

the pipeline

SASKATCHEWAN WATER AND WASTEWATER ASSOCIATION



content

January 2021 - Winter

On the Cover

SWWA Executive Board

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kelly kish

SWWA Pipeline Editor

To look ahead one needs to look back at how things have changed. Is there anything that could have been done differently, better, what were the best things to happen that created some of the best moments and memories?

Looking back through old issues of the Pipeline I found a couple of unique things that maybe some of our members who haven't been around for more than 10 years or less might find interesting.

1. The pipeline in the beginning started out as a one-page newsletter and eventually moved to four pages front and back.
2. The pipeline in 2021 was 12 pages and by 2014 we moved to a magazine from a newsletter
3. In 2016 we launched the pipeline app and the digital magazine moving from a print edition

This past year was probably one of the most challenging for our members and many-faced challenges they had never imagined both at work and in personal lives.

We made it through and as essential workers you did an amazing job of supporting your communities and employers and keeping the services going.

We also learned some new skills and realized a few things.

1. How to participate in video calls & troubleshoot
2. How much we miss networking in person, although it was interesting to see the conversations that happened prior to the zoom webinars starting
3. How much in person events help us to feel more connected to each other, help our mental and physical health and are a great way to refresh ourselves

Looking ahead we want to bring you information in the pipeline that is valuable and informative for you. To do this we will be sending out a survey to find out what you like, dislike and want or don't want to see.

We need your help – we want to see new and old faces in the calendar and showcase as many of those in our industry as we can, to do this we need your photos of your groups, on the job projects etc. to put into the next calendar coming soon to a conference near you.

You will notice we decided it was time to do an upgrade on the look of the pipeline. We have also updated the website and are looking at ways to keep offering you the tools you need to be successful.

We are excited to move ahead while at the same time celebrating the things that we have done in the past 40.

Stay Safe & Warm.



08 Melville Water Supply System



susan
dobrowney
SWWA President

In an extraordinary year, we've been grateful for your extraordinary support.... thank you. And cheers to new beginnings!

That being said, Happy New Year! Wishing you and your loved ones a Happy and Healthy 2021.

As we move through the winter, we have some time to reflect on the past months and plan for the upcoming ones. Many of us have already experienced more snow than we did last winter season. There are challenges around every corner in our industry. How many of us have started the workday and something has come up that changed our plans? We have developed the ability to adapt and change direction on the fly. Our problem-solving skills and often logistic skills are tested to the full. Meanwhile our customers may not even be aware of or impacted at all by current situations.

As many of you will be aware, we had such an occurrence at the City of Saskatoon Water Treatment Plant (WTP) on December 24th, 2020. The decision was made in late morning to close the intakes to the WTP and consequently shut down the plant. Who wants to send out a PSA on Christmas Eve, for customers to only use water for essential needs? Meanwhile employees of the WTP diligently worked to get the issues resolved.

Additional staff were called in and together we were able to start producing water again by late afternoon.

This is how I have found people who work in the Water and Wastewater industry to be like. Willing to lend a hand offer suggestion going above and beyond expectations. I am proud to say that I work in this industry full of amazing, dedicated, professionals. Creative individuals who always find a way to make things happen.

2020 for all of us has been an interesting year to say the least. The ability to perform ordinary routine tasks has required a rethink of how it can be accomplished with social distancing and additional safety measures due to COVID -19. Keeping our customers' needs first and foremost in the delivery of a safe, quality product.

I would like to thank the members of the SWWA Board and Calle our office administrator for the exceptional job they have done throughout 2020. As well I would like to extend the thanks to you our SWWA members for continuing to support this organization.

This year has been like no other: in person training cancelled, golf tournament postponed, annual conference cancelled. Throughout we have offered many online opportunities for CEUs

and continue to pursue this until we are able to again provide in person workshops. Our website underwent a complete make over to fix some issues that were causing problems with the database for quite a while making it difficult for Calle to access information for our membership. Check out our new website if you haven't already.

2021 continues to provide opportunities and challenges us to keep delivering and treating potable water, collecting and treating wastewater to the same quality standards as always, and as always, we will step up to the plate and deliver. Thank you for all that you do each and every day.

In closing I would like to add this quote of Anne Frank.

"What a wonderful thought it is that some of the best days of our lives haven't even happened yet."

Stay safe and keep healthy.



dawn
dierker
ATAP

Training for Water Operators Looking Ahead to the Future

When I heard what this month's pipeline theme was I couldn't help thinking that to look forward 40 years we must first look back.

In the last 4 decades a lot has changed for water and wastewater operators. We have moved from an informal training where each operator learned from the person that they were replacing or assisting in the plant. And, because people stayed in jobs for 30 or 40 years and then stayed in their home community there was always a safety net and some-one to call when there were issues. In the last 20 years many of those things have changed. People do not stay at jobs for a lifetime anymore and we have lost that slow transfer of knowledge over a long period of time. When people leave municipal jobs, they don't necessarily stay within the community and may not be willing to assist when there are problems at the facility.

The complexity of the water and wastewater industry has changed as well. Forty years ago, systems were basic and easy to run. Spare parts weren't too expensive and the average community could afford to keep critical spares on the shelf so they could easily be changed out when there was a failure. Today with the addition of complex instrumentation, pumping systems and SCADA spare parts are expensive and may require

the expertise of a tradesperson or technologist to change. This has made the role of the operator increasingly difficult if there is no-one in the immediate area that carries spare parts or has the expertise to change components.

With the increase in complexity of treatment, collection and distribution systems has come a requirement for more training and understanding of several trades and technologies. Operators are required to have a full understanding of mechanical systems, electrical components and motors, instrumentation, SCADA systems, hydraulics, biology and chemistry. In the last 20 years formal training and certification requirements have come into effect in Canada following the lead of what has been done in the U.S. for some time.

Looking ahead to the future in training for water industry operators there may be a push to specialize in certain areas like membrane treatment, biological treatment and various other specialized systems. Manitoba has been trying to implement a trade based indentured system where it would take an operator many years and several sessions of schooling followed by certification exams to become fully licensed operators. This may be something we see in the future.

We know from our experiences in 2020 that learning for operators will be more on-line based than face to face classroom sessions. For many years communities and individuals have faced the barrier of travel costs to take training and the fact that they could not leave their community for any length of time. If one good thing has come from this world-wide pandemic it is the fact that we can teach and learn in a virtual atmosphere. While it is not ideal to student or teacher it is just one more way that we can transfer necessary information to students while they are preparing for exams or obtaining their continuing education units.

One thing we can be sure of is that as technology changes and new systems are adopted into our communities

the water operator will be a lifelong learner

and adapting to new systems. Training and certification for operators will progress over time and will look different 40 years from today.



Iijah Behnke

Dynamo Electric

Fire Extinguisher Safety

What do you know about fire? How does it start? What does it need to exist?

Fire is a rapid chemical reaction between oxygen and any combustible material. This reaction causes flames, smoke, light and heat. In order for fire to exist there needs to be enough oxygen for it to breathe and sustain its combustion. It also needs enough heat to raise the ignition temperature of the material. It can also use an agent like gas or another combustible material to keep it going. Fires are extremely dangerous but with the right defense you may be able to put a fire out safely and without harm.

There are many different kinds of fires. You can have trash, wood and paper fires, liquid fires and electrical fires, metal or kitchen fires.

Some fires that are caused by different chemicals cannot be put out using water. If you use water on these kinds

of fire the fire may actually grow and become even more dangerous.

When using chemicals the regulations say for you to read the Material Safety Data Sheet (MSDS) about the product so you know how to protect yourself, what the risks are, what to do in the event it is swallowed, inhaled or if it makes contact with your skin. The MSDS will tell you what precautions you should take when working with the product. With chemicals that start fire it will let you know what not to use such as water, phosphate or other products. Always refer to the MSDS before using a chemical and know what the hazards are associated with it.

Fire extinguishers are a good tool that can be used to put out fires if you can catch the fire before it becomes too big to handle. Never try to put out a fire that you do not know the cause of or if it is too big. Your safety should be your first concern. Do what you can but don't be a hero.

As a part of your daily inspection, whether it's powered mobile equipment, inside a welding shop or any other place that has a fire extinguisher present, it's always a good idea to look at the condition of your fire extinguisher. You should check to ensure that the gauge is in the green and that it is fully charged. Check the pin and make sure that it is positioned properly, ensure the hose is free of debris. Make sure the handle is intact and that the fire extinguisher

is ready to be used if needed. It is also a smart play to shake the fire extinguisher at least once a month to ensure that the powder inside does not settle at the bottom. Over time the powder settles and may become solid like a rock. If this happens even though the fire extinguisher has been checked and all the components look fine nothing may come out of the extinguisher. If you do have to use a fire extinguisher the last thing on your mind will be to shake it up before you use it.

Have a monthly record of fire extinguisher checks and every year send them in for their annual test to ensure they are still in safe operating conditions. Keep records of these inspections for record keeping and audits performed on the company.

For ordinary combustibles such as paper, wood, cloth, rubber and many different types of plastics you will need a Class A fire extinguisher. Class A fire extinguishers use water. Flammable Liquids such as oils, gasoline, grease, solvents etc. need a Class B fire extinguisher. Class B fire extinguishers use CO2 or Dry Chemical. Electrical fires from wiring, fuse boxes, energized electrical equipment, etc. need a Class C fire extinguisher. Class C fire extinguishers use Dry Chemical or CO2. These three types of fires can use a Class ABC fire extinguisher which is very common for people to have. Fires resulting from combustible metals such as magnesium, titanium,

potassium and sodium require a special fire extinguisher labeled Class D. Kitchen fires involving combustible cooking fluids such as oils and fats may require a Class K fire extinguisher. With kitchen fires your normal fire extinguisher may not put out a fire involving vegetable oil.

All portable fire extinguishers must be approved by a nationally recognized testing laboratory to verify compliance with applicable standards. Extinguishers that pass the laboratory's tests are labeled and given an alpha-numeric classification based on the type and size of fire it will extinguish. On the fire extinguisher you will notice what kind of fire extinguisher it is. The extinguisher will give you information as to what volume is in there equivalent to gallons of water and how big of

space a non-expert should be able to extinguish. The number in front of the A rating indicates how much water the extinguisher is equal to and represents 1.25 gallons (imperial) of water for every unit of one.

For example if your fire extinguisher has 4-A, 80-BC this means the fire extinguisher would be equal to five (4 X 1.25) gallons of water. The number in front of the B rating represents the area in square feet of a Class B fire that a non-expert should be able to extinguish. Using the above example, a non-expert user should be able to put out a flammable liquid fire that is as large as 80 square feet.

When was the last time you checked over your fire extinguisher? Do you have a fire extinguisher at your workplace or in your house? Have you ever received training on how to properly use a fire extinguisher?

There are many safety training companies out there that offer fire extinguisher training. Maybe your next call should be to book a spot in one of these courses, it may save your life or someone else's.

*Remember to check your fire extinguishers daily, keep a monthly record of inspections and have your fire extinguisher professionally checked annually and keep the documentation for record keeping.



Melville Water Supply System



Where we came from and how we got here.

The City of Melville purchased the source water reservoir (Crescent Creek Reservoir) from the Canadian National Railway in 1958. The dam was built in 1921. The City built the original water treatment plant in 1959, which underwent several upgrades over the years.

In 1977, a 4,546 cubic metre storage reservoir was added next to the water treatment plant to provide potable water during peak times. In 1979, the Crescent Creek Reservoir was expanded to its present day capacity of 4,406,000 cubic metres.

In 1983, the water treatment plant was expanded to include a new package treatment plant that would treat more water for the City's demands. This new plant removed many years of water restrictions.

The surface water supply was prone to drought conditions, so in 1989 the City of Melville drilled a new well near an old well site west of the City. In 1990, Canada's first Electro Dialysis Reversal (EDR) treatment plant began desalination of well water. This EDR treatment plant was designed as a

drought proofing during low water years in the surface water. Because the water quality was far superior to the surface water, the City decided to run this plant 24/7 and use the surface water during higher demand times.

The well water quality after treatment was much improved; however, the City only had one well and a treatment system that was limited to a specific quantity. The City decided to do further investigations into drilling a second well and treatment facilities to decrease the reliance on surface water. In 2003, the City drilled a new well with piping to the treatment plant.

Over the years, the process to treat the groundwater became more difficult to maintain as it had outlived its useful life and there was a limited supply of replacement parts to sustain it. Along with that, the surface water treatment process was also challenged due to the inconsistent surface water supply. The City began to explore its options and reached out to SaskWater for support.

In 2016, the City entered into an agreement with SaskWater to construct a new water supply system including a new water treatment plant. At that time, SaskWater took over ownership and operation of the old water treatment plant and supply system.

The new water supply system became operational in March of 2020 and was made possible with the help of federal and provincial grant funding through the Clean Water and Wastewater Fund.

WATER SUPPLY

The new water supply system includes 30 kilometres of pipeline that delivers non-potable water from four wells to the water treatment plant in the city. The new system eliminates the use of surface water as a source and relies solely on well water.

WATER TREATMENT

The new water treatment plant is rated as a Class 2 water treatment facility according to the Water Security Agency. The treatment plant supplies potable water to the City of Melville and surrounding rural customers.

The treatment is a two-step process – greensand filtration followed by Reverse Osmosis (RO). The pipeline sources water from two wellfields and four groundwater wells. The wellfields are in the Hatfield Aquifer and in the Melville Aquifer. All four wells deliver water to the water treatment plant. The water is filtered through manganese greensand filters, followed by RO filtration where the water is further purified. The water is then treated with chlorine to keep it safe while it travels through the City's distribution system.

The water treatment plant has the capacity to service the City of Melville and its customers for the next 20 years with the ability to expand to 40 years.



The average consumption for each person per day is about 250 lpcd (litres per capita per day). The average water pumped per day to the City is about 1200 cubic metres.

Pictures of the old water plant and new plant after the old plant was decommissioned.



blair winterhalt

SWWA Board Member

When I started working for the Town of Wilkie in 2011, I was soon put into the water treatment plant to learn the ropes. It just felt natural to be there. I always liked how I could take something from the ground, filter and treat it to make it safe for consumption. I soon realized how important training and upkeep of that training is necessary. Being a part of the SWWA Executive Board ensures that I can do my best to help others in getting the knowledge to keep us all safe.

My first recollection of SWWA conference? It was 2016, my first year at conference. I was new, didn't really know anyone and it was pretty overwhelming being in a space with so many involved in the industry. I ended up connecting with Andrew Hickey, I knew him from teaching my level 1 water course at ATAP. He was kind enough to let me hangout and introduce me to others while showing me the ropes - what to do and what the conference was all about. It was truly a memorable first-time conference experience. I feel like every year since has only gotten better.



susan dobrowney

SWWA Board President

All my favourite things SWWA

- Networking with members, reconnecting with old friends and meeting new ones.
- Tradshow seeing products.
- Workshops and technical sessions (staying current with what's happening in the industry.)

My first golf tournament was in PA and I wore winter gloves and had Bailey's in my coffee to help keep me warm, the next year I was driving the beverage cart and enjoyed the opportunity to meet the members in attendance.



jordan webb

SWWA Supplier Representative
Mueller Territory Manager

I have personally been a supplier and member of the SWWA for 4 years. Even though my 4 years are measured small compared to 40 I can safely say they have been educational, social and productive. Becoming a member of the SWWA is a duty of all industry members to support a non-profit and local association who will make sure to give back to the operator, contractor, municipal, supplier and engineering community that help drive it. Giving back to the industry your in is the best way to keep it healthy, new and interesting. That is what attracted me to continue our company's membership with the SWWA.

The best part of being an SWWA member is meeting other industry people. I cannot understate this in the least. I have met new operators during training I have done, seasoned veterans during the conference and all others during social events like the SWWA golf tournament. I have learned about the industry from all of them and I have had the privilege of teaching some as well. This is the key to the social and networking aspect of the association. Being able to better yourself and to help others with some pain they might be having.

I have been fortunate to be a part of an association that embraces all new comers with a friendly welcome and family setting.

As I can remember my first conference I had what felt like every member (all 400) come through my tradeshow booth and introduce themselves with a warm hello and the "we expect great things". Needless to say it was the first time I had nothing to say afterwards, as I was grateful and my voice had gone.

In closing, I look forward to a long tenure as a member and better times that allow us to all meet in person again, play golf and swap war stories. To more decades of helping the industry move forward!

gary
papic

WSA EPO

The most valuable benefit that I experienced as an operator from the beginning was being able to “rub shoulders” with your fellow operators and to learn new ways to manage challenges in your facility in the same manner that other operators had success with theirs. The SWWA is a non-profit organization that nurtured a cooperative relationship between the operators and the provincial regulatory agencies over the years. This has developed into a successful partnership that has become the envy of other jurisdictions across western Canada and the northern United States.

The organization has provided opportunities for operators to learn leadership skills by participating on the SWWA Board and many committees. This offers operators an opportunity to make a difference for themselves and with provincial regulators and the industry.

There have been countless friendships formed through involvement in this organization. The SWWA has become a pillar of support for many in search of knowledge and has provided encouragement to those aspiring to develop successful careers in the water and wastewater treatment industry.



chris
boyd

Operator, Town of Cut Knife

What Operators are saying about SWWA:

I have been a part of the SWWA for several years, so I was more than happy to share when asked what I have come to value from being a part of the SWWA.

1. The celebration of the years of service awards for both suppliers and operators, it is great to see us as operators acknowledge how much we appreciate the suppliers in our industry; I also really enjoy seeing communities and employers recognize the operators through awards like Operator of the year and Lifetime member.
2. Being able to access all the changes to the industry from regulations to advancement in technology all through the SWWA network.
3. I find tremendous value in the face-to-face conversations with other operators and those from the industry. Having an opportunity to discuss issues, bend the ear of fellow operators and suppliers with no time limits.
4. The advancement in technology with the webinars and moving things online this past year have made it still possible to maintain our educational requirements for CEU's. I look forward to having this option continue as well as the in-person events because they both provide value.

To my fellow operators I believe the support of fellow operators to each other is the key to the success of the industry. Keep up the great work everyone and stay safe.



teresa
walker

Inspirational Facilitator

#MakeTheMostWithYourMoments.

WELCOME to 2021 and the year to truly focus on how to #MakeTheMostWithYourMoments. My name is Teresa Walker and I am an Inspirational Facilitator. So, what does that mean?? Even more so what does it mean to you??

My role is to
INSPIRE! To
plant seeds of
thought regarding
how and why?
To initiate the
thoughts and
feelings as you
explore the areas
in your life.

It is a Holistic approach. Holistic simply means ALL the areas in your life.

As a “Facilitator” my role is to “Bridge the GAPS” in a variety of ways that will ultimately EMPOWER you to #MakeTheMostWithYourMoments.

Personally, I am a life long small-town girl, a Mom to two children, a person who has faced a few challenges in life up to this point and is simply trying my best to figure it out and have some fun along the way! I own my own small business that consists of speaking, writing, workshops, one-on-one and providing Tool4Success. I love the stories of people and we ALL have stories – it is our life!

That is enough about me for now. Let's focus on YOU and your moments up to now.

A few questions for you:

- 1) On a scale of 1-10 how would you rate your overall year of 2020?
Now remember to take a moment to consider ALL the areas of your life before rating.
- 2) What are the areas you considered?
- 3) Is there one area that 2020 had greater IMPACT in than other areas of your life?
How did this make you feel? Be specific with your emotions.
What was your INITIAL reaction?
Have you shared the REALITY of this IMPACT with anyone?

We are one month into the new year of 2021...I believe it is especially important to PAUSE and reflect on our past, highlight our areas of WINS and lessons learned, because hey, we have lots of things to do in our days and I don't know about you, but repeating lessons takes A LOT of valuable time!

Here is your CHALLENGE:

In the next SEVEN days designate half an hour of uninterrupted time.

Take a sheet of paper and divide it into two columns. Let's keep it simple and one column the heading is a happy face and the other heading is a frowning face.

Write down as many items from 2020 that fit into the columns – try not to overthink, just get it down on the paper.

Our Impact

Mali: Healthy Communities



In the fourth and final year of the **Mali: Healthy Communities** project, we continued to work in partnership with the One Drop Foundation to build WASH infrastructure, promote hygiene behaviour, change and support WASH-related businesses in nine rural communities in the districts of Kati and Bla, Mali. Thanks to you, thousands of lives have been transformed through improved living conditions and at the projects end, we had directly reached 82,074 people, while indirectly impacting the lives of 198,769 people. Results which greatly exceed the initial targets of the project.

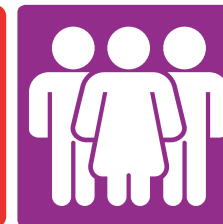
Over the past four years, we were resolutely focused on three project components:

- Helping communities' access clean water, decent toilets and improved hygiene;
- Encouraging good hygiene behaviour change using social arts;
- Supporting economic activities related to water, sanitation, and hygiene, such as making soap and building latrines.

Our unique approach to behaviour change sets the **Mali: Healthy Communities** project apart from the rest. Using social arts – thematic performances, radio broadcasts, or mural paintings – we are spreading hygiene messages and creating a deep engagement with hygiene management and behaviour change.

In year four of **Mali: Healthy Communities** we worked to ensure the long-term sustainability of the project. We worked with our partners to develop local capacity to build a foundation for sustainable change. We strengthened the capacity of previously established management committees that were set up to improve project governance, accountability, and sustainability of water infrastructure. Each committee did a self-diagnosis to identify gaps and looked to areas where we could help strengthen and support each committee's specific needs. We continued to build relationships with communities which were certified as Open Defecation Free (ODF) through home visits, and by promoting and supporting community monitoring and self-assessments. We promoted hygiene behaviour change by sharing critical information through radio broadcasts, and built awareness and advocacy of Global Handwashing Day and World Toilet Day. We established two new women's cooperatives and trained local water management committees, hygiene clubs, teachers, artists, and local officials on WASH promotion.

Setou Diallo, 45, secretary of the Benkadi women's group, watering her plants inside the market garden in Samabogo, Circle of Bla, Mali,



Through the **Mali: Healthy Communities** project we:

- Reached 27,673 community members out of a targeted 28,541 with access to clean water;
- Reached 52,907 community members with improved sanitation, exceeding our initial target of 24,360;
- Reached 199,109 community members with hygiene behavior education, exceeding our initial target of 117,746;
- Constructed or rehabilitated 44 community water stations serving 27,637 people;
- Constructed 29 gender sensitive and inclusive toilet facilities in 22 schools, serving 6,583 students;
- Installed 20 new latrines, separated for male, female and staff in 4 healthcare facilities, reaching 1,360 direct beneficiaries; and,
- Added incinerators in 4 healthcare facilities, supporting the safe dispose of medical waste lessening the risk and burden to healthcare workers.

One of the most exciting successes of **Mali: Healthy Communities** centers on women's empowerment through access to micro-credit. Thirteen cooperatives have been created, including two in this final year, focused on developing products like soap, composting, and farming. Once the cooperatives had been identified, training was given with a focus on providing governance, financial management, and technical skills to the members.

The women's association Benkadi, in the rural municipality of Samabogo, was identified in 2016 by WaterAid and its local partners. The cooperative, currently 45 members, decided to provide services in the agricultural fields in order to generate income and care for their personal needs. Before the project intervention, the women in Samabogo helped their husbands in agriculture during the rainy season and were heavily dependent on their husbands to meet even their basic needs. Most women would stay home doing housework while waiting for the next rainy season to start again and begin field cultivation.

Setou Diallo, is a member and the secretary of the Benkadi cooperative.

"Before I started working with the group of women in the market garden, there weren't many activities for us to do in the dry season. I mainly cooked and looked for firewood in the bush. Here in the garden we can work during the rainy season as well as the dry season. Today, the market garden is very important to us. As a woman I couldn't buy anything before without asking my husband to give me money, but now, with the money I earn from the sales of the gardening products, I am able to buy many things without going through my husband. This is a form of independence that is really comforting."

The benefits of the cooperative have had a community wide ripple effect. With the money they earn members are able to gain independence and autonomy. They are able to help ensure their children's school fees are paid for and buy goods and clothes from local shops.

"I am quite satisfied with what we do here, the last production campaign allowed me to buy soap and clothes. It also allowed me to buy school supplies for my two daughters who are still going to school. Working in a group is really motivating. We learn from each other and we improve. This group spirit is a strength, and it allows us to continue. And what motivates us also is the fact that what we grow in our market garden here is for our own profit as women and for our children."

Lessons Learned During a Pandemic Year

BY MICHAEL SIMPSON AND JOHN VAN ARSDEL

The COVID-19 pandemic has affected the water sector in many ways, shifting industry expectations, priorities, workflows, and more. But through it all, the mission of keeping drinking water safe and readily available remained a priority.

At the beginning of 2020, water professionals were busy planning a prosperous future. AWWA was developing its strategic plans for the next several years. AWWA utility and operator members were mapping out long-range operational and capital plans for their water systems, ever cognizant of their essential mission of providing safe and plentiful drinking water for the public. At the same time, AWWA section winter conferences were being planned, papers and presentations were being prepared, and vendor displays were being spruced up with the latest information on the newest technologies and equipment. AWWA volunteers were busy working with federal and state legislators to find ways to fund infrastructure improvements and old infrastructure replacements. The group was also working closely with regulators to improve water quality and protect public health.

As March Madness came closer, COVID-19 began to creep into everyone's lives. The spread started slowly, showing up here, then there, taking out random victims and infecting them with the likes of nothing seen before in living memory. Soon, health officials realized this was just the beginning of a potentially lethal pandemic, with all the markings of long-term consequences of exposure. While health officials scrambled to figure out what would work or not work to contain the virus, government officials realized that additional actions were needed—and quickly. Water professionals immediately realized this was a game changer, and the potential for any disruption in the drinking water supply had to be mitigated.

ADAPTING TO THE NEW NORMAL

Although utilities had emergency response plans in place and ready to be implemented, this situation was unique in that it didn't affect water supplies directly. It did, however, affect operations staff who keep water systems running day to day. Water professionals quickly learned from the health care field what needed to be done to protect utility workers. Protocols on cleaning, handwashing, temperature taking, mask wearing, and more were implemented to protect the safety of all utility team members, the public, and those deemed critical to the overall mission of protecting the water supply.

Many local waterworks groups and AWWA sections immediately formed ad hoc committees to discuss the COVID-19 outbreak, how to operate water and wastewater systems while minimizing contact between staff members, and best practices for using modern virtual platforms to meet online without having to meet in person. Water professionals quickly became essential employees, as the seriousness of the situation became clear.

The spring of 2020 became an alternate reality where nothing made sense. Working from home wasn't an option for many, as water and wastewater facilities require highly skilled, trained, and licensed professionals to operate their systems. Supervisory control and data acquisition (SCADA) systems at water and wastewater facilities were put to the test. Some operators controlled their systems remotely from home, while others worked in staggered shifts to limit contact and adjust to the new social distancing rules. Adapting to the "new normal" became a top priority.

Meanwhile, city mayors and managers began to realize the situation would exact serious financial stress on public services. In many cases, they implemented drastic budget cuts—sometimes without realizing the long-term consequences. Day-to-day supplies to maintain operations needed to be ensured. Regular maintenance of equipment couldn't be put off indefinitely without having to deal with potential failures. On the sales side, the need for products and services soon became evident. Similar protocols were quickly established for suppliers to protect utility team members, customers, and the public.

After the initial shock of the COVID shutdown hit, utility managers were able to assess their limitations. Budgets were adapted during the shutdowns to reflect new revenue models. Municipal and utility managers realized water loss control and asset management programs needed to remain in the forefront of everyone's minds. After all, these programs are critical for providing a continuous supply of safe, clean drinking water, *without failure*, under all operating conditions. The public depends on this commitment to meet a wide variety of daily needs.

Just because COVID shutdowns were being implemented didn't mean the daily challenges of supplying water became easier. Water main breaks and leaks continued to occur, and such events meant that distribution crews still needed to be dispatched quickly to contain water losses. Crews continued to face distribution system valves that may or may not work. It was apparent that asset management was near the top of every utility's priority list. Soon, many of the budget cutbacks proposed at the beginning of the COVID shutdowns were reconsidered to keep utilities from overlooking maintenance priorities.

ACCOUNTING FOR WATER

Every water utility's operating revenue is derived from selling water. Although water sales decreased because of lower demand when COVID shutdowns occurred, managers understood that water accountability was more critical than ever. It's even more important now for utilities to ensure all water used is accurately measured and documented. The best way to gather that information and achieve these goals is for water systems to implement an annual water audit using AWWA's Free Water Audit Software (www.awwa.org/waterlosscontrol) as well as to follow the guidelines in AWWA's Manual of Water Supply Practices M36, *Water Audits and Loss Control Programs* (www.awwa.org/m36).

Accountability for water supplied to the distribution system is the first step of this process. The testing of production/master water meters ensures all water being introduced into the water distribution system is accurately measured and accounted for. The physical water meter needs to be tested and calibrated to attain a successful outcome. Testing production/master water meters entails just that—conducting tests to determine the accuracy of the physical water meter. Several testing methods are described in AWWA's M33, *Flowmeters in Water Supply* (www.awwa.org/m33) and M6, *Water Meters—Selection, Installation, Testing, and Maintenance* (<https://bit.ly/33FjCAe>), depending on the size and type of water meter.

Utilities need to test meters under normal flow conditions. It's also important to calibrate the meter register to the utility's SCADA or other electronic monitoring systems to ensure the signal sent to the control desk is accurate. Make no mistake, these are two different "tests," and a utility needs to do both to ensure the accuracy of its meters as well as its water audit.

TRACKING APPARENT AND REAL LOSSES

Tracking apparent losses means continually monitoring customer water meters and conducting testing programs to



Despite COVID shutdowns and associated revenue reductions, it's important for water utilities to continue distribution system maintenance activities such as meter testing.

a crew to "listen" to the system manually, the system needs to be checked and leaks correlated, pinpointed, and repaired. Even in a pandemic, leak detection needs to be part of every water utility's toolkit on an ongoing basis.

ASSET MANAGEMENT

As with water loss, asset management plans need to be on every water manager's mind and on the to-do list. The ability to control and manage the distribution system is critical to a utility's ability to deliver safe, clean drinking water to its customers. As the pandemic crisis continues, it's more apparent than ever that water utilities must always strive to achieve this mission.

As managers review utility plans, they must also ensure the effective and efficient operation of all utility appurtenances, especially fire hydrants and mainline valves. A utility must work to accurately map and document all its assets. Managers need to prioritize the programs they want to carry out. Fire hydrant maintenance and flow testing should be high priorities. The implications of inoperable fire hydrants are extremely serious and can lead to potential irreparable harm if the hydrants don't operate when needed. Any inoperable fire hydrant can cause catastrophic problems beyond just not having water to put out a fire.

KEEP THE FAITH

This year has brought many changes—some for the better, some for the worse. Everyone has seen drastic transformations at the same time. Just when we think we're seeing light at the end of the tunnel, 2020 says, "Hold my beer." Keep the faith that we'll survive the pandemic and the water sector as a whole will be better off for the innovative solutions put in place during these trying times. We're confident that water professionals will continue to ensure public health and deliver clean, safe drinking water for all.

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PHOTOGRAPH: M.E. SIMPSON

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The Story about the Toilet Fairy and Covid 19 disinfection

Our current public health orders are limited numbers in public and private places, restricted gatherings, business and facility closures, contact tracing, wearing masks in all public places, disinfection/sanitizing all things touched, etc. We have seen the news regarding toilet paper hoarding and the global shortage of disinfecting wipes, masks, and pop-up manufacturers. Distillers and alcohol producers have rearranged manufacturing facilities to produce alcohol disinfection for the public.

For those of us in Waste Water operations, we have been seeing an increase in non-degradable products being flushed and disposed of incorrectly.

“What happens when I flush used disinfection/baby wipes down the toilet? It is magic! It is gone and not my problem. The toilet fairies carry it away to never return.”

Sorry folks, toilet fairies do not exist. “Flushable” wipes, masks, nitrile gloves, paper towels and heavy-duty shop towels do not break down in your sewer system. They do, however, create break downs in the sewer system. These sewer break downs range from sewer backups in your service line, requiring you to hire a sewer cleaner to remove and clear the blockage of products. Here’s hoping it doesn’t cost you too much to hire the sewer cleaner contractor, not including the damages to your belongings and property.

Oh good! The wipes and masks are not in your service line. However, they have managed to get washed into the sewer collection system. Your local town or city workers are out there checking the sewer collection systems, ensuring everything runs smoothly. All of a sudden, we are being flooded with calls that a number of homes have sewer back up issues. Nothing is flushing down as the back flow valve is working and holding tight.

Those pesky wipes, masks, towels and safety gloves are now causing multiple basements to be contaminated with sewer. Imagine how many more Lysol wipes will be used (and flushed) to clean up THAT mess! The municipal sewer crew comes out, jets and flushes out all the debris, breaking up the blockage caused by the buildup of wipes and other items being flushed down the toilets and drains by numerous customers. Again, here’s hoping no big invoice is headed your way for the sewer backup damages, crews, and

contracted equipment. Its Ok your taxes will cover these costs.

The municipal crew is not done yet! They have removed the blockage from the collection system, but in every community, the gravitational collection system gathers at the lowest point. This low point in the collection system is where we have our Sewer Pumping Stations. We use the pumps to move the domestic sewer to our next phase of sewage treatment: lagoons and waste water treatment facilities.



Accumulation of gloves, wipes and masks at the sewage pumping station.

It’s these pumps (in the sewer pumping stations) that are now having their impellers being clogged, as they suck up the non-degradable products. Some sewer pumping stations have grinder/mulcher units in advance of the pumps to chew up this additional debris. Some sewer pumping stations do not have this option and the debris gathers on and around the impellers. This debris wad causes the pump to become unbalanced, bang around and lose its pumping efficiencies, as it cannot move the required volume of material. This requires the sewer crew to remove the pump from service, hoist it from the wet well and remove all the crap built-up around it. Literally. And that’s not it! The impeller is then removed and inspected for damages. Hopefully, no damages are done as replacement parts (pump, motor and impeller) need to be ordered and shipped from Sweden. Again these costs for maintenance, repairs, back up equipment are all covered by your increasing tax dollar for the service.



Debris wad at the waste water treatment plant.

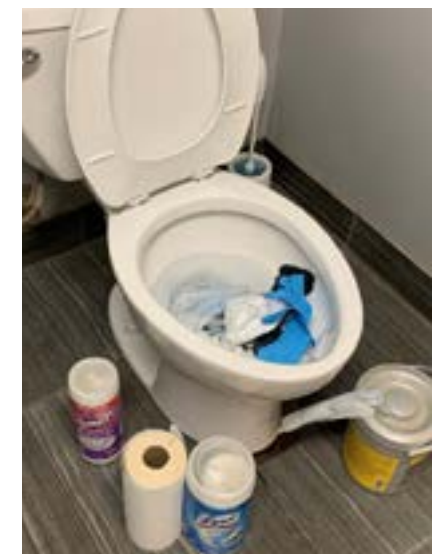
Experienced Waste Water operators are seeing a significant increase in servicing of their pumps, grinders, mulchers and other handling units due to the increased number of “flushable” materials such as wipes, masks, gloves and cleaning towels.

Once these products have gone through the waste collection system, they are now in the waste water treatment system. Now what? What happens with these environmentally friendly or user convenience products? They sit at the bottom of the primary lagoon cell and get scraped out in 10 years and discarded at the nearest waste facility. Or they get screened out as they enter the primary treatment facility, in a larger operation, and then hauled out to the solid waste site.

My opinion? The easiest, safest and most effective solution to dispose of these “flushable” products is to toss them in the garbage. This will save you and your community the unnecessary costs and grief of crappy sewer issues downstream.



Disinfection and safety supplies.



for sale

The Town of Foam Lake is offering for sale the following items:

- 1. NEW 2016 Flygt Submersible Pump**
5.0 HP, Model # NP-3102, 1745 RPM, MT IMP 462 Vol. 4" c/w FLS Adaptive N Flush Valve Ready - 25' of cable
\$8,000



- 2. Used 2017 Flygt Submersible Pump**
5.0 HP, Model # NP-3102, 1745 RPM, MT IMP 462 Vol. 4" c/w FLS Adaptive N Flush Valve Ready - 25' of cable
\$3,000



- 3. Used 2010 Flygt Submersible Pump**
5.0 HP, Model # NP-3102, 1745 RPM, MT IMP 462 Vol. 4" c/w FLS Adaptive N Flush Valve Ready - 25' of cable
\$1,000



- 4. NEW Goulds Submersible Sewage Pump**
20HP Model #4N512N3EF, 4" Discharge, 230 Volt, 52 amp, 1750 RPM, IMP diameter 9.75" - 25' of cable
\$10,000

Please contact
Foreman Bob Reynolds at 306-272-7082 or Assistant Foreman Kevin Beatty at 306-272-8018.



- 5. 2012 Vulcan 1/2 Ton Hoist**
Model # LIA1422, single phase, 115 volts
\$2,000

workshops 2021

- Feb 24 & 25 **Pumps & Hydraulics** valued at 0.3 CEU's
March 3 & 4 **WSA Workshop** valued at 0.4 CEU's
March 17 & 18 **Psychological First Aid** (Red Cross) valued at 0.3 CEU's
April 14 & 15 **Lagoon Workshop** application has been made for 0.4 CEU's

All workshops listed are 2-day webinar style. You need to attend both days no exceptions. Cut off is the Friday prior to the workshop and the webinar link is sent out the Monday of.

If you do not receive the link in your inbox be sure to check your spam and ensure that SWWA is a contact.

You must attend both days in order to earn the CEU's (no exceptions) Please login 10 minutes prior to and be sure to check the following things:

1. When zoom asks to be allowed to access your speakers say yes – saying no means you will not hear the webinar
2. All are put on mute upon entering so the speaker does not receive any unnecessary background noise during the presentation.
3. The chat at the bottom of the screen is used for asking questions – you can address to everyone or you can send it to the SWWA office
4. Questions will be done for the most part at the end of the session, unless asked if there are any

The SWWA office phone is muted during the webinar and calls/emails are returned after.



2021 – 2022 CALENDAR

Call for

photos

submit your best pics to

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