

WATER QUALITY REPORT

FOR BLOOMINGTON, MN • 2019 TEST RESULTS



JUNE 2020

INSIDE

WQR 2 Where does your tap water come from?

WQR 3 FAQ.

WQR 4 2019 Water quality results.



MAKING SAFE DRINKING WATER

The City of Bloomington works hard to provide you with high-quality, safe, reliable drinking water that meets every federal and state water quality requirement. This report contains information about the sources, treatment process and history of our water system. See page WQR4 for the results of water quality monitoring on Bloomington's water sources from January 1 to December 31, 2019, conducted by the Minnesota Department of Health, and laboratories operated by the cities of Bloomington and Minneapolis.

The goal of this report is to advance residents' understanding of drinking water and heighten awareness of the need to protect precious water resources.

GET INVOLVED

Public Works welcomes input on water quality issues. Contact the water quality supervisor at 952-563-4904.

If you have questions about your water or need assistance, call or visit the City's website at BLOOMINGTONMN.GOV.

- Water Plant (24 hours a day) 952-563-4905.

Este informe contiene información muy importante. Si necesita una traducción del mismo, sírvase llamar al MN RELAY 711.

Bản báo cáo này có các thông tin rất quan trọng. Nếu quý vị cần bản dịch tiếng Việt, xin gọi số MN RELAY 711.

Warbixintaan waxaa ku jira macluumaad aad muhiim u ah. Haddii aad u baahan tahay in lagu turjumo, fadlan la xiriir MN RELAY 711.



PROVIDING GREAT WATER IN CHALLENGING TIMES

It's one thing to produce and deliver high-quality, delicious water when things are as they are supposed to be. It's another to continue to provide uninterrupted service during times of crisis, such as the COVID-19 pandemic.

The City's water treatment process already produces great-tasting drinking water that is safe to drink.

Water treatment plant operators are on-site 24 hours a day, seven days a week. These operators work in close collaboration with the Minnesota Department of Health to monitor and sample water not only at the plant, but throughout the distribution system. These analyses continue on a regular basis year-round to ensure Bloomington residents, businesses and visitors have access to water that meets or exceeds all state and federal health standards.

Beyond the treatment plant, water operators are out every day performing essential functions to ensure

safe delivery of water. Whether they are checking valves, repairing water main breaks or inspecting and fixing fire hydrants to ensure they are fully operational, staff are dedicated to maintaining only the highest standards for our water.

Lastly, the City has emergency response plans in place to address unique events and situations. These plans are continually updated and staff are trained to implement contingencies to make sure the City's drinking water remains safe. Maintaining safe, reliable, high-quality water is a never-ending job with unique challenges.

During times of uncertainty, the City's Utility Division works extra hard to ensure you can be confident that you will have uninterrupted access to clean, safe, great-tasting water. During good times and more challenging times, you can rely on Bloomington's high-quality water.

WATER TREATMENT PLANT FILTERS UPGRADED

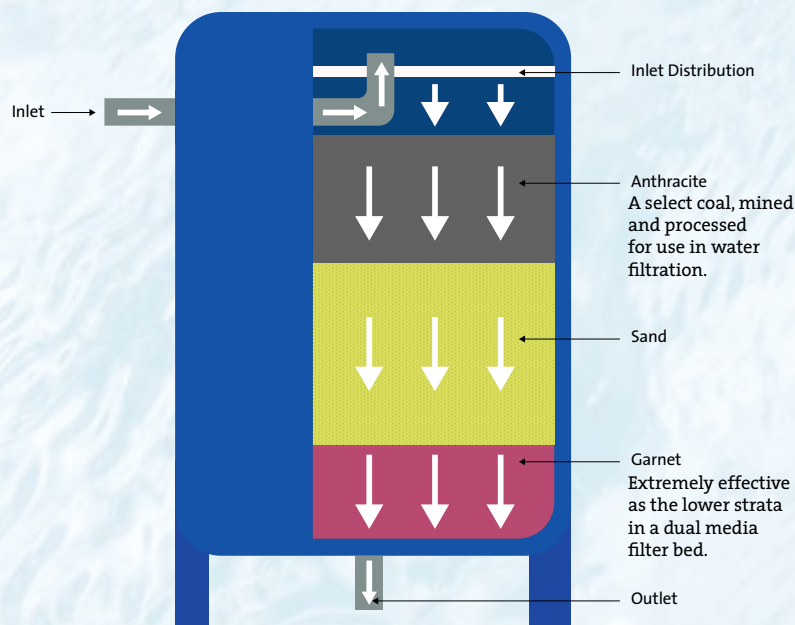
Proper filtration supports high-quality water. At the City of Bloomington's Water Treatment Plant, multimedia filters remove impurities and play an important role in the process used to produce drinking water. They are the last part of a multistep treatment process that softens and purifies water.

In 2018, treatment operators began noticing inconsistent performance from the older multimedia filters. Their filter design and construction dates to when the original plant was built in the 1970s.

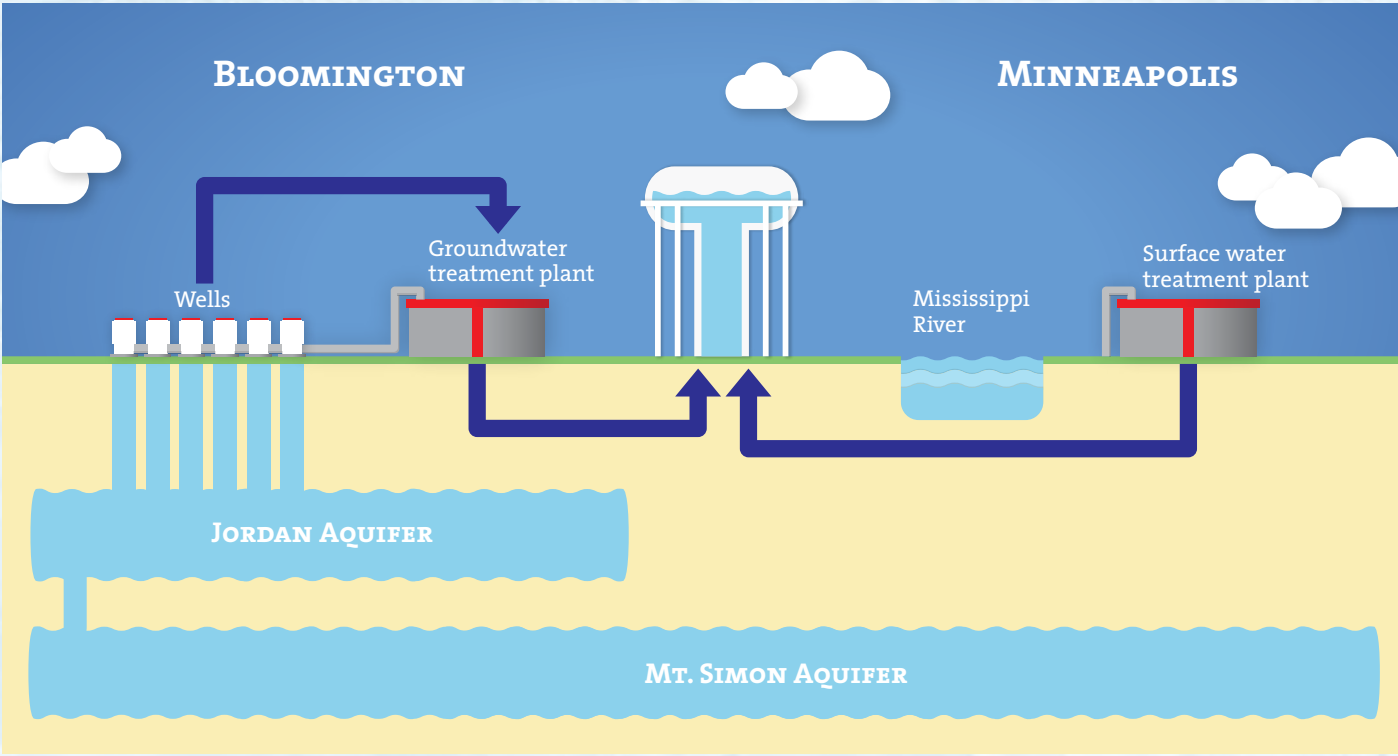
A second set of filters was added during the 2001 water plant expansion. While the design of the newer filters was similar to the older ones, updated key features allowed for more consistent and predictable performance.

To determine the best way forward, Utilities staff began a series of in-house studies with the help of consultants. Based on their recommendations, plans and specifications were developed last year. The project to reconstruct the four oldest filters, with a new underdrain system designed to match the filters installed in 2001, was awarded to Chanhassen-based Magney Construction. The project began last December and is expected to be substantially complete in the first half of this year.

INDUSTRIAL MULTIMEDIA FILTER DIAGRAM



THE SOURCES OF BLOOMINGTON'S TAP WATER

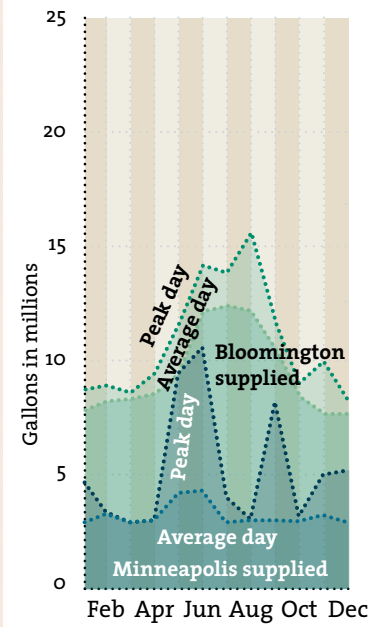


HOW MUCH IS USED?

In 2019, residents and businesses in Bloomington used 3.4 billion gallons of water, 270 million gallons less than 2018. Average usage was 9.4 million gallons of water per day last year.

The chart below shows the peak day and average day of water use for each month during 2019, as well as the average amount of water treated at the City's plant and purchased from Minneapolis. To get a more accurate picture of the actual water consumed, peak day data was adjusted to account for fluctuations in the City's reservoir levels. To learn more, visit blm.mn/water-usage.

2019 DAILY WATER USE



BY THE NUMBERS

Numbers speak volumes, especially for the work the Utilities Division does to support the City's exemplary standards for quality water.

6 Water storage facilities used by the City of Bloomington.

25,300 Water service accounts handled by the City for residential, commercial and multi-family customers.

9.4 Millions of gallons of water consumed, on average, every day in 2019.

30 Millions of gallons of storage capacity available in the City's water distribution system.

BLOOMINGTON'S WATER SUPPLY

The City of Bloomington's municipal water supply comes from two sources: Bloomington municipal water supply wells and an interconnection with the City of Minneapolis water supply system.

BLOOMINGTON WELLS

The City's water plant draws water from deep groundwater wells. The wells extend into the Jordan Sandstone, Prairie du Chien Group, Tunnel City-Wonewoc Sandstone and Mount Simon aquifers that hold vast amounts of water.

MISSISSIPPI RIVER

To supplement production at the water treatment plant, Bloomington purchases finished water from the City of Minneapolis. Treated water from our plant is blended with similarly treated water from Minneapolis throughout Bloomington's distribution system. Minneapolis' surface water treatment plant takes raw water from the Mississippi River.

For more information, visit the City's website at blm.mn/watertreatment.

WATER TREATMENT PROCESS

- 1 The softening process begins when lime, in the form of slakened quicklime, is mixed with raw water in one of the City's two contact solids basins. Each basin holds half a million gallons of water.
- 2 The lime-and-water mixture causes a chemical reaction that results in calcium and magnesium (the main components of hardness) forming insoluble particles called flocs. As these floc particles grow in size, they settle to the bottom of the contact solids basins. The solids are removed, dewatered and used as a USDA-approved source of lime by Minnesota farmers to stabilize the pH in farm fields.
- 3 The water enters a recarbonation basin where it is adjusted to the proper pH by adding carbon dioxide.
- 4 The water is filtered to remove any remaining particles. Then it enters an underground reservoir called a clearwell where small quantities of fluoride are added. Because fluoride promotes strong teeth and bones, fluoridation is mandated by state law at a dosage of 0.7 parts per million. *See page WQR 4.*
- 5 The finished water from the City's treatment plant is pumped into the distribution system, where it is mixed with treated water purchased from the city of Minneapolis. For more information, visit blm.mn/watertreatment.

WATER TESTING

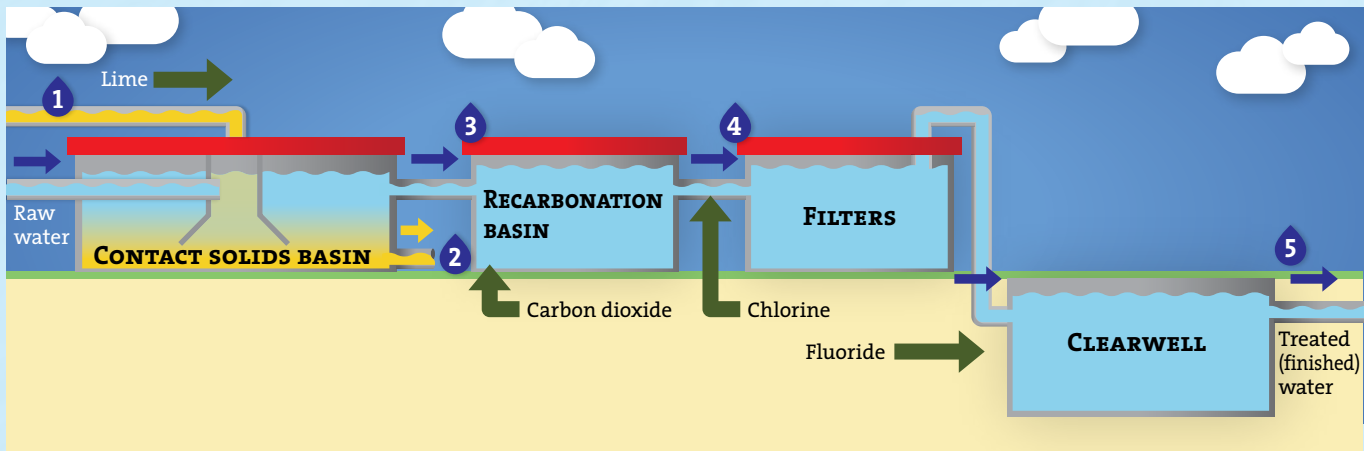
The Tri-City William Lloyd Analytical Laboratory is certified by the Minnesota Department of Health to test water. In 2019, the lab performed more than 9,750 tests on Bloomington's well, raw, finished and distribution water. The lab also analyzed 198 state-mandated bacteria tests for new water main construction projects and conducted 780 water quality tests on Bloomington's surface water bodies.



CONSIDER A CAREER IN THE WATER INDUSTRY

Working in this high-demand field is makes a positive difference in people's lives and strengthens the quality of life in communities. Everyone needs clean, safe drinking water. There are other benefits in pursuing a career in the water industry. Placement rates for water environment technology professionals are higher than many other occupations and opportunities exist in both the public and private sectors.

For more information, visit the American Water Works Association Minnesota Section's website at blm.mn/watercareers.



FREQUENTLY ASKED QUESTIONS ABOUT BLOOMINGTON’S WATER

WHY IS THE WATER FROM MY FAUCET CLOUDY?



Occasionally, the City receives calls about water that appears cloudy or milky. Usually indicating the presence of either oxygen or calcium, cloudy water is perfectly safe to drink.

Oxygen in water: Sometimes water fresh from the tap appears cloudy. Within a minute or two, the cloudiness rises toward the top of a glass and before long the whole glass is crystal clear. This is caused by excess oxygen escaping from the water.

Changes in temperature and pressure can cause the oxygen dissolved in water to reach a supersaturated state where more oxygen is in the water than it can hold. When the water passes through a faucet, the disturbance is enough to release the excess oxygen from the water, forming microscopic bubbles. The bubbles are so tiny that it takes them a long time to rise through the water. No harm will come from using oxygenated water, and you don’t need to take any corrective action if you experience it.

Calcium in water: The chemistry of water is surprisingly complex, and many factors influence how it behaves. The City treats Bloomington’s water so that it is slightly prone to deposit a trace of calcium sediment as it travels

through its distribution system. This reduces the likelihood that it might corrode water mains or leach lead or copper from customers’ plumbing and fixtures. Usually, this calcium sediment remains at the bottom of the water mains, unnoticed by water users.

However, the calcium can be stirred up when a large volume of water is drawn through a water main in a short time. Events that can increase water velocity include firefighting, water main breaks, hydrant maintenance and the filling of water or street-cleaning trucks’ tanks at a hydrant. If you happen to turn on your cold water right after such an event, you may draw some of the stirred-up water into your pipes.

When calcium causes cloudiness, it is usually noticed in cold water. Let a glassful of the cloudy water sit for about 30 minutes and any calcium, appearing as a white or grayish substance, will settle to the bottom of the glass. Though it may be visually unappealing, such water is perfectly safe to drink or use for cooking.

To clean calcium sediment from your system, we recommend that you wait an hour or two to allow the calcium in the main to settle. Then, open a large faucet such as a bathtub faucet and let the cold water run for about 20 minutes. This will draw clean water through your system and should remove any remaining calcium from your pipes.

If you have any concerns or if your water remains cloudy after taking these steps, call 952-563-4905.



SHOULD I GET A WATER FILTRATION SYSTEM?

Because Bloomington’s water surpasses all federal and state standards, home filtration systems are not necessary. However, if you choose to purchase a filtration system for aesthetic or medical reasons, keep the following in mind:

- Find out if the filter you are considering is capable of removing substances that concern you.
- Look for filters that have been certified by NSF International (an independent testing group) and Underwriters Laboratory (UL).
- Follow the manufacturer’s maintenance instructions carefully for usage and filter replacement frequency guidelines.



WATER SOFTENING

The City’s lime-softening process removes most of the hardness in Bloomington’s water, reducing it from 19 grains per gallon to about 5.2 grains per gallon finished water. (Zero-grain water is ultra-soft while 19-grain water is considered raw.) The water is also treated to be noncorrosive. This helps prevent unsafe levels of lead and copper from leaching into the water from home plumbing. Home softening systems can further reduce water hardness, usually by adding a small amount of sodium.

Bloomington is one of 24 Minnesota municipal utilities that softens water, which means homeowners do not need to purchase their own water-softening system.

THE ESTIMATED COST OF HOME WATER SOFTENING RANGES BETWEEN \$4.84 AND \$5.41 PER 1,000 GALLONS OF WATER, COMPARED TO \$3.69 PER 1000 GALLONS FOR CITY-TREATED WATER IN 2019.



LEAD IN WATER

Lead in drinking water primarily comes from components associated with home plumbing. The City is responsible for providing high-quality drinking water, but cannot control the materials used in home plumbing.

Minimizing exposure to lead

Lead pipes, solder, brass faucets and other plumbing in your home pose the greatest threat of adding dangerous levels of lead to your water. A few simple practices can minimize your exposure to lead from your home.

First, always use cold water for your cooking and drinking. If your plumbing contains lead, hot water will draw more lead out of it. Second, allow your cold water to run for 30 seconds to two minutes before using. This flushes out any water that may have been in your pipes long enough to pick up higher concentrations of lead.

The presence of lead ranks among the most common health concerns people have about drinking water. Studies suggest levels of lead once thought to be safe can pose risks, especially to unborn babies and children.

Infants and children who drink water containing excessive levels of lead could experience delays in their physical or mental development. Children can show slight deficits in attention span and learning abilities. Adults who drink this water over many years can develop kidney problems or high blood pressure.

Fortunately, over years of regular and rigorous monitoring, Bloomington’s water has never been found to be a significant source of lead.

For more information, call the Safe Drinking Water Hotline at 1-800-426-4791 or visit epa.gov/safewater/lead. If you are concerned about your home’s lead levels, our laboratory can test your water for a fee. For more information, call 952-563-4904.

FOR PEOPLE WITH COMPROMISED IMMUNE SYSTEMS

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised people, such as those with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk of infections.

These people should seek advice from their health care providers about drinking water. Guidelines from the



Environmental Protection Agency and Centers for Disease Control on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline: 1-800-426-4791.

In Bloomington, water consumption averages about 65 gallons per person daily. Only one percent of water provided by water suppliers is used for drinking and cooking. Water is more frequently used for other purposes, including washing machines, toilets, showers, baths, faucets and leaks.

WWW.EPA.GOV

WATER PURITY INFORMATION PROVIDED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



Drinking water sources in the United States, both tap water and bottled water, include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over or through the ground, it dissolves naturally occurring minerals and, sometimes, radioactive material. Water also picks up substances resulting from animal or human activity.

To ensure that tap water is safe to drink, the Environmental Protection Agency regulates the amount of certain contaminants in water provided by public systems. The Food and Drug Administration regulates contaminants in bottled water to provide the same public health protection.

Drinking water, including bottled water, may be expected to contain reasonably small amounts of some contaminants. Their presence does not necessarily indicate that the water poses a health risk. Information about contaminants and potential health effects can be obtained by calling the EPA’s Safe Drinking Water Hotline at 1-800-426-4791.

CONTAMINANTS THAT MAY BE PRESENT IN UNTREATED SOURCE WATER

Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

- Inorganic contaminants**, such as salts and metals, can occur naturally or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining and farming.
- Pesticides and herbicides** come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.
- Organic chemical contaminants**, including synthetic and volatile organic chemicals, are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff and septic systems.
- Radioactive contaminants** can occur naturally or be the result of oil and gas production and mining activities.

2019 WATER QUALITY RESULTS

The Minnesota Department of Health and City staff regularly test samples of Bloomington’s water for contaminants. Substances detected appear in the table below. Undetected substances are not listed and unregulated contaminants are only listed if federal health risk limits are exceeded. The top half of the table summarizes test results performed on Bloomington water. The lower half

presents results for Minneapolis water which is blended into Bloomington’s distribution system. Information on Bloomington’s Source Water Assessment can be found at blm.mn/swa or by calling the MDH at 651-201-4700 or 1-888-345-0823.

Detected substance	Amount detected	Maximum (MCL)	Target (MCLG)	Typical source of substance	Type	Meets standards?
CITY OF BLOOMINGTON						
Chlorine (ppm)	Avg. = 2.29 (1.53 – 2.59)	4 MRDL	4 MRDLG	Water additive used to control microbes	R	Yes
Copper (ppm) (6/14/2017)	90% = 0.02 (0 of 30 sites over AL)	AL = 1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits	R	Yes
Fluoride (ppm)	Avg. = 0.65 (0.60 – 0.68)	4	4	State of Minnesota requires all municipal water systems to add fluoride to the drinking water to promote strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories	R	Yes
Haloacetic acids (HAA5) (ppb)	Avg. = 21.1 (2.3 – 31.8)	60	0	Byproduct of drinking water disinfection	R	Yes
Lead (ppb) (6/14/2017)	90% = 5.3 (1 of 30 sites over AL)	AL = 15	0	Corrosion of household plumbing systems; erosion of natural deposits <i>See page WQR 3</i>	R	Yes
Sodium (ppm)	6.33	U	U	Erosion of natural deposits	U	NA
Sulfate (ppm)	18.2	U	U	Erosion of natural deposits	U	NA
Trihalomethanes (TTHM) (ppb)	Avg. = 15.5 (1.6 – 18.4)	80	0	Byproduct of drinking water disinfection	R	Yes

CITY OF MINNEAPOLIS						
Chloramine (ppm)	Avg. = 3.22 (2.7 – 3.5 ppm)	4 MRDL	4 MRDLG	Water additive used to control microbes	R	Yes
Copper (ppm) (07/25/18)	90% = 0.06 (0 of 50 sites over AL)	AL = 1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits	R	Yes
Fluoride (ppm)	Avg. = 0.7 (0.6 – 0.69)	4	4	State of Minnesota requires all municipal water systems to add fluoride to the drinking water to promote strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories	R	Yes
Haloacetic acids (HAA5) (ppb)	Avg. = 29.7 (1.1 – 49)	60	0	Byproduct of drinking water disinfection	R	Yes
Lead (ppb) (07/25/18)	90% = 3.8 (2 of 50 sites over AL)	AL = 15	0	Corrosion of household plumbing systems; erosion of natural deposits	R	Yes
Trihalomethanes (TTHM) (ppb)	Avg. 29.2 (6.9 – 44)	80	0	Byproduct of drinking water disinfection	R	Yes
Turbidity (NTU)	0.31	NTU	NA	Soil runoff	R	Yes

Detected substance	Range of percent removal achieved	Average of percent removal achieved	Typical source of substance	Quarters out of compliance
CITY OF MINNEAPOLIS				
Total organic carbon	Avg. = 61% 53 – 67%	25 – 30%	Naturally present in the environment	0

Contaminant	Comparison Value	Highest Average Result or Highest Single Test Result	Range of detected test results
CITY OF BLOOMINGTON			
Manganese	100 ppb	0.83 ppb	0.67 – 0.98 ppb
Group of 6 Haloacetic Acids (HAA6Br)	NA	0.67 ppb	0.00 – 1.24 ppb
Group of 9 Haloacetic Acids (HAA9)	NA	12.42 ppb	3.39 – 28.19 ppb

KEY	
AL	Action level. An amount that, if exceeded, triggers a specific response that a water system must follow.
cfu	Colony forming unit.
MCL	Maximum contaminant level. The highest level allowed in drinking water. MCLs are set as close to MCLG as feasible using the best available treatment technology.
MCLG	Maximum contaminant level goal. Below this level there is no known or expected health risk. MCLGs allow for a margin of safety.
MRDL	Maximum residual disinfectant level.
MRDLG	Maximum residual disinfectant level goal.
NA	Not applicable.
nd	No detection.
NTU	Nephelometric turbidity unit. A measure of water clarity.
ppb	Parts per billion. Units of a substance, in pure form, found in every billion units of water.
ppm	Parts per million. Units of a substance, in pure form, found in every million units of water.
R	Regulated.
TT	Treatment technique. A required process intended to reduce the level of a contaminant.
U	Unregulated, but monitoring is required by the State of Minnesota. No limits have been set for this compound.
90%	Value obtained after disregarding the 10 percent of the samples taken that had the highest levels.