



Memorandum

TO: TRANSPORTATION AND ENVIRONMENT COMMITTEE

FROM: Matt Loesch

SUBJECT: See Below

DATE: November 8, 2024

Approved

Date:

11/25/24

SUBJECT: Sanitary and Storm Sewer Collection System and Green Stormwater Infrastructure Status Report

RECOMMENDATION

Accept an annual report for the Sanitary and Storm Collection System and Green Stormwater Infrastructure Status from July 2023 through June 2024.

BACKGROUND

The City's sanitary sewer system consists of approximately 2,030 miles of sewer mains (up to 90 inches in diameter); 14 miles of force mains; 17 pump stations; over 44,000 manholes; and over 198,000 laterals. The system serves residents and businesses conveying wastewater to the San José/Santa Clara Regional Wastewater Facility through major interceptor pipelines located in the northern part of San José.

The City's storm sewer system consists of approximately 1,100 miles of storm sewer pipe; 35,600 storm drain inlets; 4,100 miles of curb and gutter; 1,727 storm outfalls; and 31 pump stations. The system conveys storm water into two major watersheds: Coyote Creek and the Guadalupe River. To meet the requirements from the Municipal Regional Permit, the City has developed the Green Stormwater Infrastructure (GSI) Plan to incorporate GSI into the storm sewer system over time.

A strong partnership between three City departments has been developed to manage these critical and complex systems. The Department of Public Works manages Storm and Sanitary Sewer Capital Improvement Programs and assists with private development review. The Department of Transportation manages the operations and maintenance of the two systems, and the Environmental Services Department manages storm water policy and regulatory compliance as part of its watershed protection efforts,

as well as managing the Regional Wastewater Facility, the ultimate destination of all wastewater flows conveyed by the sanitary sewer collection system.

There continues to be a large funding gap to support the storm sewer infrastructure and GSI program needs. Funding for the sanitary sewer system is currently adequate but will need to be increased in the next five years to be able to deliver the critical capacity projects that have been identified in the sanitary sewer master plan.

ANALYSIS

For both sanitary and storm sewer systems, three key elements guide our strategy:

- Planning for needed capacity based on planned City growth,
- Delivering capital improvements and maintaining existing systems in good operating condition,
- Ensuring system operations comply with Council Policy and regulatory requirements.

Sanitary Sewer System

To address existing capacity improvement needs as well as provide capacity for planned future growth set forth in the City's General Plan, the Sanitary Sewer Master Plan was developed in 2007 and has had two major updates in 2013 and 2024. This past fiscal year, staff worked on six capacity improvement projects totaling \$17 million and another three were awarded in the amount of \$8.2 million.

Condition Assessment Program

The Condition Assessment Program, developed in compliance with the 2013 River Watch Consent Decree, had completed the inspection and categorized sewer defects for all small pipes (6 to 10 inches in diameter) in the collection system in 2022. In FY 2023-24, the City inspected and assessed the condition of the system's medium diameter pipes (12 to 30 inches diameter) and will continue to condition assess larger diameter pipes (32 inches and larger) and awarded six closed circuit television projects to undertake video inspection totaling an estimated cost of \$6.4 million. The data from these condition assessment projects will be used to develop and prioritize the upcoming sanitary sewer repair and rehabilitation projects. Funding to support this program is already included in the current 5-year budget.

In this past fiscal year, a Master Consultant Agreement was awarded for the Sanitary Sewer Interceptor Management program. The plan for this Master Consultant Agreement is to issue consultants service orders to assist with the inspection, and evaluation of the existing sanitary sewer interceptors. In addition, the Master Consultant

Agreement will be used to evaluate the condition of the City's two odor control structures and propose repair or replacement options. Funding to support the rehabilitation of these facilities will not be known until the condition assessment is completed in 2026.

Exfiltration Abatement Program

The 2016 Baykeeper Consent Decree requires the City to develop and implement an Exfiltration Abatement Program. The goal of the program is to identify and prioritize pipe rehabilitation, replacement, and repairs to minimize the risk of wastewater leaching from the sanitary sewer system and entering into adjacent storm sewers. In FY 2023-2024 the sanitary staff implemented contracts that resulted in the repair/rehabilitation of 10 miles of sanitary sewer lines as part of the exfiltration program. To date the City has completed 56 miles of the 65 miles required over the term of the consent decree ending in 2026. The City has incorporated this work into the Sanitary Sewer CIP program and will continue to carry out condition assessment and rehabilitation projects to meet the requirements set forth in the Consent Decree.

Below is a summary of the Sanitary Sewer CIP accomplishments in FY 2023-2024:

- Twenty capital projects were awarded, and thirteen capital projects were completed to improve the capacity, restore the integrity and conveyance of the system reducing maintenance costs and the probability of Sanitary Sewer Overflows and/or blockages.
- The Master Plan program has helped reduce the cost of development by providing efficiency in the sewer capacity review process and finding cost-effective measures to improve sewer capacity needed for land use development.
- 2,039 linear feet of structurally inadequate sewer were removed and replaced.
- 55,702 linear feet of moderately deteriorated sewers were rehabilitated.
- 406 miles of sewers were inspected by closed circuit television.
- The Sanitary Sewer Master Plan was continually updated and calibrated to develop and prioritize sanitary sewer capacity projects.
- The Condition Assessment program was developed and assists with development of a prioritized and proactive rehabilitation program.
- More than 858 miles of sewer lines were cleaned.
- The continued development of the Computerized Maintenance Management System and technology enhancements have contributed to planning effective maintenance strategies to maximize efficiency.

Storm Sewer System and Green Stormwater Infrastructure Program

The Storm Sewer CIP developed a Storm Sewer Master Plan utilizing a computer hydraulic model to analyze system deficiencies and address the planned growth detailed in the Envision San José 2040 General Plan. To date, the Storm Sewer Master

Plan has identified high priority projects for over 17 storm drainage areas where flooding would occur during a 3-year design storm event. The planning-level cost for these high priority projects is estimated to be approximately \$818 million. Additionally, 20 storm drainage areas were identified for low priority improvement projects, totaling \$658M. With Measure T funding of \$35 million allocated to improve the drainage condition for the Charcot area, the funding gap for high priority capacity improvements is estimated to be at \$783 million per our latest analysis. In addition to the storm drain capacity improvement, the Storm Sewer Master Plan also identified 20 outfall locations along Coyote Creek that would benefit from the installation of flap gates to prevent high creek levels from back-flowing through the systems. Funding required to complete these improvement projects has not yet been quantified.

Public Works Storm Sewer CIP, working with DOT, identified several pump stations that need to be rehabilitated due to their ages and condition. Additional condition assessment for these pump stations will be needed, and the funding required to complete these pump rehabilitation projects has not yet been quantified.

This past fiscal year, storm sewer staff coordinated with DOT O&M and updated the number of outfalls in need of repair and/or rehabilitation to 335 locations. To address the deteriorating condition of multiple outfalls in the City, staff worked collaboratively with consultants to develop an Outfall Rehabilitation Program decision matrix. The matrix provided guidance for a workplan to address outfalls in need of repair. The funding required to complete these repairs has not yet been quantified. Storm sewer staff are still prioritizing outfall repair and are currently pursuing regulatory permits and redesigning an outfall repair project with hopes to begin construction in 2026 on a few most critical outfalls.

Green Stormwater Infrastructure Plan

The Storm Sewer CIP is aligned to meet the requirements of the Municipal Regional Stormwater Permit, specifically addressing pollutants of concerns such as trash load, PCBs and mercury reductions to creeks and rivers, and development and implementation of a GSI Plan. The GSI Plan provides guidelines on how the City can shift from traditionally directing stormwater flows from impervious surfaces into existing storm drain infrastructure to engineered systems where stormwater runoff is slowed, infiltrated, and/or treated prior to discharging into storm drain systems and receiving waterbodies.

This past fiscal year, the City finalized a feasibility study which analyzed five sites and also validated another multi-benefit GSI project located South of the Happy Hollow Parking Lot. For the five sites: Venetian Terrace, Emma Prusch Park, Evans Lane, Columbus Park Area, and TJ Martin Park, City staff identified and prioritized five locations for potential GSI projects. The locations were coordinated with the Parks,

Recreation & Neighborhood Services and Environmental Services Departments and will be communicated to the community once the preliminary phase is complete. Preliminary design work was started this past year, which included developing planning level cost estimates and seeking potential funding sources to support the projects which are currently largely unfunded.

Supported by funding from Measure T, Public Works Department worked with stakeholders and the community to awarded the first regional GSI project at the River Oaks pump station, called River Oaks Regional Stormwater Capture Project in June 2023. The project will receive and treat storm water runoff from a drainage area of approximately 344 acres, 210 of which are impervious surfaces. The \$11M project received a grant funding of \$3.2M from the Prop 1 Integrated Regional Water Management Grant. The project currently is close to completion with beneficial use scheduled for December 2024 and issuance of acceptance and completion by early 2025.

Small Trash Capture Devices

Staff recently awarded the Small Trash Capture Device Installation - Phase I project in October 2024 and the contractor is scheduled to start work in December to install approximately 508 inlet-based full trash capture devices. These devices are needed to meet the 100% trash load reduction in the current Municipal Regional Permit by December 2025 by Water Board due to City's approved Direct Discharge plan. These devices will be strategically placed to target high trash generating areas. This project is scheduled to be completed by September 2025 and will achieve an estimated 5% trash load reduction.

Below is a summary of Storm Sewer CIP accomplishments in FY 2023-24:

- Three capital projects completed design, and one capital project was completed to improve the capacity, restore integrity and conveyance of the system reducing maintenance costs and the probability of flooding.
- Four capital projects were in construction and completed work on installing 4 large trash capture devices, addressing localized ponding, remove and replaced large diameter manholes, regraded an overgrown swale, cleared sediment within storm sewers.
- Construction activities continued on the River Oaks Regional Stormwater Capture Project which is the South Bay's first regional GSI project.
- Design began on the next regional stormwater capture facility near Kelley Park and the Vietnamese Heritage Garden.
- The Storm Sewer Master Plan team completed the draft of the City of San Jose Citywide Storm Sewer Master Plan Report.

- Staff completed a desktop analysis on five additional GSI locations, with preliminary design continuing for two locations.

Funding Needs and Other Near-term Key-Results to Support the Storm and Sanitary Sewer Programs

The Sanitary Sewer CIP program is largely funded from an annual transfer from the Sewer Service and Use charge fund, the Sanitary Sewer Connection Fee, and joint participation revenues which added up to \$39.6M annually. The current funding levels do not cover deferred maintenance and the anticipated cost of new projects. In the next 5 years, staff will work with ESD to fund large capital projects including the construction of the Interceptor Phase VII project and rehabilitation of several pump stations and soil bed filter structures in the system. Additionally, the results of the interceptor condition assessment could result in interceptor repair/rehabilitation projects and would be prioritized based on the severity of the pipe degradation that is found.

Primary sources of funding for the Storm Sewer system include transfers from the Storm Sewer Operating Fund, the Storm Drainage Fee, grants, interest earnings, and joint participation revenues. The Storm Sewer Operating Fund provides funding of approximately \$3.3M over the next 5 years for capital improvement projects and the federally mandated National Pollutant Discharge Elimination System requirements. There's no dedicated funding source for the GSI program, except the funding from Measure T with a \$25M allocation to support clean water projects. Staff will continue to pursue grants to assist with funding future projects.

A preliminary analysis indicates there is a \$783M gap in the City's Storm CIP program and, after considering the Coyote Valley purchase, approximately \$25M GSI shortfall to meet the Baykeeper Consent Decree. Funding needs to address other storm improvements have not been identified and further prioritized. Staff will continue to work with the City Managers Office to identify a funding source for this effort.

As required to meet Stormwater Permit requirements by implementing the Direct Discharge Trash Control Plan within 500 feet of waterways, the City has been focusing efforts on Emergency Interim Housing and Supportive Overnight Sleeping sites to house approximately 500 individuals living within the waterways. In addition, there has been significant effort to address discharges from lived in vehicles to prevent discharges entering into the storm drains. The main focus of the Direct Discharge Plan is to address discharges entering into the creeks and rivers and find permanent solutions to prohibit encampments in waterways will address this issue. In the next few years, the City will need to develop and implement a new sustainable funding strategy to support the Storm and GSI programs.

It is important to note that there are other funding needs in both storm and sanitary sewer programs that are not yet quantified at this time, and will need to be accounted in

the future budgets. Detailed reports of the programs and activities are provided in Attachments A and B.

COORDINATION

This report has been coordinated with the, Department of Transportation, Environmental Services Department, and the City Attorney's Office.

/s/
MATT LOESCH
Director of Public Works

For questions, please contact Mathew Nguyen, Deputy Director for the Department of Public Works at (408) 535-8300.

ATTACHMENTS

Attachment A – Storm Sewer System Annual Report FY 2023-2024

Attachment B – Sanitary Sewer System Annual Report FY 2023-2024