

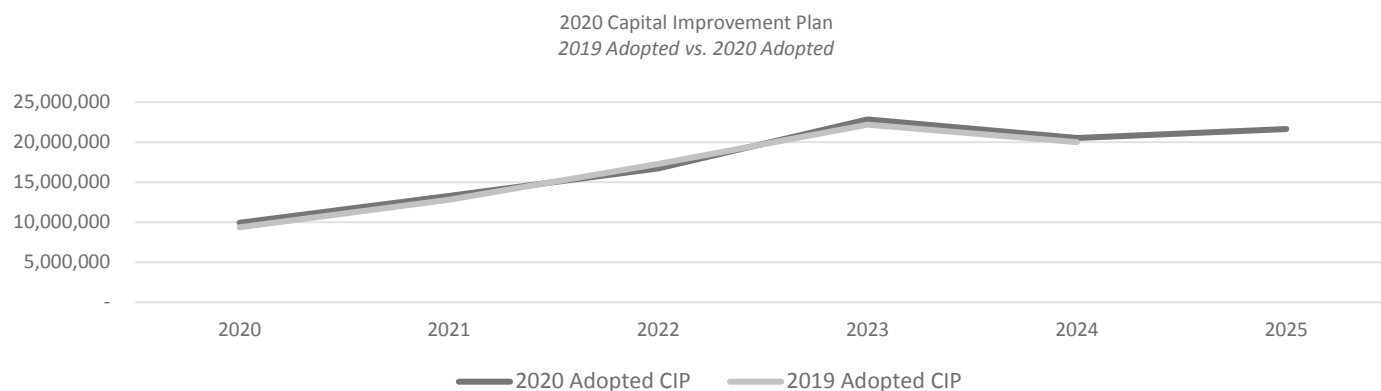
# Water Utility

## Capital Improvement Plan

### Project Summary

	2020	2021	2022	2023	2024	2025
Booster Pump Station #128 Upgrade	-	-	-	92,000	440,000	-
Booster Pump Station #213 Lakeview Recons	-	-	-	-	-	238,000
Chlorinators & Florinators Program	31,000	32,000	33,000	34,000	35,000	36,000
Unit Well #15	-	82,000	16,000	16,000	16,000	16,000
Unit Well #8 Reconstruction	-	-	-	-	-	87,000
Unit Well 12 Conversion to a Two Zone Well	-	-	-	318,000	3,754,000	-
Unit Well Rehab Program	320,000	240,000	255,000	270,000	270,000	285,000
Water Hydrants Program	550,000	567,000	583,000	601,000	619,000	637,000
Water Mains - New	4,082,000	96,000	1,780,000	4,276,000	3,081,000	5,019,000
Water Mains Replace Rehab Improve - Paver	785,000	3,869,000	4,745,000	3,561,000	2,962,000	1,995,000
Water Mains Replace Rehab Improve - Pipe I	200,000	709,000	2,042,000	2,401,000	2,301,000	2,184,000
Water Mains Replace Rehab Improve - Recor	1,933,000	4,643,000	2,568,000	1,543,000	4,121,000	1,583,000
Water Meter and Fixed Network Program	650,000	666,000	683,000	700,000	718,000	736,000
Water Utility Facility Improvements	592,000	492,000	884,000	522,000	539,000	555,000
Water Utility Vehicles & Equipment	767,000	731,000	655,000	669,000	690,000	705,000
Water Valve Cut-In Program	15,000	16,000	16,000	17,000	17,000	18,000
Well 14 Mitigation	-	82,000	-	-	-	-
Well 19 Iron and Manganese Filter	-	891,000	81,000	6,691,000	-	-
Westside Water Supply	-	153,000	2,370,000	1,127,000	971,000	7,531,000
<b>Total</b>	<b>\$ 9,925,000</b>	<b>\$ 13,269,000</b>	<b>\$ 16,711,000</b>	<b>\$ 22,838,000</b>	<b>\$ 20,534,000</b>	<b>\$ 21,625,000</b>

### Changes from 2019 CIP



### Programs Added

- Chlorinators & Florinators Program: Program moved to Capital Budget from Operating Budget (\$0.2m)
- Unit Well Rehab Program: Program moved to Capital Budget from Operating Budget (\$1.64m)
- Water Hydrants Program: Program moved to Capital Budget from Operating Budget (\$3.6m)
- Water Meter and Fixed Network Program: Program moved to Capital Budget from Operating Budget (\$4.15m)
- Water Utility Vehicles & Equipment: Program moved to Capital Budget from Operating Budget (\$4.2m)
- Water Valve Cut-In Program: Program moved to Capital Budget from Operating Budget (\$0.1m)

### Projects Added

- Westside Water Supply: Project added to CIP (\$12.15m)
- Unit Well #15: Project added to CIP (\$0.15m)
- Unit Well #14: Finance Committee Amendment 15 advanced funding for the Well 14 Mitigation projection from 2022 to 2021, and removed anticipated funding from 2023-2025 (-\$33,600)

### Projects Removed

- Booster Pump Station #109: Project removed from CIP (\$3.1m)
- Booster Pump Station #129: Project removed from CIP (\$4.7m)

# Water Utility

## Budget Overview

### 2020 CIP by Expenditure Type

	2020	2021	2022	2023	2024	2025
Building	429,000	1,412,000	927,000	7,492,000	5,223,000	8,131,000
Machinery and Equipment	1,931,000	1,804,000	1,680,000	1,820,000	2,210,000	1,820,000
Water Network	7,565,000	10,053,000	14,104,000	13,526,000	13,101,000	11,674,000
<b>Total</b>	<b>\$ 9,925,000</b>	<b>\$ 13,269,000</b>	<b>\$ 16,711,000</b>	<b>\$ 22,838,000</b>	<b>\$ 20,534,000</b>	<b>\$ 21,625,000</b>

### 2020 CIP by Funding Source

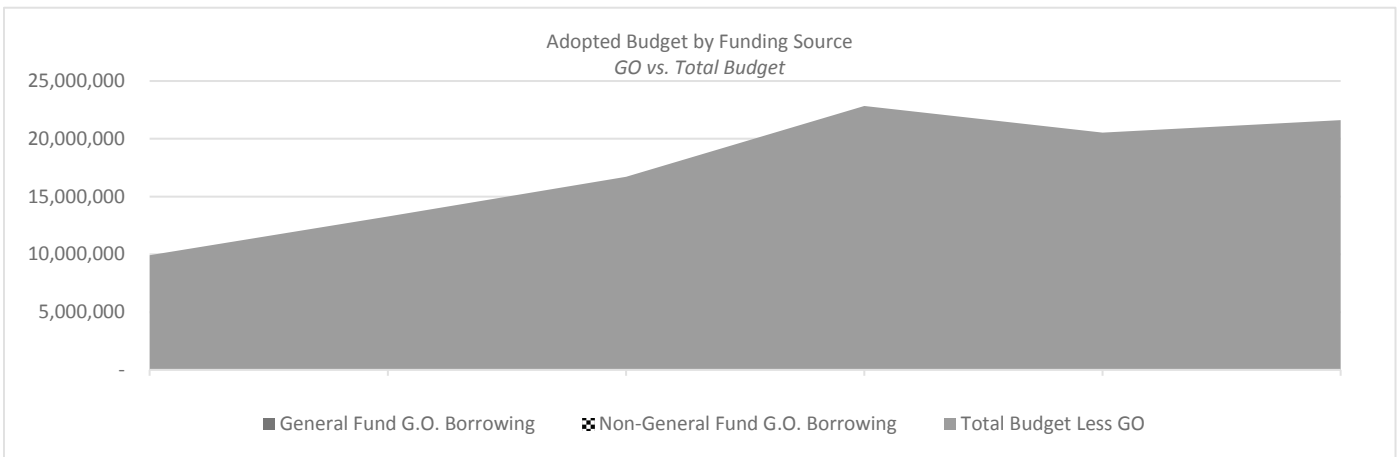
	2020	2021	2022	2023	2024	2025
Reserves Applied	2,333,000	2,252,000	2,225,000	2,291,000	2,349,000	2,417,000
Revenue Bonds	7,592,000	11,017,000	14,486,000	20,547,000	18,185,000	19,208,000
<b>Total</b>	<b>\$ 9,925,000</b>	<b>\$ 13,269,000</b>	<b>\$ 16,711,000</b>	<b>\$ 22,838,000</b>	<b>\$ 20,534,000</b>	<b>\$ 21,625,000</b>

### Borrowing Summary

	2020	2021	2022	2023	2024	2025
<b>Borrowing Schedule</b>						
General Fund G.O. Borrowing	-	-	-	-	-	-
Non-General Fund G.O. Borrowing	-	-	-	-	-	-
<b>Total</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

### Annual Debt Service

General Fund G.O. Borrowing	-	-	-	-	-	-
Non-General Fund G.O. Borrowing	-	-	-	-	-	-



# Water Utility

## Project Overview

<b>Project Citywide Element</b>	<b>Booster Pump Station #128 Upgrade Green and Resilient</b>	<b>Project #</b>	<b>12442</b>
		<b>Project Type</b>	<b>Project</b>

### Project Description

This project is for Booster Pump Station #128 pumping capacity upgrades. The goal of this project is to meet pumping demand on the far west side of the water system. Pump capacity will be increased to 2100 gallons per minute.

### Project Budget by Funding Source

	2020	2021	2022	2023	2024	2025
Revenue Bonds	-	-	-	92,000	440,000	-
<b>TOTAL</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 92,000</b>	<b>\$ 440,000</b>	<b>\$ -</b>

<b>Project Citywide Element</b>	<b>Booster Pump Station #213 Lakeview Reconstruction Green and Resilient</b>	<b>Project #</b>	<b>12441</b>
		<b>Project Type</b>	<b>Project</b>

### Project Description

This project is for reconstructing the Lake View Booster Pumping Station. The goal of the project is to meet fire fighting requirements and expansion in Zone 5. A generator will also be added to ensure reliability of the pumping station in the event of a power outage. Pump capacity will be increased to 1200 gallons per minute.

### Project Budget by Funding Source

	2020	2021	2022	2023	2024	2025
Revenue Bonds	-	-	-	-	-	238,000
<b>TOTAL</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 238,000</b>

<b>Project Citywide Element</b>	<b>Chlorinators &amp; Florinators Program Green and Resilient</b>	<b>Project #</b>	<b>12386</b>
		<b>Project Type</b>	<b>Program</b>

### Project Description

This program rebuilds and replaces chlorinator and florinator equipment on a 10 year replacement cycle. The goal of this program is to reduce failures and service interruptions for safe and reliable water. Progress will be measured by the frequency of equipment failure.

### Project Budget by Funding Source

	2020	2021	2022	2023	2024	2025
Reserves Applied	31,000	32,000	33,000	34,000	35,000	36,000
<b>TOTAL</b>	<b>\$ 31,000</b>	<b>\$ 32,000</b>	<b>\$ 33,000</b>	<b>\$ 34,000</b>	<b>\$ 35,000</b>	<b>\$ 36,000</b>

<b>Project Citywide Element</b>	<b>Unit Well #15 Green and Resilient</b>	<b>Project #</b>	<b>12443</b>
		<b>Project Type</b>	<b>Project</b>

### Project Description

This project is for studying options to treat the perfluorinated compounds (PFOS) at Unit Well #15. USEPA and WiDNR have not established a regulatory level for PFOS at this time, however the current health advisory level is 70 parts per trillion.

### Project Budget by Funding Source

	2020	2021	2022	2023	2024	2025
Revenue Bonds	-	82,000	16,000	16,000	16,000	16,000
<b>TOTAL</b>	<b>\$ -</b>	<b>\$ 82,000</b>	<b>\$ 16,000</b>	<b>\$ 16,000</b>	<b>\$ 16,000</b>	<b>\$ 16,000</b>



**Project** **Water Mains - New** **Project #** **12507**  
**Citywide Element** **Green and Resilient** **Project Type** **Program**

*Project Description*

This program is for installing new water mains throughout the City. The goal of the program is to strengthen and expand the existing distribution system, improve water pressure, improve fire protection, allow transfer of water between pressure zones, and to serve the growing areas of the City. Newly installed mains include hydraulic improvements consistent with the Water Utility Master Plan. Planned projects in 2020 include: Cottage Grove Road, Treetops Drive, Feather Edge Drive, Felland Road, and Lien Road.

*Project Budget by Funding Source*

	2020	2021	2022	2023	2024	2025
Revenue Bonds	4,082,000	96,000	1,780,000	4,276,000	3,081,000	5,019,000
<b>TOTAL</b>	<b>\$ 4,082,000</b>	<b>\$ 96,000</b>	<b>\$ 1,780,000</b>	<b>\$ 4,276,000</b>	<b>\$ 3,081,000</b>	<b>\$ 5,019,000</b>

**Project** **Water Mains Replace Rehab Improve -** **Project #** **11894**  
**Citywide Element** **Pavement Management** **Project Type** **Program**  
**Green and Resilient**

*Project Description*

This program is for replacing existing water mains in conjunction with the repaving of roads as part of the City's Engineering-Major Streets Pavement Management program. The goal of the program is to update the water infrastructure reducing the risk of pipe failure. The program aligns with the Water Utility's goal to replace or rehabilitate over 400 miles of aging pipe within the City over a 40-year period to renew and maintain the system. Planned projects in 2020 include: South Brooks Street, Hathaway Drive, Strathmore Lane, Greenwich Drive, Devon Court, Davenport Drive, and Glenbrook Circle.

*Project Budget by Funding Source*

	2020	2021	2022	2023	2024	2025
Revenue Bonds	785,000	3,869,000	4,745,000	3,561,000	2,962,000	1,995,000
<b>TOTAL</b>	<b>\$ 785,000</b>	<b>\$ 3,869,000</b>	<b>\$ 4,745,000</b>	<b>\$ 3,561,000</b>	<b>\$ 2,962,000</b>	<b>\$ 1,995,000</b>

**Project** **Water Mains Replace Rehab Improve - Pipe Lining** **Project #** **11892**  
**Citywide Element** **Green and Resilient** **Project Type** **Program**

*Project Description*

This program is for cured-in-place-pipe lining (CIPP) to improve the quality of existing pipes in the water network throughout the City. The goal of the program is to lengthen the useful life of the pipes at a lower cost than replacing the pipe. The program measures the miles of pipe rehabilitated using the lining method. Locations for CIPP lining are evaluated on an annual basis.

*Project Budget by Funding Source*

	2020	2021	2022	2023	2024	2025
Revenue Bonds	200,000	709,000	2,042,000	2,401,000	2,301,000	2,184,000
<b>TOTAL</b>	<b>\$ 200,000</b>	<b>\$ 709,000</b>	<b>\$ 2,042,000</b>	<b>\$ 2,401,000</b>	<b>\$ 2,301,000</b>	<b>\$ 2,184,000</b>

<b>Project</b>	<b>Water Mains Replace Rehab Improve - Reconstruct Streets</b>	<b>Project #</b>	<b>11893</b>
<b>Citywide Element</b>	<b>Green and Resilient</b>	<b>Project Type</b>	<b>Program</b>

*Project Description*

This program is for replacing existing water mains in conjunction with the reconstruction of roads as part of the City's Engineering-Major Streets Reconstruct Streets program. The goal of the program is to update the water infrastructure diminishing the risk of pipe failure. The program aligns with the Water Utility's goal to replace or rehabilitate over 400 miles of aging pipe within the City over a 40-year period to renew and maintain the system. Planned projects in 2020 include: West Towne Path, South Gammon Road, Gregory Street, Cross Street, Copeland Street, Western Avenue, Dunning Street, Jackson Street, Lafollette Avenue, Rethke Avenue, Dean Avenue, Allis Avenue, Tvler Circle, Seth Circle, and Rockstream Drive.

*Project Budget by Funding Source*

	2020	2021	2022	2023	2024	2025
Revenue Bonds	1,933,000	4,643,000	2,568,000	1,543,000	4,121,000	1,583,000
<b>TOTAL</b>	<b>\$ 1,933,000</b>	<b>\$ 4,643,000</b>	<b>\$ 2,568,000</b>	<b>\$ 1,543,000</b>	<b>\$ 4,121,000</b>	<b>\$ 1,583,000</b>

<b>Project</b>	<b>Water Meter and Fixed Network Program</b>	<b>Project #</b>	<b>12340</b>
<b>Citywide Element</b>	<b>Green and Resilient</b>	<b>Project Type</b>	<b>Program</b>

*Project Description*

This program is for the water meter and fixed network advanced metering infrastructure (AMI) improvements. The program identifies projects via the State Public Service Commission (PSC) requirement for a prescribed schedule of meter replacement and testing. The goal of the program is to maximize the accuracy of the municipal services statements issued to customers. Progress will be measured by comparing the meter maintenance against the respective prescribed schedules as well as monitoring the total non-revenue water volume.

*Project Budget by Funding Source*

	2020	2021	2022	2023	2024	2025
Reserves Applied	650,000	666,000	683,000	700,000	718,000	736,000
<b>TOTAL</b>	<b>\$ 650,000</b>	<b>\$ 666,000</b>	<b>\$ 683,000</b>	<b>\$ 700,000</b>	<b>\$ 718,000</b>	<b>\$ 736,000</b>

<b>Project</b>	<b>Water Utility Facility Improvements</b>	<b>Project #</b>	<b>10440</b>
<b>Citywide Element</b>	<b>Green and Resilient</b>	<b>Project Type</b>	<b>Program</b>

*Project Description*

This program is for repairing and upgrading Water Utility facilities. The goal of the program is to maintain the facilities for reliable service and reducing emergency repairs. Progress is measured by tracking the number of emergency calls, facility outages, and accidents each year. Funding in 2020 is for variable frequency drive (VFD) and flow meter installations.

*Project Budget by Funding Source*

	2020	2021	2022	2023	2024	2025
Revenue Bonds	592,000	492,000	884,000	522,000	539,000	555,000
<b>TOTAL</b>	<b>\$ 592,000</b>	<b>\$ 492,000</b>	<b>\$ 884,000</b>	<b>\$ 522,000</b>	<b>\$ 539,000</b>	<b>\$ 555,000</b>

**Project** Water Utility Vehicles & Equipment **Project #** 12339  
**Citywide Element** Green and Resilient **Project Type** Program

*Project Description*

This program is for the annual vehicle and equipment replacements and additions. Replacement schedules are based on age and mileage of the vehicles and equipment. The goal of this program is to provide reliable vehicles and equipment for Water Utility’s operations. Progress will be measured by the frequency of vehicle breakdowns and actual useful life obtained. In 2020 a dump truck, service truck, backhoe, and three service vehicles will be purchased.

*Project Budget by Funding Source*

	2020	2021	2022	2023	2024	2025
Reserves Applied	767,000	731,000	655,000	669,000	690,000	705,000
<b>TOTAL</b>	<b>\$ 767,000</b>	<b>\$ 731,000</b>	<b>\$ 655,000</b>	<b>\$ 669,000</b>	<b>\$ 690,000</b>	<b>\$ 705,000</b>

**Project** Water Valve Cut-In Program **Project #** 12387  
**Citywide Element** Green and Resilient **Project Type** Program

*Project Description*

This program is for installing new valve cut-ins to the existing water infrastructure. The goal of this program is to eliminate areas of the city where water service is negatively impacted during water system maintenance and repair. Success is measured by a reduction in complaints from customers for impacted service.

*Project Budget by Funding Source*

	2020	2021	2022	2023	2024	2025
Reserves Applied	15,000	16,000	16,000	17,000	17,000	18,000
<b>TOTAL</b>	<b>\$ 15,000</b>	<b>\$ 16,000</b>	<b>\$ 16,000</b>	<b>\$ 17,000</b>	<b>\$ 17,000</b>	<b>\$ 18,000</b>

**Project** Well 14 Mitigation **Project #** 11900  
**Citywide Element** Green and Resilient **Project Type** Project

*Project Description*

This project is for improvements to reduce chloride concentration levels at Well 14 on University Avenue near Spring Harbor. Due to winter road salt operations on University Avenue and the surrounding neighborhoods, chloride levels in the water pumped from Well 14 have been rising for several years.

*Project Budget by Funding Source*

	2020	2021	2022	2023	2024	2025
Revenue Bonds	-	82,000	-	-	-	-
<b>TOTAL</b>	<b>\$ -</b>	<b>\$ 82,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

**Project** Well 19 Iron and Manganese Filter **Project #** 10448  
**Citywide Element** Green and Resilient **Project Type** Project

*Project Description*

This project is for a new iron, manganese, and radium treatment system at Well 19 located on Lake Mendota Drive or the City’s west side. The goal of this project is to improve water quality in the area. Progress will be measured by the change in iron, manganese, and radium concentrations, which currently do not meet Madison Water Utility standards. Funding in 2023 is for construction.

*Project Budget by Funding Source*

	2020	2021	2022	2023	2024	2025
Revenue Bonds	-	891,000	81,000	6,691,000	-	-
<b>TOTAL</b>	<b>\$ -</b>	<b>\$ 891,000</b>	<b>\$ 81,000</b>	<b>\$ 6,691,000</b>	<b>\$ -</b>	<b>\$ -</b>

**Project  
Citywide Element**

**Westside Water Supply  
Neighborhoods and Housing**

**Project #  
Project Type**

**12439  
Project**

*Project Description*

This project is for developing a new source of supply on the far west side of the system. Water demand projections indicate that there will be a supply deficiency on the far west side of the system by 2029 as the area develops. Funding in 2021-2022 is for project planning, 2023 is for water network improvements, and 2024-2025 is for a well construction.

*Project Budget by Funding Source*

	2020	2021	2022	2023	2024	2025
Revenue Bonds	-	153,000	2,370,000	1,127,000	971,000	7,531,000
<b>TOTAL</b>	<b>\$ -</b>	<b>\$ 153,000</b>	<b>\$ 2,370,000</b>	<b>\$ 1,127,000</b>	<b>\$ 971,000</b>	<b>\$ 7,531,000</b>



# Water Utility

## 2020 Appropriation Schedule

### 2020 Appropriation

### Adopted Budget

	Request	Executive	Adopted Budget		
			GO Borrowing	Other	Total
Chlorinators & Florinators Program	31,000	31,000	-	31,000	31,000
Unit Well Rehab Program	320,000	320,000	-	320,000	320,000
Water Hydrants Program	550,000	550,000	-	550,000	550,000
Water Mains - New	4,082,000	4,082,000	-	4,082,000	4,082,000
Water Mains Replace Rehab Improve - Pavement Management	785,000	785,000	-	785,000	785,000
Water Mains Replace Rehab Improve - Pipe Lining	200,000	200,000	-	200,000	200,000
Water Mains Replace Rehab Improve - Reconstruct Streets	1,933,000	1,933,000	-	1,933,000	1,933,000
Water Meter and Fixed Network Program	650,000	650,000	-	650,000	650,000
Water Utility Facility Improvements	592,000	592,000	-	592,000	592,000
Water Utility Vehicles & Equipment	767,000	767,000	-	767,000	767,000
Water Valve Cut-In Program	15,000	15,000	-	15,000	15,000
<b>Total 2020 Appropriation</b>	<b>\$ 9,925,000</b>	<b>\$ 9,925,000</b>	<b>\$ -</b>	<b>\$ 9,925,000</b>	<b>\$ 9,925,000</b>