



ABRIDGETO THE FUTURE

BUILDING A COMMUNITY OF CHOICE

UTILITIES ANNUAL REPORT

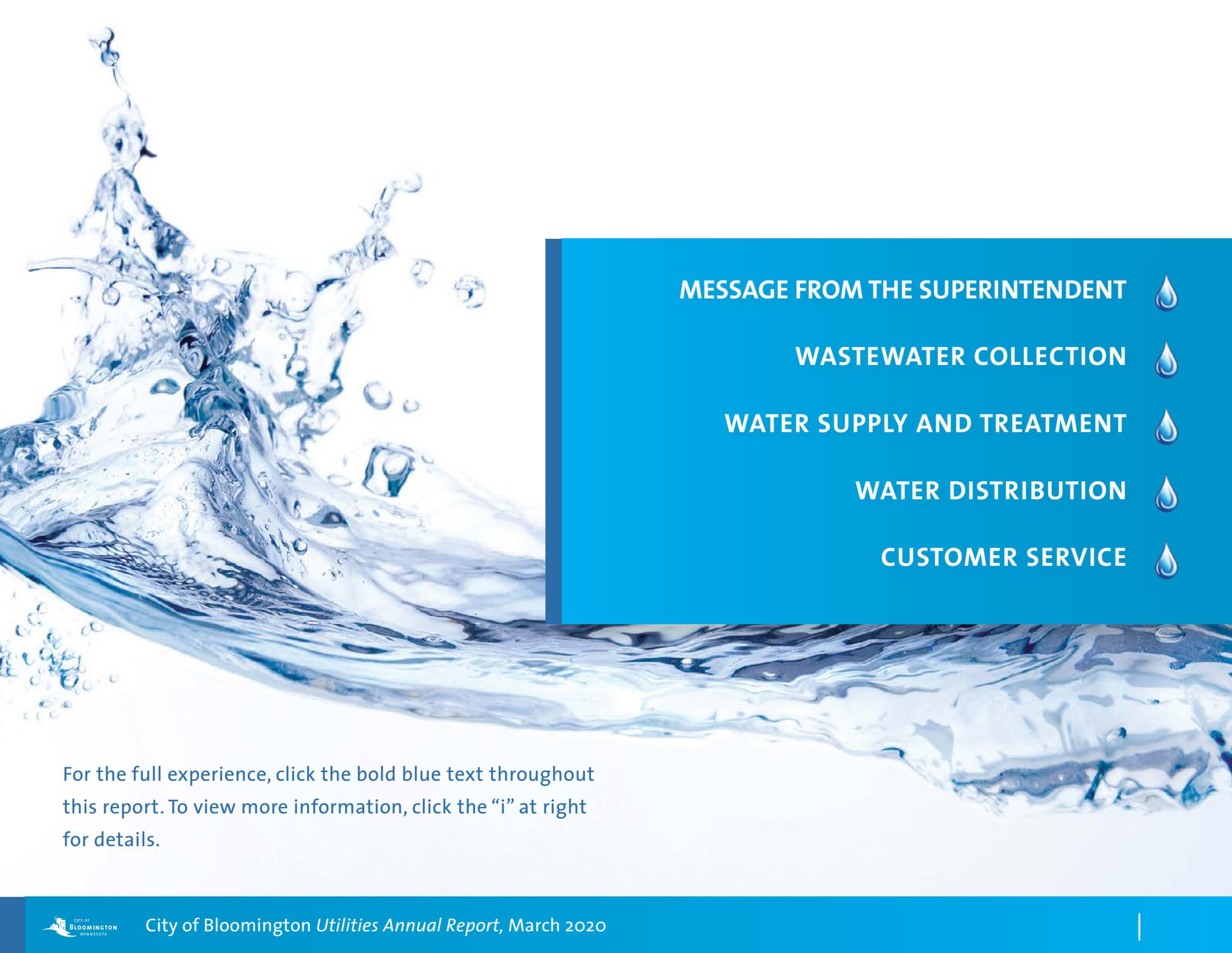
FOR BLOOMINGTON, MINNESOTA

2019 YEAR END



OLD CEDAR AVENUE BRIDGE • 1920 – 2020





MESSAGE FROM THE SUPERINTENDENT



WASTEWATER COLLECTION



WATER SUPPLY AND TREATMENT



WATER DISTRIBUTION



CUSTOMER SERVICE



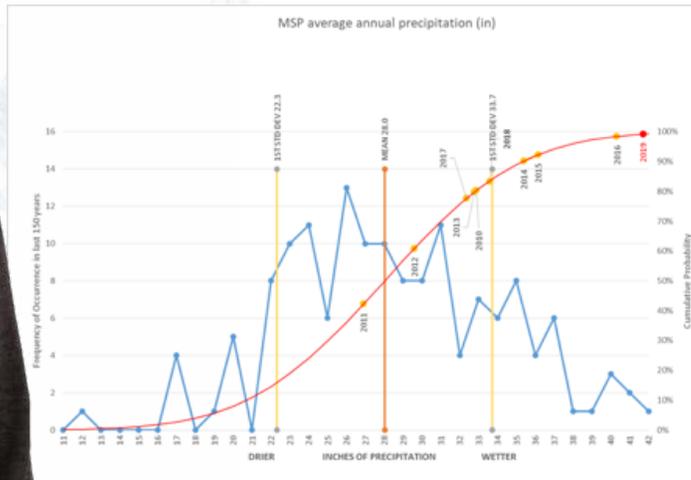
For the full experience, click the bold blue text throughout this report. To view more information, click the “i” at right for details.

MESSAGE FROM THE SUPERINTENDENT

2019 was the wettest year on record for the Twin Cities Metropolitan Area – 45.43 inches of precipitation. While rain is often welcome for lawns and gardens, it can also create some headaches beyond an occasional rained out Twins game.

Summer water use makes up a significant component of water sales for the City. Bloomington Utilities staff analyze climate data and water use patterns to try to predict water use to plan budgets and set rates. When the weather doesn't cooperate like this, it can

84% of Water Revenue goes to the day-to-day operations of the in-place water production and distribution systems along with water purchases from the City of Minneapolis. 13% goes to capital improvements and the remaining 3% goes toward future asset renewal.



create challenges for both the water and sewer budgets.

The chart above shows that four out of the last six years have experienced significantly more precipitation than that of the average year. This has resulted in an approximate reduction of \$7 million in water revenue alone since 2013 based on expected revenue over the same period with average precipitation.

To off-set this reduction in revenue and maintain these services, rates had to be increased significantly in 2019 and again in 2020. While these increases were higher than we like to see, the City is still able to remain extremely competitive with regard to the price of water when compared to our neighboring communities for softened water.

Bloomington residents enjoy high quality drinking water meeting or exceeding State and Federal regulations and standards. Providing an uninterrupted water supply to residents and businesses and making sure supplies and infrastructure are on the ready for firefighting needs is our top priority. Keeping rates affordable while meeting these goals is something we take very seriously and examine carefully each year. We are continually working on maintaining our existing infrastructure and planning for the necessary future renewal of assets to continue to serve the community in a responsible manner. We are very proud of the quality and level of service we are able to provide and will always do so as efficiently as possible.



The Utilities Division employed more than 50 people, with a budget of more than \$31 million.

- Index
- UAR 1
- UAR 2
- UAR 3
- UAR 4
- UAR 5

ALSO IN 2019

- 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.

Index

UAR 1

UAR 2

UAR 3

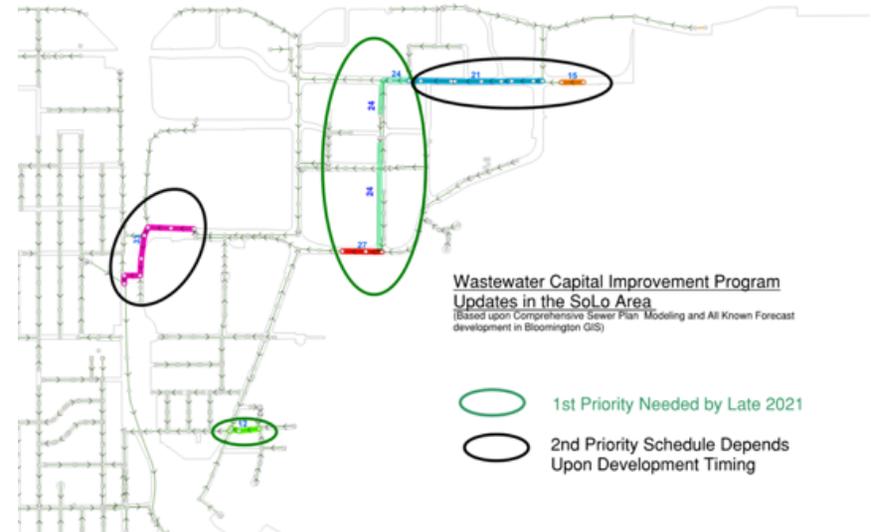
UAR 4

UAR 5

SOUTH LOOP DISTRICT WASTEWATER CIP UPDATE

The east end of Bloomington from Hwy 77 (Cedar Ave) to the Minnesota River is known as the South Loop District (a.k.a. SoLo). This area is probably one of the most dynamically changing development areas in the state. Some of the anticipated changes include the MOA Waterpark (along with some additional hotels and parking ramps in that area), the SkyWater expansion, the new fire station, the proposed Sick Technologies campus, several other hotels, and thousands of multifamily residential units. Bloomington Utilities has been tracking these current and future proposed development changes as it relates to demand upon the wastewater system. In 2018 Bloomington hired Barr Engineering to update the City's Wastewater and Comprehensive Sewer Plan (WWCSP). The update included rebuilding the City's wastewater system computer model to evaluate needed system improvements to accommodate estimated sewer flows from forecast development out to the year 2040. The dynamic proposed development changes (of roughly 100 sewer accounts in SoLo) made it necessary for City staff to revise the sewer model in 2019 so that the

current Wastewater Capital Improvement Plan (CIP) could be evaluated for possible needed changes. Staff redesign of the proposed service locations for several of the new developments has resulted in a reduction of about twenty percent of original Comp Plan recommended CIP work. This reduction



results in an estimated savings of over a million dollars. The revised modeling indicates that some of the previously identified CIP items need to be built sooner than originally anticipated, and that some additional work and larger pipes are also necessary. Several of these system upgrades are currently being designed and it's anticipated that work will begin in 2020-21. The map above shows general location and timing for the SoLo CIP items.

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 2019 – our goal continues to be zero stoppages. The Division used routine operational and maintenance activities, such as **SEWER JETTING AND RODDING**, and **CLOSED CIRCUIT TELEVISION** to keep the sewage flowing in 2019.

Almost **8 million** gallons of wastewater flow out of the City each day. The City's **28** pumping stations are used to move more than **2 million** gallons of that flow.

Index

UAR 1

UAR 2

UAR 3

UAR 4

UAR 5

WASTEWATER 101

The City of Bloomington's wastewater flow is connected to one of the Metropolitan Council Environmental Services (MCES), wastewater treatment plants through an extensive network of sewer pipes.

Whenever someone takes a shower, flushes a toilet, or runs the washing machine, the resulting wastewater is carried through a pipe off the property into a municipal sanitary sewer pipe. That pipe, in turn, is connected to a regional sewer interceptor, and finally to the wastewater treatment plant. The regional interceptor system and all treatment plants are operated and maintained by MCES.

SENECA WASTEWATER TREATMENT PLANT

The Seneca Wastewater Treatment Plant is MCES's third largest plant and is the fourth largest plant in Minnesota (after the Metro Plant, a facility in Duluth, and the Blue Lake Plant). Built in 1972 and located on the Minnesota River in Eagan, the Seneca Plant treats an average of 21.9 million gallons of wastewater per day. A \$70 million expansion completed in 1992 increased the plant's treatment capacity from 24 to 34 million gallons per day.

The Seneca Plant provides primary and secondary treatment to wastewater before discharging the resulting clean water to the Minnesota River. Dewatering and incineration are the methods used for disposal of the solids removed during wastewater treatment. The resulting incinerator ash is landfilled in Rosemount, Minnesota.

SENECA WASTEWATER TREATMENT PLANT INFORMATION

- Location: Eagan, Minnesota
- Type: Advanced secondary with chlorination/de-chlorination
- Capacity: 34 million gallons per day
- Discharges to: Minnesota River
- Communities served: 8
- Population served: 250,000
- Interceptors to plant: 46 miles

WASTEWATER FLOW AND COST REDUCTIONS IN BLOOMINGTON

Since 1993 Bloomington's annual wastewater flows have dropped by about 30%, or over a billion gallons per year. This drop saves the City almost \$3 million a year in reduced treatment costs paid to the Metropolitan Council Environmental Services (MCES). The flow reduction can be attributed to Plumbing Code changes requiring water efficient plumbing fixtures, customer conservation, and the concerted efforts by the City to reduce Inflow & Infiltration (I&I) of rainfall and ground water into the sanitary collection system. In order to free up existing capacity in MCES regional pipes and treatment plants, the MCES has offered several I&I reduction grant programs to many of the 115 communities that make up their regional users. Since 2010 Bloomington Utilities has received over \$450,000 in reimbursement funds for participating in all three of the previous MCES I&I reduction grant programs that were offered. In 2019 Bloomington is set to receive another \$170,000 for I&I reduction work that was completed between 2017 and 2019. It's estimated that the completed work will reduce annual sewer flows by another 23 million gallons per year, for an additional annual cost savings of about \$58,000. Utilities staff and crews work hard to identify and eliminate known or possible sources of I&I from Bloomington's wastewater collection system in conjunction with Pavement Management Program improvements, Time of Sale home inspections (to eliminate sump pumps discharging to sewer), thru special pipe grouting projects, as well as through departmental initiatives such as replacing older, leaky manhole covers with self-sealing covers. These ongoing efforts have resulted in a decrease in the spikes in peak wastewater flows during heavy rain events, which is a strong indicator that I&I entering the sewers is being reduced. City staff will continue to implement needed upgrades as the system ages in an effort to keep flows and costs at appropriate levels.

Index

UAR 1

UAR 2

UAR 3

UAR 4

UAR 5

TRUTH FROM THE TAP...NITRATES

In January 2020, the Minneapolis Star Tribune printed an article regarding nitrate in Minnesota's drinking water. It described how one in eight Minnesotans drink water tainted with nitrates. With that being said, I thought it was only right to share fundamental facts surrounding the nitrate conundrum.

Let's start by describing what nitrates are. Nitrates are inorganic compounds made up of oxygen and nitrogen. They can be found in eroding sediments, manmade fertilizers, human sewage and livestock manure. You

cannot taste, smell or see nitrates in water, making it vital to test your water if your tap is from a private source.

More than seventy percent of nitrate comes from cropland, the rest from regulated sources such as wastewater treatment plants, septic and urban runoff, erosion of forest soil and the atmosphere. Nitrate leaches into the ground water below cropped

Between October 31 and November 15, 2019, 11,292 tons of Agricultural Liming Material were transported and spread over 973 acres of farm fields.

fields, by way of rain and irrigation, and moves underground contaminating aquifers and surface water.

Precipitation amounts have a pronounced effect on nitrate loads. During a dry year, loads may be cut in half; however, during a wet year overall loads may be doubled. Because of this discharge of contaminants, the EPA came up with the Clean Water Act that was the first major U.S. law to address water pollution. The federal government also addressed drinking water quality by introducing the Safe Drinking Water Act (SDWA).

The SDWA generated maximum contaminant limits (MCL's) which set a health goal of less than ten parts per million; in layman's terms, one drop in a bathtub full of water is considered safe for everyone to consume. However, any amount greater than ten parts per million is considered unsafe for consumption and can affect how blood carries oxygen and can cause methemoglobinemia (also known as "blue-baby" syndrome). Blue-baby syndrome can have dangerous effects on infants six months and younger.

Though utilities in Minnesota are required to periodically test the public water systems, well owners are not. The Minnesota Department of Health recommends private well owners test their water annually to prevent any adverse health effects from increased nitrates in their water. If well owners are plagued with high nitrates, it can be removed from the water source through reverse osmosis, distillation, and anion exchange and electro dialysis.

The City of Bloomington's tap water has less than 0.02mg/L of nitrates, which makes it 99 percent lower than the federal MCL limit.



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 2019, water usage fell short of the **PROJECTED DEMAND**.

Index

UAR 1

UAR 2

UAR 3

UAR 4

UAR 5

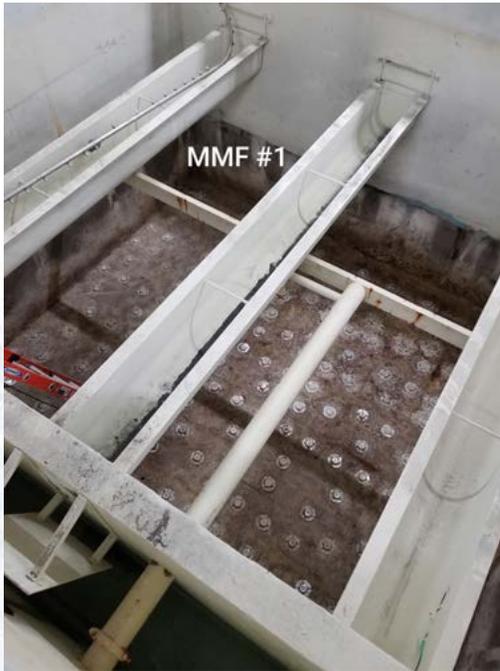
WHAT'S HAPPENING AT THE WATER TREATMENT PLANT

After 46 years, the WTP's original filters (Filters #1-#4) will be upgraded. The filtering process will stay the same but the part you can't see, the media and the underdrain system, will be upgraded from a multicrete filtering system to launder type design by Roberts Filter Group.

You might ask, "How does a Multi Media Filter work?"

A Multi Media Filter contains three layers of media consisting of anthracite coal, sand and garnet, with a supporting (non-filtering) layer of gravel at the bottom. These are the media of choice because of the differences in size and density. The larger (but lighter) anthracite coal will be on top and the heavier (but smaller) garnet will remain on the bottom. The filter media arrangement allows the largest particles to be removed near the top of the media bed with the smaller particles being retained deeper and deeper in the media. This allows the entire bed to act as a filter allowing much longer filter run times between backwash and more efficient particulate removal.

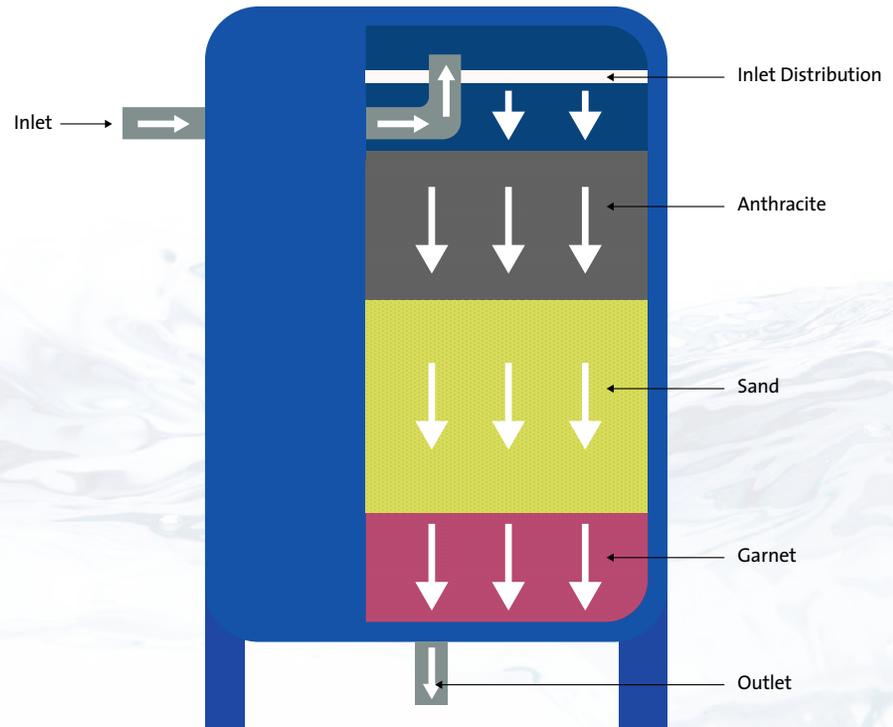
Why are we replacing the underdrain and media? Media has reached its life expectancy and the media is becoming more and



more plugged with particulates from the treatment process and losing filtering efficiency. The underdrain system was built back in the early 1970's and in today's standards isn't as efficient as the new technologies of today. With the updated underdrain system, the filtering and backwashing will be done at a higher efficiency giving us better overall water quality.

We look forward to putting these filters back into operation by early May 2020.

INDUSTRIAL MULTIMEDIA FILTER DIAGRAM



Index

UAR 1

UAR 2

UAR 3

UAR 4

UAR 5

2019 ANNUAL REVIEW OF WATER DISTRIBUTION

The Utilities Division continues to reinvest in the City's water infrastructure, through City crew repairs and maintenance to outside contractor constructed improvements and replacement. In 2019, the Knox supply line was taken out of service to install a new 36" meter, rebuild a

36" gate valve and make structural repairs to the underground vault at 60th St. and Knox Ave. S. The City of Minneapolis assisted with these repairs. The rehabilitation was coordinated with construction of the Met Transit Orange Line bus tunnel under I-494,

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

which requires relocation of about 900 feet of the 42" watermain, which was bored 25 feet below 494, and about 1500 feet of 8" and 12" watermain near Lucky's 13 near Southtown. We had 27 main breaks in 2019, one fewer than 2018, but still above the 10-year average of 24 per year. Eighteen of the breaks occurred during the winter months of January, February, March, November and December. Along with recent renovations to the 10-million gallon underground reservoir at 82nd St. and Penn Ave. S., cleaning and maintenance to the above ground round 10-million gallon reservoir is being planned for 2020. Additional water valve maintenance will be incorporated into the 2020 Pavement Management Projects to enhance system reliability and preserve the assets in corrosive soil areas.

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 27 **MAIN BREAKS REPAIRED** in 2019.

The **10-YEAR AVERAGE** for main breaks is 24 per year.

WATER DISTRIBUTION AND STORAGE

2019 was a busy year for the Water Distribution and storage side of the Utilities Division. One of the main projects was draining and cleaning the 10 million gallon round above ground storage tank at 82nd and Penn Ave. Crews did lots of work closing valves to isolate the structure, and clean the inside so a consultant could conduct a thorough inspection. The 55-year old structure is in surprisingly good shape. Some of the anticipated repairs include the new roofing, media blasting and coating metal piping and parts, new stainless steel ladders and concrete floor patching.

2019 BY THE NUMBERS:

- 9362 hydrants were inspected and operated (once in the spring and again in the fall).
- 247 hydrants required repairs, roughly 5%.
- 2613 water valves operated to ensure reliable service.
- 27 water main breaks repaired in 2019, almost half (12) occurred in January, February or March.

Index

UAR 1

UAR 2

UAR 3

UAR 4

UAR 5

HAPPENINGS AROUND TOWN

The Metropolitan Council Environmental Services is replacing a sewage lift station that is currently located on American Boulevard West just east of Normandale Boulevard. The station is being relocated to the northeast corner of American Boulevard West and West 82nd Street. The station handles sewer flows from both the cities of Bloomington and Edina, and the new station will be large enough to handle anticipated future flows from redevelopment in both cities. Construction will also include sewer and watermain replacement and upsizing on American Boulevard and 82nd Street. The construction will require traffic control changes and temporary

BLOOMINGTON LIFT STATION IMPROVEMENTS PROJECT AREA MAP



water and sewer conveyance piping in the area. Construction on the project began summer of 2019 and is scheduled to be completed the summer of 2021. For more information on the project, please visit the Metropolitan Council's project website <https://metrocouncil.org/Wastewater-Water/Projects/Sewer-Planning-Construction-Updates/Projects/BloomingtonL55-8o84oo.aspx>



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 read more than 123,000 readings in 2019.

Customer Service processes more than
135,000 meter readings per year and manages
approximately **27,000** accounts

Index

UAR 1

UAR 2

UAR 3

UAR 4

UAR 5

WHAT YOUR AVERAGE WINTER USAGE MEANS ON YOUR UTILITY BILL

Wastewater is billed using a peak/non-peak or “winter usage” formula.

In order to calculate winter usage of wastewater, the City measures the residential use of water for two consecutive, non-peak billing cycles that begin on or after November 1 and end before the following May. The average monthly number of gallons is calculated and called the average monthly, non-peak winter usage or “winter usage”. Since households don’t have separate sewer meters, the Utilities Division must gauge the amount of water that goes into the sanitary sewer for treatment based on the customers’ indoor water use. On a bi-monthly basis, customers are charged for the wastewater using the current rate per 1,000 gallons of water used. The average consumption for the non-peak winter usage is used in the calculation because it most accurately reflects the amount of water that is sent into the sanitary sewer for treatment. This includes water used for, but not limited to, showers/bathing, dishwashers, laundry, toilets, and other indoor use.

Peak months are defined as the months from May to October; this is called the summer sewer season. During this time, a resident’s billable sewer amount is determined based on the owner’s average water use during the non-peak months (also called winter usage). The winter usage is multiplied by the current wastewater rate and billed as summer sewer. All wastewater calculations are subject to the residential minimum wastewater charges listed in chapter 11 of the City code. During peak months, if an owner’s actual usage is more than the minimum and less than an established winter usage, the owner will be charged only for the actual usage.

As a reminder: check for water leaks, such as running toilets or other water leaks. Even the smallest of leaks can add up significantly over time.

324010011110



24/7 Phone Payments: 1-844-368-4567
Questions about your bill: 952-563-8726
Nitti Sanitation: 651-457-7497
Teletypewriter TTY: 952-563-8740
Utilities Meter Service: 952-563-8777
Water and Sewer Emergency Service
Water Plant: 952-563-4905
Police Dispatch: 952-563-4900

The City of Bloomington does not discriminate on the basis of disability in the admission or access to or treatment or employment in, its services, programs, or activities. Upon request, accommodation will be provided to allow individuals with disabilities to participate in all City of Bloomington services, programs, and activities.

Meter #	Reading Dates	Read Type	Previous Read	Current Read	Usage (Gal)
67671199	09/07/2019 - 10/25/2019	Actual	450,042	451,669	1,627

ACCOUNT INFORMATION	
Account Number:	123456-789101
Statement #:	0000001
Billing Period Dates:	09/05/2019 - 10/30/2019
Bill Date:	11/20/2019
Due Date:	12/13/2019
Service Address:	1800 W OLD SHAKOPEE RD BLOOMINGTON MN 55431

SPECIAL MESSAGE

Log on to: www.BloomingtonMN.gov and sign up for E-Subscribe to receive direct updates about the Garbage & Recycling program.

ACCOUNT ACTIVITY	
Previous Balance	86.89
Payment	(86.89)
Late Fee	4.34
Water Tier 1 (1627.00@0.00339) (Minimum Bill)	13.56
State Test Fee	1.06
Storm Drainage	14.58
Citywide Curbside Cleanup	7.30
Sewer (1627.00@0.00463) (Minimum Bill)	18.52
Recycling - Medium Cart	11.58
Garbage - Small Cart	17.08
Hennepin County Solid Waste Fee	1.54
Solid Waste Mgmt Tax	1.67
Current Bill	91.23
Past Due	0.00
Total Amount Due	91.23

DETACH AND RETURN REMITTANCE PORTION OF THE BILL WITH YOUR PAYMENT

Payment Coupon



PAST DUE	CURRENT CHARGES	TOTAL DUE	AMOUNT ENCLOSED
0.00	91.23	91.23	

The due date is for current charges only. All other charges are past due and should be paid immediately. All accounts unpaid by the due date will be charged a late fee computed as 5 percent of the total amount due and owing, pursuant to Bloomington City Code, Sections 11.63 and 11.06. This fee will be reflected on the next invoice.

JOHN DOE
1800 W OLD SHAKOPEE RD
BLOOMINGTON MN 55431

Account Number: 123456-789101
Due Date: 12/13/2019

City of Bloomington
Water Payments
1800 W Old Shakopee Rd
Bloomington MN 55431-3080



13474855192700009123

Index

UAR 1

UAR 2

UAR 3

UAR 4

UAR 5