2020 Capital Improvement Plan Project Budget Proposal

Identifying Information

Agency

Water Utility

Project Name

Booster Pump Station #1

Project Number 12442

Project Type

Project

Project Category Utility

Priority

13

Description

BPS 128 pumping capacity requires upgrade to meet anticipated grow on the far west side of the water system. Pumps will be increased in capacity to 2100 gpm.

Is this project currently included in the 2019 CIP?

No

Budget Information

Total Project Budget

\$532,000

Prior Appropriation

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Revenue Bonds-Water	0	0	0	92,000	440,000	0
Total	\$0	\$0	\$0	\$92,000	\$440,000	\$0

Expense Type	2020	2021	2022	2023	2024	2025
Machinery and Equipment	0	0	0	92,000	440,000	0
Total	\$0	\$0	\$0	\$92,000	\$440,000	\$0

Metric

Hours of operation.

Data Source

Water Utility operational records

Baseline Target 2017 8,958 hours; ... 3,000 hours

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

Describe how this project advances the Citywide Element:

Adequate pumping capacity is essential to renewing and maintaining critical infrastructure.

What is the justification for this project?

Pumping capacity is inadequate to support planned development on the far west side of the system.

Project Schedule & Location

What is the total time frame for this project?

Start Date: 1/1/2023

End Date: 12/31/2025

Project Status

2020	2021	2022	2023	2024	2025
			Planning	Construction Completion	

Can this project be mapped?

● Yes ○ No

What is the location of the project?

9202 Waterside Street

Is this project on the Project's Portal?

Operat	ting Costs		
What are	the estimated a	d annual operating costs associated with the project? \$0	
Personne	Į		
# of FTEs	Annual Cost	t Description	
Non-Pers	onnel		
Major	Amount	Description	
lotes			
otes:			
			v. 5-22-2

2020 Capital Improvement Plan Project Budget Proposal

Identifying Information

Agency

Water Utility

Project Name

Booster Pump Station #2

Project Number 12441

Project Type

Project

Project Category Utility

Priority

17

Description

The Lake View Booster Pumping Station is necessary to meet fire fighting requirements in Zone 5 and to accommodate the expansion of Zone 5. Pump capacity will be increased to 1000 to 1400 gpm. A generator will be added to ensure reliability of the pumping station.

Is this project currently included in the 2019 CIP?

No

Budget Information

Total Project Budget

\$2,510,000

Prior Appropriation

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Revenue Bonds-Water						238,000
Total	\$0	\$0	\$0	\$0	\$0	\$238,000

Expense Type	2020	2021	2022	2023	2024	2025
Water Network						238,000
Tota	ş0	\$0	\$0	\$0	\$0	\$238,000

Metric

Hours of operation and fire fighting capacity.

Data Source

Water Utility operational records.

Baseline Target Pump run time in 2... Pump run time - 200 ...

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

2023

Describe how this project advances the Citywide Element:

Adequate pumping capacity is essential to renewing and maintaining critical infrastructure.

What is the justification for this project?

Fire protection capacity does not meet Utility standards. Pumping capacity is inadequate to allow expansion of service area.

Project Schedule & Location

What is the total time frame for this project?

2020

Start Date: 1/1/2025

End Date: 12/31/2027

Project Status

2021

What is the location of the project?

Can this project be mapped?

Yes No

1320 Lake View Avenue

2022

Is this project on the Project's Portal?

2025

Planning

2024

Operat	ting Costs		
What are	the estimated a	d annual operating costs associated with the project? \$0	
Personne	Į		
# of FTEs	Annual Cost	t Description	
Non-Pers	onnel		
Major	Amount	Description	
lotes			
otes:			
			v. 5-22-2

2020 Capital Improvement Plan **Program Budget Proposal**

Identifying Information

Project Name Agency Water Utility Chlorinators & Florinator **Project Number** 12386 **Project Type** Program **Project Category** Utility **Priority**

2020 Munis Project Number 12424

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 interruptions in service for safe and reliable water. Progress will be measured by the frequency of equipment failure.

11

Budget Information

Prior Appropriation* Prior Year Actual* *Based on Fiscal Years 2015-2018

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Reserves Applied - Water	31,000	32,000	33,000	34,000	35,000	36,000
Total	\$31,000	\$32,000	\$33,000	\$34,000	\$35,000	\$36,000

Budget by Expenditure Type

Expense Type	2020	2021	2022	2023	2024	2025
Machinery and Equipment	31,000	32,000	33,000	34,000	35,000	36,000
Tota	\$31,000	\$32,000	\$33,000	\$34,000	\$35,000	\$36,000

Performance

Metric

Amount of residual chlorine and floride in the water meets or exceeds DNR requirements. MWU monitors the residuals in real time. We keep chlorine between .1 mg/l and ...

Data Source

Routine Water Utility sampling and testing

Baseline Data

2017 Actual	2018 Actual	2019 Projected	Target
Met	Met	Meet	Meet

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

Describe how this project advances the Citywide Element:

Meeting established water quality regulations and goals is essential to renewing and maintaining critical infrastructure.

Project Schedule & Location

2020 Projects

Project name	Est Cost	Location
2020 Chlorinators and Floridators	\$31,000	MWU Unit Wells and Booster Pump Stations.

Explain the justification for selecting projects planned for 2020:

Continue to exceed established DNR water quality standards and keep Madison's water supply safe.

Project Name Est Cost Location

Project Name	Est Cost	Location
2021 Chlorinators and Floridators	\$32,000	MWU Unit Wells and Booster Pump Stations.
2021 Ciliofiliators and Floridators		

Explain the justification for selecting projects planned for 2021:

Continue to exceed established DNR water quality standards and keep Madison's water supply safe.

2022 Projects

Project Name	Est Cost	Location
2022 Chlorinators and Floridators	\$33,000	MWU Unit Wells and Booster Pump Stations.

Explain the justification for selecting projects planned for 2022:

Continue to exceed established DNR water quality standards and keep Madison's water supply safe.

2023 Projects

Project name	Est Cost	Location
2023 Chlorinators and Floridators	\$34,000	MWU Unit Wells and Booster Pump Stations.
2023 Chlorinators and Floridators		

Explain the justification for selecting projects planned for 2023:

Continue to exceed established DNR water quality standards and keep Madison's water supply safe.

2024 Projects

Project name	Est Cost	Location
2024 Chlorinators and Floridators	\$35,000	MWU Unit Wells and Booster Pump Stations.

Explain the justification for selecting projects planned for 2024:

Continue to exceed established DNR water quality standards and keep Madison's water supply safe.

2025 Projects

Project name	Est Cost	Location
2025 Chlorinators and Floridators	\$36,000	MWU Unit Wells and Booster Pump Stations.
		·

Explain the justification for selecting projects planned for 2025:

Continue to exceed established DNR water quality standards and keep Madison's water supply safe.

Operating Costs

What are the estimated annual operating costs associated with the projects planned within this program?

Description Description
Description
Description
Description
V.

2020 Capital Improvement Plan Program Budget Proposal

Identifying Information

Agency Water Utility

Project Name

Water Hydrants Program

Project Number 12385

Project Type

Program

Project Category Utility

Priority

7

2020 Munis Project Number

12432

Description

This program is for the annual raising, replacing and moving of water hydrants. The goal of this program is to maintain reliable service for fire suppression.

Budget Information

Prior Appropriation*

Prior Year Actual*

*Based on Fiscal Years 2015-2018

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Reserves Applied - Water	550,000	567,000	583,000	601,000	619,000	637,000
Tota	\$550,000	\$567,000	\$583,000	\$601,000	\$619,000	\$637,000

Budget by Expenditure Type

Expense Type	2020	2021	2022	2023	2024	2025
Water Network	550,000	567,000	583,000	601,000	619,000	637,000
Total	\$550,000	\$567,000	\$583,000	\$601,000	\$619,000	\$637,000

Performance

Metric

Water supply availability and fire protection capacity measured by the ISO grade rating.

Data Source

Water Utility operational records

Baseline Data

2017 Actual	2018 Actual	2019 Projected	Target
ISO 1	ISO 1	ISO 1	ISO 1

Priority

Citywide Element Neighborhoods and Housing

Strategy

Create complete neighborhoods across the city where residents have access to transportation options and resources needed for daily living

Describe how this project advances the Citywide Element:

We will allow safer access and operations by replacing, raising, or relocating our aging fire hydrants. We will ensure that the citizens of Madison receive fair premiums for homeowner and commercial fire insurance by maintaining or improving our current ISO class 1 rating.

Project Schedule & Location

2020 Projects

Project name	Est Cost	Location
2020 Water Utility Hydrant Program	\$550,000	Citywide

Explain the justification for selecting projects planned for 2020:

Improving fire protection for homeowners and commericial property owners.

Project Name Est Cost Location	

Project Name	Est Cost	Location
2021 Water Utility Hydrant Program		
	\$567,000	Citywide
Explain the justification for selecting project	s planned for 2021:	
Improving fire protection for homeowners and comm	ericial property owners.	
2022 Projects		
Project Name	Est Cost	Location
2022 Water Utility Hydrant Program	\$583,000	Citywide
Explain the justification for selecting project	s planned for 2022:	
Improving fire protection for homeowners and comm	ericial property owners.	
2023 Projects		
Project name	Est Cost	Location
2023 Water Utility Hydrant Program	\$601,000	Citywide
Explain the justification for selecting project	s planned for 2023:	
Improving fire protection for homeowners and comm	ericial property owners.	
2024 Projects		
Project name	Est Cost	Location
2024 Water Utility Hydrant Program	\$619,000	Citualdo
2024 Water Utility Hydrant Program	\$619,000	Citywide
		Citywide
Explain the justification for selecting project	ts planned for 2024:	Citywide
Explain the justification for selecting project Improving fire protection for homeowners and comm	ts planned for 2024:	Citywide
Explain the justification for selecting project Improving fire protection for homeowners and comm	ts planned for 2024:	Citywide
Explain the justification for selecting project Improving fire protection for homeowners and common	ts planned for 2024: ericial property owners. Est Cost	Location
Explain the justification for selecting project Improving fire protection for homeowners and common 2025 Projects Project name	ts planned for 2024: ericial property owners.	Location
Explain the justification for selecting project Improving fire protection for homeowners and common	ericial property owners. Est Cost \$637,000	Location
Explain the justification for selecting project Improving fire protection for homeowners and common selections 2025 Projects Project name 2025 Water Utility Hydrant Program Explain the justification for selecting project	ts planned for 2024: ericial property owners. Est Cost \$637,000 ts planned for 2025:	Location
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Explain the justification for selecting project Improving fire protection for homeowners and common selection for homeowners and common selection for selecting project name 2025 Water Utility Hydrant Program Explain the justification for selecting project Improving fire protection for homeowners and common perating Costs hat are the estimated annual operating cost	ts planned for 2024: ericial property owners. Est Cost \$637,000 ts planned for 2025: ericial property owners.	Location Citywide
Explain the justification for selecting project Improving fire protection for homeowners and common selection for homeowners and common selection selection selecting project name 2025 Water Utility Hydrant Program Explain the justification for selecting project Improving fire protection for homeowners and common selection	ts planned for 2024: ericial property owners. Est Cost \$637,000 ts planned for 2025: ericial property owners.	Location Citywide
Explain the justification for selecting project Improving fire protection for homeowners and common selection for homeowners and common selection for selecting project name 2025 Water Utility Hydrant Program Explain the justification for selecting project Improving fire protection for homeowners and common selecting Costs perating Costs hat are the estimated annual operating cost	ts planned for 2024: ericial property owners. Est Cost \$637,000 ts planned for 2025: ericial property owners.	Location Citywide

# of FTEs	Annual Cost	Description
Non-Perso	onnel	
Major	Amount	Description
Notes		
Notes:		
		v. 5-22-2

2020 Capital Improvement Plan Program Budget Proposal

Identifying Information

2020 Munis Project Number

AgencyWater UtilityProject NameWater Meter and Fixed NProject Number12340Project TypeProgramProject CategoryUtilityPriority5

12427

Description

This program funds 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 testing/replacement and fixed network maintenance against the respective prescribed schedules and monitoring our total non-revenue water volume year to year.

Budget Information

Prior Appropriation*

*Based on Fiscal Years 2015-2018

Prior Year Actual*

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Reserves Applied - Water	650,000	666,000	683,000	700,000	718,000	736,000
Total	\$650,000	\$666,000	\$683,000	\$700,000	\$718,000	\$736,000

Budget by Expenditure Type

Expense Type		2020	2021	2022	2023	2024	2025
Machinery and Equipment		650,000	666,000	683,000	700,000	718,000	736,000
1	Total	\$650,000	\$666,000	\$683,000	\$700,000	\$718,000	\$736,000

Performance

Metric

The number of water meters installed, changed and/or tested is tracked on an annual basis and reported to the Wisconsin PSC.

Data Source

Advanced CIS Billing System and Water Operational records.

Baseline Data

2017 Actual	2018 Actual	2019 Projected	Target
4171	3421	3825	4000

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

Describe how this project advances the Citywide Element:

The Meter and Fixed Network Program allows for responsible stewardship of our local water resource by facilitating conservation of water pumped, consumed and lost to leaks. Acquiring real time and accurate water consumption data ensures accurate municipal services statements are issued to all customers and allows customers to monitor their water consumption practices to make educated decisions on their water use habits.

Project Schedule & Location

Project name	Est Cost	Location
5/8", 3/4" & 1" Meter Purchase/Set/Change	\$354,000	Meters to be installed citywide
-		
1.5" & 2" Meter Purchase/Set/Change	\$177,000	Meters to be installed citywide
a a meter rarende, eeg enange		
3" and larger Meter Purchase/Set/Change	\$49,000	Meters to be installed citywide
5 and larger Weter i dichase/Set/Change		

Project name	Est Cost	Location
Fixed Network System	\$70,000	Updates to the fixed network citywide
incu network system		

Explain the justification for selecting projects planned for 2020:

PSC Chapter 185.32 requires water utilities to meter and bill all customers. PSC Chapter 185.73 requires water utilities to test and change out all meters on a 20 year schedule. Meters are required to be accurate within PSC stated limits.

2021 Projects

Project Name	Est Cost	Location
	\$363,000	Meters to be installed citywide
5/8", 3/4" & 1" Meter Purchase/Set/Change		
1.5" & 2" Meter Purchase/S et/Cha n g e	\$182,000	Meters to be installed citywide
3" and larger Meter Purchase/Set/Change	\$50,000	Meters to be installed citywide
Fixed Network System	\$71,000	Updates to the fixed network citywide

Explain the justification for selecting projects planned for 2021:

Explain the justification for selecting projects planned for 2022:

PSC Chapter 185.32 requires water utilities to meter and bill all customers. PSC Chapter 185.73 requires water utilities to test and change out all meters on a 20 year schedule. Meters are required to be accurate within PSC stated limits.

Project Name	Est Cost	Location
	\$372,000	Meters to be installed citywide
5/8", 3/4" & 1" Meter Purchase/Set/Change		
	\$187,000	Meters to be installed citywide
1.5" & 2" Meter Purchase/S et/Cha n g e		
3" and larger Meter Purchase/Set/Change	\$51,000	Meters to be installed citywide
Fixed Network System	\$73,000	Updates to the fixed network citywide

PSC Chapter 185.32 requires water utilities to meter and bill all customers. PSC Chapter 185.73 requires water utilities to test and change out all meters on a 20 year schedule. Meters are required to be accurate within PSC stated limits.

2023 Projects

Project name	Est Cost	Location
	\$382,000	Meters to be installed citywide
5/8", 3/4" & 1" Meter Purchase/Set/Change		
1.5" & 2" Meter Purchase/S et/Cha n g e	\$191,000	Meters to be installed citywide
3" and larger Meter Purchase/Set/Change	\$52,000	Meters to be installed citywide
Fixed Network System	\$75,000	Updates to the fixed network citywide

Explain the justification for selecting projects planned for 2023:

PSC Chapter 185.32 requires water utilities to meter and bill all customers. PSC Chapter 185.73 requires water utilities to test and change out all meters on a 20 year schedule. Meters are required to be accurate within PSC stated limits.

2024 Projects

Project name	Est Cost	Location
	\$390,000	Meters to be installed citywide
5/8", 3/4" & 1" Meter Purchase/Set/Change		
1.5" & 2" Meter Purchase/S et/Cha n g e	\$196,000	Meters to be installed citywide
3" and larger Meter Purchase/Set/Change	\$54,000	Meters to be installed citywide
Fixed Network System	\$78,000	Updates to the fixed network citywide

Explain the justification for selecting projects planned for 2024:

PSC Chapter 185.32 requires water utilities to meter and bill all customers. PSC Chapter 185.73 requires water utilities to test and change out all meters on a 20 year schedule. Meters are required to be accurate within PSC stated limits.

Project name Est Cost Location

		roject name	Est Cost	Location
			\$401,000	Meters to be installed citywide
/8" <u>,</u> 3/4	" & 1" Meter Purc	hase/Set/Change		
L.5" & 2"	Meter Purchase/	S et/Cha n g e	\$200,000	Meters to be installed citywide
3" and la	rger Meter Purcha	se/Set/Change	\$55,000	
			\$33,000	Meters to be installed citywide
Fixed Net	twork System		\$80,000	Updates to the fixed network citywide
xplain f	the justification	n for selecting projects plan	ned for 2025:	
SC Chapt		s water utilities to meter and bill a		r 185.73 requires water utilities to test and change out all meters on a 20 year schedule. Meters are required to be
at are t		nnual operating costs assoc	ciated with the projec	ets planned
at are t hin this		nnual operating costs assoc	ciated with the projec	cts planned
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at are thin this sonnel to for TES	he estimated a program? Annual Cost	Description	ciated with the projec	ets planned
nat are thin this sonnel	he estimated a program? Annual Cost		ciated with the projec	cts planned

Notes
Notes:
v. 5-22-2019

2020 Capital Improvement Plan Project Budget Proposal

Identifying Information

Agency

Water Utility

Project Name

Unit Well 12 Conversion

Project Number 10452

Project Type

Project

Project Category Utility

Priority

14

Description

This project funds rebuilding and expanding Well 12 located on South Whitney Way. The goal of the project is to provide water supply capacity to five existing pressure zones which represents the majority of the City's west side. The system flexibility provided by this project will improve service reliability and maximize water supply. Funding in 2021 is for design; funding in 2022 and 2023 is for construction.

Is this project currently included in the 2019 CIP?

Yes

Budget Information

Total Project Budget

\$4,072,000

Prior Appropriation

\$4,751,100

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Revenue Bonds-Water	0	0	0	318,000	3,754,000	0
Total	\$0	\$0	\$0	\$318,000	\$3,754,000	\$0

Expense Type	2020	2021	2022	2023	2024	2025
Building	0	0	0	318,000	3,754,000	0
Tota	\$0	\$0	\$0	\$318,000	\$3,754,000	\$0

Metric

Pumping transfer capacity.

Data Source

Water Utility operational records.

Baseline Target 2017 run time- 6,9... Run time - 5,600 hrs; ...

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

Describe how this project advances the Citywide Element:

Operational flexibility and efficiency is essential to renewing and maintaining critical infrastructure.

What is the justification for this project?

Currently there is no transfer pumping capacity between Zones 7 and 8. This puts the water supply at risk in Zone 8. Current pumping equipment has reached the end of its service life.

Project Schedule & Location

What is the total time frame for this project?

Start Date: 1/1/2023

End Date: 12/31/2025

Project Status

2020	2021	2022	2023	2024	2025
			Planning	Construction	Construction Completion

Can this project be mapped? What is the location of the project?

801 S Whitney Way

Is this project on the Project's Portal?

● Yes ○ No

● Yes ○ No

If so, enter the URL:

https://www.cityofmadison.com/water/projects/well-12-reconstruction-and-whitney-way-water-main-upgrades

Vhat are	the estimated a	innual operating costs associated with the project? \$21,000
ersonnel	<u> </u>	
# of FTEs	Annual Cost	Description
0	0	
lon-Perso	onnel	
Major	Amount	Description
54	21,000	Electrical power needed for pumping.
tes		

2020 Capital Improvement Plan Project Budget Proposal

Identifying Information

Agency Water Utility

Project Name

Well 14 Mitigation

Project Number 11900

Project Type

Project

19

Project Category Utility

Priority

...,

Description

This project funds 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. Funding for this project was added to the budget by Finance Committee #15.

Is this project currently included in the 2019 CIP?

Yes

Budget Information

Total Project Budget

\$130,000

Prior Appropriation

\$0

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Revenue Bonds-Water	0	0	82,000	16,000	16,000	16,000
Total	\$0	\$0	\$82,000	\$16,000	\$16,000	\$16,000

Expense Type	2020	2021	2022	2023	2024	2025
Machinery and Equipment			82,000	16,000	16,000	16,000
Tota	\$0	\$0	\$82,000	\$16,000	\$16,000	\$16,000

Metric

Routine water sampling and testing.

Data Source

Water sampling results.

Baseline Target Chloride: < 250 mg/l;... Chloride: 150 mg/l;...

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

Describe how this project advances the Citywide Element:

Meeting established water quality goals is essential to a public water supply and to maintaining critical infrastructure.

What is the justification for this project?

Road salt has contributed to an increasing sodium and chloride concentration in Well 14 water. This is a concern that requires further study.

Project Schedule & Location

What is the total time frame for this project?

Start Date: 1/1/2022

End Date: 12/31/2025

Project Status

2020	2021	2022	2023	2024	2025
		Planning	Schematic Design	Schematic Design	Schematic Design

Can this project be mapped? What is the location of the project?

5130 University Avenue

Is this project on the Project's Portal?

● Yes ○ No

Yes No

If so, enter the URL:

https://www.cityofmadison.com/water/projects/road-salt-study-at-well-14

O	ne	rat	Hin	g	Co	sts
\sim	$\rho \sim$	·		'ס	C	363

What are the estimated annual operating costs associated with the project?

\$250,000

Personnel

# of FTEs	Annual Cost	Description
0.5	52,000	Maintaining and cleaning RO membranes.
		maintaining and dearining no memoranes.

Non-Personnel

Major	Amount	Description
54	65,000	Additional electrical power needed for pumping.
54	58,000	Water treatment cleaning.
54	75,000	Waste water disposal. Solids disposal in public sewer.

Notes

Notes:

v. 5-22-2019

2020 Capital Improvement Plan **Project Budget Proposal**

Identifying Information

Agency Water Utility **Project Name** Unit Well #15 **Project Number** 12443 **Project Type** Project **Project Category** Utility **Priority**

Description

Perfluerinated compounds (PFOS) have been detected in Well 15 producing concerns about the need for treatment at the well. USEPA and WiDNR has not established a regulatory level for PFOS at this time. The current health advisory level is 70 ppt and there is strong public sentiment to lower the level. This project will start the process of investigating options for Well 15.

15

Is this project currently included in the 2019 CIP?

Budget Information

Total Project Budget Prior Appropriation \$146,000

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Revenue Bonds-Water	0	82,000	16,000	16,000	16,000	16,000
Total	\$0	\$82,000	\$16,000	\$16,000	\$16,000	\$16,000

Expense Type	2020	2021	2022	2023	2024	2025
Building	0	82,000	16,000	16,000	16,000	16,000
т	otal \$0	\$82,000	\$16,000	\$16,000	\$16,000	\$16,000

Metric

Routine water sampling and testing

Data Source

Water sampling results

Baseline Target Current PFOA + PF... Unknown at this time...

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

Describe how this project advances the Citywide Element:

Meeting established water quality goals and providing safe drinking water is essential to a public water supply and to maintaining critical infrastructure.

What is the justification for this project?

PFAS is an emerging water contaminate of public health concern and will most likely be regulated soon.

Project Schedule & Location

What is the total time frame for this project?

Start Date: 1/1/2021

End Date: 12/31/2028

Project Status

2020	2021	2022	2023	2024	2025
	Planning	Planning	Planning	Planning	Planning

Can this project be mapped?

● Yes ○ No

What is the location of the project?

3900 E Washington Avenue

Is this project on the Project's Portal?

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Op	eratin	ig C	OSTS

What are the estimated annual operating costs associated with the project?

(\$22,000)

Personnel

# of FTEs	Annual Cost	Description
.125	13,000	Facility is operated by existing personnel.

Non-Personnel

Major	Amount	Description
54	27,000	Additional electrical power from additional pumping and UV disinfection energy.
53	24,000	GAC replacement (water treatment media).
54	(\$86,000)	Reduction in costs from eliminating need for blowers and acid feed

Notes

Notes:

v. 5-22-2019

2020 Capital Improvement Plan Project Budget Proposal

Identifying Information

Agency

Water Utility

Project Name

Well 19 Iron and Mangan

Project Number 10448

Project Type

Project

Project Category Utility

Priority

12

Description

This project funds a new iron, manganese, and radium treatment system at Well 19 at Lake Mendota Drive on the City's west side. The goal of this project is to address existing water quality issues 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 2024 is for construction.

Is this project currently included in the 2019 CIP?

Yes

Budget Information

Total Project Budget

\$8,629,000

Prior Appropriation

\$966,000

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Revenue Bonds-Water	0	891,000	81,000	6,691,000	0	0
Total	\$0	\$891,000	\$81,000	\$6,691,000	\$0	\$0

Expense Type	2020	2021	2022	2023	2024	2025
Building	0	891,000	81,000	6,691,000	0	0
Tota	\$0	\$891,000	\$81,000	\$6,691,000	\$0	\$0

Metric

Water quality sampling and testing.

Data Source

Routine Water Utility sampling and testing.

Baseline

Target

Iron: 0.22 mg/l; Ma...

Iron: <0.1 mg/l; Man...

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

Describe how this project advances the Citywide Element:

Meeting established water quality regulations and goals is essential to renewing and maintaining critical infrastructure.

What is the justification for this project?

Water quality exceeds established standards.

Project Schedule & Location

What is the total time frame for this project?

Start Date: 1/1/2014

End Date: 12/31/2024

Project Status

2020	2021	2022	2023	2024	2025
Planning	Schematic Design	Design Completion	Construction	Construction Completion	

Can this project be mapped? Yes No

What is the location of the project?

2526 Lake Mendota Drive

Is this project on the Project's Portal?

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What are the estimated annual operating costs associated with the project?

\$40,200

Personnel

.083 8,700 Facility is operated by existing personnel.	

Non-Personnel

Major	Amount	Description
54	6,500	Electrical power for chemical treatment.
53	25,000	Water treatment chemicals.

Notes

N	

v. 5-22-2019

2020 Capital Improvement Plan Project Budget Proposal

Identifying Information

Agency

Water Utility

Project Name

Unit Well #8 Reconstruct

Project Number 12440

Project Type

Project

16

Project Category Utility

Priority

Hority

Description

Iron and manganese levels at Well 8 require filtration upgrades. Well 8 also provides the opportunity to be a three zone well making it a valuable facility operationally. Treatment will allow Well 8 to become a year around well.

Is this project currently included in the 2019 CIP?

No

Budget Information

Total Project Budget

\$12,036,000

Prior Appropriation

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Revenue Bonds-Water	0	0	0	0	0	87,000
Total	\$0	\$0	\$0	\$0	\$0	\$87,000

Expense Type		2020	2021	2022	2023	2024	2025
Building							87,000
	Total	\$0	\$0	\$0	\$0	\$0	\$87,000

Metric

Water quality parameters and hours of operation.

Data Source

Routine Water Utility sampling and testing and operational records.

Baseline Target Iron: 0.58 mg/l; Ma... Iron: < 0.1 mg/l; Man...

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

2023

2024

2025

Planning

Describe how this project advances the Citywide Element:

Meeting established water quality goals is essential to renewing and maintaining critical infrastructure. Providing operational flexibility improves customer service and system reliability.

What is the justification for this project?

Water quality exceeds established standards. Facility is rarely used due to substandard water quality. Improving operational flexibility to efficiently move water around the system.

Project Schedule & Location

What is the total time frame for this project?

2020

Start Date: 1/1/2025

End Date: 12/31/2029

2021

Project Status

Can this project be mapped?

What is the location of the project?

Yes No

3206 Lakeland Avenue

2022

Is this project on the Project's Portal?

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What are the estimated annual operating costs associated with the project?

\$20,200

Personnel

	# of FTEs	Annual Cost	Description
	.083	8,700	
Facility is operated by existing personnel.	Facility is operated by existing personnel.		

Non-Personnel

Major	Amount	Description
54	6,500	Electric power for treatment.
53	5,000	Water treatment chemicals.

Notes

N	

v. 5-22-2019

2020 Capital Improvement Plan Program Budget Proposal

Identifying Information

Agency Water Utility Project Name Unit Well Rehab Program

Project Number 12341 Project Type Program

Project Category Utility Priority 8

2020 Munis Project Number 12431

Description

This program funds the DNR suggested 10 year unit well upgrade projects for Water. The goal of this program is to ensure that all unit wells are functioning at their highest efficiency level and reduce annual maintenance costs. Progress will be measured by reduced well maintenance costs, fewer unit well failures and compliance with the DNR suggested 10 year schedule.

Budget Information

Prior Appropriation*

*Based on Fiscal Years 2015-2018

Prior Year Actual*

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Reserves Applied - Water	320,000	240,000	255,000	270,000	270,000	285,000
Total	\$320,000	\$240,000	\$255,000	\$270,000	\$270,000	\$285,000

Expense Type	2020	2021	2022	2023	2024	2025
Machinery and Equipment	320,000	240,000	255,000	270,000	270,000	285,000
Tota	\$320,000	\$240,000	\$255,000	\$270,000	\$270,000	\$285,000

Performance

Metric

Reduced number of unplanned/unexpected mechanical breakdowns in the unit wells and booster pump stations.

Data Source

Water Utility operational records

Baseline Data

2017 Actual	2018 Actual	2019 Projected	Target	
0	1	0	0	

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

Describe how this project advances the Citywide Element:

This program keeps our water supply capacities at peak levels which is important for fire protection and safe clean drinking water.

Project Schedule & Location

Project name	Est Cost	Location
UW #11	\$80,000	102 Dempsey Road
UW #17	\$80,000	201 S Hancock Street
UW #8	\$80,000	1925 S Park Street

UE #30 \$80,000 1133 Mod	oreland Road

Explain the justification for selecting projects planned for 2020:

Maintaining our unit wells allows us to run our pumps at peak performance for safe and clean drinking water and fire protection. Regular maintenance allows the unit wells to run as efficient as possible and minimizes breakdowns and the need to unexpectedly take a well off-line. The DNR requires all pumps to be pulled and inspected every 10 years. MWU maintains a list of all unit wells and their corresponding maintenance schedule. The unit wells selected for maintenance each year are taken from this list.

2021 Projects

Project Name	Est Cost	Location
UW #20	\$80,000	2829 Prairie Road
UW #24	\$80,000	809 E Dayton Street
UVV #24		
UW #15	\$80,000	3900 E Washington Avenue
O 1/1 #13		

Explain the justification for selecting projects planned for 2021:

Maintaining our unit wells allows us to run our pumps at peak performance for safe and clean drinking water and fire protection. Regular maintenance allows the unit wells to run as efficient as possible and minimizes breakdowns and the need to unexpectedly take a well off-line. The DNR requires all pumps to be pulled and inspected every 10 years. MWU maintains a list of all unit wells and their corresponding maintenance schedule. The unit wells selected for maintenance each year are taken from this list.

2022 Projects

Project Name	Est Cost	Location
UW #29	\$85,000	829 N Thompson Drive
UW #6	\$85,000	2757 University Avenue
UW #13	\$85,000	1201 Wheeler Road

Explain the justification for selecting projects planned for 2022:

Maintaining our unit wells allows us to run our pumps at peak performance for safe and clean drinking water and fire protection. Regular maintenance allows the unit wells to run as efficient as possible and minimizes breakdowns and the need to unexpectedly take a well off-line. The DNR requires all pumps to be pulled and inspected every 10 years. MWU maintains a list of all unit wells and their corresponding maintenance schedule. The unit wells selected for maintenance each year are taken from this list.

2023 Projects

Project name	Est Cost	Location
UW #23	\$90,000	4502 Leo Drive
UW #23		
UW #28	\$90,000	8210 Old Sauk Road
OW #28		
UW #7	\$90,000	1709 N Sherman Avenue
Ο Ψ π /		

Explain the justification for selecting projects planned for 2023:

Maintaining our unit wells allows us to run our pumps at peak performance for safe and clean drinking water and fire protection. Regular maintenance allows the unit wells to run as efficient as possible and minimizes breakdowns and the need to unexpectedly take a well off-line. The DNR requires all pumps to be pulled and inspected every 10 years. MWU maintains a list of all unit wells and their corresponding maintenance schedule. The unit wells selected for maintenance each year are taken from this list.

2024 Projects

Project name	Est Cost	Location
UW #16	\$90,000	6706 Mineral Point Road
UW #19	\$90,000	2526 Lake Mendota Drive
UW #25	\$90,000	5415 Queensbridge Road

Explain the justification for selecting projects planned for 2024:

Maintaining our unit wells allows us to run our pumps at peak performance for safe and clean drinking water and fire protection. Regular maintenance allows the unit wells to run as efficient as possible and minimizes breakdowns and the need to unexpectedly take a well off-line. The DNR requires all pumps to be pulled and inspected every 10 years. MWU maintains a list of all unit wells and their corresponding maintenance schedule. The unit wells selected for maintenance each year are taken from this list.

2025 Projects

Project name	Est Cost	Location
UW #14	\$95,000	5130 University Avenue
UW #9	\$95,000	4727 Spaanem Avenue
UW #26	\$95,000	910 High Point Road

Explain the justification for selecting projects planned for 2025:

Maintaining our unit wells allows us to run our pumps at peak performance for safe and clean drinking water and fire protection. Regular maintenance allows the unit wells to run as efficient as possible and minimizes breakdowns and the need to unexpectedly take a well off-line. The DNR requires all pumps to be pulled and inspected every 10 years. MWU maintains a list of all unit wells and their corresponding maintenance schedule. The unit wells selected for maintenance each year are taken from this list.

Operating Costs

What are the estimated annual operating costs associated with the projects planned within this program?

Personnel

# of Annual Cost Description						
# OJ Annual Cost Description		c	Americal Cook	Description		
FTF	# 0]		Annuai Cost	Description		
	CTC	_				

n-Perso	nnel		
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Submitted

2020 Capital Improvement Plan Program Budget Proposal

Identifying Information

Agency Water Utility Project Name Water Valve Cut-In Program

Project Number 12387 Project Type Program

Project Category Utility Priority 10

2020 Munis Project Number 12426

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 availability for customers is impacted during water system maintenance and repair. Success is measured by a reduction in complaints from customers for impacted service.

Budget Information

Prior Appropriation*
*Based on Fiscal Years 2015-2018

Prior Year Actual*

Budget by Funding Source

Funding Source	Funding Source 2020 20		2021 2022		2024	2025
Reserves Applied - Water	15,000	16,000	16,000	17,000	17,000	18,000
Tota	\$15,000	\$16,000	\$16,000	\$17,000	\$17,000	\$18,000

Expense Type	2020	2021	2022	2023	2024	2025
Water Network	15,000	16,000	16,000	17,000	17,000	18,000
Total	\$15,000	\$16,000	\$16,000	\$17,000	\$17,000	\$18,000

Performance

Metric

Number of water outage complaints from customers due to unexpected system repairs or maintenance.

Data Source

Customer Correspondence Database

Baseline Data

2017 Actual	2018 Actual	2019 Projected	Target
4	62	25	<100

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

Describe how this project advances the Citywide Element:

Meeting established water supply regulations and goals is essential to renewing and maintaining critical infrastructure. Reducing the number of unplanned water outages will increase the reliability of our system and our customers confidence in our system.

Project Schedule & Location

2020 Projects

Project name	Est Cost	Location
2020 Cut-in Valves	\$15,000	Citywide

Explain the justification for selecting projects planned for 2020:

Additional valves on a main allows for a lower number of customers out of service when MWU is repairing/rehabing a pipe.

<u> </u>		
Project Name	Est Cost	Location

Project Name	Est Cost	Location
2021 Cut-in Valves	\$16,000	Citywide
Explain the justification for selecting projects	planned for 2021:	
Additional valves on a main allows for a lower number o	of customers out of service whe	en MWU is repairing/rehabing a pipe.
2022 Projects		
Project Name	Est Cost	Location
2022 Cut-in Valves	\$16,000	Citywide
Explain the justification for selecting projects	planned for 2022:	
Additional valves on a main allows for a lower number o	of customers out of service whe	en MWU is repairing/rehabing a pipe.
2023 Projects		
Project name	Est Cost	Location
	\$17,000	Citywide
2023 Cut-In Valves	Ψ1.7000	Citywide
2023 Cut-In Valves Explain the justification for selecting projects Additional valves on a main allows for a lower number of	planned for 2023:	
Explain the justification for selecting projects Additional valves on a main allows for a lower number of the second sec	planned for 2023: of customers out of service who	en MWU is repairing/rehabing a pipe.
Explain the justification for selecting projects Additional valves on a main allows for a lower number of	planned for 2023:	
Explain the justification for selecting projects Additional valves on a main allows for a lower number of the second sec	planned for 2023: of customers out of service who	en MWU is repairing/rehabing a pipe.
Explain the justification for selecting projects Additional valves on a main allows for a lower number of the selecting projects Project name	planned for 2023: of customers out of service whe	en MWU is repairing/rehabing a pipe. Location
Explain the justification for selecting projects Additional valves on a main allows for a lower number of the selecting projects Project name 2024 Cut-in Valves	planned for 2023: of customers out of service whe Est Cost \$17,000	en MWU is repairing/rehabing a pipe. Location Citywide
Explain the justification for selecting projects Additional valves on a main allows for a lower number of the selecting projects Project name 2024 Cut-in Valves Explain the justification for selecting projects Additional valves on a main allows for a lower number of the selecting projects	planned for 2023: of customers out of service whe Est Cost \$17,000	en MWU is repairing/rehabing a pipe. Location Citywide
Explain the justification for selecting projects Additional valves on a main allows for a lower number of the selecting projects Project name 2024 Cut-in Valves Explain the justification for selecting projects	planned for 2023: of customers out of service whe Est Cost \$17,000	en MWU is repairing/rehabing a pipe. Location Citywide
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Explain the justification for selecting projects Additional valves on a main allows for a lower number of the selecting projects Project name 2024 Cut-in Valves Explain the justification for selecting projects Additional valves on a main allows for a lower number of the selecting projects Project name 2025 Projects Project name	planned for 2023: of customers out of service whe \$17,000 planned for 2024: of customers out of service whe \$18,000	Location Citywide En MWU is repairing/rehabing a pipe. Location Location Location Location
Explain the justification for selecting projects Additional valves on a main allows for a lower number of the selecting projects Project name 2024 Cut-in Valves Explain the justification for selecting projects Additional valves on a main allows for a lower number of the selecting projects Project name	planned for 2023: of customers out of service whe \$17,000 planned for 2024: of customers out of service whe \$18,000	Location Citywide En MWU is repairing/rehabing a pipe. Location Location Location Location
Explain the justification for selecting projects Additional valves on a main allows for a lower number of the selecting projects Project name 2024 Cut-in Valves Explain the justification for selecting projects Additional valves on a main allows for a lower number of the selecting projects Project name 2025 Projects Project name	planned for 2023: of customers out of service whe \$17,000 planned for 2024: of customers out of service whe \$18,000 planned for 2025:	En MWU is repairing/rehabing a pipe. Location Citywide En MWU is repairing/rehabing a pipe. Location Citywide Citywide

Operating Costs

What are the estimated annual operating costs associated with the projects planned within this program?

Personnel			
# of FTEs	Annual Cost	Description	
Non-Perso	nnel		
Major	Amount	Description	
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Submitted

2020 Capital Improvement Plan Program Budget Proposal

Identifying Information

Agency Water Utility Project Name Water Utility Vehicles & E

Project Number 12339 Project Type Program

Project Category Utility Priority

2020 Munis Project Number 12423

Description

This program funds the annual vehicle and equipment replacements as well as new vehicle and equipment purchases. Replacement is based on age and mileage of the vehicles and equipment. The goal of this program is to provide reliable and sage vehicles and equipment for Water Utility's operations. Progress will be measured by the frequency of vehicle breakdowns and actual useful life obtained.

Budget Information

Prior Appropriation*
*Based on Fiscal Years 2015-2018

Prior Year Actual*

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Reserves Applied - Water	767,000	731,000	655,000	669,000	690,000	705,000
Total	\$767,000	\$731,000	\$655,000	\$669,000	\$690,000	\$705,000

Expense Type	2020	2021	2022	2023	2024	2025
Machinery and Equipment	767,000	731,000	655,000	669,000	690,000	705,000
Total	\$767,000	\$731,000	\$655,000	\$669,000	\$690,000	\$705,000

Performance

Metric

Number of unexpected mechanical issues and/or vehicle break downs

Data Source

Water Utility Operations Center Vehicle Maintenance Records

Baseline Data

2017 Actual	2018 Actual	2019 Projected	Target
N/A	N/A	25	<25

Priority

Citywide Element Green and Resilient

Strategy

Increase the use and accessibility of energy efficiency upgrades and renewable energy.

Describe how this project advances the Citywide Element:

By replacing aging vehicles with new electric or gas powered vehicles in the future, we will help to reduce carbon emissions and improve vehicle gas mileage. It will also reduce maintenance costs, and the length of time vehicles are out of service.

Project Schedule & Location

Project name	Est Cost	Location
W20B-Dump Truck - replacement	\$157,000	110 Paterson Street
W19B Service Truck - replacement	\$70,000	110 Paterson Street
W44B, W56B and W88A - Replace 3 service vehicles	\$102,000	110 Paterson Street and 119 Olin Avenue

Project name	Est Cost	Location
W80B Backhoe - replacement	\$145,000	110 Paterson Street
Meter Bench #2 Upgrade	\$120,000	119 Olin Avenue
Lawn Mower replacement	\$9,000	110 Paterson Street
Various small equipment replacements over the \$5,000 capitalization threshold	\$12,000	110 Paterson Street and 119 Olin Avenue
RP Valve Complete/Parts/Testing/Registration	\$25,000	110 Paterson Street
Speed Shore Replacement Box	\$19,000	110 Paterson Street
Various large tools and equipment	\$80,000	110 Paterson Street
Scissor Lift - new	\$28,000	110 Paterson Street

Explain the justification for selecting projects planned for 2020:

MWU maintains a list of all vehicles and equipment. Vehicles are replaced based on the year purchased to maintain safe and reliable vehicles for our employees. Equipment is evaluated yearly and replaced based on the age and condition of the equipment.

Project Name	Est Cost	Location
W45B-Dump Truck - replacement	\$163,000	110 Paterson Street
W33B Service Truck - replacement	\$72,000	110 Paterson Street
W52C, W89A and W96A - Replace 3 service vehicles	\$105,000	110 Paterson Street and 119 Olin Avenue
W53B Backhoe - replacement	\$149,000	110 Paterson Street
Mapping and Survey Equipment Modernization	\$46,000	119 E Olin Avenue
Various small equipment replacements over the \$5,000 capitalization threshold	\$12,000	110 Paterson Street and 119 Olin Avenue
RP Valve Complete/Parts/Testing/Registration	\$26,000	110 Paterson Street
Speed Shore Replacement Box	\$20,000	110 Paterson Street
Various large tools and equipment	\$80,000	110 Paterson Street

Project Name	Est Cost	Location
Towable Lift - new	\$58,000	110 Paterson Street
lowable Life Hew		

Explain the justification for selecting projects planned for 2021:

MWU maintains a list of all vehicles and equipment. Vehicles are replaced based on the year purchased to maintain safe and reliable vehicles for our employees. Equipment is evaluated yearly and replaced based on the age and condition of the equipment.

2022 Projects

Project Name	Est Cost	Location
W4B-Dump Truck - replacement	\$168,000	110 Paterson Street
W10B Service Truck - replacement	\$74,000	110 Paterson Street
W3A, W17A and W29C - Replace 3 service vehicles	\$109,000	110 Paterson Street and 119 Olin Avenue
W77B Backhoe - replacement	\$153,000	110 Paterson Street
Mapping and Survey Equipment Modernization	\$12,000	119 E Olin Avenue
, , ,		
Various small equipment replacements over the \$5,000	\$12,000	110 Paterson Street and 119 Olin Avenue
capitalization threshold		
RP Valve Complete/Parts/Testing/Registration	\$27,000	110 Paterson Street
Nr valve complete/raits/lesting/negistration		
Speed Shore Replacement Box	\$20,000	110 Paterson Street
speed shore replacement box		
Various large tools and equipment	\$80,000	110 Paterson Street
Tarroad targe tools and equipment		

Explain the justification for selecting projects planned for 2022:

MWU maintains a list of all vehicles and equipment. Vehicles are replaced based on the year purchased to maintain safe and reliable vehicles for our employees. Equipment is evaluated yearly and replaced based on the age and condition of the equipment.

Project name	Est Cost	Location
W32B-Dump Truck - replacement	\$173,000	110 Paterson Street
W8B Service Truck - replacement	\$76,000	110 Paterson Street

Project name	Est Cost	Location
W31B, W49B, W51B, W60A, W63B, W79B and W85A - Replace 7 service vehicles	\$270,000	110 Paterson Street and 119 Olin Avenue
Various small equipment replacements over the \$5,000 capitalization threshold	\$12,000	110 Paterson Street and 119 Olin Avenue
RP Valve Complete/Parts/Testing/Registration	\$28,000	110 Paterson Street
Speed Shore Replacement Box	\$21,000	110 Paterson Street
Various large tools and equipment	\$80,000	110 Paterson Street

Explain the justification for selecting projects planned for 2023:

MWU maintains a list of all vehicles and equipment. Vehicles are replaced based on the year purchased to maintain safe and reliable vehicles for our employees. Equipment is evaluated yearly and replaced based on the age and condition of the equipment.

Project name	Est Cost	Location
W71B-Dump Truck - replacement	\$179,000	110 Paterson Street
W78B Service Truck - replacement	\$78,000	110 Paterson Street
W91A, W92A and W1B - Replace 3 service vehicles per year	\$116,000	110 Paterson Street and 119 Olin Avenue
W24B Backhoe - replacement	\$162,000	110 Paterson Street
Mapping and Survey Equipment Modernization	\$12,000	119 E Olin Avenue
Various small equipment replacements over the \$5,000 capitalization threshold	\$13,000	110 Paterson Street and 119 Olin Avenue
RP Valve Complete/Parts/Testing/Registration	\$29,000	110 Paterson Street
Speed Shore Replacement Box	\$21,000	110 Paterson Street
Various large tools and equipment	\$80,000	110 Paterson Street

Explain the justification for selecting projects planned for 2024:

MWU maintains a list of all vehicles and equipment. Vehicles are replaced based on the year purchased to maintain safe and reliable vehicles for our employees. Equipment is evaluated yearly and replaced based on the age and condition of the equipment.

2025 Projects

Project name	Est Cost	Location
W34B-Dump Truck - replacement	\$184,000	110 Paterson Street
W9B Service Truck - replacement	\$80,000	110 Paterson Street
W6B, W39B and W54B - Replace 3 service vehicles per year	\$120,000	110 Paterson Street and 119 Olin Avenue
W25C Backhoe - replacement	\$167,000	110 Paterson Street
Mapping and Survey Equipment Modernization	\$9,000	119 E Olin Avenue
Various small equipment replacements over the \$5,000 capitalization threshold	\$13,000	110 Paterson Street and 119 Olin Avenue
RP Valve Complete/Parts/Testing/Registration	\$30,000	110 Paterson Street
Speed Shore Replacement Box	\$22,000	110 Paterson Street
Various large tools and equipment	\$80,000	110 Paterson Street

Explain the justification for selecting projects planned for 2025:

MWU maintains a list of all vehicles and equipment. Vehicles are replaced based on the year purchased to maintain safe and reliable vehicles for our employees. Equipment is evaluated yearly and replaced based on the age and condition of the equipment.

Operating Costs

What are the estimated annual operating costs associated with the projects planned within this program?

Personnel

# of	Annual Cost	Description
FTFs		

on-Perso	nnol		
		Description	
Major	Amount	Description	
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es ::			

Submitted

2020 Capital Improvement Plan Program Budget Proposal

Identifying Information

AgencyWater UtilityProject NameWater Mains - NewProject Number12507Project TypeProgram

Project Category Utility Priority 4

2020 Munis Project Number 12428

Description

This program funds 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 2019 include: County Highway M at Midtown Road and Raymond Road, Cottage Grove Road at the 190/194, and Cannonball Path Phase 6 west of Fish Hatchery Road.

Budget Information

Prior Appropriation*
*Based on Fiscal Years 2015-2018

\$15,934,991 Prior Year Actual*

\$15,187,798

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Revenue Bonds-Water	4,082,000	96,000	1,780,000	4,276,000	3,081,000	5,019,000
Total	\$4,082,000	\$96,000	\$1,780,000	\$4,276,000	\$3,081,000	\$5,019,000

Expense Type	2020	2021	2022	2023	2024	2025
Water Network	4,082,000	96,000	1,780,000	4,276,000	3,081,000	5,019,000
Total	\$4,082,000	\$96,000	\$1,780,000	\$4,276,000	\$3,081,000	\$5,019,000

Performance

Metric

Ratio of installed water main length eligible for recoverable costs to total length of new water main installed

Data Source

Annual cost of Utility funded main extensions, established special assessments, frontage along unserved parcels subject to Water Utility connection charge upon future servi...

Baseline Data

2017 Actual	2018 Actual	2019 Projected	Target
54%	73%	67%	>=50%

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

Describe how this project advances the Citywide Element:

This program repairs and/or replaces existing undersized or deteriorated water mains to meet established Utility Level-of-Service for water main infrastrucuture.

Project Schedule & Location

Project name	Est Cost	Location
Cottage Grove Road	\$621,000	I-90 to Sprecher Road
Treetops Dr., Feather Edge Dr	\$543,000	Meadow Rd to Soaring Sky Run
Felland Rd, Lien Rd Water Main Extension	\$2,918,000	Felland Rd Reservoir to Lien Zone 3, Interstate Zone 6

Explain the justification for selecting projects planned for 2020:

The proposed 2020 'Water Mains New' projects extend new water mains to improve water system hydraulics, pressures, fire protection, and support ongoing development and water supply/facility improvements. These projects occur in conjunction with associated roadway construction projects or as stand-alone water main improvements consistent with infrastructure priorities identified in the Water Utility Master Plan.

2021 Projects

Project Name	Est Cost	Location
2021 Hydraulic Improvements - Water Main Extensions	\$96,000	Undistributed/Citywide - locations under development
2021 Hydradile improvements Water Wall Extensions		

Explain the justification for selecting projects planned for 2021:

The proposed 2021 'Water Mains New' projects extend new water mains to improve water system hydraulics, pressures, fire protection, and support ongoing development and water supply/facility improvements. These projects occur in conjunction with associated roadway construction projects or as stand-alone water main improvements consistent with infrastructure priorities identified in the Water Utility Master Plan.

2022 Projects

Project Name	Est Cost	Location
Cottage Grove Road Interstate Crossing	\$672,000	S Thompson Dr to 208 Ft W of North Star Dr
2022 Hydraulic Improvements - Water Main Extensions	\$1,108,000	Undistributed/Citywide - locations under development

Explain the justification for selecting projects planned for 2022:

The proposed 2022 'Water Mains New' projects extend new water mains to improve water system hydraulics, pressures, fire protection, and support ongoing development and water supply/facility improvements. These projects occur in conjunction with associated roadway construction projects or as stand-alone water main improvements consistent with infrastructure priorities identified in the Water Utility Master Plan.

2023 Projects

Project name	Est Cost	Location
Pleasant View Rd	\$174,000	Old Sauk Rd to US Hwy 14
Cannonball Path	\$87,000	Railroad to Bowman Field
Reiner Rd	\$454,000	Woods Farm Plat to Lien Rd
2023 Hydraulic Improvements - Water Main Extensions	\$3,561,000	Undistributed/Citywide - locations under development

Explain the justification for selecting projects planned for 2023:

The proposed 2023 'Water Mains New' projects extend new water mains to improve water system hydraulics, pressures, fire protection, and support ongoing development and water supply/facility improvements. These projects occur in conjunction with associated roadway construction projects or as stand-alone water main improvements consistent with infrastructure priorities identified in the Water Utility Master Plan.

Project name	Est Cost	Location
2024 Hydraulic Improvements - Water Main Extensions	\$3,081,000	Undistributed/Citywide - locations under development

Explain the justification for selecting projects planned for 2024:

The proposed 2024 'Water Mains New' projects extend new water mains to improve water system hydraulics, pressures, fire protection, and support ongoing development and water supply/facility improvements. These projects occur in conjunction with associated roadway construction projects or as stand-alone water main improvements consistent with infrastructure priorities identified in the Water Utility Master Plan.

2025 Projects

Project name	Est Cost	Location
Mineral Point Rd	\$1,512,000	Beltline to High Point Rd
Pleasant View Rd	\$1,512,000	Mineral Point Rd to Old Sauk Rd.
2025 Hydraulic Improvements - Water Main Extensions	\$1,995,000	Undistributed/Citywide - locations under development

Explain the justification for selecting projects planned for 2025:

The proposed 2025 'Water Mains New' projects extend new water mains to improve water system hydraulics, pressures, fire protection, and support ongoing development and water supply/facility improvements. These projects occur in conjunction with associated roadway construction projects or as stand-alone water main improvements consistent with infrastructure priorities identified in the Water Utility Master Plan.

Operating Costs

What are the estimated annual operating costs associated with the projects planned	
within this program?	

Personnel

# of FTEs	Annual Cost	Description

Non-Personnel

Major	Amount	Description

Notes	S			
Notes:				
			v. 5-2	2-2019

Submitted

2020 Capital Improvement Plan **Program Budget Proposal**

Identifying Information

Agency Water Utility

Project Name

Water Mains Replace Rel

Project Number 11894

Project Type

Program

Project Category Utility

Priority

2020 Munis Project Number

12430

Description

This program funds 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.

Budget Information

Prior Appropriation*

*Based on Fiscal Years 2015-2018

\$11,081,083 Prior Year Actual*

\$11,252,176

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Revenue Bonds-Water	785,000	3,869,000	4,745,000	3,561,000	2,962,000	1,995,000
Total	\$785,000	\$3,869,000	\$4,745,000	\$3,561,000	\$2,962,000	\$1,995,000

Expense Type	2020	2021	2022	2023	2024	2025
Water Network	785,000	3,869,000	4,745,000	3,561,000	2,962,000	1,995,000
Total	\$785,000	\$3,869,000	\$4,745,000	\$3,561,000	\$2,962,000	\$1,995,000

Performance

Metric

Length of water main replacement per existing water main break eliminated.

Data Source

Madison Water Utility water main break/leak reports and annual as-built construction records of water main installed.

Baseline Data

2017 Actual	2018 Actual	2019 Projected	Target
371 ft	206 ft	250 ft	400 ft

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

Describe how this project advances the Citywide Element:

This program repairs and/or replaces existing undersized or deteriorated water mains to meet established Utility Level-of-Service for water main infrastrucuture.

Project Schedule & Location

Project name	Est Cost	Location
S Brooks St	\$62,000	Regent St to Chandler St
Hathaway Dr, Strathmore Ln, Greenwich Dr, Devon Ct,	\$109,000	Devon St to Glenbrook Cir
Davenport Dr, Glenbrook Cir		

Project name	Est Cost	Location
Spaanem Unit Well Zone 6 Integration	\$342,000	Allis Ave to Buckeye Rd
Spaniem Cint Wen 25/16 Cintegration		
2020 Hydraulic Improvements - Replace Water Mains	\$272,000	Undistributed Citywide - Locations under development

Explain the justification for selecting projects planned for 2020:

The proposed 2020 'Water Mains Replace/Rehab/Improve – Pavement Management' projects replace existing failed and/or undersized water mains, provide minor valve and hydrant improvements in conjunction with associated roadway construction projects, improve system hydraulics, provide service redundancy and integrate inter-zone water transfer capabilities between existing pressure zones.

2021 Projects

Project Name	Est Cost	Location
	\$96,000	Old Middleton Rd-Capital Ave to University Ave-S End
Old Middleton Rd, Craig Ave		
	\$81,000	200" E of Superior to Packers Ave Service Rd
Commercial Avenue		
	\$274,000	Regent St to University Ave
N Franklin Avenue		
	\$161,000	Steensland Dr-Logan St to Hooker Ave-N Sherman Ave
Hooker Ave, Sheridan Dr, Steensland Dr		
	\$81,000	E Washington Ave-N End to 200' W of Melvin-W End
Melvin Ct, Ridgeway Ave		
	\$81,000	Regent-Spring, Park-Mills
N Brooks St, Fahrenbrook Ct, College Ct		
	\$81,000	550' S of Midland to Appleton RD
South St, W Wingra Dr		
Hammersley Road	\$711,000	Reetz Rd to Brookwood Rd
	\$2,303,000	Undistributed Citywide - Locations under development
2021 Hydraulic Improvements - Replace Water Mains		

Explain the justification for selecting projects planned for 2021:

The proposed 2021 'Water Mains Replace/Rehab/Improve – Pavement Management' projects replace existing failed and/or undersized water mains, provide minor valve and hydrant improvements in conjunction with associated roadway construction projects, improve system hydraulics.

2022 Projects

Project Name	Est Cost	Location
Starker Avenue	\$840,000	Woodvale Dr to Droster Rd
Starker / Wellide		
	\$84,000	Hillview Ter-Tokay Blvd to Hilltop Dr-S Segoe Rd
Edward St, Hillview Ter		
	\$84,000	Jewel Ct-Heritage Cir to Hammersley-N End
Hammersley Rd, Heritage Cir, Jewel Ct		
	\$84,000	Mohawk Dr-S End to Seminole Hwy-Doncaster Dr
Mohawk Cir, Mohawk Dr		
	\$84,000	Ozark Trl to Shenandoah Way
Ozark Trl, Antietam Ln, Shenadodoah Way, Jetty Dr, Natchez Trace		
Price PI, Vernon Blvd	\$84,000	Regent St-N End to N Segoe Rd-N Midvale Blvd
	\$67,000	Barron Ct to Dead End
Buffalo Trl, Barron Ct, Green Lake Pass		
	\$655,000	Raymond Rd to Kroncke Dr
Gilbert Road		
	\$504,000	S Whitney Way-Tanager to Kroncke Dr-N End
Kroncke Dr, Lanett Cir		
	\$486,000	Regent St-University Ave to N Segoe Rd-N Whitney Way
N Segoe Rd, Sheboygan Ave		
2022 Hydraulic Improvements - Replace Water Mains	\$1,773,000	Undistributed Citywide - Locations under development

Explain the justification for selecting projects planned for 2022:

The proposed 2022 'Water Mains Replace/Rehab/Improve – Pavement Management' projects replace existing failed and/or undersized water mains, provide minor valve and hydrant improvements in conjunction with associated roadway construction projects, improve system hydraulics. Additional 2022 hydraulic improvement projects remain under development.

2023 Projects

Project name	Est Cost	Location
2023 Hydraulic Improvements - Replace Water Mains	\$3,561,000	Undistributed Citywide - Locations under development

Explain the justification for selecting projects planned for 2023:

The 2023 'Water Mains Replace/Rehab/Improve – Pavement Management' projects replace existing failed and/or undersized water mains, provide minor valve and hydrant improvements in conjunction with associated roadway construction projects, and improve system hydraulics. 2023 hydraulic improvement projects remain under development.

2024 Projects

Project name	Est Cost	Location
024 Hydraulic Improvements - Replace Water Mains \$2,962,000		Undistributed Citywide - Locations under development

Explain the justification for selecting projects planned for 2024:

The 2024 'Water Mains Replace/Rehab/Improve – Pavement Management' projects replace existing failed and/or undersized water mains, provide minor valve and hydrant improvements in conjunction with associated roadway construction projects, and improve system hydraulics. 2024 hydraulic improvement projects remain under development.

2025 Projects

Project name	Est Cost	Location
2025 Hydraulic Improvements - Replace Water Mains	\$1,995,000	
2023 Hydraulic Improvements - Replace Water Mains		
		Undistributed Citywide - Locations under development

Explain the justification for selecting projects planned for 2025:

The 2025 'Water Mains Replace/Rehab/Improve – Pavement Management' projects replace existing failed and/or undersized water mains, provide minor valve and hydrant improvements in conjunction with associated roadway construction projects, and improve system hydraulics. 2025 hydraulic improvement projects remain under development.

Operat	ing Costs	
What are within thi	the estimated a	annual operating costs associated with the projects planned
Personnel	I	
# of FTEs	Annual Cost	Description
Non-Perso	onnel	
Major	Amount	Description
Notes		
otes:		
		v. 5-22-20:

Submitted

2020 Capital Improvement Plan Program Budget Proposal

Identifying Information

AgencyWater UtilityProject NameWater Mains Replace RefProject Number11892Project TypeProgram

Project Category Utility Priority 3

2020 Munis Project Number 12476

Description

This program provides 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.

Budget Information

Prior Appropriation* \$990,000 Prior Year Actual* \$4,593
*Based on Fiscal Years 2015-2018

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Revenue Bonds-Water	200,000	709,000	2,042,000	2,401,000	2,301,000	2,184,000
Total	\$200,000	\$709,000	\$2,042,000	\$2,401,000	\$2,301,000	\$2,184,000

Expense Type	2020	2021	2022	2023	2024	2025
Water Network	200,000	709,000	2,042,000	2,401,000	2,301,000	2,184,000
Total	\$200,000	\$709,000	\$2,042,000	\$2,401,000	\$2,301,000	\$2,184,000

Performance

Metric

Cost to rehabilitate eligible water mains in relation to cost of water main replacement.

Data Source

Water main rehabilitation project cost per-foot, Water Utility average annual water main replacement cost per-foot.

Baseline Data

2017 Actual	2018 Actual	2019 Projected	Target
72%	64%	N/A	75% or <

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

Describe how this project advances the Citywide Element:

This program rehabilitates existing deteriorated water mains to meet established Utility Level-of-Service for water main infrastructure.

Project Schedule & Location

2020 Projects

Project name	Est Cost	Location
MWU Bypass Service System - Phase 1	\$200,000	Trailer/Storage Racking and Bypass piping/Fittings

Explain the justification for selecting projects planned for 2020:

The proposed 2020 'Water Main Rehabilitation' project includes funding for temporary water service system components and associated storage equipment.

Est Cost	Location
	Est Cost

Project Name	Est Cost	Location
CIPP Rehabilitation of Water Mains 2021	\$526,000	Undistributed/Citywide - Locations under development
MWU Bypass Service System - Phase 2	\$200,000	Trailer/Storage Racking and Bypass piping/Fittings

Explain the justification for selecting projects planned for 2021:

The proposed 2021 'Water Main Rehabilitation' projects include rehabilitating approximately 3,100-FT of existing deteriorated water mains (specific project locations are currently under development), and funding for temporary water service system components and associated storage equipment.

2022 Projects

Project Name	Est Cost	Location
Mineral Point Rd, S Owen Dr, Keating Ter, Caromar Dr	\$441,000	Glenway-474'S of Owen, Mineral Point Rd-Keating Ter to Owen-Caromar, Keating-Tokay
CIPP Rehabilitation of Water Mains 2022	\$1,401,000	Undistributed/Citywide - Locations under development
MWU Bypass Service System - Phase 3	\$200,000	Trailer/Storage Racking and Bypass piping/Fittings

Explain the justification for selecting projects planned for 2022:

The proposed 2022 'Water Main Rehabilitation' projects include rehabilitating approximately 10,400-FT of existing deteriorated water mains (specific project locations are currently under development), and funding for temporary water service system components and associated storage equipment.

2023 Proiects

Project name	Est Cost	Location
CIPP Rehabilitation of Water Mains 2023	\$2,201,000	Undistributed/Citywide - Locations under development
MWU Bypass Service System - Phase 4	\$200,000	Trailer/Storage Racking and Bypass piping/Fittings

Explain the justification for selecting projects planned for 2023:

The proposed 2023 'Water Main Rehabilitation' projects include rehabilitating approximately 12,000-FT of existing deteriorated water mains (specific project locations are currently under development), and funding for temporary water service system components and associated storage equipment.

2024 Projects

Project name	Est Cost	Location
CIPP Rehabilitation of Water Mains 2024	\$2,101,000	Undistributed/Citywide - Locations under development
MWU Bypass Service System - Phase 5	\$200,000	Trailer/Storage Racking and Bypass piping/Fittings

Explain the justification for selecting projects planned for 2024:

The proposed 2024 'Water Main Rehabilitation' projects include rehabilitating approximately 11,000-F	T of existing deteriorated water mains (specific project locations are currently under development), and
funding for temporary water service system components and associated storage equipment.	

2025 Projects

Project name	Est Cost	Location
CIPP Rehabilitation of Water Mains 2025	\$1,984,000	Undistributed/Citywide - Locations under development
MWU Bypass Service System - Phase 6	\$200,000	Trailer/Storage Racking and Bypass piping/Fittings

Explain the justification for selecting projects planned for 2025:

The proposed 2025 'Water Main Rehabilitation' projects include rehabilitating approximately 10,000-FT of existing deteriorated water mains (specific project locations are currently under development), and funding for temporary water service system components and associated storage equipment.

Operating Costs

What are the estimated annual operating costs associated with the projects pla	nned
within this program?	

Personnel

# of FTEs	Annual Cost	Description

Non-Personnel

Major	Amount	Description

Notes

Notes:

v. 5-22-2019

Submitted

2020 Capital Improvement Plan Program Budget Proposal

Identifying Information

Agency Water Utility Project Name
Water Mains Replace Ref
Project Number 11893 Project Type Program

Project Category Utility Priority

2020 Munis Project Number 12429

Description

This program funds 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. Funding was added to 2019 for water main replacement in conjunction with reconstruction streets projects for Bassett Street and West Wilson Street by Finance Committee amendment #4.

Budget Information

Prior Appropriation* \$7,818,080 Prior Year Actual*
*Based on Fiscal Years 2015-2018

\$7,365,134

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Revenue Bonds-Water	1,933,000	4,643,000	2,568,000	1,543,000	4,121,000	1,583,000
Total	\$1,933,000	\$4,643,000	\$2,568,000	\$1,543,000	\$4,121,000	\$1,583,000

Expense Type	2020	2021	2022	2023	2024	2025
Water Network	1,933,000	4,643,000	2,568,000	1,543,000	4,121,000	1,583,000
Tot	\$1,933,000	\$4,643,000	\$2,568,000	\$1,543,000	\$4,121,000	\$1,583,000

Performance

Metric

Length of water main replacement per existing water main break eliminated.

Data Source

Madison Water Utility water main break/leak reports and annual as-built construction records of water main installed.

Baseline Data

2017 Actual	2018 Actual	2019 Projected	Target
371 ft	206 ft	250 ft	400 ft

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

Describe how this project advances the Citywide Element:

This program repairs and/or replaces existing undersized or deteriorated water mains to meet established Utility Level-of-Service for water main infrastrucuture.

Project Schedule & Location

Project name	Est Cost	Location
West Town Path (Gammon Rd, S)	\$147,000	Gammon Underpass to Commerce to Junction Road
Gregory St, Cross St, Copeland St, Western Ave	\$311,000	Gregory St to Monroe St

Project name	Est Cost	Location
Dunning St, Jackson St, LaFollete Ave	\$78,000	RR-Atwood, RR-St Paul, Division-Ohio to Division-Ohio
building St, Jackson St, Lai onete Ave		
Rethke Ave	\$78,000	E Washington to Commercial Ave
Dean Ave, Allis Ave, Tyler Cir, Seth Cir	\$1,304,000	Monona Dr to Turner Ave
bean Ave, Allis Ave, Tyler ell, Sett ell		
Rockstream Dr & Ditch Culvert	\$15,000	New Roads - Coordination w/ Developer

Explain the justification for selecting projects planned for 2020:

The proposed 2020 'Water Mains Replace/Rehab/Improve – Reconstruct Streets' projects replace existing failed and/or undersized water mains, provide minor valve and hydrant improvements in conjunction with associated roadway construction projects, improve system hydraulics.

Project Name	Est Cost	Location
Martin Luther King Jr Blvd (w Outer Loop South?)	\$81,000	Main St to Wilson St
.		
Outer Capital Loop South (w MLK JR Blvd?)	\$139,000	Martin Luther King Jr Blvd to S Webster St
University Ave	\$1,420,000	Shorewood Blvd to Campus Dr
Elmside Blvd, Sommers Ave, Center Ave	\$81,000	Atwood Ave-Oakridge Ave, Miller St-Elmside Blvd, to Miller Ave-Maple Ave
Hillcrest Dr, Standish Ct, Alden Dr	\$678,000	Westmorland Blvd-Larkin St to Alden Dr, Standish Ct to dead end
Davies St, Major Ave, Dempsey Rd, Maher Ave	\$1,291,000	Buckeye Rd-Maher Ave to 150 ft N of Davidson-Maher Ave, Lake Edge Blvd-Dempsey Rd

Project Name	Est Cost	Location
MacArthur Rd, Larson Ct, Sycamore Ave, MacArthur Ct	\$81,000	E Washington Ave to Ends of all streets
index it that ha, zurson et, sycamore / ve, maes it that et		
Lake View Ave, Hanover St, West Ln, East Ln	\$872,000	Esch Ln-N Sherman Ave to Drewry Ln-Lakeview Ave
Lake view Ave, Harlovel 3t, west Ell, Last Ell		

Explain the justification for selecting projects planned for 2021:

The proposed 2021 'Water Mains Replace/Rehab/Improve – Reconstruct Streets' projects replace existing failed and/or undersized water mains, provide minor valve and hydrant improvements in conjunction with associated roadway construction projects, improve system hydraulics.

Project Name	Est Cost	Location
Blair/John Nolen Intersection	\$84,000	S Franklin St to Blount St
Blair St South	\$84,000	E Washington Ave to Williamson St
Wilson St East	\$268,000	Martin Luther King Jr Blvd to King St
LaFollette Ave, Ohio Ave, Talmadge St	\$135,000	Ohio Ave-Waubesa St to RR-Bashford Ave, RR-St Paul Ave
Sommers Av, Center Av, Willard Av, Hudson Av, Miller Av	\$84,000	Hudson-Miller, H-M, Ohio-Elmside to Atwood-Oakride, Atwood-Willard
Felland Rd	\$1,006,000	Lien Rd to Autumn Lake Pkwy
Davies, Drexel, Monona Ct	\$672,000	Major-Maher, Lake Edge-Davies to Major-Maher
Pontiac Trl, Nakomis Ct, Rosewood Cir, Boston Ct	\$151,000	Boston Ct to Jewel Ct
Crestview, Groveland, Dixie, Herro	\$84,000	Groveland Ter to Herro Ln
S. Sarran, S. S. Santana, S. N.C., Tierro		

Explain the justification for selecting projects planned for 2022:

The proposed 2022 'Water Mains Replace/Rehab/Improve – Reconstruct Streets' projects replace existing failed and/or undersized water mains, provide minor valve and hydrant improvements in conjunction with associated roadway construction projects, improve system hydraulics.

2023 Projects

Project name	Est Cost	Location
Farwell St, South Ct, North Ct	\$349,000	Milwaukee St-RR, Farwell-Corry to Farwell-Corry
Yahara PI, Walton PI, Russell St	\$87,000	Walton-Dunning to Rutledge St-Yahara PI
Evergreen Ave, Center Ave, Willard Ave, Ohio Ave	\$87,000	Center-Oakridge, Dunning-Hudson to Evergreen-Ohio, Center-Willard
Gary St	\$87,000	Dempsey Rd to Elinor St
Doncaster Dr, Beverly Rd, Danbury St	\$94,000	Danbury St-Seminole Hwy, Whenona Dr-Seminole Hwy to Doncaster Dr-Mohawk Dr
Maher Ave	\$839,000	Buckeye Rd to Davies St

Explain the justification for selecting projects planned for 2023:

The proposed 2023 'Water Mains Replace/Rehab/Improve – Reconstruct Streets' projects replace existing failed and/or undersized water mains, provide minor valve and hydrant improvements in conjunction with associated roadway construction projects, improve system hydraulics.

Project name	Est Cost	Location
Atwood Ave	\$816,000	Fair Oaks Ave to Walter St
Atwood Ave	\$816,000	Walter St to Cottage Grove Rd

Est Cost	Location
\$91,000	North Shore Dr to E Olin Ave
\$291,000	Walton-450'S of Division to Winnebago-Jenifer, Walton-Division
\$99,000	Atwood-Center to Dunning-Hudson
\$1,917,000	South Point Rd to Boyer (west end)
\$91,000	Tompkins-Pflaum to Joylynne-Camden
	\$91,000 \$291,000 \$99,000 \$1,917,000

Explain the justification for selecting projects planned for 2024:

The proposed 2024 'Water Mains Replace/Rehab/Improve – Reconstruct Streets' projects replace existing failed and/or undersized water mains, provide minor valve and hydrant improvements in conjunction with associated roadway construction projects, improve system hydraulics.

2025 Proiects

Project name	Est Cost	Location
Birge Ter	\$94,000	University Ave to Birge Ter
Sherman Ave, McGuire St	\$94,000	McGuire St-N Sherman Ave to Sherman Ave-Fordem Ave
Hermina St, Union St	\$94,000	N Marquette St to Clyde-Gallagher Ave
Shawnee Pass	\$55,000	Nakoma Rd to Cherokee Dr
Valley View	\$1,246,000	Pioneer Rd to South Point Rd

Explain the justification for selecting projects planned for 2025:

The proposed 2025 'Water Mains Replace/Rehab/Improve – Reconstruct Streets' projects replace existing failed and/or undersized water mains, provide minor valve and hydrant improvements in conjunction with associated roadway construction projects, improve system hydraulics.

Operat	ting Costs		
What are within thi	the estimated a	annual operating costs associated with the projects planned	
Personnel	1		
# of FTEs	Annual Cost	Description	
Non-Perso	onnel		
Major	Amount	Description	
lotes			
otes:			
		v. 5	5-22-20

Submitted

2020 Capital Improvement Plan Project Budget Proposal

Identifying Information

Agency

Water Utility

Project Name

Westside Water Supply

Project Number 12439

Project Type

Project

Project Category Utility

Priority

18

Description

Water demand projections indicate that there will be a supply deficiency on the far west side of the system in the 20's and it will grow as the area develops. This project will develop a new source of supply on the far west side of the system.

Is this project currently included in the 2019 CIP?

No

Budget Information

Total Project Budget

\$12,152,000

Prior Appropriation

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Revenue Bonds-Water	0	153,000	2,370,000	1,127,000	971,000	7,531,000
Total	\$0	\$153,000	\$2,370,000	\$1,127,000	\$971,000	\$7,531,000

Budget by Expenditure Type

Expense Type		2020	2021	2022	2023	2024	2025
Water Network			153,000	2,370,000	1,127,000		
Building						971,000	7,531,000
	Total	\$0	\$153,000	\$2,370,000	\$1,127,000	\$971,000	\$7,531,000

Performance

Metric

Water supply availability and fire protection capacity.

Data Source

Water Utility operational records.

Baseline

Target

Average and maxim...

Meet average daily d...

Priority

Citywide Element Neighborhoods and Housing

Strategy

Create complete neighborhoods across the city where residents have access to transportation options and resources needed for daily living

Describe how this project advances the Citywide Element:

Without adequate drinking water supply, development cannot occur. This project will support and enable current and future growth per the City Comprehensive Plan.

What is the justification for this project?

Current supply on the far west side is nearing capacity.

Project Schedule & Location

What is the total time frame for this project?

Start Date: 1/1/2021

End Date: 12/31/2026

Project Status

2020	2021	2022	2023	2024	2025
	Planning	Design Completion	Construction	Construction	Construction

Can this project be mapped?

What is the location of the project?

Western region of the City.

Is this project on the Project's Portal? Operating Costs What are the estimated annual operating costs associated with the project? Personnel # of Annual Cost Description FTEs 13,000 Facility will be operated by existing personnel. Non-Personnel Major Amount Description 54 110,000 Electrical power required for pumping. 53 37,000 Chemicals and wastewater.			Capital Budget Requests - 2019-05-14114_38_01
Personnel # of Annual Cost Description	Is this pro	oject on the Proj	ect's Portal? Yes No
Personnel # of FTEs	Operat	ting Costs	
# of FTEs	What are	the estimated a	annual operating costs associated with the project? \$160,000
Tild Tild	Personne	I	
Non-Personnel Major Amount Description 54 110,000 Electrical power required for pumping. 53 37,000 Chemicals and wastewater.		Annual Cost	Description
Major Amount Description 54 110,000 Electrical power required for pumping. 53 37,000 Chemicals and wastewater.	.125	13,000	Facility will be operated by existing personnel.
110,000 Electrical power required for pumping. 53 37,000 Chemicals and wastewater.	Non-Perso	onnel	
Electrical power required for pumping. 53 37,000 Chemicals and wastewater.	Major	Amount	Description
Chemicals and wastewater. Otes	54	110,000	Electrical power required for pumping.
	53	37,000	Chemicals and wastewater.
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Submitted

2020 Capital Improvement Plan Program Budget Proposal

Identifying Information

Agency Water Utility Project Name Water Utility Facility Imp

Project Number 10440 Project Type Program

Project Category Utility Priority 9

2020 Munis Project Number 12425

Description

This program funds repairs and security upgrades at Water Utility facilities. The goal of the program is to maintain facilities for reliable services while reducing the need for emergency repairs. Progress is measured by tracking the number of emergency calls, facility outages, and accidents each year. Funding in 2019 is for upgrades to the meter network.

Budget Information

Prior Appropriation*

*Based on Fiscal Years 2015-2018

\$4,355,928 Prior Year Actual*

\$2,753,825

Budget by Funding Source

Funding Source	2020	2021	2022	2023	2024	2025
Revenue Bonds-Water	592,000	492,000	884,000	522,000	539,000	555,000
Total	\$592,000	\$492,000	\$884,000	\$522,000	\$539,000	\$555,000

Budget by Expenditure Type

Expense Type	2020	2021	2022	2023	2024	2025
Building	429,000	439,000	830,000	467,000	482,000	497,000
Machinery and Equipment	163,000	53,000	54,000	55,000	57,000	58,000
То	\$592,000	\$492,000	\$884,000	\$522,000	\$539,000	\$555,000

Performance

Metric

Rating based on established levels of service targets/goals for sustainable and responsible asset lifecycle costs and acceptable levels of risk (Consequence of Failure (COF) an...

Data Source

MWU's Strategic Asset Management Program

Baseline Data

2017 Actual	2018 Actual	2019 Projected	Target
1 - 5	1 - 5	1 - 3	1 -3

Priority

Citywide Element Green and Resilient

Strategy

Protect Madison's water supply and infrastructure to provide safe clean drinking water.

Describe how this project advances the Citywide Element:

Provides for MWU facility improvements necessary in providing sufficient clean drinking water to City of Madison residents.

Project Schedule & Location

Project name	Est Cost	Location
SCADA System Upgrade and Expansion	\$23,000	Various Unit Wells and Booster Pump Stations
, 10		
Backwash Control Upgrade	\$34,000	Unit Well #29
Chemical Feed Automation	\$14,000	Various Unit Wells and Booster Pump Stations

Project name	Est Cost	Location
Project nume	LSt COSt	Location
Doostor Llagrado	\$69,000	Unit Well #9
Booster Upgrade		
	\$22,000	Various Water Utility Sites
Fiber Optic System Installation & Upgrade		
Flow Meter Installation	\$12,000	Unit Wells #11 and #13
riow weter installation		
Reservoir Pit Upgrade	\$20,000	Unit Well #20
Reservoir Fit Opgrade		
Deep Well VFD Installations	\$103,000	Various Unit Wells and Booster Pump Stations
Deep well vi b ilistaliations		
Miscellaneous Site Improvements	\$60,000	Various Water Utility Sites
wiscenaneous site improvements		
Unexpected Unit Well and Booster Station Mechanical Failures	\$180,000	Various Unit Wells and Booster Pump Stations
onexpected offic well and booster station mechanical randles		
Miccellaneous Facility Ungrados	\$55,000	Various Water Utility Sites
Miscellaneous Facility Upgrades		

Explain the justification for selecting projects planned for 2020:

Projects are decided by applying MWU's Asset Management program to the list of potential projects.

Project Name	Est Cost	Location
	\$24,000	Various Unit Wells and Booster Pump Stations
SCADA System Upgrade and Expansion		
	\$15,000	Various Unit Wells and Booster Pump Stations
Chemical Feed Automation		
	\$23,000	Various Water Utility Sites
Fiber Optic System Installation & Upgrade		
	\$38,000	Various Unit Wells and Booster Pump Stations
Deep Well VFD Installations		
	\$25,000	Various Water Utility Sites
Miscellaneous Site Improvements		

Project Name	Est Cost	Location
	\$260,000	Various Unit Wells and Booster Pump Stations
Unexpected Unit Well and Booster Station Mechanical Failures		
Facility Safety & Security Upgrades	\$50,000	Various Water Utility Sites
	\$57,000	Various Water Utility Sites
Miscellaneous Facility Upgrades		

Explain the justification for selecting projects planned for 2021:

Projects are decided by applying MWU's Asset Management program to the list of potential projects.

2022 Projects

Project Name	Est Cost	Location
	\$24,000	Various Unit Wells and Booster Pump Stations
SCADA System Upgrade and Expansion		
	\$15,000	Various Unit Wells and Booster Pump Stations
Chemical Feed Automation		
	\$23,000	Various Water Utility Sites
Fiber Optic System Installation & Upgrade		
	\$39,000	Various Unit Wells and Booster Pump Stations
Deep Well VFD Installations		
	\$26,000	Various Water Utility Sites
Miscellaneous Site Improvements		
	\$268,000	Various Unit Wells and Booster Pump Stations
Unexpected Unit Well and Booster Station Mechanical Failures		
	\$52,000	Various Water Utility Sites
Facility Safety & Security Upgrade s		
	\$60,000	Various Water Utility Sites
Miscellaneous Facility Upgrades		
Replace Roof	\$377,000	119 E Olin Ave - Heim Bldg.

Explain the justification for selecting projects planned for 2022:

Projects are decided by applying MWU's Asset Management program to the list of potential projects.

2023 Projects

Project name	Est Cost	Location
	\$25,000	Various Unit Wells and Booster Pump Stations
SCADA System Upgrade and Expansion		
	\$15,000	Various Unit Wells and Booster Pump Stations
Chemical Feed Automation		
	\$24,000	Various Water Utility Sites
Fiber Optic System Installation & Upgrade		
	\$40,000	Various Unit Wells and Booster Pump Stations
Deep Well VFD Installations		
	\$27,000	Various Water Utility Sites
Miscellaneous Site Improvements		
	\$276,000	Various Unit Wells and Booster Pump Stations
Unexpected Unit Well and Booster Station Mechanical Failures		
	\$53,000	Various Water Utility Sites
Facility Safety & Security Upgrades		
	\$62,000	Various Water Utility Sites
Miscellaneous Facility Upgrades		

Explain the justification for selecting projects planned for 2023:

Projects are decided by applying MWU's Asset Management program to the list of potential projects.

Project name	Est Cost	Location
	\$26,000	Various Unit Wells and Booster Pump Stations
		Tanibas one reasons and possess ramp stations
SCADA System Upgrade and Expansion		
	\$16,000	Various Unit Wells and Booster Pump Stations
		various offic wens and booster i unip stations
Chemical Feed Automation		
	\$25,000	Variana Mahar Halib. Cita
		Various Water Utility Sites
Fiber Optic System Installation & Upgrade		

Project name	Est Cost	Location
	\$41,000	Various Unit Wells and Booster Pump Stations
Deep Well VFD Installations		
	\$27,000	Various Water Utility Sites
Miscellaneous Site Improvements		
	\$284,000	Various Unit Wells and Booster Pump Stations
Unexpected Unit Well and Booster Station Mechanical Failures		
	\$55,000	Various Water Utility Sites
Facility Safety & Security Upgrades		
	\$65,000	Various Water Utility Sites
Miscellaneous Facility Up grades		

Explain the justification for selecting projects planned for 2024:

Projects are decided by applying MWU's Asset Management program to the list of potential projects.

Project name	Est Cost	Location
	\$27,000	Various Unit Wells and Booster Pump Stations
SCADA System Upgrade and Expansion		
	\$16,000	
Chemical Feed Automation		Various Unit Wells and Booster Pump Stations
	\$25,000	
Fiber Optic System Installation & Upgrade		Various Water Utility Sites
	\$42,000	
Deep Well VFD Installations		Various Unit Wells and Booster Pump Stations
	\$28,000	
Miscellaneous Site Improvements		Various Water Utility Sites
	\$293,000	
Unexpected Unit Well and Booster Station Mechanical Failures		Various Unit Wells and Booster Pump Stations

	P	roject name	Est Cost	Location
			\$56,000	
Facility	Safety & Security 1	Jpgrades		Various Water Utility Sites
			\$68,000	
Miscella	aneous Facility Upg	rades		Various Water Utility Sites
		n for selecting projects planned	for 2025:	,
		olying MWU's Asset Management prog		ntial projects.
Onerat	ing Costs			
Opera	ing costs			
	the estimated a is program?	annual operating costs associat	ed with the projec	ts planned
within th	is program:			
Personne				
# of	Annual Cost	Description		
FTEs				
Non-Perso	onnel			
Major	Amount	Description		

Notes

Notes:

v. 5-22-2019