MCES 2022 – 2027
CAPITAL PROGRAM

Metro Wastewater Treatment Plant Secondary Renewal

Adopted December 8, 2021
The Council’s mission is to foster efficient and economic growth for prosperous metropolitan region

**Metropolitan Council Members**

<table>
<thead>
<tr>
<th>Name</th>
<th>District</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charlie Zelle</td>
<td>Chair</td>
</tr>
<tr>
<td>Judy Johnson</td>
<td>District 1</td>
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<tr>
<td>Reva Chamblis</td>
<td>District 2</td>
</tr>
<tr>
<td>Vacant</td>
<td>District 3</td>
</tr>
<tr>
<td>Deb Barber</td>
<td>District 4</td>
</tr>
<tr>
<td>Molly Cummings</td>
<td>District 5</td>
</tr>
<tr>
<td>John Pacheco, Jr.</td>
<td>District 6</td>
</tr>
<tr>
<td>Robert Lilligren</td>
<td>District 7</td>
</tr>
<tr>
<td>Abdirahman Muse</td>
<td>District 8</td>
</tr>
<tr>
<td>Raymond Zeran</td>
<td>District 9</td>
</tr>
<tr>
<td>Peter Lindstrom</td>
<td>District 10</td>
</tr>
<tr>
<td>Susan Vento</td>
<td>District 11</td>
</tr>
<tr>
<td>Francisco J. Gonzalez</td>
<td>District 12</td>
</tr>
<tr>
<td>Chai Lee</td>
<td>District 13</td>
</tr>
<tr>
<td>Kris Fredson</td>
<td>District 14</td>
</tr>
<tr>
<td>Phillip Sterner</td>
<td>District 15</td>
</tr>
<tr>
<td>Wendy Wulff</td>
<td>District 16</td>
</tr>
</tbody>
</table>

The Metropolitan Council is the regional planning organization for the seven-county Twin Cities area. The Council operates the regional bus and rail system, collects and treats wastewater, coordinates regional water resources, plans and helps fund regional parks, and administers federal funds that provide housing opportunities for low- and moderate-income individuals and families. The 17-member Council board is appointed by and serves at the pleasure of the governor.

On request, this publication will be made available in alternative formats to people with disabilities. Call Metropolitan Council information at 651-602-1140 or TTY 651-291-0904.
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About Metropolitan Council Environmental Services

Metropolitan Council Environmental Services (MCES) is responsible for operating and maintaining the regional wastewater system which protects public health, protects the environment, and fosters the economic growth of the seven county Twin Cities Metropolitan Area. The regional wastewater system currently serves 111 communities and has an estimated replacement value of $7 Billion. The organization employs about 640 staff who are committed to clean water and a clean environment, both of which are essential to the quality of life for those who live and work in the region.

MCES consistently achieves near-perfect compliance with federal and state water discharge standards while holding rates 40% below the national average. MCES is committed to sustainable operations through energy efficiency, use of renewable energy resources, use of technology and reducing air pollutant emissions and resource recovery.
Extraordinary Facts by the numbers!

Environmental Services

moves and treats 250 million gallons of wastewater each day serving 2.7 million people in 111 communities in the 7-county Twin Cities metro area.

That wastewater moves through privately owned and city sewer pipes into 634 miles of regional interceptor sewer mains ranging in size from 9 inches to 14 feet in diameter and in age from 140 years old to brand new!

The wastewater also passes

226 meters measuring how much water is flowing through the pipes.

60 lift stations pumping water from lower elevation to higher elevation so gravity can help us move it.

9 treatment plants cleaning the water before it is returned to the environment.

Metropolitan Council Environmental Services
390 Robert Street North
Saint Paul, MN 55101-1805
metro council.org

Rev. 12.03.2021
Capital Program

Capital Program Overview
The Environmental Services Capital Program is a component of the Metropolitan Council’s unified budget plan. The Environmental Services Division plans capital spending for new treatment plants, interceptors and/or improvements to the metropolitan wastewater system. The capital program provides capital investments to preserve and rehabilitate existing wastewater infrastructure, meet more stringent water and air quality regulations, and expand the system capacity to meet regional growth needs. The Capital Program is prepared, reviewed, and approved on a yearly basis to consider new programs and/or adjustments to the plan. The Capital Program and key projects are presented to customers at the budget workshops held annually.

From 1970 to 2013, capital investment focused primarily on developing an efficient and effective wastewater system to meet the needs of a growing region. These investments included interceptor system capacity expansion and extension to serve the long-term service area (2040 and beyond), as well as consolidating, expanding capacity, and completing quality upgrades to the regional wastewater treatment plants. Between 2014 and 2020, capital investments shifted primarily to preserving the valuable regional wastewater infrastructure. The 2022-2027 program continues to have a strong emphasis on asset preservation and includes capacity improvements to support a thriving region. Noteworthy capacity projects and asset preservation projects in the plan include expansion of solids processing at the Metro Plant, a new wastewater treatment plant at Hastings, the new Crow River wastewater treatment plant and lift station L32A in Fridley.
Water Resources Policy Plan and the Customer Level of Service are the foundation for the Capital Program.
**Authorized Capital Program (ACP)** - The ACP provides multi-year authorization to spend on program costs where funding has been secured and the Council has given final approval to proceed. It is the total amount of all past and present approvals from the Council.

The 2022 ACP consists of the previously approved ACP; plus, the authorization of new programs; authorized adjustments to existing programs; and the deletion of completed and closed-out programs. The changes are summarized below.

### Summary of Authorized Capital Program (ACP) Changes

<table>
<thead>
<tr>
<th>Previous Authorized Capital Program (ACP)</th>
<th>$1,032,670,524</th>
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<tbody>
<tr>
<td>Adjustments to Existing Projects</td>
<td>$154,364,058</td>
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<tr>
<td>Closed Projects</td>
<td>$(146,236,220)</td>
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<tr>
<td>New Projects</td>
<td>$63,754,163</td>
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<tr>
<td>Total All Changes</td>
<td>$32,484,987</td>
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<tr>
<td><strong>Approved 2022 ACP</strong></td>
<td><strong>$1,104,552,525</strong></td>
</tr>
</tbody>
</table>

**Capital Improvement Plan (CIP)** - The CIP is the six-year capital investment plan. The Council has not given final approval to these investments. These proposed investments and the year that it is anticipated that the Council will be asked to move them into the ACP is summarized below.

![Capital Improvement Plan (CIP) Proposed Future Authorizations ($ Millions)](chart)

Total: $589 M
Capital Program – The Capital Program consists of the ACP plus the CIP. Table 10 from the Metropolitan Council’s 2022 Unified Budget summarizes the MCES 2022 - 2027 Capital Program:

<table>
<thead>
<tr>
<th>Treatment Plant Projects</th>
<th>2021 Amended</th>
<th>2022 Changes</th>
<th>Proposed</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>Total</th>
<th>ACP + CIP Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>0589 - Metro Rehabilitation &amp; Facilities Improve</td>
<td>110,417</td>
<td>5,449</td>
<td>115,866</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>115,866</td>
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<tr>
<td>0002 - Metro Solids Improvements</td>
<td>106,740</td>
<td>5,002</td>
<td>173,726</td>
<td>-</td>
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<td>-</td>
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<td>-</td>
<td>203,026</td>
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<tr>
<td>0874 - Empire Plant Solids improvements</td>
<td>56,462</td>
<td>-2,663</td>
<td>53,899</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>53,899</td>
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<tr>
<td>0875 - Geneva Solids Processing Improvements</td>
<td>26,960</td>
<td>-29,960</td>
<td>-</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
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<tr>
<td>0876 - Regional Plant Improvements</td>
<td>46,203</td>
<td>473</td>
<td>46,676</td>
<td>-</td>
<td>500</td>
<td>7,000</td>
<td>8,500</td>
<td>9,100</td>
<td>9,100</td>
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<td>0911 - Wastewater Reclamation Facilities</td>
<td>6,775</td>
<td>359</td>
<td>7,133</td>
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<td>0897 - Blue Lake Solids Processing</td>
<td>1,940</td>
<td>751</td>
<td>2,700</td>
<td>-</td>
<td>3,000</td>
<td>4,000</td>
<td>10,000</td>
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<td>50,000</td>
<td>67,100</td>
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<td>0868 - Hastings WWTP</td>
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<td>38,000</td>
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<td>8100 - Industrial Pretreatment Incentive Program</td>
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<td>112,200</td>
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<th>2021 Amended</th>
<th>2022 Changes</th>
<th>Proposed</th>
<th>2022</th>
<th>2023</th>
<th>2024</th>
<th>2025</th>
<th>2026</th>
<th>2027</th>
<th>Total</th>
<th>ACP + CIP Combined</th>
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<td>0028 - Blue Lake System Improvements</td>
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<td>-15,828</td>
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<td>10,213</td>
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<td>10,213</td>
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<td>0852 - Lift Station Improvements</td>
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<td>23,437</td>
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<td>0856 - Meter Improvements</td>
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<td>10,200</td>
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<td>-</td>
<td>30,000</td>
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<td>0853 - SWC Interceptor - Lake Elmo Connections</td>
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<td>6,119</td>
<td>19,563</td>
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<td>0876 - Mpls. Interceptor System Rehabilitation</td>
<td>82,949</td>
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<td>0877 - Northwest Area Interceptor Imp.</td>
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<td>0880 - Santee Interceptor System Rehabilitation</td>
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<td>0881 - Maple Plain LS/FM Rehabilitation</td>
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<td>32,304</td>
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<td>0883 - Waconia LS/FM Rehabilitation</td>
<td>12,586</td>
<td>-7,287</td>
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<td>17,105</td>
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<td>0885 - Elm Creek - Corcoran/Rogers Connections</td>
<td>2,960</td>
<td>-2,960</td>
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<td>0896 - North Area Interceptor Rehabilitation</td>
<td>10,090</td>
<td>5,912</td>
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<td>0898 - St Paul Interceptor System Rehabilitation</td>
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<td>-18,823</td>
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<td>-</td>
<td>-</td>
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<td>8,206</td>
<td>25,757</td>
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<td>-</td>
<td>2,200</td>
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<td>0903 - Brooklyn Park-Canal Inter</td>
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<td>14,644</td>
<td>45,895</td>
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<td>0904 - Brooklyn Park L32</td>
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<td>200</td>
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<td>-</td>
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<td>0896 - Northwest Area Interceptor Imp.</td>
<td>1,540</td>
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<td>1,241</td>
<td>-</td>
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<td>-</td>
<td>-</td>
<td>12,500</td>
<td>8,500</td>
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<td>TOTAL Interceptor Projects</td>
<td>475,892</td>
<td>7,951</td>
<td>483,833</td>
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<td>14,000</td>
<td>36,400</td>
<td>89,400</td>
<td>91,200</td>
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<tr>
<td>Total ES Capital Program</td>
<td>1,002,671</td>
<td>71,882</td>
<td>1,074,553</td>
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<td>-</td>
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<td>-</td>
<td>-</td>
<td>-</td>
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<td>1,074,553</td>
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</table>
The three objectives of the capital program are:

- **Asset Preservation** – Preserve the existing MCES infrastructure investment through rehabilitation and replacements.

- **System Expansion** - Expand the system capacity through treatment plant and interceptor expansions and interceptor extensions to meet the needs of a growing region.

- **Quality Improvements** - Improve the quality of service by responding to more stringent regulations, improving safety, reusing wastewater, increasing system reliability, and conserving and generating energy.

As indicated below, most of the funds are used for the preservation of the existing MCES infrastructure investment. The breakdown by objectives for the 2022 ACP and the Total Capital Program are as follows:

**Capital Program (ACP) Objectives**

<table>
<thead>
<tr>
<th>Objective:</th>
<th>Type:</th>
</tr>
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<tbody>
<tr>
<td>Preseve</td>
<td>63%</td>
</tr>
<tr>
<td>Improve</td>
<td>22%</td>
</tr>
<tr>
<td>Expand</td>
<td>15%</td>
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</table>

The projects in Environmental Services program are driven by the objectives of asset preservation, capacity needs, or to improve performance in order to respond to more stringent water quality and air quality regulations, increasing system reliability and conserving or generating energy. In the 2022 Authorized Capital Program (ACP), 63% of the funding will be spent on Preservation projects, 15% on Expansion projects, and 22% on Improvement projects. Furthermore, of the 2022 ACP, Interceptors will spend approximately 45% of the budget while Plants will spend approximately 55%.
**Capital Budget and Projected Expenses** - The Capital Budget is the amount from the ACP that is expected to be spent in that given year. It cannot be exceeded without formal Metropolitan Council action. The adopted MCES 2022 Capital Budget is $227 million. As depicted below, the projected capital expenses for the 2022-2027 timeframe are $1,378 million. The projected expenses are utilized in the development of the debt service numbers in the MCES' Capital Finance Plan.

![2022 Capital Budget Projected Expenses ($ Millions) Total Expenses (2022-2027): 1,378 Million](image-url)
### Authorized Capital Program (ACP)

#### Treatment Plant Projects

<table>
<thead>
<tr>
<th>Project Description</th>
<th>2021 Amended</th>
<th>2021 Changes</th>
<th>2022 Proposed</th>
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<tbody>
<tr>
<td>Metro Rehabilitation &amp; Facilities Improve</td>
<td>110,417</td>
<td>5,449</td>
<td>115,866</td>
</tr>
<tr>
<td>Metro Solids Improvements</td>
<td>168,746</td>
<td>5,082</td>
<td>173,828</td>
</tr>
<tr>
<td>Empire Plant Solids Improvements</td>
<td>56,642</td>
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<td>53,959</td>
</tr>
<tr>
<td>Seneca Solids Processing Improvements</td>
<td>28,960</td>
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<tr>
<td>Regional Plant Improvements</td>
<td>46,203</td>
<td>473</td>
<td>46,676</td>
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<tr>
<td>MWTP Asset Renewal</td>
<td>122,141</td>
<td>54,116</td>
<td>176,257</td>
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<td>Wastewater Reclamation Facilities</td>
<td>6,775</td>
<td>359</td>
<td>7,133</td>
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<tr>
<td>Blue Lake Solids Processing</td>
<td>1,948</td>
<td>751</td>
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<td>Hastings WWTP</td>
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<td>Industrial Pretreatment Incentive Program</td>
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<td>8,743</td>
<td>21,700</td>
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#### Interceptor Projects

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**Total ES Capital Program**

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## MCES 2022 – 2027 Capital Program

Projected Expenses by Year (all costs in $1,000s)

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<td>243,200</td>
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</table>

Six Year Cash Flow = $1,377,994
MCES Council Districts Map

Click on the district to learn more about projects located in that district.

- District 1
- District 5
- District 9
- District 13
- District 2
- District 6
- District 10
- District 14
- District 3
- District 7
- District 11
- District 15
- District 4
- District 8
- District 12
- District 16

Metropolitan Council Districts

Chair: Charlie Zelle

<table>
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<tr>
<th>District</th>
<th>Name</th>
<th>Chair</th>
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<tr>
<td>1</td>
<td>Judy Johnson</td>
<td>Raymond Zerin</td>
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<tr>
<td>2</td>
<td>Reva Chambers</td>
<td>Peter Lindstrom</td>
</tr>
<tr>
<td>3</td>
<td>Christopher Ferguson</td>
<td>Susan Vento</td>
</tr>
<tr>
<td>4</td>
<td>Deb Barber</td>
<td>Francisco Gonzalez</td>
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<tr>
<td>5</td>
<td>Molly Cummings</td>
<td>Chae Lee</td>
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<tr>
<td>6</td>
<td>Vacant</td>
<td>Kris Fredson</td>
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<tr>
<td>7</td>
<td>Robert Lillgren</td>
<td>Philip Steiner</td>
</tr>
<tr>
<td>8</td>
<td>Abdurahman Muse</td>
<td>Wendy Wulff</td>
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</table>

Source: Metropolitan Council Redistricting Plan passed by the state legislature on May 17, 2013. Boundaries re-aligned with municipal and county boundaries and NCompass Street Centerlines.
District 1

Capital Program & Projects

District 1 includes, in Hennepin County, the cities of Corcoran, Dayton, Greenfield, Independence, Loretto, Maple Grove, Maple Plain, Medicine Lake, Medina, Plymouth, and Rogers. Excluded are the Hennepin County portions of the cities of Hanover and Rockford.
District 2

Capital Program & Projects
District 2 includes, in Anoka County, the cities of Columbia Heights, Fridley, Hilltop, and Spring Lake Park and in Hennepin County, the cities of Brooklyn Center, Brooklyn Park, Champlin, and Osseo. Excluded is the Ramsey County portion of the city of Spring Lake Park.
District 3

Capital Program & Projects
District 3 includes the cities of Chanhassen, Deephaven, Eden Prairie, Excelsior, Greenwood, Long Lake, Minnetonka, Minnetonka Beach, Minnetrista, Mound, Orono, Shorewood, Spring Park, St. Bonifacius, Tonka Bay, Wayzata, and Woodland.
District 4

Capital Program & Projects
District 4 includes all of Carver County except for the city of Chanhassen and all of Scott County except Spring Lake Township, Credit River Township, Cedar Lake Township, New Market Township and the city of Elko New Market. Excluded is the Scott County portion of the city of New Prague.
District 5

Capital Program & Projects
District 5 includes the Hennepin County cities of Bloomington, Edina, Hopkins, Richfield, and the Fort Snelling Unorganized Territory (including MSP International Airport).
District 6

Capital Program & Projects
District 6 includes the Hennepin County cities of Crystal, Golden Valley, New Hope, St. Louis Park, and the portion of Minneapolis.
District 7

Capital Program & Projects
District 7 includes in Hennepin County, the city of Robbinsdale and the portion of Minneapolis.
District 8

Capital Program & Projects
District 8 includes the Hennepin and Ramsey County parts of the city of St. Anthony and the portion of Minneapolis.
District 9

Capital Program & Projects
District 9 includes, in Anoka County, the cities of Andover, Anoka, Bethel, Coon Rapids, East Bethel, Ham Lake, Nowthen, Oak Grove, Ramsey, and St. Francis.
**District 10**

**Capital Program & Projects**
District 10 includes, in Anoka County, the cities of Blaine, Circle Pines and Lexington and in Ramsey County, Falcon Heights, Lauderdale, Mounds View, New Brighton, North Oaks, Roseville, Shoreview, and the Ramsey County portions of Arden Hills, Blaine and Spring Lake Park.
District 11

Capital Program & Projects
District 11 includes, in Anoka County, the cities of In Anoka County, Centerville, Columbus, Lino Lakes, and Linwood. In Washington County, it includes the cities of Hugo, Landfall, Oakdale, and White Bear Lake (Washington County Part). In Ramsey County, the cities of Gem Lake, Little Canada, Maplewood, North St. Paul, Vadnais Heights, White Bear Lake, and White Bear Township.
District 12

Capital Program & Projects
District 12 includes the cities of Afton, Bayport, Baytown Twp., Birchwood Village, Cottage Grove, Dellwood, Denmark Twp., Forest Lake, Grant, part of Grey Cloud Island Twp., Lake Elmo, Lake St. Croix Beach, Lakeland, Lakeland Shores, Mahtomedi, Marine on St. Croix, May Twp., Newport, Oak Park Heights, Pine Springs, Scandia, St. Mary's Point, St. Paul Park, Stillwater, Stillwater Twp., West Lakeland Twp., Willernie, and Woodbury.
District 13

Capital Program & Projects
District 13 includes, in Dakota County, the cities of Lilydale, Mendota, Mendota Heights, Sunfish Lake, West St. Paul, and South St. Paul. In Washington County, Newport, St. Paul Park and the enclaves of Grey Cloud Island Township that are wholly within the city of St. Paul Park. In Ramsey County, that portion of the city of St. Paul.
District 14

Capital Program & Projects

District 14 includes the portion of the city of St. Paul described as follows: west of a line beginning at the point where the median of Interstate 35E intersects the northern boundary of the city of St. Paul.
District 15

Capital Program & Projects
District 15 includes the cities of Burnsville, Eagan, Inver Grove Heights, and Rosemount in Dakota County.
District 16

Capital Program & Projects

Appendix A: Project Summaries by Program – Treatment Plant

Table of Contents:

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
<th>Page</th>
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</thead>
<tbody>
<tr>
<td>8059</td>
<td>Metro Rehabilitation &amp; Facilities Improvements</td>
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</tr>
<tr>
<td>8062</td>
<td>Metro WWTP Solids Improvements</td>
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<td>8074</td>
<td>Empire WWTP Solids Improvements</td>
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<td>Regional Plant Improvements</td>
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<td>8089</td>
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<td>8091</td>
<td>Wastewater Reclamation Facilities</td>
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Program 8059
Metro Rehabilitation and Facilities Improvements

Description:
This program provides funding for planning and implementation of a plant-wide renewal program at the Metropolitan Wastewater Treatment Plant (Metro WWTP).

Purpose and Justification:
The program provides for planning and implementation of projects to address renewal needs for continued, reliable and sustainable wastewater service at the Metro WWTP through the year 2030.

Program Location:
The active projects within this program are in the following Council Districts: 13

Active Projects in Program:

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<th>Project Title</th>
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<td>805947</td>
<td>Metro WWTP Solids Renewal and Improvements</td>
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<tr>
<td>805963</td>
<td>Metro WWTP Water Systems Renewal and Improvements</td>
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<td>805990</td>
<td>Metro WWTP Site Preparation and Improvements</td>
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<td>805998</td>
<td>Metro WWTP Services Building</td>
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MCES 2022 – 2027 Capital Program:

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<th>Capital Improvement Plan (CIP)</th>
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Estimated Program Cash Flow 2022 - 2027:

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<th>(CIP) Capital Improvement Program</th>
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Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.
Metro WWTP HVAC Improvements – Phase 2

Project Location:
Council District # 13
City of Saint Paul
Metro WWTP

Program Family: 8059
Project # 805932

PROJECT TYPE: Plant Improvements
OBJECTIVES: Preserve and Improvement
CUSTOMER LEVEL OF SERVICE: Preserve Assets
SCOPE: This project replaces the main air handling unit at the Laboratory Building, an air handling system for the Maintenance Warehouse Building lunchroom, and other HVAC equipment in the 408 Building.
PROJECT NEED: HVAC equipment near end-of-service life need to be rehabilitated or replaced based on condition assessment and business case evaluations.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2021</td>
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FINANCIAL ANALYSIS

<table>
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<th>2022 Cash Flow</th>
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Program Family: 8059
Project # 805947

Project Location:
Council District # 13
City of Saint Paul
Metro WWTP

Metro WWTP Solids Renewal & Improvements

PROJECT TYPE: Plant Improvements
OBJECTIVES: Preservation
CUSTOMER LEVEL OF SERVICE: Communicate Information and Preserve Assets

SCOPE: The project includes miscellaneous improvements and renewal of equipment related to processing wastewater solids at the Metropolitan Wastewater Treatment Plant including baghouse rehabilitation, scrubber modifications, waste heat boiler tube replacement, fluid bed incinerator renewal, alkaline loadout modifications, cake pumping modifications, alkaline odor control renewal, ash cleanup improvements, auxiliary condenser improvements, instrumentation & control improvements, BF08 vent reroute, flotation thickener modifications, and sludge storage mixing improvements.

PROJECT NEED: Components of the solids processing system at the Metro WWTP need to be renewed due to the harsh environment experienced inside the incineration system. Improvements will increase reliability and performance.

PROJECT SCHEDULE

FINANCIAL ANALYSIS

<table>
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Metro WWTP Water Systems Renewal and Improvements Phase I: Distribution System Renewal

PROJECT TYPE: Plant Improvements

OBJECTIVES: Preservation

CUSTOMER LEVEL OF SERVICE: Lead by Example and Preserve Assets

SCOPE: The project replaces the service water piping network throughout the Plant with a new piping network in preparation for a future reclaimed water system.

PROJECT NEED: Rehabilitate and repurpose the Metro Plant Water Systems and reduce withdrawal of water from the Prairie du Chien aquifer.

PROJECT SCHEDULE

Planning 2019

Design 2020-2021

Construction 2022-2024

FINANCIAL ANALYSIS

2022 Cash Flow $7,000,000

Current ACP $16,732,562

2022 – 2027 Cash Flow $14,000,000

Total Project Cost $16,732,562
Metro WWTP Site Preparation and Improvements

Aerial View of Metro WWTP

Program Family: 8059
Project # 805990

Project Location:
Council District # 13
City of Saint Paul
Metro WWTP

PROJECT TYPE: Plant Improvements
OBJECTIVES: Preservation
CUSTOMER LEVEL OF SERVICE: Preserve Assets
SCOPE: The project rehabilitates roads; rehabilitates concrete in Primary Settling tanks (#1 in photo above), Gravity Thickening tanks (2) and parts of the influent channel (3); installs a waterline; rehabilitates the Solids storage pad and installs a closed loop cooling system for instrument air compressors.

PROJECT NEED: There is a need to replace or rehabilitate assets throughout the Metro Plant to extend service life.

PROJECT SCHEDULE

FINANCIAL ANALYSIS

<table>
<thead>
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<th>2022 Cash Flow</th>
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**Project Location:**
Council District # 13
City of Saint Paul
Metro WWTP

**Program Family:** 8059
Project # 805998

**Metro WWTP Services Buildings**

**Services Building and Field Service Annex Concept Drawing**

**PROJECT TYPE:** Plant Improvements

**OBJECTIVES:** Improvement

**CUSTOMER LEVEL OF SERVICE:** Engage Customers, Lead by Example and comply with permits

**SCOPE:**
The Services Building and Field Service Annex will be constructed adjacent to the Laboratory Building and will office the Construction Services, Water Resources, Industrial Waste Pollution Prevention and Process Engineering R&D.

**PROJECT NEED:**
Other departmental offices or laboratories currently reside within deteriorating buildings at the Metro Plant or in rental facilities away from Council property. There is a need to consolidate similar functions in common spaces to increase efficiency.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
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**FINANCIAL ANALYSIS**

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Program 8062
Metro WWTP Solids Improvements

Description:
This program provides funding for planning and implementation of improvements to wastewater solids processing facilities at the Metropolitan Wastewater Treatment Plant (Metro WWTP).

Purpose and Justification:
The program provides for planning and implementation of projects to address capacity and renewal needs for continued, reliable and sustainable wastewater solids processing at the Metro WWTP through the year 2050.

Program Location:
The active projects within this program are in the following Council Districts: 13

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
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<tbody>
<tr>
<td>806210</td>
<td>Metro WWTP Solids Management Improvements Facility Plan</td>
</tr>
<tr>
<td>806230</td>
<td>Metro WWTP Fluid Bed Reactor 4</td>
</tr>
<tr>
<td>806240</td>
<td>Metro WWTP Renewal of Fluid Bed Reactors 1, 2 &amp; 3</td>
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</tbody>
</table>
MCES 2022 – 2027 Capital Program:

Authorized Capital Program (ACP) $173,828,000

Capital Improvement Plan (CIP) $30,000,000

Estimated Program Cash Flow 2022 - 2027:

Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.
Metro WWTP Solids Management Improvements Facility Plan

MCES customers participate in a tour of the Metro Plant’s Solids Management Building.

**Program Family:** 8062  
**Project # 806210**

**Project Location:**  
Council District # 13  
City of Saint Paul  
Metro WWTP

---

**PROJECT TYPE:** Plant Improvements

**OBJECTIVES:** Preservation and Expansion

**CUSTOMER LEVEL OF SERVICE:** Comply with Permits, Minimize Impacts, Lead by Example, Be A Good Neighbor, Optimize Budget Plan, and Preserve Assets

**SCOPE:** Develop a facility plan for Council approval. Conduct planning activities necessary to support facility plan development: evaluate current and future wastewater solids production, evaluate air emissions, assess existing solids treatment facilities, develop and evaluate alternatives. Identify the recommended alternative(s) and the implementation plan.

Develop and execute a communications plan for internal and external outreach, including a public hearing for facility plan review.

**PROJECT NEED:** The Metro WWTP needs additional solids treatment capacity to preserve existing wastewater infrastructure and to serve regional population growth.

---

**PROJECT SCHEDULE**

- **Planning:** 2011-2018
- **Design:** N/A
- **Construction:** N/A

---

**FINANCIAL ANALYSIS**

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<td>Total Project Cost</td>
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</table>
# Metro WWTP Fluid Bed Reactor 4

**Project Location:**
- Council District # 13
- City of Saint Paul
- Metro WWTP

**SCOPE:**
Expand the Metro WWTP solids management building and install a fourth incinerator train next to the existing three. The fourth train will include energy recovery, air pollution control, and related solids processing equipment.

**PROJECT NEED:**
The Metro WWTP needs additional solids treatment capacity to preserve existing wastewater infrastructure and to serve regional population growth through the year 2050.

## Project Schedule

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<thead>
<tr>
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## Financial Analysis

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</table>
Metro WWTP Renewal of Fluid Bed Reactors 1, 2 & 3

**PROJECT TYPE:** Plants

**OBJECTIVES:** Preservation and Improvement

**CUSTOMER LEVEL OF SERVICE:** Communicate Information and Preserve Assets

**SCOPE:** Implement renewal and level of service improvements (e.g., increased reliability, flexibility, operability, maintainability) to the three existing fluid bed reactors and associated solids treatment facilities.

**PROJECT NEED:** In 2025, the existing incinerators will be 20 years old and in need of major renewal work to extend service life and to recover capacity.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
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**FINANCIAL ANALYSIS**

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<td>$0</td>
<td>$30,000,000</td>
<td>$32,000,000</td>
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</table>
Description:
This program provides funding for planning and implementation of improvements to the wastewater solids processing facilities at the Empire Wastewater Treatment Plant (WWTP).

Purpose and Justification:
The program provides for planning and implementation of projects to address capacity constraints and improve performance for wastewater solids processing at the Empire WWTP.

Program Location:
The active projects within this program are in the following Council Districts: 16

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
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<tbody>
<tr>
<td>807400</td>
<td>Empire WWTP Solids Improvements Phase I</td>
</tr>
<tr>
<td>807401</td>
<td>Empire WWTP Solids Improvements Phase II</td>
</tr>
<tr>
<td>807415</td>
<td>Empire WWTP High Strength Waste Receiving Pilot</td>
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</tbody>
</table>
MCES 2022 – 2027 Capital Program:

**Authorized Capital Program (ACP)**
$53,959,000

**Capital Improvement Plan (CIP)**
$0

**Estimated Program Cash Flow 2022 - 2027:**

Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.
Empire WWTP Solids Improvements Phase I

A pad cover has been constructed to improve solids processing

**Program Family:** 8074
Project # 807400

**Project Location:**
Council District # 16
Empire Township
Empire WWTP

**PROJECT TYPE:** Plant Expansion

**OBJECTIVES:** Preservation, Expansion and Improvement

**CUSTOMER LEVEL OF SERVICE:** Lead by Example, Meet Capacity Needs, and Preserve Assets

**SCOPE:** Increase biosolids storage capacity by covering existing storage area. Improve pad drainage and recover stormwater for on-site infiltration. Provide biogas moisture removal for use as boiler fuel. Renew boiler system to replace aging equipment and meet future plant-wide heating needs.

**PROJECT NEED:** Solids treatment capacity at the Empire Plant must be increased to accommodate future growth in the service area. The existing boiler system is near end of service life and requires renewal. Biogas improves fuel quality in preparation for a future combined heat and power system (See Empire WWTP Solids Improvements Phase II, Project # 807401).

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
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**FINANCIAL ANALYSIS**

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<td>$33,948,902</td>
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</table>
Empire WWTP Solids Improvements Phase II

**PROJECT TYPE:** Plant Expansion

**OBJECTIVES:** Expansion and Improvement

**CUSTOMER LEVEL OF SERVICE:** Lead by Example and Meet Capacity Needs

**SCOPE:** Modify existing digesters to increase capacity and meet future capacity needs. Add advanced biogas treatment to remove hydrogen sulfide and siloxanes from biogas prior to use as fuel in a combined heat and power engine generator (CHP). CHP will generate heat and electricity for on-site use.

**PROJECT NEED:** Solids treatment capacity at the Empire Plant must be increased to accommodate future growth in the service area. CHP will generate approximately 1/3 of the plant’s heat and power demand utilizing biogas generated on-site as fuel.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
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<tbody>
<tr>
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**FINANCIAL ANALYSIS**

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<td>$18,000,000</td>
<td>$19,010,150</td>
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Empire WWTP High Strength Waste Receiving Pilot

Program Family: 8074  
Project # 807415

Project Location:  
Council District # 16  
Empire Township  
Empire WWTP

PROJECT TYPE: Plant Expansion
OBJECTIVES: Improvement  
CUSTOMER LEVEL OF SERVICE: Lead by Example
SCOPE: Install a 27,000-gallon high strength waste receiving station complete with storage and pumping systems.
PROJECT NEED: This project pilot’s digestion of an industrial high strength waste to increase biogas production for use as fuel in a combined heat and power engine generator system. (See Empire WWTP Solids Improvements Phase II, Project #807401).

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
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<tbody>
<tr>
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FINANCIAL ANALYSIS

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Program 8078
Regional Plant Improvements

Description:
This program provides funding to address capital improvements at 8 regional wastewater treatment plants (WWTPs).

Purpose and Justification:
The program provides for implementation of improvement and renewal projects for components and systems at the regional plants. These projects are outside of the realm of major plant expansion. The projects may also be in response to items that were not fully optimized in other major regional plant rehabilitation/renewal projects.

Program Location:
The active projects within this program are in the following Council Districts: 1, 4, 9, 12, 15 & 16

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
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<tbody>
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<td>807802</td>
<td>Regional Plant Improvements (Parent Project)</td>
</tr>
<tr>
<td>807803</td>
<td>Blue Lake Administration Building</td>
</tr>
<tr>
<td>807805</td>
<td>East Bethel WRP Improvements</td>
</tr>
<tr>
<td>807818</td>
<td>Hastings WWTP Condition Assessment</td>
</tr>
<tr>
<td>807826</td>
<td>Empire WWTP Arc Flash Improvements</td>
</tr>
<tr>
<td>807857</td>
<td>Fridley Liquid Waste Receiving Improvements</td>
</tr>
<tr>
<td>807858</td>
<td>Blue Lake FSF and Solids Renewal</td>
</tr>
<tr>
<td>807865</td>
<td>Treatment Plant PLC Renewal</td>
</tr>
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<td>807899</td>
<td>Regional Plant Planning</td>
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MCES 2022 – 2027 Capital Program:

<table>
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<th>Authorized Capital Program (ACP)</th>
<th>Capital Improvement Plan (CIP)</th>
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<tbody>
<tr>
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Estimated Program Cash Flow 2022 - 2027:

![Bar Chart]\(\text{Pre-2021 Actuals + 2021 Estimated Expenses} \quad \text{(ACP) Authorized Capital Program} \quad \text{(CIP) Capital Improvement Program}\)

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

Program Family: 8078
Project # 807803

Project Location:
Council District # 4
City of Shakopee
Blue lake WWTP

Project Type: Plant Improvements
Objectives: Preservation and Expansion
Customer Level of Service: Engage Customers

Scope: Perform building assessments, modify space or construct an addition to the Administration building to better accommodate staff, education and training.

Project Need: The Administration Building is not well-suited for meetings and school field trips. The Administration building needs restroom, HVAC, and ADA accessibility improvements based on intended use.

Project Schedule

<table>
<thead>
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Financial Analysis

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<td>$10,000,000</td>
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</table>
East Bethel WRP Improvements

Project Location:
Council District # 9
City of East Bethel
East Bethel WWTP

Program Family: 8078
Project # 807805

PROJECT TYPE: Plant Improvements
OBJECTIVES: Improvement
CUSTOMER LEVEL OF SERVICE: Lead by Example

SCOPE: Modify the piping to adjust to start up flows and increasing flows over time. Study and demonstrate different disinfection methods and equipment for use at future reclamation plants in the region.

PROJECT NEED: East Bethel is the first water reclamation plant (WRP) in the MCES service area. The plant was brought online in 2014 as a demonstration plant for water reuse in the metro area at 7% of design flow. Adjustments are required to accommodate increasing flows as new connections are made. MCES is also working to achieve high effluent quality for a variety of potential reclaimed uses.

PROJECT SCHEDULE

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<tr>
<th>Planning</th>
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FINANCIAL ANALYSIS

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</table>
Hastings WWTP Condition Assessment

**Program Family:** 8078  
**Project #** 807818

**Project Location:**  
Council District # 16  
City of Hastings  
Hastings WWTP

**PROJECT TYPE:** Plant Improvements

**OBJECTIVES:** Preservation

**CUSTOMER LEVEL OF SERVICE:** Optimize Budget Plan and Be Fair & Transparent

**SCOPE:** A condition assessment of the existing Hastings WWTP was completed. A modest renewal project is planned to support existing facilities until the proposed new WWTP can be constructed at a location outside of downtown Hastings.

**PROJECT NEED:** The Hastings plant was originally built in 1952, with expansions in 1967 and 1981. MCES will continue to preserve the plant until the new facility is constructed.

**PROJECT SCHEDULE**

<table>
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<th>Planning</th>
<th>Design</th>
<th>Construction</th>
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<td>2019-2020</td>
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<td>$2,500,000</td>
<td>$5,130,766</td>
</tr>
</tbody>
</table>
**Empire WWTP Arc Flash Improvements Phase 1**

**Program Family:** 8078  
**Project #** 807826

**Project Location:**  
Council District # 16  
Empire Township  
Empire WWTP

<table>
<thead>
<tr>
<th>PROJECT TYPE:</th>
<th>Plant Improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECTIVES:</td>
<td>Preservation</td>
</tr>
<tr>
<td>CUSTOMER LEVEL OF SERVICE:</td>
<td>Minimize Impacts and Preserve Assets</td>
</tr>
<tr>
<td>SCOPE:</td>
<td>Replace obsolete electrical equipment and construct improvements to mitigate arc flash.</td>
</tr>
<tr>
<td>PROJECT NEED:</td>
<td>Motor Control Centers in the sludge pumping building are obsolete and require replacement. MCES routinely evaluates arc flash potential for all its facilities. Where possible, MCES constructs improvements to minimize impacts and reduce risk of arc flash to its maintenance personnel.</td>
</tr>
</tbody>
</table>

**PROJECT SCHEDULE**

<table>
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</table>
Fridley Liquid Waste Receiving Station

Project Location:
Council District # 2
City of Fridley
Fridley Liquid Waste Receiving Station

Program Family: 8078
Project # 807857

PROJECT TYPE: Treatment Plant / Interceptor
OBJECTIVES: Improvement
CUSTOMER LEVEL OF SERVICE: Lead by Example and Be A Good Neighbor

SCOPE:
This project will address minor process concerns with liquid waste receiving at the MCES Fridley Liquid Waste Receiving Station and implement upgrades necessary to use it as a maintenance facility for Interceptor Services staff. The facility will also include space for ES Construction staff working in the north area.

PROJECT NEED:
The Fridley Liquid Waste Receiving Station was acquired by MCES in 2009 and requires improvements for hauler loadout and liquid waste receiving. Additionally, the maintenance facility in Mounds View is not adequate for current operations. The Fridley site is ideally placed in the center of the northern service area and has available space to accommodate operations, maintenance and construction services needs.

PROJECT SCHEDULE

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<thead>
<tr>
<th>Planning</th>
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<th>Construction</th>
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<tbody>
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FINANCIAL ANALYSIS

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Blue Lake FSF and Solids Renewal

**Project Location:**
- Council District #4
- City of Shakopee
- Location: Blue Lake WWTP

**Program Family:** 8078
**Project #:** 807858

**Project Location:**
- Council District #4
- City of Shakopee
- Location: Blue Lake WWTP

**PROJECT TYPE:** Plant Improvements

**OBJECTIVES:** Preservation

**CUSTOMER LEVEL OF SERVICE:** Preserve Assets

**SCOPE:**
The Blue Lake WWTP Solids Process has a few select items that need to be rehabilitated in the next 1-2 years. These items include: RTO emissions control system, the digester gas storage tank membrane, the mixing conveyor, WAS discharge valves, process piping and the associated electrical support systems.

**PROJECT NEED:**
Blue Lake has completed a Facility Plan for large Solids Processing Improvements and Expansions. Most of the current solids train will reach end of life at 2030. Auxiliary and the pollution control systems need to be rehabilitated to keep the entire system operational until the expansion project.

**PROJECT SCHEDULE**

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</table>
Program Family: 8078
Project # 807865

Project Location:
Council District:
Regional Project

Treatment Plant PLC Renewal

Typical PLC (Programmable Logic Controller)

PROJECT TYPE: Plant Improvements

OBJECTIVES: Preservation

CUSTOMER LEVEL OF SERVICE: Preserve Assets

SCOPE: Replace out-of-date process control systems at Regional Wastewater Treatment Plants.

PROJECT NEED: Key elements in the process control system for regional wastewater treatment plants are out-of-date and in need of replacement in order to continue to provide reliable treatment plant process control.

PROJECT SCHEDULE

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FINANCIAL ANALYSIS

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Regional Plant Planning

PROGRAM FAMILY: 8078
Project # 807899

Project Location:
Regional

Long Term Service Area Map

PROJECT TYPE: Plant Improvements

OBJECTIVES: Preservation

CUSTOMER LEVEL OF SERVICE: Preserve Assets

SCOPE: Current planning activities include the following: arc flash studies, road condition assessments, sustainable landscape planning, roof condition assessments, and real estate appraisal needs.

PROJECT NEED: Planning activities are needed to identify near-term (less than 10 years) regional Plant capital project needs.

PROJECT SCHEDULE

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Blue Lake WWTP Outfall Renewal

**Program Family:** 8078  
**Project #** 8078XX

**Project Location:**  
Council District # 4  
City of Shakopee  
Blue lake WWTP

---

**PROJECT TYPE:** Plant Improvements  
**OBJECTIVES:** Preservation  
**CUSTOMER LEVEL OF SERVICE:** Preserve Assets  
**SCOPE:** Design and construct streambank stabilization around the outfall based on bank erosion monitoring.

**PROJECT NEED:** The Blue Lake WWTP outfall pipe ends in the bank of the Minnesota River. The outfall point has been reinforced but the upstream and downstream banks are eroding. The banks need to be reshaped and stabilized before the erosion surpasses the outfall stabilization and erodes farther back under the pipe.

**PROJECT SCHEDULE**

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Program 8089  
Metro WWTP Asset Renewal

Description:
This program provides funding to continue the plant-wide renewal program at the Metropolitan Wastewater Treatment Plant (Metro WWTP), which was initiated under Program 8059 Metro WWTP Rehabilitation and Facilities Improvements.
Funds are for planning and implementation of capital improvements to the liquids processing and plant-wide facilities at the Metro WWTP.

Purpose and Justification:
The program provides for planning and implementation of projects to address renewal needs for continued, reliable and sustainable wastewater service at the Metro WWTP through the year 2040.

Program Location:
The active projects within this program are in the following Council Districts: 13

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
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<tbody>
<tr>
<td>808915</td>
<td>Metro WWTP Electrical Distribution Renewal Phase 2</td>
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<tr>
<td>808916</td>
<td>Metro WWTP Electrical Distribution Renewal Phase 3</td>
</tr>
<tr>
<td>808920</td>
<td>Metro WWTP Roof Replacements Phase 1</td>
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<tr>
<td>808921</td>
<td>MWWTP Primary Settling Tank Chain</td>
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<tr>
<td>808922</td>
<td>Metro Effluent Pump Station Renewal</td>
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<tr>
<td>808923</td>
<td>MWWTP Site Preparation and Improvements - Phase 2</td>
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<td>808925</td>
<td>Metro PLC Renewal</td>
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<tr>
<td>808930</td>
<td>Metro WWTP Secondary Renewal</td>
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<tr>
<td>808935</td>
<td>Metro WWTP Secondary &amp; Primary Renewal</td>
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<tr>
<td>8089XX</td>
<td>Metro WWTP Primary Scum Improvements</td>
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</table>
MCES 2022 – 2027 Capital Program:

- **Authorized Capital Program (ACP)**: $176,257,000
- **Capital Improvement Plan (CIP)**: $72,560,000

Estimated Program Cash Flow 2022 - 2027:

Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.
Metro WWTP Electrical Distribution Renewal Phase 2

Program Family: 8089
Project # 808915

Project Location:
Council District # 13
City of St. Paul
Metro WWTP

Project Type: Plant Improvements
Objectives: Preservation
Customer Level of Service: Preserve Assets

Scope: Maintenance staff will coordinate rehabilitation of seven compressor motors through specialty contracted services and install temperature and vibration monitoring for the motors.

Project Need: The aeration compressors are critical to the continued performance of the aeration process and inspections by Maintenance staff indicate the compressor motors need to be replaced or rehabilitated to extend service life.

Project Schedule

<table>
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# Metro WWTP Electrical Distribution Renewal Phase 3

## Project Information

**Program Family:** 8089  
**Project #** 808916  
**Project Location:**  
- Council District # 13  
- City of St. Paul  
- Metro WWTP

## Project Details

**PROJECT TYPE:** Plant Improvements

**OBJECTIVES:** Preservation, Expansion and Improvement  
**CUSTOMER LEVEL OF SERVICE:** Minimize Impacts, Meet Capacity Needs, and Preserve Assets

**SCOPE:** Replace electrical distribution equipment (unit substations, switchgear, and motor control centers) with new equipment. Upgrade and expand the existing Main Substation Building to provide space for new equipment and to increase worker safety during maintenance.

**PROJECT NEED:** Condition assessments determined that electrical equipment in the Main Substation Building and at various buildings throughout the plant are at or nearing the end of useful service life and need to be replaced.

## Project Schedule

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## Financial Analysis

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Metro WWTP Roof Replacements – Phase 1

**Project Location:**
Council District # 13  
City of St. Paul  
Metro WWTP

**Program Family:** 8089  
Project # 808920

**PROJECT TYPE:** Plant Improvements

**OBJECTIVES:** Preservation

**CUSTOMER LEVEL OF SERVICE:** Preserve Assets

**SCOPE:** This project replaces eight roofs including East Secondary #2, West Secondary #3, Chlorine Pump & Blower and Tunnel Access Building.

**PROJECT NEED:** Several building roofs are over 40 years old and in need of renewal.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
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**FINANCIAL ANALYSIS**

<table>
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</table>
MWWTP Primary Settling Tank Chain

**Project Location:**
- Council District # 13
- City of St. Paul
- Metro WWTP

**PROJECT TYPE:** Plant Improvements

**OBJECTIVES:** Preservation

**CUSTOMER LEVEL OF SERVICE:** Preserve Assets

**SCOPE:**
The project will remove and replace existing collection equipment in 5 Primary Settling Tanks and provide Maintenance with spare equipment for future replacements.

**PROJECT NEED:**
The sludge collection equipment is critical to the continued performance of the primary process and inspections by Maintenance staff indicate the chain and flight systems need to be replaced or rehabilitated to extend service life.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
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<td>2020</td>
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**FINANCIAL ANALYSIS**

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Metro Effluent Pumps Rehabilitation

**Project Location:**
- Council District # 13
- City of Saint Paul
- Metro WWTP

**Program Family:** 8089  
**Project #** 808922

**Project Type:** Plant Improvements  
**Objectives:** Preservation and Expansion  
**Customer Level of Service:** Preserve Assets

**Scope:** Rehabilitate key components of the effluent pumps and/or motors.

**Project Need:** These improvements benefit MCES by maximizing the effluent pumping capacity to minimize the potential for bypassing from the interceptor system upstream of the plant.

**Project Schedule**
- **Planning:** 2019-2020
- **Design:** 2021
- **Construction:** 2021-2022

**Financial Analysis**
- **2022 Cash Flow:** $700,000  
- **Current ACP:** $1,050,000  
- **2022 – 2027 Cash Flow:** $700,000  
- **Total Project Cost:** $1,050,000
MWWTP Site Preparation & Improvements – Phase 2

Project Location:
Council District # 13
City of St. Paul
Metro WWTP

PROJECT TYPE: Plant Improvements
OBJECTIVES: Preservation
CUSTOMER LEVEL OF SERVICE: Financial
SCOPE: Construction of staffed guard station, tunnel access to the Services Building and road and parking lot rehabilitation
PROJECT NEED: Road, tunnel, parking and security improvements are required for the new Services Building and Field Service Annex

PROJECT SCHEDULE

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Metro PLC Renewal

Program Family: 8089
Project # 808925

Project Location:
Council District # 13
City of St. Paul
Metro WWTP

Typical PLC (Programmable Logic Controller)

PROJECT TYPE: Plant Improvements
OBJECTIVES: Preservation
CUSTOMER LEVEL OF SERVICE: Preserve Assets
SCOPE: Replace out-of-date process control systems at the Metropolitan Wastewater Treatment Plant.
PROJECT NEED: Key elements in the process control system for the Metropolitan Wastewater Treatment Plant are out-of-date and in need of replacement in order to continue to provide reliable treatment plant process control.

PROJECT SCHEDULE

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<thead>
<tr>
<th>Planning</th>
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Metro WWTP Secondary Renewal

**Project Location:**
Council District # 13
City of St. Paul
Metro WWTP

**Project Type:** Plant Improvements

**Objectives:** Preservation

**Customer Level of Service:** Preserve Assets

**Scope:**
This project replaces the aeration tank diffusers, install aeration control upgrades, rehabilitate underdrain, and meter pits, install final settling tank backfill gates and air header leak assemblies.

**Project Need:**
The aeration system equipment was last replaced in the early 2000s and needs replacement. The new aeration equipment will result in significant energy savings due to improvements in air transfer efficiency.

**Project Schedule**

<table>
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Metro WWTP Secondary and Primary Renewal

**Program Family:** 8089  
**Project #** 808935

**Project Location:**  
Council District # 13  
City of St. Paul  
Metro WWTP

**PROJECT TYPE:** Plant Improvements  
**OBJECTIVES:** Preservation  
**CUSTOMER LEVEL OF SERVICE:** Preserve Assets

**SCOPE:**  
The following improvements are planned: East Secondary FST inlet gates, sluice gate replacements, Compressor system monitoring/diagnostic instrumentation, E-Valve gate actuator replacement, primary sludge pump replacement, and odor control improvements.

**PROJECT NEED:**  
Primary and Secondary equipment is approaching 40 years old and needs replacement. The odor control systems for Pretreatment and Sludge Storage need to be rehabilitated to mitigate odors.

**PROJECT SCHEDULE**

<table>
<thead>
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<th>Construction</th>
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**FINANCIAL ANALYSIS**

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**Metropolitan WWTP Primary Scum Improvements**

**Project Location:**
Council District # 13  
City of St. Paul  
Metro WWTP

**Program Family:** 8089  
**Project #** 8089XX

**Scum collection Inside Metro WWTP East Scum Building**

**PROJECT TYPE:** Plant Improvements  
**OBJECTIVES:** Preservation  
**CUSTOMER LEVEL OF SERVICE:** Lead by example and Preserve Assets

**SCOPE:** This project will install improvements for the processing of primary scum at the Metro WWTP.

**PROJECT NEED:** Approximately 2.0 tons per day of scum is conveyed on a batch process from the primary clarifiers to the dumpsters at the Solids Management Building. There is a need to evaluate alternatives for the ultimate location for primary scum and to renew the Primary Scum process.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
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**FINANCIAL ANALYSIS**

| 2022 Cash Flow $1,000,000 | Current ACP $1,500,000 | 2022 – 2027 Cash Flow $1,000,000 | Total Project Cost $1,500,000 |
Program Family: 8089  
Project # 8089xx

Project Location:  
Council District # 13  
City of Saint Paul  
Metro WWTP

Metro Roof Replacements

**PROJECT TYPE:** Plant Improvements  
**OBJECTIVES:** Preservation  
**CUSTOMER LEVEL OF SERVICE:** Preserve Assets  
**SCOPE:** Replace the following roofs: FLT, EPR, MWH (low roof) and CMP above the compressor floor. Rehabilitate or repair roofs for decommissioned buildings 408, REL and F&I#2 to preserve building envelopes.  
**PROJECT NEED:** Condition assessment determined that several roofs are at or nearing the end of useful service life and need to be replaced.

**PROJECT SCHEDULE**

<table>
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<th>Planning</th>
<th>Design</th>
<th>Construction</th>
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<tbody>
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</table>
MWWTP HVAC Improvements – Phase 3

Program Family: 8089
Project # 8089XX

Project Location:
Council District # 13
City of St. Paul
Metro WWTP

Aerial view of MWWTP showing location of West Secondary

PROJECT TYPE: Plant Improvements

OBJECTIVES: Preservation

CUSTOMER LEVEL OF SERVICE: Preserve Assets

SCOPE: This project replaces various HVAC equipment at West Secondary and the top floor computer room insulated to improve energy efficiency. Other HVAC equipment will be replaced based on the outcome from the condition assessment.

PROJECT NEED: HVAC equipment near end-of-life needs to be rehabilitated or replaced based on condition assessment and business case evaluations

PROJECT SCHEDULE

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Metro WWTP Electrical Distribution Renewal Phase 4

**PROJECT TYPE:** Plant Improvements

**OBJECTIVES:** Preservation, Expansion and Improvement

**CUSTOMER LEVEL OF SERVICE:** Minimize Impacts, Meet Capacity Needs, and Preserve Assets

**SCOPE:** Replace electrical distribution equipment (unit substations, switchgear, and motor control centers) with new equipment.

**PROJECT NEED:** Condition assessment determined that electrical equipment in various buildings throughout the plant are at or nearing the end of useful service life and need to be replaced.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-2023</td>
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**FINANCIAL ANALYSIS**

<table>
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<td>$12,000,000</td>
<td>$57,800,000</td>
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</table>
Program Family: 8089
Project # 8089XX

Project Location:
Council District # 13
City of Saint Paul
Metro WWTP

MWTP Water Systems Renewal & Improvements Phase 2 – Reclaimed Water

PROJECT TYPE: Plant Improvements
OBJECTIVES: Preservation and Expansion
CUSTOMER LEVEL OF SERVICE: Preserve Assets

SCOPE: This project constructs a new reclaimed water system to replace the water source for processes which are currently served by the Prairie du Chien aquifer through the plant service water system

PROJECT NEED: There is a need to rehabilitate and repurpose the Metro Plant water systems and reduce use of the Prairie du Chien aquifer.

PROJECT SCHEDULE

<table>
<thead>
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<th>Planning</th>
<th>Design</th>
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<td>$0</td>
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</table>
Metro Effluent Pump Station Rehabilitation

Program Family: 8089  
Project # 8089XX

Project Location:
Council District # 13  
City of Saint Paul  
Metro WWTP

PROJECT TYPE: Plant Improvements
OBJECTIVES: Preservation and Expansion
CUSTOMER LEVEL OF SERVICE: Preserve Assets

SCOPE: This project enhances the effluent pumping reliability by providing a more robust facility to handle peak flows and during flooding and adverse weather conditions. These improvements include interior and exterior building improvements; replace switchgear, transformers, MCCs and other electrical equipment; replace HVAC equipment; inspect wet wells and replace gates.

PROJECT NEED: The pump station has experienced problems with pump service availability. There is a need to rehabilitate the station to increase system reliability for an additional 30-40-year service life.

PROJECT SCHEDULE

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</table>
**Metro Exterior Building Improvements**

**PROJECT TYPE:** Plant Improvements  
**OBJECTIVES:** Preservation  
**CUSTOMER LEVEL OF SERVICE:** Preserve Assets  
**SCOPE:** This project rehabilitates the exterior façade for several buildings based on condition assessment. The building envelopes for several buildings are over 40 years old and in need of renewal.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
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</thead>
<tbody>
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Description:
This program provides funding for planning activities needed to support the Council’s overall wastewater reuse initiative.

Purpose and Justification:
The Water Resources Policy Plan directs MCES to pursue wastewater reuse where it is economically feasible to promote sustainable water resources. Drivers include:
- Alleviating future regional conveyance pipe capacity constraints
- Conserving & supplementing groundwater & surface water
- Projects to reduce the future issuance of a water appropriation due to concerns about the area’s long-term water supply
- Projects driven by future regulatory requirements that result in effluent quality being closure to reuse standards
Program Location:
The active studies and projects within this program are relevant to all Council Districts. In particular, the Crow River Wastewater Reclamation Plant is planned to be built in District 1; the SE Metro Wastewater Reclamation Facility has been planned for District 15; and the Scott County Wastewater Plant is planned for District 4.

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>809110</td>
<td>Crow River Wastewater Reclamation Plant</td>
</tr>
</tbody>
</table>

MCES 2022 – 2027 Capital Program:

- **Authorized Capital Program (ACP)**: $7,133,000
- **Capital Improvement Plan (CIP)**: $41,250,000

Estimated Program Cash Flow 2022 - 2027:

![Cash Flow Chart]

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

**Project Location:**
Council District # 1
City of Rogers
Crow River WWTP

**Program Family:** 8091
Project # 809110

**Future location of Crow River WWTP**

**PROJECT TYPE:** Wastewater Treatment Plant

**OBJECTIVES:** Expand

**CUSTOMER LEVEL OF SERVICE:** Comply with Permits, Minimize Impacts, Lead by Example, Be A Good Neighbor, Meet Capacity Needs, Communicate Information, Engage Customers, and Coordinate with Others

**SCOPE:**
MCES has recognized and planned for the need for a new wastewater facility in the northwest Metropolitan service area in the 2030 and 2040 Water Resources Policy Plans. The new facility, the Crow River Wastewater Treatment Plant, will be located on a parcel of land purchased by MCES in the City of Rogers near the Crow River. The facility will replace the existing MCES Rogers Wastewater Treatment Facility and will serve the City of Rogers as well as portions of Dayton and Corcoran. MCES is planning to start receiving flow at the facility in 2030.

**PROJECT NEED:**
This new Crow River Plant is needed to free up capacity for urban core growth in the Elm Creek interceptor which currently serves a rapidly expanding portion of Rogers. It also prepares for projected growth in the communities of Rogers, Dayton, Corcoran and the surrounding area.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Stage</th>
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**FINANCIAL ANALYSIS**

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Description:
This program provides funding for planning and implementation of projects to address renewal and capacity needs to improve performance for wastewater solids processing at the Blue Lake Wastewater Treatment Plant (WWTP).

Purpose and Justification:
The program provides for planning and implementation of projects to address renewal and capacity needs and to improve performance for wastewater solids processing at the Blue Lake WWTP.

Program Location:
The active projects within this program are in the following Council Districts: 4

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
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<tbody>
<tr>
<td>809700</td>
<td>Blue Lake WWTP Solids Improvements</td>
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MCES 2022 – 2027 Capital Program:

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<th>Authorized Capital Program (ACP)</th>
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<tbody>
<tr>
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<td>$87,100,000</td>
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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.
Blue Lake WWTP Solids Improvements Phase 1

The Blue Lake WWTP, located in Shakopee, produces Class A Fertilizer.

**Project Location:**
Council District # 4
City of Shakopee
Blue Lake WWTP

**Program Family:** 8097
**Project #:** 809700

**Project Type:** Wastewater Treatment Plant

**Objectives:** Preservation and Improvement

**Customer Level of Service:** Communicate Information and Preserve Assets

**Scope:** Develop a facility plan and begin implementing recommended scope items. Phase 1 includes the addition of a second dryer, rehabilitation of the first dryer, and the addition of a digester on the solids side. There will also be diffuser replacements and expansion of the secondary clarifiers.

**Project Need:** Wastewater solids drying facilities over 20 years old and are nearing end of its useful life.

**Project Schedule**

- **Planning:** 2018-2021
- **Design:** 2022-2024
- **Construction:** 2025-2030

**Financial Analysis**

<table>
<thead>
<tr>
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<tr>
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</table>
**Description:**
This program provides funding for planning and implementation of a new Hastings Wastewater Treatment Plant (WWTP) located at 2445 Ravenna Trail in Hastings and includes projects for construction of the new plant and associated interceptor system improvements.

**Purpose and Justification:**
MCES intends to relocate Hastings WWTP service to 2445 Ravenna Trail in Hastings. The new site will allow the plant to expand to meet long-term regulatory and future requirements. The long-term service area identified in the 2040 Water Resources Policy Plan may include land areas in the township of Marshan, Nininger, or Vermillion.

**Program Location:**
The active projects within this program are in the following Council Districts: 16

**Active Projects in Program:**

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
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<tbody>
<tr>
<td>809800</td>
<td>Hastings WWTP</td>
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MCES 2022 – 2027 Capital Program:

Authorized Capital Program (ACP) $22,600,000

Capital Improvement Plan (CIP) $68,000,000

Estimated Program Cash Flow 2022 - 2027:

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

Project Location:
Council District # 16
Hastings
Relocated Hastings WWTP

Program Family: 8098
Project # 809800

Project # 809800

Project Location:
Council District # 16
Hastings
Relocated Hastings WWTP

PROJECT TYPE: Plant Improvements
OBJECTIVES: Expansion and Improvement
CUSTOMER LEVEL OF SERVICE: Meet Capacity Needs, Lead by Example and Coordinate with Others
SCOPE: Construct a new wastewater treatment plant in Hastings
PROJECT NEED: The existing plant site, located in downtown Hastings, presents challenges to major renewal, land use compatibility, expandability of the plant to respond to growth and changes in regulatory requirements.

PROJECT SCHEDULE

Planning
2020-2022

Design
2023-2024

Construction
2025-2030

FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
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<td>$90,600,000</td>
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</table>
Hastings WWTP – Interceptor Improvements

**Project Location:**
Council District # 16
Hastings, MN

**Program Family:** 8098
Project # 808910

**Project Location:**
Council District # 16
Hastings, MN

**Hastings Wastewater Treatment Plant Project**

**Existing Plant**
**Lift Station**
**Gravity Alignment**
**Forcemain Alignment**

**Hastings WWTP – Interceptor Improvements**

**PROJECT TYPE:** Preservation and Expansion

**OBJECTIVES:** Transport wastewater from the existing WWTP in downtown Hastings to the new plant site located at 2445 Ravenna Trail.

**CUSTOMER LEVEL OF SERVICE:** Meet Capacity Needs and Coordinate with Others

**SCOPE:** Construct a sewer pumping station at the existing WWTP. Construct 6,000 LF of forcemain, 8800 LF of trunk gravity sewer, and 7200 LF of treated water discharge to the Mississippi River. Following final acceptance of the new plant, the existing WWTP will be decommissioned, and the property turned back to the City.

**PROJECT NEED:** The existing plant has reached its treatment capacity. A new plant is required to accommodate growth. All wastewater currently flowing to the existing downtown treatment plant needs to be conveyed to the new plant site.

**PROJECT SCHEDULE**

Planning 2020-2022
Design 2022-2024
Construction 2024-2026

**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
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<td>$38,500,000</td>
<td>$39,100,000</td>
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</table>
**Program 8100**  
**Industrial Pretreatment Incentive Program**

**Description:**  
Industrial Pretreatment Incentive Program (IPIP) provides financial incentives to assist high-strength industrial wastewater dischargers to pretreat the wastewater at their site, reducing or eliminating the high-strength discharge and reducing Metropolitan Council Environmental Services’ (MCES) cost to treat that discharge.

**Purpose and Justification:**  
This innovative public-private partnership yields benefits to MCES ratepayers, private industry, and the environment. The Council and its ratepayers benefit by avoiding operating costs (e.g., energy) to treat high-strength waste; improve ability to generate electricity by better handling of high-strength waste and potentially delay or eliminate the need for wastewater treatment plant expansion. Industries benefit by having access to low-cost loans to install treatment equipment; reducing or eliminating strength charges and enhancing ability to grow.

**Program Location:**  
Current applications with pending projects
Active Projects in Program: None

MCES 2022 – 2027 Capital Program:

<table>
<thead>
<tr>
<th>Authorized Capital Program (ACP)</th>
<th>Capital Improvement Plan (CIP)</th>
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</thead>
<tbody>
<tr>
<td>$21,700,000</td>
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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.
Appendix B: Project Summaries by Program - Interceptor

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Description:
This project provides improvements to meet the long-term conveyance capacity, reliability, and rehabilitation/replacement needs of the Blue Lake Interceptor System. This system includes gravity sewers, 29 lift stations, and forcemains from each lift station. Where cost effective, some lift stations will be replaced by deep gravity sewers using tunnel construction methods. The remaining lift stations will be rehabilitated and/or replaced as necessary. Single forcemains will be upgraded to dual forcemains where criteria supports this strategy. Gravity sewers will be rehabilitated as necessary. River crossings will be inspected and rehabilitated as necessary. The major project areas are Victoria, Excelsior, Mound and Orono. The gravity sewers are located in Chanhassen and Deephaven.

Purpose and Justification:
Evaluation of the Blue Lake Area Interceptor System indicates that the existing facilities cannot convey all the wastewater that will ultimately be generated from within the Blue Lake sewer shed due to growth. In addition, many of the sewers, lift stations, and associated forcemains need to be rehabilitated 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: 3, 4

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
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<tbody>
<tr>
<td>802800</td>
<td>Lake Minnetonka Area (Parent Project)</td>
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<tr>
<td>802831</td>
<td>Lift Station L46 and L49</td>
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</table>
MCES 2022 – 2027 Capital Program:

Authorized Capital Program (ACP) $43,090,000
Capital Improvement Plan (CIP) $7,080,000

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: 8028  
Project # 802831

Project Location:  
Council District # 3  
City Orono

---

**Orono Lift Stations L46 and L49 Improvements**

![Map of project location](image)

**PROJECT TYPE:** Lift Station Improvements

**OBJECTIVES:** Preservation and Quality Improvement

**CUSTOMER LEVEL OF SERVICE:** Comply with Permits, Minimize Impacts, Lead by Example, Be A Good Neighbor, Meet Capacity Needs, Communicate Information, Engage Customers, Coordinate with Others and Preserve Assets

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

**PROJECT NEED:** Both L46 and L49 were included in recent condition assessments and were the subject of a 2009 study evaluating needed improvements. L49 is at the end of its useful life and has inadequate capacity to meet current peak flow rates. Its 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, as well as site improvements to protect existing equipment from traffic.

---

**PROJECT SCHEDULE**

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<th>Planning</th>
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<td>$3,869,000</td>
<td>$4,186,000</td>
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L48 Rehabilitation and 6-DH-645 Forcemain Replacement

Project Location:
Council District # 3
City of Deephaven
Cottagewood Rd. / Burton Park

Map of project location

**PROJECT TYPE:** Lift Station Rehabilitation and Forcemain Replacement

**OBJECTIVES:** Preservation

**CUSTOMER LEVEL OF SERVICE:** Lead by Example, Be A Good Neighbor, Meet Capacity Needs and Preserve Assets

**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 ft 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 and is 50 years old. It is reaching the end of its service life.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
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<td>$5,433,000</td>
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</table>
Project Location:
Council District # 3
City of Excelsior

Program Family: 8028
Project # 802856

Excelsior Area Lift Station L20

Map of project location

PROJECT TYPE: Interceptor System Improvements

OBJECTIVES: Preservation and Quality Improvement

CUSTOMER LEVEL OF SERVICE: Comply with Permits, Minimize Impacts, Be A Good Neighbor, Engage Customers and Coordinate with Others

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.

PROJECT SCHEDULE

<table>
<thead>
<tr>
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<th>Construction</th>
</tr>
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FINANCIAL ANALYSIS

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<td>$9,358,000</td>
<td>$10,001,000</td>
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</table>
8567 Channel Crossings Replacement

Program Family: 8028
Project #802863

Project Location:
Council District #3
City: Orono
North Shore Drive

Map of project location

8567 Channel Crossings Replacement

Project Type: Interceptor Replacement

Objectives: Preservation and Quality Improvement

Customer Level of Service: Minimize Impacts, Lead by Example, Be A Good Neighbor, Engage Customers, Coordinate with Others and Preserve Assets

Scope: In 2022, Hennepin County plans to replace the Noerenberg and Hendrickson bridges on North Shore Drive. Interceptor Forcemain 8567 is suspended on the bridges and needs to be relocated under the Lake Minnetonka channels before or during the County project.

Project Need: Replace the existing 12-inch DIP Hendrickson and 16-inch DIP Noerenberg bridge crossings with buried channel crossings. Directionally drilled dual HDPE pipes are proposed. To lessen the potential need for land acquisition, this work will be scheduled when North Shore Drive is closed for bridge work.

Project Schedule

Planning
2020
Design
2021
Construction
2022

Financial Analysis

<table>
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<td>$1,716,000</td>
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</tr>
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</table>
Chanhassen Interceptor 8253-328 Rehabilitation

Project Location:
Council District # 3
City of Chanhassen
West of Lake Lucy

Map of project location

PROJECT TYPE: Interceptor Rehabilitation
OBJECTIVES: Preservation
CUSTOMER LEVEL OF SERVICE: Comply with Permits, Minimize Impacts, Communicate Information, Engage Customers, Coordinate with Others and Preserve Assets

SCOPE:
Rehabilitation of approximately 2,900 feet of concrete gravity sewer, ranging in size from 30-inch to 42-inch and installation of 10 fiberglass manhole inserts. MCES has a cooperative construction agreement to rehabilitate 1100 LF of 12” concrete gravity pipe owned by the City with the MCES construction project. The owner of the property along the alignment of the proposed rehabilitation has an approved preliminary plat and approved phase 1 site development plan. Rehabilitation either before or in conjunction with the development of the property will simplify construction and reduce construction costs.

PROJECT NEED:
The concrete sewer pipe has significant section loss of the interior wall. Delays in rehabilitating this pipe could result in a collapse of the sewer.

PROJECT SCHEDULE

2018 Planning
2019 Design
Winter / Spring 2020 Construction

FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
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<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$650,000</td>
<td>$4,900,000</td>
<td>$650,000</td>
<td>$4,900,000</td>
</tr>
</tbody>
</table>
Oroko Interceptor 7113 Improvements

Program Family: 8028
Project # 802886

Project Location:
Council District # 3
City of Orono

Map of project location

PROJECT TYPE: Interceptor System Improvements at Tanager Bridge

OBJECTIVES: Preservation and Quality Improvement

CUSTOMER LEVEL OF SERVICE: Minimize Impacts, Engage Customers, Coordinate with Others and Preserve Assets

SCOPE: Replace existing forcemain at Tanager bridge with new forcemain alignment due to bridge replacement. Associated Hennepin County Project.

PROJECT NEED: Forcemain 7113 was built in 1979 and runs from L59 in the City of Orono to the junction with forcemain 7113A approximately 3 miles to the east. Reconstruction of the Tanager Lake bridge by Hennepin County presents an opportunity to replace the old forcemain 7113 and remove any conflicts from bridge construction.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
</table>

FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
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<th>2022 – 2027 Cash Flow</th>
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<tr>
<td>$762,000</td>
<td>$1,214,000</td>
<td>$762,000</td>
<td>$1,214,000**</td>
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</table>

**Estimated. MCES share of project costs are currently being negotiated with Hennepin County. MCES cost participation is 50% of total FM relocation cost.
Orono Interceptor 7113 Forcemain Replacement

**Project Location:**
Council District # 3
City of Orono

**Program Family:** 8028
Project # 802897

**INTERCEPTOR SYSTEM IMPROVEMENTS**

**PROJECT TYPE:** Interceptor System Improvements

**OBJECTIVES:** Preservation and Quality Improvement

**CUSTOMER LEVEL OF SERVICE:** Comply with Permits, Minimize Impacts, Be A Good Neighbor, Engage Customers and Coordinate with Others

**SCOPE:**
Replacement of existing forcemain from Lift Station L59 to junction with forcemain 7113A with a new forcemain. The new forcemain will follow the HCRRA trail corridor to avoid County Road 15 and the Lake Minnetonka shoreline.

**PROJECT NEED:** Forcemain 7113 was built in 1979 and runs from L59 in the City of Orono to the junction with forcemain 7113A approximately 3 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 the forcemain in Shoreline Drive to be inspected and rehabilitated or replaced.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
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</table>

**FINANCIAL ANALYSIS**

<table>
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<td>$485,000</td>
<td>$8,930,000</td>
<td>$14,767,000</td>
<td>$15,410,000</td>
</tr>
</tbody>
</table>
Description:
The Program provides for the replacement of a 5-mile-long force main, known as the Hopkins force main, and lift station L27 located in the city of Hopkins. The force main is a single 24 to 30-inch interceptor pipe that begins in Hopkins at the intersection of Blake Rd and Lake St and passes through St. Louis Park and Minneapolis where it discharges to the 1-MN-330 gravity interceptor sewer. The system serves the cities of Hopkins, St. Louis Park, and Minneapolis. The new force main system is constructed as a dual 18 to 24-inch pipe system. The new 6.3 mgd lift station is constructed 700-feet to the west of the existing lift station.

Purpose and Justification:
These facilities are over 40 years old, have significant condition issues and lack redundancy. The existing force main is constructed as Prestressed Concrete Cylinder Pipe which is susceptible to internal and external corrosion. In 2000, a corroded section of the force main collapsed within the Dean neighborhood of Minneapolis. In addition, the existing lift station is undersized with little storage. This presented an operational limitation to addressing malfunctions at the lift station without causing backups to homes or spills.

Program Location:
The active projects within this program are in the following Council Districts: District # 5 and 6

Active Projects in Program:
Due to funding shortages in this program, the last two construction projects in Minneapolis are planned to be funded under the Interceptor Rehabilitation Program 809000. The Hopkins System Improvements family is only used for funding the consultants and the cooperative construction agreements on the two remaining Minneapolis projects.
<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
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<tbody>
<tr>
<td>804100</td>
<td>Hopkins Systems Improvements (Parent Project)</td>
</tr>
<tr>
<td>804125</td>
<td>HSI East Isles Force Main Improvements</td>
</tr>
<tr>
<td>804136</td>
<td>HSI Cooperative Agreements</td>
</tr>
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</table>

MCES 2022 – 2027 Capital Program:

**Authorized Capital Program (ACP)**
$10,213,000

**Capital Improvement Plan (CIP)**
$0

Estimated Program Cash Flow 2022 - 2027:

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

Project Location:
Council District # 6
City of Minneapolis
The Mall Park, Humboldt Ave

PROJECT TYPE: Interceptor Rehabilitation
OBJECTIVES: Preservation and Quality Improvement
CUSTOMER LEVEL OF SERVICE: Conveys wastewater safely with minimal backups and spills
SCOPE: The project includes only the planning and design phases for the replacement of 2500 lineal feet of 24” concrete forcemain with two 24” diameter forcemains. Cooperative construction with the City of Minneapolis and Minneapolis Park and Recreation Board to complete City improvements in the area. The construction of the improvements on Humboldt Ave are under MCES project number 819015. The construction of the improvements within The Mall Park are under MCES project number 819020

PROJECT NEED: Without a redundant forcemain, inspecting the existing 24” concrete forcemain is difficult and there is significant potential for corrosion given the pipe material and age. An upstream section of the forcemain collapsed in 2000. The vortex drop structure between the forcemain and interceptor 1-MN-330 at 27th Street and Humboldt Ave. S. is severely corroded is at risk of failure.

PROJECT SCHEDULE


FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
<th>Current ACP</th>
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<tr>
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<td>$1,798,000</td>
<td>$1,200,000</td>
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</table>
Program 8055
Lift Station Rehabilitation

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:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
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<tbody>
<tr>
<td>805500</td>
<td>Lift Station Rehabilitation (Parent Project)</td>
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MCES 2022 – 2027 Capital Program:

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<tbody>
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<td>$70,600,000</td>
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</table>

Estimated Program Cash Flow 2022 - 2027:

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

**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**

<table>
<thead>
<tr>
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<th>Design</th>
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**FINANCIAL ANALYSIS**

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<td>$1,559,000</td>
<td>$1,300,000</td>
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</table>
Lift Station Condition Assessments

Interceptor service worker inspects the Rosemount Lift Station (L74)

**Project Location:** System Wide

**Program Family:** 8055  
**Project #** 805502

**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**

<table>
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<tr>
<th>Planning</th>
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**Financial Analysis**

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<td>$200,000</td>
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<td>$1,200,000</td>
<td>$1,658,000</td>
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</table>
**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**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
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<tbody>
<tr>
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<td>2023 – 2024</td>
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**FINANCIAL ANALYSIS**

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</thead>
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<td>$200,000</td>
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<td>$200,000</td>
<td>$2,100,000</td>
</tr>
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</table>
Coon Rapids L34 Improvements

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

**Program Family:** 8055
**Project #** 805560

**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 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**

- **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
**Program Family:** 8055  
**Project #** 805564

**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**

<table>
<thead>
<tr>
<th>Planning</th>
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</thead>
<tbody>
<tr>
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**FINANCIAL ANALYSIS**

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<tr>
<td>$969,000</td>
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</tbody>
</table>
Lift Station Fuel Tank Upgrades

**Project Location:**
Council Districts: # 3, 6, 15, 16
Cites of Apple Valley, Eagan, Orono, Plymouth and Savage

**Program Family:** 8055  
Project # 805565

**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**

<table>
<thead>
<tr>
<th>Planning</th>
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<tbody>
<tr>
<td>2017</td>
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**FINANCIAL ANALYSIS**

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</tr>
</thead>
<tbody>
<tr>
<td>$50,000</td>
<td>$1,718,000</td>
<td>$50,000</td>
<td>$1,718,000</td>
</tr>
</tbody>
</table>
2020 Lift Station Electrical Rehabilitation

Project Location:
Multiple Lift Stations

Council District #: NA
City - NA
Location - NA

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

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
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<tbody>
<tr>
<td>2020</td>
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FINANCIAL ANALYSIS

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<tbody>
<tr>
<td>$150,000</td>
<td>$500,000</td>
<td>$10,157,000</td>
<td>$20,331,452</td>
</tr>
</tbody>
</table>
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

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

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
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FINANCIAL ANALYSIS

<table>
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<th>2022 Cash Flow</th>
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<td>$50,000</td>
<td>$4,303,000</td>
<td>$50,000</td>
<td>$4,303,000</td>
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</table>
L29 Rehabilitation

**Project Location:** L29
**Council Districts:** # 1
**City of Plymouth**

**Program Family:** 8055
**Project #** 805576

**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**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
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</thead>
<tbody>
<tr>
<td>2022</td>
<td>2022-2023</td>
<td>2024-2026</td>
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</table>

**FINANCIAL ANALYSIS**

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<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$800,000</td>
<td>$9,900,000</td>
<td>$9,800,000</td>
<td>$9,900,000</td>
</tr>
</tbody>
</table>
Description:
This Program provides funding to upgrade MCES’s ability to measure flows for billing, operational, and planning purposes and standardize meter equipment at similar facilities. Meter improvements include meter rehabilitation or replacement, planning meter installation, and new meter installation.

Purpose and Justification:
Accurate flow metering is the basis of the MCES’ billing system. It is essential that our customers trust the reliability and accuracy of the flow metering system. The project provides a systematic approach for capital improvements to the flow metering system. Increases in flow, greater emphasis on capturing peak flows stemming from MCES’ infiltration/inflow program, normal facility rehabilitation needs, and the need for additional flow metering locations for system planning purposes are driving this meter improvements project.

Program Location:
The active projects within this program are in the following Council Districts: District # 1 & 2

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>805600</td>
<td>Meter Improvements (Parent Project)</td>
</tr>
<tr>
<td>805601</td>
<td>Meter Station Property Maintenance</td>
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<tr>
<td>805603</td>
<td>2020 Meter Improvements</td>
</tr>
<tr>
<td>805604</td>
<td>Meter M061 Rehabilitation</td>
</tr>
<tr>
<td>805605</td>
<td>Meter M106 Rehabilitation</td>
</tr>
<tr>
<td>805636</td>
<td>Replacement Meter Vault M228</td>
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</table>
MCES 2022 – 2027 Capital Program:

### Authorized Capital Program (ACP)
- $24,014,000

### Capital Improvement Plan (CIP)
- $30,000,000

Estimated Program Cash Flow 2022 - 2027:

<table>
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<th>Year</th>
<th>Pre-2022 (ACP)</th>
<th>2022 (ACP)</th>
<th>2023 (ACP)</th>
<th>2024 (ACP)</th>
<th>2025 (CIP)</th>
<th>2026 (CIP)</th>
<th>2027 (CIP)</th>
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</thead>
<tbody>
<tr>
<td></td>
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<tr>
<td>Pre-2022</td>
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<td>5,804</td>
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</tbody>
</table>

Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.
Program Family: 8056
Project # 805605

Project Location:
Council District # 2
City of Columbia Heights

Meter M106 Modifications

PROJECT TYPE: Interceptor Improvements

OBJECTIVES: Preservation

CUSTOMER LEVEL OF SERVICE: Minimize Impacts, Be A Good Neighbor, Engage Customers, Coordinate with Others, and Preserve Assets

SCOPE: Replace existing parshall flume, structure modifications and improvements.

PROJECT NEED: Adjust structure to accommodate road and trail improvements. Replace and update meter to improve accuracy and address condition.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
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FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$200,000</td>
<td>$1,300,000</td>
<td>$1,300,000</td>
<td>$1,300,000</td>
</tr>
</tbody>
</table>
Replacement Meter Vault M228

Project Location: Council District # 2
City of Brooklyn Park

PROJECT TYPE: Interceptor Improvements

OBJECTIVES: Preservation

CUSTOMER LEVEL OF SERVICE: Comply with Permits, Minimize Impacts, Be A Good Neighbor, Communicate Information, Engage Customers, Coordinate with Others and Preserve Assets

SCOPE: Replace existing Meter M228

PROJECT NEED: Replace and update meter due to corrosion and difficult access. Meter is important to ensure accuracy of cost distribution among communities.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>2020-2022</td>
<td>2023-2024</td>
</tr>
</tbody>
</table>

FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
<th>Current ACP</th>
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<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$3,200,000</td>
<td>$7,483,000</td>
<td>$6,817,000</td>
<td>$7,483,000</td>
</tr>
</tbody>
</table>
Description:
The interceptor systems in Cottage Grove, Oakdale, Lake Elmo, Woodbury, and other east area communities need rehabilitation and/or replacement as well as expansion to serve additional areas. The Program will rehabilitate existing interceptor facilities, including gravity sewers, force mains, lift stations and meter stations, and analyze the system needs to accommodate regional growth.

Purpose and Justification:
The Program provides for improvements to the Interceptor System that serves the East Area. This includes work needed to serve the City of Lake Elmo, and the Northeast area of Woodbury. This also includes work to improve deteriorating facilities in Woodbury and Cottage Grove.

Program Location:
The active projects within this program are in the following Council Districts: District # 12

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>806301</td>
<td>East Area Interceptor Improvements (Parent Project)</td>
</tr>
<tr>
<td>806302</td>
<td>L77 Improvements</td>
</tr>
<tr>
<td>806325</td>
<td>Lake Elmo West Connection/I94 Crossing</td>
</tr>
<tr>
<td>806335</td>
<td>Woodbury Interceptor 9701 Rehabilitation</td>
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</table>
MCES 2022 – 2027 Capital Program:

<table>
<thead>
<tr>
<th>Authorized Capital Program (ACP)</th>
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<tbody>
<tr>
<td>Capital Improvement Plan (CIP)</td>
<td>$0</td>
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Estimated Program Cash Flow 2022 - 2027:

<table>
<thead>
<tr>
<th>Year</th>
<th>(ACP) Authorized Capital Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-2022</td>
<td>5,710</td>
</tr>
<tr>
<td>2022</td>
<td>3,833</td>
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<tr>
<td>2023</td>
<td>5,692</td>
</tr>
<tr>
<td>2024</td>
<td>4,278</td>
</tr>
</tbody>
</table>

Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.
Lift Station L77 Improvements

**PROJECT TYPE:** Interceptor

**OBJECTIVES:** Expansion

**CUSTOMER LEVEL OF SERVICE:** Meet Capacity Needs

**SCOPE:** Expand L77 lift station and connect to larger forcemain

**PROJECT NEED:** This expansion was planned with the construction of the L77 lift station and is driven by development in eastern Woodbury and Lake Elmo.

**PROJECT SCHEDULE**

- **Planning:** 2020-2021
- **Design:** 2022-2023
- **Construction:** 2023-2025

**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash Flow 2022</th>
<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>$1,000,000</td>
<td>$1,060,000</td>
<td>$1,000,000</td>
<td>$1,060,000</td>
</tr>
</tbody>
</table>
South Washington County Interceptor Improvements

**Project Location:**
Council District # 12
Cities of Lake Elmo and Woodbury

**Project #** 806325

**Project Location:**
Council District # 12
Cities of Lake Elmo and Woodbury

**Program Family:** 8063

**Project Type:** Interceptor

**Objectives:** Expansion

**Customer Level of Service:** Meet Capacity Needs

**Scope:** Provide regional sewer service to southwestern Lake Elmo through a gravity interceptor extension from 1-WO-500. Includes the upgrade of an existing interceptor sewer crossing I-94 to accommodate current and future growth in the service area.

**Project Need:** This project will provide interceptor facilities to convey wastewater from southwestern Lake Elmo and eastern Oakdale to the Metro WWTP in St Paul. The project is needed to support growth in this eastern portion of the metropolitan area.

**Project Schedule**
- **2020**
- **2021-2022**
- **2022-2024**

**Financial Analysis**

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash Flow</th>
<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>$1,633,000</td>
<td>$11,984,000</td>
<td>$11,203,000</td>
<td>$11,984,000</td>
</tr>
</tbody>
</table>
Woodbury Interceptor 9701 Rehabilitation

**Program Family:** 8063  
**Project #** 806335

**Project Location:**  
Council District # 12  
City of Woodbury

![Map of project location](image)

**PROJECT TYPE:** Interceptor Improvements

**OBJECTIVES:** Preservation

**CUSTOMER LEVEL OF SERVICE:** Comply with Permits, Minimize Impacts, Be A Good Neighbor, Communicate Information, Engage Customers, Coordinate with Others and Preserve Assets

**SCOPE:** Grouting behind between the interceptor pipe and host tunnel liner. Repair cracked pipe sections

**PROJECT NEED:** Inspections of the interceptor segment have discovered several cracks, offset joints, and missing backfill grout. The unbalanced loadings to the interceptor pipe have created pipe fractures. These defects provide a pathway for groundwater to enter the interceptor and indicate a potential risk of structural failure for the interceptor.

**PROJECT SCHEDULE**

- **2019**
- **2019-2020**
- **2020-2022**

**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,000,000</td>
<td>$5,918,000</td>
<td>$1,000,000</td>
<td>$5,918,000</td>
</tr>
</tbody>
</table>
Program 8076
Minneapolis Interceptor Rehabilitation

Description:
This Program provides funding to address capital improvements for the interceptors that serve Minneapolis and the surrounding areas.

Purpose and Justification:
The project provides for the implementation of improvement and renewal projects needed to provide continued service to the metropolitan region and capacity to accommodate projected growth of the region.

Program Location:
The planned and active projects within this program are in Council Districts 6, 7, and 8.

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
</tr>
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<tbody>
<tr>
<td>807600</td>
<td>Minneapolis Interceptor System Rehabilitation (Parent Project)</td>
</tr>
<tr>
<td>807618</td>
<td>1-MN-341 Pipe-in-Pipe Rehab</td>
</tr>
<tr>
<td>807626</td>
<td>West Meters Odor Management Facility Improvements</td>
</tr>
<tr>
<td>807629</td>
<td>Emergency Relief Structure R04 and 1-MN-344 Tunnel Improvements</td>
</tr>
<tr>
<td>807640</td>
<td>Maintenance Access Structures</td>
</tr>
<tr>
<td>807643</td>
<td>Minneapolis East Interceptor (MEI) Diversion Structure Rehabilitation</td>
</tr>
<tr>
<td>807645</td>
<td>Mpls 1-MN-330 and 1-MN-341 Access Improvements Co-op</td>
</tr>
<tr>
<td>807647</td>
<td>Lake Street Siphon Inspection</td>
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</table>
MCES 2022 – 2027 Capital Program:

<table>
<thead>
<tr>
<th>Authorized Capital Program (ACP)</th>
<th>Capital Improvement Plan (CIP)</th>
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</thead>
<tbody>
<tr>
<td>$81,761,000</td>
<td>$0</td>
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</tbody>
</table>

Estimated Program Cash Flow 2022 - 2027:

![Cash Flow Graph]

Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.
Interceptor 1-MN-341 Pipe-in-Pipe Rehabilitation

**PROJECT TYPE:** Pipe-in-Pipe Rehabilitation

**OBJECTIVES:** Preservation

**CUSTOMER LEVEL OF SERVICE:** Maintain existing assets

**SCOPE:** Repair holes in CMP pipe and pour new geopolymer crown for CMP/invert for storm sewer.

**PROJECT NEED:**
Interceptor 1-MN-341 was built in the early 1920’s as a 102” reinforced concrete combined sanitary/storm sewer. The segment of 1-MN-341 on 38th Ave S between West River Road and 24th Ave S was converted to a PIP separated sewer in 1965 using inlaid deformed corrugated metal pipe (CMP). Recent walking inspections and smoke tests of the PIP segment identified defects that are allowing inflow of stormwater into the sanitary sewer.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
</table>

**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
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<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5,000,000</td>
<td>$7,722,000</td>
<td>$5,500,000</td>
<td>$7,722,000</td>
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</tbody>
</table>
ERS04 and 1-MN-344 Tunnel Rehabilitation

**Project Location:**
Council District # 8
City of Minneapolis
Minnehaha Park, Longfellow Gardens

**PROJECT TYPE:** Interceptor Rehabilitation
**OBJECTIVES:** Preservation
**CUSTOMER LEVEL OF SERVICE:** Comply with Permits, Minimize Impacts, Be A Good Neighbor, Communicate Information, Engage Customers and Coordinate With Others
**SCOPE:** This project involves replacing Regulator 04 with an Emergency Overflow Structure, rehabilitating the four vortex drop shafts on tunnel 1-MN-340 and slip lining tunnel 1-MN-344 with fiberglass pipe.
**PROJECT NEED:** The sandstone tunnel was constructed in 1936. The interior concrete wall of the tunnel is deteriorating and needs repair.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
</table>

**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
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<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$935,000</td>
<td>$27,039,000</td>
<td>$935,000</td>
<td>$27,039,000</td>
</tr>
</tbody>
</table>
Maintenance Access Structures

PROJECT TYPE: Small construction projects at various locations to improve odor management.

OBJECTIVES: Preservation and Quality Improvement

CUSTOMER LEVEL OF SERVICE: Be a good neighbor

SCOPE: Repair existing maintenance holes, hatches, and snow chutes that emit odors and upgrade existing carbon units to improve odor removal.

PROJECT NEED: Repairs required to maintain level of service related to odors.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>2019</td>
<td>2019 - 2022</td>
</tr>
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</table>

FINANCIAL ANALYSIS

<table>
<thead>
<tr>
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<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$200,000</td>
<td>$1,000,000</td>
<td>$400,000</td>
<td>$1,000,000</td>
</tr>
</tbody>
</table>
Minneapolis East Interceptor (MEI) Control Gate Rehabilitation

PROJECT LOCATION:
Council District # 8,14
City of Minneapolis
City of St. Paul
6 locations

PROJECT TYPE:
Control Gate Structure Rehabilitation

OBJECTIVES:
Improvement and Quality Improvement

CUSTOMER LEVEL OF SERVICE:
Comply With Permits and Meet Capacity Needs

SCOPE:
Rehabilitate MEI Sites 1, 11, 15, 18, 20, and 26 by removing existing deteriorated hydraulic gates and replacing them with stop logs; removing and replacing vault hatches; improving ventilation, ladders, and grating for worker safety; and repairing deteriorated concrete. MEI Site 1 meters and hydraulic power units will be removed and replaced. Improvements will be made to the 1-MN-302 “pipe-in-pipe” at Site 11 and the abandonment of Interceptor 8255A.

PROJECT NEED:
The facilities were built in the early 1980’s and need rehabilitation.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>2018-2020</td>
<td>2020-2022</td>
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FINANCIAL ANALYSIS

<table>
<thead>
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<th>2022 Cash Flow</th>
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<th>Total Project Cost</th>
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<tbody>
<tr>
<td>$8,000,000</td>
<td>$16,651,000</td>
<td>$13,839,000</td>
<td>$16,651,000</td>
</tr>
</tbody>
</table>
Lake Street Siphon Inspection

Project Location:
Council District # 8
City of Minneapolis
2935 West River Parkway

Inside of Lake Street Siphon

<table>
<thead>
<tr>
<th>PROJECT TYPE:</th>
<th>Inspection</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECTIVES:</td>
<td>Preservation</td>
</tr>
<tr>
<td>CUSTOMER LEVEL OF SERVICE:</td>
<td>Maintain existing assets</td>
</tr>
<tr>
<td>SCOPE:</td>
<td>This project will include temporary work such as siphon dewatering, lighting, and ventilation; permanent work such as ladder removal and replacement, stop log and hoist installation, and swing gate reinforcement; preparing and maintaining siphons to allow Third Party inspection under the Contractor’s Confined Space Entry Permit; Third Party Inspections including alignment, wall thickness, and ground penetrating radar; minor repairs as directed by the CAR.</td>
</tr>
<tr>
<td>PROJECT NEED:</td>
<td>The three 60” diameter Lake Street Siphons were last inspected in 1993. Inspections are needed to evaluate current conditions, identify future rehabilitation options, and ensure system reliability.</td>
</tr>
</tbody>
</table>

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>2019-2020</td>
<td>2020-2021</td>
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FINANCIAL ANALYSIS

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<tr>
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<th>Total Project Cost</th>
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</thead>
<tbody>
<tr>
<td>$500,000</td>
<td>$3,290,000</td>
<td>$500,000</td>
<td>$3,290,000</td>
</tr>
</tbody>
</table>
Minneapolis Joint Sewer Study

**PROJECT TYPE:** Interceptor

**OBJECTIVES:** Quality Improvement

**CUSTOMER LEVEL OF SERVICE:** Comply with Permits, Lead by Example, Meet Capacity Needs, Communicate Information, Engage Customers, Coordinate with Others, and Preserve Assets

**SCOPE:** Multi-year joint study with the city of Minneapolis to collect sanitary flow data at various locations throughout the City. Data will be used for I/I evaluation, hydraulic modeling and prioritizing future system improvements in both the local and regional collection systems.

**PROJECT NEED:** Some of the oldest regional assets are in Minneapolis with some interceptors dating back to the 1880’s and reflect a once combined storm/sanitary collection system. Growth within, and outside of Minneapolis needs to accommodate through much of the regional system within the City. This coupled with I/I impacts on system flow identified a need to evaluate long-term system capacity needs and the ability of the system to accommodate it.

**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash Flow</th>
<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>$1,300,000</td>
<td>$6,030,000</td>
<td>$2,600,000</td>
<td>$6,030,000</td>
</tr>
</tbody>
</table>
Project Location:
Council District # 7
City of Minneapolis
2nd St N

1-MN-310 – Upper Harbor Terminal

PROJECT TYPE: Cured in Place Pipe Rehabilitation

OBJECTIVES: Preservation

CUSTOMER LEVEL OF SERVICE: Maintain existing assets

SCOPE: CIPP line 5,000 feet of 1-MN-310 from 34th Avenue North to 22nd Avenue North; rehabilitate 20 maintenance holes.

PROJECT NEED: Interceptor 1-MN-310 is adjacent to the proposed Upper Harbor Terminal project in Minneapolis. Recent CCTV inspection has identified Condition 4 deterioration between 34th and 22nd Aves N. The project schedule will be coordinated to limit project impacts on future development in the area.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>2020 - 2022</td>
<td>2023 - 2025</td>
</tr>
</tbody>
</table>

FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,502,000</td>
<td>$3,150,000</td>
<td>$1,502,000</td>
<td>$3,150,000</td>
</tr>
</tbody>
</table>
Interceptor 1-MN-310 Rehabilitation Between Broadway and 8\textsuperscript{th} Ave N

Project Location:
Council District # 7
City of Minneapolis
2\textsuperscript{nd} St N

PROJECT TYPE:
Cured in Place Pipe Rehabilitation

OBJECTIVES:
Preservation

CUSTOMER LEVEL OF SERVICE:
Maintain existing assets

SCOPE:
CIPP line 2,100 feet of 1-MN-310 from 15th Avenue North to 8th Avenue North; rehabilitate seven maintenance holes; extend temporary conveyance downstream of the siphon so it can be cleaned, inspected and field measured to prepare for a future rehabilitation project that will include the siphon and the remainder of the Condition 4 interceptor downstream.

PROJECT NEED:
Interceptor 1-MN-310 was built under 2nd St N in the City of Minneapolis in 1932. Recent CCTV inspection has identified Condition 4 deterioration between 15th and 3rd Aves N as shown in gold below. The siphon under Bassett Creek near 8th Ave N has never been inspected.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>2020 - 2021</td>
<td>2021 - 2022</td>
</tr>
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</table>

FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,502,000</td>
<td>$3,150,000</td>
<td>$1,502,000</td>
<td>$3,150,000</td>
</tr>
</tbody>
</table>
Minneapolis Odor Control Study – Phase 1

**Project Location:**
Council District # 6, 7, 8
Cities of Richfield, Minneapolis, St. Paul, Eureka Township, and Golden Valley

**Program Family:** 8076
Project # 807670

**PROJECT TYPE:** Odor Management

**OBJECTIVES:** Quality Improvement

**CUSTOMER LEVEL OF SERVICE:** Minimize Impacts, Be A Good Neighbor, Communicate Information

**SCOPE:**
Model air and wastewater flows, deploy field instruments, and collect samples to identify individual odor sources and propose odor management strategies at the direction of the MCES Odor Management Team.

**PROJECT NEED:**
Consistent improvement of odor mitigation efforts is required to meet MCES level of service goals.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018-2020</td>
<td>N/A</td>
<td>N/A</td>
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**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
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</tr>
</thead>
<tbody>
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<td>$150,000</td>
<td>$1,141,000</td>
<td>$150,000</td>
<td>$1,141,000</td>
</tr>
</tbody>
</table>
MAP of MCES ODOR CONTROL UNITS
Description:
This project consists of a new lift station and a new dual force main. Ultimately, the dual 14-inch force mains will be installed from L24 to the gravity discharge location in Lake Minnetonka Regional Park. This force main will connect to the previously installed Lotus Drive piping, a 2,600-foot segment of the force main that was constructed as part of the Lotus Drive with the City of Minnetrista. The force main construction will start at the west end of Lotus Drive and end on the east side of CR 44. The remaining 2,000 feet of the Waconia force main will be upgraded with this project as well, to align with work previously completed in Phases 1 & 2 of that project.

Purpose and Justification:
The lift station is in need of rehabilitation based on an assessment of its condition and a history of its performance. The St. Bonifacius force main is approximately forty years old and near the end of its design life. The single 12-inch diameter cast iron pipe is just over three miles long. The force main parallels Highway 7 and discharges to a gravity interceptor located in Lake Minnetonka Regional Park. The new dual force main will provide reliable conveyance of wastewater, as well as capacity to serve long-term growth.

Program Location:
This project serves District 3.

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>808200</td>
<td>St Bonifacius LS/FM Rehabilitation (Parent Project)</td>
</tr>
<tr>
<td>808200</td>
<td>L24 Renovation and FM 7020 Replacement</td>
</tr>
</tbody>
</table>
MCES 2022 – 2027 Capital Program:

Authorized Capital Program (ACP) $32,304,000

Capital Improvement Plan (CIP) $0

Estimated Program Cash Flow 2022 - 2027:

<table>
<thead>
<tr>
<th>Year</th>
<th>(ACP) Authorized Capital Program</th>
<th>(CIP) Capital Improvement Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-2022</td>
<td>3,304</td>
<td>0</td>
</tr>
<tr>
<td>2022</td>
<td>10,000</td>
<td>0</td>
</tr>
<tr>
<td>2023</td>
<td>10,000</td>
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<tr>
<td>2024</td>
<td>9,000</td>
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<td>2025</td>
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<td>2026</td>
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<td>0</td>
</tr>
<tr>
<td>2027</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.
Description:
Replacement of the west 9,200' of 7508 is planned as part of Phase 2. The existing 14-inch cast iron pipe would be removed and replaced with 20-inch PVC and HDPE pipe. The existing route would be followed through Lake Waconia Park and in TH 5 right-of-way. A micro tunnel crossing of CR 92 is necessary.

Purpose and Justification:
Forcemain 7508 is over 40 years old and near the end of its planned service life. It is one of two parallel forcemains from L70. 7508 is being replaced due to age and to provide future capacity.

Program Location:
The active projects within this program are in the following Council Districts: District # 4

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>808300</td>
<td>Waconia Lift Station / Forcemain Rehabilitation (Parent Project)</td>
</tr>
<tr>
<td>808330</td>
<td>Waconia Forcemain 7508 Phase 3 West (included with 808200)</td>
</tr>
</tbody>
</table>
MCES 2022 – 2027 Capital Program:

<table>
<thead>
<tr>
<th>Authorized Capital Program (ACP)</th>
<th>Capital Improvement Plan (CIP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$5,298,000</td>
<td>$0</td>
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</table>

Estimated Program Cash Flow 2022 - 2027:

Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.
Waconia Forcemain 7508 Phase 2 & 3 Replacement

**PROJECT TYPE:** Interceptor Improvements

**OBJECTIVES:** Preservation and Expansion

**CUSTOMER LEVEL OF SERVICE:** Comply with Permits, Minimize Impacts, Be A Good Neighbor, Meet Capacity Needs, Communicate Information, Engage Customers, Coordinate with Others

**SCOPE:** Replace 9,000’ of Interceptor Forcemain 7508.

**PROJECT NEED:** Forcemain 7508 is over 40 years old and near the end of its planned service life. It is one of two parallel forcemains from L70. 7508 is being replaced due to age and to provide future capacity.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
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</thead>
<tbody>
<tr>
<td>2016</td>
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<td>2019-2020</td>
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**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
<th>Current ACP</th>
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<th>Total Project Cost</th>
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<tbody>
<tr>
<td>$1,600,000</td>
<td>$2,200,000</td>
<td>$2,100,000</td>
<td>$2,200,000</td>
</tr>
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</table>
Program 8084
Bloomington System Improvements

Description:
Construct a 3.8 Million Gallon Per Day (MGD) lift station, 1600 feet of 18 to 42-inch gravity sewer, 635 feet of 16-inch force main, and decommission an existing lift station

Purpose and Justification:
Projected wastewater flows in the existing L55 sewershed following development in the I-494 corridor by the cities of Bloomington and Edina are expected exceed the capacity of existing L55.

Program Location:
The active projects within this program are in the following Council Districts: 5

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>808400</td>
<td>Bloomington System Improvements Lift Station L55 (Parent Project)</td>
</tr>
</tbody>
</table>

MCES 2022 – 2027 Capital Program:

<table>
<thead>
<tr>
<th>Authorized Capital Program (ACP)</th>
<th>Capital Improvement Plan (CIP)</th>
</tr>
</thead>
</table>
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: 8084  
Project # 808400

Project Location:  
Council District # 5  
City of Bloomington  
SE Quadrant of I-494 and Hwy 100

Lift Station L55 Replacement

3D design rendering of future L55 lift station

PROJECT TYPE: Lift Station Replacement

OBJECTIVES: Preservation, Expansion and Quality Improvement

CUSTOMER LEVEL OF SERVICE: Meet Capacity Needs

SCOPE: Construct a 3.8 Million Gallon Per Day (MGD) lift station, 1600 feet of 18 to 42-inch gravity sewer, 635 feet of 16-inch force main, and decommission an existing lift station

PROJECT NEED: Projected wastewater flows in the existing L55 sewershed following development in the I-494 corridor by the cities of Bloomington and Edina are expected exceed the capacity of existing L55.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
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FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
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<th>Total Project Cost</th>
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</thead>
<tbody>
<tr>
<td>$50,000</td>
<td>$17,105,000</td>
<td>$50,000</td>
<td>$17,105,000</td>
</tr>
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</table>
Description:
The interceptor systems in Blaine, Brooklyn Park, Champlin, Circle Pines, Coon Rapids, Forest Lake Fridley, Hugo, Lexington, Lino Lakes, Maple Grove, Mounds View, Spring Lake Park, and other north area communities need rehabilitation and/or replacement. The project will rehabilitate existing interceptor facilities, including gravity sewers, forcemains, lift stations and meter stations.

Purpose and Justification:
Inspections of the interceptors that serve the North Metro Area have revealed corrosion damage. The corrosion is extensive and has resulted in significant damage to the interior concrete surfaces of the interceptors and maintenance structures.

Program Location:
The active projects within this program are in the following Council Districts: District # 1 & 9

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
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<tbody>
<tr>
<td>808600</td>
<td>North Area Interceptor (NAI) Rehabilitation (Parent Project)</td>
</tr>
<tr>
<td>808622</td>
<td>Elm Creek – Maple Grove Interceptor 900416 Renewal</td>
</tr>
<tr>
<td>808685</td>
<td>Coon Rapids: 4-NS-525 Phase I</td>
</tr>
<tr>
<td>808686</td>
<td>Interceptor 7034 Extension - Anoka</td>
</tr>
<tr>
<td>8086XX</td>
<td>Coon Rapids: 4-NS-525 Phase II</td>
</tr>
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</table>
MCES 2022 – 2027 Capital Program:

Authorized Capital Program (ACP) $22,008,000

Capital Improvement Plan (CIP) $300,000

Estimated Program Cash Flow 2022 - 2027:

<table>
<thead>
<tr>
<th>Year</th>
<th>Pre-2021 Actuals + 2021 Estimated Expenses</th>
<th>(ACP) Authorized Capital Program</th>
<th>(CIP) Capital Improvement Program</th>
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<td>2023</td>
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<td>2024</td>
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<tr>
<td>2027</td>
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<td></td>
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</tbody>
</table>

Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.
Coon Rapids Interceptor 4-NS-525 Rehabilitation Phase 2

PROJECT TYPE: Interceptor Rehabilitation

OBJECTIVES: Preservation

CUSTOMER LEVEL OF SERVICE: Preserve Assets, Minimize Impacts, Engage Customers, and Coordinate with Others

SCOPE: This project is the second of a two-phase interceptor rehabilitation project. This second phase will renew approximately 6,100 LF of 48-inch RCP and 21 MHs with Cured-In-Place Pipe technology. The project will require 8 temporary construction easements, permits from MNDOT for work in highway right of way, City road and park permits, and will require coordination with Centerpoint Energy and Xcel Energy.

A cooperative agreement with the City of Coon Rapids is desired by the City for the purpose of rehabilitating trunk sewers that connect directly to the interceptor.

PROJECT NEED: 48-inch RCP is in need of immediate planning for rehabilitation to extend useful life and provide reliability. Risk of failure includes a sinkhole near the foundation of an apartment complex and a 6.0 MGD spill to a tributary of Coon Creek that eventually discharges directly to the Mississippi River.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020-2022</td>
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<td>2024-2025</td>
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FINANCIAL ANALYSIS

<table>
<thead>
<tr>
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<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
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<td>$0</td>
<td>$0</td>
<td>$0</td>
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<tr>
<td></td>
<td></td>
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<td>148</td>
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</table>
Interceptor 900416 Bass Lake Road

Program Family: 8086  
Project # 808606

Project Location:  
Council District # 1  
City of Maple Grove

**PROJECT TYPE:** Interceptor Rehabilitation

**OBJECTIVES:** Preservation

**CUSTOMER LEVEL OF SERVICE:** Comply with Permits and Preserve Assets

**SCOPE:** The section of Interceptor 900416 has been identified as in need of immediate repair. The section will be slip-lined to address the current pipe condition.

**PROJECT NEED:** To maintain the integrity of the system and to prevent potential damage to the environment due to pipe failure, sections of the interceptor must be repaired or replaced.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>2021</td>
<td>2022-2023</td>
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</table>

**FINANCIAL ANALYSIS**

<table>
<thead>
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<th>Total Project Cost</th>
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</thead>
<tbody>
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<td>$1,980,000</td>
<td>$1,980,000</td>
<td>$1,980,000</td>
</tr>
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</table>
Maple Grove Interceptor Replacement

Program Family: 8086  
Project # 808622

Project Location:  
Council District # 1  
City of Maple Grove

PROJECT TYPE: Interceptor Rehabilitation

OBJECTIVES: Preservation

CUSTOMER LEVEL OF SERVICE: Comply with Permits and Preserve Assets

SCOPE: Areas of Interceptor 900416 have been identified with varies degrees of deflection. The interceptor will be evaluated to determine which sections require rehabilitation or replacement.

PROJECT NEED: To maintain the integrity of the system and to prevent potential damage to the environment due to pipe failure, sections of the interceptor must be repaired or replaced.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
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<tbody>
<tr>
<td>2019-2021</td>
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<td>2023-2025</td>
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FINANCIAL ANALYSIS

<table>
<thead>
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<tr>
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<td>$3,800,000</td>
<td>$4,031,000</td>
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</table>
Coon Rapids Interceptor 4-NS-525 Rehabilitation Phase 1

**Project Location:**
Council District # 9
City of Coon Rapids
Interceptor 4-NS-525

**Program Family:** 8086
Project # 808685

**Program Family: 8086**
**Project # 808685**

**Project Location:**
Council District # 9
City of Coon Rapids
Interceptor 4-NS-525

**PROJECT TYPE:**
Interceptor Rehabilitation

**OBJECTIVES:**
Preservation

**CUSTOMER LEVEL OF SERVICE:**
Preserve Assets, Minimize Impacts, Engage Customers, and Coordinate with Others

**SCOPE:**
This project is the first of a two-phase interceptor rehabilitation project. This first phase will renew approximately 7,900 LF of 48-inch RCP and 19 MHs with Cured-In-Place Pipe technology. The project will require 8 temporary construction easements, permits from BNSF and MNDOT for work in highway and railroad right of ways, City road and park permits, and will require coordination with CenterPoint Energy and Xcel Energy.

A cooperative agreement with the City of Coon Rapids is desired by the City for the purpose of rehabilitating trunk sewers that connect directly to the interceptor.

**PROJECT NEED:**
3,600 linear feet of 48-inch RCP is in need of immediate rehabilitation to extend useful life and provide reliability. Risk of failure includes a sinkhole forming that could engulf a mobile home and a 6.0 MGD spill to nearby Coon Creek that discharges directly to the Mississippi River.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>2020-2021</td>
<td>2022-2023</td>
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**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
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<th>Total Project Cost</th>
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<tbody>
<tr>
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<td>$10,761,000</td>
<td>$10,302,000</td>
<td>$10,761,000</td>
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</table>
Program 8088
St. Paul Interceptor System Rehabilitation

Description:
The interceptors located in Inver Grove Heights, Maplewood, Roseville, Shoreview, St. Paul, and Vadnais Heights need rehabilitation and/or replacement. The project will rehabilitate existing interceptor facilities to ensure reliable service.

Purpose and Justification:
The St. Paul Interceptor System Rehabilitation Program was developed to address areas of severe corrosion in the interceptor sewer system in St. Paul and surrounding suburbs. Internal corrosion of concrete sewer pipes and structures creates structural weakness that creates a risk for collapse and potential loss of service or wastewater spills. Projects have been identified to rehabilitate the existing sewers using trenchless means where possible, such as cured-in-place pipe or slip lining.

Program Location:
The active projects within this program are in the following Council Districts: District # 10, 11, 13 & 14

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>808800</td>
<td>St Paul Interceptor System (SPIS) Rehabilitation (Parent Project)</td>
</tr>
<tr>
<td>808823</td>
<td>Interceptors 1-SP-200 and 1-SP-201 Battle Creek Rehabilitation</td>
</tr>
<tr>
<td>808861</td>
<td>Grass Lake Interceptor Rehabilitation</td>
</tr>
<tr>
<td>808862</td>
<td>Long Lake Interceptor Rehabilitation</td>
</tr>
<tr>
<td>808881</td>
<td>R02 Site Needs Evaluation</td>
</tr>
<tr>
<td>808882</td>
<td>1-MS-100 Rehabilitation Feasibility Study</td>
</tr>
<tr>
<td>808883</td>
<td>Review Siphon Preliminary Investigation</td>
</tr>
<tr>
<td>808884</td>
<td>St Paul Interceptor System Study</td>
</tr>
<tr>
<td>808885</td>
<td>1-MS-100 Rehabilitation - Phase 1</td>
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</table>
MCES 2022 – 2027 Capital Program:

<table>
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<th>Authorized Capital Program (ACP)</th>
<th>Capital Improvement Plan (CIP)</th>
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<tbody>
<tr>
<td>$27,969,000</td>
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Estimated Program Cash Flow 2022 - 2027:

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<thead>
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<th>Year</th>
<th>Pre-2022 Actuals + 2021 Estimated Expenses</th>
<th>(ACP) Authorized Capital Program</th>
<th>(CIP) Capital Improvement Program</th>
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<tbody>
<tr>
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<tr>
<td>2022</td>
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<td>2023</td>
<td>5,904</td>
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<td>2024</td>
<td>2,850</td>
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<td>2027</td>
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</table>

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

**Project Location:**
- Council District # 13
- City St. Paul
- Battle Creek Regional Park

**Program Family:** 8088
**Project # 808823**

**Project Type:** Interceptor Rehabilitation

**Objectives:**
- Preservation
- Comply with Permits, Minimize Impacts, Be A Good Neighbor, Meet Capacity Needs, Communicate Information, Engage Customers, Coordinate With Others and Preserve Assets

**Customer Level of Service:**

**Scope:**
Cured-in-place pipe lining of approximately 5,000 feet of 30” and 33” concrete gravity interceptor sewer, constructed in 1959. The work includes two adjacent sites at Battle Creek Regional Park in St. Paul. The program also includes the addition of a channel grinder in the bar screen building upstream of the Battle Creek Siphon, and some structure and pipe replacements.

**Project Need:**
This is one in a program of rehabilitation projects in St. Paul, for which a Facility Plan was approved by the MN Pollution Control Agency in 2016. The rehabilitation program is driven by condition assessment, and much of the pipe and structures included in this project are rated Condition 4 and 5 per National Association of Sewer Service Companies (NASSCO) condition assessment standards, in need of immediate attention.

**Project Schedule**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015-2016</td>
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**Financial Analysis**

<table>
<thead>
<tr>
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<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
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<td>$3,730,000</td>
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<td>$3,730,000</td>
<td>$13,152,000</td>
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</table>
Project Location:
Council District # 10
City of Shoreview

Grass Lake Interceptor Rehabilitation

PROJECT TYPE: Interceptor

OBJECTIVES: Preservation

CUSTOMER LEVEL OF SERVICE: Comply with Permits, Minimize Impacts, Be A Good Neighbor, Communicate Information, Engage Customers and Coordinate with Others

SCOPE: Re-align MH1 to MH15 to improve access and reduce I&I along Grass Lake

PROJECT NEED: To relocate the interceptor to provide year around access and prevent flooded structures, prevent I&I as lake levels continue to rise.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
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<td>2023-2024</td>
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FINANCIAL ANALYSIS

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<th>Total Project Cost</th>
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<td>$478,000</td>
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<td>$5,178,000</td>
<td>$5,765,000</td>
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</table>
Long Lake Interceptor Rehabilitation

**Project Location:**
Council District # 10
City of New Brighton

**PROJECT TYPE:** Interceptor

**OBJECTIVES:** Preservation

**CUSTOMER LEVEL OF SERVICE:** Comply with Permits, Minimize Impacts, Be A Good Neighbor, Communicate Information, Engage Customers and Coordinate with Others

**SCOPE:** CIPP repair includes interceptor 2-NB-100 from MH 40 to MH 43

**PROJECT NEED:** The segment of the Interceptor 2-NB-100 is showing signs and areas of heavy corrosion. The deterioration in the interceptor and at the maintenance structure at several locations is severe and needs repair.

### PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>2020-2022</td>
<td>2022-2023</td>
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### FINANCIAL ANALYSIS

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<tr>
<th>2022 Cash Flow</th>
<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
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<tbody>
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<td>$1,000,000</td>
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<td>$1,704,000</td>
<td>$1,871,000</td>
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</table>
Third and Commercial Site Needs Evaluation

**PROJECT TYPE:** Interceptor

**OBJECTIVES:** Preservation and Quality Improvement

**CUSTOMER LEVEL OF SERVICE:** Comply with Permits, Minimize Impacts, Lead by Example, Be A Good Neighbor, Meet Capacity Needs, Communicate Information, Engage Customers, Coordinate with Others and Preserve Assets

**SCOPE:** The site needs evaluation to examine current and future needs at the Third and Commercial site to ensure that critical assets can be operated and maintained for the region into the future.

**PROJECT NEED:** MCES maintains critical infrastructure at its Third and Commercial site, including the largest sewer tunnel in the Twin Cities metro area. MCES needs to reserve the space needed to maintain operations and to allow access for future rehabilitation of Interceptor Sewer 1-MS-100, the emergency relief structure and the septage recovery facility.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
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</thead>
<tbody>
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**FINANCIAL ANALYSIS**

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<td>$1,900,000</td>
<td>$2,061,000</td>
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</table>
Program Family: 8088
Project # 808882

Project Location:
Council District 13
City of St. Paul

1-MS-100 Rehabilitation Feasibility Study

Construction Photos from 1936

PROJECT TYPE: Interceptor

OBJECTIVES: Preservation

CUSTOMER LEVEL OF SERVICE: Comply with Permits, Minimize Impacts, Be A Good Neighbor, Meet Capacity Needs, Communicate Information, Engage Customers, Coordinate With Others and Preserve Assets

SCOPE: A facility plan will be created as a first phase, to evaluate alternatives for rehabilitating portions of 1-MS-100 with corrosion and other structural concerns.

PROJECT NEED: Past inspections have indicated corrosion and other structural concerns with this large and deep sewer tunnel constructed in the 1930’s. Due to the size and difficulty of this work, and expected costs of construction, it will require extensive planning and multiple stages of work in advance of future construction.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021-2026</td>
<td>2028-2031</td>
<td>2032-2036</td>
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FINANCIAL ANALYSIS

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<thead>
<tr>
<th>2022 Cash Flow</th>
<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$250,000</td>
<td>$767,000</td>
<td>$500,000</td>
<td>$767,000</td>
</tr>
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</table>
### Riverview Siphon Preliminary Investigation

**Program Family:** 8088  
**Project #:** 808883

**Project Location:**  
 Council District 13  
 City of St. Paul

<table>
<thead>
<tr>
<th>Riverview Siphon Headhouse Exterior</th>
<th>Riverview Headhouse Interior</th>
</tr>
</thead>
</table>

**PROJECT TYPE:** Interceptor  
**OBJECTIVES:** Preservation and Quality Improvements  
**CUSTOMER LEVEL OF SERVICE:** Meet Capacity Needs, Coordinate with Others, Preserve Assets

**SCOPE:**  
A calibrated hydraulic model was created to estimate capacity of the Riverview Siphon system, and an analysis of current and future wastewater flows was conducted in collaboration with the City of St. Paul. Initial modeling found unexpectedly low capacity in the siphon, resulting in a cleaning and televising project. Additional modeling and system analysis will determine if capacity and reliability are adequate to meet current and future needs.

**PROJECT NEED:**  
Growth in the West Side Flats area of St. Paul, combined with evidence of past wastewater spills at the siphon headhouse and concerns raised by the City of St. Paul about the ability of the siphon to serve rapid redevelopment in the area, have driven an analysis to better understand siphon capacity and improvement needs.

### PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
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</thead>
<tbody>
<tr>
<td>2020-2021</td>
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<td>2022-2023</td>
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### FINANCIAL ANALYSIS

<table>
<thead>
<tr>
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<tbody>
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<td>$250,000</td>
<td>$2,250,000</td>
<td>$2,250,000</td>
<td>$2,381,000</td>
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</table>
Program 8090
Interceptor Rehabilitation Program

Description:
This Program includes miscellaneous projects to rehabilitate failing facilities, address Inflow and Infiltration (I/I) sources and addressing general needs of the interceptor system not programmed into a region or facility specific program. This Program also includes additional condition assessment work to complement the internal inspections work completed by operations, office space planning and design to accommodate all the staff assigned to the Regional Maintenance Facility, and property transfer between Council and municipalities for public benefit.

Purpose and Justification:
Periodic condition assessments for interceptor facilities have revealed facilities requiring immediate projects. In addition, system-wide administrative and management work is required to efficiently operate the interceptor System.

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

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
</tr>
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<tbody>
<tr>
<td>809099</td>
<td>Funds for Future Interceptor Rehabilitation Projects (Parent Project)</td>
</tr>
<tr>
<td>809083</td>
<td>I/I Mitigation</td>
</tr>
<tr>
<td>809089</td>
<td>Interceptor Inspection</td>
</tr>
<tr>
<td>809093</td>
<td>South Saint Paul WWTP Reconveyance</td>
</tr>
</tbody>
</table>
809094 Oak Park Heights Interceptor 9101 Replacement
809095 Regional Maintenance Facility (RMF) Improvements
819010 System Wide River Crossing Inspection
819011 Interceptor Chemical Odor Control
819012 Blue Lake Area Interceptor Odor Control Improvements
819013 Technical Support of Interceptors
819017 7031/9003 Siphon Outlet Structure Improvements
819018 Plymouth Forcemain Relocation at Douglas Drive
819019 Vactor Waste Facility Improvements
819020 East Isles Forcemain Improvements – Contract H
819025 TH 13 – MNDOT Coordination

MCES 2022 – 2027 Capital Program:

<table>
<thead>
<tr>
<th>Authorized Capital Program (ACP)</th>
<th>Capital Improvement Plan (CIP)</th>
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<tbody>
<tr>
<td>$80,298,000</td>
<td>$69,000,000</td>
</tr>
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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.
Project Location:
Project location can vary across 7 county region

I / I Mitigation

Image of a sewer overflow

PROJECT TYPE: Interceptor rehabilitation
OBJECTIVES: Preservation and Quality Improvement
CUSTOMER LEVEL OF SERVICE: Lead by Example, Minimize Impacts, Meet Capacity Needs and Comply with Permits
SCOPE: Working with Operations when items are identified, such as leaking maintenance hole joints, adjustment rings and broken castings, to repair these sources of inflow and infiltration.

PROJECT NEED: Elimination of inflow and infiltration sources is important to MCES in order to maintain system capacity, prevent backups of wastewater into private homes and businesses, prevent the entrance of wastewater into the environment during weather events.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
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<tbody>
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FINANCIAL ANALYSIS

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<tr>
<td>$100,000</td>
<td>$805,000</td>
<td>$600,000</td>
<td>$1,805,000</td>
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</table>
Special Interceptor Inspections

Program Family: 8090
Project # 809089

Project Location:
Location: Region Wide

PROJECT TYPE: Interceptor Planning

OBJECTIVES: Preservation

CUSTOMER LEVEL OF SERVICE: Preserve Assets, Minimize Impacts, Lead by Example, Be A Good Neighbor, and Coordinate with Others

SCOPE: This project provides support for special inspections of the interceptor system that cannot otherwise feasibly be completed by Council workers. In 2021 approximately 3 miles of interceptor 1-SP-224 in St. Paul and 1-VH-423 in Vadnais Heights will be cleaned and inspected.

PROJECT NEED: MCES maintains critical infrastructure throughout the greater metropolitan area, and not all of it is accessible by using the standard equipment that Interceptor Operations owns. In 2021 approximately 14,000 linear feet of interceptor gravity sewers in the cities of St. Paul and Vadnais Heights will need internal closed-circuit-television (CCTV) inspections. Specialized equipment, permits and coordination with the communities is needed to complete the work.

PROJECT SCHEDULE

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<thead>
<tr>
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FINANCIAL ANALYSIS

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<td>$100,000</td>
<td>$2,000,000</td>
<td>$15,500,000</td>
<td>$32,000,000</td>
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</table>
South Saint Paul WWTP Reconveyance

**Project Location:**
Council District # 13
City of South St. Paul
Metro WWTP

**Program Family:** 8090
Project # 809093

**Project Type:** Interceptor System

**Objectives:** Preservation and Quality Improvements

**Customer Level of Service:** Be A Good Neighbor, Engage Customers, and Coordinate with Others

**Scope:**
This project completes some needed work required in anticipation of reconveying excess property back to the City of South St. Paul. Work includes removing unneeded structures and materials from site and constructing reliability improvements to electrical systems, biofilter and mechanical systems. This project also includes installation of a grinder at L74.

**Project Need:**
The Council approved reconveyance of a portion of the site to the City. MCES is obligated to clear the reconveyed land of pipes and structures in accordance with the draft acquisition agreement. In addition, to increase system reliability, a new portable generator connection and new portable pump connection will be constructed. This project will also install a grinder at L74.

**Project Schedule**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
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</tr>
</thead>
<tbody>
<tr>
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**Financial Analysis**

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<td>$330,000</td>
<td>$3,652,000</td>
<td>$330,000</td>
<td>$3,652,000</td>
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</table>
**Oak Park Heights Interceptor 9101 Replacement**

**Project Location:**
- Council District # 12
- City of Oak Park Heights
- City of Bayport

**PROGRAM TYPE:** Interceptor Rehabilitation

**OBJECTIVES:**
- Preservation
- Minimize impacts, Be a Good Neighbor, Preserve Assets, and Be Fair and Transparent With Fees

**CUSTOMER LEVEL OF SERVICE:**
- Minimize impacts, Be a Good Neighbor, Preserve Assets, and Be Fair and Transparent With Fees

**SCOPE:**
- The project replaces approximately 305 feet of 21-inch Polyvinyl Chloride (PVC) gravity sewer piping and associated manholes. Meter M609 is rehabilitated which involves replacing the flume, hatch, hardware, rehabilitate the Programable Logic Controller (PLC) and upgrading the electrical service. Temporary conveyance will be provided for the interceptor and for a crossing municipal sewer.

**PROJECT NEED:**
- Routine manhole inspection found sags in the 21” PVC interceptor located between Manhole (MH) G4 and MH G5. The sags have caused pooling of flow and sediment deposition. In addition, MH G13, the discharge manhole from lift station L68 was found to be extremely corroded with reinforcement wire visible throughout. Rehabilitating meter M609 during the temporary conveyance of the interceptor will save future costs.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>2019-2020</td>
<td>2021-2022</td>
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</table>

**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
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<th>Total Project Cost</th>
</tr>
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<tbody>
<tr>
<td>$200,000</td>
<td>$1,839,000</td>
<td>$200,000</td>
<td>$2,057,225</td>
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</table>
# Regional Maintenance Facility (RMF) Expansion

**Program Family:** 8090  
**Project #:** 809095

**Project Location:**  
**Council District # 15**  
**City of Eagan**  
**3565 Kennebec Dr.**

## Project Information

**Project Location:** Council District # 15  
**City of Eagan**  
**3565 Kennebec Dr.**

### Project Information Table

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Building Improvements</th>
</tr>
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<tbody>
<tr>
<td><strong>OBJECTIVES:</strong></td>
<td>Expansion</td>
</tr>
<tr>
<td><strong>CUSTOMER LEVEL OF SERVICE:</strong></td>
<td>Good value to the region and preservation of assets</td>
</tr>
<tr>
<td><strong>SCOPE:</strong></td>
<td>This project includes remodeling RMF to address the inadequate women’s locker room and bathrooms and expansion to include the Air Quality lab and accommodate current staffing along with planned growth. The building improvements will address ADA deficiencies. Finally, a large meeting room is being planned that could share space with other amenities for consistent use and serve as an emergency operations center.</td>
</tr>
<tr>
<td><strong>PROJECT NEED:</strong></td>
<td>RMF was constructed in 1986 with improvements made in 2012 for expansion to accommodate additional staff. Currently, several work areas require improvements, including Dispatch, Computer Room, and women’s facilities and improvements to comply with the ADA. Furthermore, MCES is no longer going to be leasing space at Metro 94 for the Air Quality department and RMF has been identified as a preferred location.</td>
</tr>
</tbody>
</table>

## Project Schedule

<table>
<thead>
<tr>
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<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
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## Financial Analysis

<table>
<thead>
<tr>
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<tr>
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<td>$16,992,100</td>
<td>$15,500,000</td>
<td>$17,124,787</td>
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</table>
**Project Name:** Interceptor Chemical Odor Control

**Program Family:** 8090  
**Project #** 819011

**Project Location:**  
Council District # NA  
City - NA  
Location – Multiple Lift Stations and Meter Stations

---

**PROJECT TYPE:** Interceptor/Odor Control

**OBJECTIVES:** Preservation and Quality Improvement

**CUSTOMER LEVEL OF SERVICE:** Preserve Assets, Be a Good Neighbor

**SCOPE:** Work will be performed under a design, build, operate contract where MCES will own all equipment (except for hydrogen sulfide monitoring equipment) and a vendor will operate, maintain, monitor, report, and supply chemical. This includes installing chemical deliver equipment and HDPE tanks. The work includes operation of the systems for a 10-year term with two possible 5-year extensions, bringing the total length of the services contract up to 20 years.

**PROJECT NEED:** MCES currently has 15 operational chemical dosing odor control sites, including meters and lift stations. These sites are critical to reducing odor releases impacting communities and reducing corrosion within the interceptor system.

---

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019-2020</td>
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<td>2022-2023</td>
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**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
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<tbody>
<tr>
<td>$4,300,000</td>
<td>$7,063,000</td>
<td>$7,300,000</td>
<td>$7,407,496</td>
</tr>
</tbody>
</table>
**Program Family:** 8090  
**Project #** 819015

**Project Location:**  
Council District # 6  
City of Minneapolis  
Humboldt Ave

---

**Hopkins System Improvements, East Isles Forcemain – Contract G**

**PROJECT TYPE:** Interceptor Rehabilitation  
**OBJECTIVES:** Preservation  
**CUSTOMER LEVEL OF SERVICE:** Conveys wastewater safely with minimal backups and spills  
**SCOPE:** The project includes replacement of 1500 lineal feet of 30” concrete forcemain with two 24” diameter forcemains on Humboldt Ave between the Midtown Greenway and 27th Street. Cooperative construction with the City of Minneapolis to complete City improvements in the area.

**PROJECT NEED:** Without a redundant forcemain, inspecting the existing 24” concrete forcemain is difficult and there is significant potential for corrosion given the pipe material and age. An upstream section of the forcemain collapsed in 2000. The vortex drop structure between the forcemain and interceptor 1-MN-330 at 27th Street and Humboldt Ave. S. is severely corroded is at risk of failure.

---

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>2019-2020</td>
<td>2021-2023</td>
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**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
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<tbody>
<tr>
<td>$4,000,000</td>
<td>$5,400,000</td>
<td>$5,300,000</td>
<td>$5,400,000</td>
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</tbody>
</table>
Large Diameter Interceptor Cleaning – Phase 2

PROJECT TYPE: Large Diameter Interceptor Cleaning

OBJECTIVES: Preservation

CUSTOMER LEVEL OF SERVICE: Maintain Existing Services

SCOPE: Clean seven separate segments of Interceptors 1-MN-300, 1-MN-310, 1-MN-320, 1-SP-250, and 1-MS-100.

PROJECT NEED: Interceptors need to be cleaned to restore original design capacity and minimize the potential for service interruptions.

PROJECT SCHEDULE

Planning 2020-2021  Design 2020-2021  Construction 2021-2025

FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash Flow</th>
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<td>$13,010,000</td>
<td>$11,100,000</td>
<td>$13,010,000</td>
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</table>
7031/9003 Siphon Outlet Structure Improvements (MH-1 & South Junction Structure)

Program Family: 8090
Project # 819017

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

PROJECT TYPE: Interceptor Rehabilitation
OBJECTIVES: Preservation
CUSTOMER LEVEL OF SERVICE: High H2S levels will continue to cause corrosion in the L13/Siphon Outlet Structures that could lead to a catastrophic failure and a disruption of service to our customers and does not meet the Council’s Level of Service goals

SCOPE: Rehabilitation or replacement of maintenance structures and the South Junction Structure to reduce the potential for structure failure

PROJECT NEED: The project is needed for operator safety, to preserve assets, and to maintain system flexibility

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021-2022</td>
<td>2022</td>
<td>2022-2024</td>
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FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
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<tbody>
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<td>$500,000</td>
<td>$2,100,000</td>
<td>$2,000,000</td>
<td>$2,100,000</td>
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</tbody>
</table>

172
**Project Location:**
Council District # 6
City of Golden Valley
Location
Hwy 55 and Douglas Dr.

**Program Family:** 8090
**Project #** 819018

**Plymouth Forcemain Relocation at Douglas Drive**

**PROJECT TYPE:**
Interceptor Relocation

**OBJECTIVES:**
Quality Improvements

**CUSTOMER LEVEL OF SERVICE:**
Be a Good Neighbor, and Coordinate with Others

**SCOPE:**
This project realigns the existing parallel 30-inch and 42-inch forcemains to address a conflict due to proposed pedestrian improvements in the project area.

**PROJECT NEED:**
The City of Golden Valley is working to improve pedestrian access in the project area, and the ability for pedestrians to cross Highway 55. The proposed pedestrian tunnel requires that the existing forcemain be lowered.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
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**FINANCIAL ANALYSIS**

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<th>Total Project Cost</th>
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<tr>
<td>$50,000</td>
<td>$1,250,000</td>
<td>$1,250,000</td>
<td>$1,250,000</td>
</tr>
</tbody>
</table>
Hopkins System Improvements, East Isles Forcemain – Contract H

**Project Location:**
Council District # 6
City of Minneapolis
The Mall Park

**PROJECT TYPE:** Interceptor Rehabilitation

**OBJECTIVES:** Preservation

**CUSTOMER LEVEL OF SERVICE:** Conveys wastewater safely with minimal backups and spills

**SCOPE:**
The project includes replacement of 1000 lineal feet of 30” concrete forcemain with two 24” diameter forcemains within The Mall Park between Bde Maka Ska Parkway and Humboldt Ave. Cooperative construction with the Minneapolis Park and Recreation Board to construct park master plan improvements in the area.

**PROJECT NEED:**
Without a redundant forcemain, inspecting the existing 24” concrete forcemain is difficult and there is significant potential for corrosion given the pipe material and age. An upstream section of the forcemain collapsed in 2000.

**PROJECT SCHEDULE**

- **Planning**
  - 2018

- **Design**
  - 2021-2022

- **Construction**
  - 2023

**FINANCIAL ANALYSIS**

<table>
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</table>
**TH 13 – MnDOT Coordination**

**Project Location:**
Council District # 4  
City of Savage  
Location  
Highway 13

**Program Family:** 8090  
**Project #** 819025

**Project Type:** Interceptor Rehabilitation  
**Objectives:** Preservation and Quality Improvements  
**Customer Level of Service:** Be A Good Neighbor, and Coordinate with Others

**Scope:**
This project realigns the existing forcemain route to move it from under MnDOT’s proposed entrance ramps and frontage roads.

**Project Need:**
MnDOT’s TH 13 project includes constructing an overpass with entrance and exit ramps to improve traffic safety at the intersections of Highway 13 and Dakota Ave and Highway 13 and Yosemite Ave. The existing forcemains need to be relocated to ensure continued maintenance without disrupting the proposed Highway improvements. The work will be completed as a part of the MnDOT Construction Contract.

**Project Schedule**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>2021-2022</td>
<td>2022-2025</td>
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**Financial Analysis**

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<td>$100,000</td>
<td>$3,600,000</td>
<td>$3,600,000</td>
<td>$3,600,000</td>
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</tbody>
</table>
Program 8092
Minneapolis Interceptor System Rehabilitation – Phase 2

Description:
This program includes facility planning and new projects to address aging infrastructure within or contributary to the City of Minneapolis. Potential projects include:
- Interceptor 1-MN-303 Pipe-in-Pipe Rehabilitation
- Interceptor 1-MN-320 Improvements

Purpose and Justification:
Interceptor systems in Minneapolis were constructed as early as 1891 and included tunnels constructed in the 1930’s to intercept the old combined sewers. Additional planning work is required to both identify projects needed to address capacity and to repair existing facilities. These projects will be prioritized into the future CIP.

Program Location:
The active projects within this program are in the following Council Districts: District # 2, 6, 7 & 8

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
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<td>809200</td>
<td>Minneapolis Interceptor Rehabilitation Phase 2 (Parent Project) – Facility Planning</td>
</tr>
<tr>
<td>809205</td>
<td>Interceptor 1-MN-320 Improvements</td>
</tr>
<tr>
<td>809209</td>
<td>Basset Creek Tunnel Improvements</td>
</tr>
<tr>
<td>809211</td>
<td>1-MN-303 Pipe-in-Pipe Rehabilitation</td>
</tr>
</tbody>
</table>
MCES 2022 – 2027 Capital Program:

**Authorized Capital Program (ACP)**  
$25,757,000  

**Capital Improvement Plan (CIP)**  
$2,200,000

**Estimated Program Cash Flow 2022 - 2027:**

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<th>Pre-2021 Actuals + 2021 Estimated Expenses</th>
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<th>(CIP) Capital Improvement Program</th>
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</tr>
<tr>
<td>2023</td>
<td>10,600</td>
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<tr>
<td>2024</td>
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<td>2025</td>
<td>2,000</td>
<td></td>
<td></td>
</tr>
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<td>2026</td>
<td>200</td>
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<tr>
<td>2027</td>
<td>2,000</td>
<td></td>
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</tr>
</tbody>
</table>

Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.
1-MN-320 Improvement Study

Program Family: 8092
Project # 809205

Project Location: 1-MN-320
Council District # 6
City: Minneapolis
Location Currie Avenue

PROJECT TYPE: Study

OBJECTIVES: Preservation

CUSTOMER LEVEL OF SERVICE: Provide conveyance and treatment capacity consistent with regional and local plans

SCOPE: Evaluate condition and identify conceptual improvements

PROJECT NEED: Prevent future emergency repairs

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>2022 - 2023</td>
<td>2023 - 2025</td>
</tr>
</tbody>
</table>

FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$1,700,000</td>
<td>$15,558,000</td>
<td>$15,300,000</td>
<td>$15,558,000</td>
</tr>
</tbody>
</table>
1-MN-320 Bassett Creek Tunnel

- **Project Location:** 1-MN-320
- **Council District #6**
- **City:** Minneapolis
- **Location:** Van White Blvd

**Program Family:** 8092
**Project #** 809209

**Project Location Map**

**Project Location:** 1-MN-320

**Council District # 6**

**City:** Minneapolis

**Location:** Van White Blvd

**Project Location Map**

**PROJECT TYPE:** Interceptor Rehabilitation

**OBJECTIVES:** Preservation

**CUSTOMER LEVEL OF SERVICE:** Provide conveyance and treatment capacity consistent with regional and local plans

**SCOPE:** Rehabilitate the interceptor section under Highway 55

**PROJECT NEED:** Prevent future emergency repairs

**PROJECT SCHEDULE**

- **Planning**
  - 2020
- **Design**
  - 2021
- **Construction**
  - 2021-2022

**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash Flow</th>
<th>ACP</th>
<th>Cash Flow - ACP (Years 2022-2027)</th>
<th>Total Project Cost</th>
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<td>$2,200,000</td>
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</table>
1-MN-303 Pipe-in-Pipe Rehabilitation

**Program Family:** 8092  
**Project #:** 819211

**Project Location:**  
Council District #8  
Cities of Minneapolis  
Columbia Park and Mashall Terrace Neighborhoods

<table>
<thead>
<tr>
<th>PROJECT TYPE:</th>
<th>Pipe-in-Pipe Rehabilitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECTIVES:</td>
<td>Preservation</td>
</tr>
<tr>
<td>CUSTOMER LEVEL OF SERVICE:</td>
<td>Maintain Existing Assets</td>
</tr>
<tr>
<td>SCOPE:</td>
<td>Repair Pipe-in-Pipe using removal and replacement and/or CIPP.</td>
</tr>
</tbody>
</table>

**PROJECT NEED:**  
Interceptor 1-MN-303 was built in the early 1920’s as a 102” reinforced concrete combined sanitary/storm sewer. The segment of 1-MN-303 on 31st Ave NE between Randolph St NE and Columbia Golf Course was converted to a PIP separated sewer in 1965 using inlaid deformed corrugated metal pipe (CMP). A walking inspection conducted in January 2022 identified severe damage and corrosion that is allowing significant inflow of stormwater into the sanitary sewer.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020-2021</td>
<td>2021-2022</td>
<td>2022-2023</td>
</tr>
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</table>

**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$4,000,000</td>
<td>$8,150,000</td>
<td>$8,000,000</td>
<td>$8,150,000</td>
</tr>
</tbody>
</table>
Program 8093
Brooklyn Park – Champlin Interceptor Renewal

Description:
This Program provides for the rehabilitation concrete gravity interceptor in the Cities of Champlin, Brooklyn Park and Osseo. The interceptor will be rehabilitated using Cured-In-Place-Pipe (CIPP) technology.

Purpose and Justification:
Inspections and condition assessment show the need for rehabilitation of interceptors in the Brooklyn Park and Champlin area. The pipes included in this program are rated Condition 4 or 5, which indicates defects requiring immediate attention, and that the pipe has failed or has potential to fail within the next 5 to 10 years if nothing is done. The video inspection indicates significant hydrogen sulfide and age-related damage to the reinforced concrete pipe (RCP). The damage is extensive and steel reinforcement is visible and/or missing in several locations.

Program Location:
The active projects within this program are in the following Council Districts: District # 2

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>809300</td>
<td>Brooklyn Park-Champlin Interceptor Renewal (Parent Project)</td>
</tr>
<tr>
<td>809320</td>
<td>BPCI Renewal – Phase 2</td>
</tr>
<tr>
<td>809361</td>
<td>Brooklyn Park &amp; Osseo Interceptor Rehabilitation – 7015 A&amp;B, 4-OS-457 and M224</td>
</tr>
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</table>
MCES 2022 – 2027 Capital Program:

<table>
<thead>
<tr>
<th>Authorized Capital Program (ACP)</th>
<th>Capital Improvement Plan (CIP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15,607,000</td>
<td>$0</td>
</tr>
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</table>

Estimated Program Cash Flow 2022 - 2027:

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

**Project Location:**
Council District # 2
City of Brooklyn Park

**Project # 809320**

**Program Family:** 8093

**PROJECT TYPE:** Interceptor Improvements

**OBJECTIVES:** Preservation

**CUSTOMER LEVEL OF SERVICE:** Comply with Permits, Minimize Impacts, Be A Good Neighbor, Communicate Information, Engage Customers and Coordinate with Others

**SCOPE:** CIPP repair includes interceptor 8252-481 from MH 8 1 to MH 15 2

**PROJECT NEED:** The Phase 2 project is identified as Site 2-1 in the Facility Plan. It includes interceptor 8252-481 from Manhole (MH) 4 2 to MH 15 2. This section of the interceptor was constructed in 1985 and consists of 12,000 ft. of 66-inch RCP pipe and 22 maintenance holes. Based on the inspection, it has a condition rating of 4 and needs repair.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>2022-2023</td>
</tr>
<tr>
<td>Construction</td>
<td>2024-2025</td>
</tr>
</tbody>
</table>

**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$200,000</td>
<td>$5,400,000</td>
<td>$5,400,000</td>
<td>$5,400,000</td>
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</table>
Program Family: 8093  
Project # 809361

Project Location:  
Council District # 1, 2  
City of Brooklyn Park, Osseo and Maple Grove  
Interceptor 7015 A&B And 4-OS-457

Brooklyn Park and Osseo Interceptor Rehabilitation – 7015 A&B, 4-OS-457 and M224

PROJECT TYPE: Interceptor Rehabilitation
OBJECTIVES: Improvement
CUSTOMER LEVEL OF SERVICE: Minimize Impacts, Be A Good Neighbor, Meet Capacity Needs, Communicate Information, Engage Customers, Coordinate with Others and Be Fair and Transparent with Fees

SCOPE: The project includes Cured in Place Pipe (CIPP) lining of about 2,500 ft of 36-inch interceptor and replacement of about 1,000 ft of 12-inch interceptor. The maintenance hole structures along the route will either be rehabbed using Fiberglass Reinforces Plastic (FRP) inserts or replaced with new manholes. The meter structure M224 will be rehabilitated with a new flume and improved access to the structure. The exiting bioxide tank at M224 will be moved to a new location further south on 83rd Ave on City of Brooklyn Park property.

PROJECT NEED: 7015-A&B, and 4-OS-457 is listed as condition 5 pipe. The RCP pipe has reinforcement exposed, and numerous defects were observed in the CCTV inspection video. Recently, there was a partially collapsed section of interceptor 7015-D in this area that caused a sink hole in the road that was fixed as an emergency repair (Project 809360). The section around the repair area is in poor shape. M224 has significant corrosion and access issue.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>2019-2020</td>
<td>2021-2022</td>
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FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
<th>Current ACP</th>
<th>2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$4,116,000</td>
<td>$7,832,000</td>
<td>$4,186,000</td>
<td>$7,832,000</td>
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</table>
Description:
This Program provides the construction of a new L32A on the east side of the Mississippi River on Council property. Program will determine facilities which will remain on the west side of the river at the existing L32 site.

Purpose and Justification:
Condition assessments have documented structural, mechanical, and electrical deficiencies which have led to system failures, such as backups and odor issues. Additionally, the existing Lift Station does not have capacity to serve the current and future needs of the area.

Program Location:
The active projects within this program are in the following Council Districts: District # 2

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>809400</td>
<td>New Lift Station L32 (Parent Project)</td>
</tr>
<tr>
<td>809401</td>
<td>Building Demolition – Fridley Site</td>
</tr>
<tr>
<td>809410</td>
<td>Design of New Lift Station L-32A</td>
</tr>
</tbody>
</table>
MCES 2022 – 2027 Capital Program:

Authorized Capital Program (ACP) $12,761,000
Capital Improvement Plan (CIP) $50,000,000

Estimated Program Cash Flow 2022 - 2027:

Pre-2021 Actuals + 2021 Estimated Expenses  (ACP) Authorized Capital Program  (CIP) Capital Improvement Program

Note: The ACP is the total amount of all past and present authorizations including Pre-2022 Expenses.
Design of New Lift Station L-32A

Program Family: 8094
Project # 809410

Project Location:
- Council District # 2
- Brooklyn Park and Fridley

Location

PROJECT TYPE: New Lift Station
OBJECTIVES: Preservation
CUSTOMER LEVEL OF SERVICE: Lead by Example, Be a Good Neighbor, Meet Capacity Needs
SCOPE: Preliminary Design, Design, and Engineering Services during construction for the new L-32A Lift Station.

PROJECT NEED: Condition assessments have documented structural, mechanical, and electrical deficiencies which have led to system failures, such as backups and odor issues. Additionally, the existing Lift Station does not have capacity to serve the current and future needs of the area.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019 - 2021</td>
<td>2022 - 2025</td>
<td>2025 - 2028</td>
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</table>

FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
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<th>Total Project Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0</td>
<td>$500,508</td>
<td>$0</td>
<td>$500,508</td>
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</table>
Program 8095
South Area Interceptor
Improvements

Description:
The interceptor systems in Apple Valley, Eagan, Farmington, Lakeville, Savage and other south area communities in need rehabilitation and/or replacement as well as expansion to serve growth. The Program will rehabilitate existing interceptor facilities, including gravity sewers, and force mains, and analyze the system needs to accommodate growth.

Purpose and Justification:
The Program provides for improvements to the Interceptor System that serves the South Area. This includes work that will rehabilitate deteriorated Interceptors in this area.

Program Location:
The active projects within this program are in the following Council Districts: District # 4, 15 and 16

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>809500</td>
<td>South Area Improvements (Parent Project)</td>
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<tr>
<td>809510</td>
<td>Shakopee Interceptor Odor Improvements</td>
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</tbody>
</table>
MCES 2022 – 2027 Capital Program:

Authorized Capital Program (ACP) $3,900,000
Capital Improvement Plan (CIP) $400,000

Estimated Program Cash Flow 2022 - 2027:

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

Program Family: 8095
Project # 809510

Project Location:
Council District: # 4
City: Shakopee, MN
Location: MCES 9206 & 7120; pipe that runs along highway 169

PROJECT TYPE: Study
OBJECTIVES: Preservation and Quality Improvements
CUSTOMER LEVEL OF SERVICE: Historically, odor and corrosion has been an issue within MCES interceptors, and several City sewer systems that connect to the MCES system. In some cases, odor and corrosion within City sewers may be due to migration of gases from MCES sewers. The nuisance to neighbors and customers does not meet the Council’s Level of Service goals
SCOPE: Study to determine the best method(s), and location(s) for odor and corrosion reduction facilities to reduce odor and corrosion impacts to MCES and City sewers
PROJECT NEED: The project is needed for operator safety, to preserve assets, and to reduce nuisance odors in the study area

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020 - 2022</td>
<td>2022 - 2023</td>
<td>2023 - 2025</td>
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FINANCIAL ANALYSIS

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<th>2022 Cash Flow</th>
<th>Current ACP</th>
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</thead>
<tbody>
<tr>
<td>$150,000</td>
<td>$3,300,000</td>
<td>$3,150,000</td>
<td>$3,300,000</td>
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</table>
Program 8096
Northwest Area Interceptor Improvements

Description:
The interceptor systems in Plymouth, Maple Grove, Brooklyn Center, New Hope, Golden Valley, St Louis Park, Medina, and other northwest area communities need rehabilitation and/or replacement as well as expansion to serve growth. The Program will rehabilitate existing interceptor facilities, including gravity sewers, force mains, lift stations and meter stations, and analyze the system needs to accommodate growth.

Purpose and Justification:
The Program provides for improvements to the Interceptor System that serves the Northwest Area. This includes work needed to expand the Rogers WWTP service area and to improve system capacity and reliability.

Program Location:
The active projects within this program are in the following Council Districts: District # 1 & 6

Active Projects in Program:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>809600</td>
<td>Northwest Area Improvements (Parent Project)</td>
</tr>
</tbody>
</table>
MCES 2022 – 2027 Capital Program:

Authorized Capital Program (ACP)  
$1,251,000

Capital Improvement Plan (CIP)  
$21,000,000

Estimated Program Cash Flow 2022 - 2027:

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