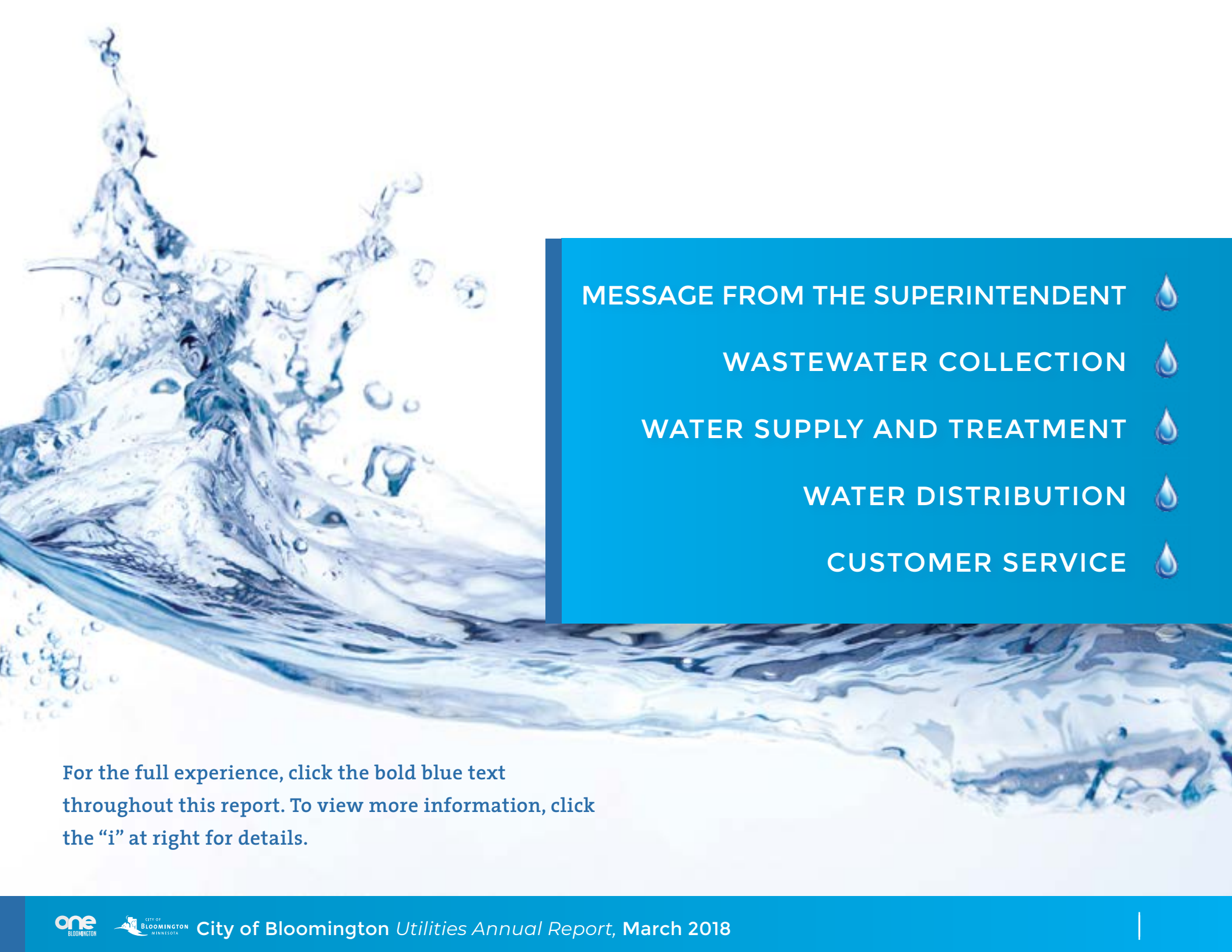




# WE ARE | BLOOMINGTON

## UTILITIES ANNUAL REPORT | FOR BLOOMINGTON, MINNESOTA 2017 YEAR END





**MESSAGE FROM THE SUPERINTENDENT**



**WASTEWATER COLLECTION**



**WATER SUPPLY AND TREATMENT**



**WATER DISTRIBUTION**



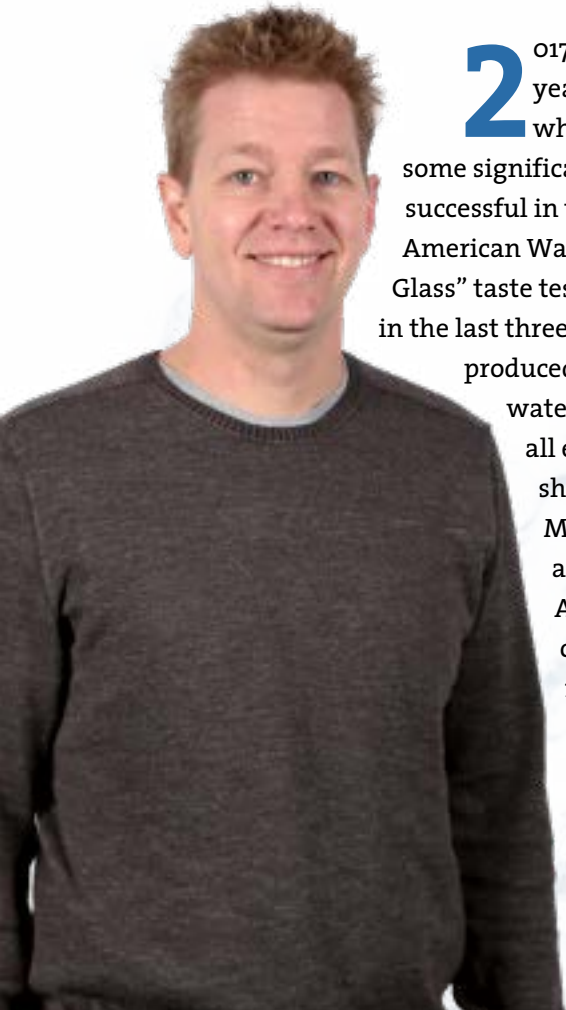
**CUSTOMER SERVICE**



For the full experience, click the bold blue text throughout this report. To view more information, click the “i” at right for details.



# MESSAGE FROM THE SUPERINTENDENT



2017 was another highly successful year for the City's Utilities Division, while also marking the beginnings of some significant changes. We were once again successful in the Minnesota Section of the American Water Works Association's "Best in Glass" taste test competition. For the second time in the last three years, Bloomington Utilities has produced the state's best tasting drinking water. This accomplishment is one that all employees and residents alike should be proud of. Winning the Minnesota Section award also means another entry into the National AWWA "Best of the Best" taste test competition in the summer of 2018 for a chance to be recognized again nationally as "Best of the Best." Stay tuned for those results!

Bloomington Utility Operators were also successful in the Hydrant Hysteria competition for the second year in a row and were competitive in the

Meter Madness meter assembly competition. This is a testament to all of our Operators' skills, knowledge, and performance and is truly reflective throughout the organization.

A number of retirements in 2017

resulted in new faces and new opportunities. Possibly the most noteworthy of which was long-time Superintendent Bob Cockriel's retirement after 23 years of leading Utilities. Bob was only the second Superintendent Bloomington Utilities has seen and he was responsible for a

great many innovations and changes over the years to help Bloomington become a front-runner in providing world-class water and wastewater services to Bloomington's residents at competitive rates. I'm excited yet humbled to be carrying forward the initiatives and commitments to high-quality service delivery that has defined Utilities over the years and am confident and reassured that the skilled, professional and dedicated staff here are well positioned to continue to exceed customer expectations.

As with past reports, we are highlighting here many of the initiatives and projects that go into continually producing and delivering safe, high-quality drinking water and collecting and efficiently transporting wastewater to the Metropolitan Council's regional treatment facility.

Going forward in 2018, Utilities will continue to implement and advance the City's strategic priorities and organizational values. High-quality services, environmental sustainability, focused renewal, and inclusion and equity are just some of our areas of focus for 2018. We are committed to being an organization that is efficient, collaborative, equitable and accountable for employees and for the community.



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The Utilities Division employed more than 50 people, with a budget of more than \$21 million.

## ALSO IN 2017

- The Utilities Division employed more than 50 people. Professionalism is a highly touted value within the Division. All operations staff are encouraged to continue to ascend their [STATE LICENSES](#).
- Utilities continued its [TOTAL ASSET MANAGEMENT](#) plan with the global goal of institutionalizing the program.

The Administrative Section of Utilities is committed to providing a comprehensive water and wastewater utility services package at a rate that is less than the average cost of other cities providing a similar level of service. Each year, the Utilities Division is benchmarked in our [ANNUAL RATE SURVEY](#) against similar utilities. Rates are ultimately driven by the [WATER AND WASTEWATER FUNDS' EXPENSES](#).

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## COMPREHENSIVE SEWER PLAN AND MODEL UPDATE

Every ten years Bloomington is required by the Met Council under State Law to update its Comprehensive Plan which includes updating the City's Wastewater and Comprehensive Sewer Plan (WWCSP). This is a part of the Met Council's Water Resources Plan which states: "The prosperity, quality of life, and continued development of our region all depend on the sustainability of the quality and quantity of our region's water resources. Our water resources, from our aquifers to our surface waters, are the

foundation for growth and vitality in the region. We need to manage our use of our aquifers for water supply, our surface waters for their ecological and development functions, and our land use patterns for their potential impacts to these resources". In 2017 Bloomington Utilities evaluated proposals

runs as an extension of the City's ArcMap GIS (so that the pipe and manhole networks can match current GIS mapping). The software quickly runs thousands of engineering formulas to calculate estimated flow amounts and depths in roughly 7,000 pipes receiving about 30,000 flow inputs from all of Bloomington's sewer customers. In May and June of 2017, Utilities also hired Utility Systems Science & Software to monitor sewer flows at 14 sites across the city. The results of this flow monitoring were used by Barr to accurately compare actual flows with modeled flows or to calibrate the new Sewer Model. The new model determines if the existing pipes can support estimated flows from planned and proposed new development for the period from 2018 through 2040+. The Model results are used within the City's WWCSP to create the Wastewater Capital Improvement Plan (CIP), or to determine the design, cost and prioritization/timing of the needed pipe upgrades. The WWCSP also defines the City's management of Subsurface Sewage Treatment Systems (SSTS) or onsite disposal systems. And finally the WWCSP presents Bloomington's wastewater collection system goals, policies, and strategies to guide future decisions about the planning, construction and maintenance of the wastewater system. The WWCSP and Sewer Model (along with City staff training) are anticipated to be completed by summer of 2018.

Each day, the City's 28 pumping stations move more than 10.5 million gallons of wastewater out of the city.

from several consultants and selected Barr Engineering to complete the WWCSP update which also includes updating Bloomington's computerized wastewater system hydraulic model (Sewer Model). The updating is being done in accordance with all of the requirements of the Metropolitan Council's 2040 Water Resources Policy Plan, Local Planning Handbook, and Thrive MSP 2040. Bloomington's current WWCSP and Sewer Model are based upon development forecasts and billing records from 2006. While portions of the Sewer Model and WWCSP were updated by City Staff in 2012 and 2015, it has now become necessary to update the entire model along with the flow inputs so that they reflect current pipes, billing records, and estimated flow from updated forecast future development. The modeling software being used is called InfoSWMM by Innovyze, and

Wastewater Collection strives to provide the continuous conveyance of wastewater into the regional treatment system. One benchmark used to evaluate Utilities' performance is the number of **POSITIVE SEWER STOPPAGES** in 2017 – our goal continues to be zero stoppages. The Division used routine operational and maintenance activities, such as **SEWER JETTING AND RODDING**, and **CLOSED CIRCUIT TELEVISIONING** to keep the sewage flowing in 2017.

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## A THIRST FOR WHAT'S AT THE TAP!

As a “born and raised” Minnesotan, I see water everywhere: lakes, rivers, streams, creeks, ponds, well, tap & bottled. I never thought twice about drinking water from the well/tap, when I was growing up. It wasn't until the late 1990's that we started to see bottled water in the coolers at the local gas station...and thought who in their right mind would buy water? Skip ahead to 2018, Americans are willing to spend ten times more for bottled water and helped create a billion dollar industry. Though we

have become a “greener” nation, conscientious consumers still buy into this marketing trick of the 21st century more than ever.

Going green – it's a phrase that's becoming more and more common as people start to realize the enormity of the environmental challenges we all face. Whether you're thinking about it or not, you have an impact on the

Between October 19 and November 3, 2016, 17,543 tons of Agricultural Liming Material were transported and spread over 2,500 acres of farm fields.

environment every day with every choice you make. America is a nation that relishes shopping at the local farmer's market to purchase those freshly picked beans, peppers and tomatoes from local growers. We have numerous “organic” stores popping up around us for customers that want unprocessed, healthy food. Yet, we still buy water from the shelves rather than consume water from the tap inside our home. You can't get any more organic than water obtained from the surface or ground. Let me ask you something, does it not make sense to support your local water utilities like we support nutritious, organic, local farms and foods? As consumers we

must understand that local food is grown and cooked with local water. It's the invisible part of sustainable, wholesome food!

As a Minnesotan, who cherishes its 10,000 lakes, I believe we can change how we think and act about tap water, by asking the right questions. I want to inspire a fresh perception. In essence, it comes down to what purchasing a bottle of water says about the consumer. Change is simple and makes a real difference! When you ditch disposable bottled water, you save money, live healthier, keep the planet cleaner and help support your local community.

Water Supply and Treatment strives to provide a sustainable supply of water that meets or exceeds all federal and state standards. A benchmark of this endeavor is the results reported in the federally mandated **WATER QUALITY REPORT**. In 2017, water usage fell short of the **PROJECTED DEMAND**.

## PROTECTING YOUR DRINKING WATER RESOURCES

We are fortunate to live in a part of the country that has an abundance of water. We can find water in lakes, ponds, rivers, and streams, or below the earth's surface in underground lakes called aquifers. Water is used for many things like drinking, cooking, bathing, washing clothes and dishes, brushing your teeth, watering the yard and garden, manufacturing, fire protection, agriculture,

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## CONTINUED FROM PROTECTING YOUR DRINKING WATER RESOURCES

mining, and much more.

We need to protect this natural resource. As you can see by the previous list, it is very critical in all aspects of our lives. Doing OUR part in protecting this resource is the most cost-effective and reliable way to protect our drinking water for generations to come. Once water has been contaminated it is very difficult and expensive to clean up. Here are a few things that you and I can do to help protect our water resource.

1. Take short showers.
2. Shut water off while brushing teeth.
3. Installing high efficiency toilets.
4. Check for leaky faucets and have them fixed.
5. Limit the amount of fertilizer used on plants and your yard.
6. Dispose of chemicals properly.
7. Take used motor oil to a recycle center.
8. Abandon and seal wells that are not being used.
9. Keep wetlands intact. Wetlands act as a natural filter that keeps chemicals, excess nutrients, and sediment from continuing through the water system according to the Ecological Society of America. Forests along waterways also act as filters so preserving or planting trees along streams and rivers can also help to keep waterways clean.
10. Storm drains should only be used for water and never for getting rid of other liquids such as motor oil, detergent, paint, chemical cleaners, fertilizer, or pesticides.

These are just a few suggestions, we as users of this natural resource, can do to protect our waters for future generations.

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## RESERVOIR PARK MAINTENANCE ACTIVITIES

The Utilities Division, as part of ongoing efforts to maintain high value assets, has begun a multi-year project to clean and rehabilitate its two 10 million gallon concrete water reservoirs near W. 82nd Street and Penn Ave South. In June, 2017, the easterly of the two tanks was drained for inspection and cleaning. After it was determined the water distribution demand could be satisfied by other storage facilities within the City, Utility staff looked more closely at the tank interior and other features that needed repair.

Concrete water storage tanks, by the nature of their construction, need far less maintenance than welded steel tanks. They are also usually far less visible, often constructed completely or partially below grade. Consequently, there are fewer tank consultants and contractors with expertise in repair and maintenance of concrete tanks. We have had a preliminary evaluation by DN Tanks of Grand Prairie, Texas, and their Concrete Tank Services Division to help define a scope of services needed

to put together a project that can extend the life of the tank for many decades to come. One unique feature of the east reservoir is that it is completely below grade with a turf cover green roof feature added in 2009. The only exterior renovation work anticipated is repair of

The water distribution system's 4,600 hydrants and 6,900 valves require constant vigilance.

the brick veneer on the exposed north wall of the tank.

A request for proposal has been prepared, and our hope is to have a project in place and started in 2018. Upon completion of the east reservoir rehabilitation, the tank will be cleaned and disinfected, and placed back in service as part of our distribution system. We then plan to remove the

west reservoir from service to perform the same tasks of interior cleaning, evaluation, and rehabilitation. Another part of that project will be repair or replacement of the roof on that tank, as it is a round structure only partially below grade, with a roof exposed to our Minnesota climate.

Water Distribution strives to provide an uninterrupted flow of high quality potable water for both domestic and firefighting purposes. The largest potential disruption to service occurs as a result of main breaks. There were 20 **MAIN BREAKS REPAIRED** in 2017. The **10-YEAR AVERAGE** for main breaks is 21 per year.

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## GIS MAPPING IN UTILITIES

The Utilities Division is heavily reliant on having accurate location information on buried sanitary sewer, storm sewer and water mains.

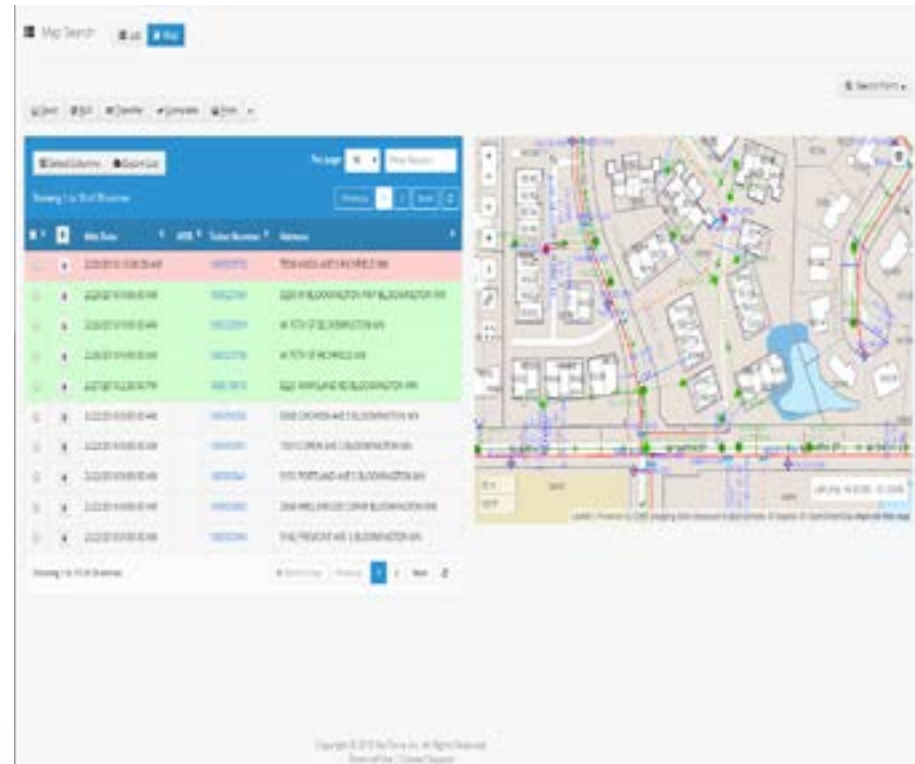
Knowing where these assets are buried is essential for efficient operation and maintenance of the utilities. Traditionally, these records were kept on paper or mylar maps. The City of Bloomington began using computerized mapping systems, called

Customer Service processes more than 170,000 meter readings per year and manages approximately 27,000 accounts

Geographic information Systems, or GIS, in the 1990's. Currently, we are using Esri ArcGIS as our GIS. The ArcGIS suite of mapping products allows us a lot of flexibility and ease of use to obtain the necessary information in a variety of ways.

Utility maps are now available on many different devices for a number of different users, from desktop computers to laptops, tablets and even smartphones. Mapping data is now up-to-date nearly instantly, instead of having to wait months for a new version of the map to be created. The Utilities Division is also working towards future integration of the GIS data with the work order management system, the utility billing system and the permitting system.

Not only are the utility mapping systems getting easier to use and more accessible, they are also getting more accurate, thanks to the use of Global Positioning Systems, or GPS. GPS data collection has gotten much more accurate at less cost in recent years. Utility inspectors now can capture accurate GPS locations of utility lines as they are being installed in the ground. Utility personnel recently began using an EOS Arrow GPS system that can be paired with a tablet or smartphone and can get locational



accuracies of less than an inch. Using the Esri Collector application, the GPS data collected in the field can be viewed instantly back in the office. All these improvements will help make the utility operations run more smoothly and efficiently.

Customer Service continually strives to meet or exceed our customers' expectations. In addition to the permitting duties, staff is charged with mandated **ONE-CALL UTILITY LOCATING**. Customer Service also oversees the water meter maintenance program, and has read more than 131,000 residential readings and 41,000 commercial/multi-family readings in 2017.

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## HELP KEEP F.O.G. OUT OF THE WASTEWATER SYSTEM!

Improper disposal of fat, oil, and grease (F.O.G.) can block sewer service lines, wastewater pipes, and cause build-up on wastewater handling equipment. Blocked pipes can cause sanitary sewer overflows (SSOs) causing health concerns, environmental issues, and property damage.



**Blocked wastewater pipe.**

Repairs can be costly and lead to increased infrastructure maintenance costs. Managing F.O.G. is a shared responsibility; from commercial restaurants to residential homes, everyone must understand and manage the type and amounts of materials going down the drain.

### Correctly dispose of food scraps and F.O.G.

- Don't put F.O.G. down drains or toilets.
- Dry wipe dishes before washing and dispose of food scraps and residue in the green bin or waste receptacle.



- Dispose of cooled cooking fats, oil, and grease into a waxed food container such as a milk carton or a container with a lid and dispose of it in the garbage.

## THE 811 PROCESS FOR HOMEOWNERS



### 1 NOTIFY

Notify your local one-call center by calling 811 or making an online request 2-3 days before work begins. [Click here](#) for information about your local one-call center and online service availability. The one-call center will transmit information to affected utility operators.



### 2 WAIT

Wait 2-3 days (varies by state; please [click here](#) for state law information) for affected utility operators to respond to your request. On average, between 7-8 utility operators are notified for each request.



### 3 CONFIRM

Confirm that all affected utility operators have responded to your request by comparing the marks to the list of utilities the one-call center notified. State laws vary on the process for confirmation; please check with your local one-call center for more information.



### 4 RESPECT

Respect the marks. The marks provided by the affected utility operators are your guide for the duration of your project. If you are unable to maintain the marks during your project, or the project will continue past your request's expiration date (varies by state), please call 811 to ask for a re-mark.



### 5 DIG CAREFULLY

Dig carefully. If you can't avoid digging near the marks (within 18-24 inches on all sides, depending on state law), consider moving your project to another part of your yard. If you must dig near the marks or use machinery of any kind, please [click here](#) to read "The 811 Process for Contractors."



For projects that include planting a tree, installing a mailbox or building a deck, among others.

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