

**BROWN**

**DAY**

**MARSHALL**

**Rural Water System, Inc.**



# Quality On Tap!

January 2019 | Volume 14, Issue 3

## HOW MUCH WATER IS IN THE GROUND?

### A CALIFORNIA PERSPECTIVE:

### SOUTH DAKOTA RURAL WATER SYSTEM DEVELOPMENT

# FROM THE MANAGER

Rodney Kappes  
Manager, BDM Rural Water System, Inc.



## Greetings from the Team at BDM:

It appears we are closing out the Fall of 2018, which at times has been very challenging for all of you during this harvest season. The weather has also created challenges for BDM while we have completed some and are nearing completion on other projects. I will give updates on the projects I mentioned in the last Quality on Tap.

The first project consisted of replacing the 75HP motors and pumps at the treatment plant with 100 HP motors and upgraded pumps. This project is complete and working very well. The upgrades will allow us to move an additional 200-250 gallons per minute to the east side of our system. In a 12-hour period that would equate to an additional 144,000 gallons. This upgrade has also reduced the pressure spikes in that line and will ultimately reduce costs related to fixing line breaks.

The second project involves removing valves and piping in the system that are no longer necessary. These valves create restrictions that require additional electricity, to create additional pressure, to overcome. We have completed a few of these upgrades, but plan to complete considerably more this winter when demand is down, and BDM's desire is to reduce the impact to customers.

The third project is the SCADA (Supervisory Control and Data Acquisition) system replacement. SCADA is the control system that runs all the motor/pumps, pressures, flows, water levels and malfunction alert system. The current system is still functioning however it is considered obsolete, with replacement parts going to be phased out. The board has expressed a desire to replace this system later in 2019. The engineering assessment report is completed and the projected cost to replace the radio communication system (communication between all the reservoirs, the plant and the office) and the SCADA system is approximately \$625,000. These funds are in a capital reserve account, so no new borrowings will be required for this project.

The fourth project is replacement of some of the main meters at the plant and reservoirs. We've made limited progress on this project due to labor availability. We hope to complete more of this through the winter in conjunction with our piping

...continued on page 13



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Rural Water System, Inc.

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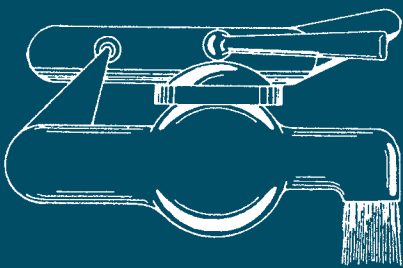
PO Box 49 | Britton, SD 57430

Phone: (605) 448-5417

Fax: (605) 448-2124


bdm@venturecomm.net

www.bdmruralwater.com



## Our Mission

is to ensure our members have quality water at a reasonable price for household, livestock and commercial use for generations to come.

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(1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: [program.intake@usda.gov](mailto:program.intake@usda.gov). This institution is an equal opportunity provider.

# BDM MEMBERSHIP CORNER

## *Holiday Closings*

The BDM Rural Water System offices will be closed on the following dates:

**TUESDAY, DECEMBER 25TH  
CHRISTMAS DAY**

**TUESDAY, JANUARY 1ST  
NEW YEAR'S DAY**

As always, if you have an emergency, please call the office at 605-448-5417 or toll free at 1-800-448-9236. You will then receive a message with the telephone number of the employee on call. Please call that person for assistance in an emergency only.

## BILLING PACKETS

Billing packets will be mailed in December to all customers not signed up for auto-pay. If you do not receive yours by the end of December, please call Shannon at 605-448-5417.

## IMPORTANT PAYMENT REMINDER:

When remitting your water bill payment, please be sure to include the payment stub with your check, even if you have a cellular-read meter. If you have a cellular meter, please leave the meter reading boxes blank; they will be filled in at the office. Payment stubs help ensure that payments are posted to the correct account. We appreciate your cooperation!

## BDM RURAL WATER SYSTEM, INC. RATE SCHEDULE (Effective July 2017)

### General User Rates:

Debt Service monthly payment: \$35.00 per hookup per month for member-read meters, \$36.00 for cellular meters

\$6.50 per thousand gallons for the first 2,000 gallons used per month

\$5.50 per thousand gallons for the next 5,000 gallons used per month

\$4.50 per thousand gallons for the next 8,000 gallons used per month

\$3.50 per thousand gallons for over 15,000 gallons used per month

\*\*\*Add \$1.00 to the Monthly Totals Below if Hookup has a Cellular Meter\*\*\*

<u>Gallons Used Per Month</u>	<u>Monthly Total</u>	<u>Gallons Used Per Month</u>	<u>Monthly Total</u>
1000	41.50	25000	146.50
2000	48.00	30000	164.00
3000	53.50	35000	181.50
4000	59.00	40000	199.00
5000	64.50	45000	216.50
6000	70.00	50000	234.00
7000	75.50	55000	251.50
8000	80.00	60000	269.00
9000	84.50	65000	286.50
10000	89.00	70000	304.00
11000	93.50	75000	321.50
12000	98.00	80000	339.00
13000	102.50	85000	356.50
14000	107.00	90000	374.00
15000	111.50	95000	391.50
16000	115.00	100000	409.00
17000	118.50	125000	496.50
18000	122.00	150000	584.00
19000	125.50	175000	671.50
20000	129.00	200000	759.00

### Lake User Rates:

Debt Service monthly payment...\$28.00 per hookup per month for member-read meters, \$29.00 for cellular meters

\$6.50 per thousand gallons of all water used per month.

### All Users:

No water is included in the debt service payment. All water used is in addition to the monthly debt service payment. Payments are due by the 10th of the month. A \$10.00 fee applies to all payments received after that date. Service is subject to disconnection if payment is not received by the 15th.

### AFTER HOURS & WEEKENDS WATER EMERGENCIES:

Please call the BDM Office at 605-448-5417 or 1-800-448-9236 & a message will direct you to the employee on call.



# OUT AND ABOUT

## JANUARY

### **1 – WINTER WOODS WALK – NEWTON HILLS STATE PARK, CANTON**

Ring in the new year with a walk through Newton Hills. Enjoy the quiet nature that winter offers, and enjoy the walk. Meet at Shelters 3 & 4 located on SGT Creek road. Walk takes place from 2:00pm - 3:30pm. Park License is required. <https://gfp.sd.gov/events/detail/541/>

### **3-5 – DAKOTA FARM SHOW – DAKOTA DOME, VERMILLION**

For 35 years, the Dakota Farm Show has kicked off the new year by showcasing over 280 exhibitors representing over 1000 agricultural products and services, all inside the temperature-controlled USD DakotaDome. Join over 25,000 agricultural producers from South Dakota, Nebraska, Iowa, and Minnesota to review the latest farm technology focused on improving yields, reducing costs, and managing risk. <https://dakotafarmshow.com>

### **18-19 – MEDIAONE FUNSKI, SIOUX FALLS**

This annual event features skiing, snowboarding, team tubing, Frozen Leg kickball, a snow sculpture contest, Zipfy sled racing, and cross country skiing as well as live music. Most events have beginner, intermediate, and advanced categories. Funkski has become the premier outdoor winter event in eastern South Dakota and has raised nearly \$1 million for Children's Inn. Join in the fun at Great Bear Ski Valley in Sioux Falls starting at 5 p.m. on Friday and 8:15 a.m. on Saturday. Free to attend. Participants can still register and pay for events at Great Bear up to 30 minutes before each event's start time. [www.funkski.org/](http://www.funkski.org/)

### **19 – LAKOTA GAMES ON ICE – PREHISTORIC INDIAN VILLAGE, MITCHELL**

Join Sicangu Rosebud Tribe Member Mike Marshall for an afternoon of great family fun! Mike will teach us all how to play the ancient games his ancestors played during the winter months. This annual event is great for children of all ages. The museum and gift shop will be open during the games. After the games, come into the warm museum for some hot chocolate or coffee and cookies! This event is free, donations are welcome! The Games will begin at 1:00, arrive early! [www.facebook.com/mitchellprehistoricindianvillage](http://www.facebook.com/mitchellprehistoricindianvillage)

### **25 - FEBRUARY 3 – ANNUAL BLACK HILLS STOCK SHOW & RODEO, RAPID CITY**

The Black Hills Stock Show & Rodeo in Rapid City features events, rodeos and vendors. The region's largest trade show, livestock sales and competitions and is one of the top 5 indoor PRCA rodeos in the country. There are 10 different breeds of cattle sales, a two-day horse sale, and seminars for livestock producers, horse enthusiasts and the general public. Events are held at the Central States Fairgrounds and at the Rushmore Plaza Civic Center (444 Mt. Rushmore Road). Admission. [www.blackhillsstockshow.com](http://www.blackhillsstockshow.com)

## FEBRUARY

### **23-24 – 47TH ANNUAL FARM, HOME, & SPORT SHOW, PIERRE RAMKOTA**

Central South Dakota's Largest Display Show will be at the Ramkota in Pierre. For more information visit our website [www.todayskccr.com](http://www.todayskccr.com).

### **21-23 – SIOUX FALLS SNO JAM COMEDY FESTIVAL**

What better way to celebrate winter time in South Dakota than by staying inside to watch comedy? There is no other comedy festival like this. Thirty comedians from around the country will perform in various venues across Sioux Falls. Over the course of three days, they will perform in standup and themed showcases, testing both their comedy wits and their endurance to the cold. Net proceeds benefit the Special Olympics of South Dakota. [www.siouxfallssnojамcomedyfest.com](http://www.siouxfallssnojамcomedyfest.com)

## MARCH

### **1-2 – MARDI GRAS WEEKEND, DEADWOOD**

It is the best party north of the Bayou! Celebrate Mardi Gras in the Wild West, with a weekend full of free parades, costume contests, parties and live music. Make your plans now - you don't want to miss this cabin-fever-busting event in Historic Deadwood. The fun starts at 8 p.m. on Friday and lasts until 10 p.m. on Saturday. [www.deadwood.com/event/mardi-gras/](http://www.deadwood.com/event/mardi-gras/)


### **9-12 – SUMMIT LEAGUE BASKETBALL CHAMPIONSHIP, SIOUX FALLS**

The 2019 Summit League Basketball Championships, men's and women's, return to the Denny Sanford PREMIER Center in Sioux Falls, March 9-12. Enjoy four days of Division I college basketball action by teams from South Dakota, North Dakota, Colorado, Nebraska, Oklahoma, Indiana and Illinois. Admission fees. <http://www.dennysanfordpremiercenter.com/events-tickets/calendar-of-events/2019-summit-league/>

### **29-30 – SCHMECKFEST, FREEMAN**

Schmeckfest is an annual festival in the southeastern South Dakota town of Freeman. The gathering uses food, art and a celebration of community to honor the history of Germans that emigrated from Russia. Held on the campus of the Freeman Academy, it's been a fundraiser for the school every spring since 1959. The ethnic German meal, served family-style, and the community musical take place two weekends in March/April. The 2019 dates of the 61st Annual Schmeckfest are March 29-30 and April 5-6. [www.schmeckfest.com](http://www.schmeckfest.com)

*If you would like your event featured in the April 2019 issue of Quality on Tap!, please email your event description to: [info@sdarws.com](mailto:info@sdarws.com). April's issue will cover events taking place April - June 2019. Event listings are subject to approval by the QOT Editorial Board.*



# A CALIFORNIA PERSPECTIVE: SOUTH DAKOTA RURAL WATER SYSTEM DEVELOPMENT

*by Andy Christensen,  
former Manager of the Clark Rural Water System*

**S**outh Dakota rural water systems have a lot to be proud of in all of their accomplishments. These systems, members of the South Dakota Association of Rural Water Systems, virtually blanket the entire state. Our family owns farmland in Beadle County served by the Mid-Dakota Rural Water System providing an assured high-quality domestic drinking water. I can remember as a farm kid growing up in the 1950's of having to carry water in a pail from a windmill for drinking, washing and bathing purposes. So glad those days are gone and that the Mid-Dakota RWS now serves us.

My background in South Dakota water started as the Domestic Water Coordinator for the WEB Pipeline Corporation helping to organize six steering committees that morphed into the large system it is today. From 1982 to 1989, I served as the Manager for the Clark Rural Water System in a seemingly unending succession of construction projects. Today, Clark has more than doubled its size and population served under subsequent Managers each contributing to Clark's success. After living in California, I appreciate more how SD rural water employees rise to the occasion in building these systems and providing high-quality service.

I am the manager for the Woodbridge Irrigation District that provides a much different service to 13,000 acres (40,000-acre area) and bulk service to the Cities of Lodi and Stockton totaling 400,000 people. The District's Mokelumne River water supply comes from snowmelt water originating in the Sierra Mountains

100 miles to the east. The water is diverted by a new dam, 414 cubic feet/ second (cfs) diversion and fish screen structure and 100-mile system of pipelines and canals providing irrigation water to farmers but bulk untreated drinking water to our customers including Lodi and Stockton's water treatment plants.

California has been plagued with droughts, fires, and floods, but the biggest disaster has been the excessive regulation, taxation, and fees charged by the State Government in Sacramento (referred to as regulatory droughts). Since our legislature meets year around, the number of regulations and fees on water, licenses, and permits has seemingly unending new regulations and intrusive control of water districts (mostly deleterious) adding to cost of water services. California depends on both surface water and groundwater which is in a state of overdraft. California droughts are caused by lack of rainfall also by almost no new construction of new reservoirs to serve a population that has doubled to 40 million people in the last 30 years. California plans to help meet its future water demands with mandatory conservation, reduction, and rationing.

South Dakota, not California, is ahead of the curve in meeting the water needs of its cities and rural population without unnecessary, burdensome regulation. I am happy the "can do" spirit is alive and well in South Dakota ensuring that every South Dakota citizen has reliable and safe drinking water brought to them by South Dakota's numerous rural water systems. South Dakota is a leader in developing its groundwater and surface water resources for domestic use. California can learn a lot from the successes of South Dakota Rural Water Systems.



# BACKGROUND ON DRINKING WATER STANDARDS IN THE SAFE DRINKING WATER ACT

## SUMMARY OF SDWA RELATED TO CONTAMINANTS:

■ **Congress enacted the Safe Drinking Water Act (SDWA) in 1974 and amended and reauthorized it in 1986 and 1996.**

- *Main federal law that ensures the quality of Americans' drinking water*
- *Authorizes EPA to set national standards for drinking water to protect against health effects from exposure to naturally-occurring and man-made contaminants*

■ **Drinking water standards only apply to public water systems (not individual private wells).**

■ **EPA works with states, localities, and water suppliers who carry out these standards.**

## DRINKING WATER STANDARDS APPLY TO PUBLIC WATER SYSTEMS:

■ **Public water systems are those having at least 15 service connections or serve at least 25 people for at least 60 days a year.**

■ **Over 150,000 public water systems across the U.S. serve more than 300 million people.**

■ **Approximately 646 public water systems exist in South Dakota.**

## THREE TYPES OF PUBLIC WATER SYSTEMS:

■ **Community Water Systems (CWSs)**

- *Provide water to the same population year-round (for example: homes, apartment buildings)*
- *Approximately 52,000 systems serving the majority of the U.S. population*
- *There are 463 Community Water Systems in South Dakota*

■ **Non-Transient Non-Community Water Systems (NTNCWSs)**

- *Provide water to same people at least six months a year, but not all year (for example: schools, factories, churches, office buildings that have their own water system)*
- *Approximately 85,000 systems nationwide, 20 in South Dakota*

## ■ Transient Non-Community Water System (TNCWS)

- Provide water where people do not remain for long periods of time (for example: gas stations, campgrounds)
- *Approximately 18,000 systems nationwide, 163 in South Dakota*

Drinking water standards may apply differently based on type and size of public water systems.

## WHAT ARE DRINKING WATER STANDARDS?

Drinking water standards are regulations that EPA sets to control the level of contaminants in the nation's drinking water. The regulations also require water monitoring schedules and methods to measure contaminants in water.

### THE STANDARDS ARE PART OF SDWA'S "MULTIPLE BARRIER" APPROACH TO DRINKING WATER PROTECTION, WHICH INCLUDES:

- Assessing and protecting drinking water sources
- Protecting wells and collection systems
- Making sure water is treated by qualified operators
- Ensuring the integrity of distribution systems (for example, minimizing leaks, maintaining adequate water pressure)
- Making information available to the public on the quality of their drinking water

### THERE ARE TWO CATEGORIES OF DRINKING WATER STANDARDS:

#### ■ National primary drinking water regulations (NPDWR or primary standard):

- Legally-enforceable standards that apply to public water systems
- Protect drinking water quality by limiting the levels of specific contaminants that can adversely affect public health and are known or anticipated to occur in water from public water systems
- Take the form of maximum contaminant level or treatment technique rules

#### ■ National secondary drinking water regulations (NSDWR or secondary standard):

- Non-enforceable guidelines for contaminants that may cause:
- cosmetic effects (such as skin or tooth discoloration)
- aesthetic effects (such as taste, odor, or color) in drinking water

The EPA recommends secondary standards to water systems but does not require systems to comply (except for the public notice required for exceedance of the fluoride secondary standard). However, states may choose to adopt them as enforceable standards.

## SDWA PROCESSES INVOLVING DRINKING WATER CONTAMINANTS:

**Contaminant Candidate List (CCL)** — Requires EPA to develop a list of unregulated contaminants that are known or may occur in drinking water. This list is published every five years

**Regulatory Determination for CCL** — Requires EPA to decide whether to regulate at least five CCL contaminants with a drinking water standard every five years Specifies three criteria (adverse health effects, occurrence in public water systems, meaningful opportunity for health risk reduction)

**Unregulated Contaminant Monitoring** — Requires EPA to establish criteria for a program to monitor at least 30 unregulated contaminants every five years

**Regulation Development** — If EPA decides to regulate a contaminant via the regulatory determination process, the Agency has 24 months from the time of the determination to propose a regulation and 18 months from the proposal to finalize the regulation. The SDWA requires evaluation of a number of factors in the standard setting process.

**Six Year Review** — The EPA is required to review each standard every six years and, if appropriate, revise the standard. Any revision must maintain or improve public health protection. If a regulation is revised, EPA goes through the standard setting process again and evaluates a number of factors.

**National Contaminant Occurrence Database (NCOD)** — Requires the EPA to assemble and maintain a national drinking water contaminant occurrence database using information for both regulated and unregulated contaminants in public water systems.

## HOW DOES EPA DECIDE WHICH CONTAMINANTS TO REGULATE?

The EPA has drinking water regulations for more than 90 contaminants. The Safe Drinking Water Act (SDWA) includes a process that EPA must follow to identify and list unregulated contaminants. This process may lead to development of a national primary drinking water regulation (NPDWR) in the future.

The EPA must periodically publish this list of contaminants (called the Contaminant Candidate List or CCL) and decide whether to regulate at least five or more contaminants on the list (called regulatory determination). A regulatory determination is a formal decision on whether EPA should initiate a rulemaking process to develop an NPDWR for a specific contaminant.

The EPA also uses the CCL to prioritize research and data collection efforts to help the Agency determine whether it should regulate a specific contaminant.

*Information in this article provided by the EPA. For more information, please visit [www.epa.gov/dwstandardsregulations/background-drinking-water-standards-safe-drinking-water-act-sdwa](http://www.epa.gov/dwstandardsregulations/background-drinking-water-standards-safe-drinking-water-act-sdwa)*

# HOW MUCH WATER IS IN THE GROUND?

South Dakota's lakes, rivers and streams are the most visible examples of our important water resources. Promotional efforts at the state and local level often like to focus on people enjoying recreational activities at a lake, boating and fishing along the Missouri river, or the scenic beauty of water falls, be they on the Big Sioux River or Spearfish Creek. However, the day-to-day water needs of most South Dakotans are met with water drawn from below the land surface. These under ground sources, called aquifers, provide needed water to public water supplies and private homes, ranches and farms all across the state.

Given the importance of these resources, keeping track of the amount of water in these aquifers is of critical importance. While it is easy enough to look at a river, lake or reservoir and tell whether it is full or empty, ground water by its very nature is hidden from view. The first indication that such a buried resource is in trouble might be when the well goes dry, at which point alternatives are going to be limited.

To keep track of South Dakota's under ground water resources, the Water Rights Program within the South Dakota Department of Environment and Natural Resources (SD DENR) maintains a network of roughly 1,600 observation wells across the state. They are divided among 105 different individual aquifers, or sub-units of larger systems, like the Big Sioux aquifer. Water level measurements are collected by Water Rights staff on a regular basis, with 12,000-15,000 manual water level readings gathered per year. However, in certain situations, more detailed information is needed, and about 40 wells are equipped with continuous recorders to collect more frequent measurements.

The network was established in 1957 under the direction of the Water Resources Commission. The first wells were drilled under contract with Grimshaw Drilling (James and Lewis Hutmacher were the drillers based in Oacoma and Sioux Falls). However, the oldest observation wells in the current network were constructed in 1953 by US Bureau of Reclamation and added to the observation well network in 1970's. Not surprisingly, a majority of the observation wells (936 wells) were added between 1976-1981, following a period of severe drought. In many instances, wells installed by other state entities, like the South Dakota Geological Survey, are incorporated into the network. Otherwise, private well drillers are hired to install new, or replace old, wells in the network.

The well network is used for a variety of purposes. First and foremost, it helps determine whether or not there is water available for additional users. South Dakota water law grants seniority to the first/oldest users of a particular water resource ('first in time/first in right'). Subsequent (junior) potential users have access only so long as their withdrawals do not adversely impact more senior users. The well network helps the Water Rights Program determine if there is water available for 'new' users.

State law also prohibits, in most cases, the mining of ground



water. This means that water cannot be withdrawn from an aquifer at a rate greater than it is recharged. The well network helps in determining how a given aquifer responds to existing pumping, and whether there is available water for other users.

**In addition to help determine general water availability, the network is also used to:**

- resolve well interference complaints or concerns;
- monitor long-term water level trends;
- determine the configuration of the potentiometric surface (water table) for the aquifer, and in turn determine overall flow directions;
- differentiate management units within larger aquifers; and
- provide input and calibration for models of ground water flow.

Is there a Water Rights network well near you? Information on the location of network wells can be found on the SD DENR website at: <http://apps.sd.gov/nr69obswell/default.aspx>. The link takes you to an interactive map, and you can zoom in on any part of the state to find the location of wells in your area of interest. Clicking on a particular well site will bring up information on the well location, elevation, depth and the aquifer being monitored. You can also pull up a detail drillers log, and a plot of water levels over the period of record.

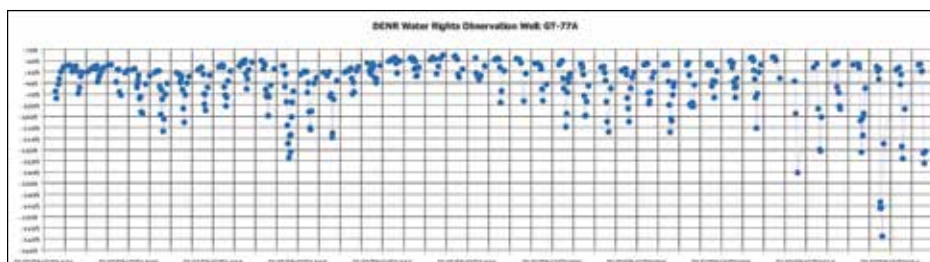
Two examples of the water level plots are shown. MA-57H is a well in the shallow Sioux Falls management unit of the Big Sioux aquifer shallow. Water levels in this well have been fairly stable over the life of the well, ranging from between seven and 15 feet below the casing top. Contrast that with the variability shown in well GT-77A. Located in the Prairie Coteau aquifer about 20 miles north of Watertown, water levels here rise and fall sharply in response to irrigation needs. Fortunately, once the pumps are turned off, water levels rise back up to ‘normal’ pretty quickly.

**Water Rights well trivia:**

Deepest well (JA-96A) - 2,239 feet total depth (TD) finished in the Dakota aquifer in northeastern Jackson County.

Shallowest well (FR-98A) - 12 feet total depth (TD) in alluvium along the Cheyenne River in northeastern Fall River County.

Greatest depth to water (LA-96B) - 900 feet below casing top in a Madison aquifer well near Spearfish in Lawrence County. By contrast, the pressure in a capped flowing well (ED-85B) in the Inyan Kara aquifer near lake Richmond in Edmunds County suggests that the water level would rise to 300 feet above the land surface.



## WEST RIVER/LYMAN-JONES RWS

The concept of a rural community water system began as far back as the 1950s. A volunteer group was formed to take on the project, but the group had a difficult time obtaining funding. These dedicated people used their own money and resources to create an interest in their areas.

In the 1970s a project was being proposed by a group called Energy Transportation System, Inc. or the ETSI pipeline project. This was a pipeline project proposed to deliver large volumes of water through a huge pipe from the Missouri River to the coal fields of Wyoming. The purpose was to pulverize the coal, mix it with water, and send this slurry through a pipe to the power plants in the south and into the Gulf. The coal would then be dried and burned in the power plants.

The people of Lyman and Jones Counties decided to pledge their support along with the West River Water Development District; because they had been assured that if this project became a reality they would be able to draw water from this large pipeline for rural and municipal use. In time, this project was rejected and was unable to proceed. Shortly thereafter, the West River Water Development District decided to join in with Lyman and Jones Counties and work together in promoting a water project that would serve both areas.

Work began immediately signing members up and lobbying for

seed money through the South Dakota Department of Water and Natural Resources so preliminary engineering and lobbying efforts could begin.

In August of 1986, a Senate sub-committee field hearing was held in Kadoka. About 450 people filled the auditorium, and it was at this meeting that three members of the Oglala Sioux Tribe addressed the meeting and indicated that they were interested in joining the project, which would eventually be called the Mni Wiconi Water Supply project, and included construction of the West River/Lyman-Jones Rural Water Systems.

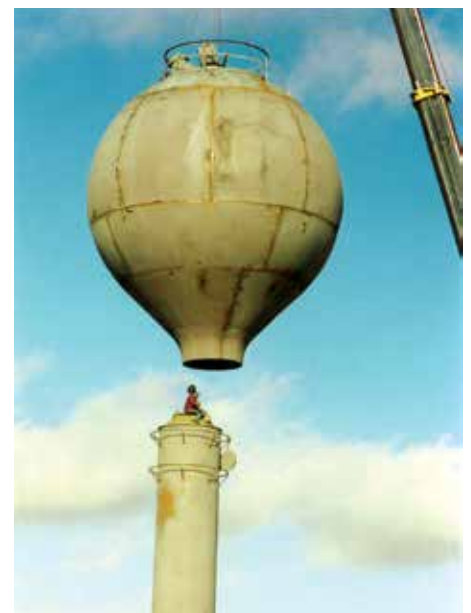
A great deal of time and effort was put in by all entities involved in the process. Much of western South Dakota has been connected to rural water through the Mni Wiconi Project, which was authorized by President Ronald Reagan in October 1988.

Lyman-Jones and West River continued to work together and eventually limited each of their organizations to 5 directors. The first membership meeting was held in January 1991. In May 1994, the West River and the Lyman-Jones water systems merged into one system and was named West River/Lyman-Jones Rural Water Systems.

The Mni Wiconi systems are still in the process of completing construction. West River/Lyman-Jones Rural Water is approximately 95% complete to date.



*WRLJ Headquarters in Murdo, SD*



*Construction of Vivian water tower*

## DIRECTORS:

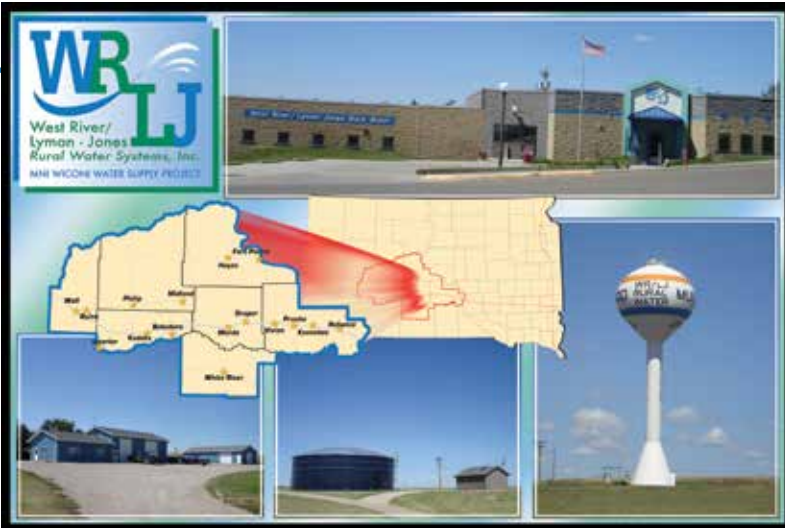
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Veryl Prokop, Kadoka  
Casey Krogman, White River  
Brad Smith, Vivian  
Dean Nelson, Murdo  
Quint Garnos, Presho  
Marion Matt, Philip – Liaison for West River Water Development District

## STAFF:

Jake Fitzgerald, Manager  
Amy Kittelson, Office Manager  
Kati Venard, Billing Secretary  
Brandon Kinsley, O & M Foreman - Murdo  
Ed Venard, O & M - Murdo  
Steve Baker, O & M - Murdo  
Brian Flynn, O & M - Murdo  
Mike Vetter, O & M Foreman - Philip  
Eddie Dartt, O & M - Philip  
John Kramer, O & M - Philip  
Nick Konst, O & M - Philip

## STATISTICS:

Hookups: 3,315  
Miles of Pipeline: 3,450  
Water Source: Missouri River via Mni Wiconi Water Treatment Plant, three West River/Lyman-Jones wells  
Counties Served: Haakon, Jones, Lyman, Mellette, Stanley, and portions of Jackson and Pennington  
Towns Served Individual: Draper, Reliance, Interior, Quinn, Vivian, Belvidere  
Towns Served Bulk: Philip, Murdo, White River, Presho, Kennebec, Wall, Midland, Kadoka, Fort Pierre



*Director Joe Hieb, center, testifies on behalf of the project during the Senate field hearing in Kadoka in August 1986*

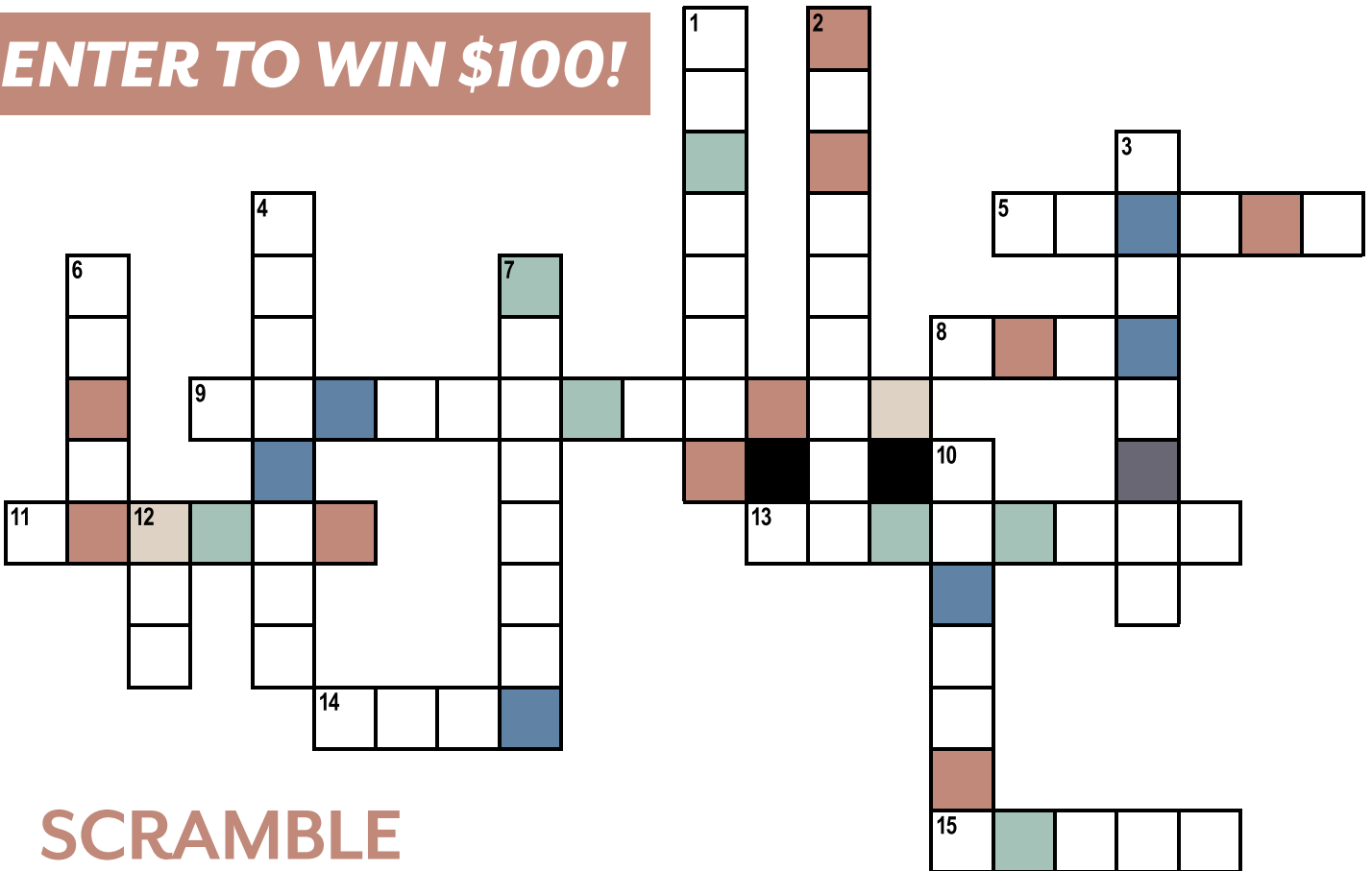


*WRLJ First Service - H&K Ranch*

# RURAL WATER CROSSWORD & WORD SCRAMBLE CONTEST

## WINTER WEATHER

**ENTER TO WIN \$100!**



### SCRAMBLE ANSWER



#### DOWN

1. White storm
2. Freezing factor
3. Accumulation of snowfall over time
4. Light, brief shower of snow
6. Another word for arctic
7. Blizzard hazard
10. Frozen stalactite
12. Frozen, slippery condition

#### ACROSS

5. Bright halo caused by ice crystals
8. Frozen flakes
9. Precipitation that becomes ice upon impact (2 words)
11. Bone chilling
13. Transparent driving hazard (2 words)
14. Strong wind
15. Raining ice pellets

**RULES:** Use the colored squares in the puzzle to solve the word scramble above. Call your Rural Water System (See page 2 for contact information) or **enter online at [www.sdarws.com/crossword.html](http://www.sdarws.com/crossword.html)** with the correct phrase by January 8th, 2019 to be entered into the \$100 drawing.

Only one entry allowed per address/household. You must be a member of a participating rural water system to be eligible for the prize. Your information will only be used to notify the winner, and will not be shared or sold.

Congratulations to Diane Byer who had the correct phrase of "Water, use it wisely" for October 2018.

project discussed above.

The last major project ongoing is the capacity improvement project which will improve water delivery to areas south and west of Britton. I want to express my gratitude for the tremendous cooperation from all the land owners and operators that were affected by the installation of these 26 miles of new pipe. Thank you to all the land owners who gave BDM easements to bury the pipe on your property. Also, a thank you to all the operators who worked with us in removing the crop, so the contractors could get the pipe in the ground before freezing up. I know the weather created many challenges for all of you during harvest, but your cooperation was exceptional and very much appreciated by BDM. As of this writing, the 26 miles of pipe is in the ground. A couple of bores need to be completed yet and then the tie ins to the existing lines will be completed. The plan is to complete this yet this year. If you see pipe sticking out of the ground at intersections, this is where the tie-ins will be completed. Again, I can't express enough thanks for everybody's cooperation on this part of the project. The remainder of this project will involve upsizing the motors and pumps at the treatment plant that will feed this area. This will be scheduled for completion this winter. The last component of this project will involve building an additional 200,000-gallon reservoir to supplement day time peak demand. The completion of this part of the project will depend on contractors schedule next spring and summer. The estimated cost of this whole project was \$3,600,000. The 26-mile pipeline project piece came in at about \$880,000, which was

approximately \$300,000 under budget. Hopefully the remainder of the project is at or under budget too. We will be using approximately \$1,600,000 from the capital asset replacement reserve account, with the remainder of the cost of the project to be financed. We are approved for a 10-year \$2,200,000 term facility with CoBank for financing the portion of the project that will need to be borrowed. We will only borrow what is needed to complete the project and any additional change orders which will enhance capacity and sustainability.

The one project I have not made any progress on is implementing an online payment portal. This is still a priority and will get more attention once the system improvements are completed.

As of this letter, the team has installed 22 new service hook-ups and fixed 40 leaks in the system. This is in addition to staying current on work orders and keeping the system running smoothly with very limited negative impact to our customers.

I want to thank all our members for your cooperation, your patronage and your support as we continue to invest in your system to improve capacity, reliability and sustainability.

I also want to thank the board and Shannon, Darin, Jim, Ryan, Jared, and Mark for their dedication and commitment to making BDM a reliable provider of quality water every day.

God Bless and have a happy and joyous Christmas and New Year with family and friends.



# Seasons Greetings

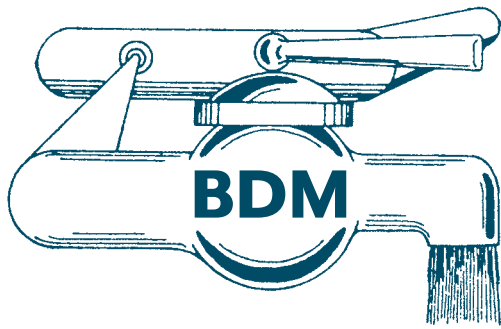
from the Board of Directors and staff  
of BDM Rural Water



# CONSTRUCTION UPDATES

Construction began at the end of September on the Pipeline Improvement Project in portions of Marshall, Day, and Brown counties. Eatherly Constructors, Inc., submitted the winning bid. Despite some adverse weather conditions, construction is proceeding on schedule and should be completed on time. Photos are courtesy of Dan Lissick, AE2S.





# BDM 39th ANNUAL MEETING

MONDAY, MARCH 25TH, 2019

**BDM office building  
705 7th Street, Britton, SD**

*The business meeting  
will be called  
to order at  
6:00 PM*



## Director districts up for election:

### District Three:

Claremont East, Claremont West, Columbia, Shelby, Lansing, North Detroit, South Detroit, Portage, Hecla, Liberty, and Greenfield Townships in Brown County

### District Four:

Dayton, Newark, Stena, Miller, Weston, and White Townships in Marshall County

### District Six:

LaBelle, Veblen, Dumarce, McKinley, Lake, Red Iron Lake, Eden, and Buffalo Townships in Marshall County, and Norway, Bossko, Long Hollow and Dry Wood Lake Townships in Roberts County.

The director position for District Three is up for election in 2019. Hal Treeby has served this position for two terms and is seeking re-election for a third term.

Ken Spence's director position in District Six is also up for election. Ken has served one term but will not be seeking re-election.

In District Four, Robert Watkins has served three terms, which is the maximum allowed. His position is up for election.

A nominating committee will be established to nominate candidates. If you are interested in being a director please contact a current board member or the BDM office in Britton, SD.

**Financial and operations reports will be available. Cash prize drawings will be held. Only BDM members are eligible to vote and enter the drawings. Supper will be served following the meeting.**

# WATER MATTERS

## Nitrates in Well Water (Part 3)



Nitrate is a common contaminant found in many wells in South Dakota. Too much nitrate in drinking water can cause serious health problems for young infants. This is the last of a series of reports on nitrates in well water, intended to provide a basic explanation of nitrate in wells and gives steps that you as a well owner can take to protect your family and visitors from illness.

### HOW IS NITRATE GETTING INTO MY WATER SUPPLY?

Nitrate contamination can enter your water supply several ways. One possibility is through physical or structural problems with the well itself. Ideally, the well is fully sealed off from any surface contamination, and the annular space (any open space in the drilled hole not filled with pipe) is fully sealed as well. If this is not the case, then surface contaminants have a pathway to enter your water supply.

Nitrate can also find its way into shallow aquifers by water moving through the soil. Nitrates are highly water soluble, that is, they dissolve readily in water. If there is residual nitrate in the soil, perhaps from fertilizer that was applied but not fully taken up by plants, water moving through the soil can pick up the contaminant and carry it down to the aquifer. Many of the shallow aquifers in eastern South Dakota have elevated nitrate concentrations, especially at or near the water table.

### WHAT CAN I DO IF I SUSPECT A PROBLEM?

If you have concerns, it's a good idea to have your well inspected by a licensed well contractor if the well is old, or you do not know if it is structurally sound. Repairing the well or constructing a new, deeper well often results in a significant reduction in the nitrate level. To find licensed well drillers in your area, look in the Yellow Pages under "Well Drilling and Service."

Another good idea is to identify and remove sources of contamination near the well. Fertilizers, animal wastes, chemical storage areas, and septic systems should be located and managed so that they do not contaminate the well. If a source is too close to the well and cannot be moved, then you may need to consider having the well permanently sealed and replaced by a licensed well contractor.

### WHAT ABOUT A WATER TREATMENT UNIT?

Home water treatment units are not recommended for treating high nitrate water which will be given to infants. There is no foolproof way of knowing when the treatment system may fail, and methemoglobinemia (blue baby syndrome) has been known to occur after just one day of exposure to high nitrate water.



**Back page content provided by:**  
East Dakota Water Development District  
132B Airport Drive • Brookings, SD, 57006  
(605) 688-6741 • <http://eastdakota.org>