

## Program 8097 – Blue Lake WWTP Improvements



Blue Lake Wastewater Treatment Plant (WWTP)

### Description

This program provides funding for planning and implementation of projects to address renewal, capacity, and future permit needs at the Blue Lake Wastewater Treatment Plant (WWTP).

### Purpose and justification

Planning work is based on a condition assessment of liquids and solids facilities conducted in 2019 and anticipated future permit requirements. Planning work is documented in the Blue Lake WWTP Improvements Facility Plan (February 10, 2021).

### Program location

The active projects within this program are in the following Council district: 4

### Active projects in program

Project Number	Project Title
8097xx	Blue Lake WWTP Dryer Renewal
8097xx	Blue Lake WWTP Digester Expansion
8097xx	Blue Lake WWTP Liquids Process Upgrades
8097xx	Blue Lake WWTP Dewatering and Drying

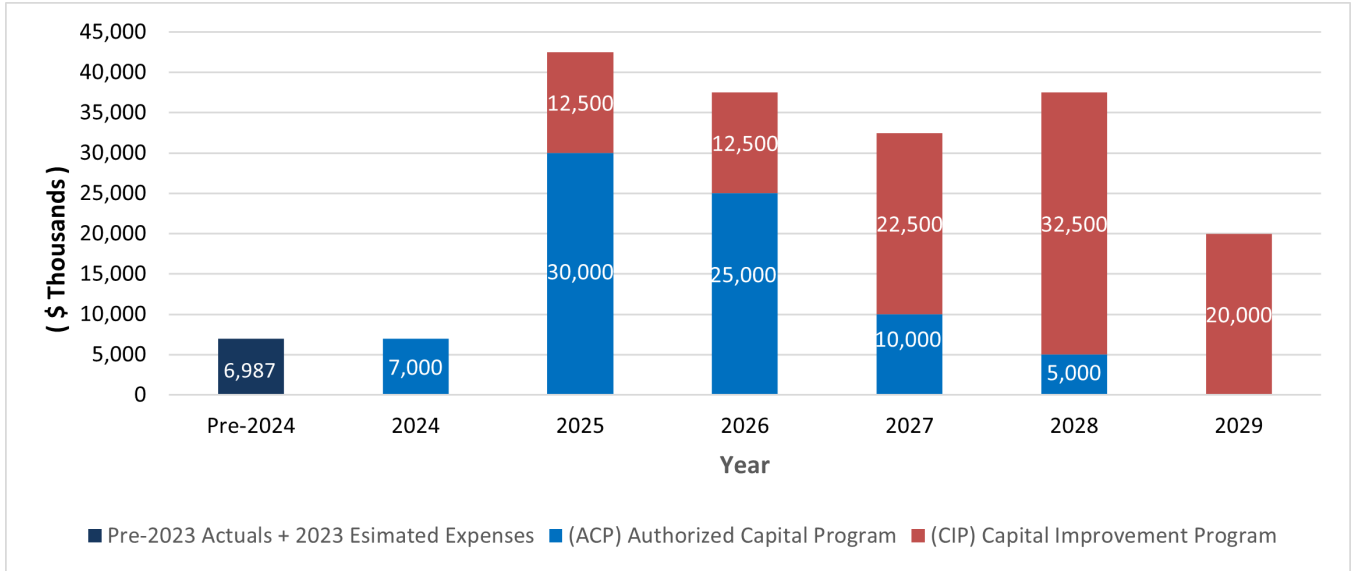
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### Environmental Services 2024 through 2029 Capital Program

- Authorized Capital Program (ACP): \$83,986,667
- Capital Improvement Plan (CIP): \$100,000,000

### Estimated program cash flow from 2024 through 2029

Note: the ACP is the total amount of all past and present authorizations including pre-2024 expenses.



Project location: Council district #4, City of Shakopee, Blue Lake WWTP



**Blue Lake dryer**

**Project type**

Plants

**Objectives**

Asset Preservation

**Scope**

Replace existing dryer drum.

**Project need**

The existing dryer drum is near the end of its service life and needs to be replaced to maintain solids processing capability at the plant.

**Project schedule:**



Planning: 2020 through 2022



Design: 2023



Construction: 2024 through 2025

**Financial analysis**

2024 cash flow:	\$0
Current ACP:	\$0
2024 through 2029 cash flow:	\$1,000,000
Total project cost:	\$1,000,000

Project location: Council district #4, City of Shakopee, Blue Lake WWTP



**Blue Lake digester complex**

**Project type**  
Plants

**Objectives**  
System Expansion

**Scope**

There are currently three digesters and a sludge storage tank for regulating gas production. This project will add a fourth digester to increase capacity.

**Project need**

The recommended minimum 15-day solids retention time (SRT) cannot be met at the current flows during digester maintenance or at future flows during normal operation.

**Project schedule:**



Planning: 2020 through 2022



Design: 2024 through 2025



Construction: 2025 through 2026

**Financial analysis**

2024 cash flow:	\$0
Current ACP:	\$0
2024 through 2029 cash flow:	\$50,000,000
Total project cost:	\$50,000,000

Project location: Council district #4, City of Shakopee, Blue Lake WWTP



Blue Lake liquid treatment

**Project type**

Plants

**Objectives**

System Expansion, Quality Improvements

**Scope**

The project includes aeration basin improvements for improved DO control and air distribution. The secondary clarification process will also be expanded with two new tanks and improved baffling for flow distribution.

**Project need**

The aeration system is near the end of its service life and the plant is having difficulty maintaining DO while reducing energy in the system. The secondary clarifiers have reached design capacity, and more tanks are needed to accommodate growth in the region.

**Project schedule:**



Planning: 2020 through 2022



Design: 2024 through 2025



Construction: 2025 through 2027

**Financial analysis**

2024 cash flow:	\$0
Current ACP:	\$0
2024 through 2029 cash flow:	\$50,000,000
Total project cost:	\$50,000,000

Project location: Council district #4, City of Shakopee, Blue Lake WWTP



Blue Lake solids treatment area

**Project type**  
Plants

**Objectives**  
System Expansion

**Scope**

A second building with a second dryer train and dewatering equipment will be added to provide capacity for regional growth.

**Project need**

A second dryer will be needed in 2032 and will meet capacity needs through the year 2050.

**Project schedule:**



Planning: 2020 through 2022



Design: 2023 through 2026



Construction: 2026 through 2030

**Financial analysis**

2024 cash flow:	\$0
Current ACP:	\$36,000,000
2024 through 2029 cash flow:	\$36,000,000
Total project cost:	\$36,000,000