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# WATER UTILITY 2019 CAPITAL IMPROVEMENT PLAN

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# SUMMARY

- Criteria in Prioritizing Projects
  - Replace failing buried infrastructure
  - Expand system to serve new growth
  - Meet levels of service for water quality and reliability established by the Water Utility Board
  - Water rate affordability and management of long term debt.
- Major Changes from 2018
  - Deferral of non-mandatory system improvements to 2021 and beyond

# WATER MAINS REPLACE REHAB IMPROVE – RECONSTRUCT STREETS

- Program Background
  - Goal: Replace or rehabilitate 400 miles of aging pipe within the City over a 40-year period
  - Asset Type: Water Network
- Agency Priority: 1
- 2019 Planned Activities
  - Buckeye Rd Improvements (DOT)
  - E Johnson St Improvements (DOT)
  - N Ingersoll St/Elizabeth St
  - Campbell St/Vilas Ave
  - S Bryan St/Daley Dr/James St/Thorp St
  - Winnebago St at Riverside Dr
  - Hammersley Ave
  - Davidson St/Park Ct/Dempsey St/Drexel Ave/Lake Edge Blvd
  - Meier Road Extension

	2019	2020	2021	2022	2023	2024
<b>Borrowing</b>	4,887,000	5,180,000	5,491,000	5,820,000	6,169,000	6,539,000
<b>Other</b>						
<b>TOTAL</b>	4,887,000	5,180,000	5,491,000	5,820,000	6,169,000	6,539,000

# WATER MAINS REPLACE REHAB IMPROVE – PAVEMENT MANAGEMENT

- Program Background
  - Goal: Replace or rehabilitate 400 miles of aging pipe within the City over a 40-year period
  - Asset Type: Water Network
- Agency Priority: 2
- 2019 Planned Activities
  - S Stoughton Service Road (East)
  - E Dayton Street
  - Holly Ave/Euclid Ave/Toepfer Ave/St. Clair St
  - W Dayton Street (State/UW)

	2019	2020	2021	2022	2023	2024
Borrowing	1,620,000	1,717,000	1,820,000	1,929,000	2,045,000	2,168,000
Other						
<b>TOTAL</b>	<b>1,620,000</b>	<b>1,717,000</b>	<b>1,820,000</b>	<b>1,929,000</b>	<b>2,045,000</b>	<b>2,168,000</b>

# WATER MAINS – NEW

- Program Background
  - Goal: Serve the growing areas of the City; improve existing hydraulics
  - Asset Type: Water Network
- Agency Priority: 3
- 2019 Planned Activities
  - Pleasant View Road (Cth M)/Mid Town Road/Raymond Road
  - Cottage Grove Road Interstate Crossing
  - Cannonball Phase 6

	2019	2020	2021	2022	2023	2024
Borrowing	1,382,000	1,317,000	1,396,000	2,261,000	2,397,000	2,541,000
Other						
TOTAL	1,382,000	1,317,000	1,396,000	2,261,000	2,397,000	2,541,000

# WATER UTILITY FACILITY IMPROVEMENTS

- Program Background
  - Goal: Maintain sound facilities
  - Asset Type: Building and Machinery & Equipment
- Agency Priority: 4
- 2019 Planned Activities:
  - SCADA System Upgrade & Expansion
  - Fiber Optic System Installation & Upgrade
  - Various Facility Upgrade Projects
  - Meter & Fixed Network Program
  - Various Olin & Paterson Building Upgrades & Improvements

	2019	2020	2021	2022	2023	2024
Borrowing	491,000	512,000	704,000	1,132,000	768,000	1,158,100
Other						
TOTAL	491,000	512,000	704,000	1,132,000	768,000	1,158,100

# LAKEVIEW RESERVOIR RECONSTRUCTION

- Project Background
  - Goal: Upgrade the existing booster pumping station to improve efficiency, increase capacity, and provide reliability to the pumping system. Pipelines will be upgraded in the system to increase hydraulic capacity and improve fire protection capacity.
  - Scope: Pump station work will involve replacing the existing two pumps with a repurposed pump skid taken from Booster Pumping Station 125. This work will replace all pumping equipment and electrical controls increasing station capacity from 300 gpm to 1,000 gpm. The pipeline work will replace existing 6" diameter pipe with 12" diameter pipe increasing hydraulic capacity and firefighting flow to bring it into compliance with Water Utility standards.
  - Agency Priority: 5
- Project Schedule
  - 2019: Planning
  - 2020: Planning
  - 2021: Construction
  - 2022: Construction
  - 2023: Construction
  - 2024: Construction

Total Budget	4,486,000
Prior Appropriation	8,330,000

	2019	2020	2021	2022	2023	2024
Borrowing			2,081,000			680,000
Other						
TOTAL			2,081,000			680,000

# UNIT WELL 12 CONVERSION TO A TWO-ZONE WELL

- Project Background

- Goal: Provide water supply capacity to 5 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.
- Scope: Reconstruction and upgrade of the well station will involve demolition of the existing structure and replace it with a new 1600 square foot building with the 2,200 gpm well and two 2,100 gpm pumps. The pipeline work will install new main on Whitney Way to fill in a gap in the system and improve north south water transmission capacity. The other section of main will replace the undersized existing 6" diameter pipe with 12" diameter pipe increasing hydraulic capacity and firefighting flow to bring it into compliance with Water Utility standards.
- Agency Priority: 6

- Project Schedule

- 2019: Planning
- 2020: Schematic Design
- 2021: Design Completion
- 2022: Construction
- 2023: Construction
- 2024: Construction

Total Budget

5,780,960

Prior Appropriation

4,751,100

	2019	2020	2021	2022	2023	2024
Borrowing			228,960	3,816,000	804,000	
Other						
<b>TOTAL</b>			<b>228,960</b>	<b>3,816,000</b>	<b>804,000</b>	



# BOOSTER PUMP STATION 129 RECONSTRUCTION

- Project Background
  - Goal: Increase water transfer capacity from Zone 6E to Zone 3. 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.
  - Scope: This project will demolish the existing pumping station located at 831 N. Thompson Drive and replace it with a new 1200 square foot addition to the Felland Reservoir control building. The pumping station will be equipped with 2 each 2,100 gpm booster pumps with room to add a third pump in the future if needed. 5,400 feet of new 16" and 12" diameter pipe will be installed on Felland Road from Bridle Lane to Lien Road.
  - Agency Priority: 7
- Project Schedule
  - 2019:
  - 2020: Planning
  - 2021: Schematic Design
  - 2022: Design Completion
  - 2023: Construction
  - 2024: Construction

Total Budget

5,749,240

Prior Appropriation

334,000

	2019	2020	2021	2022	2023	2024
Borrowing				384,240	4,330,000	
Other						
<b>TOTAL</b>				<b>384,240</b>	<b>4,330,000</b>	

# BOOSTER PUMP STATION 109 (SPAANEM AVE)

- Project Background
  - Goal: 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.
  - Scope: This project will add a new 800 square foot addition to the Spaanem Avenue well house. The pumping station will be equipped with 2 each 2,100 gpm booster pumps. This project will also allow the Utility to abandon and demolish Unit Well 23 located at 4502 Leo Drive.
  - Agency Priority: 8
- Project Schedule
  - 2019: Planning
  - 2020: Planning
  - 2021: Planning
  - 2022: Schematic Design
  - 2023: Design Completion
  - 2024: Construction

Total Budget	4,055,000
Prior Appropriation	81,000

	2019	2020	2021	2022	2023	2024
Borrowing					345,000	2,873,000
Other						
<b>TOTAL</b>					<b>345,000</b>	<b>2,873,000</b>



# FAR WEST ELEVATED RESERVOIR - BLACKHAWK

- Project Background
  - Goal: 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.
  - Scope: The Blackhawk Reservoir will be on line in the fall of 2018. The reservoir provides water storage and emergency reserves to the far west side of the Madison service area. As the area develops pipelines will be constructed to efficiently move water from north to south to meet established levels of service.
  - Agency Priority: 10
- Project Schedule
  - 2019:
  - 2020:
  - 2021:
  - 2022:
  - 2023:
  - 2024: Construction

Total Budget	3,013,000
Prior Appropriation	5,431,000

	2019	2020	2021	2022	2023	2024
Borrowing						1,355,000
Other						
TOTAL						1,355,000



# WATER MAINS REPLACE REHAB IMPROVE – PIPE LINING

- Program Background
  - Goal: Lengthen the useful life of the pipes at a lower cost than replacing the pipe.
  - Asset Type: Water Network
- Agency Priority: 12
- 2019 Planned Activities
  - No CIPP projects planned for 2019

	2019	2020	2021	2022	2023	2024
Borrowing		1,040,000	1,082,000	1,125,000	1,170,000	1,217,000
Other						
TOTAL		1,040,000	1,082,000	1,125,000	1,170,000	1,217,000