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>
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</thead>
<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>
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<tr>
<td>807640</td>
<td>Maintenance Access Structures</td>
</tr>
<tr>
<td>807641</td>
<td>1-MN-303 Pipe-in-Pipe</td>
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<tr>
<td>807643</td>
<td>Minneapolis East Interceptor (MEI) Diversion Structure Rehabilitation</td>
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<tr>
<td>807644</td>
<td>Minneapolis Deep Tunnel Access and Cleaning Phase 2</td>
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807645 Mpls 1-MN-330 and 1-MN-341 Access Improvements Co-op
807646 Interceptor 1-MN-302 Rehabilitation at Hwy 88 Crossing
807647 Lake Street Siphon Inspection
807650 Minneapolis Joint Sewer Study
807666 1-MN-310 Rehabilitation Between Dowling and Broadway
807667 1-MN-310 Rehab Between Broadway and 8th Ave N
807670 Minneapolis Interceptor Odor Control Study – Phase 1
807699 Technical Support of Interceptors

MCES 2021 – 2026 Capital Program:

<table>
<thead>
<tr>
<th>Authorized Capital Program (ACP)</th>
<th>Capital Improvement Plan (CIP)</th>
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<tr>
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<td>$300</td>
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Estimated Program Cash Flow 2021 - 2026:

![Bar chart showing expected expenses and capital improvements over the years]

Note: The ACP is the total amount of all past and present authorizations including Pre-2021 Expenses.
Interceptor 1-MN-341 Pipe-in-Pipe Rehabilitation

Project Location:
Council District # 8
City of Minneapolis
38th St E from 23rd Ave S to West River Parkway

Pipe in Pipe (PIP) Profile

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-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). Recent walking inspections and smoke tests of the PIP segment identified 28 distinct sets of defects that are allowing inflow of stormwater into the sanitary sewer.

PROJECT SCHEDULE

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

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West Meters Odor Management Facility Improvements

PROJECT LOCATION:
Council District # 8
City of Minneapolis
2932 West River Pkwy

PROJECT TYPE:
Odor Control Improvements

OBJECTIVES:
Improvement

CUSTOMER LEVEL OF SERVICE:
Minimize Impacts and Be A Good Neighbor

SCOPE:
Extend carbon tank stacks and install velocity enhancing cones to optimize dispersion. Install anemometer to track stack emissions. Modify tunnel doors and air supply fan ductwork. Convert existing carbon tanks from single to dual beds.

PROJECT NEED:
An evaluation of system operations, plume modeling, and monitoring of air pressures and odors in the interceptors leading to the facility indicated the improvements described above will further mitigate odors.

PROJECT SCHEDULE

Planning 2019
Design 2020
Construction 2020

FINANCIAL ANALYSIS

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<td>$11,246,000</td>
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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

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Maintenance Access Structures

Program Family: 8076
Project # 807640

Project Location:
Council District # 4, 6, 7, 8, 10, 13, 14
Cities of Minneapolis, St. Paul, Cottage Grove, Chaska, Moundsview
10 Locations

Project Type:
Small construction projects at various locations to improve odor management.

Objectives:
Preservation

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

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Financial Analysis

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Interceptor 1-MN-303 Pipe-in-Pipe (PIP) Rehabilitation

Program Family: 8076
Project #807641

Project Location:
Council District # 8
City of Minneapolis
South Side of Columbia Golf Course

PROJECT TYPE: Pipe-in-Pipe Rehabilitation
OBJECTIVES: Preservation
CUSTOMER LEVEL OF SERVICE: Maintain existing assets
SCOPE: Repair holes in CMP pie and pour new geopolymer crown for CMP/invert for storm sewer.
PROJECT NEED: Repair holes to prevent I/I into and out of CMP.

PROJECT SCHEDULE

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
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Minneapolis East Interceptor (MEI) Control Gate Rehabilitation

Project Location:
Council District # 8, 14
City of Minneapolis
City of St. Paul
6 locations

Deteriorated Hydraulic Gate
Stop Log

PROJECT TYPE: Control Gate Structure Rehabilitation
OBJECTIVES: 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>
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<tbody>
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FINANCIAL ANALYSIS

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Large Diameter Interceptor Cleaning – Phase 2

**Program Family:** 8076  
**Project #:** 807644

**Project Location:**  
Council District # 7, 8, 14  
Cities of Minneapolis and St. Paul  
6 Locations

**PROJECT TYPE:** Interceptor Cleaning  
**OBJECTIVES:** Preservation  
**CUSTOMER LEVEL OF SERVICE:** Provide capacity  
**SCOPE:** Debris will be mobilized under live sewage flow using high volume/high velocity jetting; removed from the interceptor by pumping; and decanted or dried as required to dispose at a licensed landfill. Jetting will be conducted through existing access structures ranging from 30 to 110 feet deep, some offset from the interceptor, with minimal surface disruption and pavement restoration. Man entry will be required to remove debris that cannot be removed by jetting.

**PROJECT NEED:** Interceptors need to be kept clean to maintain capacity.

**PROJECT SCHEDULE**

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

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<td>$8,950,000</td>
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*Construction crew performing interceptor jetting*
1-MN-302 Hwy 88 Crossing Rehabilitation

**Project Location:**
- Council District # 8
- City of Minneapolis
- Stinson and Hwy 88

**Project Type:** Interceptor Rehabilitation

**Objectives:** Preservation

**Customer Level of Service:** Meet Capacity Needs and Preserve Assets

**Scope:** Slip line 750 linear feet of 33” to 36” existing CMP and RCP with 20” HDPE or fusible PVC. Abandon 3 existing maintenance holes. Rehabilitate 3 existing maintenance holes using FRP inserts.

**Project Need:**
1-MN-302 was built in 1941 and spot repaired in 1957 and 1970. The repairs are now failing. The interceptor needs rehabilitation to reduce risk of failure which could potentially damage other infrastructure.

**Project Schedule**
- **Planning:** 2018 – 2019
- **Design:** 2019 – 2020
- **Construction:** 2021

**Financial Analysis**

<table>
<thead>
<tr>
<th>Year</th>
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<td>$2,350,000</td>
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Lake Street Siphon Inspection

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

Inside of Lake Street Siphon

**Program Family:** 8076  
**Project #:** 807647

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

**PROJECT TYPE:** Inspection

**OBJECTIVES:** Improvement

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

**SCOPE:**
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.

**PROJECT NEED:**
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.

**PROJECT SCHEDULE**

<table>
<thead>
<tr>
<th>Planning</th>
<th>Design</th>
<th>Construction</th>
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<tbody>
<tr>
<td>2019</td>
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</table>
Minneapolis Joint Sewer Study

Project Location:
Council District #’s 6, 7, & 8
City of Minneapolis
Various Sites

PROJECT TYPE: Interceptor

OBJECTIVES: Preservation, Expansion and 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 be 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.

PROJECT SCHEDULE

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<thead>
<tr>
<th>Planning</th>
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<td>$3,428,000</td>
<td>$6,031,000</td>
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Interceptor 1-MN-310 Rehabilitation Between Broadway and 8th Ave N

Project Location:
- Council District # 7
- City of Minneapolis
- 2nd 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 3th Aves N as shown in gold below. The siphon under Bassett Creek near 8th Ave N has never been inspected.

**PROJECT SCHEDULE**

<table>
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<tbody>
<tr>
<td>2020</td>
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</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

PROJECT TYPE:
Odor Management

OBJECTIVES:
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 contributors that may benefit from Industrial Waste’s IPIP program 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

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<th></th>
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