

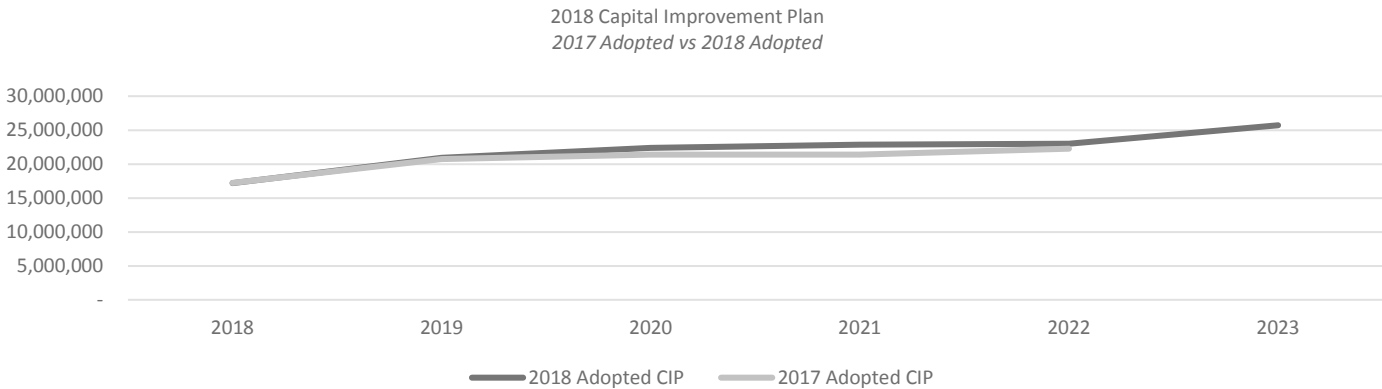
Water Utility

Capital Improvement Plan

Project Summary

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Booster Pump Station 109 | - | 284,000 | 2,364,000 | 744,000 | - | - |
| Booster Station 106 Reconstruction | - | - | 842,000 | - | - | - |
| Booster Pump Station 129 Reconstruct. | 334,000 | 3,069,000 | 866,000 | 793,000 | - | - |
| Far West Elevated Reservoir | 780,000 | - | - | 1,240,000 | - | - |
| Lakeview Reservoir Reconstruction | - | 161,000 | 2,445,000 | - | - | - |
| Unit Well 12 Conversion to a Two Zone Well | 3,262,000 | - | - | - | - | 1,608,000 |
| Unit Well No. 8 Reconstruction | 110,000 | - | - | - | - | - |
| Voc Air Stripper At Well 18 | - | - | - | - | - | 473,000 |
| Water Mains - New | 1,850,000 | 1,500,000 | 2,386,000 | 2,952,000 | 3,558,000 | 3,866,000 |
| Water Mains - Pavement Management | 4,400,000 | 4,576,000 | 4,759,000 | 4,949,000 | 5,147,000 | 5,353,000 |
| Water Mains - Pipe Lining | 1,000,000 | 1,040,000 | 1,082,000 | 1,125,000 | 1,170,000 | 1,217,000 |
| Water Mains - Reconstruct Streets | 4,250,000 | 4,420,000 | 4,797,000 | 4,781,000 | 4,972,000 | 5,171,000 |
| Water Utility Facility Improvements | 1,207,000 | 1,277,000 | 1,403,000 | 1,239,000 | 2,258,000 | 1,577,000 |
| Well 14 Mitigation | - | - | - | - | 801,000 | 4,160,000 |
| Well 19 Iron/Manganese Filter | - | 4,081,000 | - | - | - | - |
| Well 24 Iron and Manganese Filter | - | - | - | - | - | 572,000 |
| Well 28 Iron and Manganese Filter | - | - | 577,000 | 4,408,000 | - | - |
| Well 30 Iron and Manganese Filter | - | - | - | 600,000 | 4,584,000 | - |
| Well 7 Area Hydraulic Improvements | - | - | 866,000 | - | - | - |
| Zone 4 Fire Flow Supply Augment | - | 511,000 | - | - | - | 575,000 |
| Zones 7 & 8 Supply: Whitney Way | - | - | - | 15,000 | 495,000 | 1,142,000 |
| Total | \$ 17,193,000 | \$ 20,919,000 | \$ 22,387,000 | \$ 22,846,000 | \$ 22,985,000 | \$ 25,714,000 |

Changes from 2017 CIP



- Booster Pump Station 109 (Spaanem Ave): Project construction deferred from 2018 to 2020 (\$2.36m)
- Booster Station 106 Reconstruction: Project deferred from 2019 to 2020 (\$0.84m)
- BPS 129 Reconstruction: Project construction advanced from 2020 to 2019 (\$3.06m)
- Unit Well 12 Conversion to a Two Zone Well: Entire project budget moved into 2018 from 2019 (\$3.62m)
- Water Mains Program separated into three (Pavement Management, Reconstruct Streets, and Pipe-Lining)
- Well 30 Iron and Manganese Filter: Project budget increased (\$2.38m)

Water Utility

Budget Overview

2018 CIP by Expenditure Type

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Building | 4,913,000 | 8,540,000 | 5,589,000 | 6,262,000 | 7,888,000 | 7,924,000 |
| Land | - | - | - | - | 250,000 | - |
| Water Network | 12,280,000 | 12,379,000 | 16,798,000 | 16,584,000 | 14,847,000 | 17,790,000 |
| Total | \$ 17,193,000 | \$ 20,919,000 | \$ 22,387,000 | \$ 22,846,000 | \$ 22,985,000 | \$ 25,714,000 |

2018 CIP by Funding Source

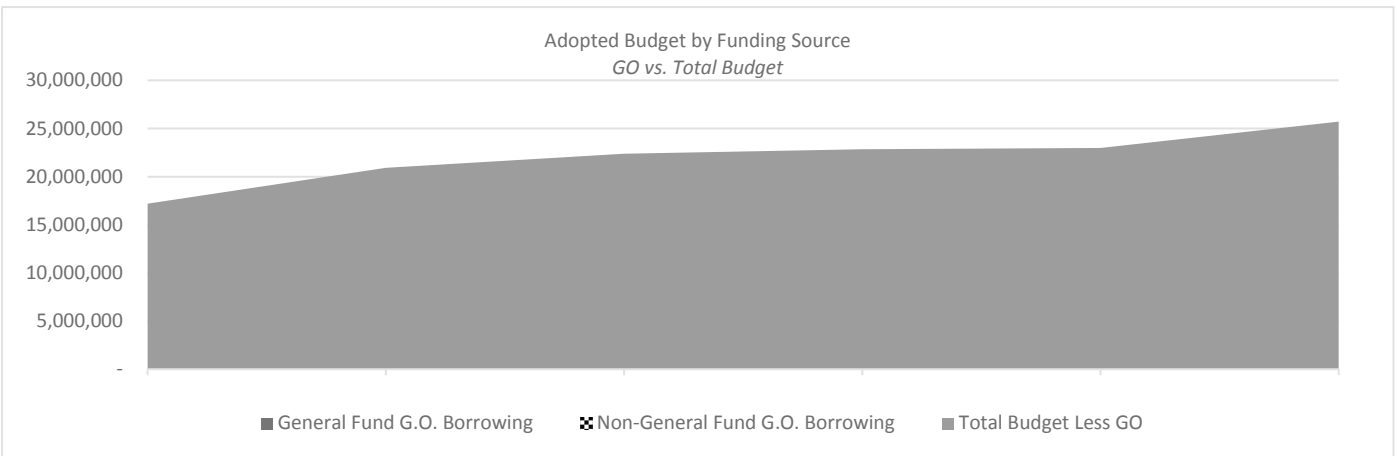
| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Revenue Bonds | 17,193,000 | 20,919,000 | 22,387,000 | 22,846,000 | 22,985,000 | 25,714,000 |
| Total | \$ 17,193,000 | \$ 20,919,000 | \$ 22,387,000 | \$ 22,846,000 | \$ 22,985,000 | \$ 25,714,000 |

Borrowing Summary

| | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Borrowing Schedule | | | | | | |
| General Fund G.O. Borrowing | - | - | - | - | - | - |
| Non-General Fund G.O. Borrowing | - | - | - | - | - | - |
| Total | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |

Annual Debt Service

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



Water Utility

Project Overview

Project **Booster Pump Station 109 (Spaanem Ave)** **Project #** **11605**

Project Description

This project will construct a booster pumping station at Spaanem Avenue on the City's east side. The goal of the project is to facilitate the movement of water from an area with excess supply to an area that is undersupplied. The project will improve overall system reliability, increase operational flexibility, and improve service to system consumers in the service area. Construction is planned for 2020.

Project Budget by Funding Source

| | Reauth | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|-------------|-------------|-------------------|---------------------|-------------------|-------------|-------------|
| Revenue Bonds | - | - | 284,000 | 2,364,000 | 744,000 | - | - |
| TOTAL | \$ - | \$ - | \$ 284,000 | \$ 2,364,000 | \$ 744,000 | \$ - | \$ - |

Project **Booster Station 106 Reconstruction** **Project #** **10444**

Project Description

This project improves the piping network at Booster Station #106 near Tokay Blvd and Midvale Blvd. The goal of the project is to enhance system reliability, improve fire protection, and improve the hydraulic capacity in the Sunset Hills area. Booster pumping station 106 was reconstructed in 2013 and provides a key water supply point to the west side. Construction of the piping network improvements is planned for 2020.

Project Budget by Funding Source

| | Reauth | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|-------------|-------------|-------------|-------------------|-------------|-------------|-------------|
| Revenue Bonds | - | - | - | 842,000 | - | - | - |
| TOTAL | \$ - | \$ - | \$ - | \$ 842,000 | \$ - | \$ - | \$ - |

Project **Booster Pump Station 129 Reconstruction** **Project #** **17601**

Project Description

This project will reconstruct and upgrade booster pump station 129 on the City's northeast side. The goal of the project is to increase water transfer capacity from Zone 6E to Zone 3 in that area. This project will replace the temporary pump station constructed on the Well 29 site in 1990, and provide additional water supply needed on the far east side of Madison. Construction is planned to begin in 2019 and be completed in 2021.

Project Budget by Funding Source

| | Reauth | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|-------------|-------------------|---------------------|-------------------|-------------------|-------------|-------------|
| Revenue Bonds | - | 334,000 | 3,069,000 | 866,000 | 793,000 | - | - |
| TOTAL | \$ - | \$ 334,000 | \$ 3,069,000 | \$ 866,000 | \$ 793,000 | \$ - | \$ - |

Project **Far West Elevated Reservoir** **Project #** **10445**

Project Description

This project will construct a reservoir on Madison's far west side also known as the Blackhawk Reservoir. The goal of the project is to add one million gallons of elevated water storage capacity to the far west side of Madison allowing for development to occur, improve system reliability, increase firefighting capacity, and increase emergency water reserves to the area. Planning will begin in 2018; construction is anticipated in 2021.

Project Budget by Funding Source

| | Reauth | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|-------------|-------------------|-------------|-------------|---------------------|-------------|-------------|
| Revenue Bonds | - | 780,000 | - | - | 1,240,000 | - | - |
| TOTAL | \$ - | \$ 780,000 | \$ - | \$ - | \$ 1,240,000 | \$ - | \$ - |

Project Water Mains - New Project # 10856

Project Description

This program installs new water mains throughout the City. The goal of the program is to help 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. Projects planned for 2018 include Cottage Grove Road at Interstate 39/94, and CTH M near Mckee Road.

Project Budget by Funding Source

| | Reauth | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Revenue Bonds | 450,000 | 1,850,000 | 1,500,000 | 2,386,000 | 2,952,000 | 3,558,000 | 3,866,000 |
| TOTAL | \$ 450,000 | \$ 1,850,000 | \$ 1,500,000 | \$ 2,386,000 | \$ 2,952,000 | \$ 3,558,000 | \$ 3,866,000 |

Project Water Mains Replace Rehab Improve - Pavement Project # 10432

Management

Project Description

This program replaces and upgrades 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 to reduce 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.

Project Budget by Funding Source

| | Reauth | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|-------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Revenue Bonds | - | 4,400,000 | 4,576,000 | 4,759,000 | 4,949,000 | 5,147,000 | 5,353,000 |
| TOTAL | \$ - | \$ 4,400,000 | \$ 4,576,000 | \$ 4,759,000 | \$ 4,949,000 | \$ 5,147,000 | \$ 5,353,000 |

Project Water Mains Replace Rehab Improve - Pipe Lining Project # 12999

Project 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 that are rehabilitated using the lining method. Locations for CIPP lining are evaluated on an annual basis.

Project Budget by Funding Source

| | Reauth | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|-------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Revenue Bonds | - | 1,000,000 | 1,040,000 | 1,082,000 | 1,125,000 | 1,170,000 | 1,217,000 |
| TOTAL | \$ - | \$ 1,000,000 | \$ 1,040,000 | \$ 1,082,000 | \$ 1,125,000 | \$ 1,170,000 | \$ 1,217,000 |

Project Water Mains Replace Rehab Improve - Reconstruct Project # 12998

Streets

Project Description

This program replaces and upgrades 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 to diminish 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.

Project Budget by Funding Source

| | Reauth | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|-------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Revenue Bonds | - | 4,250,000 | 4,420,000 | 4,797,000 | 4,781,000 | 4,972,000 | 5,171,000 |
| TOTAL | \$ - | \$ 4,250,000 | \$ 4,420,000 | \$ 4,797,000 | \$ 4,781,000 | \$ 4,972,000 | \$ 5,171,000 |

Project Well 28 Iron and Manganese Filter Project # 17604

Project Description

This project will construct an iron and manganese filter at Well 28 at Old Sauk Road on the City’s west side. The goal of the project is to align iron and manganese levels with Water Utility standards as well as reduce the colored water and customer complaints in the area. The project will be measured by monitoring water quality and tracking the frequency of system flushing. Planning will begin in 2020; construction is anticipated in 2021.

Project Budget by Funding Source

| | Reauth | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|-------------|-------------|-------------|-------------------|---------------------|-------------|-------------|
| Revenue Bonds | - | - | - | 577,000 | 4,408,000 | - | - |
| TOTAL | \$ - | \$ - | \$ - | \$ 577,000 | \$ 4,408,000 | \$ - | \$ - |

Project Well 30 Iron and Manganese Filter Project # 17603

Project Description

This project will construct an iron and manganese filter at Well 30 at Moorland Road on the City’s southeast side. The goal of the project is to align iron and manganese levels with Water Utility standards as well as reduce the colored water and customer complaints in the area. Progress will be measured by monitoring water quality and tracking the frequency of system flushing. Planning will begin in 2021, construction is anticipated in 2022.

Project Budget by Funding Source

| | Reauth | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|-------------|-------------|-------------|-------------|-------------------|---------------------|-------------|
| Revenue Bonds | - | - | - | - | 600,000 | 4,584,000 | - |
| TOTAL | \$ - | \$ - | \$ - | \$ - | \$ 600,000 | \$ 4,584,000 | \$ - |

Project Well 7 Area Hydraulic Improvements Project # 17602

Project Description

This project will provide for hydraulic capacity improvements to the distribution system at Well 7 near Schlimgen Avenue on the City’s north side. Improvements include hydraulic capacity expansion and piping enhancements. The goal of the project is to improved water quality, water distributions, and fire protection in the N. Sherman Avenue and Schlimgen area. Construction is planned for 2020.

Project Budget by Funding Source

| | Reauth | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|-------------|-------------|-------------|-------------------|-------------|-------------|-------------|
| Revenue Bonds | - | - | - | 866,000 | - | - | - |
| TOTAL | \$ - | \$ - | \$ - | \$ 866,000 | \$ - | \$ - | \$ - |

Project Zone 4 Fire Flow Supply Augment Project # 10434

Project Description

This project will continue the construction of Unit Well 31 at Tradewinds Parkway on the City’s southeast side. The project will improve fire protection capacity to the far southeast corner of the Utility’s current service area. Construction of the first phase of this project began in 2015 to build a ground storage reservoir. Improvements to the distribution system are planned with pipe installation at Dutch Mill Road in 2019 and Voges Road in 2023.

Project Budget by Funding Source

| | Reauth | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|-------------|-------------|-------------------|-------------|-------------|-------------|-------------------|
| Revenue Bonds | - | - | 511,000 | - | - | - | 575,000 |
| TOTAL | \$ - | \$ - | \$ 511,000 | \$ - | \$ - | \$ - | \$ 575,000 |

Project Zones 7 & 8 Supply: Whitney Way Project # 10438

Project Description

This project will construct an additional well to serve Madison’s west side near the Whitney Way at Mineral Point Road area. The goal of the project is to provide the necessary capacity to the area to accommodate the growth in demand for water supply that has occurred. The well will provide the opportunity to supply five different pressure zones which encompasses the majority of west side of the City. Construction is planned for 2022 and 2023.

Project Budget by Funding Source

| | Reauth | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---------------|-------------|-------------|-------------|-------------|------------------|-------------------|---------------------|
| Revenue Bonds | - | - | - | - | 15,000 | 495,000 | 1,142,000 |
| TOTAL | \$ - | \$ - | \$ - | \$ - | \$ 15,000 | \$ 495,000 | \$ 1,142,000 |

Water Utility

2018 Appropriation Schedule

2018 Appropriation

Adopted Budget

| | Request | Executive | GO Borrowing | Other | Total |
|---|----------------------|----------------------|--------------|----------------------|----------------------|
| BPS 129 Reconstruction | 334,000 | 334,000 | - | 334,000 | 334,000 |
| Far West Elevated Reservoir | 780,000 | 780,000 | - | 780,000 | 780,000 |
| Unit Well 12 Conversion to a Two Zone Well | 3,262,000 | 3,262,000 | - | 3,262,000 | 3,262,000 |
| Unit Well No. 8 Reconstruction | 110,000 | 110,000 | - | 110,000 | 110,000 |
| Water Mains - New | 1,850,000 | 2,390,000 | - | 1,850,000 | 1,850,000 |
| Water Mains Replace Rehab Improve - Pavement Management | 4,400,000 | 4,400,000 | - | 4,400,000 | 4,400,000 |
| Water Mains Replace Rehab Improve - Pipe Lining | 1,000,000 | 1,000,000 | - | 1,000,000 | 1,000,000 |
| Water Mains Replace Rehab Improve - Reconstruct Streets | 4,250,000 | 4,250,000 | - | 4,250,000 | 4,250,000 |
| Water Utility Facility Improvements | 1,207,000 | 1,207,000 | - | 1,207,000 | 1,207,000 |
| Total | \$ 17,193,000 | \$ 17,733,000 | \$ - | \$ 17,193,000 | \$ 17,193,000 |

Reauthorized Appropriation

| | GO Borrowing | Other | Total |
|--------------------------------|--------------|-------------------|-------------------|
| Unit Well No. 8 Reconstruction | - | 155,000 | 155,000 |
| Water Mains - New | - | 450,000 | 450,000 |
| Total | \$ - | \$ 605,000 | \$ 605,000 |

Total 2018 Appropriation

| | | | |
|--|-------------|----------------------|----------------------|
| | \$ - | \$ 17,798,000 | \$ 17,798,000 |
|--|-------------|----------------------|----------------------|