



## WASTEWATER SERVICE

### B 2.0 Background

The City is the sole provider of wastewater service within the City. The service provides collection and treatment for residential, commercial, and industrial users on properties within the city limits. In ~~2018~~2025, the number of service connections is estimated to be ~~12,000~~13,421. Through agreement, the City also provides service to the San Luis Obispo campus of California Polytechnic State University (Cal Poly) and the County of San Luis Obispo Airport.

The collection system is primarily a gravity flow system. Where gravity flow is not feasible due to the topography, wastewater lift stations and pressurized force mains are used to move wastewater to the City's Water Resource Recovery Facility on Prado Road. Sewer pipelines measure from six inches to 48 inches in diameter.

~~The City completed a two-year Flow Monitoring and Inflow/Infiltration Study in 2012. Using data from this Study, pipeline condition data from its asset management database, and growth assumption from the General Plan's Land Use (2014) and Housing (2015) elements, the City completed hydraulic modeling and its Wastewater Collection System Infrastructure Renewal Strategy in 2016. The Renewal Strategy identified a prioritized list of capital projects to address the City's aging infrastructure. The Renewal Strategy also identified capacity constrained areas during wet weather events due to inflow and infiltration, shown in Figure 3. Inflow and infiltration is discussed further in section B.4.0.~~

The City completed an updated Wastewater Collection System Infrastructure Renewal Strategy (WWCIRS) in July 2025. Development of the 2025 WWCIRS included the collection of wastewater flow data, the completion of a system-wide capacity modeling study in 2024, the incorporation of growth estimates based on build-out of the City's General Plan and underlying zoning for each parcel, including assumptions for accessory dwelling units and developments that include a density bonus, and the completion of an updated wastewater flow model. Based on the results of the analysis, recommendations for capital improvement sewer projects are included in the 2025 WWCIRS. The WWCIRS also identified updated capacity-constrained areas during wet weather events due to inflow and infiltration. The updated capacity-constrained area map is included in this Element as Figure 3. Inflow and infiltration, and is discussed further in section B.4.0.

Following completion of a major upgrade in 2025 to increase capacity to serve the City's build-out population outlined in the Land Use Element, the Water Resource Recovery Facility (WRRF) is designed for an average dry-weather flow of 5.4 million gallons per day (mgd). Instantaneous peak flows exceeding 20 mgd are not uncommon during storm events due to infiltration and inflow into the wastewater collection system, discussed further in subsection B 4.0. As the City grows to its build-out population outlined in the Land Use Element, the average dry-weather flow of wastewater is expected to reach 5.4 mgd. In 2018, design for the expansion of the Water Resource Recovery Facility to accommodate General Plan buildout is underway. When the WRRF is expanded in the future it will have a treatment capacity of 5.4 mgd.

### B 2.1 Goal

Adequate wastewater collection and treatment service to meet the long-term needs of the City.

### **B 2.2 Policies**

#### **B 2.2.1 Service Outside the City Limits**

To receive City wastewater service, property must be annexed to the City. The City Council may authorize exceptions to this policy provided it is found to be consistent with the General Plan.

#### **B 2.2.2 Service Capacity**

The City's wastewater collection system and Water Resource Recovery Facility shall support population and related service demands consistent with the General Plan.

#### **B 2.2.3 Wastewater Service for New Development**

New development shall pay its proportionate or “fair share” of expanded treatment and collection system capacity and upgrades. New development will only be permitted if adequate capacity is available within the wastewater collection system and/or Water Resource Recovery Facility.

#### **B 2.2.4 City as Exclusive Provider**

The City will be the only provider of public wastewater treatment within the City (but on-site pretreatment of wastewater to meet City Standards may be required).



Figure 3 Capacity Constrained Areas [delete and replace]

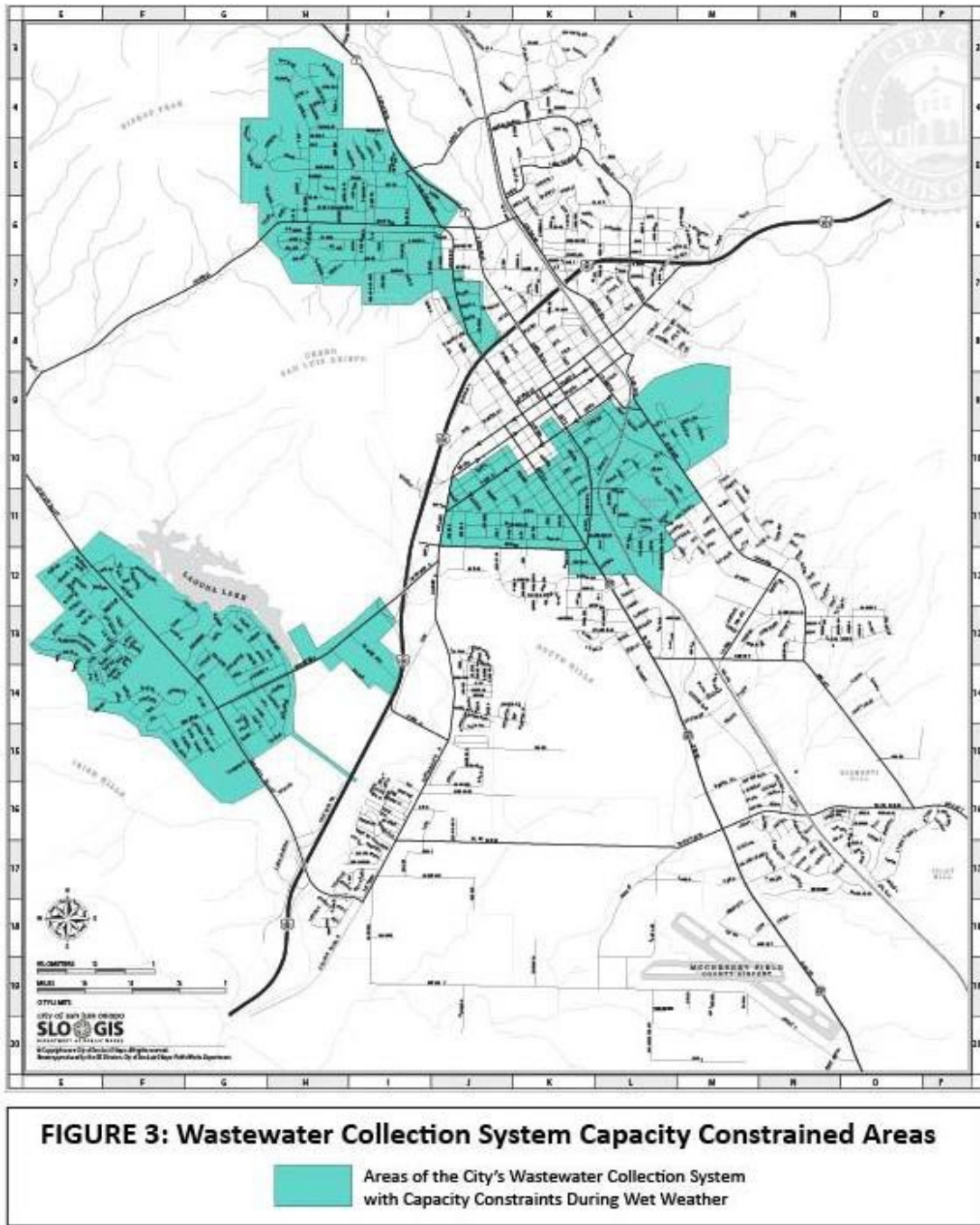
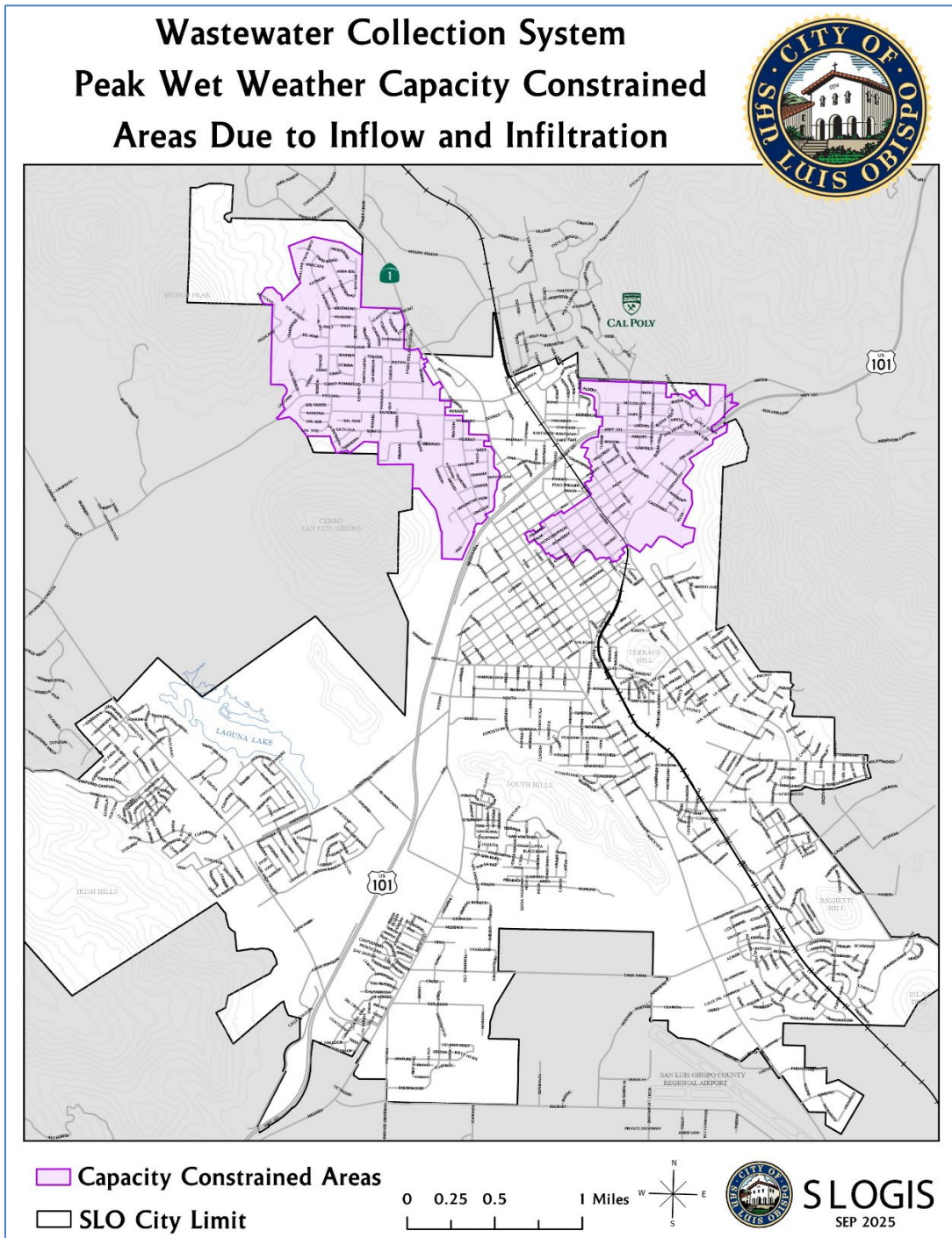


Figure 3 Capacity Constrained Areas



**B 2.3 Programs**

- B 2.3.1** Expand capacity in the City’s collection system and Water Resource Recovery Facility in support of projected wastewater flows.
- B 2.3.2** Evaluate the potential for the wastewater flows of a proposed project to exceed the capacity of collection and treatment systems.
- B 2.3.3** The City will conduct periodic updates to its wastewater development impact fees.



**WASTEWATER TREATMENT**

**B 3.0 Background**

The Water Resource Recovery Facility processes wastewater in accordance with standards set by the State's Regional Water Quality Control Board (RWQCB). The RWQCB issues a permit to the City under the National Pollutant Discharge Elimination System (NPDES), setting standards for the discharge of treated wastewater. The standards are to protect beneficial uses of the receiving water (San Luis Obispo Creek), including recreation, agricultural supply, and fish and wildlife habitat.

The Water Resource Recovery Facility removes solids, reduces the amount of nutrients, and eliminates bacteria in the treated wastewater, which is then discharged into San Luis Obispo Creek. Solids are separated and treated to create biosolids. Biosolids are beneficially reused as compost and/or soil amendment. As described in Section A 7.0, the Water Resource Recovery Facility has been producing tertiary-treated recycled water for delivery to water customers in the City since 2006.

~~The design phase for the~~ A comprehensive upgrade of the Water Resource Recovery Facility ~~is underway with completion of construction anticipated in 2022~~ was completed in 2025. The upgrade increased average daily dry weather capacity at the facility to 5.4 mgd, and included, but was not limited to, expansion of an equalization basin that provides additional flood protection measures and operational flexibility, and construction of a new membrane and ultra-violet disinfection (MBR-UV) facility. The upgrade will also enable the City to consider potable reuse, part of a *One Water* concept, in the future.

**B 3.1 Goals**

- B 3.1.1** Wastewater treatment that meets or exceeds regulatory requirements and ensures the protection of public health and the environment.
- B 3.1.2** Maximize recycled water production.

**B 3.2 Policies**

**B 3.2.1 Treating Wastewater**

The City will treat all wastewater in compliance with approved discharge permits.

**B 3.2.2 Recycled Water Production**

The City will produce high-quality, dependable recycled water, suitable for a wide range of uses.

**B 3.2.3 Beneficial Use**

The City will pursue treatment and disposal methods which provide for further beneficial use of wastewater and biosolids.

**B 3.3 Programs**

- B 3.3.1** Prepare and implement Water Resource Recovery Facility master plan consistent with regulatory requirements.
- B 3.3.2** Work cooperatively on regional water quality issues.

### COLLECTION SYSTEM

#### B 4.0 Background

The first sanitary sewers were built in San Luis Obispo in the late 1800s. Today, portions of the collection system are over 100 years old. It includes nine lift stations, approximately 138.5 miles of gravity sewer line, and three miles of force main. Approximately 2,900,184 manholes provide access to the collection system. The sewer lines are made of a variety of materials, including ductile iron pipe, terra cotta salt-glazed pipe, vitrified clay pipe (VCP), polyvinyl chloride (PVC), high-density polyethylene (HDPE) and asbestos concrete.

The City's wastewater collection system requires maintenance to ensure uninterrupted flows and minimize sanitary sewer overflows. Area and preventive maintenance programs are regularly evaluated to ensure their effectiveness. The City also utilizes video inspection to prioritize problem areas for replacement, maintenance, assess overall mainline conditions, conduct inflow and infiltration evaluations, and assess new construction.

The City issues discharge permits to and conducts inspections of facilities that have the potential to discharge pollutants in concentrations that could pose a threat to worker safety, the wastewater collection system, and/or the Water Resource Recovery Facility. Through its Pretreatment Program, the City also implements programs to target constituents of special concern.

Like most cities in California, San Luis Obispo has separate sewer and storm drain systems. This means each system of pipes in the ground is designed to accommodate either sewer or stormwater flows. One set of pipes takes sanitary waste to the Water Resource Recovery Facility while a second set carries stormwater runoff from street drains directly into bioswales, detention basins, or creeks.

The City's wastewater collection system and the Water Resource Recovery Facility have long experienced problems associated with wet weather infiltration and inflow (I & I). *Inflow* is water that enters the collection system at points of direct connection (non-soil) such as around manhole covers or through illegal connection of roof drains, downspouts, or landscape drains. *Infiltration* is water that flows through the ground into the collection system usually through cracks in public sewer mains and/or private sewer laterals (See Figure 4). I & I overloads the collection system during heavy rains and can result in sanitary sewer overflows. During periods of significant rain events, the Water Resource Recovery Facility can become hydraulically overwhelmed (as mentioned previously, instantaneous peak flows exceeding 20 mgd are not uncommon during storm events), increasing the chance of effluent violations and the release of partially treated wastewater to San Luis Obispo Creek. Table 6 includes data on the highest average daily flows experienced at the Water Resource Recovery Facility during rain events over a nine-19-year period.



Table 6. Highest Average Daily Flows to the Water Resource Recovery Facility, 2006 to ~~2017~~2024

Average Daily Flows <sup>1</sup>	Year
19.75 mgd	2006 (April)
7.24 mgd	2007(December)
9.83 mgd	2008 (January)
11.67 mgd	2009 (October)
13.51 mgd	2010 (December)
13.23 mgd	2011 (March)
7.10 mgd	2012 (January)
5.17 mgd	2013 (January)
5.12 mgd	2014 (March)
5.24 mgd	2015 (February)
5.63 mgd	2016 (March)
9.00 mgd	2017 (February)
<u>10.626</u>	<u>2018 (March)</u>
<u>10.19</u>	<u>2019 (March)</u>
<u>6.86</u>	<u>2020 (March)</u>
<u>11.18</u>	<u>2021 (January)</u>
<u>6.92</u>	<u>2022 (December)</u>
<u>17<sup>2</sup></u>	<u>2023 (January)</u>
<u>9.26</u>	<u>2024 (April)</u>

Notes:

1. Instantaneous peak flows are higher.

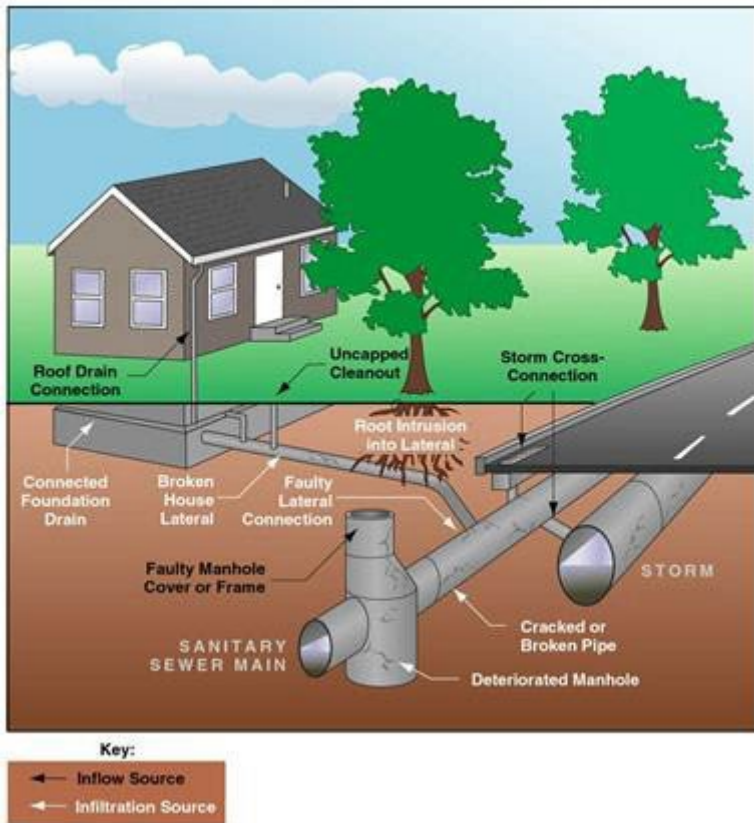
~~August dry weather flow to the Water Resource Recovery Facility was 1.91 mgd in 2016 and 2.80 mgd in 2017.~~

~~Source: City of San Luis Obispo Utilities Department, 2018.~~

2. At the time of measurement, during the WRRF upgrade project, maximum measurement limit was 17 mgd.

Actual flows exceeded this amount.

Figure 4 Inflow and Infiltration Illustrated



**B 4.1 Goal**

Collect and convey all wastewater under safe and sanitary conditions to the Water Resource Recovery Facility.

**B 4.2 Policies**

**B 4.2.1 Collection System Maintenance**

The City will manage the collection system to ensure that the proper level of maintenance is provided and that the flow in sanitary sewers does not exceed design capacity.

**B 4.2.2 Infiltration and Inflow**

The City will minimize stormwater and groundwater infiltration and inflow into the sewer system.

**B 4.3 Programs**

- B 4.3.1** Investigate and carry out cost-effective methods for reducing infiltration and inflow into the wastewater collection system.
- B 4.3.2** Develop education and outreach materials to increase public awareness of problems associated with excessive infiltration and inflow (I & I) into the wastewater collection system and the City's efforts to reduce I & I.
- B 4.3.3** Support the retrofit of commercial and residential sewer laterals to reduce infiltration and inflow into the wastewater collection system.
- B 4.3.4** Update the *Sewer System Management Plan* to maintain its applicability.
- B 4.3.5** Maintain, and revise as necessary, master plans for the extension of wastewater services to developing areas of the City and to ensure orderly replacement of aged infrastructure.



- B 4.3.6** Review development proposals to ensure new development does not adversely impact existing infrastructure and that necessary infrastructure will be in place to support the development.
- B 4.3.7** Provide a Pretreatment Program pursuant to the Clean Water Act to ensure that all discharge requirements are met.