

Program 8078 – Regional WRRFs Improvements



Aerial view of the Rogers Water Resource Recovery Facility acquired by ES in 2018

Description

This program provides funding to complete planning activities and near-term capital improvements (not otherwise included in a separate program) at 8 regional Water Resource Recovery Facilities (WRRF).

Purpose and justification

Projects in this program provide component and system renewal needs and improvements at the regional WRRFs. 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: All

Active projects in program

Project Number	Project Title
807803	Blue Lake WRRF Administration Building.
807805	East Bethel WRRF Improvements.
807811	St. Croix Valley WRRF Upgrades
807863	Rogers WWTF Pond Solids Removal.
807864	Seneca Piping and Site Rehabilitation
807865	Regional WRRFs PLC Renewal
807899	Regional Facility Planning
8078XX	Hastings WRRF Liquids Treatment and Plant-Wide Systems Rehabilitation

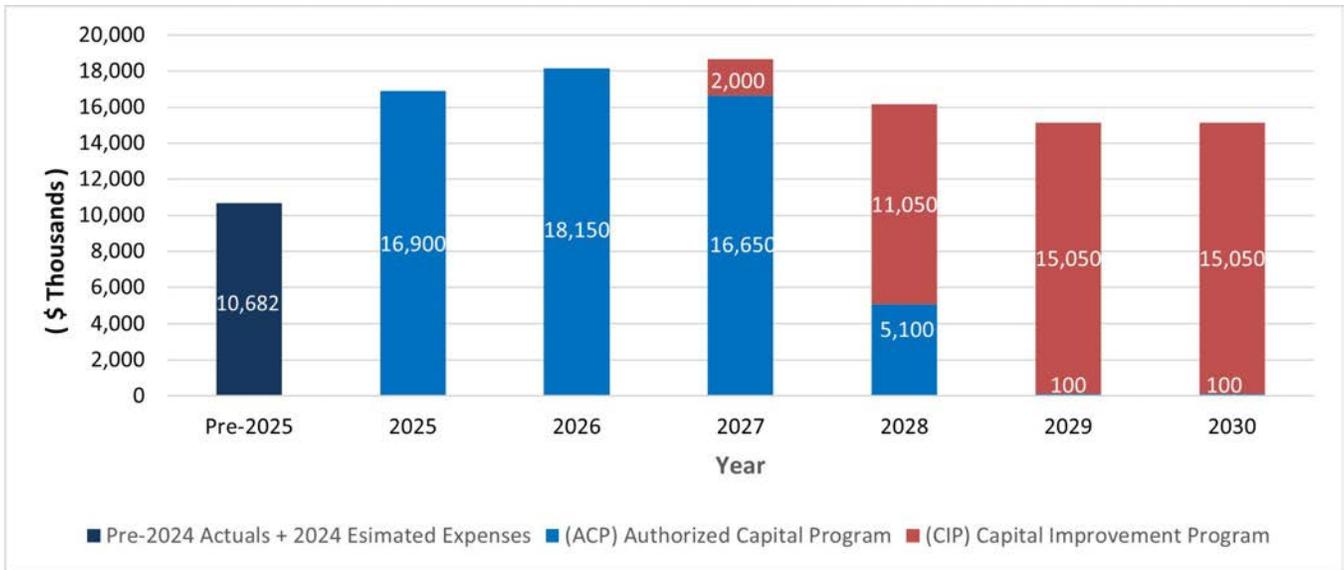
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Environmental Services 2025 through 2030 Capital Program

- Authorized Capital Program (ACP): \$67,681,963
- Capital Improvement Plan (CIP): \$43,150,000

Estimated program cash flow from 2025 through 2030

Note: the ACP is the total amount of all past and present authorizations including pre-2025 expenses.



Project location: Council District #4, City of Shakopee, Blue Lake WRRF



Blue Lake WRRF Administration Building

Project type
 Facility

Objectives
 Asset Preservation, Quality Improvements

Scope
 Based on building assessments, modify space and/or construct an addition to the Administration Building to better accommodate staff, tours, and training.

Project need
 The Administration Building is not well suited for meetings and school field trips. The Administration Building needs restroom Americans with Disabilities Act (ADA) accessibility improvements.

Project schedule:



Planning: 2020 through 2026



Design: TBD



Construction: TBD

Financial analysis

2025 cash flow:	\$0
Current ACP:	\$0
2025 through 2030 cash flow:	\$5,000,000
Total project cost:	\$5,000,000

Project location: Council District #9, City of East Bethel, East Bethel WRRF



East Bethel Water Resource Recovery (WRRF) Facility

Project type
 Facility

Objectives
 Quality Improvements

Scope

There are multiple process tanks that will be mechanically and electrically connected to the process flow for the first time, including new blowers and electrical transfer equipment.

Project need

East Bethel was brought online in 2014 at less than 10% of design flow. Now that flows have increased, the plant requires the remaining tanks and blowers to be commissioned, as well as electrical and generator upgrades.

Project schedule:



Planning: 2017 through 2019



Design: 2020 through 2024



Construction: 2025 through 2026

Financial analysis

2025 cash flow:	\$1,000,000
Current ACP:	\$2,700,000
2025 through 2030 cash flow:	\$2,000,000
Total project cost:	\$2,700,000

Project location: Council District #11, City of Oak Park Heights, St. Croix Valley WRRF



St. Croix Valley WRRF

Project type

Facility

Objectives

Asset Preservation

Scope

Renew metals and improve access and ventilation at the gravity thickener. Replace obsolete ultraviolet disinfection system. Renew bar screen and provide system redundancy. Replace obsolete electrical and HVAC equipment. Reconstruct roads. Replace alum storage and feed system. Install three stormwater best management practices (BMP) improvements. Add variable frequency drives (VFDs) to three aeration blowers. Install fall protection system for the odor control vessels. Install safety gates and dissolved oxygen (DO) probes in the aeration basins. Replace three primary sludge pumps.

Project need

Rehabilitate treatment and auxiliary systems to increase reliability of operation of the St. Croix Valley WRRF and reconstruct roads.

Project schedule:



Planning: 2023



Design: 2024 through 2025



Construction: 2026 through 2028

Financial analysis

2025 cash flow:	\$1,500,000
Current ACP:	\$16,694,000
2025 through 2030 cash flow:	\$16,500,000
Total project cost:	\$16,694,000

Project location: Council District #1, City of Rogers, Rogers WWTF



Photo of Rogers Wastewater Treatment Facility (WWTF)

Project type

Facility

Objectives

Quality Improvements

Scope

Remove solids from the solids holding pond and remove grit from the oxidation ditches.

Project need

Removal of solids holding pond solids and grit accumulation at the Rogers WWTF recovers capacity needed for continued reliable operation.

Project schedule:



Planning: 2022



Design: 2022



Construction: 2024 through 2025

Financial analysis

2025 cash flow:	\$1,000,000
Current ACP:	\$2,832,000
2025 through 2030 cash flow:	\$1,000,000
Total project cost:	\$2,832,000

Project location: Council District #15, City of Eagan, Seneca WRRF



Aerial View of Seneca WRRF

Project type
 Facility

Objectives
 Asset Preservation

Scope

The project includes replacement of the final section of the return activated sludge (RAS) pipe returning to the aeration basins as well as rehabilitation of the main influent channel into the plant. There will also be some site drainage improvements.

Project need

The main influent channel to the plant was poured along with the Administration Building foundation and has been labeled as a level 5 (poorest) condition by the interceptor group. Also, the RAS pipe is corroded and needs to be replaced.

Project schedule:



Planning: 2021



Design: 2022 through 2024



Construction: 2025 through 2026

Financial analysis

2025 cash flow:	\$2,500,000
Current ACP:	\$9,016,000
2025 through 2030 cash flow:	\$7,000,000
Total project cost:	\$7,516,000

Project location: Regional

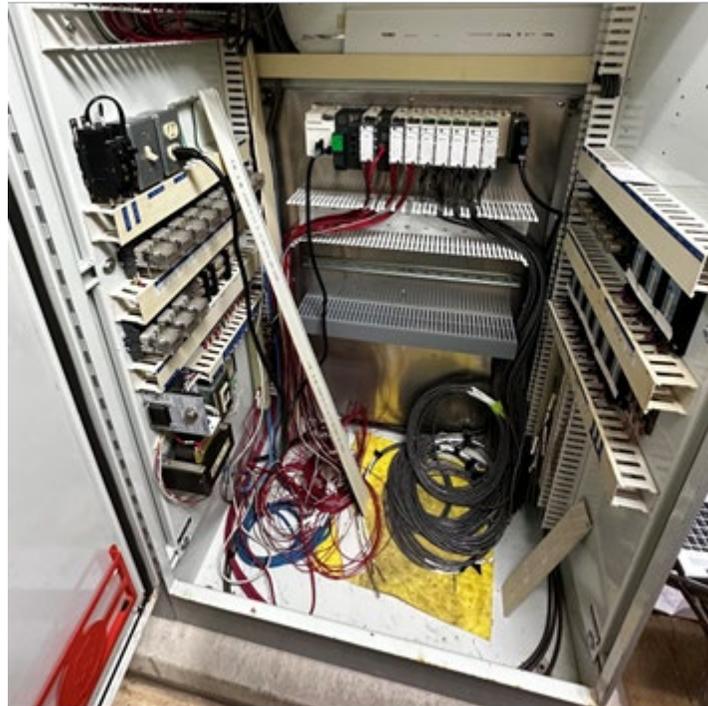


Photo taken inside a typical Programmable Logic Controller (PLC)

Project type

Facility

Objectives

Asset Preservation

Scope

Replace out-of-date process control systems at regional Water Resource Recovery Facilities (WRRFs).

Project need

Key elements in the process control system for regional WRRFs are out of date and in need of replacement to continue to provide reliable treatment process control at the regional facilities.

Project schedule:



Planning: 2021 through 2022



Design: 2022 through 2027

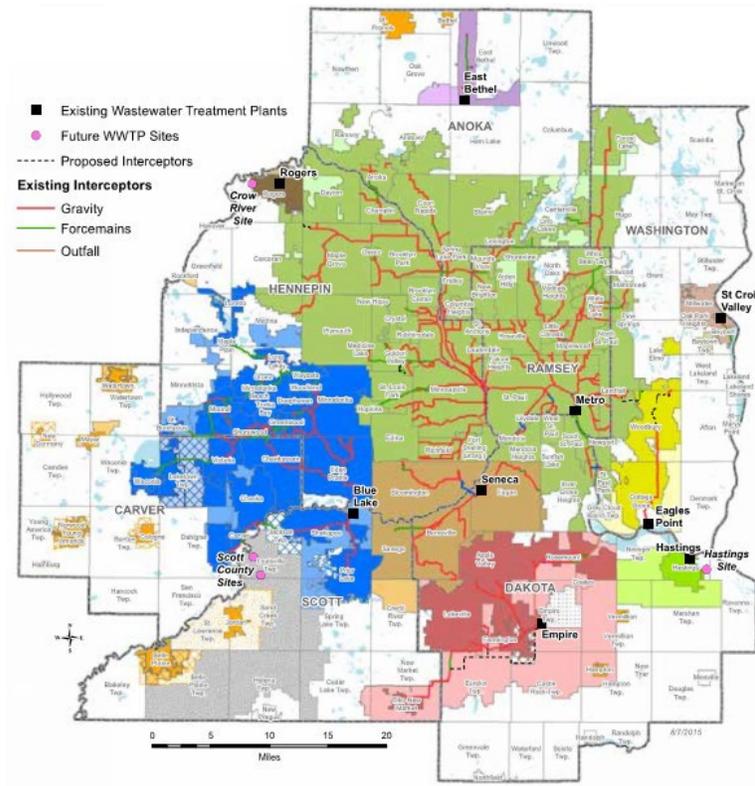


Construction: 2023 through 2028

Financial analysis

2025 cash flow:	\$500,000
Current ACP:	\$4,842,000
2025 through 2030 cash flow:	\$1,500,000
Total project cost:	\$6,842,000

Project location: Regional



Map of ES Water Resource Recovery Facilities (WRRFs) and existing and proposed interceptors in the seven-county metropolitan area

Project type

Facility

Objectives

Asset Preservation, Quality Improvements

Scope

This project provides for planning activities at the regional facilities. Design and construction of approved rehabilitations and/or improvements will be budgeted separately. Current planning activities include arc flash studies, road condition assessments, sustainable landscape planning, roof condition assessments, real estate appraisal needs, and various business case evaluations, as requested.

Project need

Effective and efficient wastewater treatment requires that condition and operation of facilities be periodically evaluated.

Project schedule:



Planning: 2024 - 2029

Financial analysis

2025 cash flow:	\$100,000
Current ACP:	\$838,000
2025 through 2030 cash flow:	\$600,000
Total project cost:	\$838,000

Project location: Council District #12, Hastings, Hastings WRRF



Aeration Tank (left) and Electrical Motor Control Center (right) in need of Rehabilitation

Project type
 Facility

Objectives
 Asset Preservation

Scope

The project rehabilitates critical liquids treatment and plant-wide systems for continued reliable service. Liquids treatment elements include bar screens, aerated grit system, primary clarifiers, aeration tanks, final clarifiers, chemical disinfection, and outfall. Critical plant-wide systems include electrical distribution, instrumentation and control, emergency overflow system, and flood protection.

Project need

The last major renewal occurred in the 1980s. Rehabilitation of critical systems is required to continue reliable service.



Planning: 2024



Design: 2025 through 2026



Construction: 2027 through 2029

Financial analysis

2025 cash flow:	\$7,000,000
Current ACP:	\$21,000,000
2025 through 2030 cash flow :	\$28,000,000
Total project cost:	\$28,000,000