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:

<table>
<thead>
<tr>
<th>Project Number</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>805932</td>
<td>Metro WWTP HVAC Improvements Phase 2</td>
</tr>
<tr>
<td>805947</td>
<td>Metro WWTP Solids Renewal and Improvements</td>
</tr>
<tr>
<td>805963</td>
<td>Metro WWTP Water Systems Renewal and Improvements</td>
</tr>
<tr>
<td>805990</td>
<td>Metro WWTP Site Preparation and Improvements</td>
</tr>
<tr>
<td>805998</td>
<td>Metro WWTP Services Building</td>
</tr>
</tbody>
</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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<tbody>
<tr>
<td>$115,886,000</td>
<td>$0</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.
Program Family: 8059
Project # 805932

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

Metro WWTP HVAC Improvements – Phase 2

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>
<td>2016-2019</td>
<td>2019-2020</td>
<td>2021</td>
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FINANCIAL ANALYSIS

<table>
<thead>
<tr>
<th>2022 Cash Flow</th>
<th>Current ACP 2022 – 2027 Cash Flow</th>
<th>Total Project Cost</th>
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<tbody>
<tr>
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</table>
**Program Family:** 8059  
**Project # 805947**

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

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**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.

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**PROJECT SCHEDULE**

- **Planning:** 2006-2009
- **Design:** 2018-2019
- **Construction:** 2020-2022

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**FINANCIAL ANALYSIS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash Flow</th>
<th>Current ACP</th>
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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**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
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</thead>
<tbody>
<tr>
<td>2019</td>
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<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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Metro WWTP Site Preparation and Improvements

Program Family: 8059
Project # 805990

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

Aerial View of Metro WWTP

Primary Settling Tank Collector System

**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**

- **Planning:** 2019
- **Design:** 2019-2020
- **Construction:** 2021-2024

**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>
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<td>$13,900,000</td>
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Program Family: 8059
Project # 805998

Metro WWTP Services Buildings

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

Services Building and Field Service Annex Concept Drawing

Metro WWTP Services Building

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

FINANCIAL ANALYSIS

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<tr>
<th>Year</th>
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