

# WATER QUALITY REPORT

FOR BLOOMINGTON, MN • 2020 TEST RESULTS



JUNE 2021

## INSIDE

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## MAKING SAFE DRINKING WATER

The City of Bloomington works hard to provide you with high-quality, safe, reliable drinking water that meets federal and state water quality requirements. 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, 2020, 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](http://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.



From left to right, Utility Operator Casey Lewis, Utility Operator Adam Meyer and Senior Utility Operator Anthony Hallberg give a thumbs up to the City's award-winning drinking water while preparing a City sludge truck for a busy day of waste hauling and treatment.

## QUALITY WATER DELIVERED DESPITE PANDEMIC CHALLENGES

This past year was challenging for the City of Bloomington's Utilities Division as well as for our customers. Hopefully, the worst of the pandemic is in the rearview mirror. Utilities staff have emerged from altered work flows and services with a more optimistic view for the future.

Due to pandemic restrictions and a significant decline in water sales, many of the Utilities Division's services and normal operations were adjusted. Despite these changes, Utilities staff worked hard to provide the same high-quality services customers have come to rely on during good times and more challenging times.

In addition to daily operations, crews performed routine inspections and preventative maintenance. They also responded to emergency repairs, such as water main breaks and service taps for new development.

Asset renewal projects continued with water distribution system replacements as part of the City's Pavement Management Program and infrastructure rehabilitation at the Water Treatment Plant, which is necessary to continue to meet water demand and water quality requirements.

In 2020, the Utilities Division also completed a risk and resiliency assessment in compliance with America's Water Infrastructure Act implemented by the Environmental Protection Agency. The risk and resiliency assessment updated and identified new potential risks to the water system, and evaluated capital and operation needs to maintain system resilience.

As normal conditions return in 2021, the Utilities Division is applying lessons learned in 2020 to make service delivery even more efficient and quality of services as high as possible while maintaining responsible water rates.

## CLEARWELL CLEANING AND INSPECTION KEEPS WATER SAFE

Did you know the City maintains 30 million gallons of drinking water storage at various sites? Ongoing upkeep and maintenance lay the groundwork for Bloomington water to surpass state and federal requirements consistently.

In November 2019, the City of Bloomington's Utilities Division hired a contractor to perform a dive inspection and cleaning project to evaluate a four-million-gallon clearwell (an underground storage reservoir). The dive crew was unable to do a full cleaning and evaluation at that time. To complete this task, a follow-up project was planned for October 2020.

In order to drain and enter the clearwell, the plant must shut down and rely on a wholesale connection with Minneapolis water to meet distribution needs. While planning, staff evaluated a 6-foot by 6-foot removable panel in the roof of the clearwell. An exploratory excavation of the hatch was completed in April 2020. The City shut down the plant in October to clean and inspect the clearwell. That time of year typically brings lower daily distribution demand, so needs could be easily met through Minneapolis supply lines.

Throughout 2020, acquisition of fall protection equipment, personal protective devices and a fixed ladder to be mounted in the tank continued. Planning for the excavation and shoring of the area around the access hatch was also completed. The Bloomington Fire Department provided consultation on confined space entry procedures and how equipment should be positioned and anchored for safe access to the tank. A vacuum excavating contractor helped to remove accumulated spent lime sediment. After this step was completed, the removed material was transported to holding lagoons.

After five days of intense activity with an average of 10 people in the tank cleaning, rinsing and conveying sediment for disposal, the tank was ready for an inspection and condition assessment. Following the on-site work, the tank was disinfected, rinsed clean and resealed for plant startup.

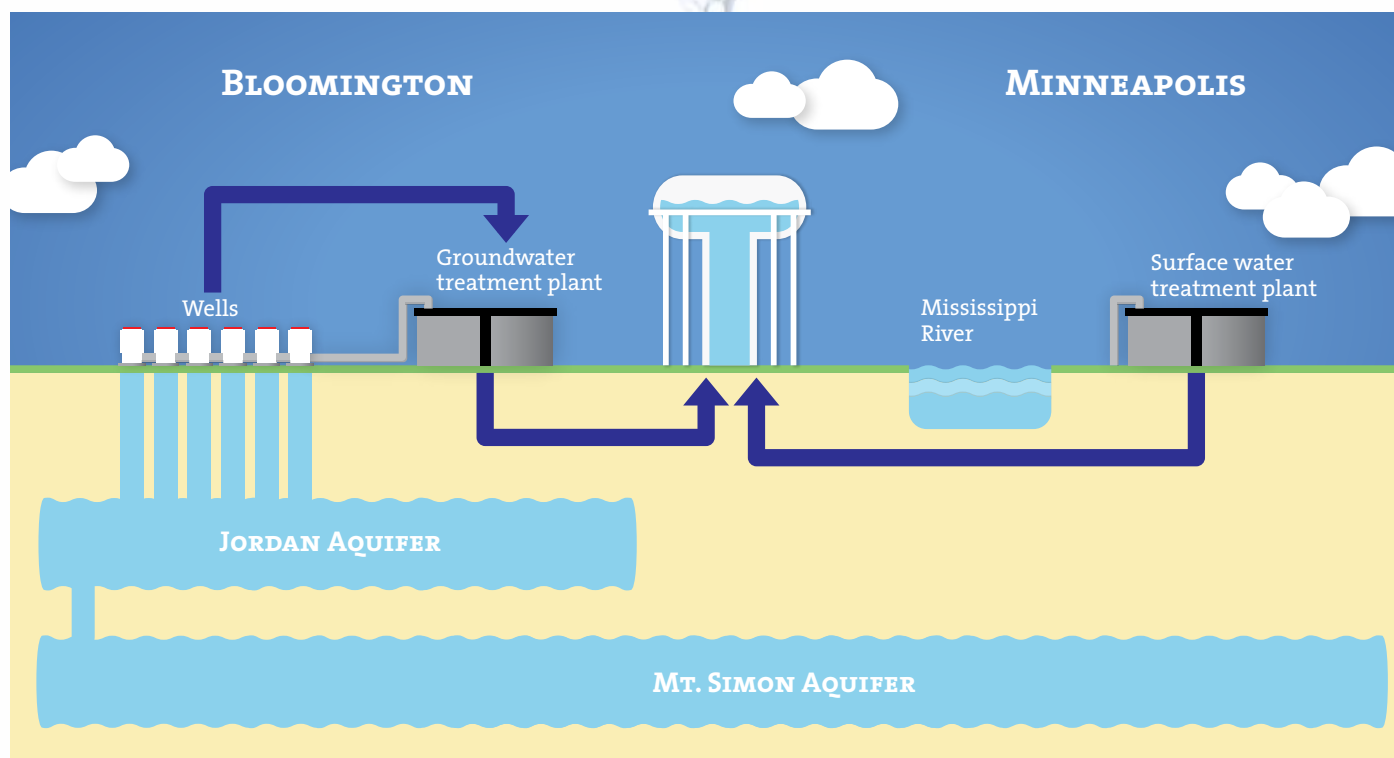
The clearwell is in generally excellent condition. A rehabilitation project—to include abrasive blasting and coating of ferrous metal (iron) trimmings and concrete repair—is expected in the future. The Utilities Division does maintenance assessments and project planning to ensure Bloomington has consistently reliable drinking water for years to come.



A dive inspection and cleaning project was completed on the City's four-million-gallon clearwell (final storage stage for water). While the clearwell is in excellent condition, a follow-up rehabilitation project is planned. Ongoing maintenance helps Bloomington water to consistently surpass state and federal requirements.



# THE SOURCES OF BLOOMINGTON'S TAP WATER

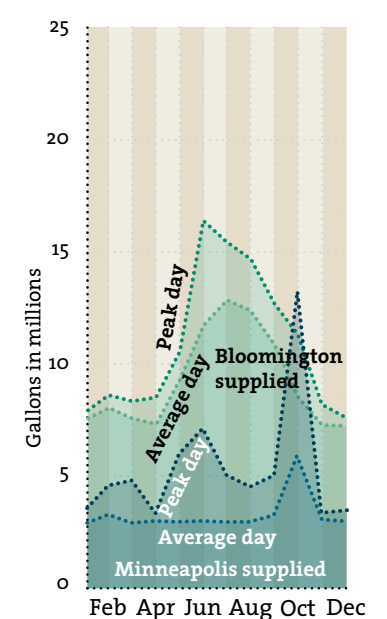


## HOW MUCH WATER IS USED?

In 2020, residents and businesses in Bloomington used 3.4 billion gallons of water.

The chart below shows the peak day and average day of water use for each month during 2020, as well as the average amount of water treated at the City of Bloomington'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](http://blm.mn/water-usage).

### 2020 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 2020.

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



## CONSIDER A CAREER IN THE WATER INDUSTRY

Working in this high-demand field 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](http://blm.mn/watercareers).

## 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.

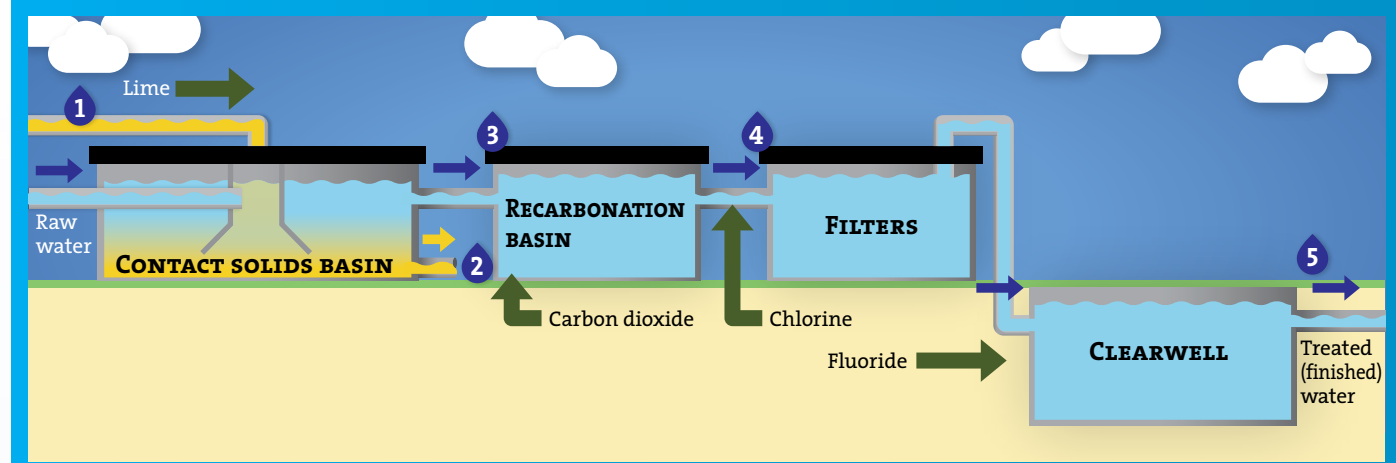
### MISSISSIPPI RIVER

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 [blm.mn/watertreatment](http://blm.mn/watertreatment).

## WATER TREATMENT PROCESS

- The softening process begins when lime, in the form of slaked 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.
- 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.
- The water enters a recarbonation basin where it is adjusted to the proper pH by adding carbon dioxide.
- 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.
- 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](http://blm.mn/watertreatment).



## WATER TESTING

The Tri-City William Lloyd Analytical Laboratory is certified by the Minnesota Department of Health to test water. In 2020, the lab performed more than 9,660 tests on Bloomington's well, raw, finished and distribution water. The lab also analyzed 161 state-mandated bacteria samples for new water main construction projects and conducted 937 water quality tests on Bloomington's surface water bodies.





# 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 systems.

**THE ESTIMATED COST OF HOME WATER SOFTENING RANGES BETWEEN \$4.01 AND \$4.84 PER 1,000 GALLONS OF WATER, COMPARED TO \$3.69 PER 1000 GALLONS FOR CITY-TREATED WATER IN 2020.**



## 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](http://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](http://WWW.EPA.GOV)



# BLOOMINGTON'S WATER IS REGULARLY TESTED

## WATER PURITY INFORMATION

PROVIDED BY THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Drinking water sources in the

United States for 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.

## 2020 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](http://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? |
|-------------------------------|------------------------------------|---------------|---------------|--|------|------------------|
| <b>CITY OF BLOOMINGTON</b>    |                                    |               |               |  |      |                  |
| Chlorine (ppm)                | Avg. = 2.29 (1.90 - 2.7)           | 4 MRDL        | 4 MRDLG       | Water additive used to control microbes  | R    | Yes              |
| Copper (ppm) (7/2020)         | 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. = 0.75 (0.71 - 0.85)          | 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. = 16.5 (3.6 - 29.3)           | 60            | 0             | Byproduct of drinking water disinfection   | R    | Yes              |
| Lead (ppb) (7/2020)           | 90% = 2.2 (0 of 30 sites over AL)  | AL = 15       | 0             | Corrosion of household plumbing systems; erosion of natural deposits<br><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. = 10.9 (3.6 - 16.6)           | 80            | 0             | Byproduct of drinking water disinfection   | R    | Yes              |

|                               |                                    |          |         |  |   |     |
|-------------------------------|------------------------------------|----------|---------|--|---|-----|
| <b>CITY OF MINNEAPOLIS</b>    |                                    |          |         |  |   |     |
| Chloramine (ppm)              | Avg. = 3.41 (3.2 - 3.5)            | 4 MRDL   | 4 MRDLG | Water additive used to control microbes  | R | Yes |
| Copper (ppm) (10/15/18)       | 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. = 0.67 (0.62 - 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. = 30.7 (1.2 - 30.9)           | 60       | 0       | Byproduct of drinking water disinfection   | R | Yes |
| Lead (ppb) (10/15/18)         | 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. 30 (6.0 - 33.8)               | 80       | 0       | Byproduct of drinking water disinfection   | R | Yes |
| Turbidity (NTU)               | 0.16 NTU                           | NTU      | NA      | Soil runoff  | R | Yes |

| Detected substance         | Range of percent removal achieved | Average of percent removal achieved | Typical source of substance          | Three-month periods (quarters) out of compliance |
|----------------------------|-----------------------------------|-------------------------------------|--------------------------------------|--|
| <b>CITY OF MINNEAPOLIS</b> |                                   |                                     |                                      |  |
| Total organic carbon       | Avg. = 61%<br>52 - 69%            | 62%                                 | Naturally present in the environment | 0  |

| Contaminant                          | Comparison value | Potential health effects and corrective actions  | Range of detected test results |
|--------------------------------------|------------------|--|--------------------------------|
| <b>CITY OF BLOOMINGTON</b>           |                  |  |                                |
| Manganese                            | 100 ppb          | .  | 0.67 - 0.98 ppb                |
| Group of 6 Haloacetic Acids (HAA6Br) | NA               | Total Haloacetic Acids (HAAs), Total Trihalomethanes (TTHMs): We are required to monitor our drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not drinking water meets health standards. During October 2020 to December 2020, the Utilities Division did not complete all monitoring or testing for HAAs and TTHMs and therefore cannot confirm these water quality parameters for that time period. However, testing results prior to and after that time including additional sampling on April 15, 2021, do confirm water quality meets all state and federal standards as usual. | 0.00 - 1.24 ppb                |
| Group of 9 Haloacetic Acids (HAA9)   | NA               |  | 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.