

Program 8055 Lift Station Rehabilitation



L66 (Savage)- Dry Well

Description:

Upgrades include reconstruction and replacement work for force mains and lift stations. Fuel tanks are being replaced for compliance with changing storage tank rules.

Purpose and Justification:

Capacity and condition assessments are being conducted along with regulatory reviews to identify system-wide lift station upgrades. These upgrades extend the life of facilities, reduce the risk spills, and improve the safety of staff who operate and maintain lift stations.

Program Location:

The active projects within this program are in all the Council Districts.

Active Projects in Program:

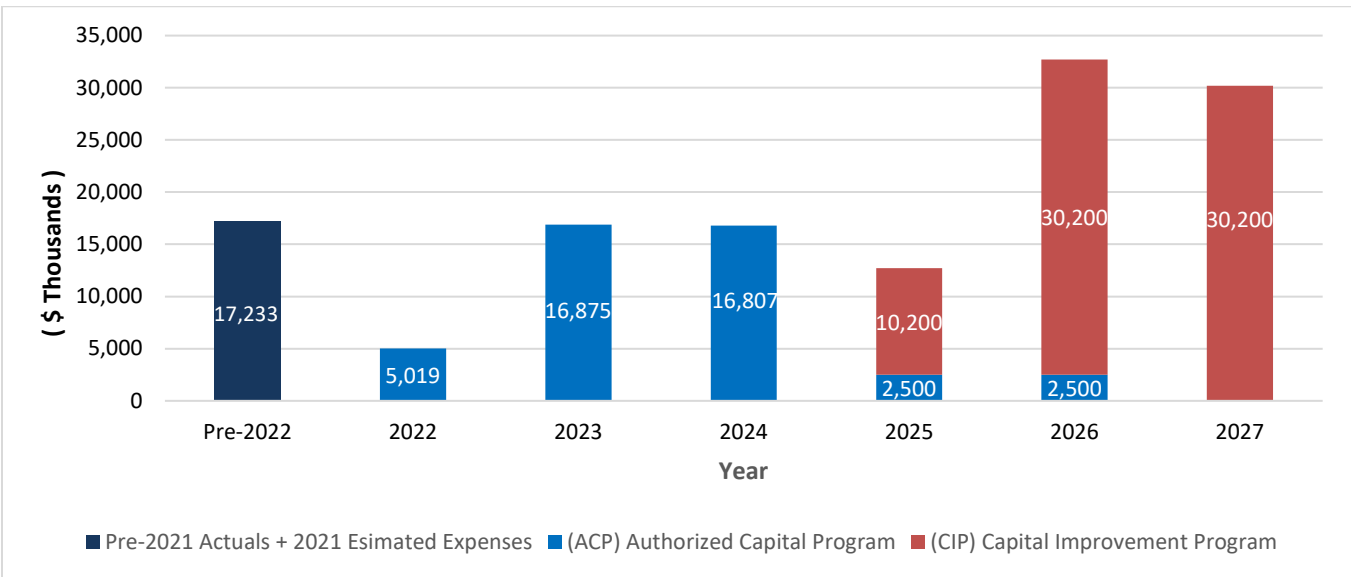
Project Number	Project Title
805500	Lift Station Rehabilitation (Parent Project)

805501	Lift Station Property Maintenance
805502	Lift Station Condition Assessments
805503	L-13 HVAC Improvements
805560	Coon Rapids L34 Improvements
805564	Savage L66 Lift Station Rehab
805565	Lift Station Fuel Upgrades
805566	Lift Station Electrical Rehabilitation
805575	Bloomington L55 Gravity Sewer and Forcemain Rehabilitation
805576	L29 Improvements

MCES 2022 – 2027 Capital Program:

Authorized Capital Program (ACP) \$60,934,000	Capital Improvement Plan (CIP) \$70,600,000
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Estimated Program Cash Flow 2022 - 2027:



Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.

Program Family: 8055
Project # 805501

Lift Station Property Maintenance

Project Location:
Council District # 1 - 16
Various Cities



MCES workers maintain lift station L 30, a lift station in Crystal

PROJECT TYPE:	Interceptor System Improvements
OBJECTIVES:	Quality Improvement
CUSTOMER LEVEL OF SERVICE:	Comply with Permits, Minimize Impacts, Lead by Example, Be A Good Neighbor, Engage Customers, Coordinate with Others and Preserve Assets.
SCOPE:	Implement landscaping improvements at lift station properties on a case-by-case basis to provide lower maintenance and meet sustainability goals.
PROJECT NEED:	To comply with conditional use permits, local ordinances and other criteria minor improvements are needed at various lift station sites.

PROJECT SCHEDULE



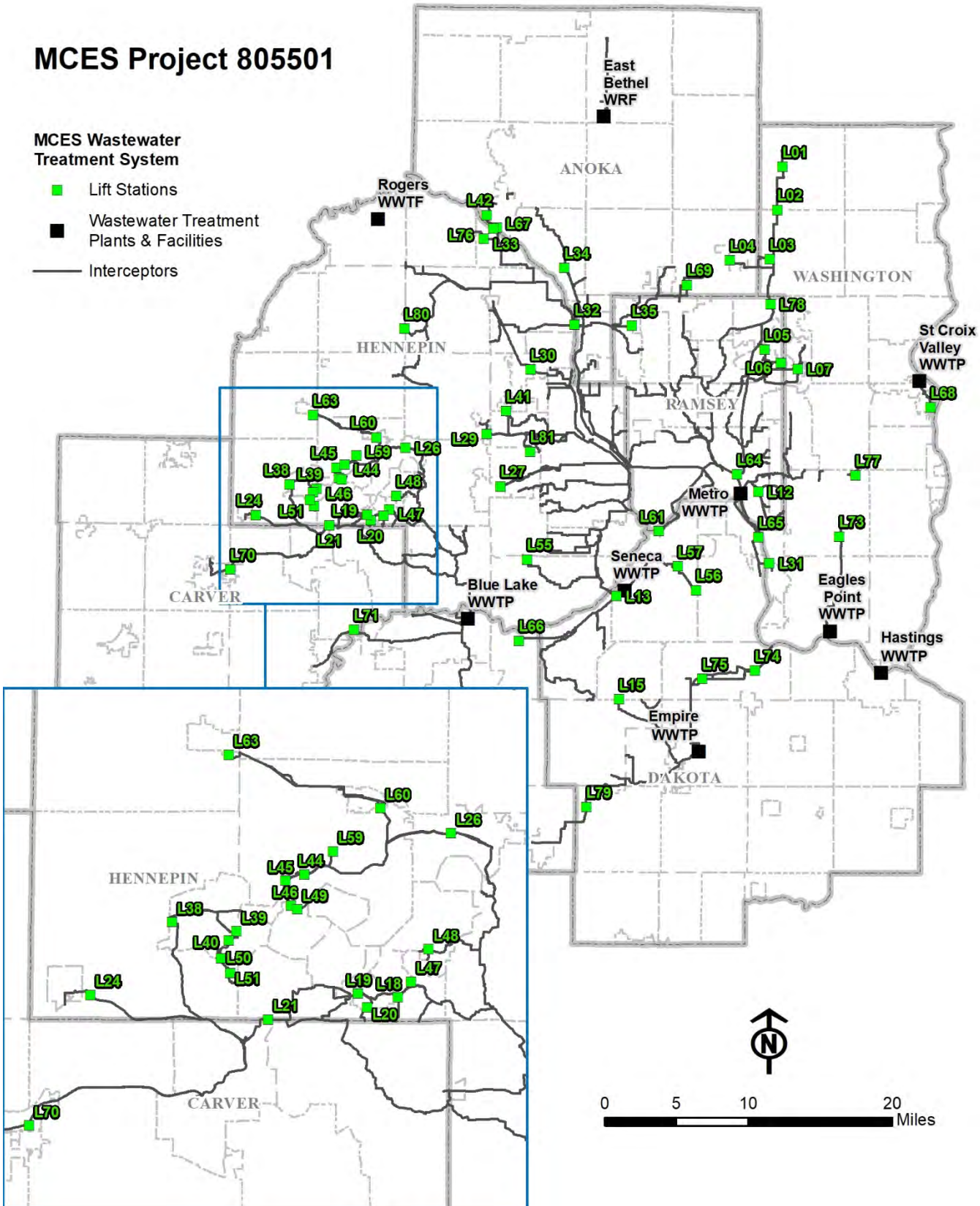
FINANCIAL ANALYSIS

2022 Cash Flow \$600,000	Current ACP \$1,559,000	2022 – 2027 Cash Flow \$1,300,000	Total Project Cost \$1,559,000
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MCES Project 805501

MCES Wastewater Treatment System

- Lift Stations
- Wastewater Treatment Plants & Facilities
- Interceptors

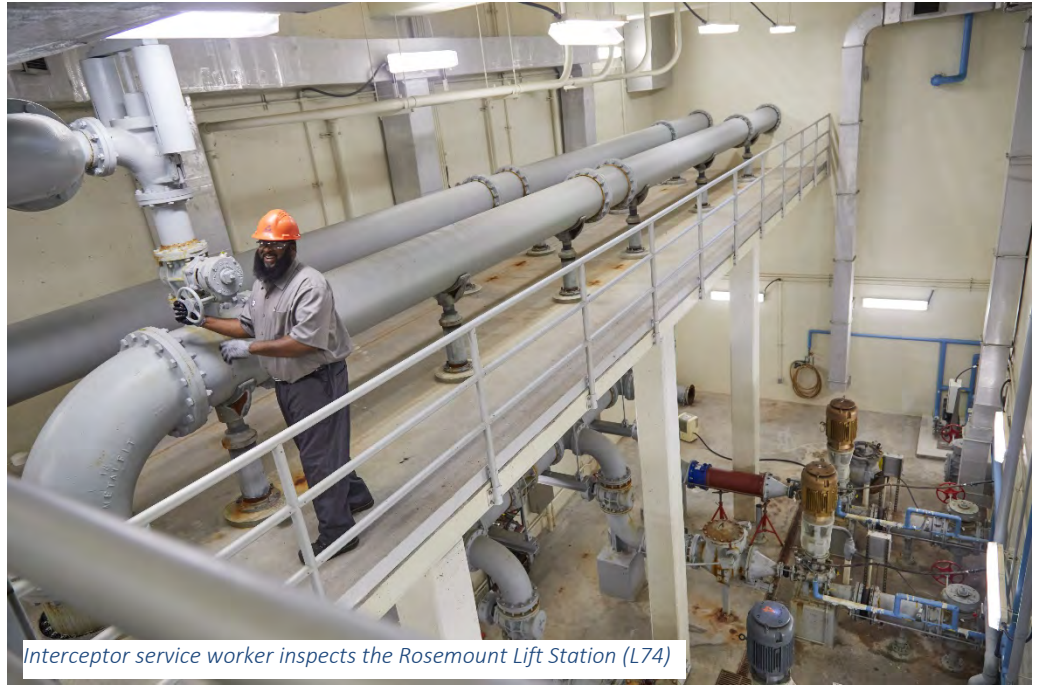


Program Family: 8055
Project # 805502

Lift Station Condition Assessments

Project Location:

System Wide



PROJECT TYPE:	Interceptor Improvements
OBJECTIVES:	Preservation and Quality Improvement
CUSTOMER LEVEL OF SERVICE:	Comply with Permits, Minimize Impacts, Be A Good Neighbor, Meet Capacity Needs, Communicate Information, Engage Customers and Coordinate With Others
SCOPE:	Evaluate and report the condition of 25 lift stations.
PROJECT NEED:	The condition assessments are needed to prioritize and plan lift station repairs and improvements.

PROJECT SCHEDULE



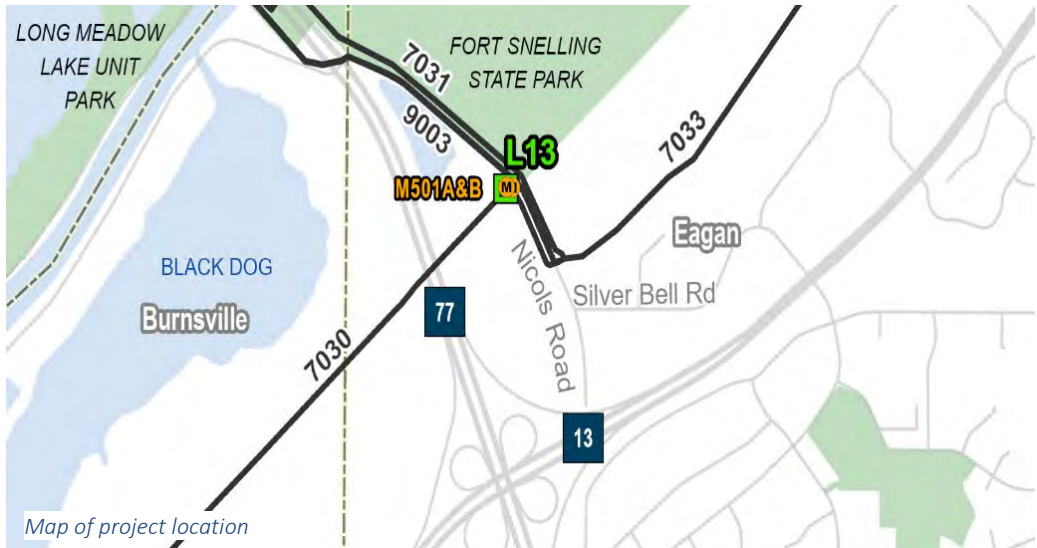
FINANCIAL ANALYSIS

2022 Cash Flow \$200,000	Current ACP \$1,058,000	2022 – 2027 Cash Flow \$1,200,000	Total Project Cost \$1,658,000
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Program Family: 8055
Project # 805503

L13 HVAC Improvements

Project Location:
Council District # 15
City: Eagan, MN
Location: Just north of the intersection of Nicols Road and Silver Bell Road



PROJECT TYPE:	Study
OBJECTIVES:	Preservation and Quality Improvement
CUSTOMER LEVEL OF SERVICE:	High H2S levels will continue to cause corrosion within the lift station that can compromise station reliability. In addition, odors from the lift station are leaving the lift station site. The odors and potential disruption of service to our customers does not meet the Council’s Level of Service goals
SCOPE:	Study to determine the most appropriate short-term and long-term methods to rehabilitate lift station HVAC and odor control systems to reduce odors and preserve the function of the existing lift station
PROJECT NEED:	The project is needed for operator safety, to preserve assets, and to reduce odors leaving the lift station property

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow \$200,000	Current ACP \$2,100,000	2022 – 2027 Cash Flow \$200,000	Total Project Cost \$2,100,000
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Program Family: 8055
Project # 805560

Coon Rapids L34 Improvements

Project Location:
Council District # 9
City of Coon Rapids
Coon Rapids Blvd.



PROJECT TYPE:	Lift Station Improvements
OBJECTIVES:	Preservation and Quality Improvement
CUSTOMER LEVEL OF SERVICE:	Minimize Impacts, Lead by Example, Be A Good Neighbor and Preserve Assets
SCOPE:	Replace four existing pumps and motors, replace process piping and valves, replace undersized influent pipe, replace 100 feet of 48" concrete pipe with corrosion resistant pipe, replace roof, replace HVAC systems and odor management system, rehabilitate wet well with corrosion resistant coating, addition of new channel grinder and mechanical hoists, replace electrical service, replace all interior electrical and lights with energy efficient LEDs. Construct an on-site stormwater filtration basin to protect water quality.
PROJECT NEED:	Originally constructed in 1963, L34 facilities need to be rehabilitated to recover useful life and provide reliability, and ancillary improvements are required to improve site safety. The existing odor management unit does not have enough media capacity to successfully treat air through peak odor months, which are typically July through October.

PROJECT SCHEDULE 3



Planning
2015-2016



Design
2017-2018



Construction
2019-2022

FINANCIAL ANALYSIS

2022 Cash Flow \$600,000	Current ACP \$7,329,000	2022 – 2027 Cash Flow \$0	Total Project Cost \$7,329,000
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Program Family: 8055
Project # 805564

L66 Rehabilitation

Project Location:
Council District # 15
City of Savage
125th Street



PROJECT TYPE:	Lift Station rehabilitation
OBJECTIVES:	Preservation and Quality Improvement
CUSTOMER LEVEL OF SERVICE:	Lead by Example, Be A Good Neighbor, Meet Capacity Needs and Preserve Assets
SCOPE:	The lift station rehabilitation will include HVAC upgrades, carbon tank, new generator, wet well rehabilitation, pump replacement and electrical upgrades.
PROJECT NEED:	Wet well rehabilitation is needed due to the substantial concrete deterioration. The station also needs new pumps to accommodate for projects 2040 flows. The HVAC is not up to code and needs replacement.

PROJECT SCHEDULE



Planning
N/A



Design
2017-2022



Construction
2022-2025

FINANCIAL ANALYSIS

2022 Cash Flow \$969,000	Current ACP \$5,895,000	2022 – 2027 Cash Flow \$5,744,000	Total Project Cost \$5,895,000
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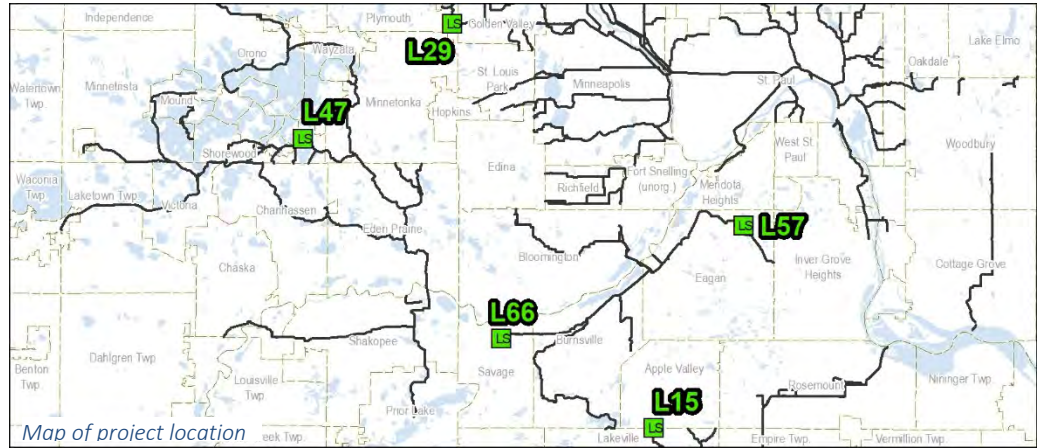
Program Family: 8055
Project # 805565

Lift Station Fuel Tank Upgrades

Project Location:

Council Districts:
3,6,15,16

Cities of Apple Valley,
Eagan, Orono, Plymouth
and Savage



PROJECT TYPE:	Fuel Tank Replacement
OBJECTIVES:	Preservation and Quality Improvement
CUSTOMER LEVEL OF SERVICE:	Comply with Permits and Preserve Assets
SCOPE:	Remove and replace five existing underground storage tanks (UST) with five above ground storage tanks (AST).
PROJECT NEED:	The MPCA is requiring stricter reporting requirements on underground storage tanks (USTs). The first round of reports for the fuel tanks is due in October 2020. In order to comply with these standards MCES needs to replace these five tanks. Instead of replacing the USTs in kind, MCES is replacing them with above ground storage Tanks (ASTs) because of the additional maintenance costs and testing that is required for UST's.

PROJECT SCHEDULE



Planning
2017



Design
2017-2019



Construction
2020-2022

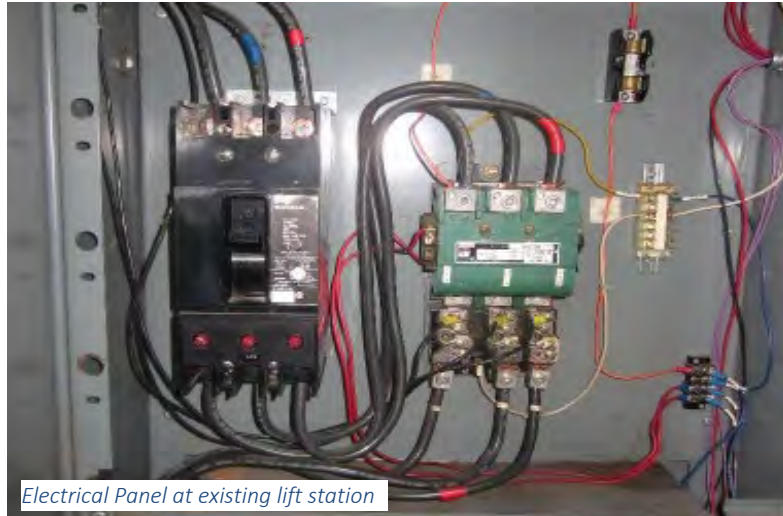
FINANCIAL ANALYSIS

2022 Cash Flow \$50,000	Current ACP \$1,718,000	2022 – 2027 Cash Flow \$50,000	Total Project Cost \$1,718,000
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Program Family: 8055
Project # 805566

2020 Lift Station Electrical Rehabilitation

Project Location:
Multiple Lift Stations
Council District # - NA
City - NA
Location - NA



Electrical Panel at existing lift station

PROJECT TYPE:	Electrical Condition Assessment
OBJECTIVES:	Preservation and Quality Improvement
CUSTOMER LEVEL OF SERVICE:	Minimize impacts and Preserve Assets
SCOPE:	The current condition assessment reports, preventative maintenance data, and arc flash study results need to be reviewed to prioritize electrical rehabilitation work. MCES engineering and electrical maintenance staff will compare previous data from the condition assessments and conduct visit sites to determine current deficiencies with the electrical systems. Brown and Caldwell are assisting with site visits and arc flash modeling.
PROJECT NEED:	A consultant has been hired to prepare condition assessments for Metropolitan Council Environmental Services (MCES) lift stations. The condition assessments include a review of the electrical systems. In addition, preventative maintenance testing conducted by MCES electrical maintenance and previous arc flash studies have noted deficiencies. This work has revealed many lift stations with electrical deficiencies consisting of failed components; antiquated switch gear, protective devices, and motor starters; deteriorated electrical cabinets and conduit; and unsafe arc flash conditions.

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow	Current ACP	2022 – 2027 Cash Flow	Total Project Cost
\$150,000	\$500,000	\$10,157,000	\$20,331,452

Program Family: 8055
Project # 805575

Lift Station L55 Replacement – Gravity Sewer and Forcemain Construction

Project Location:
Council District # 5
City of Bloomington
Southeast Quadrant of Hwy 100 and 494 intersection



New sewer manhole installation for the L55 project

PROJECT TYPE:	Lift Station Replacement
OBJECTIVES:	Preservation and Expansion
CUSTOMER LEVEL OF SERVICE:	Provide future capacity
SCOPE:	Install new gravity sewer to, and new forcemain from, a new 3.8 MGD lift station installed under Project 808400
PROJECT NEED:	In 2013, Bloomington and Edina notified MCES that major developments located in the lift station L55 sewershed, including the Edina Gateway, Mall of America and OATI expansions, were scheduled for construction in three to five years and that projected flows were expected to exceed the capacity of L55.

PROJECT SCHEDULE



FINANCIAL ANALYSIS

2022 Cash Flow \$50,000	Current ACP \$4,303,000	2022 – 2027 Cash Flow \$50,000	Total Project Cost \$4,303,000
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Program Family: 8055
Project # 805576

L29 Rehabilitation

Project Location: L29

Council Districts:
1

City of Plymouth



PROJECT TYPE:	Lift Station Rehabilitation
OBJECTIVES:	Preservation and Quality Improvement
CUSTOMER LEVEL OF SERVICE:	Lead by Example, Be A Good Neighbor, Meet Capacity Needs and Preserve Assets
SCOPE:	The lift station rehabilitation will include HVAC upgrades, carbon tank, new segment of forcemain, wet well rehabilitation and pump replacement.
PROJECT NEED:	A segment of forcemain will be replaced due to substantial corrosion. A pipe restriction will be upsized to increase lift station capacity along with new pumps.

PROJECT SCHEDULE



Planning
2022



Design
2022-2023



Construction
2024-2026

FINANCIAL ANALYSIS

2022 Cash Flow \$800,000	Current ACP \$9,900,000	2022 – 2027 Cash Flow \$9,800,000	Total Project Cost \$9,900,000
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