Program 8028 – West Area Interceptor Improvements

Contractor installation of 8253-327 Forcemain

Description

This project provides improvements to meet the long-term conveyance capacity, reliability, and rehabilitation/replacement needs of the West Area Interceptor System. This system includes gravity sewers, 29 lift stations, and forcemains from each lift station. The major project areas are located in Victoria, Excelsior, Orono, and Deephaven.

Purpose and justification

Evaluation of the West Area Interceptor System indicates that the existing facilities cannot convey all the wastewater that will ultimately be generated from within the Blue Lake WRRF treatment shed due to growth. In addition, many of the sewers, lift stations, and associated forcemains need to be rehabilitated or improved to ensure system reliability and to address odor and corrosion control.

Program location

The active projects within this program are in the following Council districts: 1, 3, and 4

New program additions

Category	Details
Scope	Rehabilitation of 1,400 feet of 8 to 36-inch interceptor pipe
Assets	6-MT-647, 7018-2, 6-TB-661, 7020
Communities	Minnetrista, Minnetonka, Shorewood, Excelsior
Added budget	$1,025,000
Construction years	2026 through 2031

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Active projects in program

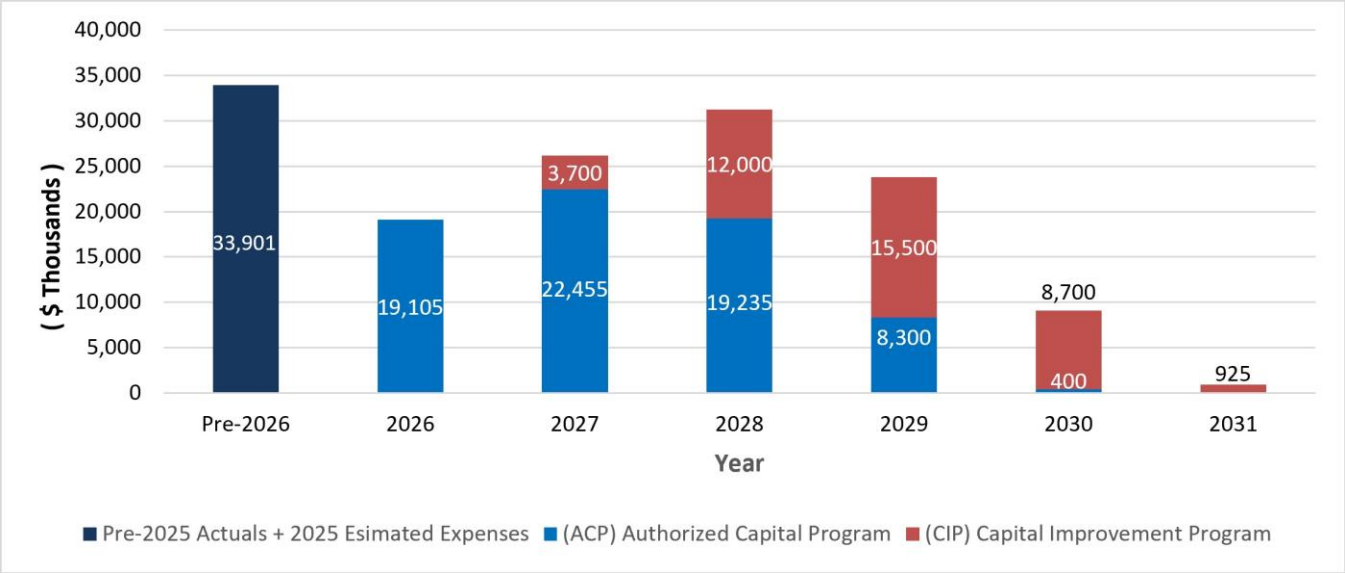
Project Number	Project Title
802800	West Area Interceptor Improvements (Parent Project)
802803	8352 Forcemain Improvements
802806	Interceptor 8253-327 Forcemain Improvements
802809	Shakopee Interceptors 9206-1 and 7120 Rehabilitation
802819	Long Lake 8352A Capacity Improvements
802831	Orono Lift Stations L46 and L49 Improvements
802835	L48 Rehabilitation and 6-DH-645 Forcemain Replacement
802836	Victoria Interceptor 7019-B Improvements
802837	Orono Interceptor 7113 Forcemain Replacement
802856	Excelsior Area Lift Station L20
802863	Orono 8567 Channel Crossings Replacement
802898	Lake Minnetonka Interceptor System Technical Support

Environmental Services 2026 through 2031 Capital Program

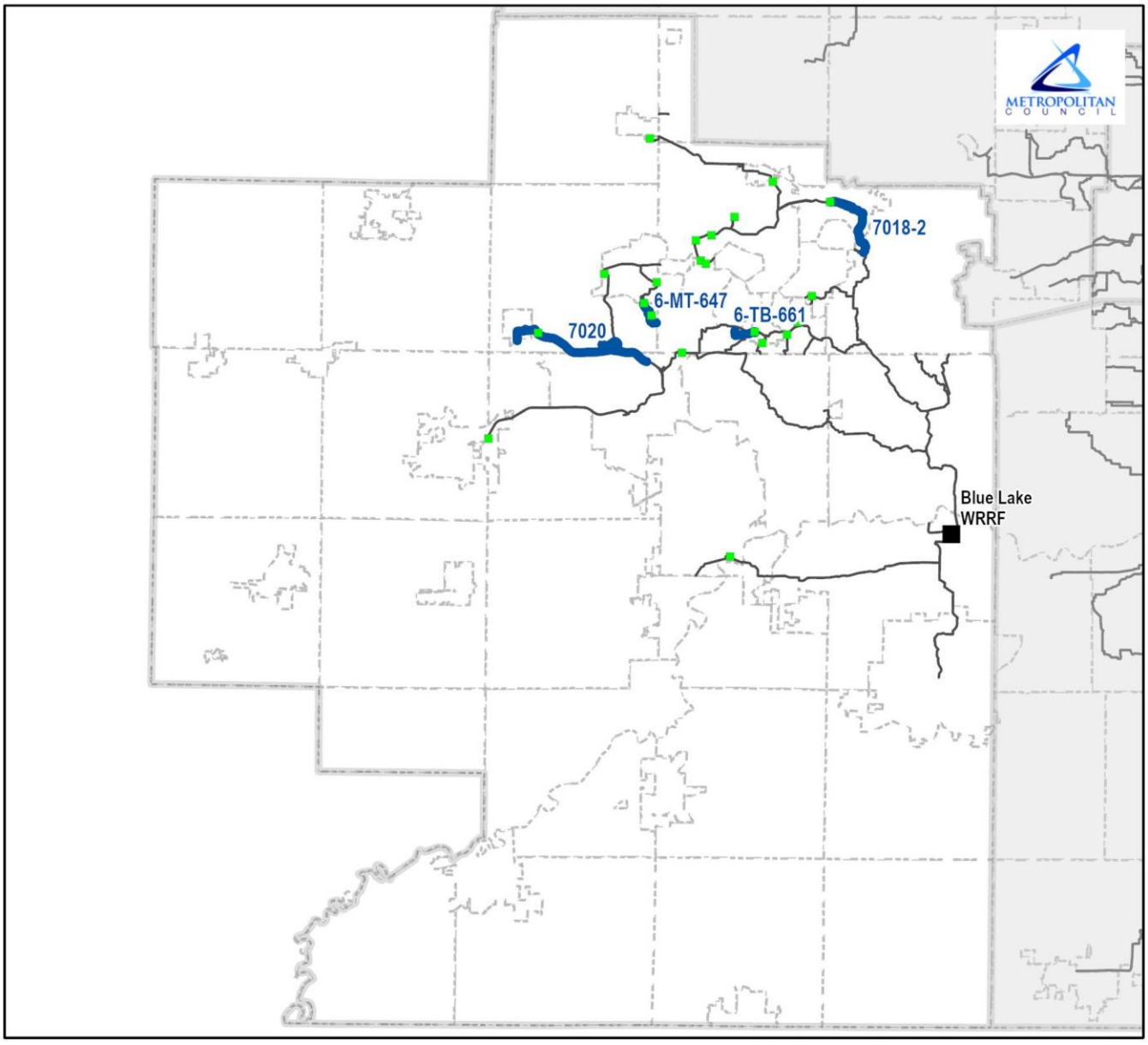
- Authorized Capital Program (ACP): $103,396,026
- Capital Improvement Plan (CIP): $144,221,026

Estimated program cash flow from 2026 through 2031

Note: the ACP is the total amount of all past and present authorizations including pre-2026 expenses.



West Area Program Map – New Projects



West Service Area Capital Improvement Projects (CIP)

MCES Wastewater Treatment System

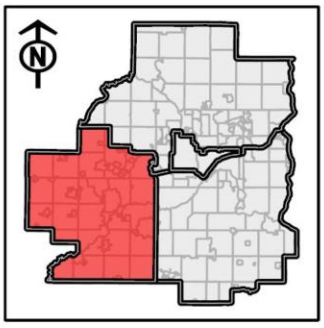
- Lift Stations
- Water Resource Recovery Facilities (WRRF)

- Interceptors
- Interceptors with CIP

Boundaries

- Community
- Service Area

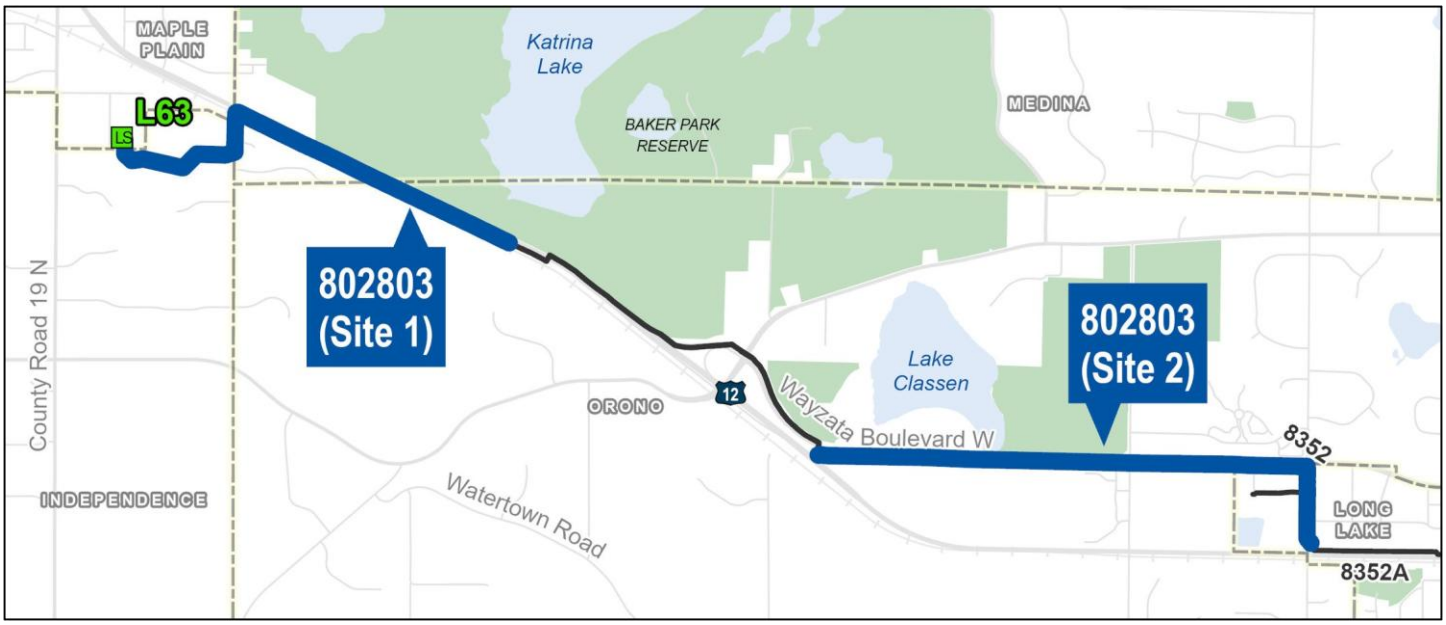
0 2.5 5 7.5 10 Miles



8352 Forcemain Improvements

Program family 8028 **Project #802803**

Project location: Council districts #1 and #3, Cities of Maple Plain, Independence, Medina, Orono & Long Lake



Map of Project #802803 Site 1 and 2 locations in north Orono and southwest Medina

Project type
Interceptor Improvements

Objectives
Asset Preservation

Scope
Project includes rehabilitation and/or replacement of approximately 4.1 miles of forcemain due to deterioration of pipe walls along with installation of redundant forcemain to provide system reliability.

Project need
Forcemain 8352 was constructed in 1985 as a single-barrel, 12-inch ductile iron pipe which runs approximately 5.1 miles from L63 in the City of Maple Plain to the discharge MH-172 in Long Lake. A one-mile segment of the forcemain at the intersection of Minnesota Highway 12 and County Road 6 was replaced in 2011 with dual barrel 14-inch HDPE pipes. Forcemain 8352 was evaluated using ultrasonic testing in 2021 and determined to have wall thickness loss. This reduction in wall thickness will require rehabilitation to extend forcemain service life. Reliability and future flow needs will be evaluated as part of this project.

Project schedule:

Planning: 2022 through 2025	Design: 2025 through 2027	Construction: 2028 through 2030

Financial analysis

2026 cash flow:	$250,000
Current ACP:	$3,097,500
2026 through 2031 cash flow:	$20,900,000
Total project cost:	$21,000,000

Interceptor 8253-327 Forcemain Improvements

Program family 8028 **Project #802806**

Project location: Council district #3, Cities of Shorewood and Chanhassen

Map of Project #802806 location north of Lake Minnewashta

Project type
Interceptor Improvements

Objectives
Asset Preservation and Quality Improvements

Scope
Increase system reliability and operational flexibility by installing a second redundant forcemain and rehabilitating the existing forcemain.

Project need
Forcemain 8253-327 was built in 1988 and runs from L21 in the City of Shorewood to the discharge approximately 3 miles to the east. An external ultrasonic thickness gauge survey conducted in 2021 found locations of pipe loss. Additional planning will be conducted to recommend reliability improvements.

Project schedule:

Planning: 2024 through 2025	Design: 2026 through 2027	Construction: 2027 through 2029

Financial analysis

2026 cash flow:	$400,000
Current ACP:	$750,000
2026 through 2031 cash flow:	$24,800,000
Total project cost:	$25,000,000

Shakopee Interceptors 9206-1 and 7120 Rehabilitation

Program family 8028 **Project #802809**

Project location: Council district #4, City of Shakopee

Map of project #802809 location near Quarry Lake Park in Shakopee

Project type
Interceptor Rehabilitation

Objectives
Asset Preservation

Scope
Provide cured-in-place pipe (CIPP) lining to over 3,500 linear feet of 72-inch Interceptor 7120 and 31 linear feet to 72-inch Interceptor 9206-1. The work also includes rehabilitating maintenance structures and a junction box along the interceptor.

Project need
A 2020 condition assessment revealed that Interceptor 7120 had a condition rating of 4 and Interceptor 9206-1 had a condition rating of 5.

Project schedule:

Planning: 2024	Design: 2024 through 2026	Construction: 2027

Financial analysis

2026 cash flow:	$4,600,000
Current ACP:	$1,050,000
2026 through 2031 cash flow:	$5,950,000
Total project cost:	$5,950,000

Long Lake 8352A Capacity Improvements

Program family 8028 **Project #802819**

Project location: Council district #3, City of Long Lake

Map of project #802819 location running parallel to MnDOT Highway 12 in Long Lake.

Project type
Interceptor Improvements

Objectives
System Expansion

Scope
Construction of new gravity pipe to provide future capacity and reliability of the system

Project need
The project will evaluate capacity and rehabilitation/replacement alternatives of approximately 7,000 linear feet of 12-, 18-, and 24-inch ductuile iron gravity pipe between MH 171 and the L60 Lift Station.

Planning: 2027 through 2028	Design: 2028 through 2029	Construction: 2030 through 2031

Financial analysis

2026 cash flow:	$450,000
Current ACP:	$2,940,000
2026 through 2031 cash flow:	$11,950,000
Total project cost:	$12,100,000

Orono Lift Stations L46 and L49 Improvements

Program family 8028 **Project #802831**

Project location: Council District #3, City of Orono

Map of Project #802831 location along Shadywood Road in Orono

Project type
Lift Station Improvements

Objectives
Asset Preservation and Quality Improvements

Scope
Replace L49 at neighboring property and fully rehabilitate L46 through replacement of pumps, mechanical equipment, and site improvements for safety.

Project need
A 2009 study evaluating L46 and L49 revealed L49 is at the end of its useful life and has inadequate capacity to meet current peak flow rates. Its current location is also difficult to access for maintenance. Land has been purchased adjacent to the existing lift station to provide easier access. L46 requires pump and valve replacement, electrical panel upgrades, and site improvements to protect existing equipment from traffic.

Project schedule:

Planning: 2019 through 2020	Design: 2020 through 2023	Construction: 2024 through 2026

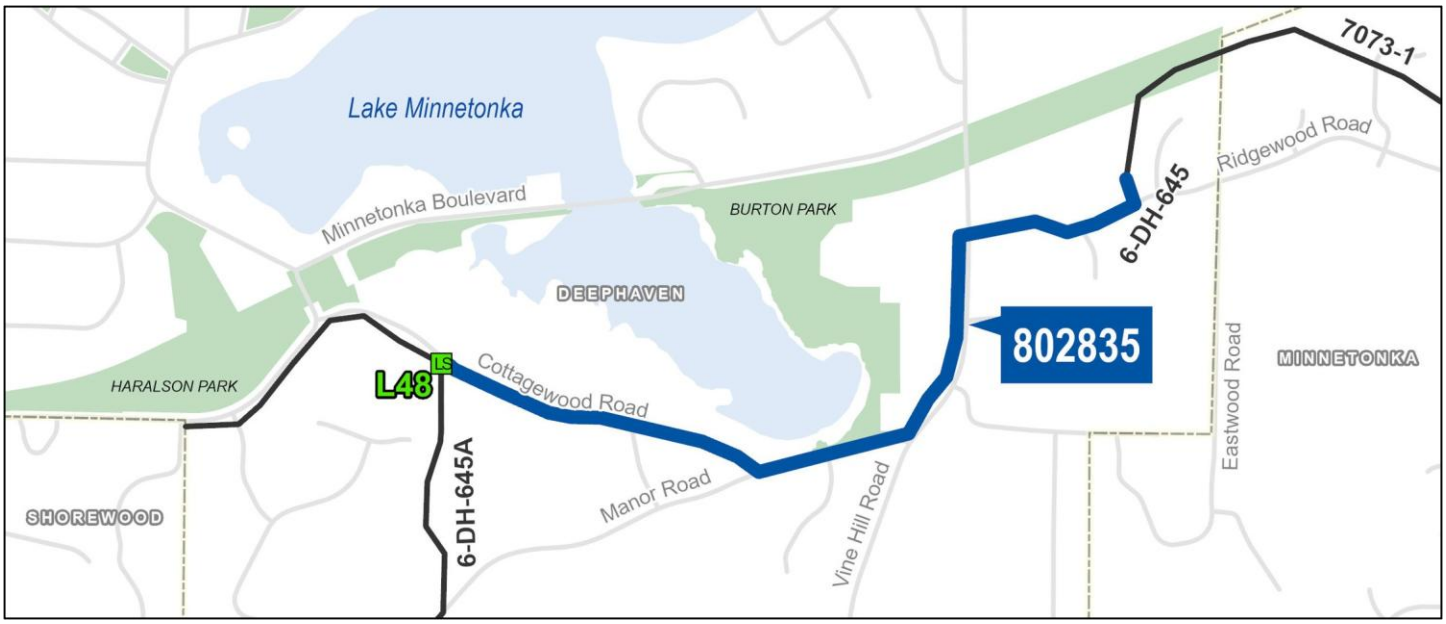
Financial analysis

2026 cash flow:	$1,800,000
Current ACP:	$6,836,000
2026 through 2031 cash flow:	$1,850,000
Total project cost:	$6,500,000

L48 Rehabilitation and 6-DH-645 Forcemain Replacement

Program family 8028 **Project #802835**

Project location: Council district #3, City of Deephaven



Map of Project #802835 location in the Burton Park area in Deephaven

Project type
Lift Station and Interceptor Improvements

Objectives
Asset Preservation

Scope
The rehabilitation of L48 will include a new valve vault, pumps and valves, electrical and site work, forcemain replacement, and replacement of the gravity discharge pipe.

Project need
The 16-feet-deep buried valves are broken outside of the station. A buried temporary conveyance system was installed to convey around the broken valves. The forcemain was built in 1970, is over 50 years old, and is reaching the end of its service life.

Project schedule:

Planning: N/A	Design: 2021 through 2022	Construction: 2023 through 2026

Financial analysis

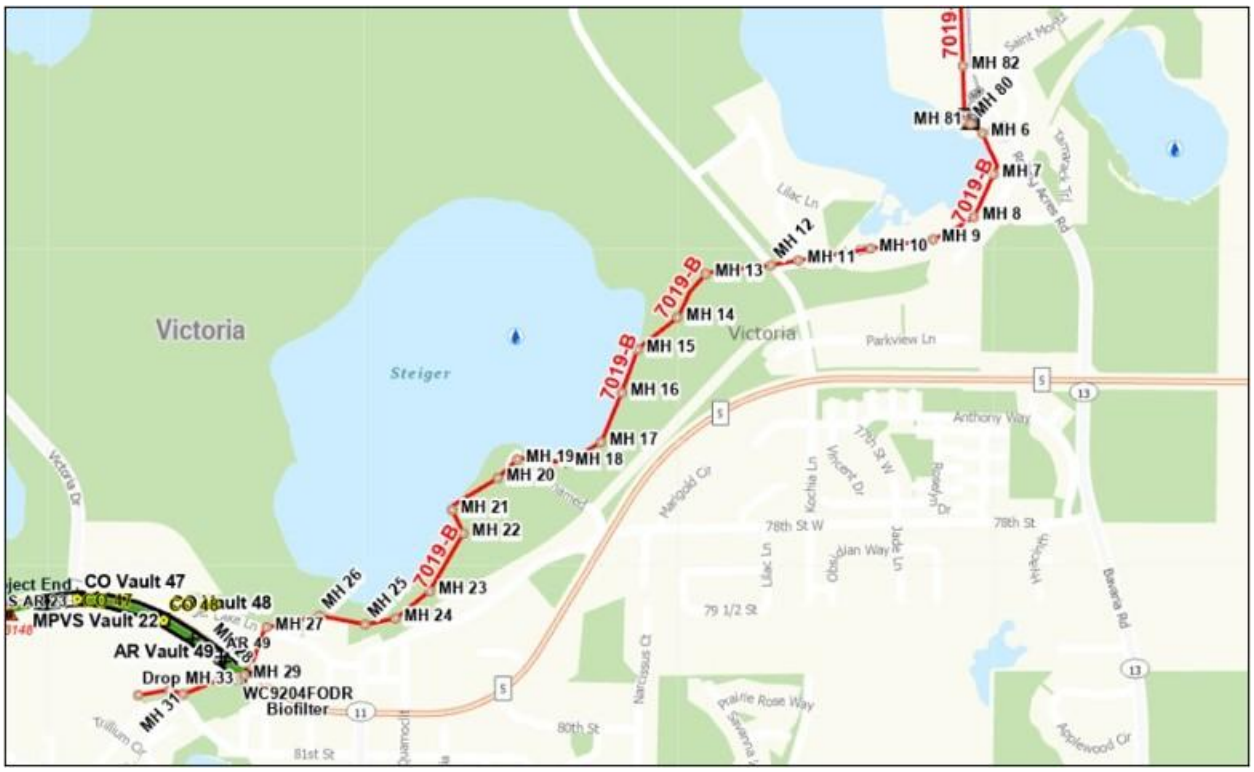
2026 cash flow:	$1,500,000
Current ACP:	$7,367,000
2026 through 2031 cash flow:	$1,500,000
Total project cost:	$8,558,000

Victoria Interceptor 7019-B Improvements

Project #802836

Program family 8028

Project location: Council district #4, City of Victoria



Map of Project #802836 location in the Carver Park Preserve in Victoria

Project type
Interceptor Improvements

Objectives
System Expansion

Scope
Installation of a parallel pipe or removing and replacing the existing pipe with a larger pipe. It is possible that the Council may construct a hybrid project consisting of both parallel and replacement pipe along the alignment. This project is currently in the planning phase.

Project need
The existing 30- and 36-inch pipe does not meet wet weather flow projections for 2050.

Project schedule:

Planning: 2026	Design: 2027 through 2028	Construction: 2028 through 2029

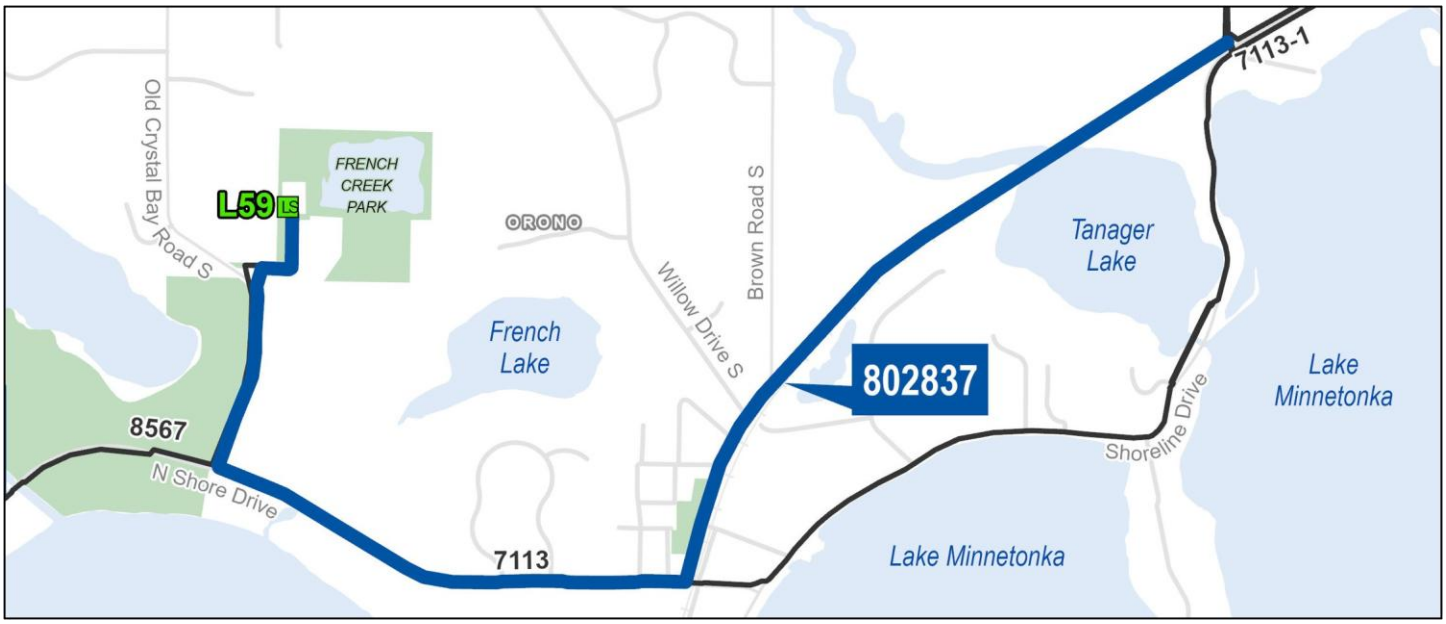
Financial analysis

2026 cash flow:	$250,000
Current ACP:	$1,400,000
2026 through 2031 cash flow:	$8,950,000
Total project cost:	$9,025,000

Orono Interceptor 7113 Forcemain Replacement

Program family 8028 **Project #802837**

Project location: Council district #3, City of Orono



Map of Project #802837 location along the north side of Lake Minnetonka in Orono

Project type
Interceptor Improvements

Objectives
Asset Preservation and Quality Improvements

Scope
Construction of a redundant forcemain along existing forcemain 7113 and the Hennepin County Regional Rail Authority (HCRAA) trail corridor and rehabilitation of the existing forcemain.

Project need
Forcemain 7113 was built in 1979 and runs from L59 in the City of Orono to the junction with forcemain 7113A approximately three miles to the east. Forcemain 7113 is approaching the end of its service life and needs replacement or rehabilitation. A new redundant forcemain is proposed to increase reliability and allow the existing forcemain in Shoreline Drive to be inspected and rehabilitated or replaced.

Project schedule:

Planning: 2019 through 2022	Design: 2022 through 2025	Construction: 2026 through 2029

Financial analysis

2026 cash flow:	$6,500,000
Current ACP:	$39,180,000
2026 through 2031 cash flow:	$28,970,000
Total project cost:	$28,970,000

Excelsior Area Lift Station L20

Program family 8028 **Project #802856**

Project location: Council district #3, City of Excelsior

Map of Project #802856 in Excelsior showing new and rehabilitated gravity sewer and forcemain abandonment

Project type
Interceptor Improvements

Objectives
Asset Preservation and Quality Improvements

Scope
Remove existing lift station L20 and install a gravity pipe to lift station L19.

Project need
The existing L20 was constructed in 1970 and is at the end of its service life. The 2021 Lake Minnetonka Facility Plan determined that L20 should be abandoned and replaced with a gravity pipe connection to L19. In addition, obsolete air relief structures along the existing 7017 forcemain will be rehabilitated.

Project schedule:

Planning: 2008 through 2019	Design: 2019 through 2022	Construction: 2023 through 2026

Financial analysis

2026 cash flow:	$250,000
Current ACP:	$14,300,000
2026 through 2031 cash flow:	$250,000
Total project cost:	$13,037,000

Orono 8567 Channel Crossings Replacement

Program family 8028 **Project #802863**

Project location: Council district #3, City of Orono

Map of Project #802863 location at the Hendrickson and Noerenberg Bridges in Orono

Project type
Interceptor Improvements

Objectives
Asset Preservation and Quality Improvements

Scope
To minimize future risk, a redundant parallel HDPE pipe is proposed at each channel crossing. Directional drilling will be used to complete the redundant pipe along with new connection structures.

Project need
In 2022, Hennepin County replaced the Noerenberg and Hendrickson bridges on North Shore Drive. The original Interceptor Forcemain 8567 was suspended on the bridges. A new pipe was relocated under the Lake Minnetonka channels to coordinate with the County's work. This project will finish the relocation by installing a parallel crossing on each channel and four new structures.

Project schedule:

Planning: 2020	Design: 2021	Construction: 2022 through 2027

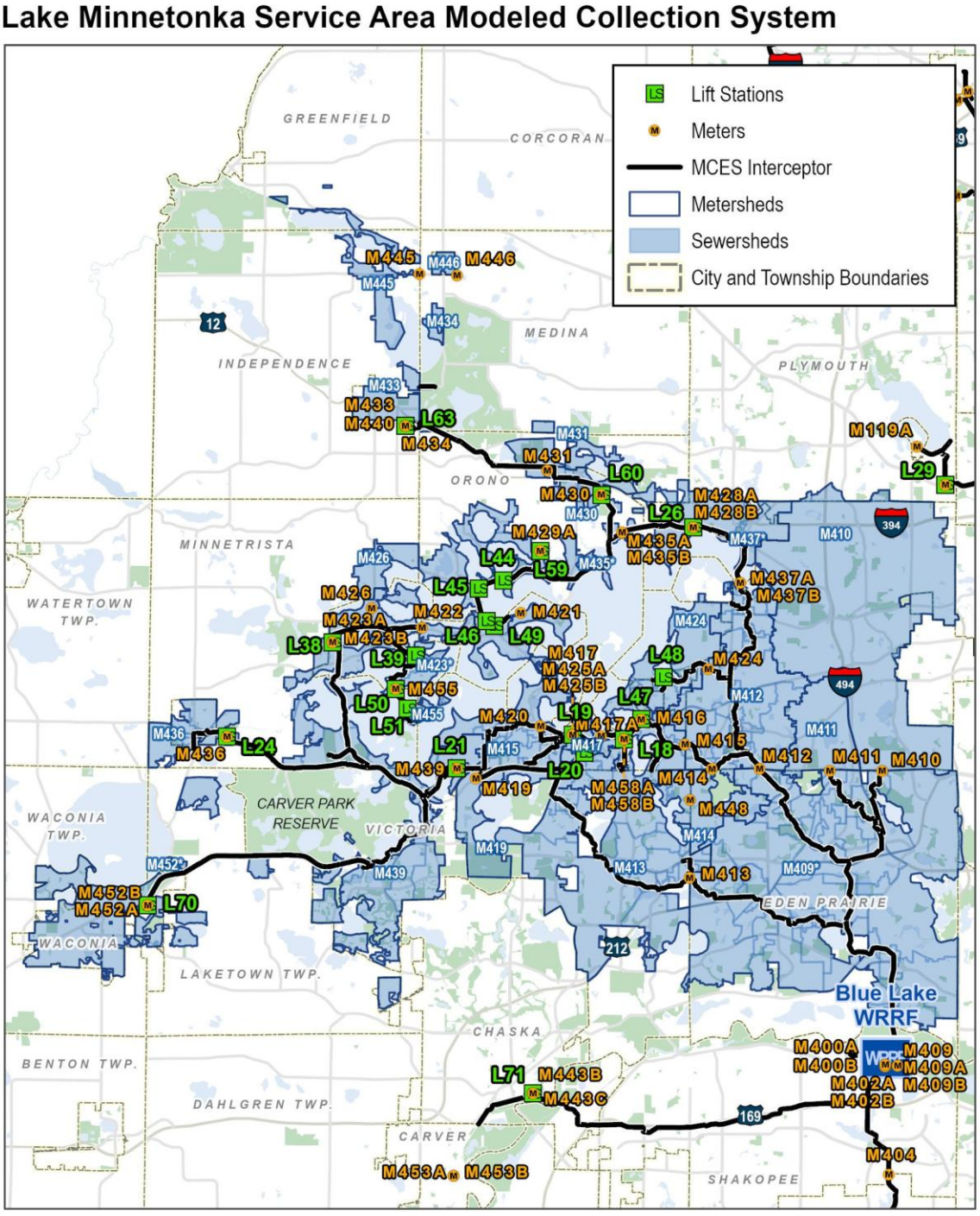
Financial analysis

2026 cash flow:	$250,000
Current ACP:	$5,946,310
2026 through 2031 cash flow:	$250,000
Total project cost:	$13,037,000

Lake Minnetonka Interceptor System Technical Support

Program family 8028 **Project #802898**

Project location: Council districts #1, 3, and 4 in the vicinity of the Lake Minnetonka Interceptor Area



Map of Project #802898 Lake Minnetonka Interceptor study area

Project type
Interceptor Hydraulic Model - Study

Objectives
Asset Preservation

Scope
This project is to build and calibrate a hydraulic model of the Lake Minnetonka Interceptor System. The model will be calibrated for dry weather flow and wet weather flow, run future flow scenarios, and summarize findings and recommendations for 20-year and ultimate planning horizons.

Project need
This effort will help meet the overall project goals and outcomes to better understand capacity constraints, alternatives to accommodate service area expansion, and to determine future projects needed in the capital program.

Planning: 2020 through 2028	Design: N/A	Construction: N/A

Financial analysis

2026 cash flow:	$150,000
Current ACP:	$600,000
2026 through 2031 cash flow: Total project cost:	$1,901,000
	$1,901,000