

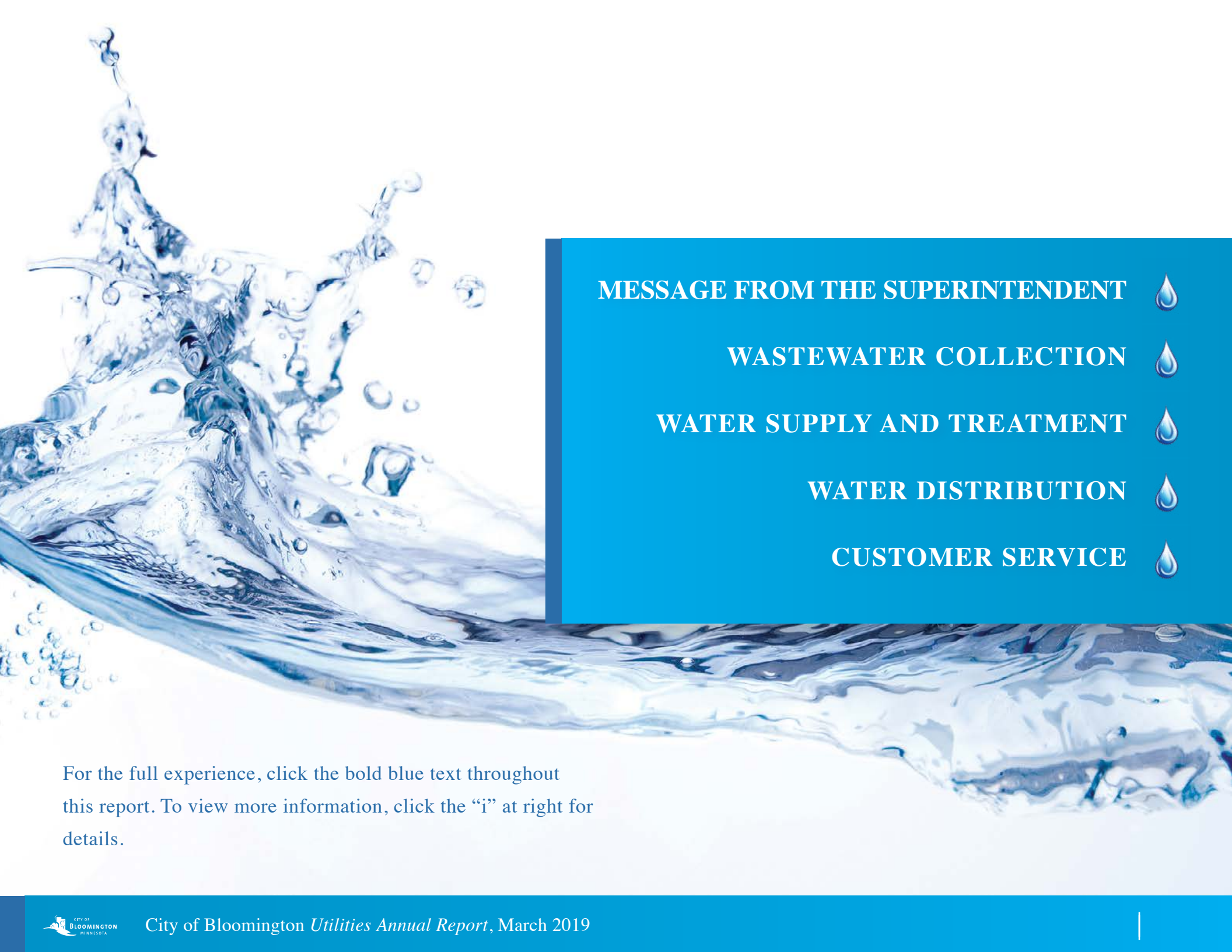


bloomington

IN FOCUS

UTILITIES ANNUAL REPORT
FOR BLOOMINGTON, MINNESOTA 2018 YEAR END





MESSAGE FROM THE SUPERINTENDENT



WASTEWATER COLLECTION



WATER SUPPLY AND TREATMENT



WATER DISTRIBUTION

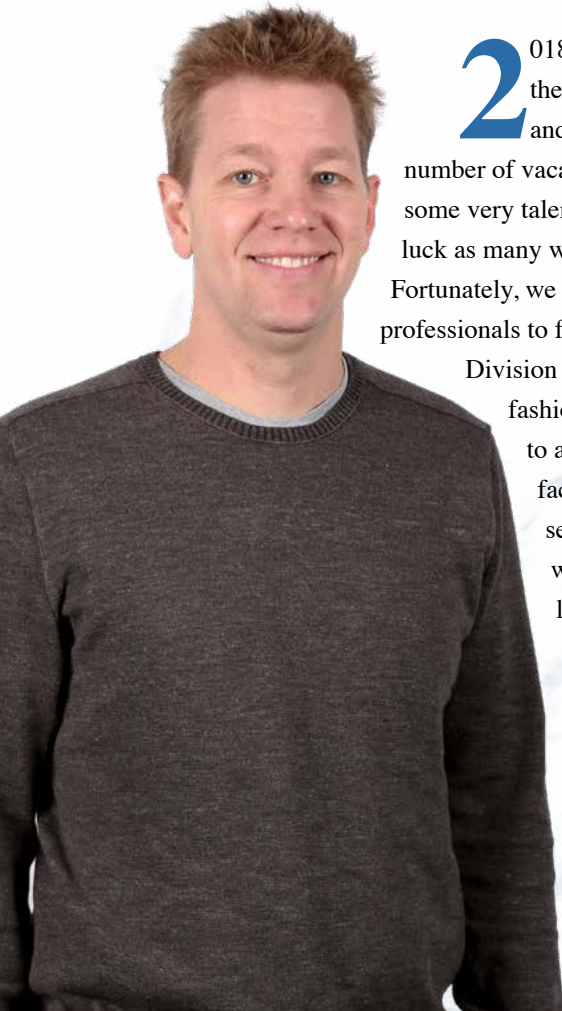


CUSTOMER SERVICE



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



2018 has been a year of change and opportunity for the City's Utilities Division. Through promotions and other advancements, we found ourselves filling a number of vacancies last year. While the Division said goodbye to some very talented and dedicated employees, we also wished them luck as many were moving on to new challenges and opportunities. Fortunately, we were able to find skilled and energized professionals to fill these roles and continue moving the Utilities Division forward in the same dedicated and proficient fashion customers have come to expect. From Operators, to a Supervisor, to an Assistant Superintendent, new faces and new ideas are at the table. As everyone settles in to their roles, I'm confident that Utilities will continue to uphold our reputation as innovative leaders in the water and wastewater industries.

2018 was also an important year for establishing future directions in terms of capital planning, sustainability and asset renewal. Updates to the Wastewater and Comprehensive Sewer Plan (WWCSP) and Water Supply were completed, new tool creation for programmed sanitary sewer and water mainline replacement was kicked off, and we completed the first DNR Water Conservation Report outlining the City's progress toward water conservation goals. These new tools and plans will help establish our future direction and provide the framework for on-going success.

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



We continue to work with our Finance Department and City Council to establish water and sewer rates that are competitive in the region but also sufficient to deliver high-quality drinking water meeting or exceeding all state and federal standards, as well as safely collecting and conveying the City's wastewater for proper treatment. In addition, thoughtful rehabilitation and replacement of our aging infrastructure is critical to ensuring long-term delivery of these services. The Utilities Division owns, operates, maintains and ultimately will replace over \$320 million in water and wastewater infrastructure. These core services are key to the health, safety and welfare of our community along with supporting business and the local economy. The Utilities Division has a long history of success and is well positioned to continue that level of service. Thank you to all who contributed to a great 2018!

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MESSAGE FROM THE SUPERINTENDENT

ALSO IN 2018

- 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

In 2018, the City 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. A key component of the WWCSP is the updated Wastewater System Capital Improvement Plan (CIP). The CIP outlines the estimated costs and timing for needed system upgrades identified by the model. Pipes were determined to have insufficient

capacity if the modeled peak flow within the pipe indicated more than 75% of the available capacity. Projects were prioritized in the CIP based on the simulation which initially indicated the insufficient capacity issue. The order of prioritization is as follows:

- High Priority – Insufficient capacity and surcharging during the 2020 simulation.
- Medium Priority – Insufficient capacity and surcharging during the 2030 simulation.
- Low Priority – Insufficient capacity and surcharging during the 2040 simulation.
- Watch List – Design flow exceeds 75% of available capacity, but pipe does not surcharge.
- The CIP project areas are displayed on the map below. Estimated costs (based upon 2018 unit pricing) are as follows:
 - The estimated cost for City-owned Priority projects = **\$7,176,460**.
 - The estimated cost for City-owned Watch List Projects = **\$10,660,459**.
 - The estimated cost for MCES-owned Priority projects = **\$2,947,017**.
 - The estimated cost for MCES and Private-owned Watch List Projects = **\$2,310,148**.
- The estimated total cost for all of the CIP projects = **\$23,094,084**.

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.

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 2018 – 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 2018.

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EXAMINING LEAD IN TAP WATER

The Environmental Protection Agency reports that anywhere from 10-20% of human exposure to lead comes from tap water. Though the City of Bloomington's (COB) tap water is lead-free as it leaves the treatment plant, drinking water can become contaminated with lead in your home as it passes through copper plumbing that contains lead solder, or bronze and brass faucets containing lead. Let's put lead under the microscope and see what we find!

First, let's consider how we as water consumers can protect ourselves from lead. At the residential level, lead can enter our tap water through plumbing, because the

water in our homes may be considered aggressive and/or corrosive, especially if we utilize a water softener. Soft water, though fantastic for eliminating lime scale, has a job to remove calcium and magnesium. The low concentration of these two minerals, with the addition of sodium, will cause a change in the chemistry of the water, thus making it corrosive. Corrosive water will dissolve or wear away the metal formed from the

Between October 17 and November 2, 2018, 26,546 tons of Agricultural Liming Material were transported and spread over 3,700 acres of farm fields.

chemical reaction between the water and the plumbing, much like road salt does to cars.

Second, let's discuss how the City can protect you from lead. The idea that soft water and softened water are the same is a huge misconception...believe it or not, there is a difference. Soft water is water that has zero calcium or magnesium ions, while softened water is the reduction of calcium and magnesium ions to lessen lime-scale but also to create non-corrosive tap water. Though the ground water is softened, from 350mg/L of hardness to 90mg/L of hardness, it is still considered

moderately hard water. The COB uses lime to reduce water hardness and elevate the pH which is congruent not only to safe drinking water, but also exhibits a "scaling" effect. The scaling will coat the inside of plumbing to create a protective barrier. The calcium scale inhibits the water and the metal pipes from reacting to one another, thus stopping lead from leaching into the water.

The COB strives to bring you safe drinking water and does this by having zero lead-service lines and by making every effort to deliver you non-corrosive tap water.

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 2018, water usage fell short of the **PROJECTED DEMAND**.

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ANNUAL REVIEW OF WATER DISTRIBUTION - 2018

The Utilities Division is still working on restoring and renovating the 10-million gallon underground concrete storage tank located at 82nd Street and Penn Ave. S. The tank is being cleaned and minor concrete repairs done. The new ladders and overflows are installed. Work was put on hold because of the extreme cold; work will be finished this spring. We are also assisting Minneapolis in the rehabilitation and new meter install on the Oliver supply line in Minneapolis. We are updating controls and Minneapolis refurbished the two 36-inch gate valves, of which we installed one and kept one for future use. The valve vault will be completed this spring and then off to the other supply line on Knox Avenue for the same process. We had 28 main breaks in 2018, which is above the 10-year average of 21 per year. Fifteen of these breaks occurred between September 10, 2018 and January 1, 2019. It's been a busy year for Utilities, but we are gearing up for a bright future ahead.

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

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 28 **MAIN BREAKS REPAIRED** in 2018.

The **10-YEAR AVERAGE** for main breaks is 21 per year.



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CUSTOMER SERVICE

SANITARY SEWER SERVICE

The City of Bloomington operates and maintains the sanitary sewer collection system that serves all properties within the City. Operations & Maintenance staff

perform routine maintenance and TV inspections on its sanitary sewer system to ensure it is in good working condition.

The sewer line from your home, business, or other property to the City sewer main is the owner's responsibility. As the property owner, you are responsible for operation,

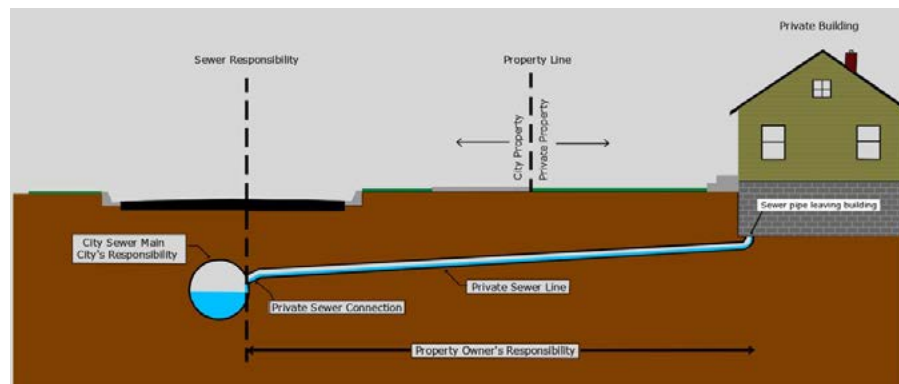
maintenance, and properly taking care of what goes down the drain. Not properly taking care of your private sewer line can lead to costly sewer repairs.

If your private sewer line is backing up, your first call should be to the City of Bloomington Utilities Division office at (952) 563-8777, or our 24-hour number, (952) 563-4905.

As shown in the illustration *at right*, your private sewer line extends from your home's foundation and includes its connection to the City's sewer main.

In the event of a sewer back-up, you may want to document any losses or actions. Pictures can also be useful as part of the process in documenting any damage caused by the sewer back-up. Finally, write down contacts and pertinent information associated with the back-up. This information can be of value if your loss is covered by insurance.

For all sewer back-ups, in the best interest of health and safety, property owners must take action and ensure that any water, sewage, or other debris is thoroughly cleaned up and sanitized in an appropriate and timely manner. It is of utmost importance that the wet areas are completely disinfected and dried.



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 135,000 readings in 2018.

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UTILITY INSPECTIONS - SEWER REPAIRS

One of the responsibilities of the City's Utilities Division is to inspect sewer service lines that are connected to the city sewer system. If you are having issues with your sewer service line not draining properly, it may need to be repaired between your home and the city main line in the street. A common cause of problems with sewer service lines are tree roots that have entered through joints or cracks in the line. One common method of repair is to dig an access hole in the yard and install new pipe to replace the existing pipe that has failed. The contractor that is performing the repair is required to be licensed, bonded and registered with the City of Bloomington. When the contractor performs the repair, they are required to have a City of Bloomington Utility Permit and the work is inspected by Utilities Division staff to ensure the repair is done to City of Bloomington standards and specifications. The picture above shows a repair meeting City standards with PVC piping and reinforced couplings connecting to the existing pipe.