Program 8028
Blue Lake Interceptor Improvements

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>
</tr>
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<tbody>
<tr>
<td>802800</td>
<td>Lake Minnetonka Area (Parent Project)</td>
</tr>
<tr>
<td>802831</td>
<td>Lift Station L46 and L49</td>
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</table>
802834  L48 Rehab and 6-DH-645 FM replacement
802856  Excelsior Area Lift Station L-20
802863  8567 Channel Crossings Replacement
802871  Shorewood Interceptor 7017 Rehab
802883  Chanhassen Interceptor 8253-328 Rehabilitation
802886  Interceptor 7113 Replacement at Tanager Lake Bridge
802888  Cooperative Agreements – Blue Lake System
802897  Orono 7113 FM Replacement

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>$43,090,000</td>
<td>$7,080,000</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.
Oroko Lift Stations L46 and L49
Improvements

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

<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>2023-2024</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>
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</thead>
<tbody>
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**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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<th>Construction</th>
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<tbody>
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**FINANCIAL ANALYSIS**

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Excelsior Area Lift Station L20

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

**Program Family:** 8028
Project # 802856

**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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**Financial Analysis**

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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**

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<tr>
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<th>Design</th>
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<tbody>
<tr>
<td>2020</td>
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<td>$1,716,000</td>
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Chanhassen Interceptor 8253-328 Rehabilitation

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

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

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Map of project location
**Oroko Interceptor 7113 Improvements**

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

**Map of project location**

**Program Family: 8028**
**Project # 802886**

**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**

- **Planning:** 2018-2019
- **Design:** 2019-2020
- **Construction:** 2021-2022

**FINANCIAL ANALYSIS**

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

Photo of existing Dakota Rail Trail Corridor

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

**Program Family:** 8028
Project # 802897

**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**

| Planning | 2019-2022 |
| Design   | 2022-2024 |
| Construction | 2024-2025 |

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