (\$400 after 12.16.16)

- Exhibit in our Exhibit Hall/Legislative Reception on Wednesday evening from 4-8pm
- Booth registration includes full conference registration for 2 individuals

Setup: Wednesday, January 11th – 9:30am - 1:30pm
Exhibit: Wednesday, January 11th – 4:00pm - 8:00pm
Tear Down: Wednesday, January 11th – 8:15pm - 9:00pm

Full Conference Hallway – \$450 (\$500 after 12.16.16)

- Exhibit for the entire duration of the ATC (Tuesday, January 10th, and Wednesday, January 11th)
- Booth registration includes full conference registration for 2 individuals
- Booth will be assigned in the hallway area of the Convention Hall.

Setup: Tuesday, January 10th – 8:00am - 10:00am
Exhibit: Tuesday, January 10th – 10:00am - 5:00pm
 Wednesday, January 11th – 7:30am - 8:00pm
Tear Down: Wednesday, January 11th – 8:15pm - 9:00pm

Corporate Sponsors of South Dakota Rural Water have the option of an additional booth. Please call 605-556-7219 for the access code.

**DON'T FORGET TO REGISTER EARLY!
 EARLY BIRD REGISTRATION ENDS DEC. 16, 2016**

ATC SPONSORSHIPS AVAILABLE

Would you like to increase your visibility at this year's ATC? Consider one of our Sponsorships. We have several sponsorships available to fit any size budget – from advertising in our program booklet. See below what is available below, or for more information, email atc@sdarws.com, or call 605-556-7219.

EDUCATIONAL SESSIONS SPONSOR – \$2,500

Give your company more exposure by sponsoring our educational sessions. Benefits include:

- Recognition in conference displays and banners
- Logo displayed in session rooms
- Recognition in program booklets and classroom agendas
- One complimentary booth space in the exhibit hall and Full Conference Registration for two individuals
- Half-page color ad inside the program booklet

BREAK TABLE – \$1,000

Get your name out there - sponsor a break table! Benefits include:

- Electronic signage at break table
- Recognition in program booklet and agenda displays

HOTEL ROOM KEY SPONSOR – \$600

Includes your logo on the hotel room keys for both the Pierre Ramkota, and the Clubhouse Inn & Suites. SDARWS can design, or submit your own artwork. Artwork deadline for this sponsorship is December 9th.

CONFERENCE BAG INSERTS – \$100

Have your postcard, company brochure or flier inserted into each conference attendee's bag to be handed out at registration. Deadline to send inserts is December 11th.

BE A T-SHIRT SPONSOR!



For only \$150, your company's logo will be printed on the back of this year's ATC t-shirt will be handed out free to every conference attendee. Artwork deadline is December 1st. Reserve your spot by calling Jennifer at 605-556-7219 or email atc@sdarws.com.

SDARWS.COM/ATC.HTML

When It Comes To Waterworks, There Can Be A Lot of Pressure.



WATERWORKS



To succeed, you need a partner that makes your job easier. With Dakota Supply Group, you get more than just pipe and products:

▶ Contact us today to learn more about how we can help you.

DSG
DAKOTA SUPPLY GROUP
For all the right connections!

FARGO, ND ▶ [800] 342-4676
BISMARCK, ND ▶ [855] 337-9258
SIOUX FALLS, SD ▶ [800] 660-5531
RAPID CITY, SD ▶ [800] 660-5538
BURNSVILLE, MN ▶ [800] 325-0514

www.dakotasupplygroup.com



▶ 431 N. Phillips Avenue
Suite 400
Sioux Falls, SD 57104

▶ P 605.334.4499
F 605.338.6124

▶ HRGREEN.COM

LET'S TALK WATER

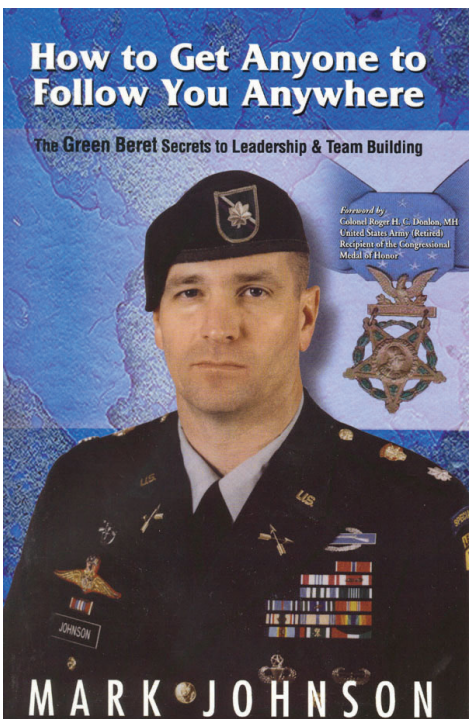
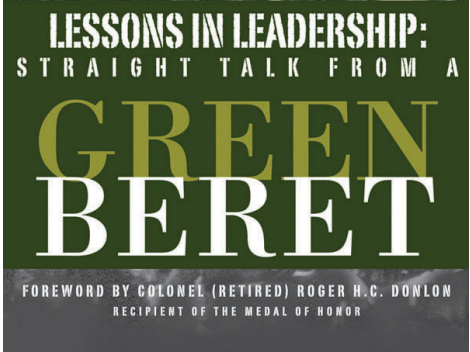
Providing the services water agencies need for more than a century.

TRANSPORTATION + WATER + GOVERNMENTAL SERVICES + ENERGY + LAND DEVELOPMENT



Mark the Spark

2017 ATC KEYNOTE SPEAKER



Mark Johnson travels the world providing inspiration and motivation to a wide variety of international audiences. He speaks with passion of overcoming adversity and survival. Mark provides insight and initiative through motivational speaking, as well as Leadership and Team Building Training. His clients range from large corporations to small businesses across the globe, as well as high schools and universities.

Mark spent twenty years as a Special Forces, Green Beret officer in over fifty nations on four continents, much of this time in combat, remote locations, and other sensitive operations. He was decorated with the Bronze Star for his extraordinary actions during the Gulf War. Mark retired at the rank of Lieutenant Colonel in October 2000.

He has devoted much of his life to education and teaching. Mark taught at the U.S. Army Command & General Staff College, Fort Leavenworth, KS for more than eight years and his last assignment in the Army was as Chairman and Professor of the Military Science Department at Pittsburg State University, in Pittsburg, Kansas. In his first year in this position, he recruited an unprecedented number of students to attend an introductory summer camp, more than doubling the existing national record! This serves as one small example of Mark's unique ability to excite, encourage and inspire people towards their individual goals. Click here for more information about Mark and the National Record.

Since the events of September 11th, 2001, Colonel Johnson has played an important role in the global war on terror. Mark has been called upon to assist our Special Operations forces, in the role of consultant, instructor, and

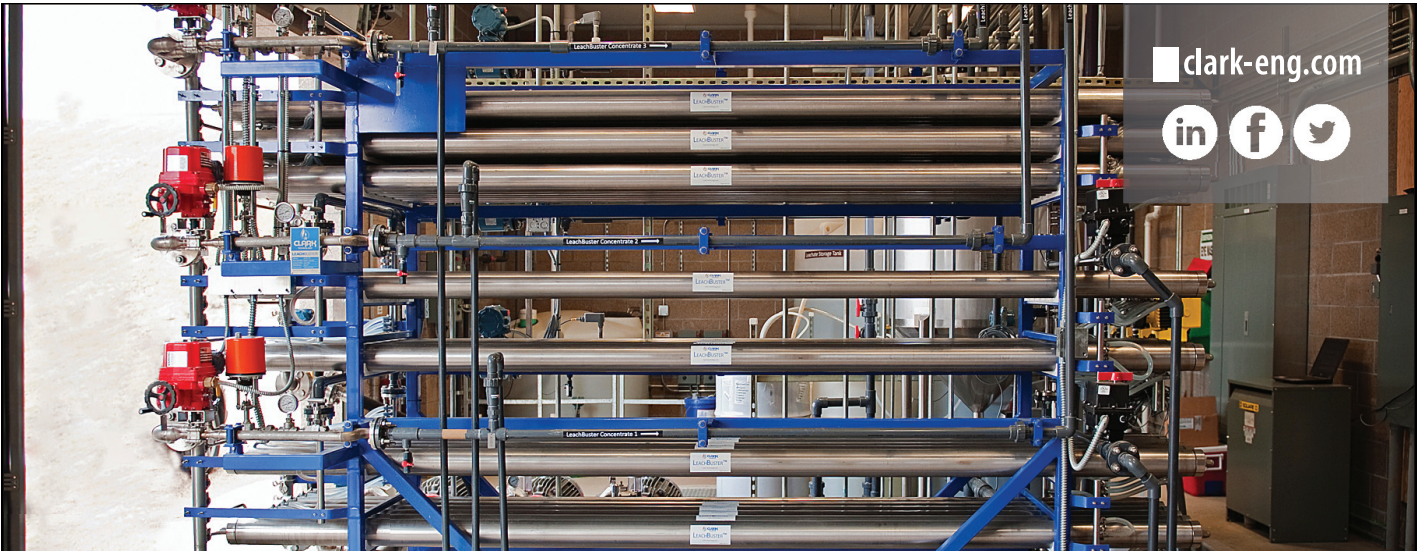
advisor, and has returned to the Middle East and Asia numerous times. Mark also continues to inspire audiences through his ongoing speaking engagements. In 2006, he spent four months in the Middle East training key allied battle staffs in leadership and command.

Mark is also the author of two books on leadership, team building, and motivation: "How To Get Anyone To Follow You Anywhere: Green Beret Secrets to Leadership and Team Building" and "Lessons in Leadership: Straight Talk from a Green Beret." In these books, Mark details a wide range of leadership and team building techniques, as well as specialized advice applicable to a variety of individuals and groups.

In addition to his speaking career, Mark is an adjunct faculty member at Longview College in Lee's Summit, MO, where he teaches multiple leadership classes each semester, as well as the Cavalier Leadership Development Program of Johnson County (KS) C.C. He is often called upon to teach and guest lecture at the University of Kansas and other universities. Click here for more information about Mark and his position at Longview College.

In addition to Mark's skill as a public speaker and successful leader, perhaps his greatest gift is his innate ability to lead, supervise, and inspire. He has done this throughout his life to include combat situations and times of extreme adversity. Mark is internationally regarded as a dynamic speaker who truly enjoys helping and coaching others. As a member of the National Speakers Association, Mark gives of himself on each and every speaking and training event. ♦

clark-eng.com



CLEANING WATER FOR TODAY, SUSTAINING WATER FOR TOMORROW.

Clark's LeachBuster® system is an innovative, state-of-the-art technology that can treat a wide range of waste streams without prefiltration or staging. Contact us for more information.



Civil Engineering | Land Surveying | Landscape Architecture | Road Sign Inventory
Municipal Development | Wetland Delineation | Resource Recovery & Renewable Energy

MAKE YOUR WATER TANK LAST...

LET MAGUIRE IRON HELP EXTEND THE LIFE SPAN OF YOUR TANK AND INFRASTRUCTURE.

- Maintenance Contracts
- Interior & Exterior Paint and Repair
- Tank Mixing Systems
- Chemical Cleaning
- Component Replacement

READY TO REPLACE? MAGUIRE IRON ALSO DESIGNS, FABRICATES AND ERECTS NEW TANKS.



McCroory, AR
Built 1936



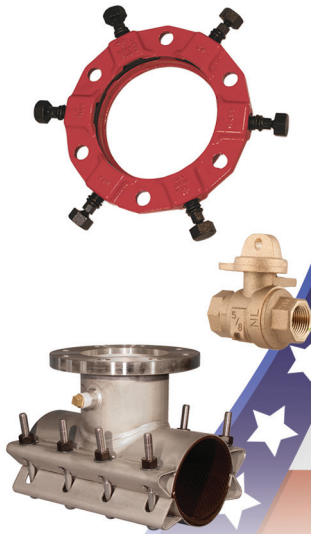
MAGUIREIRON.COM | 605 334-9749
WATER TOWER SPECIALISTS SINCE 1915

With proper maintenance, tanks can last as long as we have!



Made in the USA!

Look to Ford Meter Box for U.S. manufactured products



FORD www.fordmeterbox.com/usa
260-563-3171

Contact Ford Meter Box for AIS and Buy America compliant products



ELECTRIC PUMP

Proudly Serving the Municipal/Industrial Water and Wastewater Market in: Iowa, Illinois, Minnesota, Nebraska, North Dakota, South Dakota and Western Wisconsin

Des Moines, IA
515-265-2222 / 800-383-PUMP (7867)

New Prague, MN
952-758-6600 / 800-211-6432

Fargo, ND
701-235-7500

www.electricpump.com

Factory authorized shop and field service for all products offered



Process Equipment is offered by EPI Environmental.
Please see the website at www.epi-environmental.com

ServiceLine

South Dakota Association of Rural Water Systems

Reaching the Water and Wastewater Industry of South Dakota!

MAXIMIZE YOUR INVESTMENT

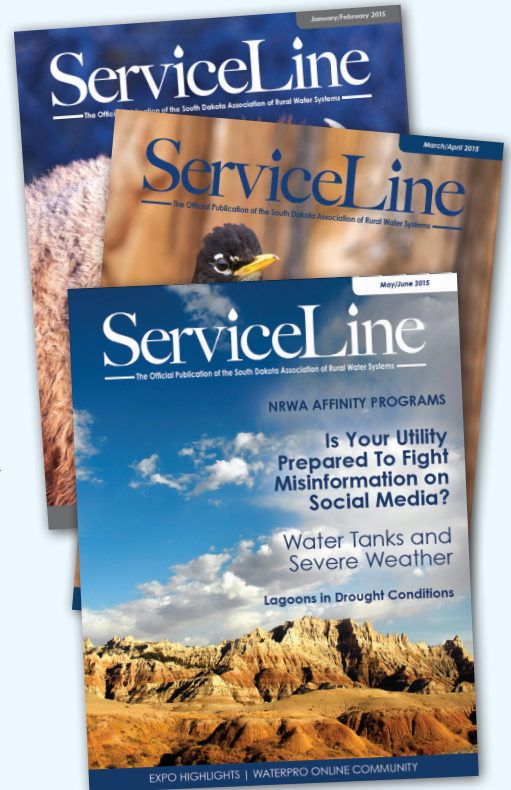
Advertising in *ServiceLine* allows you to showcase your products in print and online to a highly targeted audience.

TARGET AN INFLUENTIAL AUDIENCE

Our members are key decision makers who include operators, managers, board members, engineers, consultants and other professionals responsible for making purchasing decisions for their systems.

EXTEND YOUR EXPOSURE

ServiceLine Magazine reaches every major, mid-level and small water and wastewater system in South Dakota.



ADVERTISING INFO

SIZE	COLOR*	B&W*
Full Page	\$400	\$350
Half Page	\$275	\$250
1 Column	\$200	\$175
1/2 Column	\$150	\$125
2 Column x 2"	\$150	\$125

*Ad rates are per issue

- February 2017
– 12.16.16 deadline
- April 2017
– 2.17.17 deadline
- June 2017
– 4.21.17 deadline
- August 2017
– 6.16.17 deadline
- October 2017
– 8.18.17 deadline
- December 2017
– 10.20.17 deadline

If you are interested in advertising in *ServiceLine*, please contact Jennifer Bame by calling 605-556-7219, email: info@sdarws.com, or go online and visit: www.sdarws.com/ad-rates.html



PREPARE FOR WINTER

By Nick Jackson, SDARWS Circuit Rider

Winter in South Dakota can be a time of unsurpassed beauty. It can also be a time when winter storms and sub-zero temperatures pose a threat to disrupt our daily normal lives. In most cases, there is little we can do to “beat” our weather conditions. However, there is much that can be done to make it safer. A lot of us spend a vast amount of our time on the road in the course of our daily routine. So to those who fit this category, please be especially attentive.

Winter Weather and Storm Safety

Winter storms are considered deceptive killers, because most deaths are indirectly related to the storm. Winter deaths do happen. The leading causes of death during winter storms, is transportation accidents. People die in traffic accidents on icy roads. People die of hypothermia from prolonged exposure to cold. Everyone is potentially at risk during winter storms. The actual threat to you depends on your specific situation.

Preparing your vehicle for the winter season and knowing how to react if stranded or lost on the road are keys to safe winter driving. Nearly 25% of deaths occur because people are caught out in the storm. About 70% occur in a vehicle, and the majority is males. Following are some tips to follow both before and during a winter storm. This may save your life!

Your vehicles: Winterize your vehicle before the winter season begins. Preparing your vehicle now will help ensure your vehicle is in good working order when you need it most. For maintenance, check the battery, wipers, windshield washer fluid, anti freeze level, thermostat, lights, and fuses. Inspect the ignition system, heater, defroster, brake system, exhaust system and good tires for the season, and maybe throw in a set of tire chains. Make up a winter storm survival kit. Include blankets, extra clothes, first-aid kit, a flashlight with extra batteries, jumper cables, scraper, tow rope or chain, road maps and a compass, a sack of cat litter or sand, and most importantly high calorie, non-perishable food.

Drive defensively: When trying to stop on snow or ice, pump the brake unless it is equipped with ABS. Travel smart! Plan your trip, don't drive alone, but if you must, let someone know your travel plans, route and estimated arrival time. If you get tired or the storm intensity increases, seek shelter off the road. Do not leave your vehicle unless you see a building close by where you know you can take shelter. Disorientation occurs quickly with blowing snow and extreme cold. Run your vehicle about ten minutes each hour for heat. Keep a window cracked open to avoid carbon monoxide poisoning. Make sure that the exhaust pipe is not blocked. Tie a colored cloth to your antenna or door to attract attention. Exercise from time to time by vigorously moving arms, legs, fingers, and toes to keep blood circulating and to keep warm.

While driving: Remember to wear your seatbelt, it's the law, and it could save your life. A skid can quickly result in a complete loss of control of your vehicle, and even lead to a potential injury-causing crash. Greater following distances and slower speeds are vital during winter months. Accelerate slowly to avoid traction loss and the subsequent loss of control on ice and snow covered surfaces. Ice on the roads may not always be visible, but the smallest patch can lead to big problems. Should the vehicle begin to skid, you must resist the temptation to apply the brakes. Instead, take your foot off the gas pedal and steer the vehicle in the direction of the skid. If a road trip cannot be delayed or canceled, be sure to check on road conditions along the route of travel before departing.

Cold Hazards

Avoid overexertion, such as shoveling heavy snows, pushing a vehicle or walking in deep snow, the cold and the hard labor could cause a heart attack – a major cause of death in the winter. Sweating could lead to a chill and hypothermia. Watch for signs of frostbite and hypothermia.

Frostbite is damage to body tissue caused by that tissue being frozen. Warning signs include a loss of feeling and a white or pale appearance in extremities, such as fingers, toes, ear lobes or the tip of the nose. If symptoms are detected, slowly re-warm affected areas, and get medical help as soon as possible.

Hypothermia is a condition when your body temperature gets dangerously low. Some warning signs include: uncontrollable shivering, memory loss, disorientation, incoherence, slurred speech, drowsiness and apparent exhaustion. Immediately seek medical care! If medical is not available, begin warming the person slowly, warm the body core first. Do not warm the extremities (arms and legs) first! This drives the cold blood towards the heart and can lead to heart failure. If needed, use your own body heat to help. Get the person into dry clothing, and if possible, wrap them in a warm blanket covering the head and neck. Do not give the person any hot beverage or food.

Wind chill is based on the rate of heat loss from exposed skin caused by combined effects of wind and cold. As the wind increases, heat is carried away from the body at an accelerated rate, driving down the body temperature. Exposed flesh can freeze in just a few minutes when wind chills are below zero.

Dress appropriately for the weather, wear loose-fitting, light-weight, warm clothing in several layers. Trapped air insulates. Layers can be removed to avoid perspiration and subsequent chill. Outer garments should be tightly woven, water repellent, and hooded. Wear a hat – half of your body heat loss can be from the head. Cover your mouth to protect your lungs from extreme cold. Mittens, snug at the wrist, are better than gloves. Try to stay dry.

In closing – be prepared before the storm strikes! ♦

Winter Weather Terms

Some of the most commonly used winter terms are listed and explained below.

Outlook: Used to indicate a hazardous weather event could develop within the next 3-5 days.

Watch: Severe winter conditions, such as heavy snow and/or ice, are possible within the next 12-48 hours.

Warning/Advisory: Issued when a hazardous winter weather event is occurring, is imminent, or has a very high probability of occurrence.

Warnings: Used for events that could directly cause death, injury, or significant property damage. Seek refuge.

Advisories: Used for lesser events that while presenting an inconvenience, do not pose an immediate threat of death, injury, or significant property damage. (The greatest hazard is often to motorist.)

Statement: National Weather Service frequently issues updates to watches, warnings or advisories.

Flurries: light snow falling for short durations. No accumulation or light dusting is all that is expected.

Snow Showers: snow falling at varying intensities for brief periods of time. Some accumulation is possible.

Squalls: Brief, intense snow showers accompanied by strong, gusty winds, accumulation may be significant.

Blowing Snow: Wind driven snow that reduces visibility and causes significant drifting. Blowing snow may be snow that is falling and/or loose snow on the ground picked up by the wind.

Blizzard: Winds over 35 mph with snow and blowing snow reducing visibility to near zero.

Sleet: Rain drops that freeze into ice pellets before reaching the ground. Sleet usually bounces when hitting a surface and does not stick to objects. However, it can accumulate like snow and cause a hazard to motorists.

Freezing Rain: Rain that falls onto a surface with a temperature below freezing. This causes it to freeze to surfaces, such as trees, vehicles and roads, forming a coating or glaze of ice. Even small accumulations of ice can cause a significant hazard.

Bartlett & West

For over 60 years — engineering clean and safe water for our communities and for you.

&you

Water Engineering Services

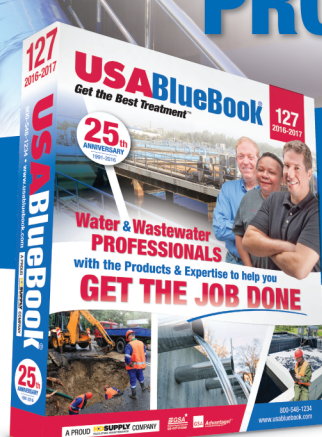
- Preliminary, feasibility, and design reports
- Water source, treatment, and distribution design
- Long-range strategic and financial planning
- Regulatory compliance—strategies and planning
- GIS, GPS, and specialized system modeling
- Permitting, land rights, and easement management

BARTLETT & WEST

5900 S WESTERN AVE, STE 101 ■ SIOUX FALLS SD ■ 605.274.7415 ■ BARTWEST.COM

1991-2016

25 Years Serving Water & Wastewater PROFESSIONALS



Your #1 Source for Operations & Maintenance Supplies

Over 64,000 Products • Personal Customer Service • Expert Technical Support
Nationwide Distribution Network • 100% Satisfaction Guarantee

Request your **FREE** catalog today!

800-548-1234 www.usabluebook.com

USA BlueBook[®]

A PROUD **HD SUPPLY** COMPANY
FACILITIES MAINTENANCE



METER PIT FULL OF DIRT



ALL CLEAN!



MAKING SLURRY



ALL CLEAN!



CLEAN METER PITS AND PRV VALVES WITH A HYDROVAC

By Mike Moeller, SDARWS Circuit Rider

Many rural water systems around the state use pull-up style water meters that are mounted inside of a PVC pipe and buried in the ground. These meter pits are very handy for the water system to install and also for the System Operation Specialists to perform work on or get a water reading since it's not necessary for the homeowner to be home to give the operator access to the meter.

One problem that has started occurring in some parts of the state is that dirt is entering into the pits and making it impossible to pull the meter up from the bottom of the pit. I have asked many people about what could be causing this phenomenon, and have heard several different theories; from moles digging under the pit and pushing the dirt up into it from the bottom, to some type of bug making its home in the pit and bringing the dirt in. I tend to agree with the mole theory rather than the bug theory after seeing the amount of dirt in some of the pits.

Now brings up the question, how do we get that dirt out? You could climb down in the pit and bucket it out, but that would only get the dirt from the top of the meter – and you would be there a long time with a very small shovel. South Dakota Association of Rural Water Systems may have the answer for you. It is call a HydroVac and it works very well for cleaning the dirt out of pretty much anything – including valve risers, curb stops, meter pits, and even bigger pits such as PRV pits. A HydroVac is basically a big vacuum cleaner with a pressure washer mounted on the frame with it. First you use the pressure washer to break up the dirt and make a slurry out of it. Then you use the vac portion of the machine to suck up the slurry (the more water you use to make the slurry, the easier it is to empty and clean out the holding tank when it is full).

Other uses for the HydroVac range from locating water mains by sucking the dirt slurry up and making a hole in the ground six inches in diameter straight down to the water main, to excavating soil beside a valve riser pipe or even a curb stop to enable you to move the riser and get it centered over the top of the valve again.

As you can see, our HydroVac is a very useful piece of equipment and can be used in many different ways. SDARWS is very fortunate to have this piece of equipment available to assist systems with any of the above issues. The equipment usage fee for the HydroVac is \$150; that includes five separate uses in one day, plus a \$25.00 fee for each additional use after the first five, with a cap of \$300.00 per day. One thing to always remember is that you are removing dirt from the ground and you may not know what is under you, so please call before you dig. If you are interesting in using our HydroVac, please give us a call at 605-556-7219 (East River), or 605-642-4031 (West River). ♣

USDA Programs Available to Support Community Infrastructure

USDA Rural Development South Dakota Acting State Director Bruce Jones has announced that funding is available to assist rural communities with their infrastructure needs.

Does your community need to buy, build, or improve a public-service project? We may be able to help. USDA Rural Development offers a number of programs providing long-term fixed rate financing for projects that improve infrastructure, support public health and safety, or promote economic development.

“Stable infrastructure and modern facilities play a key role in the economic vitality of rural communities – attracting new businesses, retaining population and providing opportunities for rural growth,” said Jones.

Community Programs offer direct loans, loan guarantees and grants to develop or improve essential public services and facilities in communities across rural America. These amenities help increase the competitiveness of rural communities in attracting and retaining businesses that provide employment and services for their residents.

For example, in 2015, Java Fire District purchased a fire truck with the assistance of a \$34,850 grant from USDA Rural Development’s Community Facility program. A new fire truck will ensure that the fire rescue team in Java has the resources and tools to continue to provide the residents with fast response times.

Water and Waste Disposal Loans & Grants are available that provide funding for clean and reliable drinking water systems, sanitary sewage disposal, sanitary solid waste disposal, and storm water drainage to households and businesses in eligible rural areas.

For example, in 2015, the City of Hosmer was able to rehabilitate the collection system, replace the lift station, remove the Imhoff tank, and reconstruct the lagoon thanks to a \$1,149,999 loan and a \$2,506,000 grant from USDA Rural Development’s Water and Waste Disposal program. The upgrades will ensure the Hosmer and surrounding areas have access to clean, safe, and reliable water resources.

For more information, contact the Rural Development office nearest you. You can locate an office by visiting www.rd.usda.gov/contact-us/state-offices/sd. Visit www.rd.usda.gov/programs-services for information on all Rural Development’s programs.

Since 2009, USDA Rural Development (@USDARD) has invested nearly \$13 billion to start or expand nearly 112,000 rural businesses; helped bring high-speed Internet access to nearly 6 million rural residents and businesses; helped 1.1 million rural residents buy homes; and funded nearly 9,200 community facilities such as schools, public safety and health care facilities. USDA also has invested \$31.3 billion in 963 electric projects that have financed more than 185,000 miles of transmission and distribution lines serving 4.6 million rural residents. For more information, visit www.usda.gov/results. ♦

MARK YOUR CALENDARS!

JANUARY 10-12
ATC
2017

SOUTH DAKOTA RURAL WATER'S
ANNUAL TECHNICAL CONFERENCE

Pierre Ramkota Hotel & Convention Center
sdarws.com/atc.html



*Bringing Quality Water
to Rural America!*

Water

- > *Supply*
- > *Treatment*
- > *Storage*
- > *Distribution*
- > *GIS*
- > *SCADA*

Wastewater

- > *Treatment*
- > *Collection*
- > *Lift Station*
- > *Sewer Rehab*

Rock Rapids, IA
712-472-2531

Sioux Falls, SD
605-339-4157

Sioux City, IA
712-266-1554

web: dgr.com email: dgr@dgr.com

Trusted. Professional. Solutions.



**Have a complex
water treatment project?**

We can help.

Treatment Resources' fifty years of combined experience in water treatment makes us uniquely qualified to meet your objectives. We represent the finest manufacturers in the industry and have worked with hundreds of municipalities and their consulting engineers to solve their water treatment problems. For more information visit us online or call us at (651) 702-2692.



QUICK & EASY FINANCING SOLUTIONS



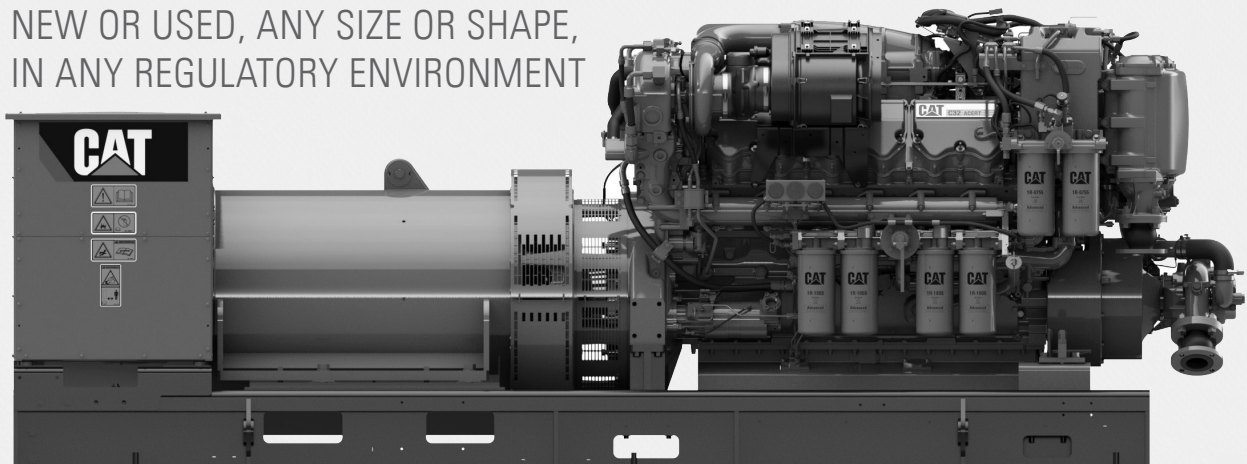
www.cobank.com/h2oloan

844-846-3135

Proud Member of the Farm Credit System 

WHEN YOU
NEED POWER WE
ARE
THERE FOR YOU.

NEW OR USED, ANY SIZE OR SHAPE,
IN ANY REGULATORY ENVIRONMENT



877.365.8114
BUTLERMACHINERY.COM

Butler 

TRENCHING AND EXCAVATION SAFETY

Two workers are killed every month in trench collapses. Employers must provide a workplace free of recognized hazards that may cause serious injury or death, and must comply with the trenching and excavation requirements of 29 CFR 1926.651 and 1926.652 or comparable OSHA-approved state plan requirements.

Dangers of Trenching and Excavation

Cave-ins pose the greatest risk and are much more likely than other excavation-related accidents to result in worker fatalities. Other potential hazards include falls, falling loads, hazardous atmospheres, and incidents involving mobile equipment. One cubic yard of soil can weigh as much as a car. An unprotected trench is an early grave. Do not enter an unprotected trench.

Trench Safety Measures

Trenches 5 feet (1.5 meters) deep or greater require a protective system unless the excavation is made entirely in stable rock. If less than 5 feet deep, a competent person may determine that a protective system is not required.

Trenches 20 feet (6.1 meters) deep or greater require that the protective system be designed by a registered professional engineer or be based on tabulated data prepared and/or approved by a registered professional engineer in accordance with 1926.652(b) and (c).

Competent Person

OSHA standards require that employers inspect trenches daily and as conditions change by a competent person before worker entry to ensure elimination of excavation hazards. A competent person is an individual who is capable of identifying existing and predictable hazards or working conditions that are hazardous, unsanitary, or dangerous to workers, soil types and protective systems required, and who is authorized to take prompt corrective measures to eliminate these hazards and conditions.

Access and Egress

OSHA standards require safe access and egress to all excavations, including ladders, steps, ramps, or other safe means of exit for employees working in trench excavations 4 feet (1.22 meters) or deeper. These devices must be located within 25 feet (7.6 meters) of all workers.

General Trenching and Excavation Rules

- Keep heavy equipment away from trench edges.
- Identify other sources that might affect trench stability.
- Keep excavated soil (spoils) and other materials at least 2 feet (0.6 meters) from trench edges.
- Know where underground utilities are located before digging.



- Test for atmospheric hazards such as low oxygen, hazardous fumes and toxic gases when > 4 feet deep.
- Inspect trenches at the start of each shift.
- Inspect trenches following a rainstorm or other water intrusion.
- Do not work under suspended or raised loads and materials.
- Inspect trenches after any occurrence that could have changed conditions in the trench.
- Ensure that personnel wear high visibility or other suitable clothing when exposed to vehicular traffic.

Protective Systems

There are different types of protective systems.

Benching means a method of protecting workers from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near-vertical surfaces between levels. Benching cannot be done in Type C soil.

Sloping involves cutting back the trench wall at an angle inclined away from the excavation.

Shoring requires installing aluminum hydraulic or other types of supports to prevent soil movement and cave-ins.

Shielding protects workers by using trench boxes or other types of supports to prevent soil cave-ins. Designing a protective system can be complex because you must consider many factors: soil classification, depth of cut, water content of soil, changes caused by weather or climate, surcharge loads (e.g., spoil, other materials to be used in the trench) and other operations in the vicinity.

Additional Information

Visit OSHA's Safety and Health Topics web page on trenching and excavation at www.osha.gov/SLTC/trenchingexcavation/index.html.

Source: www.osha.gov/dcsp/statestandard.html

**PITTSBURG
TANK & TOWER
MAINTENANCE CO., INC.**

SAVE!
We have a crew in
YOUR AREA!

Inspections	Repair	New & Used	Tanks
Wet	In Service Cleaning	Relocation	Elevated
Dry	Paint	Erection	Underground
ROV	Insulation	Dismantles	Ground

ROV inspections can be viewed on TV console
During inspection & DVD provided. All inspections
Include bound reports, recommendations, and cost estimates.

Patrick Heltsley (270) 826-9000 x 4601 270-748-1325	Don Johnston (270) 826-9000 x 1001 (270) 748-1343
--	--

www.watertank.com

MIDCONTINENT

TESTING LABORATORIES, INC.

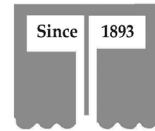
- *State-certified for DRINKING WATER and WASTEWATER testing*
- *Custom pre-printed sample forms save you time*
- *Setting the pace for analytical testing & customer service*
- *Our batch SOC testing can save you \$\$\$ in testing costs*
- *FAST SERVICE! Check your results online by logging on @ www.TheChemistryLab.com*



2381 S. Plaza Drive P.O. Box 3388 Rapid City, SD 57709
Phone 605-348-0111 • FAX 605-721-0265

THEIN WELL

Over 100 Years of Service



- Test/Production Wells
- Pump Sales/Service
- Well Rehabilitation
- Well Television
- Gamma/E-logging
- Well Abandonment
- Geo Probing
- Soil Borings
- Monitoring Well
- Remediation Wells
- Geothermal Systems
- Rock Coring



Certified Master
Groundwater Contractor

1-800-450-8000
www.theinwell.com



Commercial Insurance specializing in:
Agriculture | Construction | Healthcare | Hospitality
Manufacturing | Non-Profit | Retail/Wholesale | Rural Water

Personal Insurance specializing in:
Home | Car | Boat | RV | ATV | Umbrella

Life & Health Insurance specializing in:
Employee Benefits | Wellness | Consulting

300 N Cherapa Place 6th Floor
Sioux Falls, South Dakota
605 339-3874
www.howaltmcdowell.com

WORLD CLASS. LOCAL TOUCH.

Test Your Knowledge

Certification Practice Questions

1 Turbidity in wastewater is caused by

- a. color.
- b. dissolved calcium.
- c. hardness.
- d. finely divided suspended material.

2 The gas most commonly associated with septic wastewater is

- a. carbon dioxide.
- b. carbon monoxide.
- c. hydrogen sulfide.
- d. methane.

3 How many cubic feet per second in 10 MGD?

- a. 0.44
- b. 1.44
- c. 15.5
- d. 24.62

4 An upright circular cylinder tank (flat bottom) has a diameter of 12 feet. When filled to a depth of 8 feet, the volume is

- a. 226 cubic feet.
- b. 904 cubic feet.
- c. 3619 cubic feet.
- d. 5000 cubic feet.

5 Mechanical ventilation of a lift station is required to

- a. lower temperatures to reduce proportion of hydrogen sulfide.
- b. reduce chlorine demand.
- c. eliminate hazardous atmosphere & reduce corrosion.
- d. increase DO in raw wastewater.

6 A wet well probe is usually used for _____ determination(s) of level.

- a. approximate
- b. dual point
- c. occasional
- d. single point

7 A pump is delivering at less than the expected rate of discharge. Which of the causes listed below is incorrect?

- a. speed of motor too low.
- b. pump not primed.
- c. impeller clogged.
- d. discharge head too low.

8 Metal pipes often fail because of

- a. back siphonage.
- b. brownian motion.
- c. galvanic corrosion.
- d. reverse osmosis.

9 A centrifugal pump is pumping 200 gpm against a 40-foot total pumping head. The output of the pump is about _____ water horsepower.

- a. 0.5
- b. 2
- c. 15
- d. 121

10 When a fire hydrant is operated, it should be

- a. just opened enough to have a flow.
- b. opened fully.
- c. opened halfway.
- d. regulated to flow required.

Answer Key

1) D 2) C 3) C 4) B 5) C
6) D 7) D 8) C 9) B 10) B



HOW GET THE MOST OUT OF A CONFERENCE

DENNIS N. DAVIS, EXECUTIVE DIRECTOR

Much of the learning we do in rural water is through attending conferences. While some people dread spending X-number of days listening to speakers because their boss made them, or feel forced to attend because they drew the short end of the straw at the board meeting, there is no reason to keep this attitude. A conference is like a one-stop-shop for everything pertaining to your industry. Where else you can you attend educational sessions, network with other professionals, and meet with vendors who may have the perfect product to make your job easier? Plus, it's always nice to get out of the office for a few days – and hopefully you'll go back to work refreshed and motivated to do your job better!

Below are 10 ways to get the most out of attending a conference.

1. Read the agenda and plan out which sessions to attend in advance

You may not be able to attend a session in every time slot, so prioritize the ones you most want to attend. If you are attending with others from your system, split up for sessions. Splitting up will maximize how much you're able to learn and ensure that each of you has unique insights to take back to your system. Additionally, stay away from the sessions you could almost teach yourself, and try to attend sessions on topics you have not yet mastered.

2. Get a list of exhibitors

Read the exhibitors list ahead of time and make a list of people and companies you want to speak with. In a large exhibit hall, you may get overwhelmed and never make it to the people you most want to speak to.

3. Participate in the sessions you attend

Don't be shy about questioning the speakers about points you're especially interested in, or would like clarified. Speakers thrive on an engaged audience – there's nothing worse for a speaker than talking to a silent room. Don't forget to take notes – after attending hours of sessions a day, it is easy to forget what you've learned (those conference notepads that come in your attendee bag do come on handy!)

4. Bring business cards

While you may not use business cards in the rest of your work life, you may go through dozens at a conference when you're meeting new people. You'll probably also collect dozens too, so make sure to make a few notes on the back of each so you can remember who each person is when you get back to the office.

5. Put away your smartphone

You are at the conference to interact with people, and you don't want your electronic devices to become a barrier against

making new connections. Put your phone back in your pocket while you're waiting for a session to begin, or while taking a break in the hallway. You'll look more approachable without an electronic device in the way, and you can take the time to strike up a conversation with other attendees.

6. Network!

Get to know other people who have the same type of job as you. Chances are you'll be sitting by these people during the conference sessions. Take the time to interact with others and exchange information – this is a great way to develop contacts and learn how other systems operate. Much of the learning during conferences happens in the hallways between peers. The people you'll attend sessions with are as important as the sessions themselves.

7. Wear comfortable shoes

Chances are you are going to do a lot of standing around talking to people, and you might even end up standing in some sessions if they are packed. If the conference is in a large hotel or space, you'll do a lot of walking to get around.

8. Socialize

While it may be tempting to spend your evenings watching Pay-Per-View in your room, a lot of networking happens in the evening – often spontaneously. It is also beneficial to socialize with your co-workers who are attending with you. Building friendly relationships with those you work closely with helps foster team-building and can make your work life more manageable.

9. Follow-up

When you get back from the conference, follow up with the people you met. Email them to let them know you enjoyed meeting them, and perhaps reference something you talked about. Make sure to set up a phone call or face-to-face meeting with anyone you specifically want to do business or build a relationship with.

10. Share your knowledge

Hopefully you gained a lot of new information, inspiration, and contacts during your time at the conference. One of the best things you can do post-conference is to share those resources with your fellow co-workers and colleagues. Send out videos of the sessions you thought were valuable, give a talk about something you learned at your next staff meeting, and tell your boss about some of the contacts you made. Hopefully your colleagues will do the same the next time they attend a great conference. ♦

Billing & Accounting Software for Rural Water

- Customer & Employee Portals
- Business Intelligence Dashboards
- Complete Enterprise Integration
- Cloud Hosting Solutions

Check Out Our
Mobile App for
Your Customers



- Faster
- Tighter Integration
- New Look & Feel



Professional Computer Systems, Co.
888.843.3106 • www.pcsc.com

A SUPERIOR WEBSITE FOR YOUR TOWN OR WATER SYSTEM IS NOW EASY & AFFORDABLE!

Municipal Impact and Rural Water Impact provide beautiful, mobile-friendly websites for towns and Water Systems – all at a very affordable price. Kick back while we do all the work and setup, then make updates yourself anytime you want. Secure hosting and unlimited support are included, too. You'll never hire an expensive web designer again!



MunicipalImpact.com

Smart Websites for Smart Communities™



RuralWaterImpact.com

Smart Websites for Smart Water Systems™



“We’re the Website People!”

For pricing and information, visit us online at
www.municipalimpact.com or www.ruralwaterimpact.com
Or call us today at 1.800.551.4815.





South Dakota Rural Water
203 W. Center Street
P.O. Box 287
Madison, SD 57042

www.sdarws.com



TANKS, DOMES & COVERS

*built
and
maintained
with*

AMERICAN

*pride
since
1980.*



Engineering
America

www.engamerica.com