Final

Wastewater Agencies

in Contra Costa County

Combined Municipal Service Review and Sphere of Influence Study (3rd Round)

Prepared For:
Contra Costa Local Agency Formation Commission

Accepted by the Commission on June 12, 2024

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Final

Municipal Service Review and

Sphere of Influence Update

WASTEWATER SERVICES

Prepared by:

SWALE inc

Prepared for:

Contra Costa LAFCO

https://www.contracostalafco.org/

Accepted by LAFCO on June 12, 2024

PREPARED FOR:

CONTRA COSTA LOCAL AGENCY FORMATION COMMISSION

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Table of Contents

Appendices

ACRONYMS AND ABBREVIATIONS

ACS	American Community Survey
ADD	Average Day Demand
ADWF	Average Dry Weather Flow
AF	Acre Feet
AF/Yr	Acre Feet Per Year
AMP	Asset Management Plan
ASCE	American Society of Civil Engineers
BMP	Best Management Practices
CA	California
BSD	Byron Sanitary District
CAFR	Comprehensive Annual Financial Report
CCCWP	Contra Costa Clean Water Program
CCRCD	Contra Costa Resource Conservation District
CCSD	Crockett Community Services District
CCWF	Contra Costa Watershed Forum
CDF	California Department of Forestry
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CIP	Capital Improvement Plan
CKH	Cortese-Knox-Hertzberg Reorganization Act of 2000
CPUC	California Public Utilities Commission
CSD	Community Services District
CTR	California Toxics Rule
CWA	Clean Water Act
CWP	County Watershed Program
DAC	Disadvantaged Community
DOC	California Department of Conservation
DSRSD	Dublin San Ramon Services District
DUC	Disadvantaged Unincorporated Community
EBMUD	East Bay Municipal Utility District
EDU	Equivalent Dwelling Unit
EPA	U. S. Environmental Protection Agency
FTE	Full-Time Equivalent

FY	Fiscal Year
GAAP	Generally Accepted Accounting Principles
GASB	Government Accounting Standards Board
GC	Government Code
GHG	Greenhouse Gas
GIS	Geographic Information System
GPM	Gallons per Minute
GSA	Groundwater Sustainability Agency
HUC	Hydrological Unit Code
HUD	Department of Housing and Urban Development
I/I	Infiltration and Inflow
IMS	Irrigation Management System
ISD	Ironhouse Sanitary District
LAFCO	Local Agency Formation Commission
MDD	Maximum Daily Demand
MGD	Million Gallons per Day
MHI	Median Household Income
MOU	Memorandum of Understanding
MS4	Municipal Separate Storm Sewer System
MTP/SCS	Metropolitan Transportation Plan/Sustainable Communities Strategy
MSR	Municipal Services Review
MVSD	Mt. View Sanitary District
NEPA	National Environmental Policy Act
NNE	Nutrient Numeric Endpoint
NPDES	National Pollutant Discharge Elimination System
NTR	National Toxics Rule
O&M	Operation and Maintenance
OES	Office of Emergency Services
OPR	Office of Planning and Research
OWTS	On-site Wastewater Treatment Systems
POPs	Persistent Organic Pollutants
PPCPs	Pharmaceuticals and Personal Care Products
PRC	California Public Resources Code
PUD	Public Utility District
RSD	Rodeo Sanitary District
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SCADA	Supervisory Control and Data Acquisition; a software application
SCS	Sustainable Communities Strategy

SCO	State Controller's Office
SFEI	San Francisco Estuary Institute
SFEP	San Francisco Estuary Partnership
SFR	Single Family Residence
SOI	Sphere of Influence
SSD	Stege Sanitary District
SSMP	Sewer System Management Plan
SSO	Sanitary Sewer Overflow
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TODBCSD	Town of Discovery Bay CSD
TMDLs	Total Maximum Daily Loads
USBR	U.S. Bureau of Reclamation
WCWD	West County Wastewater District
WDRs	Waste Discharge Requirements
WRF	Water Recycling Facility
WWTP	Wastewater Treatment Plant

CHAPTER 1: EXECUTIVE SUMMARY

TABLE OF CONTENTS

1.1: Overview

This Municipal Service Review (MSR) and Sphere of Influence (SOI) Update examines how municipal wastewater services are delivered to Contra Costa County by 20 wastewater service providers. Chapter 2, Introduction, contains a list of the 20 wastewater service providers. This MSR/SOI Update discusses service delivery and efficiency, including an analysis of each of the following analytical factors:

- Growth and population projections for the 20 service providers;
- Disadvantaged unincorporated communities;
- Present and planned capacity of public facilities;
- Financial ability of each agency to provide services;
- Opportunities for shared facilities;
- Accountability for government service needs; and
- Any other matter related to service delivery as required by Commission Policy.

Contra Costa LAFCO has previously reviewed the 20 wastewater service providers in the following MSR/SOI Updates:

- Contra Costa Local Agency Formation Commission (LAFCO). Approved May 14, 2014. Final Contra Costa County Water and Wastewater Agencies, Combined Municipal Service Review and Sphere of Influence Study, (2nd Round). 309-pages.
- MSR/SOI Update for the Municipal Service Providers (i.e., cities) on June 12, 2019, with the assistance of *Lamphier-Gregory Consulting*. This previous MSR/SOI Update and any other

Sphere of Influence (SOI) studies are available at LAFCO's website: <*https://www.contracostalafco.org/agencies/municipal-service-reviews/*>.

This MSR/SOI Update constitutes a review of a wastewater provider's ability to meet the service demands of the customers within its respective boundaries. Only municipal wastewater services are considered in this MSR/SOI Update. 20 wastewater service providers provide municipal wastewater service to Contra Costa County residents, businesses, and visitors.

1.2: LOCATION AND DEMOGRAPHICS

Contra Costa County is located on the east side of the San Francisco Bay, within the San Francisco–Oakland–Berkeley, CA Metropolitan Statistical Area, as shown in Figure 1-1 (next page). The county includes several cities, some of which directly provide wastewater service. Contra Costa County is unique in that it has an adopted Urban Limit Line, which directs growth towards cities and aims to protect open space areas. A map of the Urban Limit Line is provided in Figure 1-2. Demographic information for Contra Costa County is provided in Appendix A. Population data directly related to each of the 20 wastewater service providers is provided in Chapters 3 to 22.

1.3: SUMMARY OF MSR/SOI UPDATE

This Municipal Service Review (MSR) and Sphere of Influence (SOI) Update evaluates the provision of wastewater services in Contra Costa County. This report was prepared for the Contra Costa Local Agency Formation Commission (LAFCO), consistent with the requirements of the Cortese Knox Hertzberg (CKH) Act. This MSR/SOI Update provides an in-depth analysis of the current operations, infrastructure, financial status, and future needs of the wastewater service providers within the county.

The MSR/SOI Update describes 20 agencies that provide wastewater services. A map depicting the spatial distribution of the 20 wastewater service providers is provided in Figure 1-3. One chapter has been written for each service provider, describing an overview of wastewater operations, infrastructure assessments, and financial analyses. The MSR/SOI Update highlights significant infrastructure needs and planned projects, such as the rehabilitation of sewer lines and maintenance holes to reduce overflows and improve system reliability.

Financially, the MSR examines the revenue and expenditure trends of the wastewater enterprise funds for each agency. Most of the service providers maintain a stable financial position, with revenues generally exceeding expenses, thus ensuring the sustainability of their wastewater services. For example, the City of Concord has an SSMP, which also functions as a five-year Capital Improvement Plan (CIP) to address its wastewater infrastructure needs and enhance service delivery.

Figure 1-1: Contra Costa County Location Map

Figure 1-2: Urban Limit Line

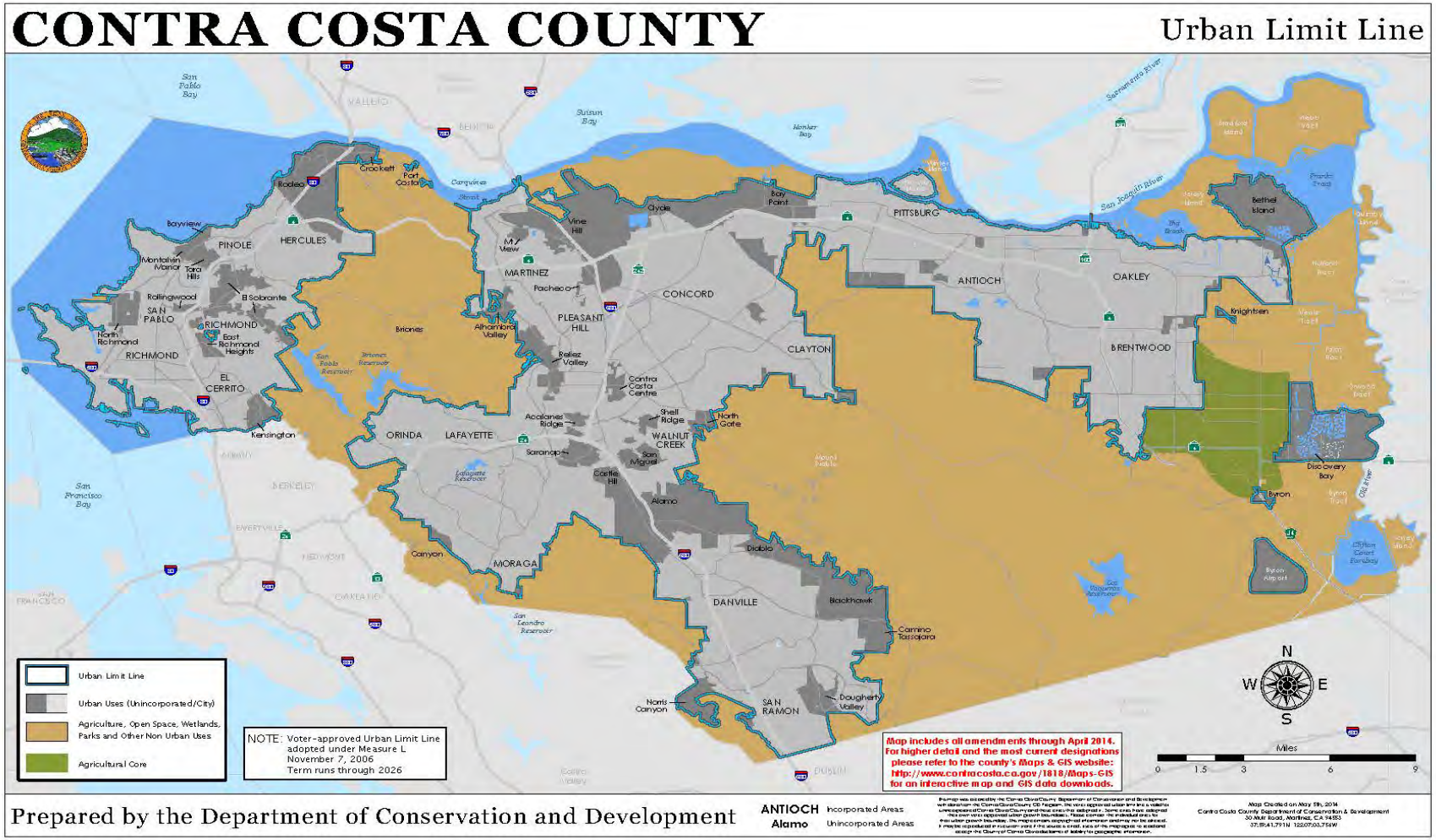
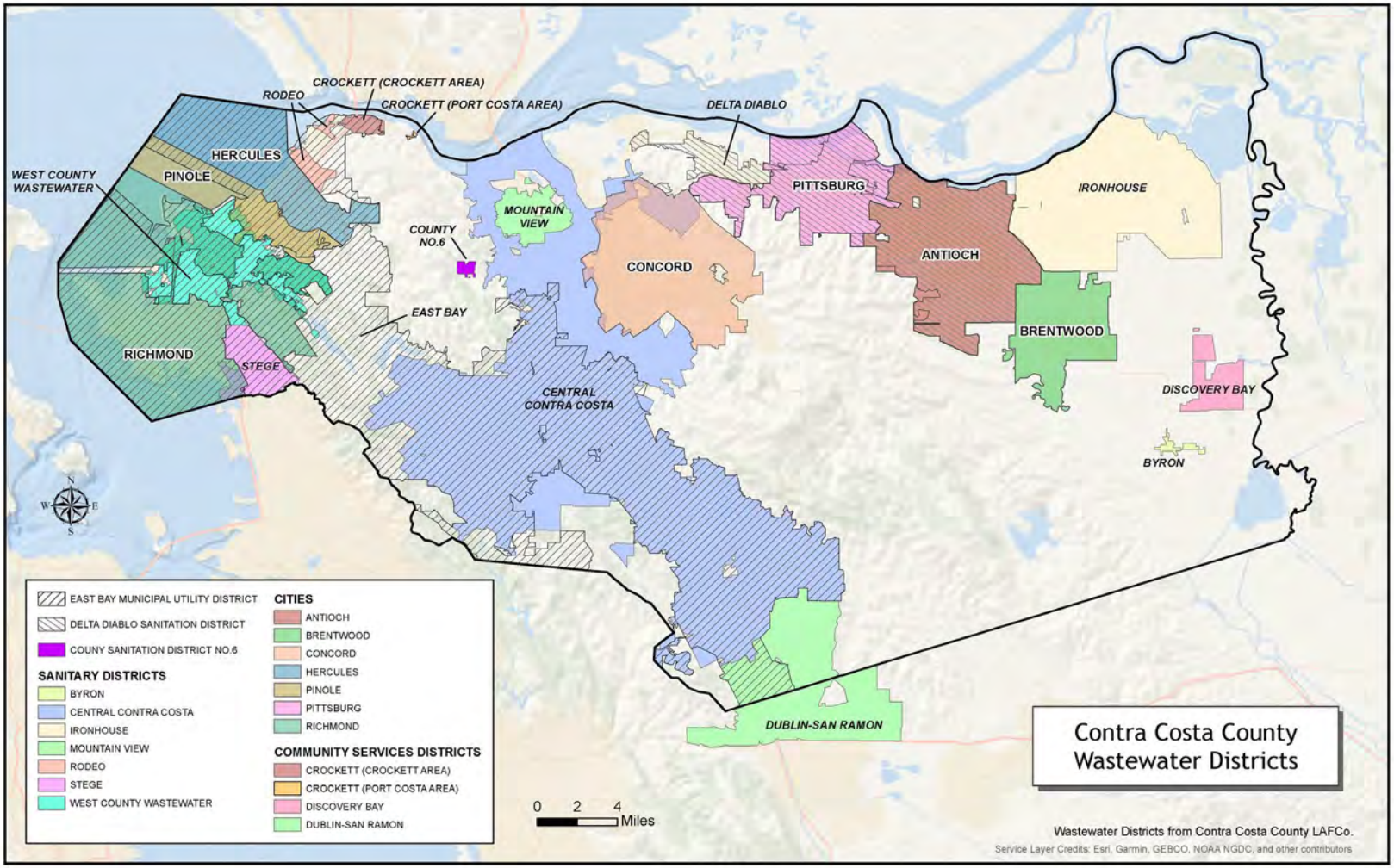


Figure 1-3: Map of 20 Wastewater Service Providers



The report also addresses population growth projections and their implications for future wastewater service demands. Additionally, the MSR identifies disadvantaged communities within the service areas and assesses how well they are served by current wastewater infrastructure. This MSR/SOI Update explores various government structure alternatives to enhance service delivery. For example, it discusses the potential for consolidating services with neighboring districts or annexing unincorporated islands within city boundaries to streamline operations and improve efficiency. Recommendations for each service provider are provided to guide future actions and planning.

In summary, the MSR comprehensively evaluates wastewater services in Contra Costa County, offering valuable insights and recommendations to ensure the continued provision of safe, reliable, and efficient wastewater services for all communities. This review supports LAFCO's aim to promote sustainable growth, efficient service delivery, and the responsible use of resources. By describing current challenges and ongoing planning efforts, the MSR serves as a crucial tool for local governments and service providers to enhance their wastewater infrastructure and operations, ultimately benefiting the residents of Contra Costa County.

1.4: DETERMINATIONS & PERFORMANCE MEASURES

This section highlights the MSR determination topic and performance measures. A brief snapshot of the topics described in the MSR determinations and associated performance measures are listed herein, with additional details provided in Chapters 3 to 22. This MSR/SOI Update presents a written statement of conclusions, known as determinations, for the affected service provider. The key facts that support each determination are discussed in Chapters 3 through 22. The MSR determination topics include the following:

- *Growth and population for the affected area*.
    - Is the existing population estimated?
    - Is the projected future growth estimated?
- *Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence*.
    - Brief description of disadvantaged areas is provided.
- *Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence*.
    - Does the agency have a CIP?
    - Are SSOs identified?
    - Are local hazards identified?
- *Financial ability of agencies to provide services*.

  - Has the agency prepared a rate study?
  - Do revenues exceed expenditures?
  - Is the ratio of annual debt service to total fund annual expenditures 10% or less?
- *Status of, and opportunities for, shared facilities*.
  - Brief description of an agency's experience cooperating with neighboring agencies.
- *Accountability for community service needs, including government structure and operational facilities*.
  - Does the agency have a website?
  - Does the agency post a public outreach tool (such as a calendar or newsletter) on its website?
  - What is the recommendation for mergers, consolidations, or other changes to the governance structure?
- *Any other matter related to effective or efficient service delivery, as required by Commission policy*.

This MSR utilizes key performance measures[1] derived from the analytical factors in OPR's 2003 Guidelines to support LAFCO's determinations related to governance, social, environmental, and financial considerations prescribed by the CKH Act. The specific performance measures are described in Chapter 2, Introduction, and examples of the key performance measures include:

- Sanitary Sewer Overflows
- Local hazards and infrastructure vulnerability

Sanitary Sewer Overflows

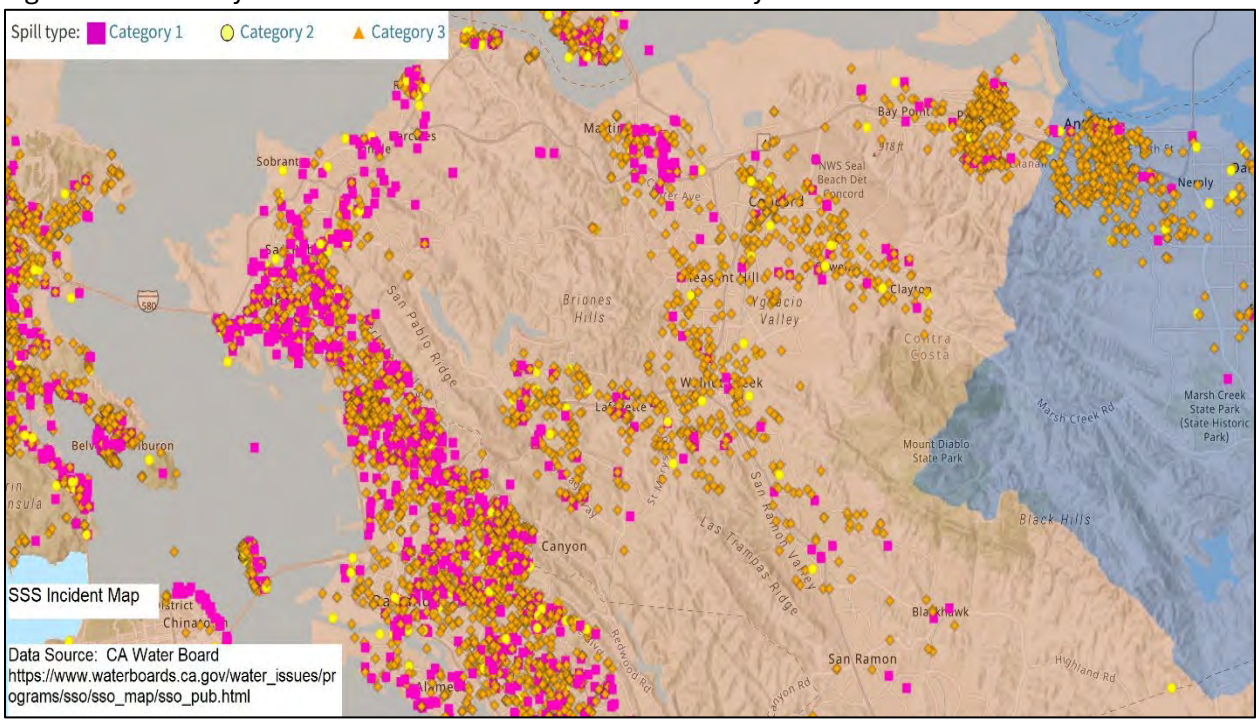
A sanitary sewer overflow is when untreated sewage is released from a sanitary sewer into the environment before reaching sewage treatment facilities. This often occurs accidentally during rainfall. The map in Figure 1-4 shows spills of 50 gallons or more from sanitary sewer systems or private systems/lateral spills reported by enrollees in the California Integrated Water Quality System (CIWQS) Sanitary Sewer System Database.

Local Hazards And Infrastructure Vulnerability

Figure 1-5 shows the spatial distribution of infrastructure vulnerability in Contra Costa County.

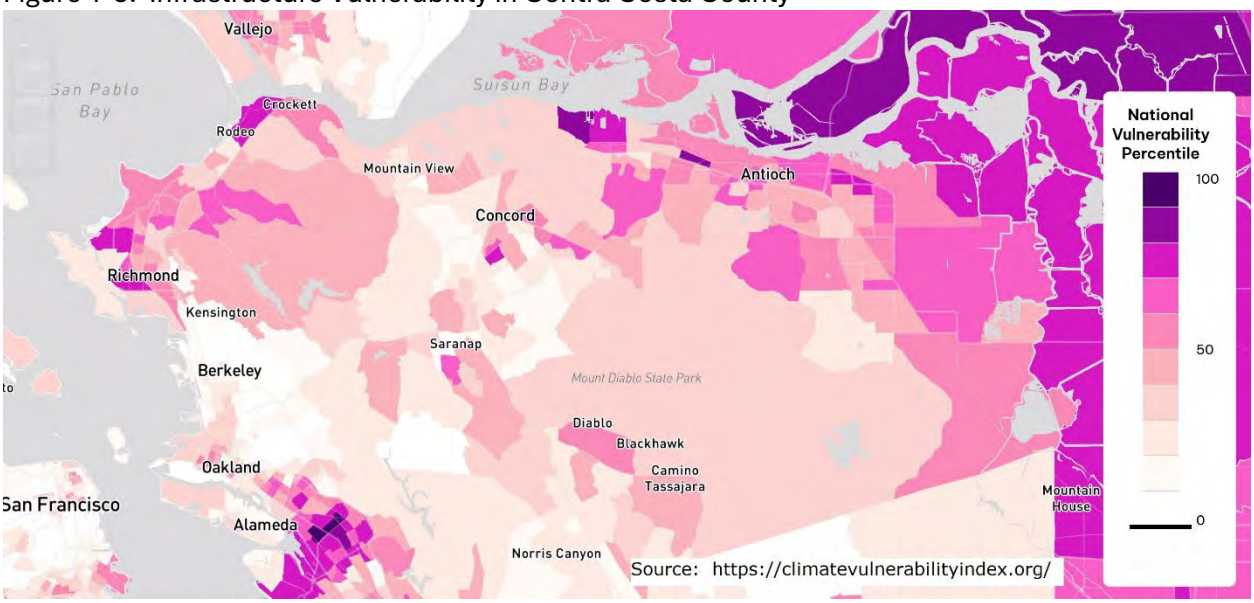
[1] The terms performance measures, metrics, indicators, and analytical factors are considered synonyms and their use in MSRs is described in the State of California's Local Agency Formation Commission MSR Guidelines, published by the Office of Planning and Research in August 2003.

Figure 1-4: Sanitary Sewer Overflows in Contra Costa County



Data Source for Figure 1-4: CA Environmental Protection Agency. State Water Resources Control Board. California Integrated Water Quality System (CIWQS) Sanitary Sewer Overflow Database. Retrieved January 2023 from <https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportSSOServlet?reportAction=criteria&reportId=sso_main >.

Figure 1-5: Infrastructure Vulnerability in Contra Costa County



The data for Figure 1-5 was obtained from Texas A&M University, Environmental Defense Fund, and Darkhorse Analytics. This data is part of the 2023 U.S. Climate Vulnerability Index, available online

at: <*https://climatevulnerabilityindex.org*>. In Figure 1-5, darker colors represent higher vulnerability to local climate and associated hazards. Two dark purple areas on the above map represent areas of concern. Specifically, the Bay Point neighborhood (Census Tract 06013314200) scored in the 82nd percentile, indicating that infrastructure is highly vulnerable to disruption. Similarly, a neighborhood in Pittsburg (Census Tract 06013312000) also has infrastructure that is highly vulnerable to disruption, as indicated by its score in the 80th percentile. The infrastructure score for both Bay Point and the Pittsburg neighborhood are indexed based on several factors, including:

- Lack of access to a public library
- High number of Housing and Urban Development (HUD) housing units
- Housing units funded by grants from HUD
- Lower level of real estate taxes paid
- High percentage of Households with smartphone, but no other device
- High percentage of Households without internet access
- Lack of housing affordability
- High percentage of unbanked households
- High number of payday loan shops per 10,000 people
- High share of energy developed from fossil fuels
- Residential Energy Cost Burden

1.4: KEY THEMES

This paragraph synthesizes the information provided in Chapters 2 to 22 to highlight the key themes that arrived from the MSR analysis. There are four overarching issues facing wastewater service providers in Contra Costa County and the SF Bay Area at large, including:

- Waste Management (including nutrient management and carbon (methane) capture)
- Energy Efficiency
- Resilience to local and global hazards
- Water Recycling

Waste Management (Including Nutrient Management And Carbon [Methane] Capture)

The MSR/SOI Update highlights several key issues and initiatives related to waste management, nutrient management, and carbon (methane) capture in Contra Costa County. Waste management involves handling wastewater treatment byproducts like biosolids and sludge through environmentally safe practices. Nutrient management is critical due to potential water quality impacts, with stricter regulations expected from the Regional Water Quality Control Board (RWQCB). Future challenges include adapting to new regulations, updating infrastructure, and advancing treatment technologies. Wastewater treatment plants can be retrofitted to capture methane, and generate electricity and heat, thus reducing greenhouse gas emissions. Delta Diablo is noted for its effective biogas utilization and cooperative programs to enhance waste management.

Energy Efficiency in Wastewater Services

Energy efficiency is a critical focus for wastewater service providers in Contra Costa County and the San Francisco Bay Area due to its significant impact on operational costs and environmental sustainability. The MSR outlines various initiatives and technologies adopted by different service providers to improve energy efficiency in their wastewater treatment processes.

For instance, the Hercules–Pinole JPA Sanitary Water Pollution Control Plant has implemented a cogeneration system that utilizes methane from its anaerobic digesters to produce electricity and heat, significantly reducing the energy required from external sources. Similarly, the Central Contra Costa Sanitary District (Central San) operates a state-of-the-art cogeneration facility that reduces greenhouse gas emissions and supplies more than 90% of the plant's daily power needs. The East Bay Municipal Utility District (EBMUD) has integrated green energy programs that transform sewage and organic waste into renewable energy, enhancing energy efficiency and sustainability.

Energy efficiency is vital for wastewater service providers because it helps reduce the overall operational costs, making the services more affordable for residents. Additionally, it contributes to reducing the carbon footprint of wastewater treatment operations, aligning with broader environmental goals and regulatory requirements. By adopting energy-efficient technologies and practices, these agencies enhance their operational efficiency and support the transition to more sustainable and resilient wastewater management systems.

Resilience to Local and Global Hazards

Resilience to local and global hazards is crucial for wastewater service providers in Contra Costa County due to the region's susceptibility to natural disasters such as sea level rise, flooding, and earthquakes. The MSR/SOI Update relies upon data presented in the Contra Costa County Hazard Mitigation Plan Volume 2 (HMP), dated January 2018, which maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards. This MSR/SOI Update highlights several initiatives aimed at enhancing resilience to these hazards. For instance, the City of Antioch's wastewater infrastructure is located in areas with moderate to high liquefaction susceptibility and potential earthquake risks. To address these risks, it is recommended that the city's next update to its Sewer System Management Plan (SSMP) include strategies for mitigating these hazards. In another example, East Bay Municipal Utility District (EBMUD)'s Integrated Master Plan describes investment in infrastructure renewal, including seismic retrofit, which will help ensure continuous service during seismic events. Additionally, EBMUD has conducted vulnerability assessments and developed mitigation plans to address the impacts of sea level rise on its coastal facilities.

Flooding is another significant concern, with several agencies taking proactive measures to protect their wastewater facilities. For example, the City of Richmond has upgraded its pump stations and

drainage systems to handle increased stormwater flow, thereby reducing the risk of flood-related service disruptions.

Natural hazards pose significant risks to wastewater infrastructure, which can lead to service disruptions, environmental contamination, and public health crises. Enhancing resilience to these hazards is vital for ensuring the reliability and safety of wastewater services. By implementing robust mitigation strategies and emergency response plans, wastewater service providers can minimize the impact of natural disasters, protect critical infrastructure, and maintain essential services during emergencies.

Water Recycling

Water recycling is important for wastewater service providers because it enhances water security, promotes sustainability, and supports the efficient use of resources. By reusing treated wastewater, these agencies can reduce the strain on freshwater supplies, lower operational costs, and contribute to the overall resilience of their communities against climate change and population growth. The MSR highlights several water recycling projects and initiatives across different districts. For instance, the Central Contra Costa Sanitary District (Central San) operates a successful recycled water program, providing recycled water for plant operations, industrial uses, and landscape irrigations. Another example is the City of Brentwood, which has invested in water recycling infrastructure to supply recycled water for use inside the city for landscaping in street medians and parks. The Town of Discovery Bay Community Services District has allocated funds within its budget to create a Recycle Water Master Plan. The West County Wastewater District has worked in partnership with EBMUD to establish a successful water recycling program that produces high-quality recycled water for industrial and landscape irrigation purposes.

Water recycling projects help to mitigate the effects of droughts and water shortages, which are becoming increasingly common in California. Those wastewater service providers practicing water recycling help conserve water resources and reduce the demand for freshwater supplies. This approach supports the overall resilience and sustainability of the community's water management system.

1.5: APPENDICES

The appendices for the MSR/SOI Update for Wastewater Services in Contra Costa County provide detailed supplementary information on various aspects crucial to understanding and evaluating wastewater services in the region. These appendices collectively support the comprehensive analysis presented in the MSR, offering essential data and context for making informed decisions about the future of wastewater services in Contra Costa County. Each appendix is briefly described in the following paragraphs.

Appendix A: Demographic Data

This appendix presents comprehensive demographic statistics for Contra Costa County, including population estimates, age distribution, racial composition, housing characteristics, and socioeconomic indicators. The data helps contextualize the demand and infrastructure needs for wastewater services.

Appendix B: Map of Disadvantaged Communities

This appendix includes a map identifying disadvantaged communities within Contra Costa County, determined using American Community Survey 5-year estimates. This map highlights areas where median household incomes are below 80% of the statewide median, which is crucial for targeting service improvements and ensuring equitable access to wastewater services.

Appendix C: Economic Data

Economic data for the county, sourced from the U.S. Census, covers employment statistics, business demographics, and income levels. This information supports understanding the economic environment in which wastewater services operate and the potential impacts of economic changes on service demand.

Appendix D: California's New Housing Laws

Appendix D provides a summary of new housing legislation in California. These new laws aim to address the housing shortage, promote affordable housing, and streamline housing development processes. The implications of these laws on wastewater infrastructure and capacity are considered, emphasizing the need for coordination between housing and utility planning.

Appendix E: Housing and Land Use Resources

This Appendix lists various databases and resources related to housing density, rent burden, walkability, climate vulnerability, air pollution, and building permits. These resources provide additional context for analyzing the interactions between land use, housing development, and wastewater service needs.

Appendix F: Description of Watersheds

Appendix F provides detailed descriptions of the watersheds within Contra Costa County, including their geographic boundaries, hydrological characteristics, and ecological significance. This section emphasizes the importance of watershed management for maintaining water quality and supporting sustainable wastewater practices.

Appendix G: Wastewater Regulations

An overview of the regulatory framework governing wastewater services, including key federal, state, and local regulations, is provided in Appendix G. This appendix provides a foundation for understanding the compliance requirements that wastewater service providers must meet.

Appendix H: Methane Emissions

This appendix discusses methane emissions from wastewater treatment processes and the importance of methane capture and utilization technologies. It highlights the environmental and operational benefits of reducing methane emissions.

Appendix I: Recycled Water

This appendix provides information on water recycling practices within the county, detailing existing recycled water projects, their benefits, and the potential for expanding water recycling efforts to enhance water sustainability and resilience.

Appendix J: American Society of Engineers

Appendix J provides a brief overview of standards and guidelines provided by the American Society of Engineers relevant to wastewater infrastructure planning, design, and operation.

1.6: References

Badger, Emily. March 30, 2012. The Simple Math That Can Save Cities From Bankruptcy. Published by Citylab. Retrieved on July 12, 2021 from: <*https://www.citylab.com/life/2012/03/simple-math-can-save-cities-bankruptcy/1629/*>.

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CHAPTER 2: INTRODUCTION

Aerial Image of Wastewater Treatment Plant located in Antioch.
Image courtesy of Google Earth

TABLE OF CONTENTS

2.1: ROLE AND RESPONSIBILITY OF LAFCO

Local Agency Formation Commissions (LAFCOs) are independent agencies established by state legislation in 1963 in each county in California to oversee changes in local government agency boundaries and organizational structures. LAFCOs are authorized by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (CKH Act), which is available on-line to review at: <*https://calafco.org/Cortese_Knox_Hertzberg_Act* >. As noted in Government Code (GC) §56301 (State of California, 2017), LAFCOs are charged with:

- Encouraging the orderly formation of cities and special districts;
- Preserving agricultural and open space lands;
- Curbing urban sprawl; and
- Encouraging efficient delivery of services.

Specifically, LAFCOs have the responsibility to:

- oversee the logical, efficient, and most appropriate formation of local cities and special districts (GC §§56100 to §57325);
- provide for the logical progression of agency boundaries and efficient expansion of municipal services (GC §56001);
- assure the efficient provision of municipal services (GC§56001; and
- discourage the premature conversion of agricultural and open space lands. (GC § 56100, 56301, 56425, 56430, 56378).

For general information about LAFCOs, visit the CALAFCO website: *www.calafco.org*.

2.2: PURPOSE OF THE MSR/SOI UPDATE

Municipal Service Reviews (MSRs) are intended to provide a comprehensive analysis of services provided by cities, special districts, as well as other service providers identified within an MSR that fall under the legislative authority of LAFCO. This MSR/SOI Update was written under the auspices of Contra Costa LAFCO, so it can be utilized it to make informed decisions based on the best available data for each service provider. As required by law, written determinations are presented following the MSR analysis in Chapters 3 to 22. An MSR is an information tool that can be used to facilitate cooperation among agency managers and LAFCO to achieve efficient delivery of services. Describing existing efficiencies in service deliveries and suggesting new opportunities to improve efficiencies is a key objective of this MSR/SOI Update, consistent with Contra Costa LAFCO's purpose. LAFCO is ultimately the decision maker to approve or disapprove any determinations, policies, boundaries, and discretionary items. Since this MSR/SOI Update is published on the LAFCO website, it also contributes to Contra Costa LAFCO's principle relating to public accessibility and accountability. Contra Costa LAFCO will conduct a public hearing on this MSR/SOI Update on June 12, 2024.

The form and content of this MSR/SOI Update are guided by requirements in three documents:

- CKH Act;
- State of California's Local Agency Formation Commission MSR Guidelines, published by the Office of Planning and Research (OPR) in August 2003; and
- Contra Costa LAFCO Policies (listed in Table 2-2).

As part of the MSR, LAFCO analyzes and prepares a written statement of seven determinations contained in the CKH Act, specific to GC §56430 for each of the following evaluation categories:

- Growth and population projections for the affected area.
- The location and characteristics of disadvantaged unincorporated communities within or contiguous to the SOI.
- Present and planned capacity of public facilities, adequacy of public services, infrastructure needs or deficiencies, including needs or deficiencies related to treated and industrial water, and structural fire protection in any disadvantaged unincorporated communities within or contiguous to the SOI.
- Financial ability of agencies to provide services.
- Status of and opportunities for shared facilities.
- Accountability for community service needs, including governmental structure and operational efficiencies.
- Any other matter related to effective or efficient service delivery, as required by commission policy.

MSRs are required prior to and/or in conjunction with a Sphere of Influence (SOI) amendment or update.

Sphere of Influence

The CKH Act requires that LAFCO adopt and periodically update a Sphere of Influence (SOI or Sphere) for each city and special district within the county. The SOI is "a plan for the probable physical boundaries and service areas of a local agency" (GC §§56076 and § 56425). The CKH Act indicates that LAFCO should review and update a sphere of influence every five years, as necessary, consistent with GC § 56425(g) and § 56106[1].

[1] The CKH Act (GC § 56106) states that all timeframes are directives. Any provision governing the time in which Commission is to act, is deemed directory rather than mandatory.

In determining the SOI for an agency, LAFCO must consider and prepare written determinations with respect to five factors [GC §56425(e)] based on the following information:

- The present and planned land uses in the area, including agricultural and open-space lands;
- The present and probable need for public services and facilities in the area;
- The present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide;
- The existence of any social or economic communities of interest in the area if LAFCO determines that they are relevant to the service provider; and
- The nature, location, and extent of any functions or classes or services provided by existing districts

Generally, the intent of an SOI is to identify the most appropriate areas for an agency's service area in the *probable future*. Typically, LAFCO discourages the inclusion of land in an agency's Sphere if a need for services provided by that agency cannot be demonstrated. Accordingly, territory included in an agency's Sphere is an indication that the probable need for services has been established and that LAFCO has determined the subject agency to be the most logical service provider for the area. LAFCO has a number of ways to consider Spheres of Influence and the variety of approaches are listed in Table 2-1 below.

Table 2-1: Standard SOI Approaches

Type of Approach	**Description of Standard Approach**
Coterminous SOI	For a City or District that does not plan to provide public services beyond its present boundary, a Sphere boundary that is the same as the agency boundary is called a *Coterminous SOI*.
Minus SOI	A *Minus SOI* (or Reduced SOI) excludes territory currently within an agency's Sphere.
Zero SOI	A *Zero SOI* for a City or District signals that the City or District does not have the wherewithal, governance capability, financial means, and/or operational capability to provide the municipal services for which it was formed and should be dissolved or its function(s) reallocated to another agency.
Service Specific Zone within a Sphere	To accommodate situations where territory within an agency's jurisdiction may require some, but not all, of the services that the agency is authorized to provide, LAFCO may designate an area within an SOI to which it may attach specific policies, including limiting the types of services authorized in that area. The intent of a service specific zone is to limit the types of services provided in a defined area and is not intended in any way to circumvent annexation.
Growth Sphere	Contains territory beyond the jurisdictional boundaries of the local agency and is an indication that the need for public services

	in the area has been established and the agency has the ability to effectively and efficiently extend necessary services provided by the agency.
Special Cases	Sphere areas for which public services are not intended to be provided; that is, areas within a Sphere which will remain undeveloped (such as open space or 'protected lands'). Such an area is a special case and requires the agency to demonstrate why an area should be included within a Sphere for which no or limited public services will be provided.

Boundary Changes

LAFCO has the authority under GC §56375(a) to initiate specific types of boundary changes consistent with MSR and SOI studies. These boundary changes include:

- Dissolution (termination of a district and its corporate powers).
- Consolidation of districts (joining two or more districts into a single successor district).
- Merger (termination of a district by merging that district with a city or adjacent district).
- Establishment of a subsidiary district (where a city council becomes the board of directors of the district).
- A reorganization that includes any of the above.

A local agency may submit an application to LAFCO for a boundary change[2]. Property owners or registered voters located within the proposed service area may also petition LAFCO for a boundary change. The following types of boundary changes may be proposed to LAFCO:

- Annexation to or detachment from a city or district.
- Formation of a new district or city.
- A reorganization that includes any of the above.

LAFCO can utilize the information presented in an MSR to review future proposals for extension of service beyond an agency's jurisdictional boundaries or for amendment to a city's urban service area boundaries.

2.3: ABOUT CONTRA COSTA LAFCO

Each LAFCO in California works to implement the CKH Act, and there is flexibility in how these state regulations are implemented to adapt to local needs. As a result, Contra Costa LAFCO has adopted policies and guidelines that guide its operations, and which consist of three parts as listed in Table 2-2 below. LAFCO's Policies and Guidelines can be found on Contra Costa LAFCO's website (*https://www.contracostalafco.org/*).

[2] This applies to cities and special districts that contain or will contain (or whose SOI contains) any territory to be reviewed by LAFCO and the County.

Table 2-2: Contra Costa LAFCO Policies and Guidelines	
Name of Policy	**Date**
Agricultural and Open Space Preservation	Adopted December 14, 2016
Campaign Disclosure Requirements	Adopted December 19, 2007
Commissioner Handbook	various

The Commissioner's Handbook contains a wide range of sub-policies that guide the operations and procedures of Contra Costa LAFCO, as listed in Table 2-3 below.

Table 2-3: List of Sub-Policies in Commissioner's Handbook	
GENERAL POLICIES & PROCEDURES	**PROJECT PROCESSING PROCEDURES**
General Policy Statement	Procedures for Processing Boundary Changes
Preferred Service Provider	Procedures for Processing an Incorporation
Indemnification Policy	Procedure for Processing Multi-County Boundary Changes: Alameda-Contra Costa LAFCOs
Policies on Spheres of Influence and Annexations	City Annexations and Detachments
Island Annexation Policies	District Annexations and Detachments
Policy for Evaluating Applications Requesting the Provision of Water Service for Urbanizing Areas	District Mergers and Establishment of Subsidiary Districts
School Capacity	LAFCO-Initiated Proposals
Service Plans	New or Different Services
Municipal Service Review Guidelines	District Dissolution
Policies for Out-of-Agency Service Agreements	District Formation
Reconsideration of LAFCO Decisions	District Consolidation
City Incorporations	City Consolidation
Revenue Neutrality	City Disincorporation
District Latent Powers	Reorganization
Agricultural & Open Space Preservation Policy	Provision of Services by Contract (Out of Agency Service)

Commissioners

Contra Costa LAFCO is composed of seven regular Commissioners: two members from the Board of Supervisors; two members who represent cities; two members who represent special districts; and one public member who represents the public as a whole. In addition, there are four alternate Commissioners, one from each of the above membership categories. County representatives (regular and alternate) to LAFCO are selected by the Board of Supervisors. Since Contra Costa County has 19 cities (Antioch, Brentwood, Clayton, Concord, Danville, El Cerrito, Hercules,

Lafayette, Martinez, Moraga, Oakley, Orinda, Pinole, Pittsburg, Pleasant Hill, Richmond, San Pablo, San Ramon, and Walnut Creek), the City Selection committee, made up of the mayor of each incorporated city within Contra Costa County, appoints two city council members and one alternate. Special district representatives (regular and alternate) to LAFCO are elected by special district selection committee. The LAFCO Commissioners select one public member and one public member alternate. The public members cannot be an elected or appointed official of any public agency in the County of Contra Costa. Commissioners are listed in Table 2-4 below.

Table 2-4: Members of Contra Costa LAFCO

Commissioner Name	Representing	Date Term Expires
Gabriel Quinto	City Member	Term Expires: 5/1/28
Scott Perkins	City Member	Term Expires: 5/3/27
Edi Birsan,	City Member (Alternate)	Term Expires: 5/3/27
Federal Glover	County Member	Term Expires: 5/4/26
Candace Andersen	County Member	Term Expires: 5/4/26
Diane Burgis	County Member (Alternate)	Term Expires: 5/1/28
Charles R. Lewis, IV	Public Member	Term Expires 5/1/28
Rob Schroder	Public Member (Alternate)	Term Expires 5/1/28
Patricia Bristow	Special District Member	Term Expires: 5/4/26
Michael R. McGill, Vice Chair	Special District Member	Term Expires: 5/1/28
Scott R. Pastor	Special District Member (Alternate)	Term Expires: 5/4/26

Staff/Administrative

LAFCO has two full-time staff members, as noted in Table 2-5 below. LAFCO staff can be contacted at their office located at 40 Muir Road, 1st Floor in Martinez, and via telephone at (925) 313-7133.

Table 2-5: LAFCO Staff

Name	Title	Email
Lou Ann Texeira	Executive Officer	LouAnn.Texeira@lafco.cccounty.us
Anna Seithel	Clerk Analyst	Anna.Seithel@lafco.cccounty.us

LAFCO also utilizes various County services, including Assessor, Auditor, County Counsel, GIS, Human Resources, Public Works, and Treasurer Tax Collector. LAFCO's Executive Officer has many functional roles, including attending quarterly meetings of the Contra Costa Special District Association[3], various City Council and Special District meetings, and meeting with applicants.

[3] The Contra Costa Special District Association facilitates informal meetings and information sharing among local special districts. Meetings are held on a regular basis on the 3rd Monday of odd months (i.e., every other month). Meeting agendas are published in advance on the following website: <*https://contracostasda.specialdistrict.org/about-special-districts*>. These meetings provided an opportunity

2.4: PUBLIC PARTICIPATION

LAFCO held a public hearing on the MSR/SOI Update on June 12, 2024. Comments from the public were solicited and no public comments were received as described in Chapter 23. The Commission formally accepted this MSR/SOI Update for wastewater services in Contra Costa County. This MSR/SOI Update is posted on the Contra Costa LAFCO website at https://www.contracostalafco.org/.

2.5 METHODOLOGY FOR THIS MSR/SOI UPDATE

This MSR/SOI Update makes determinations in each of the seven mandated areas of evaluation for MSRs. The analysis in Chapters 3 to 22 provides the basis for Contra Costa LAFCO to consider future potential changes to the boundaries or SOI of each agency. This 2024 MSR/SOI Update evaluates the structure and operation of 20 wastewater service providers and determines the capacity of each provider to serve existing customers and accommodate additional service demands. The determinations support Contra Costa LAFCO's future evaluation of the existing boundary and sphere of influence for each of the 20 wastewater service providers. The 20 local government agencies providing wastewater services in Contra Costa County are listed in Table 2-6 below.

Table 2-6: List of Wastewater Service Providers Included in this MSR/SOI Update

Cities (7)	**Districts (13)**
Antioch	Byron Sanitary District
Brentwood	Central Contra Costa Sanitary District
Concord	County Sanitation District No. 6
Hercules	Crockett Community Services District
Pinole	Delta Diablo
Pittsburg	Dublin San Ramon Services District
Richmond	East Bay Municipal Utility District
	Ironhouse Sanitary District
	Mt. View Sanitary District
	Rodeo Sanitary District
	Stege Sanitary District
	Town of Discovery Bay CSD
	West County Wastewater District

for information sharing, collaboration, and new perspectives for all wastewater service providers. It is recommended that a staff person from each wastewater service provider attend at least one meeting per year of the Contra Costa Special District Association.

There are four main types of public service providers operating in Contra Costa County, including:

- An independent special district is independent of other government bodies. It is important to note that independent special districts are not part of state or county governments. They are only directly accountable to the people residing within the district's boundaries. They are governed by an elected board that oversees the district's functions and finances.
- A dependent special district is governed by other governmental entities. For example, members of City Councils or County Boards of Supervisors would serve as the board of a dependent special district. Another way to view a dependent district is that they are components of other government bodies.
- The third type of special district is a joint powers authority, commonly referred to as a JPA. JPAs are permitted under California GC §6502. The code allows two or more public authorities, such as utility or transport districts, to jointly exercise any power common to all of them, even though they reside in different counties. While each public authority involved has its own governing board, the JPA also has a Board of Directors made up of representatives of member agencies of the JPA.
- The fourth type of service provider is a municipality (i.e., a City or a County). A municipality is usually a single administrative division that has corporate status and powers of self-government or jurisdiction as granted by national and state laws to which it is subordinate. California GC (commencing with § 34100) dictates that cities may be organized under either the general laws of the State or under a charter adopted by the local voters. Cities that are organized under the general laws of the State (§ 34102) have less autonomy compared to those that adopt their own charter (§ 34101). General law cities follow the rules described in the CA GC commencing with § 34000.

Data Collection

This MSR has been compiled using a multi-step data-gathering process, which included the following:

- a comprehensive review of pre-existing MSRs, sanitary sewer management plans, and other plans, reports, and data;
- query of on-line databases;
- two group kick-off video calls conducted over Zoom;
- a Request for Information (RFI) distributed to each service provider;
- interviews between the consultants and service provider regarding technical information; and
- periodic discussions with agency staff, LAFCO staff, and the consulting team.

Key references and information sources for this study were gathered and include: published reports; review of agency files and databases (agendas, minutes, budgets, contracts, audits, etc.); master plans; capital improvement plans; engineering reports; environmental impact reports; finance studies; general plans; and state and regional agency information (permits, reviews, communications, regulatory requirements, etc.). MSRs were previously adopted by LAFCO for each of the 20 municipal agencies under consideration herein, as listed in Table 2-7 below. Reviewing

previous MSRs was a key feature of the data collection process.

Table 2-7: Contra Costa LAFCO's Previous MSRs for 20 Service Providers		
Name of Previous MSR	**Link to Previous MSR**	**Date of MSR**
"City Services" MSR & SOI Study (2nd Round)	*https://www.contracostalafco.org/agencies/municipal-service-reviews/*	Adopted June 12, 2019
Countywide Water/Wastewater MSR (2nd Round)	*https://www.contracostalafco.org/agencies/municipal-service-reviews/*	Adopted May 14, 2014
Countywide Water/Wastewater MSR (1st Round)	*https://www.contracostalafco.org/agencies/municipal-service-reviews/*	2008

An RFI was sent to each of the 20 public agency service providers, and many of the service providers returned information to LAFCO and the consultants. The one-on-one interviews were conducted starting in November 2023 and continuing to April 2024. All data were reviewed and analyzed by a team of municipal management and water resource professionals to provide a fair and honest analysis of key performance measures and the development of realistic determinations.

This MSR/SOI Update was designed to support LAFCO and also provides the following benefits to the subject agencies:

- Provide a broad overview of agency operations, including the type and extent of services provided;
- Serve as a prerequisite for a SOI Update or amendment;
- Evaluate governance options and financial information;
- Demonstrate accountability and transparency to LAFCO and the public; and
- Allow agencies to compare their operations and services with other similar agencies.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) is contained in Public Resources Code § 21000, et seq. Under this law, public agencies must evaluate the potential environmental effects of their actions. Typically, MSRs are exempt from CEQA under a Class 6 Categorical Exemption. CEQA Guidelines §15306 states that "Class 6 consists of basic data collection, research, experimental management, and resource evaluation activities that do not result in a serious or major disturbance to an environmental resource." Changes to a SOI may sometimes trigger the need for a CEQA document, such as an Initial Study or Environmental Impact Report (EIR). However, this MSR/SOI Update does not recommend any changes to the SOI of the subject agencies in the near term. If changes to an agency's SOI are proposed, an evaluation of the CEQA compliance requirements can be made at that time.

Other Service Providers

Residents of Contra Costa County receive public services from an array of service providers such as the County of Contra Costa, several school districts, park districts, water districts, fire districts, and many other local, regional, and state agencies. Contra Costa LAFCO provides a concise summary of these public service providers in a "Local Agency Directory" document, which is updated every year as shown on its website at: <*https://www.contracostalafco.org/agencies/local-agency-directory/*>. The LAFCO Local Agency Directory includes all 19 cities and 73 special districts (under LAFCO jurisdiction), listed by agency type. Each one-page profile is followed by a map of the agency's territory, including the currently approved sphere of influence (SOI). Understanding and documenting the space within the network of public service providers for wastewater is one of the objectives of this MSR/SOI Update. In addition to the types of public service providers described herein, private companies such as the Pacific Gas and Electric Company can also provide municipal/utility services.

Performance Measures

Performance measures and the implementation of continuous improvement concepts in management efficiency are promoted in the California Office of Planning and Research (OPR) 2003 Guidelines for MSRs. This MSR utilizes key performance measures[4] derived from the analytical factors in OPR's 2003 Guidelines to support LAFCO's determinations related to governance, social, environmental, and financial considerations prescribed by the CKH Act. The continual improvement of a service, product, or process is often depicted as a Deming Wheel, or Deming Cycle, as shown in Figure 2-1 below. The integrated learning-improvement model was described by Dr. Deming and Walter Shewhart from Bell Laboratories in New York (Deming, n.d.).

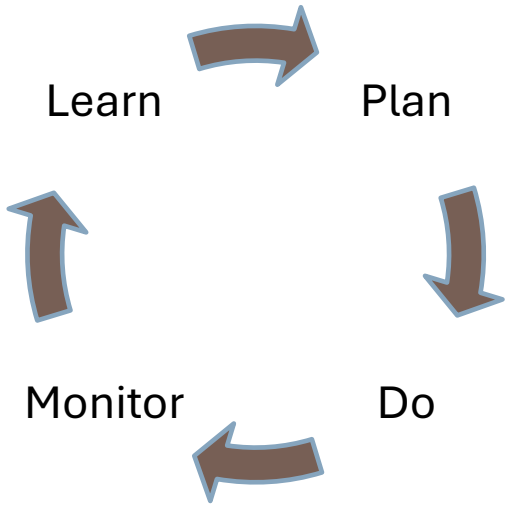


Figure 2-1: Continuous Learning Cycle

[4] The terms performance measures, metrics, indicators, and analytical factors are considered synonyms and their use in MSRs is described in the State of California's Local Agency Formation Commission MSR Guidelines, published by the Office of Planning and Research in August 2003.

California water scientists and the CA Department of Water Resources use a similar continuous learning cycle called adaptive management. LAFCO's role in the above continuous learning cycle is the "monitor" phase through the use of MSRs, which monitor an agency's adherence to specific laws and other LAFCO criteria. For example, wastewater service providers prepare a sanitary sewer management plan (SSMP) and this is the “Plan” phase of the Continuous Learning Cycle in Figure 2-1. The service provider then takes specific actions to implement the SSMP, like replacing aging pipes, and this is the “Do” phase of the Continuous Learning Cycle in Figure 2-1. Subsequently, an MSR can utilize data, such as the Sanitary Sewer Overflows (SSO) data, to study whether SSOs are being reduced, and this is the “Monitor” phase. If SSOs are not being reduced, the service provider can deduce how to make corrections, and this is the “Learn” phase. This new “Learning” is then incorporated into the next plan update, and the cycle begins again as a continuous learning mechanism. The use of key performance measures can result in cost savings by leveraging and building upon existing infrastructure and service plans and data, such as SSMPs, which aim to reduce sanitary sewer overflows (SSOs).

Although LAFCO’s 2014 MSR utilized performance measures, they were assumed and were not transparently articulated. However, the use of transparent key performance measures can aid in focusing the discussion in an MSR. At the request of LAFCO’s Executive Officer, this MSR simply re-uses the performance measures utilized in the 2014 MSR. A few new key performance measures were added, such as counting the number of SSOs for each agency. As a result, this MSR standardizes performance measures to enable cross-comparison among the 20 study agencies/organizations. The performance measures utilized in this MSR are clearly presented in Chapters 3 to 22, in the table listing the determinations at the end of each chapter.

It is recommended that LAFCO’s next update to this MSR continue the use of performance measures, which should be carefully selected in advance to encourage local agencies toward addressing items consistent with LAFCO's values of transparency and efficiency and also address emerging issues. Additionally, LAFCO could consider adding a scorecard to the determinations, similar to that published for the El Dorado Irrigation District MSR. Suggestions for general types of performance measures can be found in this document: State of California’s Local Agency Formation Commission MSR Guidelines, published by the Office of Planning and Research (OPR) August 2003. Additionally, based on issues described in this MSR, specific performance measures for each of LAFCO's determination criteria are suggested for use in the next Update, as listed in Table 2-8 below.

Table 2-8: Performance Measures Which Should Be Considered For Use in Future MSRs	
Determination Topic	**MSR Performance Measures**
Local Accountability and Governance	▪ Number of Governing Board closed sessions during the past 20 months. ▪ Agency website complies with the 2016 updates to the Brown Act described in GC §54954.2 and enacted by Assembly Bill 2257. ▪ Compliance with the Special District Transparency Act (SB 929 or California GC, §6270.6 and 53087.8), which requires special districts to have a functional website that lists contact information and contains financial statements, compensation reports, and other relevant public information. ▪ Terms of office and next election date are disclosed for District Board members, and committee appointments are on-line. ▪ Do elected Board members submit required forms and receive required training as prescribed by the three state laws regarding accountability and ethics, including: 1) the Political Reform Act; 2) Assembly Bill 1234 (Salinas, 2005), which requires ethics training; and 3) GC §53237 et. seq. which mandates sexual harassment prevention training? ▪ Current litigation, grand jury inquiry, and/or censure from a state agency.
Growth and Population	▪ Existing boundary • Overlapping services ▪ Existing SOI ▪ Extra-territorial services ▪ Present and projected service population over 20-year time frame ▪ Land use and significant growth areas
Disadvantaged and Unincorporated Communities	▪ Location and Characteristics ▪ Public services provided to DUC ▪ Environmental Justice issues
Present and Planned Capacity	▪ Description of services (wastewater) ▪ Age and condition of facilities ▪ Preventative maintenance measures ▪ Plans for expansion and/or upgrades (i.e., plans to replace aging infrastructure) ▪ Capacity Analysis o Sufficiency for present and projected need (i.e., reserve capacity) o State databases [wastewater = sanitary sewer overflow; water = CA Drinking Water Watch, California Integrated Water Quality System Project

	(CIWQS), and Environmental Working Group's Tap Water Database]
Financial Ability, Constraints, and Opportunities	▪ Finance policies clearly articulated ▪ Compensation reports and financial transaction reports (including audits) that are required to be submitted to the State Controller's Office are posted on the district website. ▪ Revenues exceed expenditures in 50% of studied fiscal years ▪ Pension Payments (contributions in relation to actuarially covered payroll) ▪ Rates o Current Rate Structure Basis o Connection fees o Tax Revenues/Service Ratio o Rates/Service Ratio
Shared Facilities	▪ Currently Shared Resources, Facilities, Personnel, and Systems o Opportunities for Expanded Sharing o Government Structure Options ▪ Cost Avoidance Opportunities o Other practices and opportunities that may help to reduce or eliminate unnecessary costs

Grand Jury Reports

Grand Jury reports are a recognized analytical factor (i.e., performance measure) in MSRs per the State of California's Local Agency Formation Commission MSR Guidelines, published by the Office of Planning and Research in August 2003. The Superior Court of Contra Costa County has issued two Grand Jury reports that are relevant to wastewater service, as listed below.

- West County Wastewater – 2021
- Reclaiming Our Water (2016)

In addition to the two Grand Jury reports listed above, the Grand Jury has also issued reports on EBMUD's water service over the past years. However, since this MSR focuses solely on wastewater (not water service), no further discussion of Grand Jury reports in relation to EBMUD is necessary. Additionally, many of the cities described in this MSR have also been the subject of Grand Jury reports; in particular, the 2018-19 Grand Jury issued a report called "Report 1907, Stormwater Trash Reduction, Are We Doing All That We Can?". However, since this MSR focuses solely on wastewater (not stormwater), no further discussion of this Grand Jury report is needed at this time.

West County Wastewater – 2021

The West County Wastewater Grand Jury Report is thoroughly described in Chapter 22 of this MSR. Since this Grand Jury Report only describes one agency, no further discussion is needed in this Introduction.

Reclaiming Our Water (2016)

The 2016 Grand Jury Report titled "*Reclaiming Our Water*" focuses on the use of recycled and reclaimed water in the County and consists of three "parts" as listed below in chronological order.

1) Superior Court of California in Contra Costa County, Civil Grand Jury. May 24, 2016. A Report By The 2015-2016 Contra Costa County Grand Jury, Reclaiming our Water, More Complicated than it Might Appear, Report 1606. Martinez, California 94553. 22-pages. Retrieved on January 28, 2024 from <*https://www.cc-courts.org/civil/grand-jury-reports.aspx*>.
2) Responses from local agencies, including
   - Response from City of Walnut Creek
   - Response from Contra Costa Water District
   - Response from Dublin San Ramon Services District
   - Response from East Bay Municipal Utility District
   - Response from Board of Supervisors
   - Response from Central Contra Costa Sanitary District
   - Response from City of Concord
   - Response from City of San Ramon
3) Superior Court of California in Contra Costa County, Civil Grand Jury. 2017. A Report By The 2016-2017 Contra Costa Civil Grand Jury, Compliance And Continuity Report, Report 1701. 61-pages. Martinez, California. Retrieved on January 28, 2024 from <*https://www.cc-courts.org/civil/grand-jury-reports.aspx*>.

This Grand Jury report notes that a drought raised public awareness about the idea of using more recycled wastewater for irrigation and industrial purposes. The Grand Jury launched an inquiry into what obstacles were preventing water recycling from occurring on a broader scale. The Grand Jury concluded that recycled and recovered water are key factors in achieving sustainable solutions to the water problems within Contra Costa County. In order to maximize the use of recycled and reclaimed water in the County, infrastructure improvements must be made, and any increase in water supply must be carefully balanced with customer demand. The report explains that in Contra Costa County, seven wastewater treatment plants produce recyclable water (Title 22 quality) suitable for use outside their plants for industrial and irrigation purposes. The majority of this water is supplied to two power plants in Pittsburg and an oil refinery in Richmond. The Grand Jury report also described stormwater and desalinization issues, which are not directly relevant to this MSR.

The Grand Jury report characterizes LAFCO's role as follows: "Contra Costa LAFCO, an independent agency with countywide jurisdiction, also interacts with these districts. Both receive periodic reports from the districts on their plans and activities. LAFCO has the additional responsibility of managing boundary issues and periodically assessing the financial stability of each district. The County and

LAFCO have not assigned personnel to act as a watchdog or play a facilitator role in the areas of recycled or reused water" (Grand Jury, 2016).

The Grand Jury's recommendations related to wastewater/water recycling are listed below:

- R1. The Board of Supervisors should consider facilitating (possibly through a Task Force) the formation of a JPA to promote water recycling, stormwater capture, and desalination projects.
- R2. CCCSD and CCWD should explore the feasibility of cooperatively developing an IPR Injection Well Project.
- R3. CCCSD, CCWD, and DSRSD should consider the formation of a JPA to expand CCCSD's tertiary treatment capacity in order to free up fresh water for domestic and commercial customers.
- RS. The Board of Supervisors should consider adopting ordinances that promulgate recycling and recovery of water on a Countywide basis.
- R6. The city should consider adopting requirements relating to the use of reclaimed water for planned communities and large commercial buildings to maximize its use.
- R7. The district(s) should consider facilitating the use of satellite wastewater treatment plants, where appropriate.
- RB. The Board of Supervisors should consider adopting a County goal to exceed the State average for recycled water use and establish a target date.
- R9. The County and Districts should consider meeting to discuss each District's need for land for demonstration of scaled-up recycling and desalination projects using green technologies, which may qualify for State grant money, and the County's ability to lease such land.
- R10. To promote public awareness and citizen involvement, the Board of Supervisors should consider establishing a citizen's "Water Reuse Advisory Council," which includes citizen stakeholders and technology experts to advise them on all water reuse issues affecting the County.
- R11. The Board of Supervisors should consider designating a single point of contact within County government for water recycling/reuse issues or establishing a permanent water sustainability subcommittee under their Transportation, Water, and Infrastructure Committee to advise the committee on water reuse issues.

The Grand Jury assigned many recommendations to Contra Costa County staff and the Board of Supervisors. However, in their response letter to the Grand Jury dated August 16, 2016, the County correctly noted that water recycling and reuse is handled by a variety of different agencies, and the County is not the lead agency. However, the 2016 Grand Jury presented several good concepts that might deserve a fresh look. Given all the information presented in this new MSR/SOI Update, some sort of centralized point of contact and information-sharing resource on water recycling issues would be helpful. Yet, the 2016 Grand Jury report correctly noted that the County and LAFCO have not assigned personnel to act as a watchdog or play a facilitator role in the areas of recycled or

reused water. Although the issues affect agencies countywide, Contra Costa County might not be the best choice for leading the effort, as the County noted in its response letter. However, the County could still play a role in such an effort. To fill the coordination gap, a local leadership team could coordinate and be a point of contact for water recycling/reuse and sustainability issues. LAFCO's Executive Officer has suggested that the Contra Costa Special District Association could be a good organization to facilitate discussions of the issues raised in the Grand Jury Report.

Planning Documents

CKH Act requires that when LAFCO evaluates a proposal, it should consider:

- A regional transportation plan adopted pursuant to § 65080 [see GC § 56668 (g)]; and
- The proposal's consistency with city or county general and specific plans. [GC § 56668 (h)].

This indicates that the local transportation policies contained in a city or county General Plan should also be considered by LAFCO when evaluating proposals, especially those proposals that relate to the extension of infrastructure, such as wastewater pipelines and associated facilities.

County General Plan:

Contra Costa County and each of the cities within the County have adopted General Plans. The Contra Costa County General Plan was approved January 18, 2005, and intended to cover the period 2005 – 2020. The County General Plan guides land use in the unincorporated portion of the County. Contra Costa County is a moderately sized county, covering 804 square miles, and it contains a diverse array of land uses.

Contra Costa is currently updating their County General Plan through a process called "Envision Contra Costa 2040," as described on the project website at: <*https://envisioncontracosta2040.org*>. The Updated 2045 General Plan will serve as the County's primary policy tool to guide physical changes in the unincorporated areas of the county over the next 20 years. It will serve as the basis for planning (and infrastructure-related decisions) made by County staff and decision-makers. The Updated 2045 General Plan is built around the themes of environmental justice, community health, economic development, and sustainability; and is and organized into topic-specific "elements" or chapters.

City General Plans:

Every city within Contra Costa County has the authority to make land-use decisions within its boundary and has the responsibility to prepare a General Plan to guide future growth of the community. A Housing Element is an important part of each General Plan and assesses the local community's housing needs. City General Plans also typically include an Environmental Justice Element consistent with state law.

AB 2838 (Hertzberg, 2000) requires that LAFCO's approval of an annexation or reorganization to a city be consistent with planned and probable land use based upon review of the General Plan and pre-zoning designations. It also authorizes LAFCO to review a proposal's consistency within a city's

General Plan when a proposed action would require the extension of critical services. Therefore, consideration of a City's General Plan is an important element in LAFCO approvals.

Regional Transportation Plan & Sustainable Community Strategy:

California Senate Bill (SB) 215 (Wiggins in 2009) requires LAFCO to consider regional transportation plans before making boundary decisions. Regional transportation plans are adopted pursuant to § 65080 of the California GC. Metropolitan planning organizations (MPOs) must adopt "sustainable communities' strategies" or "alternative planning strategies" as part of their regional transportation plans. These strategies align regional planning for transportation and housing. In preparing a sustainable community strategy, MPOs must consider city and special district Spheres of Influence as adopted by the local LAFCO. Contra Costa LAFCO may consider a proposal's consistency with the regional transportation and other regional plans affecting the Bay Area.

In the San Francisco Bay Area, the Regional Transportation Plan and Sustainable Communities Strategy (SCS) aims to direct growth by integrating housing with regional transit, employment services, and amenities. The Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) adopted the SCS in July 2013. In October 2021, ABAG and MTC adopted Plan Bay Area 2050, the Bay Area's official long-range plan for housing, economic development, transportation, and environmental resilience for the next [30?] years. While prior iterations of Plan Bay Area focused on transportation and housing, the 2050 plan expands the scope, introducing strategies for long-term economic development and environmental resilience while meeting federal and State requirements. ABAG's "Plan Bay Area 2050" contains the projected population growth of the San Francisco Bay Area, its nine counties, 101 cities, and smaller geographic areas. The updated data in the Plan 2050 reflect changing regional growth expectations.

The Bay Area Regional Collaborative includes the MTC, ABAG, San Francisco Bay Conservation and Development Commission (BCDC), and Bay Area Air Quality Management District. This collaborative multi-agency regional committee allows cross-jurisdictional work on projects such as Resilient Bay Area and Carbon Free Future.

2022 San Francisco Estuary Blueprint:

The 2022 San Francisco Estuary Blueprint provides a comprehensive Conservation and Management Plan for the San Francisco Estuary. The Blueprint was developed by the San Francisco Estuary Partnership (SFEP) in collaboration with the Association of Bay Area Governments (ABAG) and other stakeholders (SFEP, 2022).

The Estuary Blueprint highlights an important issue: an excess level of nutrients, such as nitrogen and phosphorus. Excess nutrients can cause problems like algae blooms and oxygen levels that are too low to support diverse native fish communities. The Estuary Blueprint notes that historically, the San Francisco Bay has not experienced the adverse effects of nutrient loading even though it is nutrient-enriched compared to other estuaries. However, Suisun and San Pablo Bays have been affected. This indicates a need for a holistic understanding of nutrient dynamics throughout the

entire Estuary, including robust long-term monitoring. The Estuary Blueprint indicates that in 2027, permits will likely be revised to incentivize nutrient reduction strategies before nutrients reach wastewater treatment plants (SFEP, 2022).

It is important to note that wastewater treatment plants are not 100% to blame for excess nutrients. Rather, there is a range of contributors. Specifically, scientists believe warming oceans are causing a cascade of changes with a nexus to nutrients. These changes include increased upwelling of nutrient-rich waters, phytoplankton production, ocean acidification, harmful algae blooms, and hypoxia. Therefore, the Estuary Blueprint recommends that future priorities include increasing the funding pool across a wider range of sources, ensuring diverse community engagement as nutrient reduction strategies emerge, and continuing to study nutrient dynamics across the entire Estuary to identify the most appropriate management needs. Nevertheless, wastewater treatment plants contribute an important portion of the excess nutrients that are causing harmful algae blooms. Attribution studies will be conducted by state and federal agencies to determine the specific proportions of contributions (SFEP, 2022). In the meantime, the Estuary Blueprint contains several recommendations for wastewater districts in the Bay Area, including those in Contra Costa County, as listed in Table 2-9 below.

Table 2-9: Summary of Estuary Blueprint Tasks Related to Wastewater Treatment Plants

Name/Number of Action/Task	**Goal/Task**	**Milestone Detail**
Task 17-5	Convene Bay Area water and wastewater agencies to discuss regional water conservation targets, opportunities, and limitations, resulting in a synthesis report.	Milestone: One workshop held with Estuary stakeholders, resulting in a synthesis report.
Action 18: Expand the use of recycled water	Work with water agencies, municipalities, and stakeholders to reduce barriers to the broader use of recycled water. Support the use of the right water at the right time and in the right place.	
Task 18-1	Share recycled water informational materials, resources, and program models among municipalities, wastewater agencies, and drinking water agencies.	Milestone: Platform for sharing resources.
Task 18-2	Collaborate with the Bay Area Clean Water Agencies' Recycled Water Committee stakeholders and others to identify opportunities to expand incorporation of recycled water in local and regional water resources planning processes.	Milestone: Bay Area Clean Water Agencies Recycled Water Study finalized.
Action 20: Advance Nutrient Management in the Estuary	Support water quality investigations, consistent monitoring and modeling, and analysis of management	

	alternatives for nutrients, along with disseminating public-facing outreach materials on resulting data and management decisions.	
Task 20-1	Ensure the continuation of a long-term monitoring and modeling program of nutrient-related indicators in San Francisco Bay through the San Francisco Bay Regional Water Quality Control Board's Nutrient Management Strategy and program partnerships, and in the Delta through the U.S. Geological Survey and Interagency Ecological Program.	Milestone: Funding for long-term monitoring and modeling program renewed at sustainable levels, and additional funding sources investigated.
Task 20-2	Implement and iterate the Science Plan and Nutrient Assessment Framework of the San Francisco Bay Nutrient Management Strategy to establish the status and trends of nutrient indicators and quantitatively inform San Francisco Bay's response to nutrient loading.	Milestone: Completed round of modeling and synthesis studies and final version of the Assessment Framework developed by 2024 to inform future permits and other management actions.
Task 20-3	Undertake studies in the Estuary related to developing and evaluating alternatives for nutrient management actions, including initial considerations of costs and environmental effects.	Milestone: Evaluation of opportunities completed to manage nutrient loading via nature-based solutions and recycled water.
Task 20-4	Disseminate information to decision-makers and the public regarding the status and trends of nutrient-related indicators and research findings, as well as the opportunities, constraints, and costs associated with various nutrient load management strategies.	Milestone: Outreach materials related to the status and trends of crucial nutrient indicators shared via an annually updated web-based portal and public-facing syntheses of research findings shared annually.
Task 20-5	Develop a framework for monitoring, modeling, and disseminating information on the extent, severity, and impacts of Harmful Algal Blooms (HABs) in the Delta.	Milestone: HABs framework for the Delta.
Data source for Table 2-9: San Francisco Estuary Partnership (SFEP). 2022 San Francisco Estuary Blueprint (Comprehensive Conservation and Management Plan for the San Francisco Estuary). San Francisco, CA.		

The 2022 Estuary Blueprint contains a variety of general, longer-term actions along with detailed tasks and milestones. Contra Costa County's wastewater service providers are estuary stakeholders and have an important role in helping implement the 2022 Estuary Blueprint. For example, many of the wastewater service providers are leaders in the recycled wastewater sector and the use of nature-based solutions to manage nutrient loading. Implementing the 2022 Estuary Blueprint will contribute to restoring the Estuary's chemical, physical, biological, and social-ecological health and will facilitate thriving habitats and wildlife. Therefore, it is recommended that

all the wastewater service providers request an invitation from ABAG and SFEP to participate in the workshop to be held with Estuary stakeholders, resulting in a synthesis report (date tbd) (Task 17-5). Additionally, the wastewater service providers should coordinate with ABAG, SFEP, and other stakeholders to reduce barriers to the broader use of recycled water (Action 18).

The actions and tasks listed in the 2022 Estuary Blueprint raise a question about how to implement State and regional policies at the local, on-the-ground-level. The State and regional policies relate to high-level strategy and objectives. However, how do government agencies work together to scale sustainability? How do we translate State and regional policies down to the actual actions that a wastewater service provider's staff or board need to take? These questions also relate to the 2016 Grand Jury recommendations. Again, it has been suggested that the Contra Costa Special District Association could be a good organization to facilitate discussions of these issues.

Local Hazard Mitigation

The CKH Act requires that when LAFCO evaluates a proposal, it should consider:

- Information contained in a local hazard mitigation plan;
- information contained in a safety element of a general plan; and
- Any maps that identify land as a very high fire hazard zone pursuant to § 51178 or maps that identify land determined to be in a state responsibility area pursuant to § 4102 of the Public Resources Code, if it is determined that such information is relevant to the area that is the subject of the proposal. [see GC § 56668 (q)]

The Contra Costa County Local Hazard Mitigation Plan (LHMP) was utilized as an analytical tool and foundational document within this MSR to help LAFCO comply with the above CKH Act requirements. For each of the 20 wastewater service providers, this MSR assessed participation in the LHMP, hazards described by the LHMP, and next steps suggested by the LHMP. To develop the LHMP, Contra Costa County collaborated with incorporated communities and special districts to develop the Plan to reduce risks from hazards and serve as a tool to help decision-makers direct mitigation activities and resources. Protecting community assets such as public water and wastewater infrastructure, schools, transportation infrastructure (railroad tracks and roads), and hospitals is another important aim of an LHMP. The LHMP allows the participating agencies to continue to be eligible for federal disaster assistance, such as the FEMA Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program. Contra Costa County continues to be vulnerable to numerous hazards, including floods, earthquakes, drought, levee failures, landslides, wildfires, heat waves, smoky air, and other severe weather events.

New Housing Laws

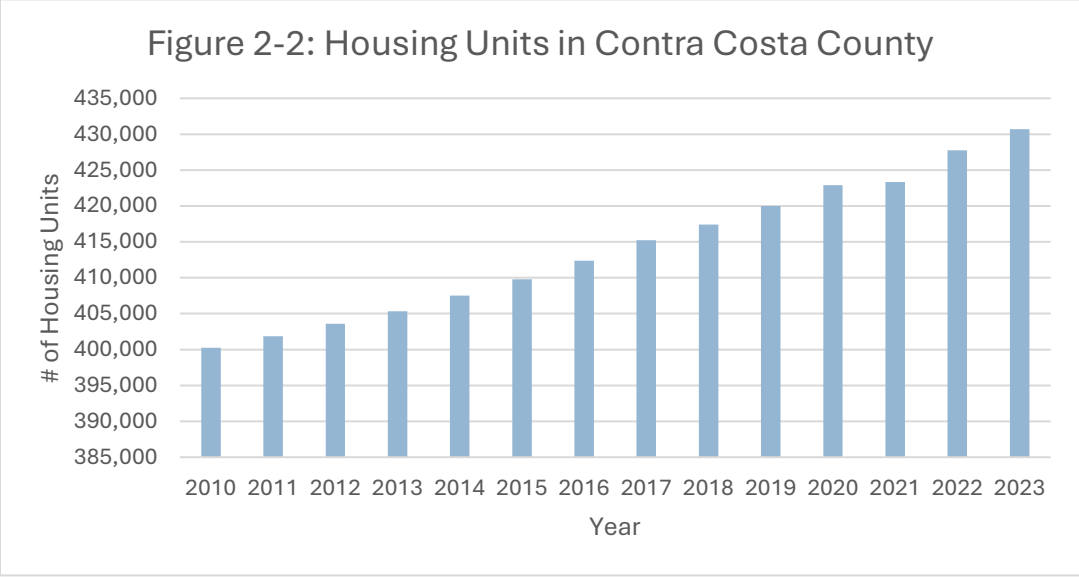
LAFCO's mission involves balancing the competing needs for affordable housing, efficient services, economic opportunity, and preservation and protection of our valuable agricultural and natural resources. However, affordable housing in California has become a challenge due to housing

shortages and skyrocketing prices. To address these problems, the Legislature indicates that California needs to build more housing. California's legislators have been actively passing bills, and from 2017 to 2023, and passed approximately 150 new housing laws, which are summarized in Appendix D. These new laws have substantially altered the landscape of housing policy by:

- streamlining approvals;
- reforming single-family zoning; and
- providing financing mechanisms.

Contra Costa County and each of the local cities have recently or are currently updating their General Plan's Housing Element, 6th Cycle, and submitting the Element to the California Department of Housing and Community Development for approval. The Department's website at <*https://www.hcd.ca.gov/planning-and-community-development/housing-elements*> provides additional information. In addition, other agencies and organizations provide on-line housing databases, which are briefly described in Appendix E.

The number of housing units in Contra Costa County has steadily increased over the past 13 years, as shown in Figure 2-2 below. In 2010, the County had 400,263 housing units. In 2023, the County had 430,712 units, an increase of 30,449 housing units (CA DOF, 2023). This represents an average of 2,175 new housing units each year during the study period. These new housing units are a result of City, County, and State policies in conjunction with the private construction sector working together to create new homes for families.



Data Source for Figure 2-2: CA DOF, 2023

Regardless of the new housing laws, the practicalities of getting new housing built requires that local utilities and municipalities have sufficient existing capacity in their water, electrical, and wastewater systems. This MSR/SOI Update addresses wastewater systems

by asking: "*Does the local wastewater service provider have sufficient capacity to accommodate future growth?*" To some extent, this MSR/SOI Update addresses this question based on past growth levels and feedback from the service provider. However, the new housing laws passed by the State Legislature introduce some uncertainty about the future growth projections listed in Chapters 3 to 22 of this MSR because it is not yet known how local communities will implement these new laws. Will future growth in California continue to be relatively slow (as in the past), or will growth significantly increase? Growth and development are important issues in relation to the provision of wastewater infrastructure and, therefore need to be re-assessed in every MSR/SOI Update.

Environmental Justice

This MSR/SOI Update addresses the environmental justice topic primarily by discussing disadvantaged communities located within the boundary or SOI of each wastewater service provider in Chapters 3 to 22 of this report. The CKH Act requires that when LAFCO evaluates a proposal, it should consider:

- The extent to which the proposal will promote environmental justice. As used in this subdivision, "environmental justice" means the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins with respect to the location of public facilities and the provision of public services, to ensure a healthy environment for all people such that the effects of pollution are not disproportionately borne by any particular populations or communities. [GC § 56668 (p)].

The Act's definition of environmental justice is fairly broad, and several components of the definition relate directly to the overall context for wastewater service provision in Contra Costa County, as summarized in Table 2-10 below. Although this MSR/SOI Update is not a proposal, the information presented herein is relied upon by LAFCO when it evaluates future proposals. Therefore, a discussion of the environmental justice issue related specifically to wastewater service is warranted.

Table 2-10: Environmental Justice Discussion in relation to Wastewater Service

CKH Act Definition of Environmental Justice	**Discussion**
The extent to which the proposal will promote environmental justice.	This sets a high bar for LAFCO. Proposals should not simply "address" environmental justice but rather "promote" environmental justice. Wastewater providers that submit proposals to LAFCO should be prepared to assist LAFCO in promoting environmental justice.
"environmental justice" means the fair treatment and meaningful involvement of people of all races, cultures, incomes,	LAFCO might consider conducting public outreach to solicit input from a range of local people. If wastewater service providers submit a proposal to

and national origins,	LAFCO, they should be prepared to assist with public outreach activities related to their application.
.....with respect to the location of public facilities and the provision of public services,	The location of wastewater treatment plants is typically a result of historical land-use factors, along with the physical constraints of the infrastructure (i.e., gravity flow and the need to consider topography). However, it is possible that an unintended result is that wastewater treatment plants could be located in proximity to low-income communities. However, it is difficult to determine the spatial relationships because a map comparing the location of wastewater treatment facilities to disadvantaged communities on a Countywide basis is not readily available. The provision of public wastewater services is described in Chapters 3 to 22 of this MSR, including relationships with disadvantaged communities.
.... to ensure a healthy environment for all people such that the effects of pollution are not disproportionately borne by any particular populations or communities.	A "healthy environment" likely includes both upstream and downstream areas, such as the San Francisco Bay and the San Joaquin/Sacramento Delta. In general, wastewater treatment plants do contribute pollution to the environment in the form of nitrogen, phosphorous, and other nutrients that are discharged downstream. Additionally, carbon and methane emissions from wastewater treatment plants do occur but are not well quantified on a plant-by-plant basis. One specific example of the interconnections between infrastructure and the local community is people who go fishing in the San Francisco Bay and San Joaquin/Sacramento Delta. Fishing can be a recreational activity to a supplement to daily food supply for local families. However, pollution from local wastewater treatment plants can sometimes contribute to the accumulation of pollutants in fish tissue, which could affect food quality. A related example is the harmful algal bloom (HAB), a red tide, that the San Francisco Bay experienced from July to October 2022. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay, and into San Pablo Bay. Fish deaths linked to the red tide were reported to include sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. Several of these fish species are edible and may serve as a food supply for environmental justice community members.

To address the environmental justice issues that the CKH Act [GC § 56668 (p)] suggests is under LAFCO's purview and associated with the provision of wastewater services in Contra Costa County, several recommendations are listed herein for future consideration.

- Wastewater service providers that submit proposals to LAFCO should be prepared to demonstrate that their proposal promotes environmental justice as defined by the CKH Act.
- When evaluating proposals, LAFCO may need to conduct public outreach to solicit input from a range of local people, including people of all races, cultures, incomes, and national origins. If wastewater service providers submit a specific proposal to LAFCO, they should be prepared to assist with public outreach activities related to their application.
- As part of the next Update to this MSR, LAFCO should consider preparing a map that shows the location of all wastewater treatment plants in Contra Costa County, including both public facilities and private facilities (such as those operated by local refineries or industries) in relation to disadvantaged communities and environmental justice communities. The next Update to this MSR should utilize this map to consider whether the spatial distribution of wastewater treatment plants negatively impacts disadvantaged communities and whether consolidation or merger of such facilities could reduce environmental justice impacts.
- The next Update to this MSR should assess whether (or how) wastewater service providers can contribute towards ensuring that a healthy environment is available for all people such that any particular populations or communities do not disproportionately bear the effects of pollution. This analysis should include the two parts listed below.
    1) LAFCO may wish to consult with the RWQCB, local non-profit organizations, and other stakeholders to collect and consider studies regarding wastewater treatment plants' contribution of pollution to the environment in the form of nitrogen, phosphorous, and other nutrients that are discharged downstream. The effect this pollution has on people who go fishing in the San Francisco Bay and San Joaquin/Sacramento Delta should be considered. Additionally, studies that describe the contributions that this pollution made to harmful algal blooms (HAB), known as a red tide, such as the San Francisco Bay HAB experienced from July to October 2022, should also be considered.
    2) Carbon (including methane and other carbon species) emissions from wastewater treatment plants do occur but are not well quantified on a plant-by-plant basis. Methane emissions from wastewater treatment plants are described in Appendix H. The next Update to this MSR should solicit carbon emission data from each wastewater service provider and provide an analysis that compares and contrasts these data. This analysis should recognize that disadvantaged communities can be negatively impacted by climate change caused by excessive carbon emissions. Recommendations to promote carbon efficiency should be suggested as needed.

Watershed Context

Watershed management plans are noted as an important part of the regional context for an MSR in the 2003 OPR LAFCO Municipal Service Review Guidelines. Drainage basins[5] are mentioned in the CKH Act [GC §56668 (a)]. An alternative name for "drainage basin" is a "watershed". A watershed is the area of land that drains into a body of water, such as a river, lake, stream, or bay. In Contra Costa County, all water eventually drains into the San Francisco Bay/Sacramento Delta Estuary. Several sub-watersheds are within the bay/estuary watershed. The Watershed Atlas of Contra Costa identifies 16 specific sub-watersheds comprising roughly 513,280 acres. Appendix F describes the organizations that collaborate to manage the watersheds in Contra Costa County.

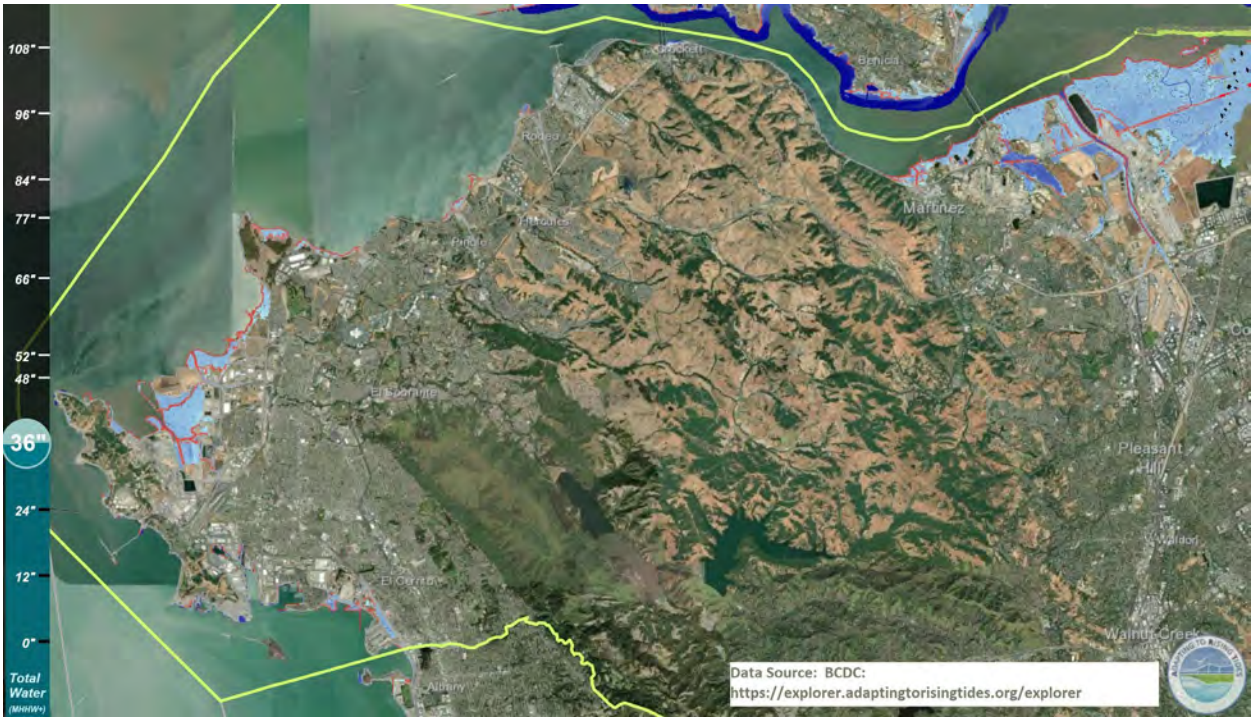
The natural hydrologic cycle, which is part of Earth's ancient operating system, is described in Appendix F. The hydrologic cycle involves Earth's land, oceans, and atmosphere. The cycling of water involves processes known as precipitation, evaporation, evapotranspiration, and condensation.

In the San Francsico Bay area and the Delta, rising sea levels are a part of watershed dynamics. The California state planning and regulatory agency, which has regional authority over San Francisco Bay, the Bay's shoreline band, and the Suisun Marsh, is called the San Francisco Bay Conservation and Development Commission (BCDC). Its mission is to protect and enhance San Francisco Bay and to encourage the Bay's responsible and productive use for this and future generations, as described on its website at: <*https://bcdc.ca.gov/*>. As part of its responsibilities, BCDC developed a map of sea level rise scenarios that could potentially occur in the future if carbon emissions continue unabated. Figure 2-3 below is a map depicting portions of Contra Costa County that could be affected by a 36-inch rise in sea level.

It is possible that groundwater levels may rise in conjunction with the rise of the sea level in the future. Sewer pipes and other infrastructure that is buried underground could be affected by rising groundwater. This MSR relies on the County's LHMP process to assess infrastructure vulnerability to sea level rise and groundwater rise. Readers interested in this topic should also review FEMA's National Risk Index, a dataset and on-line tool that illustrates communities in the USA at risk for natural hazards. This tool is available at <*https://hazards.fema.gov/nri/*>, and it indicates that Contra Costa County faces a high risk of future coastal flooding.

[5] Factors to be considered in the review of a proposal shall include, but not be limited to, all of the following: (a) Population and population density; land area and land use; assessed valuation; topography, natural boundaries, and drainage basins; proximity to other populated areas; and the likelihood of significant growth in the area, and in adjacent incorporated and unincorporated areas, during the next 10 years (CKH Act, GC §56668 (a).

Figure 2-3: BCDC's Scenario of a Potential Future 36-inch Rise in Sea Level



It is recommended that LAFCO's next wastewater MSR map the location of local wastewater treatment plants (public and private) in relation to the sea level rise scenarios presented by BCDC.

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Chapter 3: CITY OF ANTIOCH – WASTEWATER SERVICES

Table of Contents

3.1: OVERVIEW

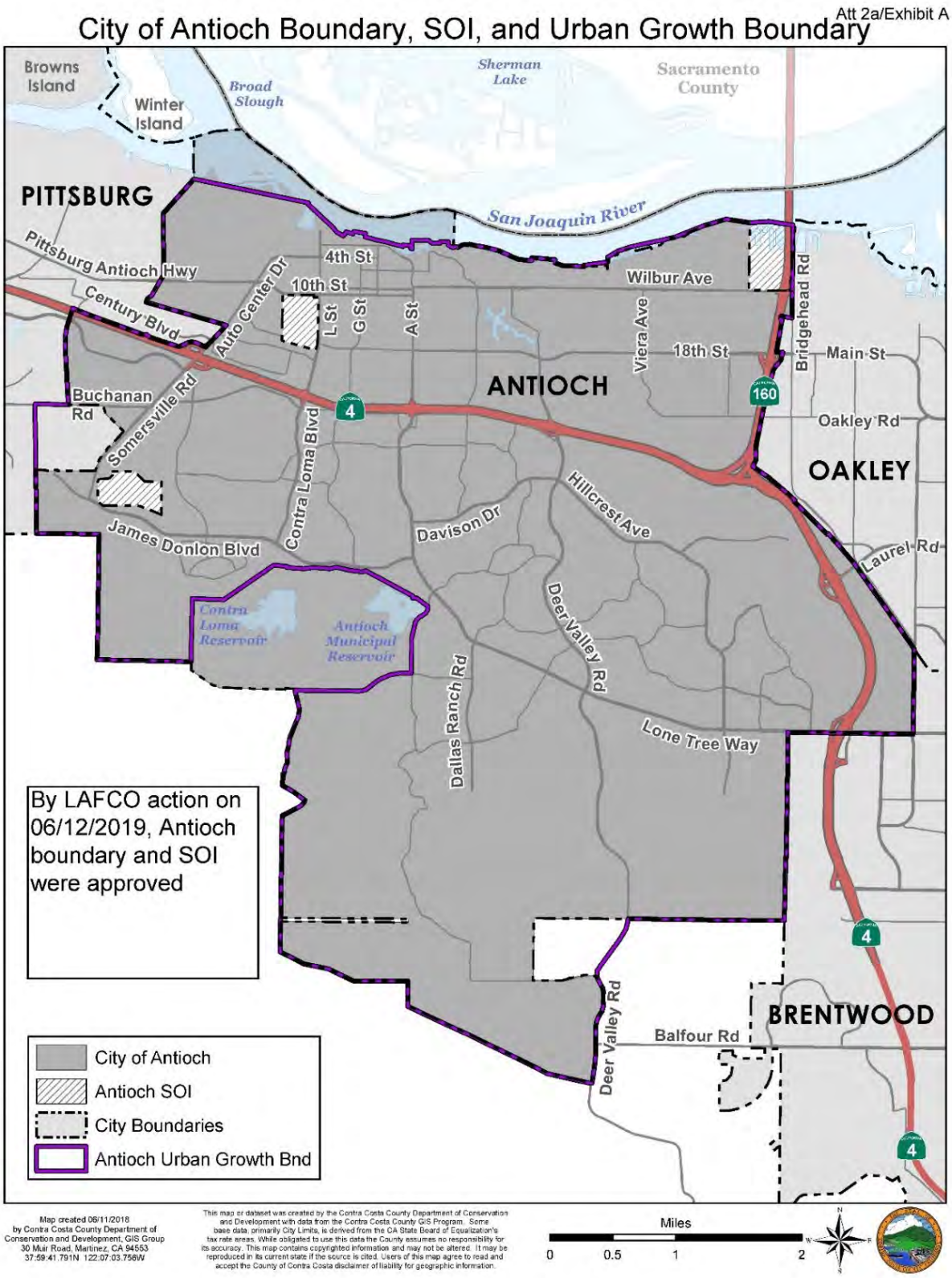
The City of Antioch was incorporated in 1872 and serves a population of approximately 115,291 (2020) in an area of 29.9 square miles. Located in eastern Contra Costa County, the City is bounded to the north by the San Joaquin River, to the west by the City of Pittsburg and unincorporated Contra Costa County, to the south by unincorporated Contra Costa County, and to the east by the cities of Oakley and Brentwood. The City of Antioch lies within the San Francisco Bay/Sacramento Delta Estuary. Additional information about this watershed is provided in Appendix F. The City of Antioch provides wastewater collection services to the entire City population and certain unincorporated areas within the City's SOI, including the County Fairgrounds. The City only provides wastewater collection services. DD (DD) receives the wastewater and transmits it to its Wastewater Treatment Plant (WWTP) for treatment, disposal, and recycled water production. The City's Agency Profile is included in Table 3-1 below, and the City boundary/SOI is shown in Figure 3-2.

Figure 3-1: Antioch City Hall (Google Maps Street View)

Table 3-1: Agency Profile – City of Antioch

General Information			
Agency Type	Municipal		
Principal Act	General laws of the State of California		
Date Formed	1872		
Services	Wastewater collection and conveyance		
Service Area			
Location	City of Antioch		
Sq. Miles/Acres	29.9 square miles/19,163 acres		
Land Uses	Residential, commercial, industrial, open space		
Dwelling Units	34,028		
Population Served	115,291 (per LAFCO, 2020)		
Last SOI Update	06/12/2019 (California LAFCO, 2019)		
Infrastructure/Capacity			
Facilities	309.97 miles of sewer main, 2 pump stations, 31,937 connections (Antioch, 2022).		
Connections	31,937 (Antioch, 2022a)		
Treatment Plant Capacity (MGD)	DD WWTP Design Flow: 19.5 MGD (DD avg. dry weather flow)		
Primary Disposal Method	Conveyance to DD Sanitation District WWTP		
Financial Information- FY 2020-2021 (Sewer Fund)			
	Revenues	Expenditures	Net
Sewer Fund	$7,309,411	$7,202,204	$7,309,411
Capital Expenditures	$1,201,583 $3,792,400 $450,000	Sewer Fund Capital Expenditure Actual in FY 2021-22 Sewer Fund Capital Projects Budgeted for FY 2022-23 Sewer Fund Capital Projects Proposed for FY 2024-25	
Total Assets	$ 81,277,013	June 30, 2022, per Annual Financial Statement	
Total Net Position	$ 4,541,008 $4,427,953	Sewer Fund #621 Estimated for July 1, 2023, per City Budget Sewer Fund #622 Estimated for July 1, 2023, per City Budget	
Governance			
Governing Body	City Council (5 members)		
Agency Contact	Scott Buenting, Acting Public Works Director/City Engineer. Phone 925-779-7050.		
Notes			
SOI reduced on March 10, 2010, removing portions of the San Joaquin River and Roddy Ranch.			

Figure 3-2: Boundary/SOI Map – City of Antioch



3.2: BOUNDARY/SOI/LAND-USE

Antioch's boundary encompasses 29.9 square miles in total land area. The predominant land use throughout the City is single-family residential uses. The City's historic downtown is located in the northwestern part of the city along the San Joaquin River. The eastern portion of the City's riverfront is primarily dedicated to heavy commercial and industrial uses. Antioch retains designated areas for preserved open space, including agricultural areas, recreational lands, and open water.

New development and growth are dynamically proceeding in Antioch, and current planning projects are listed on-line at: <*https://www.antiochca.gov/community-development-department/planning-division/current-projects/*>. For example, several potential future development projects within the boundary were conceptualized, including:

- Sand Creek Focus Area—2783 acres, 4,000 residential units proposed.
- East Lone Tree Area—approximately 800 acres, 241.3 acres residential, 98.3 employment, 113.2 acres retail, 11.3 acres school, 10.7 public facilities, and remaining acreage parks, open space, and roads.
- Hillcrest Station Area—Transit Oriented Development, Mixed Use -- Maximum 2,500 residential units.

Two annexations occurred in 2014 including 1) Holy Cross Cemetery and 2) 108-acre Residential Island as described below:

1) *Holy Cross Cemetery*: The Holy Cross Cemetery was part of an area annexed to the City and DD (Northeast Antioch Reorganization – Area 2B on January 8, 2014. The Holy Cross Cemetery utilizes a septic tank for wastewater treatment/disposal. The cemetery is not connected to the City's wastewater collection system (personal communication, S. Buenting, 11/13/2023).

2) *108-acre Residential Island*: In 2014, there was a 108-acre island (between 18th Street and Wilbur Avenue) served by wells and septic tanks. The City (and DD) annexed this area prior in 2014 as part of the (Northeast Antioch Reorganization – Area 2B). The City currently provides wastewater collection services to several parcels in this area. The City extended the main sewer and water lines to this annexation area. Although the City provided the facilities for the sewer connection, parcels had/have a choice as to whether or not to hook up to the system. Property owners are responsible for the cost of connection fees to the public sewer line. Therefore, some parcels are currently receiving sewer service from the City (i.e., those parcels which have chosen to pay the fee have connected to the City sewer service).

Sphere of Influence

Section 3.8, Government Structure Alternatives, describes various issues and options associated with changing the structure of this local government agency. LAFCO often accomplishes its government structure issues through changes to boundaries and/or SOIs. On March 10, 2010, the City's sphere of influence (SOI) was reduced, removing the open space water area of the San Joaquin River and other areas outside of the Urban Limit Line and the City's corporate limits, including a portion of the East Bay Regional Park District's Deer Valley Regional Preserve. The SOI was most

recently considered in LAFCO's 2019 City Services MSR, and the SOI was retained in its current configuration. A map of the City's current boundary and SOI is shown in Figure 3-2 (next page).

Small Islands

Antioch has three (3) small unincorporated islands located within the City SOI, including the Fairgrounds and a former landfill site.

1. *Fairgrounds*: The Fairgrounds area is a 73+ acre unincorporated island within the City's boundary. This island is located at the intersection of 10th and L Streets. This island qualifies under the streamlined provisions of CKH (56373.3). The Fairgrounds continue to receive wastewater collection services from Antioch (personal communication, S. Buenting, 11/13/2023). Since the Fairgrounds receive a City service (wastewater), the 2014 MSR recommended annexing them. However, the Fairground's parcel is part of the State Agricultural District, owned and operated by the State of California. The Fairground has a local Agricultural Board that is appointed. The parcel's land use remains under County jurisdiction. The MSR authors hypothesize that there might be a contract between the State and the City for wastewater collection services. However, a copy of a contract for services could not be located. If a contract exists, then the provision of wastewater service to the Fairgrounds would not be classified as an out-of-agency service. The potential future annexation of the Fairgrounds is not a topic of discussion within the City (personal communication, S. Buenting, 11/13/2023). Additionally, future annexation of this site is unlikely because it is owned by the State of California. However, the City Engineer (Mr. S. Buenting) clarified that the fairgrounds will continue to receive wastewater collection service from Antioch.

2. *Former Landfill Site*: There is a 78+ acre unincorporated island within the City's boundary/SOI, and this is a former landfill located north of James Donlon Blvd and east of Somersville Road. This island also qualifies under the streamlining provision for annexations of small islands. The landfill was closed several years ago and the site is under remediation. Active monitoring is required for environmental purposes. The site does not receive wastewater services from the City. There are no plans to annex the former landfill site into the City (personal communication, S. Buenting, 11/13/2023). The MSR authors hypothesize that annexation of the former landfill site could be problematic because of its limited development potential and ongoing monitoring and mitigation requirements.

3. *Marina Area*: This area is 116+ and within the City's SOI. The area is bounded by Antioch to the west and south, Oakley to the east, and the San Joaquin River to the north. This island is located immediately west of State Route 160. The area is largely built out and includes some underdeveloped properties. Exiting uses are predominantly marina, commercial, storage, incidental uses, and several residential dwelling units. In 2016, LAFCO approved annexation of this area to the City of Antioch; however, the voters rejected the annexation.

Sacramento/San Joaquin Delta

Portions of the City boundary and SOI are located within the Sacramento/San Joaquin Delta Estuary watershed (Delta), specifically within the "Secondary Zone". The Delta is a large inland river delta geographically connected to the San Francisco Bay Estuary and home to several rare and endangered fish species. The Delta is also designated a National Heritage Area. The Secondary Zone

is within the "Legal Delta" and is described by various state laws and planning documents (DPC, 2010 and DSC, 2013). For local government planners and administrators, there are three key Delta planning documents listed below:

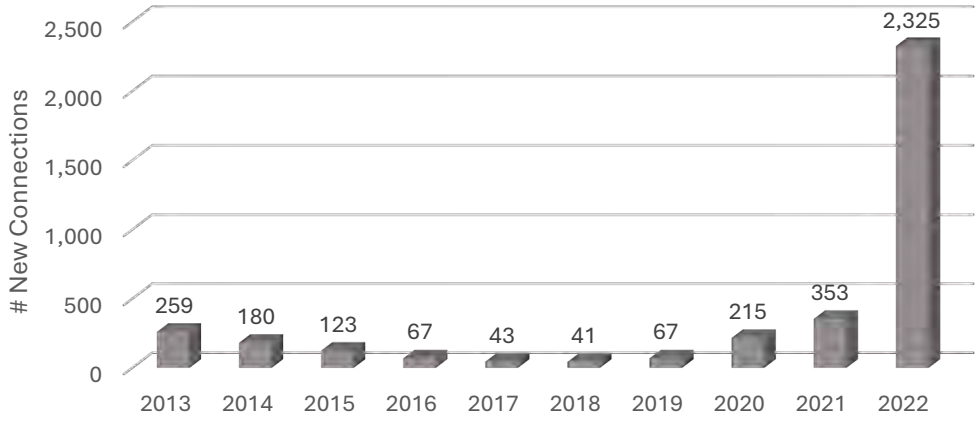
- The Delta Plan, by the Delta Stewardship Council (DSC). 2013 as updated through 2024.
- Land Use and Resource Management Plan for the Primary Zone of the Delta by the Delta Protection Commission (DPC). February 25, 2010.
- Socioeconomic Indicators Report: The Sacramento-San Joaquin Delta by Visser, M.A.; Brinkley, C.; Zlotnicki, J. in 2018.

DPC's Land Use and Resource Management Plan recognizes that urbanization and other development projects within the secondary zone have the potential to impact the Primary Zone of the Delta (DPC, 2010). These planning documents are important because the City's discharge of treated wastewater to the San Joaquin River has the potential to influence water quality and endangered species within the Delta.

3.3: WASTEWATER OPERATIONS

The City's wastewater service includes collection and conveyance to the DD WWTP for treatment and disposal. The City provides wastewater collection and conveyance services to approximately 31,937 sewer connections (Antioch, 2022a), as shown in Table 3-1. One City sewer connection may serve many individual customers. Significant annual variability in the number of new connections added for 2022 is shown in Figure 3-3, with 2,325 new connections added.

Figure 3-3: Number of New Sewer Connections by Year



Data Source: Antioch, CAFR, 2022d

Collection Services

The City provides wastewater collection and conveyance services through 309.97 miles of sewer mains; one small lift station; one small force main of 321 linear feet; and 6,153 maintenance holes and access points in the collection system. The City is also responsible for the lower sewer laterals connecting parcels to the mainline sewers and maintains approximately 163 miles of lower laterals (Antioch, 2018). In 2018, the City updated its Sewer System Management Plan (SSMP). The SSMP addresses the State Water Resources Control Board (SWRCB) mandate to meet the Statewide General Waste Discharge Requirements (GWDR). The SSMP is a compendium of the policies, procedures, and activities that are included in the planning, management, operation, and maintenance of the City's sanitary sewer system. Antioch coordinates with DD for all Fats, Oils & Greases (FOG)-related activities (Antioch, 2018).

During the past year, City staff completed several projects to improve wastewater collection services, including:

- Implemented a rural maintenance hole inspection program and replaced all rural maintenance holes with watertight locking composite maintenance holes.
- Completed State-mandated Sanitary Sewer Management Plan (SSMP) audit.
- Treated approximately 33,000 lineal feet of sewer main line for root infiltration to maximize flow and minimize clogs.
- Rehabilitated 15 maintenance holes to prevent infiltration and exfiltration and restore structural integrity.
- Purchased a new Vactor combination truck to assist with cleaning larger diameter pipes.
- And several other projects.

Treatment and Disposal

Wastewater from the City is collected through the City's sewer system and is discharged into the district's conveyance system. With a permitted design flow of 19.5 MGD, the DDSD WWTP treats the City of Antioch's effluent. There are three main connection points between the City system and the DD system:

- Bridgehead Pump Station, in the northwest section of the City: Wastewater from the southern part of the City, including Roddy Ranch and Ginocchio future development focus areas, is transported through the Lone Tree Interceptor to the Bridgehead Pump Station.
- Fulton Shipyard (Antioch) Pump Station, in the north section of the City: Sewage from the central and northern parts of the City is collected at the Fulton Shipyard Pump Station. Sewage from the Bridgehead Pump Station is conveyed to the Fulton Shipyard Pump Station through a DD-owned and operated force main and gravity conveyance system. Sewage from the Fulton Shipyard Pump Station is pumped into the Antioch Interceptor and conveyed to the DD WWTP.
- Pittsburg-Antioch Interceptor, in the northeast section of the City: In addition to sewage from Pittsburg, sewage from the eastern part of Antioch is conveyed to the DD WWTP through the Pittsburg-Antioch Interceptor (Antioch, 2021).

As described in Chapter 14, DD was originally formed in 1955 as County Sanitation District 7A to protect the health of the public and the environment by collecting and effectively treating wastewater in the Antioch, Bay Point, and Pittsburg communities. DDs name was changed to Delta Diablo in 1989, then to Delta Diablo Sanitation District, and again to Delta Diablo (DD) in 2014. Treated effluent is discharged into New York Slough, a section of the San Joaquin River.

Commercial And Industrial Customers

Antioch provides collection services to several commercial and industrial customers; however, specific data was not readily available (Antioch, 2022a). It appears there are no EPA categorical users who are required to pre-treat wastewater as a form of pollutant control for non-domestic sources discharging to a public sewer system. This national program is run by the EPA per the Clean Water Act and implemented through California's Water Board. This issue should be researched in more detail in the next MSR for Antioch.

Ability to Serve

Factors influencing the City's ability to collect wastewater and provide public service to customers were considered. City staff indicated that the significant factors that influence the City's services include the growth of the City (capacity), government regulations, the minimization of Sanitary Sewer Overflows (SSOs), and the ability to properly manage, operate, and maintain all parts of the sanitary sewer system (Antioch, 2022a). The City has 24 full-time employees (FTE) who work on the wastewater collection system (Antioch, CAFR, 2022d).

Local Hazards

The Contra Costa County Hazard Mitigation Plan (HMP) Volume 2, dated January 2018, maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards (Contra Costa County, 2018). The HMP shows that Antioch has a wastewater facility located within or in proximity to areas with moderate to high Liquefaction Susceptibility; moderate earthquake risk with Site Class / Soil Profile "D" with stiff soil; and potential flood hazard areas (Contra Costa County, 2018). Information about these hazards should be incorporated into the City's next SSMP update as recommended by the HMP (Contra Costa County, 2018).

Sanitary Sewer Overflow Database

The State Water Board maintains a SSO database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. WQ 2022-0103-DWQ (SSS WDRs), on December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. The MSR authors

queried a 3.5-year term from January 1, 2019, to August 9, 2022, and this CIWQS-SSO database query resulted in 76 SSOs in the City of Antioch. 76 SSOs is quite a high number and too numerous to list in this MSR. Therefore, the query time period was reduced and re-run. Table 3-2 (next page) lists the query results from 2021 through 2022. A total of 26 SSOs occurred during the years 2021 and 2022.

During 2021 and 2022, the largest overflow, 36,691 gallons, took place on July 26, 2022, and its failure point was located at the maintenance hole. This spill occurred due to an operator error that involved the debris catcher getting stuck and the mainline surcharging. In most cases, the SSOs originated from the lower lateral points. As seen in Table 3-2, many of the spills from 2021 through 2022 had a volume of less than 100 gallons. One SSO that was quite significant in volume occurred on March 5, 2022, and it had a volume of 2,780 gallons. This spill occurred due to grease deposition.

Table 3-2 lists Categories 1, 2 and 3 types of SSO events, which are defined in Table 3-3 below.

Table 3-3: Definitions of SSO Categories	
Category 1	A Category 1 spill is a spill of any volume of sewage from or caused by a sanitary sewer system regulated under this General Order that results in a discharge to: A surface water, including a surface water body that contains no flow or volume of water, or A drainage conveyance system that discharges to surface waters when the sewage is not fully captured and returned to the sanitary sewer system or disposed of properly. Any spill volume not recovered from a drainage conveyance system is considered a discharge to surface water, unless the drainage conveyance system discharges to a dedicated stormwater infiltration basin or facility. A spill from an enrollee-owned and/or operated lateral that discharges to surface water is a Category 1 spill.
Category 2	A Category 2 spill is a spill of 1,000 gallons or greater, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to surface water. A spill of 1,000 gallons or greater that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 2 spill.
Category 3	A Category 3 spill is a spill equal to or greater than 50 gallons and less than 1,000 gallons, from or caused by a sanitary sewer system regulated under this General Order that does not discharge to a surface water. A spill equal to or greater than 50 gallons and less than 1,000 gallons that spills out of a lateral and is caused by a failure or blockage in the sanitary sewer system is a Category 3 spill.

Table 3-2: City of Antioch Sanitary Sewer Overflows from 2021 through 2022

SSO Event ID	Region	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
871813	5S	City Of Antioch	Category 3	1/25/2021	5	5	0	Lower Lateral (Public)	5SSO10890
872334	5S	City Of Antioch	Category 3	2/10/2021	5	5	0	Lower Lateral (Public)	5SSO10890
872634	5S	City Of Antioch	Category 3	2/25/2021	79	79	0	Gravity Mainline	5SSO10890
873506	5S	City Of Antioch	Category 3	4/12/2021	156	156	0	Lower Lateral (Public)	5SSO10890
873722	5S	City Of Antioch	Category 3	4/26/2021	3	3	0	Lower Lateral (Public)	5SSO10890
874087	5S	City Of Antioch	Category 3	5/14/2021	55	55	0	Lower Lateral (Public)	5SSO10890
874486	5S	City Of Antioch	Category 3	6/4/2021	2	2	0	Lower Lateral (Public)	5SSO10890
874531	5S	City Of Antioch	Category 3	6/9/2021	2	2	0	Lower Lateral (Public)	5SSO10890
874691	5S	City Of Antioch	Category 3	6/11/2021	13	13	0	Lower Lateral (Public)	5SSO10890
876337	5S	City Of Antioch	Category 3	9/9/2021	23	23	0	Lower Lateral (Public)	5SSO10890
876474	5S	City Of Antioch	Category 3	9/20/2021	3	3	0	Lower Lateral (Public)	5SSO10890
876709	5S	City Of Antioch	Category 3	9/26/2021	47	1	0	Gravity Mainline	5SSO10890
877114	5S	City Of Antioch	Category 3	10/19/2021	54	54	0	Gravity Mainline	5SSO10890
877406	5S	City Of Antioch	Category 3	11/2/2021	31	31	0	Lower Lateral (Public)	5SSO10890
878291	5S	City Of Antioch	Category 3	12/19/2021	7	7	0	Lower Lateral (Public)	5SSO10890

SSO Event ID	Region	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
878698	5S	City Of Antioch	Category 3	1/3/2022	20	20	0	Lower Lateral (Public)	5SSO10890
878701	5S	City Of Antioch	Category 3	1/3/2022	24	24	0	Gravity Mainline	5SSO10890
879530	5S	City Of Antioch	Category 3	2/15/2022	32	32	0	Lower Lateral (Public)	5SSO10890
879835	5S	City Of Antioch	Category 3	3/2/2022	98	98	0	Gravity Mainline	5SSO10890
879863	5S	City Of Antioch	Category 3	3/6/2022	15	15	0	Lower Lateral (Public)	5SSO10890
879869	5S	City Of Antioch	Category 2	3/5/2022	2,780	2,780	0	Gravity Mainline	5SSO10890
879917	5S	City Of Antioch	Category 3	3/7/2022	21	21	0	Lower Lateral (Public)	5SSO10890
881202	5S	City Of Antioch	Category 3	5/6/2022	12	12	0	Gravity Mainline	5SSO10890
882224	5S	City Of Antioch	Category 3	7/7/2022	5	5	0	Lower Lateral (Public)	5SSO10890
882491	5S	City Of Antioch	Category 1	7/26/2022	36,691	36,691	35,191	Maintenance hole	5SSO10890
882561	5S	City Of Antioch	Category 3	7/21/2022	3	3	0	Lower Lateral (Public)	5SSO10890

Over the past five years, the City improved its lateral maintenance program to inspect, evaluate, and repair issues with the City of Antioch's laterals (Antioch, 2022a). The maintenance program aims to reduce SSOs from the City laterals. Additionally, the City has lined most of the older sanitary mainlines to repair defects and reduce inflow & infiltration (I&I) (Antioch, 2022a).

From July to October 2022, San Francisco Bay experienced a harmful algal bloom (HAB) known as a red tide, as described in Appendix F. The species associated with this bloom, *Heterosigma akashiwo*, can cause water to turn reddish-brown. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay, and into San Pablo Bay. Fish deaths, linked to the red tide, were reported to include sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San Francisco Bay Water Board (SFBWB) is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other agencies to study the potential impacts of nutrients on San Francisco Bay. The City of Antioch has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater districts and the SFBWB.

3.4: INFRASTRUCTURE NEEDS

The City maintains various equipment, vehicles[1], infrastructure, and associated assets, including 305.91 miles of sanitary sewer pipelines (Antioch, CAFR, 2022d). City staff was queried about improvements that could be made in the future regarding the efficiency and affordability of infrastructure and service delivery, and sharing of resources and facilities. City staff indicates that several ideas are being considered for future long-term improvements to the system, including:

- Update the Sewer System Management Plan
- Continue to televise the system
- Continue to Identify issues with the system
- Plan to correct systemic issues

Current infrastructure needs are addressed through the City's 5-Year Capital Improvement Program (CIP) for 2023-2028. Antioch's CIP is a 5-year program updated annually with a 2-year budget. The CIP includes a list of completed and ongoing projects, as well as new additions. The CIP covers the City's Water System, Wastewater System, Storm Drainage System, Roadway Maintenance, Parks and Recreation, and Facilities. The CIP is funded through various sources, including grants, development impact fees, and park-in-lieu fees. The CIP outlines the process for selecting and

[1] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the district, it is likely that sometime in the future, the district may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

prioritizing projects and the timeline for implementation (Antioch, 2023). Specifically, the CIP includes several wastewater projects to improve the City's wastewater system. For example, the proposed Wastewater Collection System Rehabilitation project will involve repairing and replacing aging sewer lines and maintenance holes throughout the City. The project aims to reduce the number of sewer overflows and improve the overall reliability of the wastewater system. Overall, the proposed wastewater projects included in the City of Antioch's CIP aim to improve the city's wastewater system and ensure that it can meet the community's needs now and in the future (Antioch, 2023).

Future Challenges:

The City's March 2021 report titled "Evaluation of Sewer Enterprise Funds Cash Flow and Rates" identifies potential challenges and risks that the City should be aware of, such as the impact of COVID-19 on the economy and the potential for changes in state and federal regulations (Antioch, 2021). The Public Works Department identified several goals for 2024 to 2025 for the wastewater system, including:

- Televise 25% of the Sewer System every year.
- Increase sewer lateral inspection and cleaned by 10% without compromising quality.
- Decrease SSOs by 10%

Portions of Antioch's collection system are comprised of older vitrified clay pipes. Root intrusion in the sewer system has been an ongoing problem that staff works to correct. The Public Works Department's recent focus is on sewer line rehabilitation and maintenance hole repairs (S. Buenting, personal communication, 11/13/2023).

The American Society of Civil Engineers, Region 9 (2019) has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

1. Implement an education program at the state and local level about what a WWTP is, what kind of wastes it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water reuse/recycling.

Cooperative Programs

The City has developed a recycled water program with DD and implemented shared maintenance programs with DDSD and the City of Pittsburg, including preparation of their SSMP. The City's successful partnership with DD, including their collaboration on the National Pollutant Discharge Elimination System (NPDES) permit and operation of facilities, is particularly noteworthy (personal communication, S. Buenting, 11/13/2023). Additionally, Antioch shares resources with the Iron House Sanitary District and Bay Point when needed (Antioch, 2022a). The City also participates in regional water conservation programs and the Bay Area Pollution Prevention Program.

Settlement Agreement: Several years ago, the City reached a legal settlement agreement with California River Watch. The settlement agreement required the City to complete several tasks, including: inspect all gravity mainlines 10" or greater within five years; repair any PAPC-rated 4 or 5 defects within two years of identifying them; televise all lines within 200' of a water body within five years and repair within two years with higher priority; CCTV all main lines within 10 years; present to the City council an ordinance that establishes mandatory inspection and repair of the sewer lateral at point of property transfer or remodel of greater than $25,000; repair all sewer lines that have two or more spills in a year; provide more detailed spill reporting; create a link on the City website for SWRCB and CIWIQS; create a door hanger/handout for notification; sample for total fecal matter, ammonia, E.coli and metals on Category 1 spills; immediately repair any spill that was caused by a structural defect; and pay fees of $35k. Antioch successfully completed all of these tasks required by the Settlement Agreement (personal communication, S. Buenting, 11/13/2023).

Cost Avoidance Opportunities

As noted above, the development of a recycled water project with DD has reduced the dependence on purchasing imported untreated water to meet the City's conservation goals. Additionally, the City seeks grants as possible alternative funding for City projects.

3.5: FINANCIAL OVERVIEW

Two state databases provide City-wide financial summaries, including:

- California Auditor's website at: <*https://www.auditor.ca.gov/local_high_risk/lhr-main-landing*>.
- State Controller's Office at <*https://cities.bythenumbers.sco.ca.gov*> runs the Government Financial Reports database that includes detailed financial data from 58 California counties and more than 450 cities and pension-related information for state and local government.

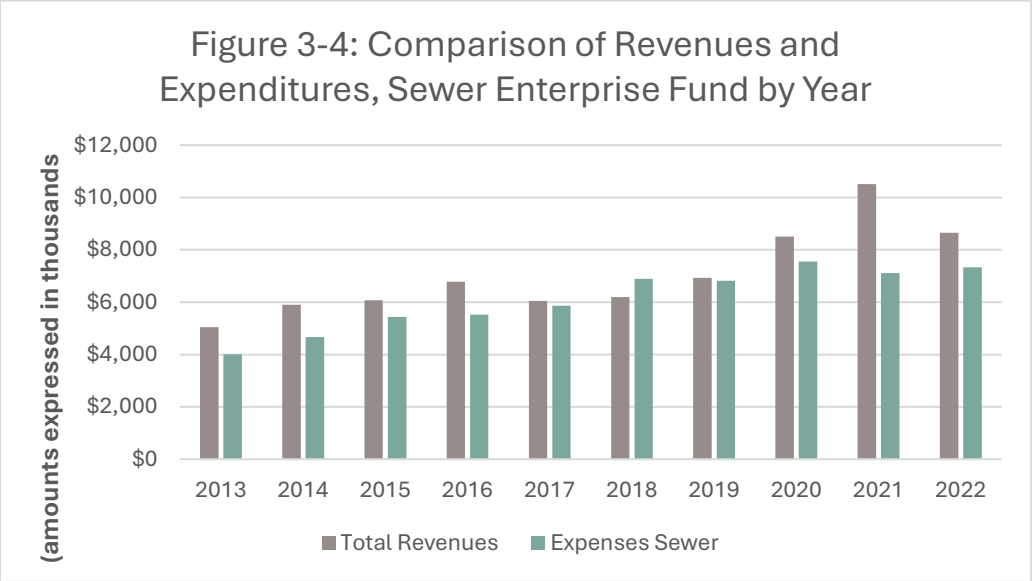
The focus of this analysis is the Sewer Enterprise Fund. Enterprise funds are used to separately account for self-supporting operations. The City of Antioch uses enterprise funds to account for its water, sewer, and marina funds. The City's budget and Certified Annual Financial Reports (CAFRs) are the primary information sources for data related to the Sewer Enterprise Fund, and these reports are posted on the City's website at <*https://www.antiochca.gov/finance-department/reports/financial-reports/*>. This financial analysis represents a snapshot in time (i.e. a limited time period). However, the City regularly updates its financial data and readers may review the new data on Antioch's website. Badawi & Associates, Certified Public Accountants, has issued an unmodified ("clean") opinion of the City of Antioch's financial statements for the year ended June 30, 2022.

The City Council presides over and adopts the City's annual budget and financial affairs. Antioch operates its wastewater services as an enterprise fund within the confines of overall City operations.

Service fees comprise the significant majority of revenues that fund the services provided for wastewater. The wastewater enterprise fund does not receive funds directly or indirectly from the City's General Fund. The Sewer Fund accounts for the maintenance of the City's sewer lines and related facilities. It is a self-supporting activity that provides services on a user-charge basis to residences and businesses (Antioch, CAFR, 2022d). Rate increases were implemented over the last several years to accommodate the expenditures. The City maintains a reserve fund balance for the Sewer Enterprise fund, providing the ability to absorb short-term impacts. Six primary areas of criteria are utilized to assess the present and future financial condition of the City's wastewater and water service operations, as discussed below.

Revenue/Expenditure Budget Trends

The Sewer Fund expenses for a 10-year timeframe are shown in Figure 3-4 below. Revenues exceeded expenses in nine of the ten study years. This key performance measure indicates that the Sewer Fund is solvent and has the capacity to cover its costs. The exception was FY18/19, where revenues of $6,192,000 were less than expenses of $6,898,000. FY20/21 Total Operating Expenses ($7,202,204) were $107,207 less than Total Operating Revenue ($7,309,411) (Antioch, CAFR, 2022d). Over the last several years, the wastewater fund overall has experienced a surplus.



Source for Figure 3-4: Antioch CAFR for FY21/22

For the year ending June 30, 2022, the unrestricted net position of the Sewer Fund amounted to $14,469,888. The Sewer Fund total net position increased $1,134,543 during fiscal year (FY) 21/22, mainly due to capital contributions for connection fees (Antioch CAFR, 2022d).

Ratios of Revenue Sources

The City's Sewer Enterprise fund receives funds from three sources: monthly charges for service, operating grants, and capital improvement grants. Approximately 82 percent of its wastewater enterprise fund revenues are from service charges and fees. There is no revenue from property taxes. Grants comprise a small percentage of total revenue, as shown in Table 3-4 below. The ratios for the wastewater fund sources reflect an appropriate balance for typical enterprise fund services, and this minimizes the impact that negative economic factors will have on more elastic revenues such as property tax.

Table 3-4: Revenue Sources – Antioch Sewer Enterprise Fund (values shown in "Thousands")

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Charges for services	4,523	4,714	5,013	5,395	5,755	6,032	6,334	6,585	6,599	7,109
Operating grants, contributions	0	0	0	0	0	0	0	0	49	200
Capital grants	524	1,193	1,063	1,387	293	160	595	1,926	3,858	1,340
Total Revenues	***$5,047***	***$5,907***	***$6,076***	***$6,782***	***$6,048***	***$6,192***	***$6,929***	***$8,511***	***$10,506***	***$8,649***

Data Source: Antioch, CAFR, 2022d

Ratio of Reserves or Fund Balance to Annual Expenditures

An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures. The City's wastewater fund currently has cash and cash equivalents valued at $18,527,461, as shown in Table 3-5 below.

Table 3-5: Cash Flows, Antioch Wastewater	
Business-type Activities	Sewer
Cash Flows from Operating Activities:	
Cash receipts from customers	$ 7,245,505
Cash paid to suppliers for goods and services	(3,293,342)
Cash paid to employees for services	(3,050,228)
Net cash provided by (used in) operating activities	901,935
Cash Flows from Noncapital Financing Activities:	
Transfers in	398,804
Transfers (out)	(354,018)
Net cash provided by (used in) noncapital financing activities	44,786
Cash Flows From Capital & Related Financing Activities:	
Capital asset additions	(1,274,489)
Capital contributions	1,339,637
Proceeds from disposal of capital assets	-
Proceeds from long-term borrowings	-
Lease principal paid	(53,895)

Lease interest received (paid)	(6,105)
Principal paid on long-term loans	-
Interest paid on long-term loans	-
Net cash provided by (used in) capital and related financing activities	5,148
Cash Flows From Investing Activities:	
Interest received (paid)	(291,549)
Net cash provided by (used in) investing activities	(291,549)
Net change in cash and cash equivalents	660,320
Cash And Cash Equivalents:	
Beginning of year	17,867,141
End of year	$ 18,527,461

Data Source for Table 3-5: Antioch, CAFR, 2022d

Given that annual expenditures for FY21/22 were $6,845,117, the ratio to reserves (i.e., fund balance ratio) calculates to approximately 271 percent of annual expenditures. This fund ratio is positive.

Annual Debt Service Expenditures to Total Annual Expenditures

The City of Antioch's Sewer Enterprise Fund has several types of liabilities related to wastewater services, including current liabilities such as Accounts payable, Accrued payroll, and Interest payable. The Fund's noncurrent liabilities include a lease payable, compensated absences - due in more than one year, net pension liability, and net Other Post Employment Benefits (OPEB) liability, as listed in Table 3-6 (next page).

Because Antioch is not responsible for maintaining a WWTP (see DD), the City's Sewer Fund does not appear to have debt related to capital improvements or associated bonds. The ratio of annual debt service to total fund annual expenditures is an indicator of the City's ability to meet debt obligations in relation to service provision expenditures. Ideally, a 10% or less ratio would reflect a very stable ratio. The City's wastewater fund has no significant debt and, therefore, no ratio to assess.

Table 3-6: Liabilities	
Business-type Activities	Sewer
LIABILITIES	
Current liabilities:	
Accounts payable	$301,689
Accrued payroll	67,081
Interest payable	505
Deposits	-
Compensated absences - due within one year	12,032
Lease payable - due within one year	60,000
Long-Term Payable - DDSD due within one year	-
Long Term loan payable - SWRCB due within one year	-
Total current liabilities	441,307
Noncurrent liabilities:	
Lease payable	372,259
Long-Term Payable - DDSD	-
Long Term loan payable - SWRCB	-
Compensated absences - due in more than one year	108,286
Net pension liability	3,442,312
Net OPEB liability	108,781
Total noncurrent liabilities	4,031,638
Total liabilities	4,472,945
DEFERRED INFLOWS OF RESOURCES	
Lease related amounts	-
Pension related amounts	1,690,792
OPEB related amounts	398,597
Total deferred inflows of resources	2,089,389
NET POSITION	
Net investment in capital assets	61,022,761
Unrestricted	14,469,888
Total net position	$ 75,492,649

Data Source for Table 3-6: Antioch, CAFR, 2022d

Rate Structure

The rate structure for wastewater services was considered in a March 2021 report titled "Evaluation of Sewer Enterprise Funds Cash Flow and Rates" (Antioch, 2021). This report evaluates the sewer enterprise funds cash flow for the period of FY22-FY26 using projected expenditures and revenues. The recommended sewer service charges for each customer class are determined based on a

uniform charge for each residential customer class and a combination of a uniform charge and a flow-based charge for non-residential customers. The evaluation suggests that the City of Antioch can improve its cash flow management for sewer enterprise funds by implementing a rate stabilization fund and a CIP (Antioch, 2021). In June 2021, the City Council approved a new rate structure that reflected the recommendations of the report, as shown in Table 3- 7 below. The City's current rate structure for wastewater reflects a fixed monthly maintenance charge plus a monthly sewer lateral maintenance charge for residential and non-residential customers.

Table 3-7: Wastewater Rates

	Current	Recommended Five-Year Rate Plan				
	FY21	FY22	FY23	FY24	FY25	FY26
effective dates >	*7/1/2019*	*7/1/2021*	*7/1/2022*	*7/1/2023*	*7/1/2024*	*7/1/2025*
Residential, $/month per Dwelling Unit						
Single Family	$14.00	$15.00	$16.05	$17.20	$18.45	$19.80
Multiple Family	$12.70	$13.40	$14.35	$15.40	$16.50	$17.70
Apartment/Mobile Home	$11.10	$11.95	$12.90	$13.95	$15.10	$16.35
Nonresidential						
Account Charge,$/month	$4.44	$4.60	$4.95	$5.30	$5.70	$6.15
Volume Rate, $/HCF *	$1.20	$1.31	$1.42	$1.54	$1.68	$1.82
** 1 HCF = approximately 748 Gallons*						

In addition to the City's wastewater collection charges, DD also has a fee for its wastewater treatment and disposal service. DD charges Antioch residents $403.10 annually on property taxes (Antioch, 2021). Therefore, the average single-family home pays a monthly total of approximately $48.59, which includes $33.59 in City collection fees plus $15 in DD treatment fees.

3.6: POPULATION

There were approximately 115,291 residents within the City boundary as of 2020 (LAFCO, 2023). Of the 115,291 residents within the City boundary, it is estimated that 100% of residents receive wastewater services from the City of Antioch. As of January 1, 2023, the population has increased slightly to 115,442 persons. Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

Table 3-8: Existing Permanent Population, City of Antioch, 2021 to 2022

Name of City	Population in Boundary (1)	Number of Registered Voters in Boundary (2)	Population in SOI only (3)
City of Antioch	115,291	62,792	69

Sources:
(1) Population as of 2020 per Contra Costa Department of Conservation and LAFCO.
(2). Registered Voter data provided by Contra Costa LAFCO as of January 2023.
(3): Calculated estimate based on an average of 3.02 persons per parcel in Contra Costa County.

Projected Future Population: Projecting a city's future population is complicated due to varying annexation rates and census tracts that do not match the City boundary. Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County, as shown in Table 3-9 below. The anticipated future population growth of the City has the potential to influence the demand for wastewater services. The projections shown in Table 3-9 indicate that by the year 2045 Antioch's population may grow to approximately 129,966 persons. This represents an annual average (compound) growth rate of 0.59%, similar to that of Contra Costa County, as a whole.

The City is located within the Legal Delta Secondary Zone, and a detailed population analysis of the Delta area has been prepared by state agencies (Visser et al., 2018). Readers are encouraged to review this information directly on the state website (as updates are expected soon) as follows:

- The Delta Plan available at: <*https://www.deltacouncil.ca.gov/delta-plan/*>.
- Land Use and Resource Management Plan for the Primary Zone of the Delta available at <*https://delta.ca.gov/wp-content/uploads/2019/12/Land-Use-and-Resource-Management-Plan-2.25.10_-m508.pdf* >.
- Socioeconomic Indicators Report: The Sacramento-San Joaquin Delta available at <*https://delta.ca.gov/wp-content/uploads/2020/09/Delta-Socio-Economic-Indicators-Report-508.pdf*>

3.7: DISADVANTAGED COMMUNITIES

Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in some disadvantaged communities. Data from the 2020 U.S. Census was queried as part of this MSR update process. Data query results showed no disadvantaged unincorporated communities (DUCs) within or contiguous to the City's SOI. All unincorporated communities receive sewer, water, and fire protection services (Contra Costa LAFCO, 2019).

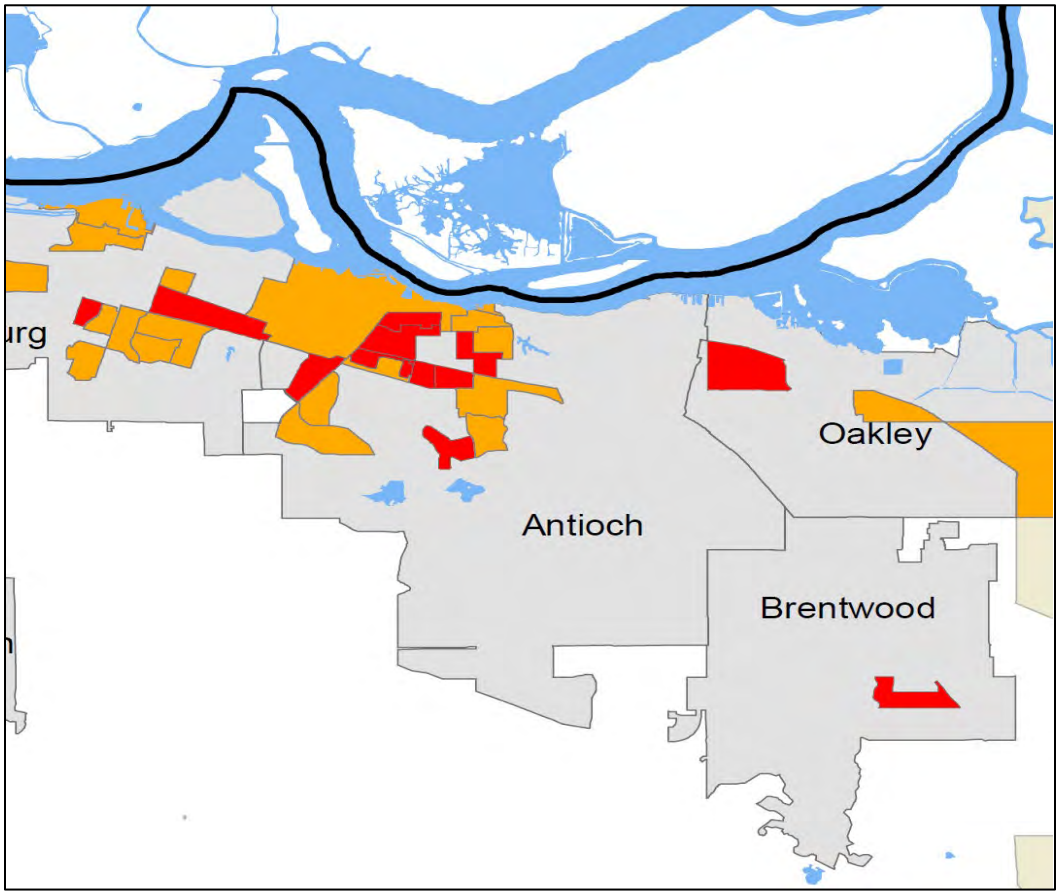
However, there are several low-income communities within Antioch's incorporated boundary. Two types of disadvantaged areas (DACs) include Severely Disadvantaged Communities (MHI < $47,203), shown in red, and Disadvantaged Communities (MHI = $47,203-$62,937) shown in orange in Figure 3-5 below. All parcels within Antioch's boundary receive municipal services. No public health and safety issues were identified.

Table 3-9: Total Estimated & Projected Population (2020 – 2045)

	2020	**2025**	**2030**	**2035**	**2040**	**2045**	**Percent Increase 2020 to 2045**	**Numeric Increase 2020 to 2045**	CAGR 2020 to 2045
County of Contra Costa[1]	1,149,800	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.80%	181,631	0.59%
City of Antioch[2]	115,291	116,877	121,448	125,305	128,121	129,966	15.80%	17,730	0.59%

Sources:
1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.
2: Population projection for the City of Antioch calculated as 9.76 percent of the County of Contra Costa population.

Figure 3-5: Disadvantaged Communities in Antioch



Status of Issues Identified in 2014 MSR

LAFCO's 2014 MSR identified several recommendations with respect to the City's provision of wastewater service, including the Sewer System Master Plan, fiscal and efficiency issues, and sewer rates. Each of these issues is described in more detail in the pertinent sections of this chapter. Any new or remaining issues are identified in the determinations listed below.

3.8: GOVERNMENT STRUCTURE ALTERNATIVES

Three government structure alternatives were identified in LAFCO's 2014 Wastewater MSR:

1) maintain the status quo,
2) consolidate service with the DD, and
3) annex all small county unincorporated islands within the City's boundary/SOI

Maintain the status quo

The City of Antioch currently provides wastewater collection service for its residents and businesses (plus one parcel outside the City boundary - County Fairgrounds). The City's wastewater fund is stable, and the City has approved a 5-year CIP to repair and upgrade needed infrastructure. The MSR authors and City staff recommend this option (S. Buenting, personal communication, 11/13/2023).

Consolidate service with DD (DD)

Antioch provides wastewater collection and conveyance services, while DD provides treatment and disposal services. In the 2014 MSR, LAFCO recommended a regional approach to wastewater treatment and invited the City to participate in discussions with DD and the Ironhouse Sanitary District (ISD) regarding potential collaboration or consolidation. Consolidation may provide potential opportunities for economies of scale and other efficiencies. Further study is needed to determine the merits of this option and the benefits/costs that would affect ratepayers for both the district and the City. Although no formal review of this proposal has been undertaken, the City's preference is to maintain the status quo (S. Buenting, personal communication, 11/13/2023).

A specific proposal for a future merger or consolidation would suggest the need for a study to consider the financial and operational impacts associated with merger/consolidation, including:

- Right of way (ROW) issues (sewer lines are located under City roads where the City owns the ROW).
- Easements
- Financial and technical burden of maintaining the City's collection systems, which includes several older areas with vitrified clay pipes.
- Staffing (City's staff has experience maintaining the collection system. Would City staff transfer over to DD or another entity? Would staff from the other agency have the experience to operate the City's system?)
- Coordination with other City utilities, including water service and PG&E's electrical wires, which are often in the City ROW.

Figure 3-6: Current SOI for Antioch

Annex all small islands within the City's boundary

Antioch has three (3) small unincorporated island areas located within the City boundary, including the Fairgrounds, a former landfill site, and an area located west of State Route 160. These small islands are described in more detail in the section called "Small Islands" on page 3-4. It is unlikely that

the City will pursue annexation of the Fairgrounds because it is a state-owned parcel governed by Board of Directors who are appointed by the State. It is also unlikely that the City would annex the former landfill site due to its limited development potential and due to ongoing environmental monitoring and remediation requirements. This alternative was considered by the MSR authors and determined to be infeasible in the near-term. Regarding the third island, in 2016, LAFCO approved annexation of this area to the City of Antioch; however, the voters rejected the annexation.

3.9: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

Table 3-10: MSR Determinations

TOPIC AND PERFORMANCE MEASURES	DETERMINATION
Growth and Population for the affected area. • Is the existing population estimated? • Is the projected future growth estimated?	• According to the Department of Finance, the City's existing population is estimated at 115,074. • The City added 2,325 new sewer connections in 2022. • The City's existing population is expected to grow to 129,966 by 2045. From 2020 to 2045, there is an estimated growth rate of 0.59 percent.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.	Data from the 2020 U.S. Census was queried to determine the location and status of disadvantaged communities as part of this MSR process. Data query results showed no disadvantaged unincorporated communities (DUCs) within or contiguous to the City's SOI. However, there are several low-income communities within Antioch's incorporated boundary. All parcels within Antioch's boundary receive municipal services. No public health and safety issues were identified.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence.	Current infrastructure needs are addressed through the City's 5-Year CIP. The CIP includes several wastewater projects to improve the City's wastewater system. For example, the proposed Wastewater Collection System Rehabilitation project will involve repairing and replacing aging sewer lines and maintenance holes throughout the

(continued) • Does the agency have a CIP? • Are SSOs identified? • Are local hazards identified?	(continued) City. The project aims to reduce the number of sewer overflows and improve the overall reliability of the wastewater system. SSOs were identified by querying the CIWQS-SSO database for a 3.5-year term from January 1, 2019, to August 9, 2022. This query result showed 77 SSOs in the City of Antioch. Additionally, nutrient management is a concern for all wastewater service providers in the Bay Area. Antioch actively participated in the Contra Costa County HMP. The HMP shows that Antioch has a wastewater facility located within or in proximity to areas with moderate to high liquefaction susceptibility; moderate earthquake risk with Site Class / Soil Profile "D" with stiff soil; and potential flood hazard areas. There are no DUCs within or contiguous to the City's SOI.
Financial ability of agencies to provide services. • Has the agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures is 10% or less?	Rates are periodically studied and considered by the City Council. Currently, the average single-family home pays a monthly total of approximately $48.59, which includes $33.59 in City collection fees plus $15 in DD treatment fees. Revenues exceeded expenses in nine of the ten study years. This key performance measure indicates that the Sewer Fund has the capacity to cover its costs. Because Antioch is not responsible for maintaining a WWTP (see DD), the City's Sewer Fund does not appear to have debt related to capital improvements or associated bonds. The City's wastewater fund has no significant debt.
Status of, and opportunities for, shared facilities.	The City has developed a recycled water program with DD and implemented shared maintenance programs with DD and the City of Pittsburg. The City also participates in regional water conservation programs and the Bay Area Pollution Prevention Program.

Accountability for community service needs, including government structure and operational facilities. • Does the agency have a website? • Does the agency post a public outreach tool (such as a calendar or newsletter) on its website? • What is the recommendation for mergers, consolidations, or other changes to governance structure?	The City provides a comprehensive website providing the public with internet access to City Council agendas and minutes, public notices, City budgets, CIPs, water quality reports, and SSMPs. A City calendar is also posted listing upcoming meetings. Three government structure alternatives were identified in LAFCO's 2014 Wastewater MSR: maintain the status quo, consolidate service with the DD, and annex all small county unincorporated islands within the City's SOI. (continued) The MSR authors recommend Alternative #1, maintain the status quo over the near-term. In the future, as water and wastewater conditions change, LAFCO may wish to consider other alternatives.
Any other matter related to effective or efficient service delivery, as required by commission policy.	No additional issues were identified.

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Chapter 4: CITY OF BRENTWOOD – WASTEWATER SERVICES

Table of Contents

4.1: OVERVIEW

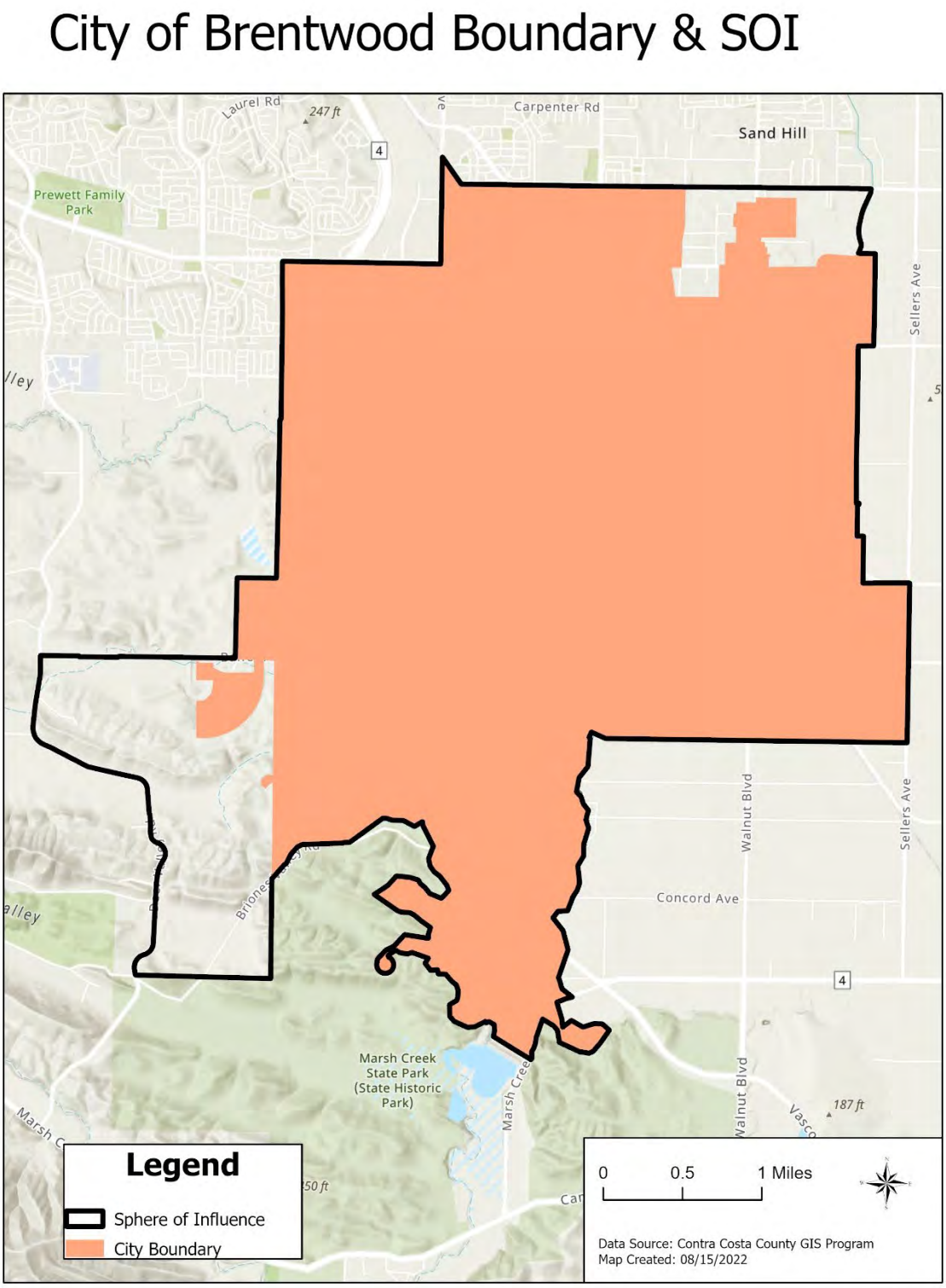
The City of Brentwood is bordered to the north by the City of Oakley, to the west by the City of Antioch, and to the south and east by unincorporated Contra Costa County. Brentwood's current population is 64,292. Settled in 1874, the area that would eventually become the City of Brentwood began as a farming community in the late 19th century. It is still known throughout the Bay Area for its agricultural products, primarily cherries, corn, and peaches. The City of Brentwood was incorporated in 1948. Since 1990, many of the old farms and orchards have been replaced by suburban development.

The City of Brentwood provides wastewater services to over 64,292 residential and commercial customers in an approximately 14.86 square miles service area. The City Public Works Department includes the Engineering and Operations Divisions. The Operations Division oversees the sewer operations. The City was awarded the "2021 California Water Environment Association – San Francisco Bay Section Tertiary Recycled Water Plan of the Year". The City's Public Works Department describes the wastewater system on its website at: <*https://www.brentwoodca.gov/government/public-works/sewer-wastewater*>. The City's Agency Profile is included in Table 4-1. A map of the City's current boundary and SOI is shown in Figure 4-1.

Table 4-1, Agency Profile – City of Brentwood

General Information			
Agency Type	Municipal		
Principal Act	General laws of the State of California		
Date Formed	1948		
Services	Wastewater collection, conveyance, treatment, and disposal		
Service Area			
Location	City of Brentwood		
Sq. Miles/Acres	Approximately 14.86 square miles/9,511.35 acres		
Land Uses	Residential, commercial, industrial, open space		
Dwelling Units	21,180 (U.S. Census, 2022)		
Population Served	Approximately 64,292 persons. There are 520 commercial customers and 78 multifamily customers (Brentwood, 2022b).		
Last SOI Update	June 12, 2019		
Sewer Infrastructure/Capacity			
Facilities	Brentwood wastewater treatment plant (WWTP), 247 miles of main sewer line, 3 lift stations (City of Brentwood, 2022c)		
Treatment Plant Capacity (MGD)	5 MGD ADWF. Per NPDES permit, capacity may be increased in future to 6.4 MGD ADWF if specific permit conditions are met. (SWRCB, 2019)		
Connections	20,494 (Brentwood, 2022b)		
Primary Disposal Method	Brentwood WWTP provides tertiary treatment; effluent pumped off-site for recycled water use or discharge into Marsh Creek.		
Financial Information- FY 2021-2022 (Wastewater Funds)			
	Revenues	Expenditures	Net (Revenues - Expenditures)
Wastewater Fund	$21,572,154	$11,516,45	$ 10,055,702
	FY 2022-2023	Long-Term Planned CIP Expenditures	
Capital Expenditures	The City's Budget for FY2022-23 allocates CIP Expenditures in the amount of $36.6 million for wastewater improvements.	• $83.3 million for the expansion of the WWTP	
Wastewater Fund Total Assets	$198,053,337	June 30, 2022 per Annual Financial Statement	
Governance			
Governing Body	City Council (5 members)		
Agency Contact	McKinney, Philip. Wastewater Operations Manager/Public Works.		
Notes			
None			

Figure 4-1: Boundary/SOI Map – City of Brentwood



4.2: CITY BOUNDARY & SOI

The City of Brentwood is located in Eastern Contra Costa County and is surrounded by the cities and/or communities of Antioch, Oakley, Knightsen, Discovery Bay, and Byron. The predominant land use is now residential, with most of the residential development being single-family homes. The City currently has several small to mid-sized office buildings and larger business park sites that house financial, consulting, telecommunications, computer, and biotech companies (LAFCO, 2014). In 1998, the City of Brentwood was named the fastest-growing city in California. The City of Brentwood lies within the San Francisco Bay / Sacramento Delta Estuary watershed. Additional information about this watershed is provided in Appendix F. The City of Brentwood General Plan Update was adopted on July 22, 2014, and is available on the City's website here: <*https://www.brentwoodca.gov/government/community-development/planning/long-range-planning*>. The City Planning Commission and the staff at the City Planning Department implement the General Plan Update. The Housing Element of the General Plan was most recently certified by the State in 2015 and covers the planning period from 2015 to 2022. The City of Brentwood is updating the next Housing Element (the 6th Cycle) to demonstrate the ability to accommodate 1,522 housing units during the 2023-2031 Planning Period at various affordability levels. The 6th cycle Housing Element Update is expected to be approved by the City Council in Spring 2023 and then submitted to the California Dept of Housing & Community Development (HCD).

Sphere of Influence

The sphere of influence (SOI) for the City of Brentwood includes the municipal boundary and extends to the north near Oakley and east and west along the southern municipal boundary, as shown in Figure 4.1. The City of Brentwood is bound by the cities of Antioch to the northwest and Oakley to the north, and County lands to the south, east, and west. The City's SOI was reconfirmed as part of LAFCO's 2014 MSR/SOI Update for Wastewater Services and in the June 12, 2019 MSR for City Municipal Services. The City of Brentwood does not anticipate changes to the SOI boundary (Brentwood, 2022b).

LAFCO's 2019 MSR for the City noted two unincorporated islands totaling 281 acres within the City SOI and urban limit line. These areas are located in north Brentwood, bifurcated by Brentwood Boulevard, adjoining the south boundary of the City of Oakley (LAFCO, 2019).

Extra-Territorial Service

The 2014 MSR states, "There are currently two parcels with Out-of-Agency Service Agreements[1] for sewer service (approved by CC LAFCO in 2005). Both property owners have signed a covenant and

[1] Out-of-Agency Service Agreements filed with LAFCO may include:

- LAFCO 05-16 (sewer & water) approved in 2005. The address is 8011 Lone Tree Way. This parcel is not contiguous to the City.
- 8153 Lone Tree Way, received OAS water & sewer (LAFCO 00-20) in anticipation of a future annexation.
- In 2000, three parcels received OAS water & sewer in anticipation of a future annexation (7765 Lone Tree Way, 7161 Lone Tree Way, and 2410 Smith Road).

agreement to annex their properties to the City". However, the properties were not planned for annexation in 2014 (LAFCO, 2014). Additionally, the 2014 MSR recommended that both properties be included within the City's SOI (LAFCO, 2014).

Dwelley Mori annexation application

In October 2020, the City prepared a 90-page Initial Study consistent with CEQA for a proposed project. The project site is currently located in unincorporated Contra Costa County and under the land use jurisdiction of the Contra Costa General Plan. The specific location is West of Marsh Creek, south of Delta Road, east of Brentwood Boulevard, and north of Lone Tree Way, in Brentwood, CA 94561. The proposed application contemplated annexing the 90.6-acre project site into the City of Brentwood to receive the full slate of municipal services, including water and wastewater services. Rezoning the land use designation to allow conversion from agriculture to higher-density residential was also part of the proposal. Based on the maximum allowable build-out pursuant to the City's R-LD land use designation for the site, the residential build-out capacity of the project site that could be expected to ultimately result from annexation of the project site would be 453 single-family residential units (90.6 acres x 5.0 units per acre) (Brentwood, 2020). The Dwelley Mori annexation application was abandoned in 2021 due to community concerns. An alternative approach to annexing only a developer-owned private parcel(s) was briefly discussed in the community. However, that would have created a large service island. If this application is to be resubmitted to LAFCO in the future, it is recommended that the City provide LAFCo with details regarding the type, size, and location of all wastewater infrastructure needed to support future build-out of the project sites.

Delta Land Use

Sacramento/San Joaquin Delta: Portions of the city boundary and SOI are located within the Sacramento/San Joaquin Delta Estuary watershed (Delta), specifically within the “Secondary Zone”. The Delta is a large inland river delta geographically connected to the San Francisco Bay Estuary and home to several rare and endangered fish species. The Delta is also designated a National Heritage Area. The Secondary Zone is within the “Legal Delta” and is described by various state laws and planning documents (DPC, 2010 and DSC, 2013). For local government planners and administrators, there are three key Delta planning documents listed below:

- The Delta Plan, by the Delta Stewardship Council (DSC). 2013 as updated through 2024.
- Land Use and Resource Management Plan for the Primary Zone of the Delta by the Delta Protection Commission (DPC). February 25, 2010.
- Socioeconomic Indicators Report: The Sacramento-San Joaquin Delta by Visser, M.A.; Brinkley, C.; Zlotnicki, J. in 2018.

DPC’s Land Use and Resource Management Plan recognizes that urbanization and other development projects within the secondary zone have the potential to impact the Primary Zone of the Delta (DPC, 2010). These planning documents are important because the city’s discharge of treated wastewater has the potential to influence water quality and endangered species within the Delta.

4.3: POPULATION

There are approximately 64,292 residents within the City boundary. This is a decline in population of 1.41 percent from the 2020 population of 65,263. Of the 64,292 residents within the City boundary, nearly 100% of residents are estimated to receive wastewater services from the City of Brentwood. There are a few septic systems on private properties in the older parts of the City. Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

Table 4-2: Existing Permanent Population, City of Brentwood, 2021 to 2022

Name of City	Population in Boundary (1)	Number of Registered Voters in Boundary (2)	Population in SOI only (3)
City of Brentwood	64,292	40,975	586

Sources:
(1) California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State: January 1, 2021 and 2022. Sacramento, California.
https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/.
(2). Registered Voter data provided by LAFCO's Directory as of (January 2023).
(3): Calculated estimate based on an average of 3.02 persons per parcel in Contra Costa County.

Projected Future Population: Data from the California Department of Finance (DOF) was used to calculate population growth for the City of Brentwood, reaching 75,572 residents by 2045. Since the anticipated future population growth of the City has the potential to influence the demand for wastewater services, the projections are shown in Table 4-3 below. The annual growth rate from 2020 to 2045 is projected by CA DOF to be 0.59 percent, as shown in Table 4-3. Brentwood is also expected to have a build-out population of 76,226 based on the most recent General Plan Update (Brentwood, 2021).

New Development Projects

The City of Brentwood is growing, and its future population is expected to expand. The City has recently approved several new projects that will require wastewater service, as listed below. Most of these projects are within the existing City boundary and do not require LAFCO approval.

- Innovation Center @ Brentwood is a 373-acre project site located in the northwest corner of Brentwood and a projected focal point for jobs and mixed-use development.
- Vineyards at Marsh Creek - Event Center/Amphitheater Phase I. This project includes the construction of an outdoor amphitheater and supporting structures and amenities.
- Costco: On June 20, 2023, the Planning Commission approved Costco's proposed plan for a warehouse to be constructed on a vacant lot located south of Lone Tree Plaza Drive, near Kohl's and Home Depot. The final project size approved by the commission is a 154,852 square-foot warehouse, with a parking lot to accommodate 864 vehicles and a 32-pump gas station.

Table 4-3: Total Estimated & Projected Population (2020 – 2045)

	2020	2025	2030	2035	2040	2045	Percent Increase 2020 to 2045	Numeric Increase 2020 to 2045	CAGR 2020 to 2045
County of Contra Costa[1]	1,149,800	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.8%	181,631	0.59%
City of Brentwood [2,3]	64,292	67,961	70,620	72,862	74,500	75,572	15.8%	10,309	0.59%

Sources:

1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.

2: 2020 Population Data for Brentwood was provided by LAFCO's Directory

3: Population projection for the City of Brentwood calculated as 5.68 percent of the County of Contra Costa population.

(Please note that CA DWR estimates 3.3 residents per sewer connection).

The city is located within the Legal Delta Secondary Zone, and state agencies have prepared a detailed population analysis of the Delta area (Visser et al., 2018). Readers are encouraged to review this information directly on the state website (as updates are expected soon) as follows:

- Delta Stewardship Council (DSC). 2013 as updated through 2024. The Delta Plan. Available on-line at: <*https://www.deltacouncil.ca.gov/delta-plan/* >.
- Delta Protection Commission (DPC). February 25, 2010. Land Use and Resource Management Plan for the Primary Zone of the Delta. 42-pages. Retrieved on April 8, 2024 from <*https://delta.ca.gov/wp-content/uploads/2019/12/Land-Use-and-Resource-Management-Plan-2.25.10_-m508.pdf* >.
- Visser, M.A.; Brinkley, C.; Zlotnicki, J. (2018) *Socioeconomic Indicators Report: The Sacramento-San Joaquin Delta*. Sacramento, CA: The Delta Protection Commission. 46-pages. Available on-line at: <*https://delta.ca.gov/wp-content/uploads/2020/09/Delta-Socio-Economic-Indicators-Report-508.pdf*>.

4.4: DISADVANTAGED COMMUNITIES

Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in disadvantaged communities. Data from the 2020 U.S. Census was queried as part of this MSR Update process. Data query results showed no disadvantaged unincorporated communities (DUCs) within or contiguous to the City's SOI, as shown in Appendix B (DUC map).

However, within the City's boundary, there is one low-income census block that meets the criteria to be classified as disadvantaged (U.S. Census Bureau 2021). This area receives sewer, water, and fire protection services. No public health or safety issues have been identified. Readers can learn more about disadvantaged communities within the city and Contra Costa County through the U.S. Department of Health and Human Services database of socioeconomic and health indicators in disadvantaged communities called the Environmental Justice Explorer Database. This database can be queried at <*https://onemap.cdc.gov/portal/apps/sites/#/eji-explorer*>.

4.5: WASTEWATER OPERATIONS

The City's wastewater service includes collection and conveyance to the WWTP for treatment and disposal. The City provides wastewater collection and conveyance services to approximately 20,494 sewer connections, as shown in Table 4-1 above (Brentwood, 2022b). One City sewer connection may serve many individual customers. Between 2021 to 2022, there was an increase of 378 connections to the City's services.

The City of Brentwood provides wastewater collection and conveyance services through 247 miles of main sewer line and three lift stations (City of Brentwood, 2022c). The lift stations include:

1) The Sellers lift station collects the majority of sewage for the southeast quadrant of the City of Brentwood. This lift station is located 1,900 feet south of Sunset Road on Sellers Ave. and was constructed due to a conflict with the buried EBMUD Mokelumne Aqueduct.
2) A small "package lift station" also exists at the end of Pacific Grove Court and serves a limited area in a small neighborhood of approximately 24 lots in a new subdivision (Brentwood, 2017).

The Brentwood WWTP is located in the northeastern part of the City. The WWTP has an average daily flow of 4.01 MGD in 2021/2022 with 5 MGD capacity. The WWTP is an extended aeration/activated sludge facility, and the treated effluent meets or exceeds CA Title 22 drinking water standards. Treated effluent is supplied to a recycled water system, which averaged 1.22 MGD in 2022. Excess treated tertiary effluent is disposed of through an outfall into Marsh Creek. The City's Sewer System Management Plan (SSMP) was recently updated in 2021. City staff indicates that over the next five years, the city plans to develop rate studies, update the master plan, and develop staffing plans to improve wastewater services (Brentwood, 2022b).

The wastewater treatment system at the treatment plant consists of headworks (screening and grit removal), anoxic basins (two existing, three after completed expansion), two extended aeration-activated sludge basins, two denitrification basins, two secondary clarifiers, two banks of two single media filters (total of four filters), chlorine disinfection, dechlorination, and a cascade aeration system. Sludge is mixed with a polymer and dewatered using a belt filter press. Dried biosolids are hauled off-site for disposal at the Altamont Landfill located in Alameda County. Once the expansion upgrades are complete, the Discharger intends to implement heat drying as a means of producing Class A biosolids, as well as provide diverse options for biosolids disposal. Occasionally, the Discharger will dispose of biosolids at the Potrero Hill Landfill in Suisun City; however, the Altamont Landfill is the primary disposal location. The WWTP produced 1,179 dry metric tons of biosolids in 2022 (personal communication, Philip McKinney, Brentwood, 2023).

The City's WWTP is currently being expanded to accommodate 6.4 MGD. The treatment plant was originally designed to facilitate future expansion to an average dry weather flow of 10 MGD. However, due to the drought and associated water conservation, per capita wastewater generation is less than expected. Therefore, the 6.4 MGD expansion will accommodate current and near-term needs. The construction work on the expansion should be completed by the end of 2024. Funding for this capital improvement was through a loan (1.5%). The treatment plant expansion will be finished in 2024 per the financing terms. Overaa is the primary construction contractor (McKinney, 2023, personal communication).

Table 4-4: Brentwood WWTP Facility Summary	
Waste Discharge Identification (WDID)	5B070101001
CIWQS Facility Place ID	210322
Discharger	City of Brentwood
Name of Facility	Wastewater Treatment Plant
Facility Address	2251 Elkins Way, Brentwood, CA 94513
Watershed	Sacramento-San Joaquin Delta
Receiving Water	Marsh Creek
Receiving Water Type	Estuary
Data Source: CA-RWQCB, 2019	

The WWTP operates under a permit from the California Regional Water Quality Control Board (CA-RWQCB) Central Valley Region, dated April 5, 2019. Order R5-2019-0029 and NPDES No. Ca0082660 - Waste Discharge Requirements for the City of Brentwood WWTP In Contra Costa County will likely expire in 2024. Therefore, the City is beginning the permit renewal process.

Commercial And Industrial Customers

The City's wastewater system serves approximately 520 Commercial and 78 multifamily customers, as listed below in Table 4-5.

Table 4-5: Types of Commercial and Industrial Wastewater Service Customers	
Type of Wastewater Customer	**Number of Customers**
Commercial Sewer Other	65
Commercial Sewer School	36
Commercial Sewer Restaurant	86
Commercial Sewer Institutions, Churches, HOA	49
Commercial Sewer Retail	93
Commercial Sewer Office, Bank	114
Commercial Sewer Auto Sales/Repair	20
Commercial Sewer Gas Station	17
Commercial Sewer Grocery	12
Commercial Sewer Laundromat	2
Commercial Sewer Barber/Beauty	11
Commercial Sewer Hotel no Restaurant	3
Commercial Sewer Laundry	1
Commercial Sewer Carwash	7
Commercial Sewer Bakery	2
Multi Family	78
Commercial Sewer Mixed	2
Source City of Brentwood, Response to LAFCO's RFI, September 28, 2022b	

Please note that the City's wastewater system currently has no significant industrial users (i.e., no EPA categorical users) (Brentwood, 2022b).

Local Hazard Mitigation Plan

The Contra Costa County Hazard Mitigation Plan Volume 2, dated January 2018, identifies critical infrastructure, such as wastewater infrastructure, in relation to local hazards (Contra Costa County, 2018). The Hazard Mitigation Plan shows that the Brentwood WWTP is located within an area of high Liquefaction Susceptibility; moderate earthquake risk with Site Class/ Soil Profile "D" with stiff soil; and potential flood hazard (Contra Costa County, 2018). The initial impression is that a significant part of the city's infrastructure (the WWTP) is at risk for natural hazards. However, the city indicates that during construction, the WWTP site soils were improved with pilings, rock columns, and other engineered solutions to mitigate the potential for soil liquefaction. The city believes this has been mitigated and is no longer a concern. (personal communication, C. Wichert, August 2023).

Sanitary Sewer Overflow Database

The State Water Board maintains a Sanitary Sewer Overflows (SSO) database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. Order No. WQ 2022-0103-DWQ (SSS WDRs), on December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. A 5.6-year term from January 1, 2017, to August 9, 2022, was queried in the CIWQS-SSO database. The results of the database queries regarding the City of Brentwood are listed below in Table 4-6.

During this 5.6-year timeframe, there were 20 SSO events in the City of Brentwood. All the SSOs originated from failure at lower lateral points. The overflows were relatively small; however, some spill material was not recovered. None of the overflows have leaked large amounts of sewage into surface water. In this query, the largest spill was a volume of 65 gallons caused by pipe structural issues. Two SSOs had a volume of one gallon. For example, on March 1, 2020, an SSO with a volume of one gallon occurred due to root intrusion and offset lateral piping. Factors influencing the City's ability to collect, treat, and dispose wastewater and provide public service to customers were considered. According to City staff, the funding of projects and the adequacy of staffing are the biggest factors influencing wastewater collection, treatment, and disposal (Brentwood, 2022b).

From July to October 2022, San Francisco Bay experienced a harmful algal bloom (HAB) known as a red tide, as described in Appendix F. The species associated with this bloom, *Heterosigma*

Table 4-6: City of Brentwood Sanitary Sewer Overflows

EVENT ID	Region	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
843829	5S	City of Brentwood CS	Category 3	1/11/2018	10	10	0	Lower Lateral (Public)	5SSO10891
844038	5S	City of Brentwood CS	Category 3	1/13/2018	50	25	0	Lower Lateral (Public)	5SSO10891
844863	5S	City of Brentwood CS	Category 3	2/8/2018	21	21	0	Lower Lateral (Public)	5SSO10891
846654	5S	City of Brentwood CS	Category 3	4/20/2018	1	0	0	Lower Lateral (Public)	5SSO10891
862430	5S	City of Brentwood CS	Category 3	10/26/2019	10	0	0	Lower Lateral (Public)	5SSO10891
863284	5S	City of Brentwood CS	Category 3	11/22/2019	19	19	0	Lower Lateral (Public)	5SSO10891
864726	5S	City of Brentwood CS	Category 3	1/27/2020	2	0	0	Lower Lateral (Public)	5SSO10891
865217	5S	City of Brentwood CS	Category 3	2/21/2020	3	0	0	Lower Lateral	5SSO10891

								(Public)	
865543	5S	City of Brentwood CS	Category 3	3/1/2020	1	0	0	Lower Lateral (Public)	5SSO10891
866380	5S	City of Brentwood CS	Category 3	3/31/2020	45	0	0	Lower Lateral (Public)	5SSO10891
868719	5S	City of Brentwood CS	Category 3	8/21/2020	4	1	0	Lower Lateral (Public)	5SSO10891
868926	5S	City of Brentwood CS	Category 3	9/7/2020	16	16	0	Lower Lateral (Public)	5SSO10891
869928	5S	City of Brentwood CS	Category 3	10/14/2020	11	0	0	Lower Lateral (Public)	5SSO10891
869930	5S	City of Brentwood CS	Category 3	10/19/2020	65	0	0	Lower Lateral (Public)	5SSO10891
870144	5S	City of Brentwood CS	Category 3	10/21/2020	2	0	0	Lower Lateral (Public)	5SSO10891
871388	5S	City of Brentwood CS	Category 3	12/14/2020	15	2	0	Lower Lateral (Public)	5SSO10891
875464	5S	City of Brentwood CS	Category 3	7/16/2021	5	5	0	Lower Lateral (Public)	5SSO10891
876948	5S	City of	Category 3	10/14/2021	10	10	0	Lower	5SSO10891

		Brentwood CS						Lateral (Public)	
881664	5S	City of Brentwood CS	Category 3	5/11/2022	10	3	0	Lower Lateral (Public)	5SSO10891
882156	5S	City of Brentwood CS	Category 3	6/23/2022	15	0	0	Lower Lateral (Public)	5SSO10891
Data Source: CIQWS Sanitary Sewer Overflow Database									

Figure 4-2. Google Maps Street View of the Brentwood City Hall

akashiwo, can cause water to take on a reddish-brown color. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay, and into San Pablo Bay. Fish deaths linked to the red tide included sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San Francisco Bay Water Board is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other agencies to study the potential impacts of nutrients on San Francisco Bay. The City of Brentwood has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater Districts and the Water Board.

Infrastructure Needs

Existing Infrastructure: The City of Brentwood maintains various equipment, vehicles[2], infrastructure, and other assets associated with its wastewater infrastructure. The City of Brentwood adopted its 76-page Sewer Master Plan on August 1, 2017. The purpose of the Master Plan (2017) was to utilize a hydraulic sewer model and planning analysis to determine the operational condition of the existing collection system network and to ascertain the various sewer infrastructure needs in serving a 'full build' general plan that is expected to see the city grow up to 12,037 acres in size in the future. The Master Plan (2017) found that the average daily flow into the city's WWTP was approximately 3.8 MGD (64.6 gpcd). The flow rate was 64.6 gpcd. City staff utilizes a master planning value of 69 gpcd when planning for existing and future sewer facilities. In 2017, the city sewer system did not encounter Inflow and Infiltration (I&I) during storm events. The 2017 Master Plan identified several needed capital facilities projects as follows:

- A new 0.4 MGD (peak) lift station with approximately 3,300 linear feet of 6" force main to service the northern half of SPA 3.
- A new 0.15 MGD (peak) lift station with approximately 1,800 linear feet of 4" force main to service the northeast quadrant of the city (north and east of the WWTP)
- Expansion of the capacity at the city WWTP.

The City is currently in the process of expanding the treatment capacity to 6.4 MGD, which should be sufficient for the build-out of the city per the city's General Plan, including the 2023-2031 RHNA (per Brentwood Housing Element, 2023).

In 2021, the city updated its SSMP. The SSMP addresses the State Water Resources Control Board (SWRCB) mandate to meet the Statewide General Waste Discharge Requirements (GWDR). The SSMP includes several elements: Goals, Operation and Maintenance Program, Overflow Emergency Response Plan, Fats, Oils, and Grease Control Program, and a Communication Plan. The SSMP aims

[2] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the City of Brentwood, it is likely that sometime in the future, the City may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

to reduce sanitary sewer overflows such as those described in Table 4-6. The City has identified a series of facility expansions and replacement upgrades as part of its SSMP and other infrastructure-related master plans. The City's Capital Improvement Program (CIP) adopted in 2022 includes funds to expand the WWTP to accommodate the average flow of 69 GPD per capita in recent years. This CIP project is necessary because it will allow the city to maintain compliance with more stringent discharge requirements (City of Brentwood, 2022a). The City developed a water and wastewater Cost of Service Study in 2018 that outlined financial plans, conducted service rate analysis, and created equitable rates. The Cost-of-Service Study formed a Water Enterprise Financial Plan focusing on the fiscal years (FY) 2018 through 2023 (City of Brentwood, 2018). The Water Enterprise Financial Plan considers the operations and maintenance (O&M) expenses, capital improvement expenses, debt service costs, and other components.

Future Challenges: The MSR Authors asked City staff to describe the factors that may affect the ability to serve wastewater customers in the future. City staff indicated that funding projects and adequate staffing are the biggest factors (Brentwood, 2022b).

The American Society of Civil Engineers, Region 9 (2019) has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

1. Implement an education program at the state and local level about what a wastewater treatment plant is, what kind of wastes it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water reuse/recycling.

Cooperative Program

A recycled water system came on-line in 2019 and has pumped over one billion gallons of recycled water for use inside the city for landscaping in street medians and parks. This system may be expanded in a few years with funds from regional grants with other Bay Area agencies. Maintenance functions and training are conducted regionally with several other wastewater agencies. Brentwood is well known for its dedication to providing recycled water.

Cost Avoidance Opportunities

The City has developed several cooperative programs with long-term savings benefits, such as the sales of recycled water. Reduction of City-paid amounts for retirement and health benefits has been implemented in recent bargaining unit agreements.

4.6: FINANCIAL OVERVIEW

Two state databases provide City-wide financial summaries, including:

- California Auditor's website at: <*https://www.auditor.ca.gov/local_high_risk/lhr-main-landing*>.
- State Controller's Office at <*https://cities.bythenumbers.sco.ca.gov*> runs the Government Financial Reports database, including detailed financial data from 58 California counties and more than 450 cities and pension-related information for state and local government.

The focus of this analysis is the Sewer Enterprise Fund. Enterprise Funds are used to separately account for self-supporting operations such as the city's wastewater system. The City's budget and Certified Annual Financial Reports are the primary information source for data related to the Sewer Enterprise Fund, and these reports are posted on the city's website at: <*https://www.brentwoodca.gov/government/finance-information-systems/financial-documents/annual-comprehensive-financial-reports-acfr*>. This financial analysis represents a snapshot in time (i.e., a limited time period). However, the city regularly updates its financial data, and readers may review the new data on the city's website.

The City's 2021-22 Annual Comprehensive Financial Report provides a detailed overview of the city's financial activities for the FY ended June 30, 2022. The report includes an independent auditor's report, management's discussion and analysis, and basic financial statements, including government-wide financial statements, a statement of net position, a statement of activities, and fund financial statements. The City's financial statements are presented in conformity with Generally Accepted Accounting Principles and audited by an independent, certified public accounting firm. The report provides a comprehensive overview of the city's financial position and results of operations, including information about revenues, expenses, assets, liabilities, and fund balances. The report demonstrates the city's commitment to financial transparency and accountability and provides valuable information for residents, stakeholders, and other interested parties (Brentwood, 2022c).

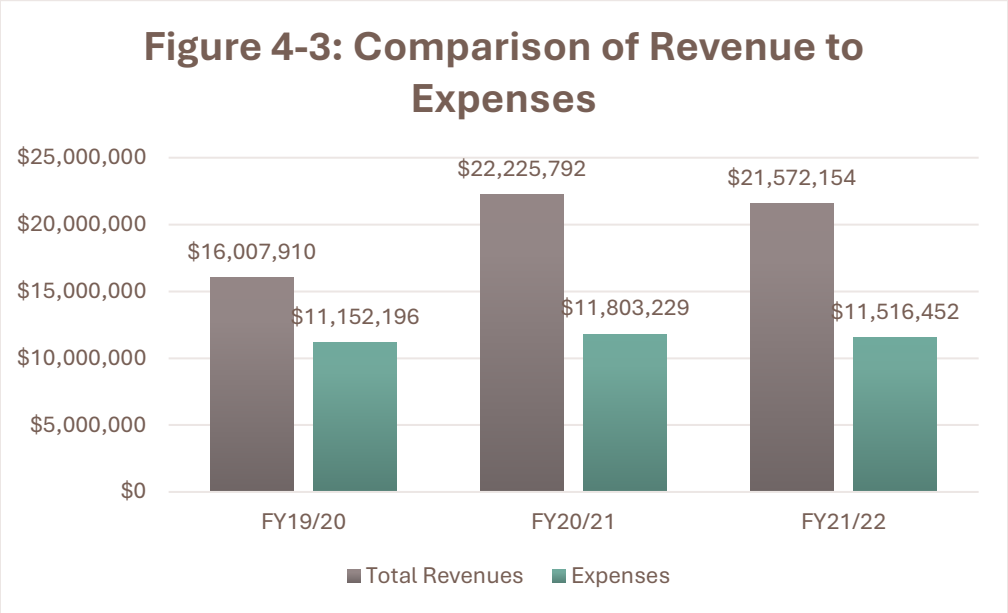
The Government Finance Officers Association (GFOA) of the United States and Canada awarded a Certificate of Achievement for Excellence in Financial Reporting to the City of Brentwood for its Annual Comprehensive Financial Report for the FY ended June 30, 2021. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized Annual Comprehensive Financial Report. This report must satisfy both generally accepted accounting principles and applicable legal requirements. A Certificate of Achievement is valid for one year (Brentwood, 2022c).

The City operates its wastewater services as enterprise funds within the confines of overall City operations. Service fees comprise the significant majority of revenues that fund the services provided for wastewater. Rate increases were implemented over the last several years to accommodate the expenditures. The City maintains a reserve fund balance in its wastewater-related

funds. Seven primary areas of criteria have been utilized to assess the present and future financial condition of the city's wastewater service operations, as discussed below:

3 Year Revenue/Expenditure Budget Trends

The Wastewater Fund expenses for FY 2021-22 were $11,516,452, which was less than Total Revenue ($21,572,154). Total Revenue exceeded Total Expenses in each of the three study years, as shown in Figure 4-3 below. This key performance measure indicates that the Wastewater Fund is solvent and has the capacity to cover its costs. Planned capital expenditures and debt service have specific requirements. However, the Fund has experienced surpluses in the operating portions of the Fund. Rate increases have been implemented over the past years to accommodate the expenditures (Brentwood, 2022c).



Source for Figure 4-3: Brentwood Annual Comp Financial Report for FY 2019-20, FY 2020-21, FY 2021-22. Statement of Activities and Changes in Net Position on page 35 (Brentwood, 2022c).

Table 4-7: Statement of Revenues, Expenses, and Changes in Fund Net Position for the year ended June 30, 2022

	Wastewater
Operating Revenues:	
Charges for Services	$ 15,883,142
Other Income	113,545
Total Operating Revenues	15,996,687
Operating Expenses:	
Personnel Services	3,512,958
Repairs and Maintenance	302,516
Materials, Supplies and Services	5,666,130
Depreciation and Amortization	1,974,151
Total Operating Expenses	11,455,755
Operating Income (Loss)	4,540,932
Non-Operating Revenues (Expenses):	
Interest Income	(1,688,343)
Developer Fees and Credits	-
Interest Expense	(60,697)
Gain or (Loss) on Disposal of Capital Assets	-
Total Non-Operating Revenues (Expenses)	(1,749,040)
Income (Loss) Before Contributions and Transfers	2,791,892
Contributions - Impact Fees and Credits	2,840,170
Intergovernmental	180,903
Capital Asset Contributions	2,554,394
Capital Assets Contributed from (to) Governmental Activities	7,070
Transfers In	2,371,898
Transfers Out	(1,235,866)
Change in Net Position	9,510,461
Net Position, Beginning of Year	139,889,720
Net Position, End of Year	$ 149,400,181

Data Source: (Brentwood, 2022c).

Please note that the city's Water, Wastewater, and Solid Waste Enterprise Funds were impacted by account delinquencies resulting from pandemic restrictions on collection-related service interruptions. During the pandemic, the State of California prohibited water shutoffs for non-payment, resulting in significant delinquent balances. During FY 2021-22, the city received relief through the State's Water and Wastewater Arrearage Payment Program for a portion of the delinquent balances. The City received $559,000 in grant funding, which was applied to delinquent accounts; however, as of June 30, 2022, delinquent balances were still approximately $800,000 higher than comparable pre-pandemic balances. Despite the collection challenges, the city's enterprise fund for Wastewater achieved the 30% cash reserve goal.

Net Position

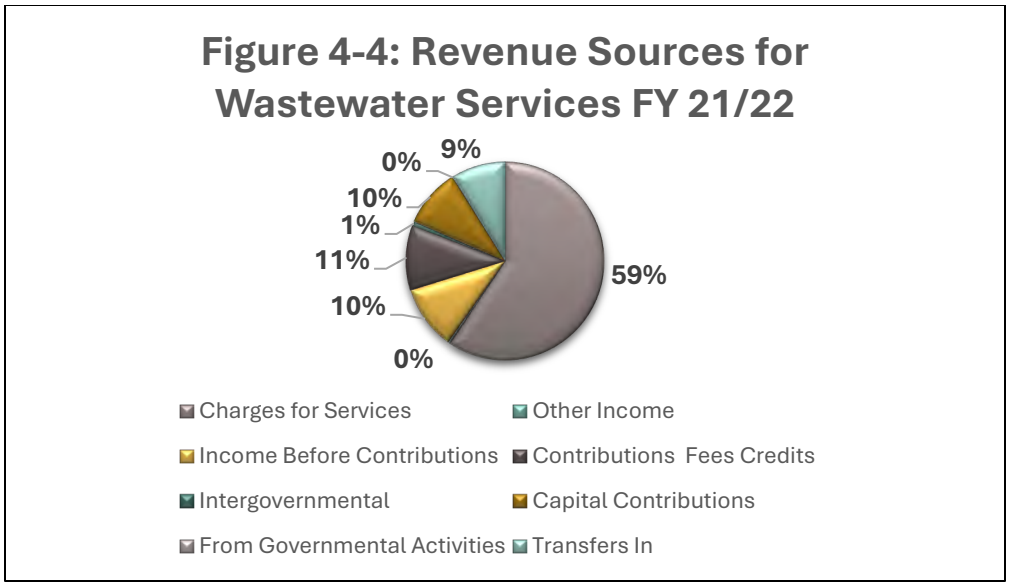
The Wastewater Fund had an increase in net position of $9.5 million in FY 2021-22, as shown in Table 4-8 below. The Fund had increased contributions from development due to the acceptance of developer-dedicated assets, development impact fees, and increased non-residential permit activity. Additionally, the Wastewater Fund had increases in operational income from rate adjustments (Brentwood, 2022c).

Table 4-8: Statement of Net Position Wastewater Fund FY 2021-22	
Category	**Value**
ASSETS	
Current Assets:	
Cash and Investments	$38,685,613
Restricted Cash and Investments	$1,054,545
Receivables, Net of Allowance for Doubtful Accounts	$22,964,854
Inventories	-
Prepaid	$9,150
Internal Advance Receivable	-
Total Current Assets	**$62,373,064**
Non-Current Assets:	
Long-Term Notes Receivable	-
Internal Advance Receivable	-
Capital Assets:	
Land and Work in Progress	$34,829,604
Depreciable, Net of Accumulated Depreciation and Amortization	$131,406,134
Total Capital Assets	$166,235,738
Intangible, Net of Accumulated Amortization	($30,755,467)
Total Non-Current Assets	$135,480,271
Total Assets	**$198,053,337**
DEFERRED OUTFLOWS OF RESOURCES:	
Deferred Amount on Refunding	$284,371
Related to OPEB	$854,441
Related to Pensions	-
Total Deferred Outflows of Resources	**$1,136,814**
LIABILITIES	
Current Liabilities:	
Accounts Payable and Accrued Liabilities	$3,007,759
Deposits Held	-
Long-Term Debt Due Within One Year	$2,240,846
Compensated Absences Payable	$129,614
Total Current Liabilities	$5,378,219
Non-Current Liabilities Due in More Than One Year:	
Bonds	$39,388,569

Table 4-8: Statement of Net Position Wastewater Fund FY 2021-22	
Category	**Value**
Notes Payable and Other	$1,944,845
Net OPEB Liability	$884,803
Net Pension Liability	-
Compensated Absences Payable	$20,000
Total Non-Current Liabilities	$42,238,217
Total Liabilities	**$47,616,436**
DEFERRED INFLOWS OF RESOURCES:	
Related to OPEB	$805,083
Related to Pensions	$1,495,548
Total Deferred Inflows of Resources	**$2,300,631**
NET POSITION:	
Net Investment in Capital Assets and Capacity Rights	$94,055,836
Restricted:	
Special Projects	$23,176,924
Capacity	$1,742,532
Unrestricted	$31,664,792
Total Net Position	**$149,640,084**
Data Source: Brentwood, 2022c	

Ratios of Revenue Sources

The City receives 99% of its wastewater fund's operational revenues from service charges and fees. There is no revenue from property taxes since this is an enterprise fund. Other sources of both operational and non-operational revenue include Charges for Services, Other Income, Income Before Contributions, Contributions, Fees, Credits, Intergovernmental, Capital Contributions, From Governmental Activities, and Transfers-In, as shown in Figure 4-4 below. LAFCO's 2014 MSR concluded that ratios for the wastewater funds reflect an appropriate balance for typical enterprise fund services and minimize the impact that negative economic factors will have on more elastic revenues such as property tax. This conclusion remains valid.

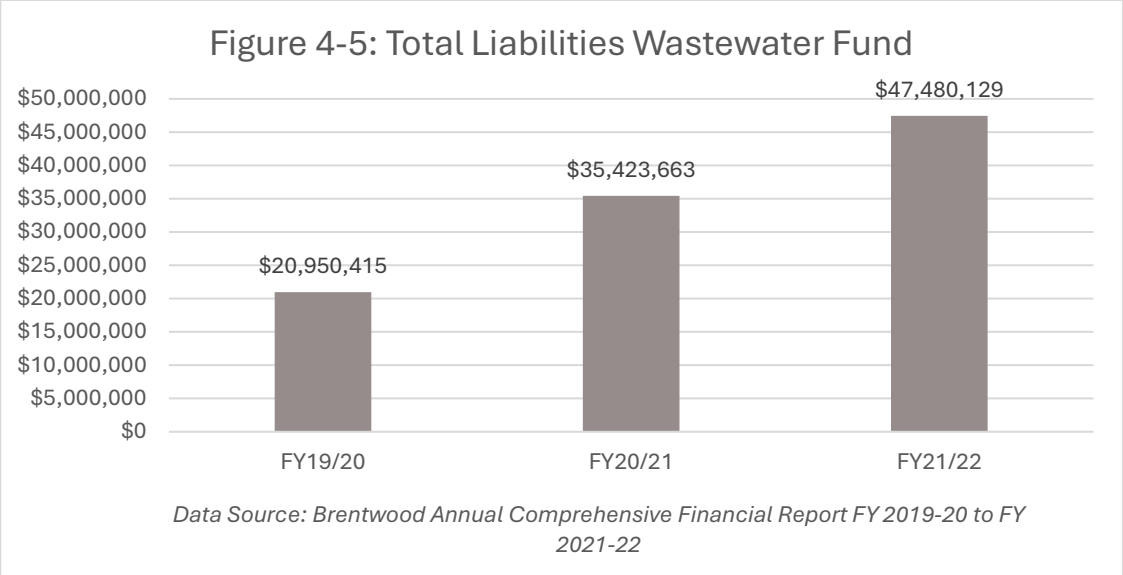


Ratio of Reserves to Annual Expenditures

An indicator of the ability to absorb an unexpected loss of revenue in a given FY is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures. The City's wastewater fund currently has $ 38,685,613 amount in cash and investments, as shown in Table 4-8 above. The ratio of reserves to annual expenditures equates to 336% of annual expenditures. This Wastewater Fund ratio represent a positive ratio.

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. Specifically, the city of Brentwood's loans have recently been utilized to fund two key capital improvement projects. The City's WWTP is currently being expanded and should be completed by the end of 2024. Funding for this capital improvement was through a loan (1.5%). A tank improvement/replacement project was also financed through a loan. In FY 2021-22, the Wastewater Enterprise Fund had a net increase in long-term liabilities of $13.0 million for State Water Resources (SWR) Loans on Wastewater Enterprise Fund capital projects. The Fund's total liabilities for FY 2021-22 were $47,480,129, as shown in Figure 4-5 below. Total liabilities have increased in each of the three study years.



The ratio of annual debt service to total fund annual expenditures is an indicator of the city's ability to meet debt obligations in relation to service provision expenditures. The Annual Comprehensive Financial Report states that the total debt service for FY 2021-22 for all Enterprise Funds was $6,644,081. However, this number includes the debt service fee for the water and the solid waste funds. For the Wastewater Fund specifically, the total notes payable within one year for FY 2021-22 was $2,240,846 (Brentwood, 2022c). Ideally, a ratio of annual debt service to total fund annual expenditures of 10% or less would reflect a very stable ratio. The City's wastewater fund annual debt service ratio to total expenditures is approximately 19%[3], a slightly high but manageable ratio.

Please note that Brentwood also utilizes an Enhanced Infrastructure Financing District (EIFD) to finance public facilities. For example, the Brentwood Innovation Center and the Brentwood Boulevard-Downtown both participate in EIFDs. The City has a Public Financing Authority (PFA) Board that oversees its EIFDs. The PFA Board will recommend plans to fund infrastructure improvements within the Community's Innovation Center and Brentwood Boulevard areas. Board member duties include providing insights on certain neighborhood improvements through approval of an Infrastructure Financing Plan and prospective sale of bonds to focus on the creation of new infrastructure for economic development and focusing on needed improvements in underserved parts of the community.

Capital Improvement Program

On June 13, 2023, the City Council adopted the 2023-24 –2027-28 Capital Improvement Program (CIP) Budget. The CIP is a five-year plan that addresses the city's future infrastructure needs and projects supporting City Council Strategic Plan Initiatives, new infrastructure or facilities, and

[3] $2,240,846 is 19.4578% of $11,516,452

maintenance or replacement of existing infrastructure. One key wastewater project included in the FY 2023/24 CIP is the WWTP Expansion - Phase II, with a total cost of $83.3 million (Brentwood Budget). This project expands the existing treatment facility to accommodate the planned and approved development within the city. The project is necessary to keep the system in compliance with increasingly stringent water discharge requirements. The City has secured a low-interest rate State Water Resources Control Board Revolving Fund ("SRF") loan to fund the majority of this project with a 30-year term. In addition, this project includes a biosolids dryer component funded by wastewater operations revenue, wastewater replacement funds, and wastewater Loan repayments will be funded from a combination of wastewater development impact fees and wastewater operations revenue (Brentwood Budget, 2023). Another wastewater-related CIP project is the Downtown Alley Rehabilitation - Midway and Park Way project. This project will install new water, sewer, and storm drain facilities and either remove or replace existing infrastructure to bring the aging infrastructure up to current standards. The City's Budget for FY 2022-23 allocates CIP Expenditures in the amount of $36.6 million for wastewater improvements.

Rate Structure

The City's current rate structure for wastewater reflects a fixed rate monthly base charge of $19.51, plus a monthly sewer lateral maintenance charge of $4.07 per unit. Monthly wastewater charges for commercial and other non-residential customer are variable. Annual increases over the next five years are included in the city's current rate structure, as shown in Table 4-9 below. On June 13, 2023, the City Council approved an increase in water, sewer, and garbage rates. The public hearing was held after direct mailing notification was provided to the city's 20,000+ customers and property owners. The increase will help fund daily operations of the utility services, as well as maintenance and replacement of aging infrastructure, amid rising costs and state-mandated regulations.

Table 4-9: Monthly Wastewater Rates

	July 1, 2023	July 1, 2024	July 1, 2025	July 1, 2026	July 1, 2027
Monthly Base Charge (per dwelling unit)	$19.51	$19.91	$20.31	$20.72	$21.14
Monthly Lateral Maintenance Fee (per account)	$4.07	$4.16	$4.25	$4.34	$4.43
Residential Variable Charge per unit ($/kgal)*	$6.70	$6.84	$6.98	$7.12	$7.27
Residential Monthly Maximum Charge (capped 7 kgal/mo)	$70.48	$71.95	$73.42	$74.90	$76.46
Non-Residential Variable Charge ($/kgal of actual water use)					
Low Strength	$4.53	$4.63	$4.73	$4.83	$4.93
Medium Low Strength	$5.13	$5.24	$5.35	$5.46	$5.57
Medium Strength	$5.76	$5.88	$6.00	$6.12	$6.25
Medium High Strength	$10.16	$10.37	$10.58	$10.80	$11.02
High Strength	$11.60	$11.84	$12.08	$12.33	$12.58

*Residential users' variable charge is based on water usage during two lowest production winter months. Capped at 7 kgal/mo.

Data Source for Table 4-9: Brentwood, 2023

The City charges developers of new buildings a connection fee consistent with the city's Development Fee Program, which aims to ensure that future development will pay for their share of infrastructure and capital improvement costs related to new residential and commercial

development.

4.7: GOVERNMENT STRUCTURE ALTERNATIVES

Two government structure options were identified for the city of Brentwood in the 2014 MSR:

Maintain the status quo:
The City is currently providing wastewater services within its boundary. LAFCO's 2014 MSR found that the city is financially sound and has developed and implemented an aggressive CIP Program to maintain and upgrade necessary infrastructure (LAFCO, 2014). These conclusions remain valid in 2023.

Annex residential parcels currently receiving services outside the city boundary through an out-of-agency services agreement:
This option is described for the purpose of exploring alternatives for the city boundary and/or SOI. There are currently two parcels with Out-of-Agency Service Agreements for sewer service (approved by CC LAFCO in 2005). Both property owners have signed a covenant and agreement to annex their properties to the city. The 2014 MSR recommended that both properties be included within the city's SOI (LAFCO, 2014). There are likely other parcels receiving services through an out-of-agency service agreement. However, since most of these parcels are not contiguous to the city boundary, this option is not recommended at this time.

LAFCO's 2014 MSR noted that the Liberty Union High School District's fourth high school site could also be considered for placement in the city's SOI for consideration of future City services (LAFCO, 2014). However, the 2014 MSR did not provide any additional details. LAFCO does not have enough information to move forward with the discussion of this option.

4.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

Table 4-10: MSR Determinations	
TOPIC AND PERFORMANCE MEASURES	**DETERMINATION**
Growth and Population for the affected area. • Is the existing population estimated? • Is the projected future growth estimated?	The city's existing population is estimated at 64,292 persons. The City's existing population is expected to grow to 75,572 by 2045. From 2020 to 2045, there is an estimated growth rate of 0.59 percent.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.	No disadvantaged unincorporated communities are within or contiguous to the city's SOI. However, within the city's boundary, one census tract with a low income meets the criteria to be classified as disadvantaged.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. • Does the agency have a CIP? • Are SSOs identified? • Are local hazards identified?	The City's consultant, Raftelis, prepared a Water and Wastewater Rate Study, which the City Council approved in July 2023. As part of its water and wastewater cost of service study, the city analyzed the operations and maintenance (O&M) expenses, capital improvement expenses, and debt service costs for FY 2018 to FY 2023. The City's Capital Improvement Program includes funds to expand the WWTP due to the flows reaching 69 GPD per capita in recent years. The Local Hazard Mitigation Plan (2018) shows that the Brentwood WWTP is located within an area of high Liquefaction Susceptibility; moderate earthquake risk with Site Class/ Soil Profile "D" with stiff soil; and potential flood hazard (Contra Costa County, 2018). However, the city indicates that During construction, the WWTP site soils were improved with pilings, rock columns, and other engineered solutions to mitigate the potential for soil liquefaction. The City believes this has been mitigated and is no longer a concern. No disadvantaged unincorporated communities are within or contiguous to the city's SOI.

Financial ability of agencies to provide services. • Has the agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures 10% or less?	• The Wastewater Fund expenses for FY 2021-22 were $ 11,516,452, which was less than Total Revenue ($21,572,154). Total Revenue exceeded Total Expenses in each of the three study years. This key performance measure indicates that the Wastewater Fund is solvent and has the capacity to cover its costs. • The City's wastewater fund annual debt service ratio to total expenditures is approximately 19%. Although this exceeds the ideal goal for the ratio of annual debt service to total fund annual expenditures of 10% or less, the city has a manageable ratio.
Status of, and opportunities for, shared facilities.	The City WWTP produces recycled water that is suited for non-potable reuse (City of Brentwood, 2018). The City has a non-potable water supply system that distributes the recycled and untreated water (City of Brentwood, 2018).
Accountability for community service needs, including government structure and operational facilities. • Does the agency have a website? • Does the agency post a public outreach tool (such as a calendar or newsletter) on its website? • What is the recommendation for mergers, consolidations, or other changes to governance structure?	The City provides a comprehensive website providing the public with internet access to City Council agendas and minutes, public notices, City budgets, CIP programs, and water quality-related reports. A City Calendar is also posted on its website, listing City projects, events, and public hearings. This MSR considered two options for potential future mergers, consolidations, or other changes to governance structure. It is recommended that LAFCO maintain the status quo in regards to Brentwood's wastewater service. The City is currently providing wastewater services within its boundary. LAFCO's 2014 MSR found that the city is financially sound and has developed and implemented an aggressive CIP Program.
Any other matter related to effective or efficient service delivery, as required by commission policy.	No additional issues have been identified.

4.9: SPHERE OF INFLUENCE

Section 4.7, Government Structure Alternatives, describes various issues and options associated with changing the structure of this local government agency. specifically, Section 4.7 noted that two government structure options were identified for the City of Brentwood in the 2014 MSR as listed below.

- Maintain the status quo:
- Annex the two residential parcels currently receiving services outside the city boundary through an out-of-agency services agreement

LAFCO often accomplishes its government structure issues through changes to boundaries and/or SOIs. This MSR focuses solely on wastewater service. The City does not currently anticipate any boundary or SOI changes in conjunction with wastewater services (McKinney, 2023, personal communication). Therefore, this report recommends that Contra Costa LAFCO maintain the existing SOI for the City of Brentwood. However, when LAFCO next considers City-wide municipal services, the City's General Plan should be consulted as its policies may signal the intention to ultimately adjust the city's boundary and SOI in certain areas of the city. Additionally, the City Council may wish to share additional information with LAFCO about their potential future boundaries and SOI. See also LAFCO's June 12, 2019 MSR on City Municipal Services.

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CHAPTER 5: CITY OF CONCORD – WASTEWATER SERVICES

Table of Contents

5.1: OVERVIEW

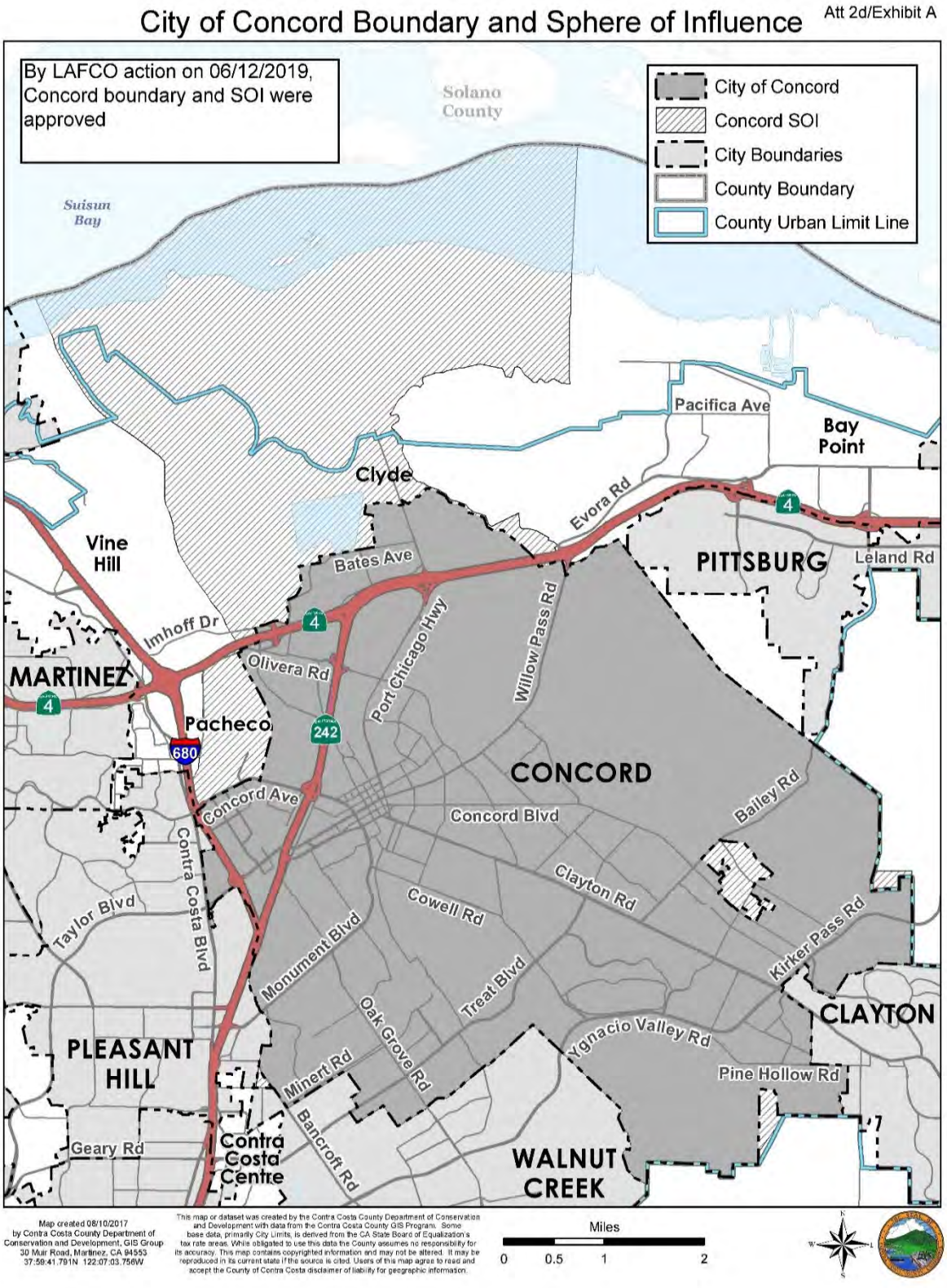
Founded in 1869 as the community of Todos Santos ("All Saints"), the City of Concord (City) was incorporated in 1905. The City boundary encompasses 30.54 square miles, and the City has a population of approximately 125,410 residents as of 2020 [California Department of Finance (CA DOF), 2022]. The City shares boundaries with the cities of Pittsburg and Clayton to the east; the City of Walnut Creek to the south; and the City of Pleasant Hill and portions of unincorporated Contra Costa County to the west. The City Council has an Infrastructure & Franchise Sub-Committee which meets as needed. The Sub-Committee's responsibilities include Cable and Garbage Franchises, Public Works, Sewers, Solid Waste, Streets, and Transportation as described on its website at: <*https://www.cityofconcord.org/391/Infrastructure-Franchise*>. The City of Concord lies within the San Francisco Bay/Sacramento Delta Estuary watershed. Additional information about this watershed is provided in Appendix F. A map of the City's current boundary, and sphere of influence (SOI) is shown in Figure 5-2 on Page 5-3. The City of Concord's Agency Profile is in Table 5-1 (next page).

Figure 5-1: Photo of Concord City Hall
Photo Credit: Courtesy of Google Maps, Street View

Table 5-1: Agency Profile – City of Concord

General Information			
Agency Type	Municipal		
Principal Act	General laws of State of California		
Date Formed	City of Concord incorporated in 1905		
Services	Wastewater collection and conveyance		
Service Area			
Location	Wastewater service area includes: the cities of Concord and Clayton, Ayers Ranch unincorporated area, the Concord Navel Weapons Station (unincorporated area), and a small Walnut Creek neighborhood.		
Sq. Miles/Acres	30.54 square miles/19,545.07acres		
Land Uses	Residential, commercial, light industrial, office/business park, open space		
Population Served	125,410 Concord residents (CA DOF, 2022), 10,863 Clayton residents (CA DOF 2022), several residents of unincorporated areas, and 1,609 commercial accounts (Concord, 2022).		
Last SOI Update	06/12/2019		
Infrastructure/Capacity			
Facilities	345 miles of sewer main, 119.7 miles of sewer laterals, 7,140 maintenance holes, and three siphons		
Connections	40,370 (Concord, 2022); 47,683 du's (CA DOF, 2022)		
Treatment Plant Capacity (MGD)	Wastewater treatment provided by Central Contra Costa Sanitary District (Central San). See Chapter 12 for additional information.		
Primary Disposal Method	Gravity flow through Concord sewage collection and conveyance system to Central San system. See Chapter 12 for additional information.		
Budget Information- FY 2023-2023 (Sewer Fund)			
	Revenues	Expenditures	Net
Sewer Fund	$44,007,728	$34,277,515	$9,730,213
	FY 2023-2024 (Budgeted)	Long-Term Planned Expenditures	
Capital Expenditures	$8,590,615	$30,556,500 - 5 Year Projection	
Total Net Assets	$1,071,900,000	June 30, 2022 City-wide Net Position	
Total Net Position	$33,627,416	Estimated for June 30, 2022	
Governance			
Governing Body	City Council (5 members)		
Agency Contact	Bruce Davis, Engineer, City of Concord. (925) 671-3470. Bruce.Davis@cityofconcord.org.		
Notes			
None			

Figure 5-2: Boundary/SOI Map – City of Concord



5.2: CONCORD BOUNDARY & SOI

Boundary:
The City's boundary encompasses 30.54 square miles/19,545.07 acres. Downtown Concord contains Todos Santos Plaza, known for its farmer's market. Surrounding downtown is high-density apartment and condominium projects. Other land uses in the City are primarily residential and also include commercial, mixed uses, and open space. No agricultural land uses exist in the City of Concord (LAFCO, 2019). Please note that the voter-approved Urban Limit Line surrounds the entire City and the majority of the SOI, except for the far northern SOI areas adjacent to Suisun Bay (LAFCO, 2019). The City of Clayton is located east to southeast of Concord.

San Francisco Bay Land Use
The City's boundary/SOI is near a portion of the San Francisco Bay which is a sensitive environmental resource. The California state planning and regulatory agency with regional authority over the San Francisco Bay, the Bay's shoreline band, and the Suisun Marsh is called the San Francisco Bay Conservation and Development Commission (BCDC). Its mission is to protect and enhance San Francisco Bay and to encourage the Bay's responsible and productive use for this and future generations. BCDC works to ensure projects are compatible with the conservation of Bay resources as described on its website at: <*https://bcdc.ca.gov/*>.

The Bay Area Regional Collaborative is another planning agency in the Bay, and includes the Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), San Francisco Bay Conservation and Development Commission (BCDC) and Bay Area Air Quality Management District. This collaborative multi-agency regional committee allows for cross-jurisdictional work on projects such as Resilient Bay Area and Carbon Free Future.

Concord Naval Weapons Station (CNWS):
The CNWS was originally established in 1942 and is located within the City's existing boundary. In November 2005, the Base Realignment and Closure (BRAC) Commission announced that the Inland Area of the base was approved for closure and the area was surplused by the Navy in March 2007. The Tidal Area remains in operation as a port under the command of the Army. In 2006, the Department of Defense designated the Concord City Council to serve as the Local Reuse Authority (LRA). In 2007, the U.S. Government announced that the inland portion of the CNWS would be closed. Subsequently, the City coordinated with a 21-member advisory committee to develop the Concord Community Reuse Project Area Plan adopted in 2012, described on a website at: <*https://concordreuseproject.org/27/About*>. Under this plan, the 5,046 acres of land will be re-developed into new neighborhoods, community facilities, business districts, and conservation areas with greater circulation (City of Concord, 2012).

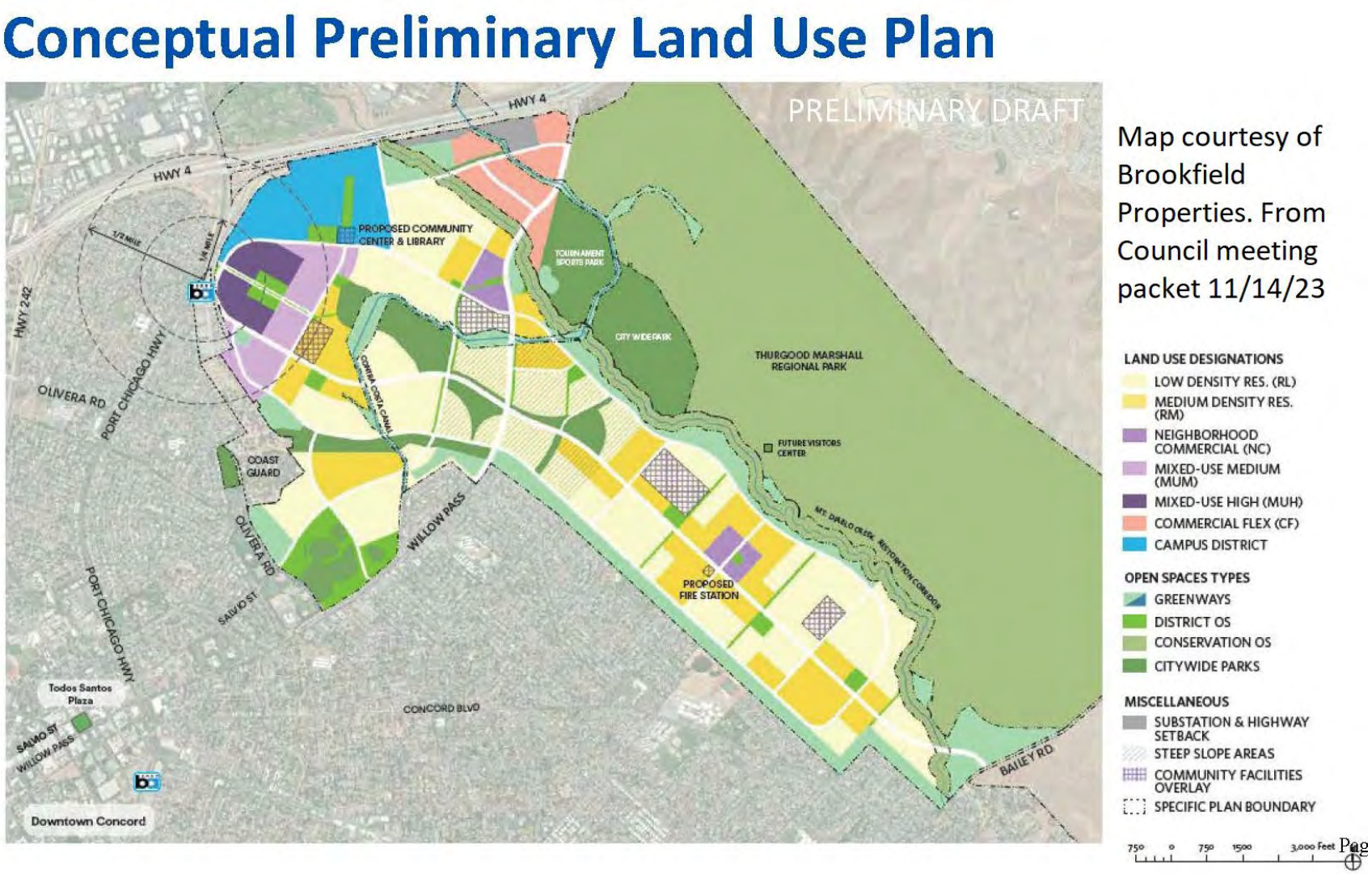
On September 19, 2023, the City Council, acting as the Local Reuse Authority, entered into an Exclusive Agreement to Negotiate (ENA) with Brookfield Properties regarding the development of the Community Reuse Project at the former CNWS. During the November 14, 2023, City Council meeting[1], Brookfield Properties presented the Conceptual Preliminary Land Use Plan for the construction of approximately 12,300 homes on roughly 2,306 acres of the CNWS, provided as Figure 5-3 below. This MSR does not assess whether there is sufficient wastewater infrastructure capacity to serve the future buildout of the CNWS. However, details about this question are described in the Concord Sewer Master Plan (2023b). Additionally, two engineering studies were completed to address the development of the CNWS and its impact on water and sanitary system utilities: (1) the City's Hydraulic Evaluation Report (authored by Brown and Caldwell Engineering) completed in April 2011 and (2) Central San prepared a Recycled Water Facilities Plan for the development of CNWS (authored by Carollo Engineering) completed in December 2011. On February 20, 2024, the LRA is planned to review the Term Sheet for approval and if approved Brookfied will commence the DDA stage of the ENA and begin preparations of the Infrastructure Master Plan portion of the Specific Plan as well as comprehensive Community outreach on the project. The Specific Plan and EIR are anticipated for preparation over the next three years.

The City currently provides wastewater connections to the adjacent former Coast Guard property to the west of the CNWS; however, the 286 units at the property are currently vacant and do not utilize wastewater service. A new property owner is planning to re-tenant the site.

The City must decide how to handle projected future wastewater flow from the CNWS. Within the CNWS, Concord's wastewater service area would function via gravity. It is possible that the area of CNWS currently in the Central San boundary will continue to be served by Central San. Under this scenario, Concord would collect and run wastewater through the City's existing infrastructure with upgrades. Another option would be to send wastewater north to the Central San area. This option would require new infrastructure, including new pumping facilities.

[1] The meeting packet for the City Council's November 14, 2023 meeting contains additional details about the CNWS and is available as a downloadable .pdf document from: <*https://cityofconcord.org/AgendaCenter*>.

Figure 5-3: CNWS Preliminary Plan by Brookfield Properties



Sphere of Influence:

Section 5.7, Government Structure Alternatives, describes various issues and options associated with changing the structure of this local government agency. LAFCO often accomplishes its government structure issues through changes to boundaries and/or SOIs. Additionally, the City's SOI includes an additional 15.56 square miles, including lands to the north and small unincorporated areas adjacent to the City's boundary. The SOI was most recently considered in LAFCO's 2019 City Services MSR, and the SOI was retained in its current configuration. Although Concord's SOI is large, much of the area is unusable bay or tidal lands, including coastal salt marsh. Included in the SOI are the Ayers Ranch unincorporated neighborhood and the Concord Naval Weapons Station, described in more detail under Section 5.2 below.

- Ayers Ranch: Ayers Ranch is a 183-acre unincorporated island within Concord's SOI, located south of Bailey Road. Most of the houses in this area were built with septic systems. A local newspaper, East Bay Times, reported in 2015 that several septic tanks were failing. In June 2021, LAFCO approved LAFCO Resolution 21-01, allowing Concord to provide out-of-agency wastewater service to a local parcel. At the time, LAFCO's staff report noted that some parcels in this area were experiencing issues with septic systems, including failure, and had requested municipal sewer service from the City on an individual basis. While a significant portion of the unincorporated island is developed, vacant and under-developed properties in the area will eventually need municipal sewer service. LAFCO placed the Ayers Ranch area within the City's SOI signifying that the City is the logical, long-term service provider. The 2014 and 2008 LAFCO Water/Wastewater Municipal Service Reviews recommended that the City of Concord annex the Ayers Ranch island. In September 2015, the Concord City Council took an affirmative step and adopted Resolution No. 15-59, establishing a non-binding strategy to annex Ayers Ranch by 2030. This signals the City's intent to annex the area in the future.
    - The current status of the Ayers Ranch community (as of January 2024) is that portions of the community have been annexed over the years in a piecemeal fashion. One challenge to providing wastewater service to the entire community is that specific parts of the neighborhood are physically difficult for a pipeline to access. For example, if a pipeline must cross the Creek, then a pumping station would likely be needed. A pumping station and other infrastructure can be expensive to plan and install. Additionally, this unincorporated (island) area faces policy and legal issues in regards to service provision and future annexation. Typically, failed septic systems trigger an environmental health letter. If the parcel with a failed septic is located 200 feet from an existing line, then health rules require the parcel to hook up with the City's system physically. When Concord provides out-of-area service to an Ayers Ranch parcel, the customer is invited to submit a pre-annexation agreement (personal communication, B. Davis, January 2024). LAFCO has approved 10 out-of-agency service applications (2015 – 2023).

- LAFCO's 2014 Wastewater MSR described efforts to annex Ayers Ranch and other unincorporated areas receiving service. The primary obstacles to annexation include landowner opposition, the inability to reach agreement on a mutually agreeable property tax exchange agreement between the City and the County, and the cost of extending infrastructure. The City is willing to consider extending sewer service to parcels or areas experiencing failing septic tanks if acceptable to CC LAFCO, the residents, and the County (LAFCO, 2014).

Service Area Outside Concord's Boundary

Concord provides wastewater services to areas located outside the City boundary. For example, the Argonne Drive neighborhood, near Minert, is located in Walnut Creek. This small neighborhood of 60 parcels receives wastewater collection service from Concord.

In another example, Concord provides wastewater collection service to the City of Clayton by contract. Concord owns and maintains the lines in Clayton. This is an agency-to-agency contract between two cities. The collected wastewater is sent to Central San wastewater treatment plant (WWTP) for treatment and disposal.

During the 2014 Wastewater MSR process, LAFCO encouraged the City to update its policies, procedures, ordinances, and Municipal Code regarding out-of-agency sewer service agreements. At that time, the City indicated that for many years, it had requested CC LAFCO approval before extensions of sewer service through contract or agreement outside its jurisdictional boundary (LAFCO, 2014).

5.3: WASTEWATER OPERATIONS

The City's wastewater service includes collection and conveyance to the Central San treatment plant for treatment and disposal. The City provides wastewater collection and conveyance services to 40,370 sewer connections, as shown in Table 5-1 above (Concord, 2022). One City sewer connection may serve many individual customers. Concord serves no industrial customers, but it does serve 1,609 commercial accounts (Concord, 2022). Over the past five years, the City has improved wastewater operations. For example, according to the City staff, Concord introduced two new positions: a lead collection systems worker and a collection systems worker (Concord, 2022). In addition, the City of Concord completed a Sanitary Sewer Master Plan in 2022 (Concord, 2022). The City's sewer standards and regulations are in the Concord Municipal Code Chapter 13.05. Developers may be required to conduct off-site improvements.

Concord provides sewage collection and conveyance services for Concord residents and businesses, the adjacent City of Clayton, Ayers Ranch unincorporated area, and a small portion of CNWS unincorporated area. Concord's wastewater system conveys the effluent flows to the Central San system via a line relief interceptor and gravity-flow connection between the City's former sewage

pump station and the Central San line in Martinez. Central San operates a WWTP as described in Chapter 12. Additionally, wastewater from Clayton is conveyed by gravity flow through the Concord system to the Central San system. Central San provides treatment and disposal services for all Concord and Clayton sewer connections. Central San also provides sewage collection services for northern Concord, including the northern portion of the CNWS and some areas along the City's western boundary, as described in Chapter 12. The City pays its proportional share of the cost of operation of the Central San WTP based on metered flows. The costs include operations, capital expenses, and hazardous materials disposal.

Concord Sanitary Sewer Master Plan (CSSMP)

Concord completed a SSMP in 2023 with assistance from Stantec Consulting Services Inc. The CSSMP is available on the City's Rate webpage at: <*https://www.cityofconcord.org/1049/Sewer-Service-Rates*>. The CSSMP provides a detailed assessment of existing and future conditions related to the City's sewer system. The CSSMP is compatible with the Sanitary Sewer Management Plan (SSMP), and these plans ensure compliance with the General Order requirements of the State Water Resources Control Board. The CSSMP includes a capacity evaluation, a recommended sewer improvement program, and an existing capital improvement program. Inflow and infiltration (I&I) were studied in the CSSMP, which recommends that future mitigation efforts focus on Basins 2, 3, 5, 6, and 11. The CSSMP considers potential future changes and provides a framework for the City to maintain and improve its sewer system (Concord, 2023b). The CSSMP enables Concord to better plan and budget for capacity and condition upgrades to its sanitary sewer system (Concord, 2022).

Concord's CSSMP (2023b) states that the total annual average flow for the service area (Concord and Clayton) ranged from 9.9 MGD to 13.2 MGD between 2011 and 2019. The average dry weather flow (ADWF) averaged over this period is 10.2 MGD, equating to a per capita rate of 73 gallons per person per day (gpcd), similar to the typical ADWF range of 65-85 gpcd for California cities. Peak flows discharged to the Central San between 2011 to 2019 have ranged from 14.3 MGD (2014) to 29.8 MGD (2017), with peaking factors (Peak Flow / ADWF) ranging from 1.3 to 2.7 times average annual flows (average peaking factor of 2.0) (Concord, 2023b).

The CSSMP functions as a Capital Improvement Plan (CIP) for the City's wastewater system. The CSSMP lists several near-term projects to provide capacity under existing or near-term development conditions, considering system flows and ongoing development projects as listed in Table 5-2 below.

Table 5-2: Near-term Capacity Improvement Project Costs Summary						
Trunk Sewer Improvement	**Upstream Maintenance hole**	**Downstream Maintenance hole**	**Total Length (LF)**	**Proposed Pipe Size (in)**	**Existing Pipe Size (in)**	**Estimated Total Project Cost**
Landana	H16-060	H16-002	478	10	8	$502,000
Willow Pass (Segments 1-3)	H15-607	H15-591	667	15	12	$7,479,000
	H15-591	H15-381	4,155	15 (Line Pipe)	15	
	H15-097	H14-102	3,431	15	12 to 14	
Aspen	J14-077	J14-070	335	12	10	$455,000
		Total:	**9,066**	**Total:**		**$8,436,000**
Source: (City, 2023b)						

The CSSMP lists long-term projects needed to provide wastewater system capacity under future or long-term development scenarios. These projects are dependent on the development of specific plan areas, including the CNWS and Marsh Creek. Long-term improvement project costs are listed in Table 5-3 below.

Table 5-3: Long-term Capacity Improvement Project Costs Summary						
Trunk Sewer Improvement	**Upstream Maintenance hole**	**Downstream Maintenance hole**	**Total Length (LF)**	**Proposed Pipe Size (in)**	**Existing Pipe Size (in)**	**Estimated Total Project Cost**
Willow Pass (All Segments)	H15-576	New Manhole	10,487	27	12 to 15	$23,410,000
	H16-004	H15-576	1,968	24	12 to 15	
Marsh Creek Sewer (6-inch)	M18-043	L18-028	2,316	8	6	$1,825,000
		Total:	**14,761**		**Total:**	**$25,235,000**
Source: (City, 2023b)						

The near-term and long-term project costs total approximately $33.7 million (Concord, 2023b). The CSSMP contains additional details about project costs.

Concord Sanitary Sewer Management Plan (SSMP) (2021)

Concord updated its SSMP, which is published as Appendix A in the Master Plan. Concord's SSMP describes the system's goals, organization, legal authority, and operations and maintenance program. The City uses an electronic reporting system to track and analyze sanitary sewer overflows (SSOs) and evaluate the effectiveness of its preventive maintenance program. The SSMP describes staffing as consisting of two cleaning crews, one Closed Circuit Television Video (CCTV) crew, and one construction crew. These crews provide regular and hot spot line cleaning, easement maintenance, lateral maintenance, CCTV inspection, condition assessment of lines, and routine

small, shallow construction repairs to the sewer system and laterals. The sanitary sewer operations are supported by part-time administrative and clerical support. Additionally, engineering and technical support is provided by the City's Public Works Department and the Community Development Department.

Clayton Service Area

The City of Clayton has a service agreement with the City of Concord, such that Concord provides maintenance service to the public wastewater collection system within Clayton's boundary. Clayton has a population of approximately 11,090 residents and comprises 3.83 square miles. Clayton's waste discharger identification number (WDID) in the California Integrated Water Quality System (CIWQS) is 2SSO18102. Infrastructure within the Clayton boundary is listed in Table 5-4 below. The Sewer System Service Area for both Clayton and Concord is shown in Figure 5-4 (next page).

Table 5-4: Wastewater Infrastructure in Clayton

Asset	Number*
Pipelines, estimated miles	45
Manholes, each	1,000
Pump Stations, each	0
Siphons, each	0

* Figures are estimated, as of October 2019.

*Data Source: Clayton SSMP, 2019

Clayton's Sewer System Management Plan (2019) outlines the goals, organization, legal authority, and operations and maintenance program for the City's sewer system. The Plan aims to prevent SSOs and protect public health and the environment. It requires the City to maintain relevant information, monitor and measure the effectiveness of the SSMP, assess the success of the preventive maintenance program, update program elements, and identify and illustrate SSO trends. The City's authorized representatives are responsible for implementing and enforcing the Plan and ensuring compliance with state and federal regulations. The maintenance service area is anticipated to continue to expand by infill and by annexations in Clayton. For example, the SSMP indicates about 290 potential new units in the Marsh Creek Road Specific Plan area, south and east of the City (Clayton SSMP, 2019). However, City staff correctly noted that most of these units are outside of the ULL and will not likely come to fruition unless the 30-year ULL is changed.

In recent years, Clayton's Mitchell Canyon neighborhood required a sewer pipeline main extension. There are no major new projects planned for the Clayton area (personal communication, B. Davis, January 2024).

Figure 5-4: Map of Sewer Service Maintenance Area for Cities of Concord and Clayton

Map courtesy of the City of Concord

Infrastructure Needs

Existing Infrastructure:

Concord's Public Works Department maintains various equipment, vehicles[2], infrastructure, and associated assets. The City's collection system includes 345 miles of sewer main, 119.7 miles of sewer laterals, 7,140 maintenance holes, and 3 siphons. LAFCO's 2014 MSR noted that the City

[2] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the district, it is likely that sometime in the future, the district may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cost effective.

made efforts to repair corroded pipes and rectify hydraulic issues for those pipes with inadequate capacity. For example, the A-Line Relief Interceptor was completed in FY 2008-09. The collection system has aged portions that need replacement, as identified in the City's Five-Year Capital Improvement Program (CIP). Problem spots and old sewer mains are being replaced on the basis of timing and funding availability. The CIP (dated November 2022) includes funds to improve the downtown sewer, Kirker Pass Road sewer repair, Whitman Road sanitary sewer improvements, and other projects (Concord, 2022). The CIP is described in more detail on page 5-19.

Future Challenges:

The MSR authors asked City staff to describe the factors that may affect the ability to serve wastewater customers in the future. City staff indicated that Concord has recently added two new position classifications with increased pay scales to account for specialized knowledge in wastewater (Concord, 2022). Additionally, Concord increased staff levels of front-line wastewater maintenance staff from eight to twelve to support an enhanced deferred maintenance program.

The American Society of Civil Engineers, Region 9 (2019) has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

1. Implement an education program at the state and local level about what a WWTP is, what kind of waste it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water reuse/recycling.

Cooperative Programs

The City contracts with Central San for part of the inspection, enforcement, and education aspects of the Fats, Oil, and Grease Program (FOG Control Program). Central San has a Waste Hauler Program that maintains a list of the permitted waste haulers that pay fees for the disposal of FOG at each treatment plant (City of Concord, 2019). As part of public education and outreach, the Central San creates pamphlets, posters, and brochures that are delivered to customers through mail to minimize the grease within the collection system (City of Concord, 2019).

Service Agreements

In 1964, the Concord City Council adopted Resolution No. 2423, establishing an "ultimate sewerage service boundary" that includes areas outside the corporate boundaries of Concord. It is unclear if the County Board of Supervisors approved the resolution. CC LAFCO did not approve the City's ultimate sewage service boundary. Nevertheless, the City has historically provided service to unincorporated areas outside the City boundary without CC LAFCO approval. More recently, the City has requested CC LAFCO's approval of out-of-agency service agreements for the extension of services outside the City boundary and has also required landowner consent to future annexation. However, the City has not pursued annexation of these parcels, and this remains an important issue

to resolve.

In 1966, Concord and Clayton entered into an agreement for Concord to provide sewer service to Clayton. On December 18, 1991, the City of Concord and the City of Clayton entered into a new agreement for Concord to provide sanitary sewer service to Clayton. One of the terms of the agreement, "Areas to be Served by Concord," states that sewer service will be available to all areas within the City boundary of Clayton. Furthermore, Clayton may extend sewer service to any unincorporated area that cannot be annexed to Concord, "whether such annexation is prohibited by State annexation laws or decisions of the Local Agency Formation Commission of Contra Costa County, or its successor agency or agencies." The agreement does not contain a severability clause that would allow the remainder of the agreement to be applicable should one clause be found to be unenforceable or invalid. However, the City Attorney's Office has concluded that "To the extent that there may be language in the agreement that authorizes out-of-area service agreements or services to be provided after January 1, 2001, such language would be contrary to State law and would be superseded and unenforceable."

Cost Avoidance Opportunities

Concord implements several cost-avoidance measures for its wastewater system. For example, the implementation of the SSMP and FOG program is expected to reduce problem locations and overflows over time. Additionally, the City of Concord and the City of Clayton have a service agreement and understanding that the bills received from the Central San will be shared (Central San, 2021). Therefore, these cities are incentivized to control their infiltration flows to reduce costs (Central San, 2021). Costs associated with maintaining and expanding, when necessary, the WWTP with Central San may be less expensive than considering separate sewage treatment alternatives, including probable expansion to serve the new areas of the CNWS and infill projects in the City service area. Please see Chapter 12 for additional information on the WWTP. Additionally, LAFCO's 2014 Wastewater Service MSR noted that the City was able to significantly reduce the cost of sewer rehabilitation work through the competitive bid process for construction methods using trenchless technology.

Local Hazards

The City of Concord adopted an updated Local Hazard Mitigation Plan (LHMP) on March 28, 2023, and received final approval from FEMA on April 18, 2023 (City, 2023e). This plan assesses risks from natural, human health, and human-caused hazards and identifies ways to reduce those risks. The LHMP identifies seismicity, sea level rise, liquefaction, wildfire, and terrorist events as possible threats to critical infrastructure throughout the City, and includes Action Item C-15 to develop a City Critical Infrastructure Map. The Contra Costa County Hazard Mitigation Plan (CCCHMP) Volume 2, dated January 2018, maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards (Contra Costa County, 2018). The CCCHMP shows that Concord's wastewater facilities are located within or in proximity to areas with low to moderate liquefaction susceptibility; moderate earthquake risk with Site Class/Soil Profile "D" with stiff soil; and potential flood hazard

areas (Contra Costa County, 2018). Information about these hazards should be incorporated into the City's next Sanitary Sewer Management Plan update as recommended by the CCCHMP (Contra Costa County, 2018). Additionally, it is recommended that detailed spatial mapping of the City's wastewater infrastructure in relation to the hazards identified in the LHMP and CCCHMP be conducted when LAFCO next updates its Wastewater Services MSR/SOI.

Sanitary Sewer Overflow Database

The State Water Board maintains an SSO database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. WQ 2022-0103-DWQ (SSS WDRs), on December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. A 3.5-year term from January 1, 2019, to August 23, 2022, was queried in the CIWQS-SSO database. The query found a record of 43 SSOs. Table 5-5 (next page) lists the queries from 2019 through 2022.

During this 3.5-year timeframe, 43 SSO events occurred in the City of Concord. The largest overflow, which was 18,425 gallons, took place on October 8, 2019, and its failure point was located at the gravity mainline. This spill occurred due to root intrusion and reached the street curb, gutter, and surface water. In most cases, the SSOs originated from the gravity mainline. As seen in Table 5-5, many of the spills from 2019 through 2022 had a volume of less than 1,000 gallons. One SSO that was quite significant in volume occurred on February 14, 2021, and it had a volume of 7,805 gallons. This spill occurred due to root intrusion.

Since 2008, the City has implemented the following practices/programs to reduce Sewer System Overflows: mainline and lateral repairs and replacements; closed-circuit television of mainlines; weekly, monthly, quarterly, and annual hotspot cleaning; routine rodding/jetting and inspection of mainlines; use of herbicides for root control; Fats, Oil and Grease (FOG) Program via Central San (LAFCO, 2014).

During July to October 2022, San Francisco Bay experienced a harmful algal bloom (HAB) known as a red tide, as described in Appendix F. The species associated with this bloom, Heterosigma akashiwo, can cause water to turn reddish-brown. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay, and into San Pablo Bay. Fish deaths linked to the red tide included sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San Francisco Bay Water Board is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other agencies to study potential impacts of nutrients on San Francisco Bay. Concord has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater districts and the Water Board.

Table 5-5: City of Concord Sanitary Sewer Overflows from 2019 through 2022

SSO Event ID	Responsible Agency	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
859714	Concord City	Concord City CS	Category 3	7/5/2019	950	940	0	Gravity Mainline	2SSO10109
861051	Concord City	Concord City CS	Category 3	9/9/2019	4	2	0	Gravity Mainline	2SSO10109
861124	Concord City	Concord City CS	Category 3	9/9/2019	15	2	0	Gravity Mainline	2SSO10109
861439	Concord City	Concord City CS	Category 3	9/23/2019	3	3	0	Gravity Mainline	2SSO10109
861803	Concord City	Concord City CS	Category 3	10/3/2019	122	122	0	Gravity Mainline	2SSO10109
862056	Concord City	Concord City CS	Category 1	10/8/2019	18,425	1,200	13,300	Gravity Mainline	2SSO10109
862572	Concord City	Concord City CS	Category 3	10/24/2019	3	1	0	Gravity Mainline	2SSO10109
863750	Concord City	Concord City CS	Category 1	12/25/2019	891	750	121	Gravity Mainline	2SSO10109
863922	Concord City	Concord City CS	Category 3	12/30/2019	304	0	0	Gravity Mainline	2SSO10109
863990	Concord City	Concord City CS	Category 3	1/2/2020	22	20	0	Lower Lateral (Public)	2SSO10109
864005	Concord City	Concord City CS	Category 3	1/4/2020	69	60	0	Gravity Mainline	2SSO10109
864686	Concord City	Concord City CS	Category 3	2/6/2020	2	2	0	Gravity Mainline	2SSO10109
864861	Concord City	Concord City CS	Category 3	2/16/2020	69	52	0	Gravity Mainline	2SSO10109

SSO Event ID	Responsible Agency	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
865911	Concord City	Concord City CS	Category 1	3/31/2020	4,670	500	4,070	Gravity Mainline	2SSO10109
866035	Concord City	Concord City CS	Category 3	4/7/2020	5	4	0	Gravity Mainline	2SSO10109
866539	Concord City	Concord City CS	Category 1	5/2/2020	3,660	2,400	1,260	Gravity Mainline	2SSO10109
867769	Concord City	Concord City CS	Category 1	7/4/2020	430	415	15	Gravity Mainline	2SSO10109
868420	Concord City	Concord City CS	Category 3	8/12/2020	696	596	0	Maintenance hole	2SSO10109
869933	Concord City	Concord City CS	Category 3	10/20/2020	10	8	0	Gravity Mainline	2SSO10109
870241	Concord City	Concord City CS	Category 3	11/3/2020	530	330	0	Gravity Mainline	2SSO10109
870756	Concord City	Concord City CS	Category 3	12/1/2020	455	455	0	Gravity Mainline	2SSO10109
871213	Concord City	Concord City CS	Category 3	12/25/2020	555	545	0	Gravity Mainline	2SSO10109
872048	Concord City	Concord City CS	Category 3	1/30/2021	3	0	0	Maintenance hole	2SSO10109
872255	Concord City	Concord City CS	Category 1	2/14/2021	7,805	800	7,405	Gravity Mainline	2SSO10109
873850	Concord City	Concord City CS	Category 3	4/28/2021	45	40	0	Maintenance hole	2SSO10109
874200	Concord City	Concord City CS	Category 1	5/23/2021	990	975	10	Gravity Mainline	2SSO10109
874364	Concord City	Concord City CS	Category 3	5/28/2021	3	1	0	Force Main	2SSO10109

SSO Event ID	Responsible Agency	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
874411	Concord City	Concord City CS	Category 3	5/30/2021	20	12	0	Gravity Mainline	2SSO10109
874683	Concord City	Concord City CS	Category 3	6/11/2021	15	15	0	Maintenance hole	2SSO10109
876450	Concord City	Concord City CS	Category 1	9/18/2021	7,200	1,200	6,000	Gravity Mainline	2SSO10109
877386	Concord City	Concord City CS	Category 3	11/3/2021	5	5	0	Maintenance hole	2SSO10109
877809	Concord City	Concord City CS	Category 3	11/28/2021	196	176	0	Gravity Mainline	2SSO10109
878081	Concord City	Concord City CS	Category 3	12/10/2021	25	23	0	Maintenance hole	2SSO10109
878835	Concord City	Concord City CS	Category 3	1/14/2022	10	1	0	Maintenance hole	2SSO10109
879329	Concord City	Concord City CS	Category 3	2/8/2022	432	432	0	Gravity Mainline	2SSO10109
879387	Concord City	Concord City CS	Category 3	2/11/2022	20	20	0	Gravity Mainline	2SSO10109
879822	Concord City	Concord City CS	Category 1	3/4/2022	2,070	50	2,070	Gravity Mainline	2SSO10109
879842	Concord City	Concord City CS	Category 1	3/7/2022	140	0	140	Gravity Mainline	2SSO10109
880485	Concord City	Concord City CS	Category 3	4/2/2022	20	15	0	Gravity Mainline	2SSO10109
881222	Concord City	Concord City CS	Category 3	5/13/2022	3	0	0	Gravity Mainline	2SSO10109
881724	Concord City	Concord City CS	Category 3	6/11/2022	25	23	0	Gravity Mainline	2SSO10109

SSO Event ID	Responsible Agency	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
881948	Concord City	Concord City CS	Category 1	6/26/2022	715	100	715	Gravity Mainline	2SSO10109
882691	Concord City	Concord City CS	Category 1	8/10/2022	384	0	20	Gravity Mainline	2SSO10109

5.4: FINANCIAL OVERVIEW

The focus of this analysis is the Sewer Enterprise Fund (SEF). Enterprise Funds are used to separately account for self-supporting operations. The City's budget and Certified Annual Financial Reports are the primary information sources for data related to the SEF. Since the City routinely updates these reports, readers are encouraged to visit the City's website at <*https://www.cityofconcord.org/231/Finance*> for the most recent financial reports (City of Concord, 2019; 2020; 2021c; 2021d; 2022d). Concord operates its wastewater services as an enterprise fund within the confines of overall City operations. Service fees comprise the majority of revenues (99.5 percent in FY 2022/2023) that fund the services provided for wastewater. The wastewater fund does not receive funds directly or indirectly from the City's General Fund (City of Concord, 2021d).

According to the City's most recent sewer rate study, the City utilizes the SEF to provide for maintenance, repair, and operation of the sanitary sewer collection systems in the cities of Concord and Clayton and some unincorporated county properties. The City contracts with Central San to provide wastewater treatment and disposal of both cities' sewage at Central San's treatment plant by paying a proportionate share of the maintenance, operation, and capital improvement costs at the treatment plant, and at the Household Hazardous Waste Facility. Concord's share of Central San operating costs is approximately 31.2 percent (City of Concord, 2023c).

Joint Powers Financing Authority

The City of Concord Joint Powers Financing Authority ("Authority") is a joint powers authority organized by the City of Concord and the former Concord Redevelopment Agency (RDA) under the laws of the State of California. The Authority was organized to provide financial assistance to the City by financing real and personal properties and improvements for the benefit of the residents of the City and surrounding areas. The primary project of the RDA is the 2018 Wastewater Refunding Revenue Bonds. In 2018, the RDA issued $7,920,000 original principal amount of bonds to provide funds to refund the outstanding 2007 Wastewater System Improvements Certificates of Participation. A separate financial statement is provided for this financial project, as shown in Table 5-6 below (City of Concord, 2022b).

Sewer Enterprise Funds for the City are considered stable and self-sustaining for operational, capital, and debt service activities as revenues exceed expenditures for the five fiscal years studied. The City maintains a substantial reserve fund balance in each fund, providing good capability to absorb short-term impacts, with a very good debt service to annual expenditure ratio (City of Concord, 2019; 2020; 2021c; 2021d; 2022d).

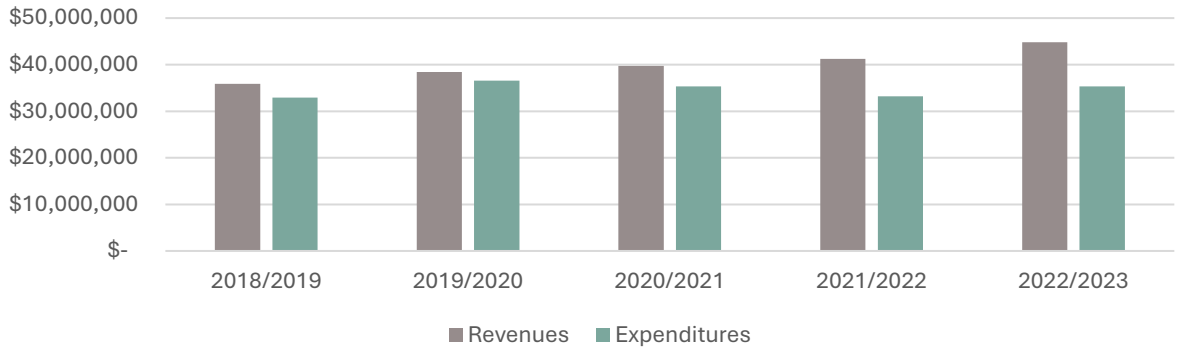
Table 5-6: Future Payments on Wastewater Revenue Refunding Bonds (June 30, 2022)		
Note: *Future principal and interest payments on the Wastewater Revenue Refunding Bonds are as follows for the year ended June 30, 2022:*		
For the Year Ending June 30	**Principal**	**Interest**
2023	$490,000	$276,950
2024	$510,000	$252,450
2025	$540,000	$226,950
2026	$565,000	$199,950
2027	$590,000	$171,700
2028-2032	$3,415,000	$411,400
Total	**$6,110,000**	**$1,539,400**

Six primary areas of criteria were utilized to assess the present and future financial condition of the City's wastewater and water service operations, as discussed below:

5 Year Revenue/Expenditure Budget Trends

The Sewer Fund revenues exceeded expenditures for all years studied as shown in Figure 5-5 below. Expenditures fluctuated, with some decreases occurring during FY 2020-21 and 2021-22. Revenues have continued to steadily increase based on increases in sewer rates. This key performance measure indicates that the Sewer Fund is solvent and has the capacity to cover its costs. The fund overall has experienced surpluses with rate increases implemented to accommodate expenditures. The Enterprise fund net position increased to $92.4 million in 2022, up $8.4 million from $84.0 million in the prior year. The net position increase was due to two factors: an increase in sewer service rates and a decrease in sewer operating costs (City of Concord, 2019; 2020; 2021c; 2021d; 2022d).

Figure 5-5: Sewer Enterprise Fund Operating Revenues Compared to Expenditures



The Fund has averaged a six percent increase over five fiscal years with the largest increase occurring in FY 2022-23 at a nine percent increase compared to the previous year. The Sewer Fund generated service fee revenues of $41.2 million in fiscal 2022, reflecting a $1.5 million increase over the prior year. Operating expenses decreased by $2.1 million to $33.2 million. As a result, the Sewer Fund experienced an $8 million operating gain for the year (City of Concord, 2019; 2020; 2021c; 2021d; 2022d).

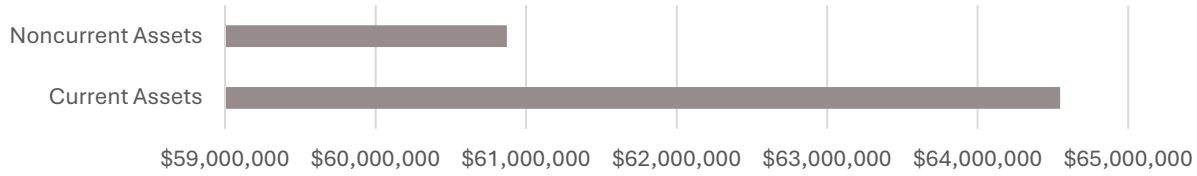
Ratios of Revenue Sources

The City receives approximately 99 percent of its wastewater fund revenues from charges and fees for services, no revenue from property taxes, and a small percentage from miscellaneous other sources such as use of money and property and transfers in. This ratio reflects an appropriate balance for a typical enterprise fund service and minimizes the impact that negative economic factors will have on more elastic revenues such as property tax (City of Concord, 2022d).

Ratio of Reserves or Fund Balance to Annual Expenditures

An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures. Figure 5-6 shows assets for the City's Sewer Enterprise Fund form the most recent audit completed in FY 2021-22 (City of Concord, 2022d).

Figure 5-6: Sewer Enterprise Fund Assets, FY 2021/2022



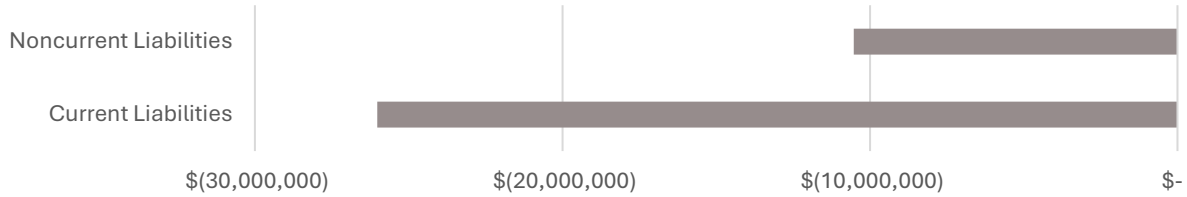
The most recent audit completed in FY 2021-22 shows an unrestricted amount of $40,984,161. Operating expenses for the same fiscal year were $33,219,397. This equates to a positive ratio of 123 percent, a very good ratio (City of Concord, 2022d). Current assets include cash and investments, interest, and accounts receivable. The City has approximately $59.4 million in net capital assets for FY 2021-22.

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable; and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. The City of Concord has several types of debt related to wastewater services, including accounts and contracts payable, accrued liabilities,

interest payable, revenue refunding bonds, and compensated absences. Noncurrent and current liability totals for FY 2021-22 are shown in Figure 5-7 below (City of Concord, 2022d).

Figure 5-7: Sewer Enterprise Fund Liabilities, FY 2021-22



The ratio of annual debt service to total fund annual expenditures is an indicator of the City's ability to meet debt obligations in relation to service provision expenditures. Ideally, a 10% or less ratio reflects a very stable ratio. The annual expenditure for the City in FY 2021-22 was $33,219,397, and the debt service for that same year was $1,521,281 (City of Concord, 2022d). Therefore, the ratio of annual debt service to total expenditures was approximately five percent, a very stable ratio. On September 18, 2012, the City issued Wastewater Revenue Refunding Bonds, Series 2012, in the original principal amount of $10,080,000 at interest rates that ranged from 1.50 percent to 4.00 percent to provide for a refunding of the City's outstanding 2004 Certificates of Participation Wastewater System Improvement Bonds. Principal payments are due annually on February 1, with interest payments payable semi-annually on August 1 and February 1 through February 1, 2029. Repayment of these bonds is from a pledge of revenue from the Sewer Enterprise Fund. As of June 30, 2022, the principal balance outstanding was $4,705,000.

On February 27, 2018, the City issued Wastewater Revenue Refunding Bonds, Series 2018, in the original principal amount of $7,920,000 at interest rates that range from 2.00 percent to 5.00 percent to provide for a refunding of the City's outstanding 2007 Certificates of Participation Wastewater System Improvement Bonds. Principal payments are paid annually on February 1. Interest is paid semi-annually on August 1 and February 1, through 2032. Repayment of these bonds is from a pledge of revenue from the Sewer Enterprise Fund. As of June 30, 2022, the principal balance outstanding was $6,110,000.

The City has pledged future wastewater customer revenues, net of specified operating expenses, to repay the 2012 and 2018 bonds through 2032. The Sewer Enterprise Fund's total principal and interest remaining to be paid on the bonds is $12,914,676 as of FY 2021-22. The Municipal Sewer Enterprise Fund's principal and interest paid for the current year and total customer net revenues were $1,521,281 and $12,551,608, respectively, for that same fiscal year (City of Concord, 2022d).

Capital Improvement Program

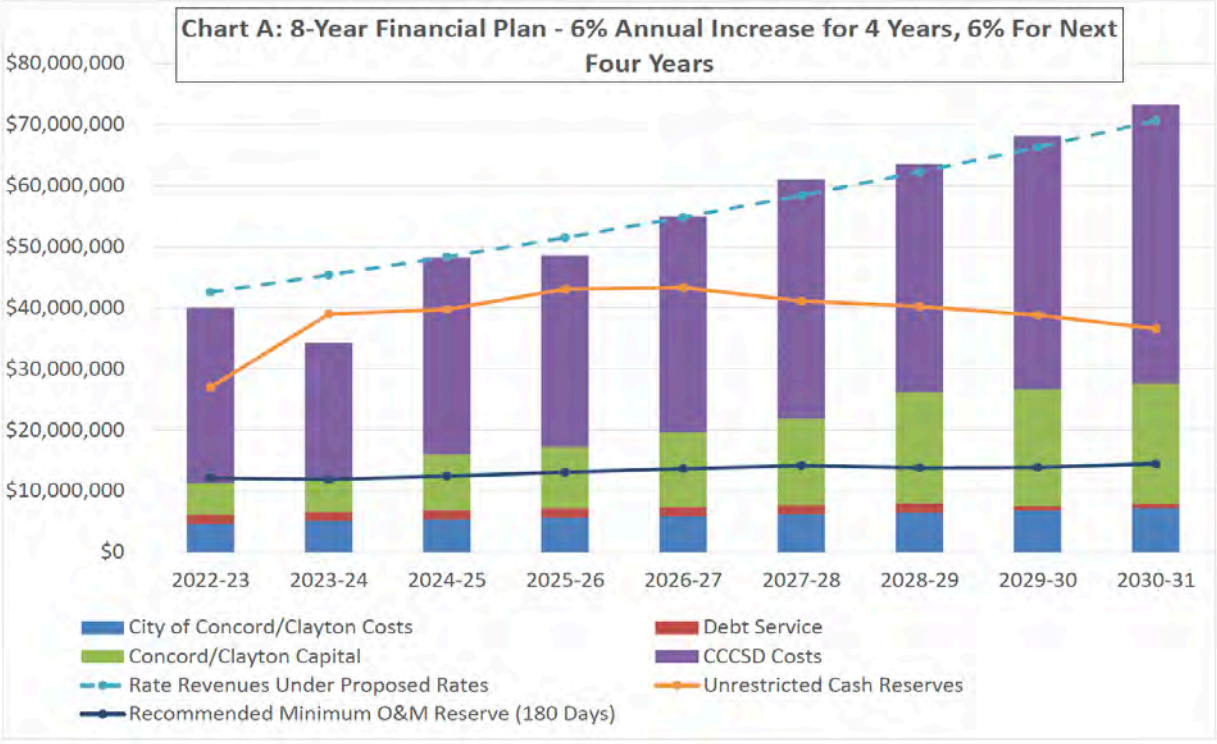
The 5-Year Capital Improvement Program (CIP) FY 2021-2025 includes major sewer improvements,

road sewer repairs, and assessment studies. The CIP 2-year budget focuses on repairing and upgrading the Downtown area (City of Concord, 2022a). Additionally, Concord reports that it has implemented several program efforts to improve the operation of the collection system and reduce Sewer System Overflows (SSOs), including increased inspections by closed circuit TV, cleaning of mainlines and trouble spot locations, adoption and implementation of a Fats, Oil and Grease Program (FOG Program) to reduce inflows, and mainline repairs and replacements. The City contracts with Central San for several of these services. A Sewer System Master Plan was adopted in 2023, and a Sewer System Management Plan (SSMP) was adopted on May 2021. The Master Plan contains a list of near-term and long-term projects along with a cost summary as listed in Tables 5-2 and 5-3 of this chapter (City of Concord, 2021b).

Rate Structure

The City completed the most recent rate study in May 2023 to ensure the financial stability of the sewer enterprise fund over the next four years (FY 2023-24 through FY 2026-27). The City projects cost increases over the next eight years related to its share of the operating, maintenance, and capital costs of Central San's WWPT and the ongoing operation and rehabilitation of its own sewer collection system. Figure 5-8 shows the 8-year financial plan for the most recent rate study, which includes a six percent annual increase for four years and six percent for the next four years (City of Concord, 2023c).

Figure 5-8: 2023 Rate Study 8-year financial projections



Residential customers are billed a flat rate per equivalent dwelling unit, and nonresidential customers are charged based on annualized winter water usage, per hundred cubic feet (HCF), subject to a minimum charge. Industrial customers pay based on their actual flow and loadings; however, there are currently no industrial customers charged in Concord. The charges are placed on the tax roll. Table 5-7 below shows a summary of approved rates. Residential rates are anticipated to increase from $717 in FY 2022-23 to $905 by FY 2026-27. Commercial rates are anticipated to increase from $6.34 per HCF winter usage for most commercial uses in FY 2022-23 to $8.01 per HCF winter usage (City of Concord, 2023c).

Table 5-7: 2023 Rate Study Proposed Rates

FISCAL YEAR	Units	FY 2022/23	Rate Recalculated Based on Strength Factors	% Increase			
				FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
				6.0%	6.0%	6.0%	6.0%
RESIDENTIAL OWNERS							
1. Minimum rate for any premises		$717	$717	$760	$806	$854	$905
2. Each single-family dwelling unit	*# of dwellings*	$717	$717	$760	$806	$854	$905
3. Each dwelling unit in a multiple dwelling structure	*# of dwellings*	$717	$717	$760	$806	$854	$905
4. Mobile Home Park	*# of dwellings*	$717	$717	$760	$806	$854	$905
COMMERCIAL OWNERS*							
1. Minimum rate for any premises		$717	$717	$760	$806	$854	$905
2. Bowling Alleys (per HCF)	*Winter Usage (HCF)*	$6.34	$6.35	$6.73	$7.13	$7.56	$8.01
3. Car Washes (per HCF)	*Winter Usage (HCF)*	$6.34	$6.35	$6.73	$7.13	$7.56	$8.01
4. Health Studios and Gymnasiums	*Winter Usage (HCF)*	$6.34	$6.35	$6.73	$7.13	$7.56	$8.01
5. Hospitals - Convalescent (per HCF)	*Winter Usage (HCF)*	$6.34	$6.35	$6.73	$7.13	$7.56	$8.01
6. Multiple Lodging Structures (per HCF)	*Winter Usage (HCF)*	$6.34	$6.35	$6.73	$7.13	$7.56	$8.01
7. Laundromats and Laundries (per HCF)	*Winter Usage (HCF)*	$6.34	$6.35	$6.73	$7.13	$7.56	$8.01
8. Restaurants (per HCF)	*Winter Usage (HCF)*	$12.61	$12.63	$13.38	$14.18	$15.03	$15.93
Restaurants with pretreatment facilities (per HCF)	*Winter Usage (HCF)*	$7.17	$7.17	$7.60	$8.06	$8.54	$9.05
9. Bakeries Determined Individually	*Winter Usage (HCF)*	N/A	N/A	N/A	N/A	N/A	N/A
10. All others (per HCF)	*Winter Usage (HCF)*	$7.17	$7.17	$7.60	$8.06	$8.54	$9.05
INSTITUTIONAL OWNERS*							
1. Minimum rate for any premises		$717	$717	$760	$806	$854	$905
2. As defined in Section 110-31 (per HCF)	*Winter Usage (HCF)*	$7.17	$7.17	$7.60	$8.06	$8.54	$9.05
INDUSTRIAL OWNERS							
1. Minimum rate for any premises		$717	$717	$760	$806	$854	$905
2. Flow (per million gallons)	*MG*	$5,563	$5,559	$5,893	$6,247	$6,622	$7,019
3. Biochemical Oxygen Demand (B.O.D.) (per thousand pounds)	*1k pounds of bod*	$1,307	$1,304	$1,382	$1,465	$1,553	$1,646
4. Suspended Solid (S.S.) (per thousand pounds)	*1k pounds of ss*	$1,113	$1,149	$1,217	$1,290	$1,367	$1,449
**Rate per Hundred Cubic Feet (HCF) of Winter Water Usage*							

The City's rate structure is described on this webpage <*https://www.cityofconcord.org/1049/Sewer-Service-Rates*>. The Sewer Service Charge is collected annually via a property tax bill. It appears in the "Special Taxes & Assessments" portion of the bill.

New sewer connection fees range from $1,664 to $2,522 per residential unit, according to the City's General Plan Housing Element. One time capacity fees for accessory dwelling units (ADUs) are calculated at $2.765/square foot. These fees are utilized to fund capital improvements to serve new development. Additionally, there are fees associated with the Central San WTP, including a one-time sewerage hookup fee of just over $5,000 per unit and up, depending on size, location, and height of the ground. An annual Sewer Service Charge is collected for each property connected to the sewer system at a residential rate of $660 per year for single-family units and $625 per year for multifamily units (Concord Housing Element, 2023a).

5.5: POPULATION

There were approximately 125,410 residents within the City of Concord boundary as of 2020 (CA DOF, 2023a and Contra Costa Dept. of Conservation, 2023). However, since then, the population has declined slightly to 122,074 as of January 2023 (CA DOF, 2023b). Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

Table 5-8: Existing Permanent Population, City of Concord

Name of City	Population in Boundary (1)	Number of Registered Voters in Boundary (2)	Population in SOI only (3)
City of Concord	125,410	71,259	3,165

Sources:
(1) CA DOF, 2023a and Contra Costa Dept. of Conservation, 2023
(2) Registered Voter data for January 2023 provided LAFCO's Agency Directory. Please note California Secretary of State, Registration by Political Subdivision by County, May 23, 2022, listed 72,554 registered voters, indicating the number of registered voters has declined in the past year.
(3): Calculated estimate based on an average of 3.02 persons per parcel in the County of Contra Costa.

Projected Future Population: Anticipated future population growth in the City has the potential to influence the demand for the provision of wastewater services. However, projecting a city's future population is complicated due to varying annexation rates and census tracts that do not match the City boundary. Data from the CA DOF was used to project population growth for Contra Costa County and the City, as shown in Table 5-9 below.

The annual growth rate from 2020 to 2045 is projected by CA DOF to be 0.59 percent, as shown in Table 5-9. The City reports that a series of General Plan amendments have been made over the years, and the current General Plan estimates a buildout population of 167,360, including the Concord Reuse Project (CRP) development (City of Concord, 2012).

Future growth within the City's existing boundary is possible. The City's Housing Element includes a vacant land inventory, which analyzed assessor and local data and ground-level inspections. Approximately 148 vacant parcels were identified in Concord. Approximately 135 of the 148 vacant parcels were zoned for residential uses. Furthermore, 98 of those 135 parcels were developable. This equates to infill opportunities on 56 acres of vacant land. Some of the 148 vacant sites are unsuitable for development due to their irregular shapes or steep slopes, are designated as a right-of-way, or lack street access (Concord Housing Element, 2023a). The potential population increase based on the 98 parcels is approximately 296 additional people using the average of 3.02 persons per parcel in Contra Costa County.

Table 5-9: Total Estimated & Projected Population (2020 – 2045)

	2020	2025	2030	2035	2040	2045	Percent Increase 2020 to 2045	Numeric Increase 2020 to 2045	CAGR 2020 to 2045
County of Contra Costa[1]	1,149,800	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.80%	181,631	0.59%
City of Concord [2]	125,410	134,806	140,078	144,526	147,775	149,902	15.80%	20,449	0.59%
City of Clayton	11,290	11,757	12,217	12,605	12,888	13,073	15.80%	1,783	0.59%

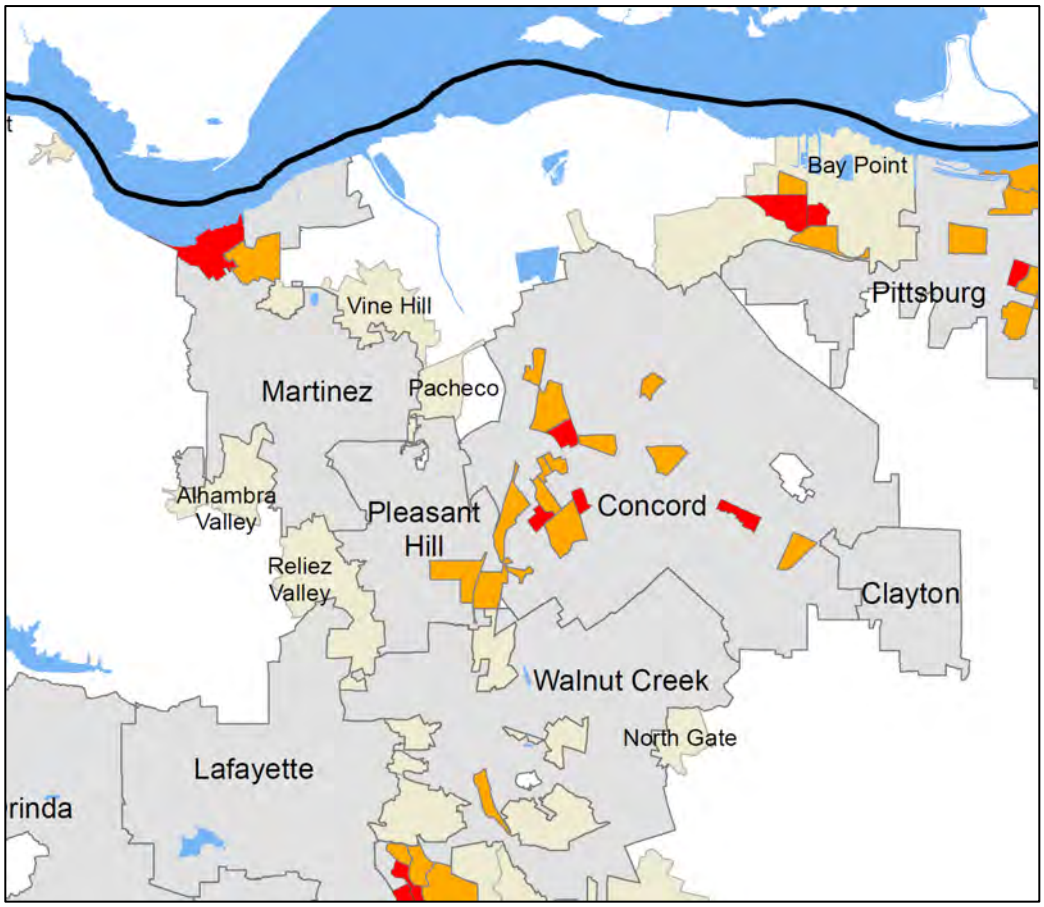
Sources:
1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021
2: Population projection for the City of Concord calculated as 11.26 percent of the County of Contra Costa population.
3: Population projection for the City of Clayton calculated as 0.98 percent of the County of Contra Costa population.

5.6: DISADVANTAGED COMMUNITIES

Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in some disadvantaged communities. Data from the 2020 U.S. Census was queried as part of this MSR Update process. Data query results showed no disadvantaged unincorporated communities (DUCs) within or contiguous to the City's SOI.

However, there are several low-income communities within Concord's incorporated boundary. Two types of disadvantaged areas (DACs) include Severely Disadvantaged Communities (MHI < $47,203), shown in red, and Disadvantaged Communities (MHI = $47,203-$62,937) shown in orange in Figure 5-9 below. The City has no programs to provide financial assistance to low-income residents for utility bills such as water or sewer. However, the Housing Element describes the City's rental assistance program and housing rehabilitation loans for low-income residents (Concord 2023d). All parcels within Concord's boundary receive municipal services. No public health and safety issues were identified.

Figure 5-9: Disadvantaged Communities in Concord



5.7: GOVERNMENT STRUCTURE ALTERNATIVES

The City provides adequate wastewater collection services, with Central San providing wastewater treatment and disposal services. The City provides sewer collection and conveyance services for the City of Clayton. The City also provides service to parcels outside the corporate boundary of Concord. Many of these service connections are located in the Ayers Ranch area, a 183-acre unincorporated island within Concord's SOI. Some parcels within this area are experiencing issues with septic systems, including failure, and have requested service from the City on an individual basis.

Three government structure options were identified: (1) maintain the status quo; (2) annex areas receiving City service into the City; and (3) consolidate with the Central San. These three options were identified in LAFCO's 2014 MSR and remain valid.

Maintain the status quo

The City provides adequate wastewater collection services to its residents and businesses within its sewer service area, including the City of Clayton. Concord also provides service to areas outside the City boundary, most notably in the Ayers Ranch community. The City has a long-term CIP, which strategically plans for infrastructure upgrades and repairs. The City's Wastewater Fund is stable.

Annex areas receiving City service into Concord

The City provides service to parcels outside the City boundary, including properties within the 183-acre unincorporated Ayers Ranch island surrounded by Concord and within the City's SOI. The City includes this island within its ultimate sewer service boundary. A significant portion of this island is developed or developable. In areas with concerns due to failing septic systems, the provision of municipal wastewater services would address public health issues.

The City reports that many property owners in the Ayers Ranch area have strongly opposed annexation to Concord. Additionally, the City and the County have been unable to reach a mutually agreeable property tax-sharing agreement should the area be annexed to Concord. Costs to extend the wastewater collection system to Ayers Ranch are currently unknown. The City is potentially willing to extend sanitary service to areas in the County experiencing septic tank failure if it is acceptable to the landowner, CC LAFCO, and the County. Ayers Ranch has been placed by CC LAFCO within the City's SOI, signifying that the City is the logical, long-term service provider for the unincorporated island. Annexation of those areas being served extra- territorially by the City of Concord should be a high-priority annexation for the City and the County to clean up outstanding boundary issues.

Consolidate service with Central Contra Costa Sanitary District

The City provides wastewater collection services for Concord and Clayton, while Central San provides conveyance, treatment, and disposal services. Central San also provides wastewater collection service to northern Concord and other unincorporated areas to the north, west, and south

of the City. Consolidation may provide economies of scale and other efficiencies due to the single-purpose focus of Central San.

LAFCO's 2014 MSR noted that the sewer service rates charged by Central San were substantially higher than those charged by the City. Consolidation may also impact the ad valorem property tax allocation for Central San. The FY 2013-14 base rate charged by the City of Concord was $363 annually versus the Central San base rate of $405. In 2014, the City believed it provided sanitary sewer services at a substantially lower cost than Central San. Since 2014, the City has not given further consideration to this consolidation option. Currently, the base rate as of FY 2022-2023 charged by the City of Concord is $717, compared to the Central San base rate of $820, including ad valorem taxes. As of January 2024, City staff reports that the relationship between the City and Central San is positive, and both agencies share information and coordinate on areas of service. Concord's new rate study shows that Concord's fees are lower than the fees charged by Central San. City staff indicates that if a proposed future merger or consolidation were to result in higher fees for Concord residents, the process would be unlikely to gain support in the community (personal communication, B. Davis, January 2024).

The above three options provide a range of tradeoffs regarding wastewater services. Additional study of the options would allow an opportunity to collect more data prior to making a final decision. At this time, the MSR consultants recommend retention of the status quo.

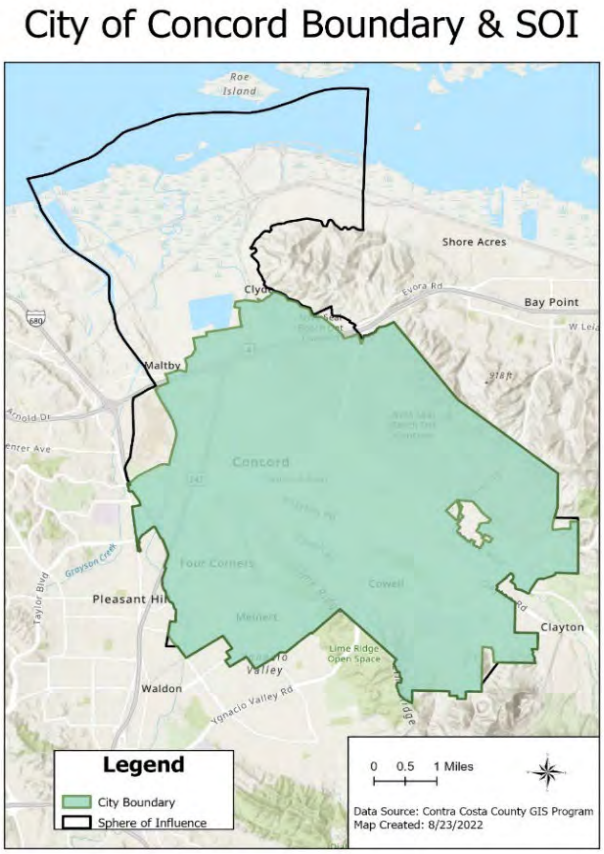


Figure 5-10: Existing SOI – Concord

5.8: RECOMMENDED MSR DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

Table 5-10: MSR Determinations for Concord

TOPIC AND PERFORMANCE MEASURES	DETERMINATION
Growth and Population for the affected area. • Is the existing population estimated? • Is the projected future growth estimated?	According to the DOF, the City's existing population is estimated at 125,410. The City's existing population is expected to grow to 149,902 by 2045, an increase of 21 percent. The City of Clayton, also served by Concord, has a population of approximately 10,863. It is projected to grow to 13,073 by 2045, an increase of 20 percent.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.	Data from the 2020 U.S. Census was queried to determine the location and status of disadvantaged communities as part of this MSR process. Data query results showed no disadvantaged unincorporated communities (DUCs) within or contiguous to the City's SOI. However, there are several Disadvantaged Communities (DACs) within Concord's incorporated boundary. All parcels within Concord's boundary receive municipal services. No public health and safety issues were identified.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. • Does the agency have a capital improvement plan? • Are SSOs identified? • Are local hazards identified?	The Concord SSMP (2023) functions as a CIP for the City's Wastewater System. The SSMP lists several near-term and long-term projects. The City's collection system has portions that are aged and in need of replacement, as identified in the 5-Year CIP and SSMP studies. The City's CIP budget is currently $31.7 million for FY 2020-2021 and FY 2021-2022. A 3.5-year query of the SSO database revealed that the City reported 43 overflows between 2019 to mid-2022. The CCCHMP Volume 2, dated January 2018, shows that Concord's wastewater facilities are

Table 5-10: MSR Determinations for Concord	
TOPIC AND PERFORMANCE MEASURES	**DETERMINATION**
	(continued) located within or in proximity to areas with low to moderate Liquefaction Susceptibility; moderate earthquake risk with Site Class/Soil Profile "D" with stiff soil; and potential flood hazard areas. Information about these hazards should be incorporated into the City's next SSMP update as recommended by the HMP (Contra Costa County, 2018). It is also recommended that detailed spatial mapping of the City's wastewater infrastructure in relation to the hazards identified in the HMP be conducted when LAFCO next updates its Wastewater Services MSR/SOI.
Financial ability of agencies to provide services. • Has the agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures 10% or less?	The City completed the most recent rate study in May 2023 to ensure the financial stability of the sewer enterprise fund over the next four years (FY 2023-24 through FY 2026-27). The City projects cost increases over the next eight years related to its share of the operating, maintenance, capital costs of Central San's WWTP, and the ongoing operation and rehabilitation of its own sewer collection system. The financial outlook for the City's Wastewater Enterprise Fund is currently stable and self-sustaining. Revenues exceed expenses in all fiscal years studied. The Fund overall, has experienced surpluses with rate increases implemented to accommodate expenditures. The annual expenditure for the City in FY 2021-22 was $33,219,397, and the debt service for that same year was $1,521,281. The ratio of annual debt service to total expenditures was approximately five percent, a very stable ratio.
Status of, and opportunities for, shared facilities.	The City contracts with Central San for wastewater treatment and for major collection system maintenance and inspections. The City also participates in regional training and customer education programs to reduce pollution and impacts on the Central San

Table 5-10: MSR Determinations for Concord	
TOPIC AND PERFORMANCE MEASURES	**DETERMINATION**
	WWTP operations.
Accountability for community service needs, including government structure and operational facilities. • Does the agency have a website? • Does the agency post a public outreach tool (such as a calendar or newsletter) on its website? • What is the recommendation for mergers, consolidations, or other changes to governance structure?	The City has a comprehensive website providing the public with internet access to City Council agendas and minutes, public notices, and City budgets. The City also offers an e-newsletter to keep residents updated on City events. Three government structure options are identified: (1) status quo, (2) annex areas receiving City service, and (3) consolidate with Central San.
Any other matter related to effective or efficient service delivery, as required by commission policy.	LAFCO's 2014 MSR recommended that the City update its policies, ordinances, and municipal codes to conform to Government Code Section 56133 regarding out-of-area agreements. This recommendation remains valid.

5.9 SPHERE OF INFLUENCE

Section 5.7, Government Structure Alternatives, describes various issues and options associated with changing the structure of this local government agency. LAFCO often accomplishes its government structure issues through changes to boundaries and/or SOIs. The three options studied includes:

- Maintain the status quo
- Annex areas receiving City service into Concord
- Consolidate service with Central Contra Costa Sanitary District

The City's SOI includes 15.56 square miles, including lands to the north and small unincorporated areas adjacent to the City's boundary. The SOI was most recently considered in LAFCO's 2019 City Services MSR, and the SOI was retained in its current configuration. Although Concord's SOI is large, much of the area is unusable bay or tidal lands, including coastal salt marsh. Included in the SOI are the Ayers Ranch unincorporated neighborhood and the Concord Naval Weapons Station. Page 5-7 of this MSR contains a detailed discussion of the SOI. Based on the information presented in this chapter, it is recommended that LAFCO re-confirm the existing City SOI and maintain the status quo in relation to wastewater service provision. The determinations LAFCO adopted in 2019 can be reconfirmed.

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Chapter 6: CITY OF HERCULES – WASTEWATER SERVICES

Table of Contents

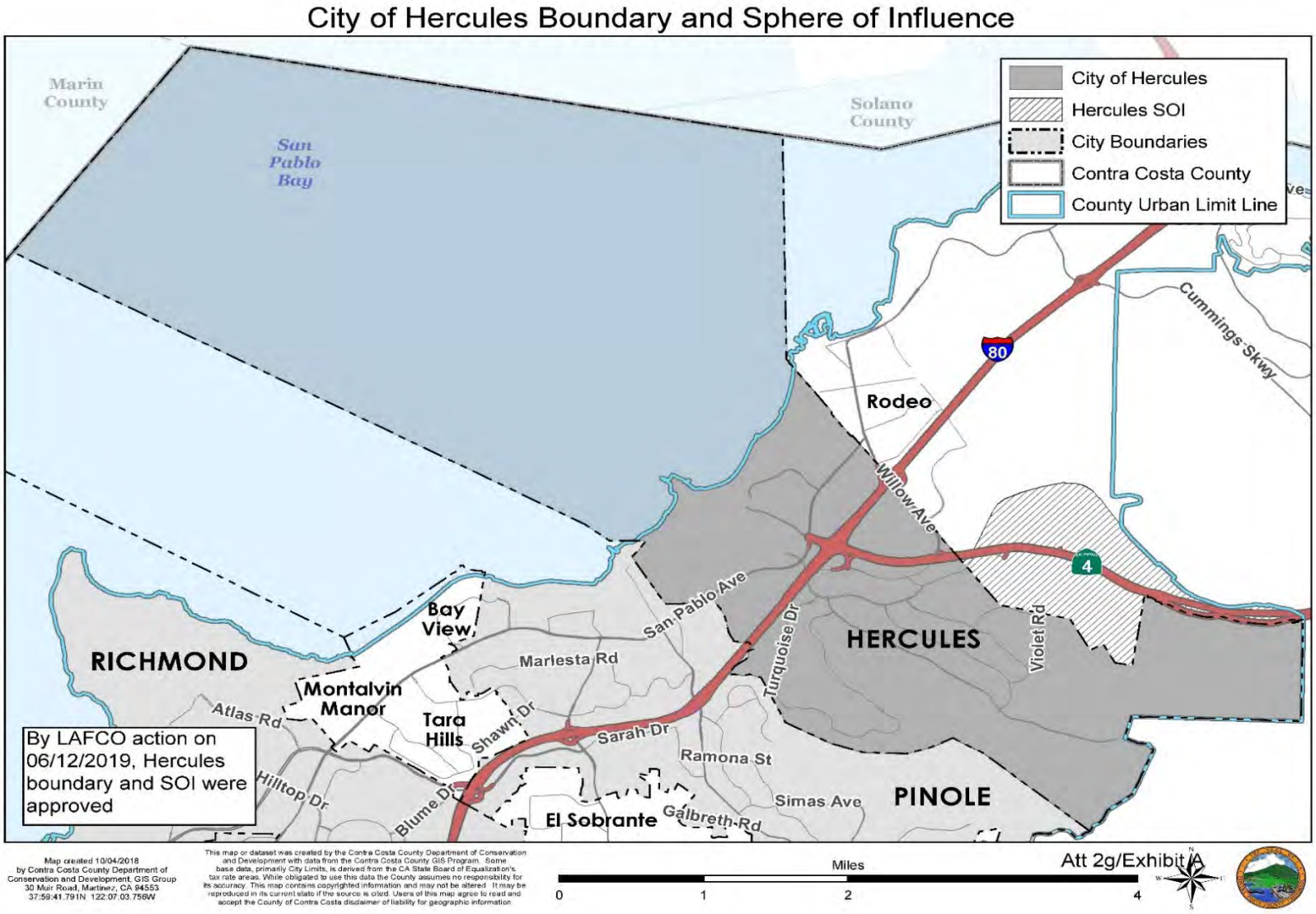
6.1: OVERVIEW

The City of Hercules (City) was incorporated in 1900 and encompasses approximately 19.3 square miles. The City of Hercules lies within the San Francisco Bay/Sacramento Delta Estuary watershed. Additional information about this watershed is provided in Appendix F. A map of the City's current boundary and sphere of influence (SOI) is shown in Figure 6-1. Hercules provides wastewater collection and conveyance service for the City's incorporated area. Treatment is provided at the Pinole-Hercules Water Pollution Control Plant (WPCP). The cities of Hercules and Pinole each have a 50% ownership in the WPCP, although Pinole is the designated operator. Secondary treated effluent is conveyed to the Rodeo Sanitary District (RSD) WPCP, where it is combined with RSD effluent and discharged into San Pablo Bay. In 1977, RSD, Pinole, and Hercules entered a Joint Powers Agreement (JPA) to provide deep water wastewater disposal facilities (LAFCO, 2014). The City provides wastewater services to 8,410 connections serving commercial customers and the residential population of 26,300 (as of 2020 per Contra Costa Dept. of Conservation). The City of Hercules's Agency Profile is in Table 6-1.

Table 6-1: Agency Profile – City of Hercules

General Information			
Agency Type	Municipal		
Principal Act	General laws of the State of California		
Date Formed	1900		
Services	Wastewater collection and conveyance		
Service Area			
Location	City of Hercules		
Sq. Miles/Acres	19.26 square miles/ 12,329 acres		
Land Uses	Residential, commercial, industrial, office, open space		
Population Served	26,300 (as of 2020 per Contra Costa Dept. of Conservation)		
Last SOI Update	05/14/2014 and reconfirmed 6/12/2019		
Infrastructure/Capacity			
Facilities	Collection system includes approximately 352,000 linear feet (67 miles) of pipeline, of which 328,000 feet is gravity main, and the remaining 24,000 feet is force main. The system contains approximately 1,729 individual pipes, 1,661 maintenance holes, 13 cleanouts, 9 plugs, and 13 diversions. The Pinole-Hercules Wastewater CP is jointly shared with the City of Pinole).		
Connections	8,410; 9,165 dwelling units (CA DOF, 2021)		
Treatment Plant Capacity (MGD)	The WPCP was recently upgraded and meets the standards of the Clean Water Act. The WPCP can accommodate 20 MGD of peak flows. The permitted average dry weather flow is 4.06 MGD.		
Primary Disposal Method	Pinole-Hercules WPCP; secondary effluent conveyed to Rodeo Sanitary District. The final treated effluent is discharged to San Pablo Bay.		
Budget Information- FY 2022-23 (Wastewater Enterprise Fund)			
	Revenues	Expenditures	Net
Wastewater Fund	$ 6,053,000	$ 5,640,750	$ 412,250
	FY 2022-23	Long-Term Planned Expenditures	
Capital Expenditures	$ 4.15 million allocated for FY 2022-23	$90.1 million - 5-year Capital Improvement Program (CIP) projection for various system and infrastructure upgrades. This includes $27.1M for collection/conveyance system.	
City Net Assets	$15,704,349	Enterprise fund net investment in capital assets at fiscal year-end per the June 30, 2022 Financial Report. (Note: Unrestricted net position at fiscal year-end was $18,566,052.)	
Fund Balance	$ N/A	(not available)	
Governance			
Governing Body	City Council (5 members)		
Agency Contact	Mike Roberts, City Engineer, (510) 799-8241		
Notes			
None.			

Figure 6-1: Boundary/SOI Map – City of Hercules



6.2: HERCULES BOUNDARY & SOI

Hercules shares its southern boundary with the City of Pinole. North of the City is the unincorporated community of Rodeo. East of the City are primarily agricultural lands, including the Carquinez Strait Regional Shoreline Park. San Pablo Bay lies to the west (LAFCO, 2014). Hercules' boundary encompasses approximately 19.9 square miles, which includes 6.41 square miles of land area and 13.57 square miles of water area (i.e., San Francisco Bay). The City adopted the county-wide Urban Limit Line in 2009. Land uses in the City include a mix of residential, research and development, commercial, and open space. There are no designated agricultural land uses in the City of Hercules; however, livestock grazing does occur on some open space parcels (LAFCO, 2019).

Within the City's existing boundary, a small to moderate amount of new residential development has occurred. For example, two multifamily buildings completed construction and received new sewer connections in 2020 and 2021. Additionally, there is a 40-unit subdivision that was recently approved, and construction is expected to begin in Spring 2024. Recent increases in interest rates have affected the feasibility of building out previously approved multifamily projects. Nevertheless, Hercules has seen a steady increase in the number of sewer connections over the years, as shown in Figure 6-2.

The Sphere of Influence (SOI) for the City of Hercules is mostly coterminous with the municipal boundary, except for an extension to the north near Highway 4, as shown in Figure 6-1. The SOI was retained and reconfirmed as part of LAFCO's 2014 MSR/SOI Update for Wastewater Services and the June 12, 2019 MSR for City Municipal Services. The SOI is 1.27 sq. mi. in size and contains a population of approximately 112 persons. The City of Hercules does not anticipate changing the current SOI (personal communication, T. Rood, 11/14/2023). Section 6.7, Government Structure Alternatives, describes various issues and options associated with changing the structure of this local government agency. LAFCO often accomplishes its government structure issues through changes to boundaries and/or SOIs. Additionally, expanding the City's SOI would be challenging due to several old agreements, ballot initiatives, and an urban limit line.

San Francisco Bay Land Use

The City's boundary is on portion of the San Francisco Bay which is a sensitive environmental resource. The California state planning and regulatory agency with regional authority over the San Francisco Bay, the Bay's shoreline band, and the Suisun Marsh is called the San Francisco Bay Conservation and Development Commission (BCDC). Its mission is to protect and enhance San Francisco Bay and to encourage the Bay's responsible and productive use for this and future generations. BCDC works to ensure projects are compatible with the conservation of Bay resources as described on its website at: <*https://bcdc.ca.gov/*>.

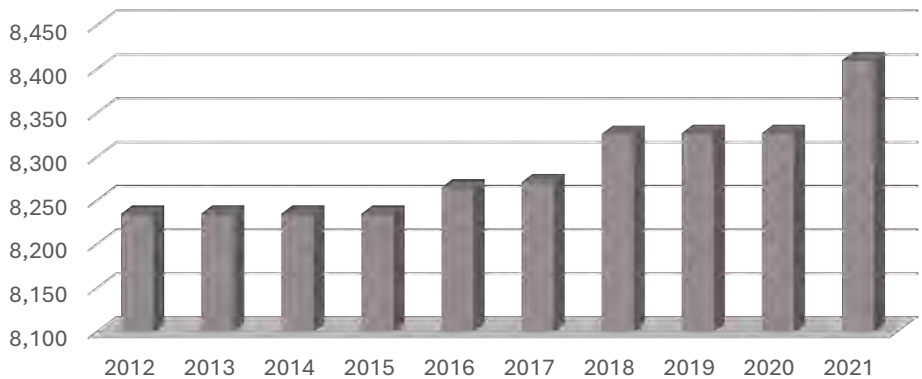
The Bay Area Regional Collaborative is another planning agency in the Bay, and includes the Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), San Francisco Bay Conservation and Development Commission (BCDC) and Bay Area Air Quality Management District. This collaborative multi-agency regional committee allows for cross-jurisdictional work on projects such as Resilient Bay Area and Carbon Free Future.

6.3: WASTEWATER OPERATIONS

The City's wastewater service includes collection, conveyance, and secondary treatment at the Pinole-Hercules Wastewater Treatment Plant (WWTP), operated by the City of Pinole. Additionally, Hercules disposes of treated effluent in conjunction with the Rodeo Sanitary District. The City provides wastewater collection and conveyance services to 8,410 accounts, as shown in Figure 6-2. One City sewer connection (or account) may serve many individual customers. The City Public Works Department manages the Wastewater collection system, and they may be contacted for additional details as listed in Table 6-2 (on page 6-5).

Property owners retain responsibility for private sewer laterals. The City is not responsible for installing, maintaining, operating, repairing, or replacing private sewer laterals connected to the City sewer mains (Hercules, SSMP, 2019). Since 2008, the City has adopted and is enforcing a Lateral Inspection Program for all homes sold and/or added additional plumbing fixtures to prevent inflow and infiltration (I&I) (LAFCO, 2014).

Figure 6-2: Total Number of Sewer Connections (City of Hercules)



Data Source: Annual Comprehensive Financial Report FY2021-23

Hercules' collection system includes approximately 352,000 linear feet (67 miles) of pipeline, of which 328,000 feet is gravity main and the remaining 24,000 feet is force main. The system contains

approximately 1,729 individual pipes, 1,661 maintenance holes, 13 cleanouts, 9 plugs, and 13 diversions (Hercules, Sewer System Management Plan (SSMP), 2019). The gravity collection system transports or conveys wastewater from homes and businesses using the power of gravity. Gravity systems have sewer pipes that vary by diameter depending on the available slope, wastewater loading, and associated infrastructure. Gravity sewer pipes located in the City's older areas are believed to be constructed of asbestos cement (AC) pipe, also known as "Transite" pipe. New gravity sewer construction is typically polyvinylchloride (PVC) pipe. The City also owns six pump stations within the collection system, and they are associated with the force mains. Maintenance holes are located in horizontal or vertical alignment and provide maintenance access to the pipes below. Keeping the gravity collection system flowing freely is the job of the operations and maintenance staff. They regularly respond to blockages or stoppages on pipes. These situations are most frequently caused by roots, fats, oil, and grease (FOG) (Hercules, SSMP, 2019).

The collection system conveys an average dry weather flow of approximately 1.7 million gallons per day (MGD) of wastewater (Hercules, SSMP, 2019). The wastewater generated by the City is conveyed to the Pinole-Hercules WPCP, located southwest of the City limits in the City of Pinole. The WPCP treats the wastewater to a "secondary" level of treatment, and it is then conveyed to the RSD cooperative outfall for disposal into San Pablo Bay. (Hercules, SSMP, 2019). Hercules' wastewater collection system operates under permits from the San Francisco Bay Regional Water Quality Control Board as detailed in Tables 6-3 and 6-4 below:

Table 6-3: RWQCB General Information – Collection System

Region	Place ID	Place Name	Type	Address	County
2	630898	Hercules City CS	Collection System	111 Civic, Hercules, CA, 94547	Contra Costa

Data Source: State Water Resources Control Board (SWRCB) Facility At-A-Glance Report

Table 6-4: RWQCB Regulatory Measures & Information – Collection System

Reg Measure ID	Reg Measure Type	Program	Order No.*	WDID	Effective Date	Status	Amended ?
299938	Enrollee	SSOMUNISML	2006-0003-DWQ	2SSO10141	08/21/2006	Active	N

Data Source: SWRCB Facility At-A-Glance Report
*See Updated Order No. Order No. WQ 2022-0103-DWQ (SSS WDRs), on December 6, 2022

To ensure proper maintenance of the collection system, the City conducts hydro flushing of sewer mainlines on a seven-year cycle, a CCTV inspection program to determine the condition of the gravity sewers, and rehabilitation and replacement of sewers and lift stations in poor condition. The City also maintains an up-to-date map of the sanitary sewer system, showing all gravity line segments and maintenance holes, pumping facilities, pressure pipes and valves, and applicable stormwater

conveyance facilities. Routine preventive operation and maintenance activities are performed by staff and contractors, and a system is in place for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. The City also has a rehabilitation and replacement plan to identify and prioritize system deficiencies and implement short-term and long-term rehabilitation actions to address each deficiency (Hercules, 2019).

Sewer System Management Plan (SSMP): The City of Hercules worked with consultants to prepare a SSMP for its wastewater collection system in January 2019. The SSMP covers various topics, including system evaluation and capacity assurance, operations and maintenance, overflow emergency response, fats, oils, grease control, and pretreatment. The City has a preventive and corrective maintenance program, which includes hydroflushing of sewer mainlines, CCTV inspection, and rehabilitation and replacement of sewers and lift stations. The City also enforces its sewer ordinances. The City also has several upcoming projects and initiatives related to its sewer system, including a maintenance hole I/I program, capacity enhancement projects, and emergency training (Hercules, 2019).

Sycamore Avenue Trunk Sewer Replacement Project: The old Sycamore Avenue Trunk Sewer line was constructed in 1972 and consisted of approximately 5,200 linear feet (LF) of 24-inch asbestos cement pipe and 200-LF of 24-inch welded steel pipe. The Sycamore Avenue sewer line conveys sewage from Sycamore Avenue to the Pinole/Hercules WPCP. In addition, there are 21 associated maintenance holes and vaults along the existing alignment. In November 2020, Hercules completed a Preliminary Design Report for a new Sycamore Avenue Trunk Sewer Replacement project. This Design Report provides an overview of the existing sewer system, including its capacity and condition, and describes the proposed replacement sewer. The hydraulic model developed for the project includes approximately 5,400 LF of pipeline with new 27-to 36-inch diameter pipelines. The proposed Sycamore Avenue Trunk Sewer Replacement will be constructed with watertight joints, using a high-strength, corrosion-resistant pipe material to address rainfall-dependent infiltration and inflow. Eight collection system tie-in points are located along the 5,400-foot stretch of trunk sewer. For example, collection system tie-ins for the Industrial Lift Station and Duck Pond Park are discussed in Section 3.3 of the Design Report. The City of Hercules requested that sewer capacity design adhere to Central Contra Costa Sanitary District's (CCCSD) design standards, which are summarized in the report. The report concludes with a discussion of the project schedule and budget (Hercules, 2020).

Sewer Lateral Ordinance: Hercules has a Sewer Lateral Ordinance No. 457, adopted on May 13, 2010. This Ordinance fulfills several purposes, including:

- to provide for the operation and maintenance of the City's sewer system in a reliable and serviceable condition,
- to eliminate or minimize sewage overflows by eliminating or minimizing stoppages and reducing sources of infiltration and inflow into the City's sewer system,

- to comply with applicable legal requirements pertaining to the City's sewer system and
- protect public health and safety by establishing and providing a mechanism for enforcing performance standards for private sewer laterals connected to a City Public Sewer Main.

JPA Sanitary WPCP: The City jointly operates the Hercules–Pinole JPA Sanitary WPCP with the City of Pinole. The Cities of Pinole and Hercules each have a 50% ownership in the WPCP, although Pinole is the designated operator. The WPCP occupies 5.28 acres on Tennent Avenue, south of San Pablo Bay and north of Highway 80. The WPCP has a total service population of approximately 13,825 customers (5,415 sewer connections from Pinole and 8,410 service connections from Hercules. One service connection may serve many individual customers.) Secondary effluent is conveyed to the Rodeo Sanitary District (RSD) WPCP, where it is combined with RSD effluent and discharged into San Pablo Bay. In 1977, RSD, Pinole, and Hercules entered a JPA to provide deep water wastewater disposal facilities (LAFCO, 2014).

Hercules and Pinole have a Subcommittee called the "Hercules/Pinole - Wastewater Management," which includes representatives from both cities. The Wastewater Management Subcommittee handles administrative matters associated with the WPCP. Currently, Hercules Council Members Romero and Grimsley participate on the Subcommittee. The original agreement requires that the Subcommittee have quarterly meetings; often, however, the Subcommittee meets less frequently, depending upon need with the regularly scheduled meetings on 1st Thursday at 8:30 a.m. The location historically alternates between cities but recently has occurred in Pinole. Meeting agendas and minutes are available on the City of Pinole's website at: <*https://www.ci.pinole.ca.us/cms/One.aspx?portalId=10947056&pageId=14626563#jpa*>.

The WPCP was upgraded in the 2015 to 2017 timeframe. Prior to 2015, several other improvements to the WPCP were made, including the addition of a fourth digester and design for the larger upgrade totaling $40 million that was shared by the cities of Pinole and Hercules (LAFCO, 2014).

From 2019 to 2021, the WPCP completed a major upgrade led by a contractor, HDR Inc., and Carallo Engineers. With the upgrade, the WPCP meets the standards of the Clean Water Act and can accommodate 20 MGD of peak flows. The permitted average dry weather flow is 4.06 MGD. Improvements included an influent pumping station, headworks, primary clarifier, aeration basins, three new secondary clarifiers, return-activated sludge/waste-activated sludge pumping, disinfection, solids handling (centrifuge dewatering), effluent pumping, odor control, and electrical facilities. Chemical and biological processes are used to treat the wastewater. As of 2018, the plant's average discharge to the San Pablo Bay was 2.4 million gallons per day. Detailed information about the recent physical improvements to the WPCP and continued daily operation of the facility is available on the City's website at: <*https://www.ci.pinole.ca.us/city_government/public_works/wastewater_treatment_plant*>.

Biosolids are handled by first using a settling tank called a gravity thickener, where sludge settles to the bottom. The sludge is then sent to a rotary drum thickener. Sludge solids are then sent to anaerobic digesters, where bacteria break down the solids and produce byproducts, including methane gas, carbon dioxide, and stabilized organic solids. The methane gas (a greenhouse gas) fuels the plant's cogeneration facility, providing electricity for plant equipment. Engine and exhaust heat are captured and utilized to heat the anaerobic digesters. Any remaining solids are sent to a landfill.

Recycled Water

Recycled water is not currently available from the WPCP. Pinole is currently studying options to recycle water resulting from the joint WWTP[1]. The City of Hercules is not participating in this current study because recycling is likely to be financially and technically challenging at this time. However, a joint study is possible in the longer-term future. Part of the expense is installing a purple pipeline to convey the recycled water to appropriate locations for reuse. Ideally, in the future, Pinole and Hercules would study the possible use of treated wastewater for productive purposes, such as to recharge underground aquifers, provide irrigation water in specific instances, and for industrial purposes if it is processed further.

Local Hazards

The Contra Costa County Hazard Mitigation (HMP) Plan Volume 2, dated January 2018, maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards (Contra Costa County, 2018). The City of Hercules did not participate in the 2018 county-wide local hazard mitigation plan but coordinated with the County on its own LHMP update in 2021 and is now participating in the next update to the County's HMP.

Sanitary Sewer Overflow Database

The SWRCB maintains a Sanitary Sewer Overflows (SSO) database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The SWRCB formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. WQ 2022-0103-DWQ (SSS WDRs), on December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. A 4.5-year term from January 1, 2018, to June 30, 2023, was queried in the CIWQS-SSO database. The results of the database queries regarding the City of Hercules are listed in Table 6-5.

[1] The City of Pinole's wastewater operations are described in Chapter 7. The City of Pinole City has retained a consulting expert to assess the financial and technical feasibility of recycling the treated wastewater. As part of this study, the City will learn what opportunities are feasible in the current regulatory and contractual environment.

Table 6-5: City of Hercules Sanitary Sewer Overflows 2018 – 2023

SSO Event ID	Region	Responsible Agency	SSO Category	Start Date	Vol of SSO	Vol of SSO Recovered	Spill Location	SSO Point
859149	2	Hercules City	Category 3	2019.06.18	500	0	Willow Ave (Church)	Maintenance hole
859805	2	Hercules City	Category 2	2019.07.16	1000	0	Willow Ave (Church)	Maintenance hole
869939	2	Hercules City	Category 1	2020.10.26	2000	1200	Sycamore Rd	Maintenance hole
876940	2	Hercules City	Category 1	2021.10.18	500	0	Canterbury Access Rd.	Maintenance hole
878715	2	Hercules City	Category 1	2022.01.07	500	0	Turquoise at Crystal in Hercules	Gravity Mainline
879355	2	Hercules City	Category 3	2022.02.10	50	0	Willow Ave by Cal Trans	Maintenance hole

Data Source: CA EPA, n.d. CIQWS Sanitary Sewer Overflow Database

Figure 6-3. Hercules City Hall (Google Maps Street View)

Photo Credit: Courtesy of Google Maps

During this 4.5-year timeframe, six SSO events occurred in the City of Hercules' WDID 2SSO10141. For all six SSOs, the volume of spillage totaled 4,500 gallons. Of this, 1,400 gallons reached surface water, calculating to a 26% recovery rate (CA EPA, n.d.).

In most cases, the SSOs had failure points at the gravity mainline and the pump station mechanical. Most of the spills were greater than 100 gallons, and almost all the spill material was not recovered. The largest spill in the query occurred on October 26, 2020, consisting of 2,000 gallons. This spill occurred due to grease deposition (FOG), and it managed to reach a drainage channel (CA EPA, n.d.).

During July to October 2022, San Francisco Bay experienced a harmful algal bloom (HAB) known as a red tide, as described in Appendix F. The species associated with this bloom, *Heterosigma akashiwo,* can cause water to turn reddish-brown. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay, and into San Pablo Bay. Fish deaths linked to the red tide included sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San Francisco Bay Water Board is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other agencies to study the potential impacts of nutrients on San Francisco Bay. Hercules has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater districts and the Water Board.

Infrastructure Needs

Existing Infrastructure: Hercules maintains various equipment, vehicles[2], infrastructure, and associated assets. The City's 2019 SSMP identifies several upcoming projects and initiatives for the collection system. For example, a City-wide program to address maintenance hole I&I began in 2020. As part of this program, maintenance holes will be sealed to reduce the amount of I&I coming into the sewer system. The City is also updating the Collection System Master Plan, which includes the CIP budget and schedule for capacity enhancement projects. Additionally, staff will conduct quarterly training on emergency bypass pumping and generator power at all lift stations (Hercules, 2019).

The 2015 to 2017 WPCP upgrade and the subsequent 2019 to 2021 WPCP upgrade helped the JPA partners meet the State Regional Water Quality Control Board (SRWQCB) permit requirements on treatment capacity and operating compliance. Ongoing maintenance and upgrades at the WPCP are needed to meet SRWQCB requirements and expected growth. Collection main repairs and

[2] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the district, it is likely that sometime in the future, the district may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

replacements are being completed as funding is available to reduce inflow and overflows. For example, an aggressive main and lateral inspection program utilizing TV inspection identifies the high-priority locations and pipelines for work. All homes sold in the City are now required to have a sewer lateral inspection to identify laterals requiring repair or replacement. Additional information about infrastructure needs is described in the City's CIP, as summarized on page 6-16.

Future Challenges: The MSR authors asked City staff to describe the factors that may affect the ability to serve wastewater customers in the future. The City Engineer indicates that the City's conveyance system and the joint WPCP are in good shape and have sufficient capacity to serve demand (personal communication, M. Roberts, 11/14/2023).

The American Society of Civil Engineers, Region 9 (2019) has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

- Implement an education program at the state and local levels about what a WWTP is, what kind of waste it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
- Make risk-based decisions on capital improvements, maintenance, and operations.
- Continue advancements in water reuse/recycling.

Cooperative Programs

The City provides wastewater treatment services at the WPCP through two agreements with other governmental entities, which are not separate legal bodies:

- Hercules/Pinole/Rodeo Sanitary District Joint Powers Agreement (JPA)
- Pinole/Hercules Waste Water Joint Letter Agreement

The above two items function as cooperative agreements between existing entities. These agreements are implemented through the daily cooperation between Pinole and Hercules in the stable operation of the WPCP. The cities of Pinole and Hercules seem to have a solid working relationship.

There are several privately maintained wastewater collection systems located within the City boundaries that convey flows to the City's pipeline and then onto the WPCP for treatment. City staff coordinates with these private entities to ensure the safe connection of the systems.

Cost Avoidance Opportunities

The cooperative programs listed above are expected to continue to allow sewer service to City customers at the lowest reasonable cost based upon the size and area of the City (LAFCO, 2014). Implementation of the SSMP is expected to reduce potential overflows and costs in the long term.

LAFCO's 2014 MSR noted that the Cities of Pinole and Hercules had studied the option of conveying flows to West County Wastewater District (WCWD) facilities in North Richmond for treatment as a potential cost-avoidance measure. However, those studies revealed that the option was more costly than upgrades to the existing Pinole-Hercules WPCP facilities (LAFCO, 2014). The City previously implemented measures such as flow monitoring and a Sewer Lateral Inspection Program. Areas that may lend themselves to I&I have been identified in various parts of the City (LAFCO, 2014).

6.4: FINANCIAL OVERVIEW

The City's budget and Certified Annual Financial Reports are the primary information source for data for this analysis. This financial analysis represents a snapshot in time (i.e. a limited time period). However, the City regularly updates its financial data and readers may review the new data on the City's website.

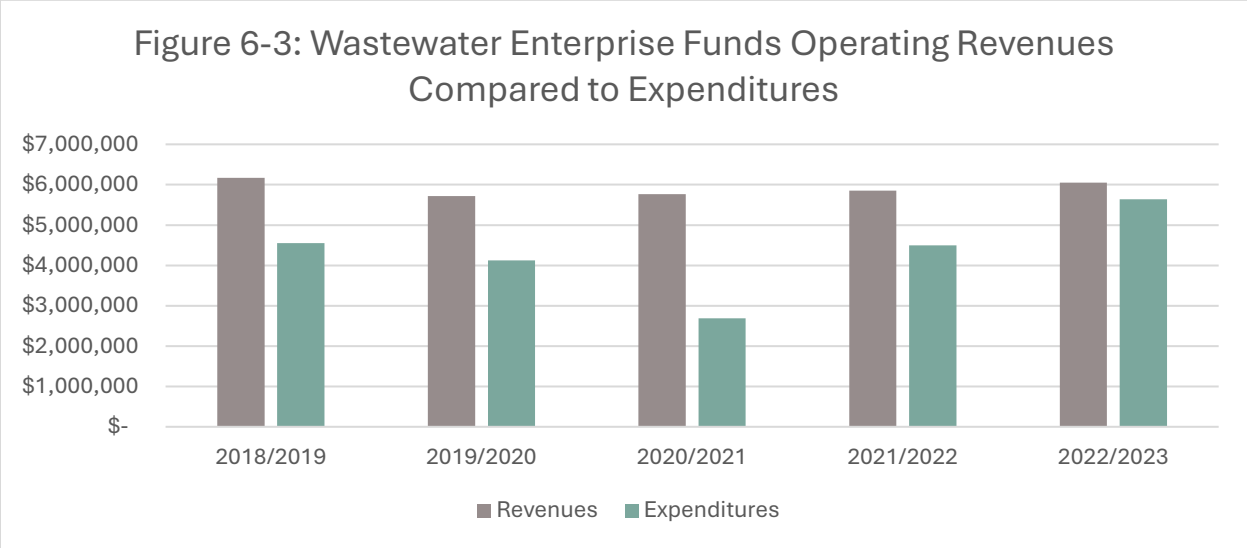
The main focus of this analysis is the Wastewater Enterprise Fund, also called the "Sewer Fund" or "Wastewater Fund". Enterprise funds are used to separately account for self-supporting operations. The City's Comprehensive Annual Financial Reports for FY 2019-20, 2020-21, 2021-22, and the 2022-23 Annual Budget are the primary information sources for data related to the wastewater financials for the City. As this is a report related to the wastewater services the City provides, the majority of the analysis for this section will focus on this activity (City of Hercules, 2019b; 2020b; 2021; 2022; 2023a). These reports are posted on the City's website at: <*https://www.ci.hercules.ca.us/government/ finance/comprehensive-annual-financial-reports*>, *and* <*https://www.ci.hercules.ca.us/government/finance/budgets*>.

In January 2001, the cities of Hercules and Pinole entered into a Joint Letter Agreement for the operation and ownership of the Pinole/Hercules Wastewater Treatment Plan. The City of Hercules has an undivided 50% ownership interest in the Plant, and the City of Pinole has the right and responsibility to manage and operate the Plant. The City of Hercules retains responsibility for operating and maintaining its wastewater collection system. Also, the City of Pinole maintains the records and accounts for all the WWTP transactions. Hercules owns and operates the collection system in the city limits, which includes over 60 miles of underground piping and five lift stations. The City of Hercules collects approximately $6 million a year in service charges from approximately 8,410 sewer connections. The Wastewater Enterprise Fund pays for sewer system operations, maintenance, and capital improvements (City of Hercules, 2023a).

There are six primary areas of criteria that have been utilized to assess the present and future financial condition of the City's wastewater service operations, as discussed below:

5 Year Revenue/Expenditure Budget Trends

Wastewater Fund revenues have exceeded expenses for all years studied. Expenditures appear to have increased significantly, 110%, from the FY 2020-21 audit to the FY 2022-23 budget. In FY 2022-23, revenues exceeded expenditures by only approximately $400,000. In prior fiscal years, revenues exceeded expenditures by an average of $1.9 million.

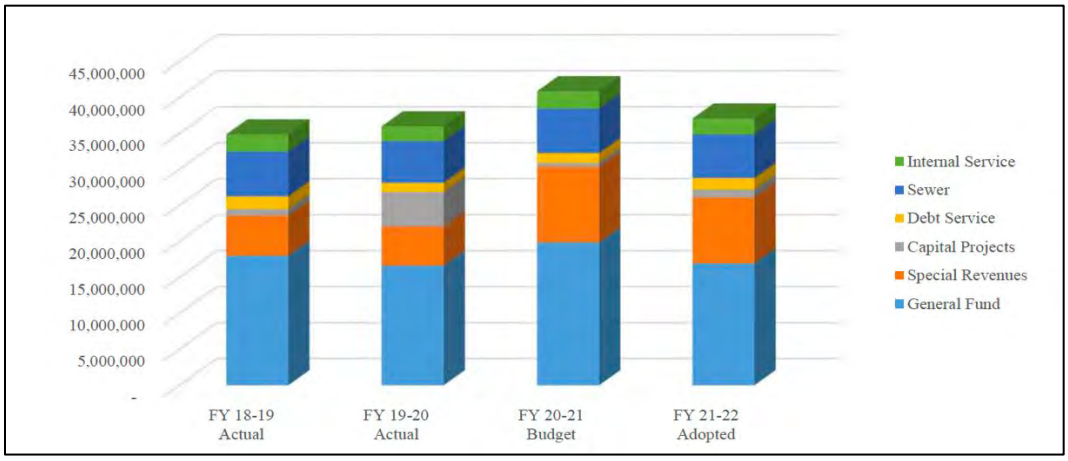


The difference between the FY 2022-23 budget and prior fiscal years is likely due to the difference in financial accounting between audits and budgets. If the expenditures for capital improvements specific to the City of Hercules ($751,000) were removed from total expenditures for FY 2022-23, total expenditures would be approximately $4.89 million, similar to previous years. The wastewater fund overall has been experiencing balanced budgets with annual surpluses. This key performance measure indicates that the Wastewater Fund is solvent and has the capacity to cover its annual costs.

Ratios of Revenue Sources

According to the FY 2022-23 budget, the City of Hercules' main revenue comes from taxes at approximately $10.9 million budgeted in FY 2021-22. Figure 6-4 below shows revenue trends for the City from FY 2018-19 through FY 2021-22. Sewer revenues were projected to make up 15% of City revenue in FY 2021-22 (City of Hercules, 2023a).

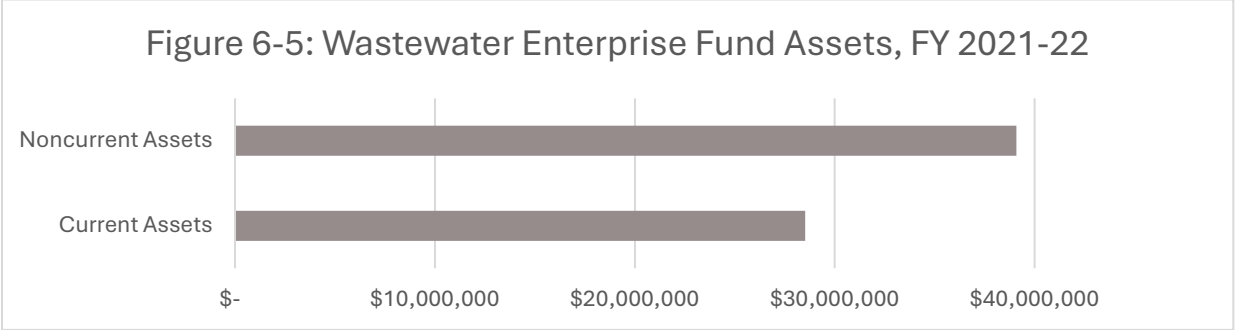
Figure 6-4: City-wide Revenue Trends from FY 2018-19 through FY 2021-22



For FY 2021-22, the City of Hercules received 98% of its Wastewater Fund revenues from charges for services, with the remaining two percent from interest income (City of Hercules, 2022). This ratio reflects an appropriate balance for a typical enterprise fund service and minimizes negative economic factors' impact on more elastic revenues, such as property taxes.

Ratio of Reserves or Fund Balance to Annual Expenditures

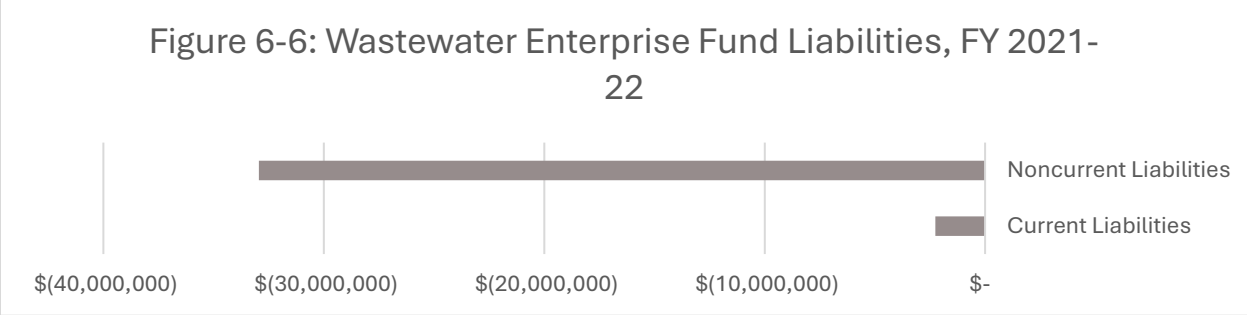
Figure 6-5 below shows the City of Hercules Wastewater Fund assets from the most recent audit completed in FY 2021-22.



An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures. The most recent audit, completed in FY 2021-22, shows an unrestricted amount of $18,566,052. Operating expenses for the same fiscal year were $4,495,565. This equates to a positive ratio of 76%, a positive ratio. Current assets include cash, investments, and cash and investments with a fiscal agent. The City had approximately $39 million in net capital assets for the Wastewater Utility Enterprise Fund in FY 2021-22 (City of Hercules, 2022).

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. Specifically, the City of Hercules has several types of debt related to wastewater services, including revenue bonds, a construction loan, total OPEB liability, and net pension liability, as listed in Figure 6-6.



The ratio of annual debt service to total fund annual expenditures is an indicator of the City's ability to meet debt obligations in relation to service provision expenditures. Ideally, a ratio of 10% or less would reflect a very stable ratio. The Wastewater Fund's annual debt service ratio to total expenditures is approximately 50%, a very high ratio. This suggests that the City may have trouble meeting debt obligations in relation to service provision expenditures (City of Hercules, 2022).

Capital Improvement Program

Hercules' CIP and the 10-Year Capital Funding Plan are part of the City Budget for FY 2023-24. At the March 28, 2023 City Council meeting, the Council received and provided direction on the CIP and 10-Year Capital Funding Plan. This CIP outlines the budget and strategic spending the city will utilize for long and short-term building and maintenance projects. The CIP's allocated funding is intended to upkeep and expand the City for the extended community, including residents, tourists, businesses, and more. The Hercules Public Works' Engineering Division develops, manages, and implements the CIP for the City. Current CIP projects can be found on an online map at: <*https://www.ci.hercules.ca.us/government/engineering-public-works/construction-projects*>.
For example, one CIP project is the Sewer Main Replacement Project #3, which is described online at <*https://www.ci.hercules.ca.us/government/engineering-public-works/construction-projects/sewer-main-replacement-project*>.

The City's current 5-year CIP reflects approximately $90.1 million in improvements, with approximately $4.15 million allocated for FY 2022-2023 for various system and infrastructure upgrades. This includes $651,000 for the Sycamore Avenue Lower Trunk Main project and $100,000 for the Sycamore Avenue Upper Trunk Main project. Additional projects for the 5-Year CIP for the Wastewater Fund include inspecting and repairing sewer, promenade lift station, State Route 4, and

along Willow Ave and Foxboro sewer access road (City of Hercules, 2023a).

Rate Structure

On April 28, 2009, the City Council adopted Resolution No. 09-070, increasing the sewer service charge by $2.00 per month per year successively for five years (FY 2009-10 through 2013-14) along with an increase by the Consumer Price Index (CPI). The City's rate structure reflects a combination of fixed rate service charges for residential customers and consumption-based usage charges for non-residential customers. The monthly sewer rates for FY 2013-14 through FY 2018-19 were $52.15 per single-family and multifamily unit; $35.60 for apartment units; and commercial, retail, and institutional are charged based on individual water consumption provided by East Bay Municipal Utility District (Hercules, 2023b). A new rate study is currently underway at the City, which should ensure that rates are commensurate with contemporary costs.

6.5: POPULATION

The City's wastewater collection system serves the area within the City boundary. The system is designed to serve a population of approximately 25,000 (as of 2019), with an additional 5,000 residents expected at full buildout of the service area (Hercules, SSMP, 2019). In 2020, the population increased to 26,300 (Contra Costa Dept. of Conservation). The population data in the City's SSMP aligns with the population analysis prepared in this MSR, as shown in Tables 6-6 and 6-7. It is estimated that all residents within the City boundaries receive wastewater services from the City of Hercules. Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

Table 6-6: Existing Permanent Population, City of Hercules, 2021 to 2022

Name of City	Population in Boundary (1)	Number of Registered Voters in Boundary (2)	Population in SOI only (3)
City of Hercules	26,300	16,979	112

Sources:
(1) Contra Costa Dept. of Conservation
(2). Registered Voter data provided by LAFCO as of January 2023.
(3): Calculated estimate based on an average of 3.02 persons per parcel in Contra Costa County.
Note: Current population data is available from California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State: January 1, 2021 and 2022. Sacramento, California. *https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/*.
(Please note that CA DWR estimates 3.3 residents per sewer connection).

Projected Future Population: Projecting a city's future population is complicated due to varying annexation rates and census tracts that do not match City boundaries. Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County, as

shown in Table 6-8 below. Since the anticipated future population growth of the City has the potential to influence the demand for wastewater services, the projections are shown in Table 6-8 below.

The annual growth rate from 2020 to 2045 is projected by CA DOF to be 0.59%, as shown in Table 6-8. The City's General Plan and associated environmental impact report (EIR) guide future growth and were adopted in approximately 1995. Certain elements, such as the Housing Element and the Safety Element, have been updated since then. For example, the City's Housing Element was updated and adopted in April 2015 and covers an eight-year time period through 2023. The Housing Element contains a table listing the vacant properties totaling 87.33 acres with 2.732 potential units that could be developed (City of Hercules, 2015). The City Housing Element (2015) projects a future population of 39,500 by 2040, as shown in Table 6-7 below.

Table 6-7: Hercules Housing Element Population Projections

Table 2: Hercules Population Projections, 2010-2040			
Year	Projected Population	% Increase City of Hercules	% Increase Contra Costa County
2010	24,060	—	—
2015	26,500	10.1%	3.5%
2020	28,900	9.1%	3.5%
2025	31,300	8.3%	4.4%
2030	34,000	8.6%	4.4%
2035	36,700	7.9%	4.6%
2040	39,500	7.6%	4.5%
Source: ABAG Projections 2013.			

The Housing Element's 2040 projection differs from this MSR's projection shown in Table 6-8 by a total of 10,401 persons. The Housing Element projects a more robust rate of future growth.

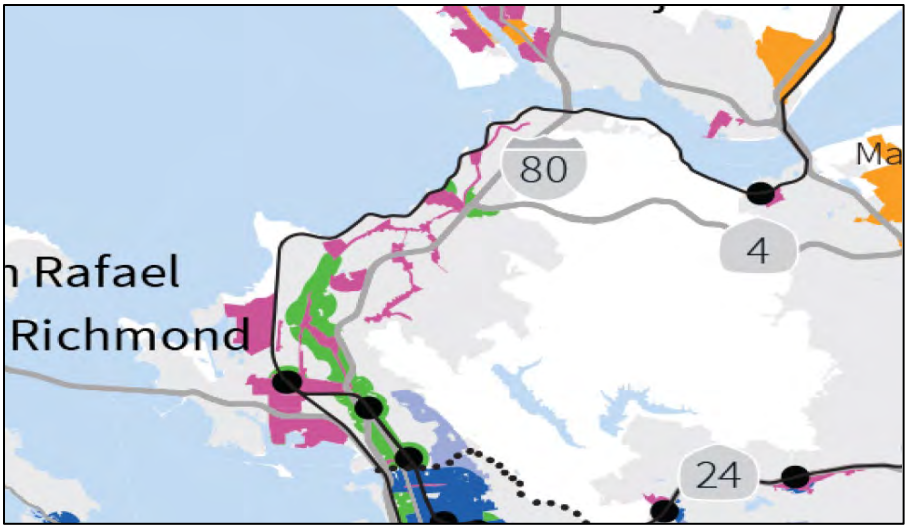
The Association of Bay Area Governments (ABAG) Plan Bay Area 2050 indicates that Hercules has identified Priority Development Areas (PDAs) as shown in "pink" in Figure 6-7 below. PDAs are locally designated geographies that meet transportation and planning criteria adopted under ABAG Resolution No. 02-19.

Table 6-8: Total Estimated & Projected Population (2020 – 2045)

	2020	2025	2030	2035	2040	2045	Percent Increase 2020 to 2045	Numeric Increase 2020 to 2045	CAGR 2020 to 2045
County of Contra Costa[1]	1,149,800	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.8%	181,631	0.59%
City of Hercules [2]	26,300	26,545	27,583	28,459	29,099	29,518	12.2%	3,218	0.59%

Sources:
1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.
2: Population projection for the City of Hercules calculated as 2.22% of the County of Contra Costa population.

Figure 6-7: ABAG Priority Development Areas (Data Source: ABAG, 2021)



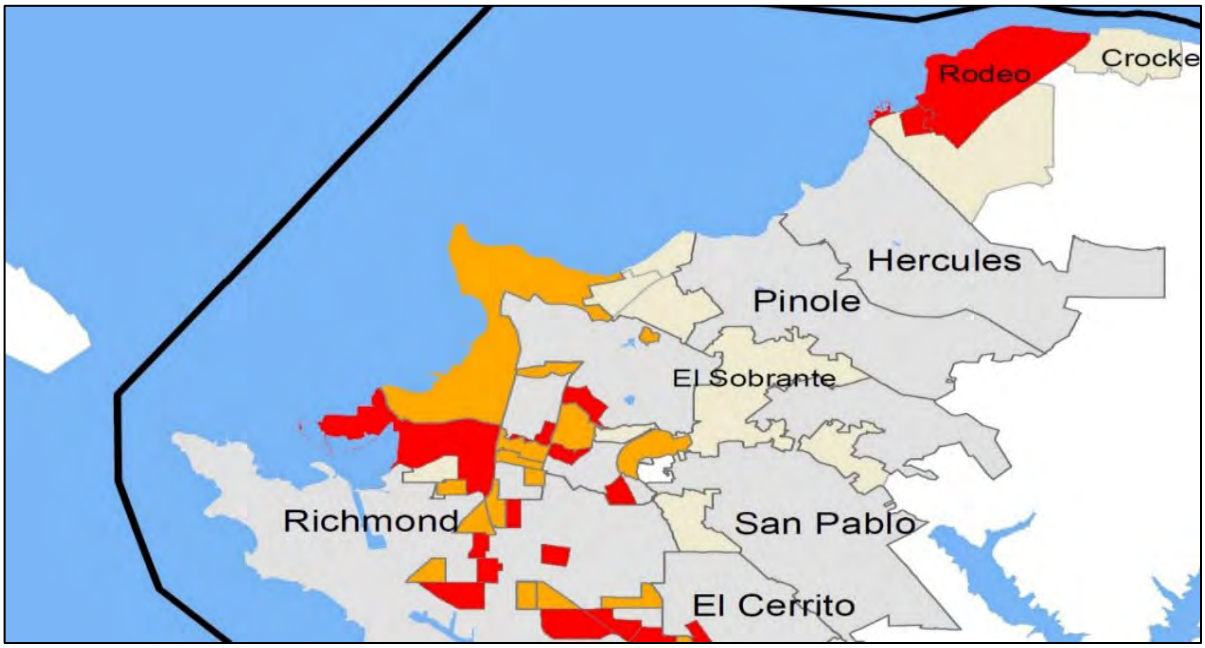
6.6: DISADVANTAGED COMMUNITIES

The CKH Act defines a disadvantaged community in the unincorporated area as an inhabited territory of 12 or more registered voters that constitutes all or a portion of a community with an annual MHI that is less than 80% of the statewide annual MHI. This state legislation is intended to ensure that the needs of these unincorporated communities are met when considering service extensions and/or annexations, particularly water, wastewater, drainage, and structural fire protection services. The statewide annual MHI in California for 2022 was $88,930 (ESRI, 2022). The DUC threshold is 80% of the MHI, which calculates to less than $71,144. Relevant data were reviewed for the City of Hercules and its SOI. Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies in some disadvantaged communities. Data from the 2020 U.S. Census were queried as part of this MSR Update process. Data query results showed no disadvantaged unincorporated communities (DUCs) within or contiguous to the City's SOI.[3]

In addition, an analysis of Figure 6-8 below shows no disadvantaged communities within Hercules' municipal boundary. The nearest disadvantaged community appears to be in the community of Rodeo, located outside the City's boundary and SOI.

[3] City staff has noted that the disadvantaged communities designated by CalEPA for the purposes of SB 535 include portions of Pinole as well as Rodeo (which is contiguous to Hercules). The Priority Populations Map 2023 update distributed by CARB for the California Climate Investments Priority Populations also shows portions of Pinole and the portion of Rodeo contiguous to Hercules as "Disadvantaged Communities CES4". The MSR consultants note this is not applicable to this MSR; however, it is acknowledged that the City may use a variety of definitions and resources to characterize the socio-economic status of its community.

Figure 6-8: Disadvantaged Communities Near Hercules



6.7: GOVERNMENT STRUCTURE ALTERNATIVES

LAFCO's 2014 Wastewater Services MSR identified two government structure options for the City of Hercules. These two options remain valid, as listed below.

Maintain the Status Quo

The City is currently providing adequate wastewater services within its boundaries. The City is financially sound and has developed and implemented a CIP to maintain and upgrade necessary infrastructure (LAFCO, 2014). The MSR authors recommend this first option to maintain the status quo because Pinole and Hercules have a solid working relationship, and both entities have invested effort and funding into the joint WPCP.

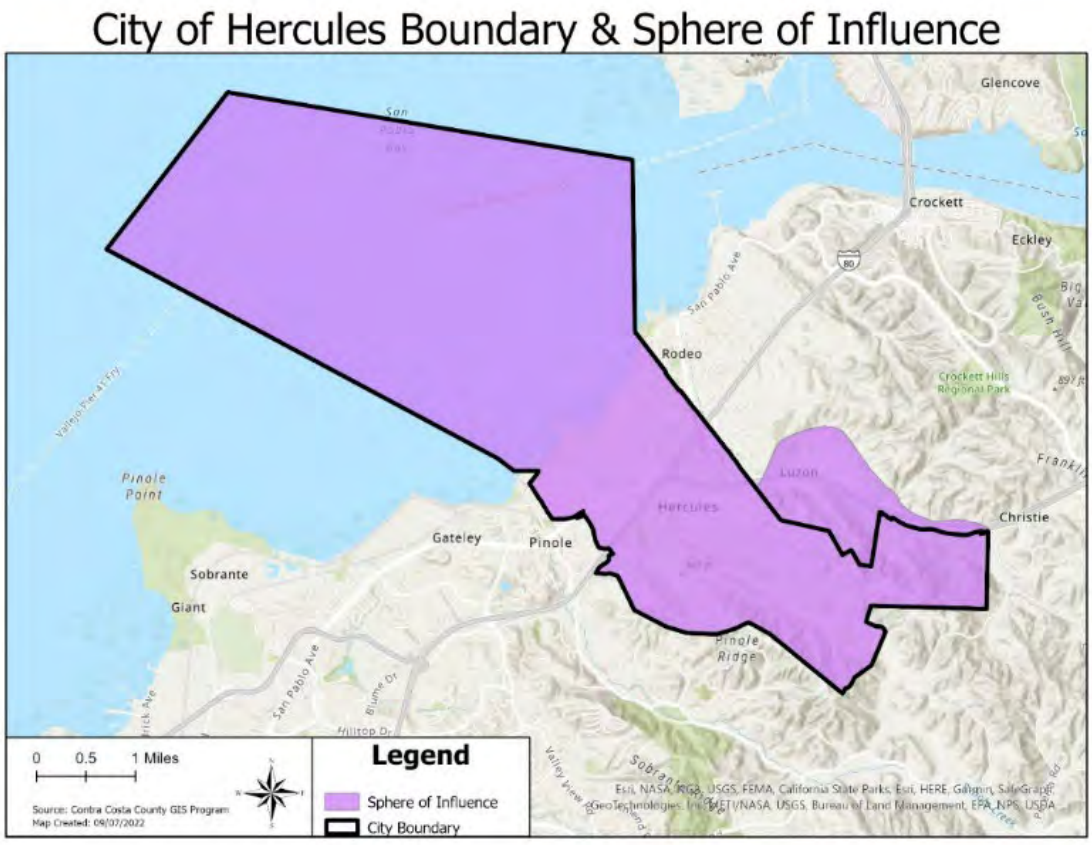
Consolidate Sanitary Sewer Service with the West County Wastewater District

Studies have been completed evaluating the feasibility of conveying flows from the cities of Hercules and Pinole (or Hercules alone) to the WCWD (LAFCO, 2014). The costs of right-of-way, pipeline construction, decommissioning the existing WPCP, and the "buy-in" cost to the WCWD system make this alternative cost-prohibitive (LAFCO, 2014). However, economics and cost structures are variable and subject to change over time. Therefore, Hercules may wish to revisit this issue in future years.

New Option #3: Consolidate Sanitary Sewer Service with Pinole and Rodeo

Based on the structure of the JPA and shared outfall with the City of Pinole and Rodeo San District, LAFCO, Hercules may wish to evaluate an alternative option to consolidate sanitary sewer service with Hercules, Pinole, and Rodeo. Although this new option was not evaluated in this MSR, LAFCO may wish to include an evaluation in the next update of the Wastewater MSR, or at a time when any of the three entities submit an application to LAFCO. Such an evaluation should assess the financial and technical feasibility of the proposal to ensure it is cost-effective before adoption or implementation.

Figure 6-9: Option to Maintain the Existing SOI – City of Hercules



6.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

Table 6-9: MSR Determinations for Hercules

TOPIC AND PERFORMANCE MEASURE	DETERMINATION
Growth and Population for the affected area. • Is the existing population estimated? • Is the projected future growth estimated?	The City of Hercules existing population is 26,300 (2020). The City's population is expected to grow to 29,518 by the year 2045, an increase of 12.2% of the current population.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.	There are no disadvantaged communities within the City of Hercules boundary and SOI.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. • Does the agency have a CIP? • Are SSOs identified? • Are local hazards identified?	Hercules' CIP and the 10-Year Capital Funding Plan are part of the City Budget for FY 2023-24. This CIP outlines the budget and strategic spending the city will utilize for long and short-term building and maintenance projects. The Public Works' Engineering Division develops, manages, and implements the CIP. The SWRCB maintains a SSOs database for public/permitted systems and private lateral sewage discharges. A 4.5-year term from January 1, 2018, to June 30, 2023, was queried in the CIWQS-SSO database. The results of the database queries show that during this 4.5-year timeframe, six SSO events occurred in the City of Hercules' system. For all six SSOs, the volume of spillage totaled 4,500 gallons. Of this, 1,400 gallons reached surface water, calculating to a 26% recovery rate (CA EPA, n.d.). In most cases, the SSOs had failure points at the gravity mainline and the pump station mechanical. The City of Hercules did not participate in the 2018 county-wide Local Hazard Mitigation Plan. Therefore, local hazards that may pose a risk to the wastewater system are not identified.

Financial ability of agencies to provide services. • Has the agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures 10% or less?	The City completed the last rate study in 2009, with rates set through FY 2018-19. No more recent information was found on the City website or provided to consultants. **Recommendation:** Consultants recommend the City conduct a new rate study. The financial outlook for the City's Wastewater Enterprise Fund is currently stable and self-sustaining. Revenues exceed expenses in all fiscal years studied. The City has a relatively good fund balance, providing good capability to absorb short-term impacts. The ratio of annual debt service to total fund annual expenditures is 50%, which suggests the City may have difficulty meeting debt obligations in relation to service provision expenditures.
Status of, and opportunities for, shared facilities.	The City has a cooperative agreement with the City of Pinole to operate the jointly owned WPCP. The two agencies also have an agreement with the Rodeo Sanitation District for effluent disposal.
Accountability for community service needs, including government structure and operational facilities. • Does the agency have a website? • Does the agency post a public outreach tool (such as a calendar or newsletter) on its website? • What is the recommendation for mergers, consolidations, or other changes to governance structure?	The City provides a comprehensive website providing the public with internet access to City Council agendas and minutes, public notices, budgets, and environmental reports. A City calendar is also posted listing City meetings, events, and commission meetings. Two government structure options were identified in the 2014 MSR: (1) status quo and (2) consolidation with the WCWD. Both options remain valid. LAFCO's 2014 Wastewater MSR reported that the City's Study indicated that consolidation with WCWD was financially infeasible. However, if financial or regulatory circumstances change, the City may

	(continued) wish to re-study this issue. Additionally, a third option is suggested to consolidate Sanitary Sewer Service among Hercules, Pinole, and Rodeo. However, additional financial and technical feasibility analysis is necessary prior to further consideration of this new option. **Recommendation**: Retain the status quo.
Any other matter related to effective or efficient service delivery, as required by commission policy.	No additional issues have been identified.

6.9 SPHERE OF INFLUENCE

Section 6.7, Government Structure Alternatives, describes various issues and identified three options associated with changing the structure of this local government agency as listed below:

- Maintain the Status Quo
- Consolidate Sanitary Sewer Service with the West County Wastewater District
- New Option #3: Consolidate Sanitary Sewer Service with Pinole and Rodeo

LAFCO often accomplishes its government structure issues through changes to boundaries and/or SOIs. The SOI for the City of Hercules is mostly coterminous with the municipal boundary, except for an extension to the north near Highway 4. The SOI was retained and reconfirmed as part of LAFCO's 2014 MSR/SOI Update for Wastewater Services and the June 12, 2019 MSR for City Municipal Services. The SOI is 1.27 sq. mi. in size and contains a population of approximately 112 persons. The City of Hercules does not anticipate changing the current SOI (personal communication, T. Rood, 11/14/2023). Expanding the City's SOI would be challenging due to several old agreements, ballot initiatives, and an urban limit line. Therefore, it is recommended that the existing SOI be retained and LAFCO should maintain the status quo in relation to Hercules wastewater system. The SOI determinations LAFCO made for the City in 2014 and 2019 can be reconfirmed.

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Chapter 7: CITY OF PINOLE – WASTEWATER SERVICES

Table of Contents

7.1: OVERVIEW

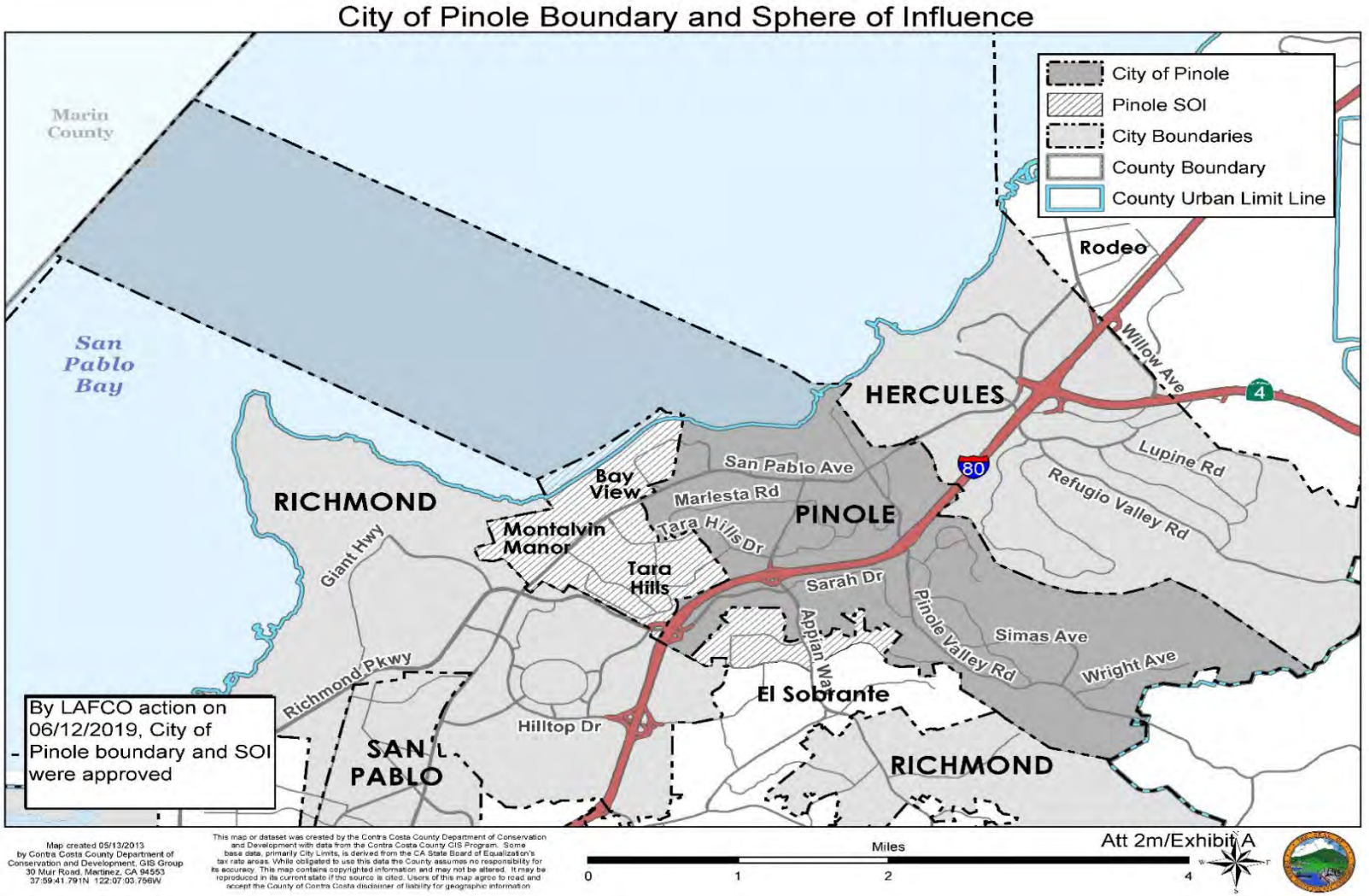
The recorded history of Pinole dates back to the early 1700s when a Spanish commandant, Don Pedro Fages, led an exploration through Contra Costa. With a small band of soldiers and an Indian guide, Don Pedro Fages left Monterey and traveled north until he reached the area known today as Pinole. Short on provisions, the team found a village of Indians who gave them a meal made from acorns, seeds, and wild grain called "pinole." The soldiers named their camp "El Pinole" (LAFCO, 2014). The city's Profile is presented in Table 7-1, next page. The boundary and SOI are shown in Figure 7-2.

Figure 7-1. Google Image of the Pinole City Hall (Google Maps Street View)

Table 7-1: Agency Profile – City of Pinole

General Information			
Agency Type	Municipal		
Principal Act	General laws of the State of California		
Date Formed	1903		
Sewer Services	Wastewater collection and conveyance		
Service Area			
Location	City of Pinole		
Sq. Miles/Acres	11.6 square miles/7,430 acres		
Land Uses	Residential, commercial, industrial, office, open space		
Dwelling Units	7,106 (CA DOF, 2021)		
Population Served	18,244 (City of Pinole); Pinole-Hercules JPA Water Pollution Control Plant (WPCP) serves approximately 44,719 (Cities of Pinole and Hercules). The City of Pinole has 2 industrial customers and 78 permitted commercial customers (Pinole, 2022b).		
Last SOI Update	05/14/2014		
Infrastructure/Capacity			
Facilities	Pinole-Hercules Wastewater Treatment Plant (jointly shared by the city of Hercules). The collection system includes 50 linear miles of gravity flow sewers, two pump stations, and 807 linear feet of force mains. (Pinole, 2022b).		
Connections	There are 5,415 sewer connections in the city's collection system.		
Treatment Plant Capacity (MGD)	The WPCP was recently upgraded and meets the standards of the Clean Water Act. The WPCP can accommodate 20 MGD of peak flows. The permitted average dry weather flow is 4.06 MGD.		
Primary Disposal Method	Pinole-Hercules Wastewater Treatment Plant; secondary effluent conveyed to Rodeo Sanitary District (RSD). The final treated effluent is discharged to San Pablo Bay.		
Budget Information- FY 2021-2022 (Sewer Utility Fund)			
	Revenues	Expenditures	Net (Revenues – expenditures) Surplus/(Deficit)
Wastewater Utility Enterprise Fund	$ 7,770,772	$ 6,736,755	$1,034,017
	FY 2022-23 (Budgeted)	Long-Term Planned Expenditures	
Capital Expenditures	$2,300,000	n/a	
Fund Balance	n/a		
Fund Assets	$7,650,185 $12.9 million $11.0 million	• Capital Assets (Sewer Lines) • net investment in capital assets and • unrestricted net assets at June 30, 2022.	
Governance			
Governing Body	City Council (5 members)		
Agency Contact	City Telephone Number: (510) 724-9000		
Notes			
LAFCO reduced SOI (9/5/2010) in conjunction with Kay Road.			

Figure 7-2: Boundary and SOI Map – City of Pinole



7.2: BOUNDARY, SOI, AND FORMATION

The City of Pinole (City) was incorporated in 1903 and comprises approximately 11.6 square miles, located on the shores of San Pablo Bay in west Contra Costa County. A map of the city's current boundary and sphere of influence (SOI) is shown in Figure 7-2, such that the boundary is shown in solid dark gray, marked with dashed black lines. The SOI area is shaded with diagonal lines. The County Urban Limit Line is represented with a solid blue line. Neighboring regions include:

- Richmond: Located to the southwest of Pinole.
- San Pablo: South of Pinole.
- El Sobrante: Southeast of Pinole.
- Hercules: Northeast of Pinole.
- San Pablo Bay: Northwest of Pinole, and:
- Montalvin Manor, Bay View, and Tara Hills: within the Pinole SOI.

The city lies within the San Pablo Bay, which is part of the San Francisco Bay / Sacramento Delta Estuary watershed. Additional information about this watershed is provided in Appendix F. The City adopted the countywide Urban Limit Line in 2007. The SOI for the city of Pinole extends beyond the municipal boundary to the south and west. The city's 1.73 square mile SOI was retained and reconfirmed as part of LAFCO's 2014 MSR/SOI Update for Wastewater Services and in the June 12, 2019 MSR for “City” Services. The City of Pinole does not anticipate changing the current SOI (Pinole, 2022b). In the past, consolidation with West County Wastewater District (WCWD) was considered, but it was not implemented due to the cost (Pinole, 2022b).

Pinole is a suburban area, and its land uses include a mix of residential, multi-family residential, commercial, retail, mixed-use, and open spaces. Although there are no designated agricultural land uses in Pinole, some rural designated areas may allow for community gardening and specialty crop farming (LAFCO, 2014). Major roads and highways include Interstate 80 (I-80), which runs through Pinole, connecting it to neighboring regions; San Pablo Avenue, a major road running parallel to I-80; and Richmond Parkway, located near the southwestern edge of the map.

Regional Planning

The Bay Area Regional Collaborative includes the Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), San Francisco Bay Conservation and Development Commission (BCDC), and the Bay Area Air Quality Management District. This collaborative multi-agency regional committee allows for cross-jurisdictional work on projects such as Resilient Bay Area and Carbon Free Future. Pinole’s boundary/SOI is adjacent to or encompasses a portion of the San Francisco Bay, a sensitive environmental resource. The California state planning and regulatory agency with regional authority over the San Francisco Bay, the Bay’s shoreline band, and the Suisun Marsh is called the San Francisco Bay Conservation and Development Commission (BCDC). Its mission is to protect and enhance San Francisco Bay and to encourage the Bay’s responsible and

productive use for this and future generations. BCDC ensures projects are compatible with the conservation of Bay resources as described on its website at: <*https://bcdc.ca.gov/* >.

7.3: WASTEWATER OPERATIONS

The city's wastewater service includes collection, conveyance to the Pinole-Hercules WPCP, and disposal to the outfall near Rodeo (City of Pinole, 2022a). The city provides wastewater collection and conveyance services to approximately 5,415 sewer connections, as shown in Table 7-1 above (Pinole, 2022b). One connection may serve many individual customers.

Collection System: The city's wastewater collection system includes 50 linear miles of gravity flow sewers, two pump stations, and 807 linear feet of force mains that collect and convey wastewater to the Pinole-Hercules WPCP. The collection system also includes over 1,300 maintenance holes. A majority (54%) of the pipes in the collection system are sized 8 inches in diameter. The remaining pipes are sized either larger or smaller than 8 inches in diameter. TV videotaping was completed in the city collection system in 2013 to address infiltration issues. In 2019, the city of Pinole completed its full upgrade of the Pinole-Hercules Water Pollution Control Plant (WPCP) (City of Pinole, n.d.).

Sanitary Sewer Master Plan Update (2022) (Master Plan): Pinole's Master Plan provides a comprehensive assessment of the city's sanitary sewer collection system, including its current condition, capacity, and future needs. Chapters 5 and 6 describe proposed improvements and expansions to the system. A Capital Improvement Program (CIP) and recommendations for future action are also described. The Master Plan guides decision-making and planning for the system's maintenance, repair, and expansion to ensure its continued functionality and compliance with regulatory requirements (Pinole, 2022c). The Master Plan provides a map of the wastewater service area, as shown in Figure 7-3 below.

Sewer System Management Plan (SSMP) (Management Plan) (2022): The SSMP outlines the regulatory requirements, goals, and maintenance programs for the city's wastewater collection system. The Management Plan addresses 11 elements, including goals, organization, legal authority, operation and maintenance program, design and performance provisions, overflow emergency response plan, FOG control program, system evaluation, and capacity assurance plan, monitoring, measurement, and program modifications, program audits, and communication program. The Management Plan documents the city's procedures for conducting routine preventive operations and maintenance activities by staff and contractors. A rehabilitation and replacement plan is also

Figure 7-3: Wastewater Collection System and Service Area.

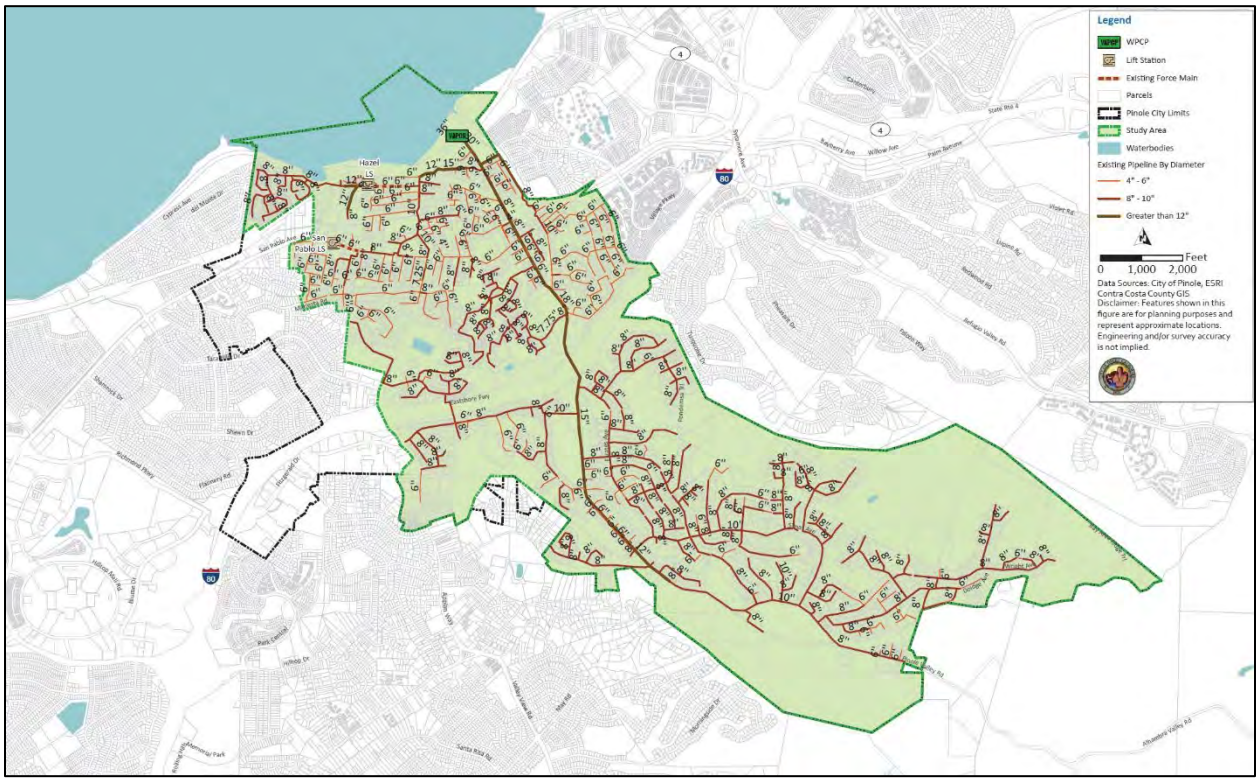


Figure 7-3 above was created by Carollo Engineers for the 2022 Final Sanitary Sewer Master Plan Update.

included to identify and prioritize system deficiencies. Element 4 of the Management Plan outlines the operation and maintenance program, including hydro-jetting of lines, rodding, and condition assessment of various infrastructure. The program also includes a system for scheduling regular maintenance and cleaning of the sanitary sewer system with more frequent cleaning and maintenance targeted at known problem areas. FOG inspections are conducted around the year for food service establishments. Pinole's SSMP is based on *A Guide for Developing and Updating of Sewer System Management Plans,* September 2015, which was developed by a consortium of sewer collection system agencies and environmental professionals (COP, 2022d). The Management Plan states the following about flows within the city wastewater collection system:

> Average dry weather flows (ADWF) to the WPCP, based on analysis of influent flow data from 2013-2017, is approximately 1.1 to 1.2 million gallons per day (MGD), with a Maximum Day: ADWF peaking factor of up to 1.3 to 5.7, depending on drought conditions. Existing peak wet weather flow (PWWF) was derived using hydraulic modeling and a 10-year, 24-hour design storm condition (approximately 3.52 inches of rainfall). The existing PWWF is 15.21, which represents a wet weather peaking factor (PWWF:ADWF) of 13.8 due to I&I (COP, 2022d).

Joint Power Authority (JPA) Sanitary WPCP: The City jointly operates the Hercules–Pinole JPA Sanitary WPCP with the city of Hercules. The cities of Pinole and Hercules each have a 50% ownership in the WPCP, although Pinole is the designated operator. The WPCP has approximately eleven employees. The WPCP occupies 5.28 acres on Tennent Avenue, south of San Pablo Bay and north of Highway 80. The WPCP has a total service population of approximately 13,825 customers (5,415 sewer connections from Pinole and 8,410 service connections from Hercules. One service connection may serve many individual customers. Secondary effluent is conveyed to the RSD WPCP, where it is combined with RSD effluent and discharged into San Pablo Bay. In 1977, RSD, Pinole, and Hercules entered into a JPA to provide deep-water wastewater disposal facilities (LAFCO, 2014).

The WPCP was upgraded in the 2015 to 2017 timeframe. Prior to 2015, several other improvements to the WPCP were made, including the addition of a fourth digester and design for the larger upgrade totaling $50 million, which was shared by the cities of Pinole and Hercules.

From 2019 to 2021, the WPCP completed a major upgrade led by a contractor, HDR Inc., and Carallo Engineers. With the upgrade, the WPCP meets the standards of the Clean Water Act and can accommodate 20 MGD of peak flows. The permitted average dry weather flow is 4.06 MGD. Improvements included an influent pumping station, headworks, primary clarifier, aeration basins, three new secondary clarifiers, return-activated sludge/waste activated sludge pumping, disinfection, solids handling (centrifuge dewatering), effluent pumping, odor control, and electrical facilities. Chemical and biological processes are used to treat the wastewater. As of 2018, the plant's average discharge to the San Pablo Bay was 2.4 million gallons per day. In 2022, the WPCP treated an average of 2.7 million gallons per day (Pinole AFS, 2023). Detailed information about the recent physical improvements to the WPCP and continued daily operation of the facility is available from the city's website at:
<*https://www.ci.pinole.ca.us/city_government/public_works/wastewater_treatment_plant* >.

Biosolids are handled by first using a settling tank called a gravity thickener, where sludge settles to the bottom. The sludge is then sent to a rotary drum thickener. Sludge solids are then sent to anaerobic digesters where bacteria break down the solids and produce byproducts, including methane gas, carbon dioxide, and stabilized organic solids. The methane gas (a greenhouse gas) is used to fuel the plant's cogeneration facility, providing electricity for plant equipment. Engine and exhaust heat are captured and utilized to heat the anaerobic digesters. Any remaining solids are sent to a landfill.

Recycled Water

Recycled water is not currently available from the WPCP. However, in the future, it might be possible to use the treated wastewater for productive purposes, such as to recharge underground aquifers, provide irrigation water in specific instances, and for industrial purposes if it is processed further. Pinole is currently assessing the technical and financial feasibility of reusing treated wastewater. Readers are invited to participate in the city's online survey to share their thoughts and ideas on this matter: <*https://www.surveymonkey.com/r/YQJ5FQV*>.

Local Hazards

The 2018 Contra Costa County Hazard Mitigation Plan (HMP) Volume 2 maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards (Contra Costa County, 2018). The City of Pinole did not participate in the countywide HMP. However, several neighboring jurisdictions did participate in the HMP, including the city of Martinez and the Central Contra Costa Sanitary District (CCCSD). It is recommended that the city of Pinole request an invitation from the County to participate in the next update to the HMP. Alternatively, Pinole could provide a detailed spatial mapping of the city's wastewater infrastructure in relation to hazards identified to LAFCO before the next update of its Wastewater Services MSR/SOI.

Sanitary Sewer Overflow Database

The State Water Board maintains a Sanitary Sewer Overflows (SSO) database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. Order No. WQ 2022-0103-DWQ (SSS Waste Discharge Requirements (WDRs)), on December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS WDRs. A 3.5-year term from January 1, 2018, to June 30, 2023, was queried in the CIWQS-SSO database. The results of the database queries regarding the city of Pinole are listed below in Table 7-2 (next page). The adopted SSMP has assisted the city in identifying problem sewer mains and laterals and managing flows and overflow events.

During this 5.5-year timeframe, eight SSO events occurred in the city of Pinole. In most cases, the SSOs originated from the gravity mainline. All the overflows were relatively large, and very little spill material was recovered. The largest spill in the query occurred on February 13, 2019, with a volume of 82,000 gallons. This spill originated at the maintenance hole and occurred due to rainfall exceeding design. Only 7,000 gallons were recovered from the spill, resulting in an estimated 75,000 gallons reaching surface water. During the entire 5.5-year timeframe, the total volume of the eight SSOs was 106,000 gallons, and the total volume that reached surface water was 91,700 gallons. Currently, collection system projects are planned to increase capacity, reduce inflow and infiltration (I&I), and reduce SSOs (Pinole, 2022b).

From July to October 2022, San Francisco Bay experienced a harmful algal bloom (HAB) known as a red tide, as described in Appendix F. The species associated with this bloom, *Heterosigma akashiwo*, can cause water to take on a reddish-brown color. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay, and into San Pablo Bay. Fish deaths linked to the red tide were reported to include sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San

Francisco Bay Water Board is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other agencies to study the potential impacts of nutrients on San Francisco Bay. The city has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater service providers and the Water Board.

Note: City staff indicated the following via email message dated April 23, 2024:

> *We object to the entire paragraph that discusses Harmful Algal Blooms are linked to SSO's and Nutrient impacts. These algal blooms are not occurring in Pinole's Sphere of Influence. The waterboard doesn't even know what's causing the algal blooms as they've detailed in the article: <https://www.waterboards.ca.gov/sanfranciscobay/HAB_FAQ.html>. Any unsubstantiated information regarding SSO and Nutrient inputs into the San Francisco Bay needs to be removed since there is no evidence to support this.*
>
> *Response from MSR Consultants:*
> *The comments City staff provided were carefully considered. The article the City linked provides Frequently Asked Questions about the HAB, and it is consistent with the description of the HAB provided in this MSR. The MSR consultants contacted the RWQCB directly and requested additional information. RWQCB staff referred us to the following information sources:*
>
> - *US EPA's webpage regarding nutrients and HABs: https://www.epa.gov/water-research/nutrients-and-harmful-algal-blooms-research.*
> - *The Interstate Technology Regulatory Council, a national group of experts, also has a very helpful webpage that includes cited literature: https://hcb-1.itrcweb.org/strategies/.*
> - *Webpage on linking nutrients to land use: https://hcb-1.itrcweb.org/strategies/#7_4.*

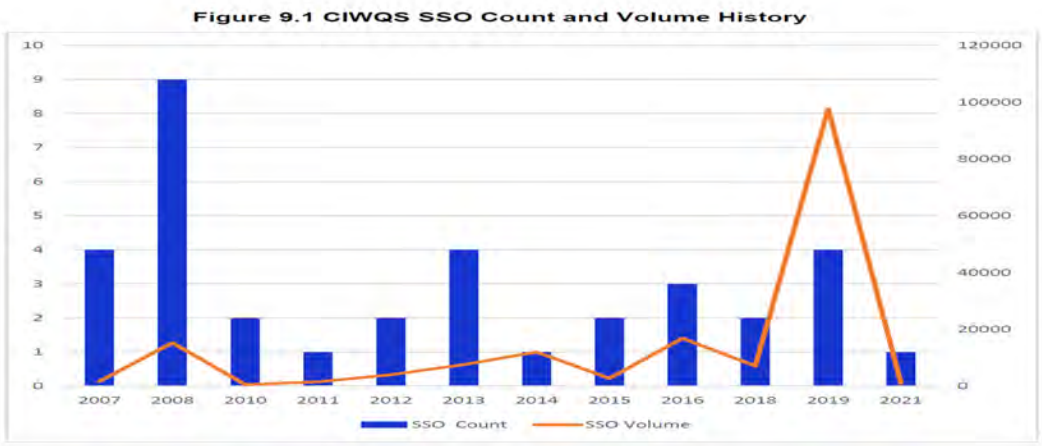
Based on these and other information sources, it is clear that nutrients (including nitrogen and phosphorous) originate from agriculture runoff, industrial wastewater, municipal wastewaters, and other sources. The relative contribution of each nutrient source is specific for each water body. The RWQCB is working to develop a more comprehensive model of nutrient dynamics and potential nutrient control strategies. In the meantime, this MSR's statement that "The City has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater service providers and the Water Board" remains directly applicable.

Table 7-2: City of Pinole Sanitary Sewer Overflows

EVENT ID	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
852683	Pinole City CS	Category 2	2018-11-11	5,000	500	0	Gravity Mainline	2SSO10112
854443	Pinole City CS	Category 2	2018-12-17	2,100	200	0	Gravity Mainline	2SSO10112
855088	Pinole City CS	Category 1	2019-01-06	6,000	0	6,000	Maintenance hole	2SSO10112
855433	Pinole City CS	Category 1	2019-01-16	8,500	0	8,500	Gravity Mainline	2SSO10112
856234	Pinole City CS	Category 1	2019-02-13	82,000	7,000	75,000	Maintenance hole	2SSO10112
862982	Pinole City CS	Category 1	2019-11-19	1,100	100	1,000	Gravity Mainline	2SSO10112
877115	Pinole City CS	Category 2	2021-10-24	1,000	500	0	Gravity Mainline	2SSO10112
887324	Pinole City CS	Category 1	2023-03-21	1,200	0	1,200	Gravity Mainline	2SSO10112

Data Source: CIQWS Sanitary Sewer Overflow Database

Figure 7- 4: SSO Frequency and Volume Graph



Data Source for Figure 7-4: Pinole SSMP, 2022

Infrastructure Needs

The City maintains various equipment, vehicles[1], infrastructure, and associated assets. The 2015 to 2017 WPCP upgrade and the subsequent 2019 to 2021 WPCP upgrade helped the JPA partners meet the Stare Regional Water Quality Control Board (SRWQCB) permit requirements on treatment capacity and operating compliance. Replacement of problem sewer mains and laterals to reduce infiltration continues to be a major priority in the city's Capital Improvement Plan (CIP), as described on page 7-19.

LAFCO's 2008 and 2014 MSRs identified I&I as a concern due to the age of the sewer mains. However, since then, the city has made several improvements to its system and continues to monitor its infrastructure. The relatively low number of SSO's shows that the physical infrastructure improvements have been effective.

Future Challenges: The American Society of Civil Engineers, Region 9 (2019) has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

1. Implement an education program at the state and local levels about what a wastewater treatment plant is, what kind of wastes it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in wastewater reuse/recycling.

Cooperative Programs

The City provides wastewater treatment services at the WPCP through two (2) Joint Exercise of Power Agreements (JEPA) with other governmental entities, which are not separate legal bodies:

1) Hercules/Pinole/RSD JEPA
2) Pinole/Hercules Waste Water JEPA

The above two items function as cooperative agreements between existing entities. These agreements are implemented through the daily cooperation between Pinole and Hercules in the stable operation of the WPCP. Pinole also has an agreement with the East Bay Municipal Utility District (EBMUD) to handle and dispose of biosolids after treatment if surplus volume processing is required. The City also participates in regional staff training and pollution education programs

[1] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the city, it is likely that sometime in the future, the District may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

(LAFCO, 2014).

Cost Avoidance Opportunities

LAFCO's 2014 MSR noted that the cities of Pinole and Hercules both studied the option of conveying flows to WCWD facilities in North Richmond for treatment as a potential cost-avoidance measure. However, those studies revealed that the option was more costly than upgrades to the existing Pinole-Hercules WPCP facilities. The City of Pinole believed savings in capital and operation costs could be achieved if I&I were better controlled. The City of Pinole studied areas where I&I was occurring with the goal of repairing the collection system in those areas (LAFCO, 2014). Additionally, the city implemented various cost control steps in the past years to control staff numbers and related costs (LAFCO, 2014). City staff considered other potential future cost control opportunities and noted two areas they are studying, including: 1) solar panels and 2) projects to reduce chemical usage as PG&E and chemical cost are rising (personal communication, S. Mishra, April 2024).

7.4: FINANCIAL OVERVIEW

The main focus of this analysis is the Wastewater Enterprise Fund, also called the Sewer Enterprise Fund. Enterprise Funds are used to separately account for self-supporting operations. The city's Comprehensive Annual Financial Reports for FY 2019-20, 2020-21, 2021-22, and Operating and Capital Budget for FY 2022-23 and 2023-24 are the primary information sources for data related to the wastewater financials for the city. As this is a report related to the city's wastewater services, most of the analysis for this section will focus on this activity (Pinole 2019; 2020; 2021; 2022e; 2023a). These reports are posted on the city's website at: <*https://www.ci.pinole.ca.us/city_government/finance/annual_comprehensive_financial_report*>. This financial analysis represents a snapshot in time (i.e., a limited time period). However, the city regularly updates its financial data, and readers may review the new data on the city's website.

The city's sole business-type activity is the operation of its WPCP Wastewater Utility, which is accounted for in a proprietary-type enterprise fund. The WPCP accounts for the collection, treatment, and disposal of wastewater generated by city residents and businesses (Pinole, 2020). The WPCP is operated jointly between Pinole and the city of Hercules. Hercules pays for these services directly as a wholesale purchaser on behalf of its retail customers. Pinole sends an invoice to Hercules for the services provided at the WPCP based on the actual flow volumes. The total flow split varies based on retail customer demands and the effects of I&I. Please note that this arrangement is only for the WPCP. The City of Pinole retains fiscal responsibility for the wastewater collection system within its boundary (COP, 2018, Wastewater Rate Study).

The most recent independent audit completed for FY 2021-22 stated that the financial statements were presented fairly in accordance with accounting principles generally accepted in the United States of America. The Management's Discussion and Analysis included the following statements related to the Wastewater Enterprise Fund:

- The net position for the fund increased by $0.3 million compared to FY 2020-21.
- Program revenues increased $0.2 million (3.2%) over the prior fiscal year (FY).
- There was an increase in expenses over the prior FY of $0.6 million (8.6%). Depreciation expense is considered a cost of service in proprietary funds, which accounted for $1.2 million in FY 2021-22.
- The City of Pinole is financing its share of the WPCP Upgrade project through a low-interest loan from the State Revolving Loan Fund. The City was approved for a loan in the amount of $26.7 million by the State Water Resources Control Board. In order to repay the loan, the city Council approved Resolution Number 2013-47 with scheduled rate increases over a five-year period, beginning July 1, 2013. The rate plan was amended on July 17, 2018, by Resolution Number 2018-66. The 2021 monthly rate for single-family residents was $71.44 and $60.72 for multi-family residents (Pinole, 2022e).

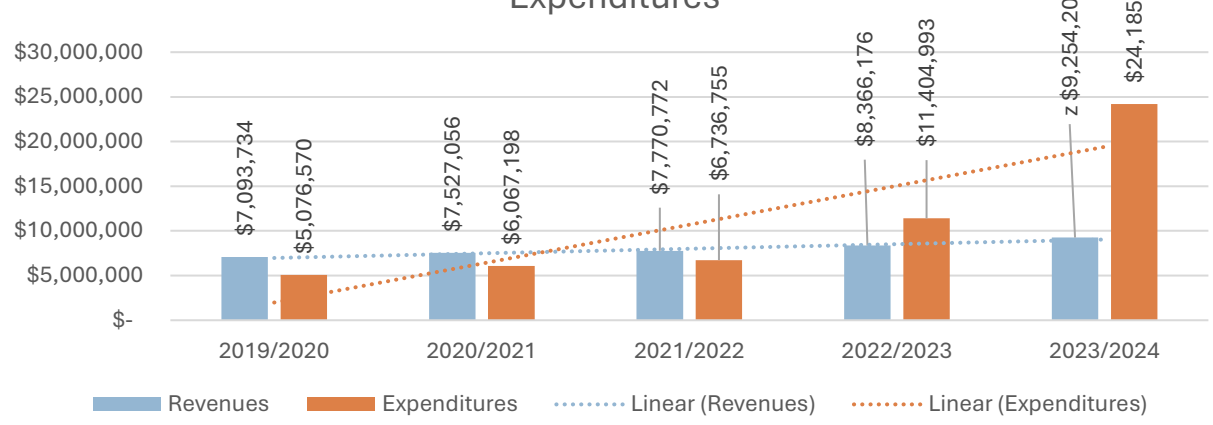
The Pinole Joint Powers Financing Authority (JPFA) is a separate government entity with the purpose to assist with the financing or refinancing of public capital facilities within the city. The JPFA has the power to purchase bonds, sell bonds, and is controlled by the same governing body as the city. The financial activities for the JPFA include the Wastewater Utility Fund.

Six primary areas of criteria have been utilized to assess the present and future financial condition of the city's wastewater service operations, as discussed below:

3 Year Revenue/Expenditure Budget Trends

The Sewer Enterprise Fund operated with revenues exceeding expenditures for the three fiscal years (FY 2019-20 to FY 2021-22). The city anticipates expenditures exceeding revenues by approximately $3.04 million in FY 2022-23 and a much larger deficit of $14.93 million in FY 2023-24. The data provided in Figure 7-5 below is from the audited financial statements for FY 2019-20 through FY 2021-22 and the budget for FY 2022-23 and FY 2023-24. It is important to note that, in general, revenues and expenditures for the audits and the budgets can vary in how the finances are presented.

Figure 7-5: Sewer Enterprise Fund Revenues and Expenditures



The budget for FY 2023-24 shows a 267% increase in sewer collections expense and 56% increase in sewer treatment plant expense compared to FY 2022-23. Of the approximately $12.8 million for sewer collections expense, $11.13 million is allocated for sewer pump station rehabilitation ($6,783,000) and sanitary sewer rehabilitation ($4,700,000) as part of the capital improvement plan. Though expenses have slowly increased, the large jump in expenses over revenues could suggest the beginnings of a trend in deficit spending. However, City staff has recently indicated that these expenses are due to planned capital expenditures for those fiscal years. For example, a large Capital improvement Projects expenditure is slated for FY2324. Division: 642 Sewer Collections Total for the budget is $12,785,925. This is 267% higher than the previous year. This is based on the budget for Capital Projects, which are planned for the 5-year period (personal communication, S. Mishra, April 2024). More information is available in the published CIP for the FY 2023-2028 on the city website.

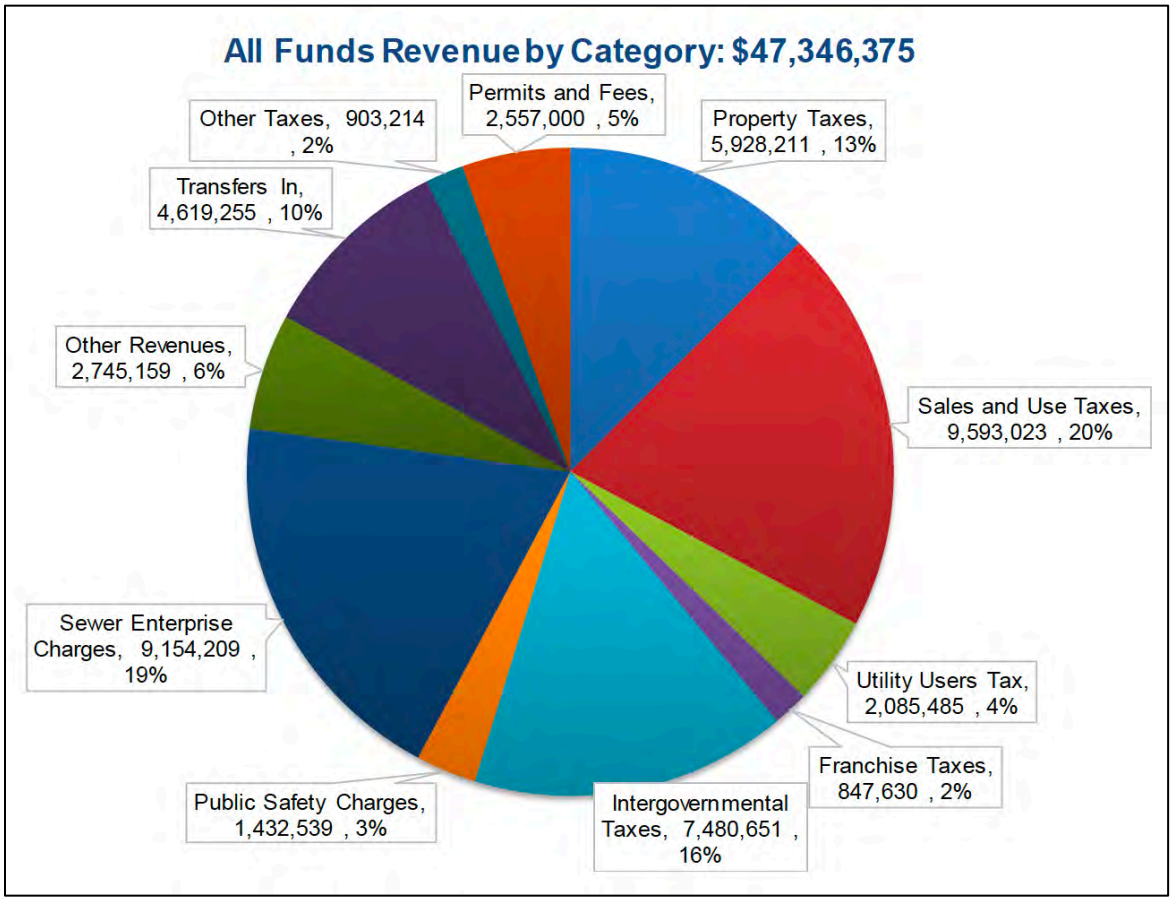
The City completed its most recent rate study in May 2018. This study provided sufficient rate increases to meet operating expenses, non-operating expenses, capital projects, and key financial policies through FY 2022-23 (Pinole, 2018). The city is currently in the process of updating this rate study to analyze future fiscal years (consultants could not find a line item for this study in the FY 2023-24 budget) (personal communication, S. Mishra, April 2024).

Ratios of Revenue Sources

The FY 2023-24 budget provides a breakdown of all revenue funds by category for the city, as shown in Figure 7-6 below. Sewer Enterprise charges are anticipated to make up 19% or $9,154,209 for FY 2023-24, the second largest revenue source for the city. The largest revenue source for the city is anticipated to be sales and use taxes at 20%.

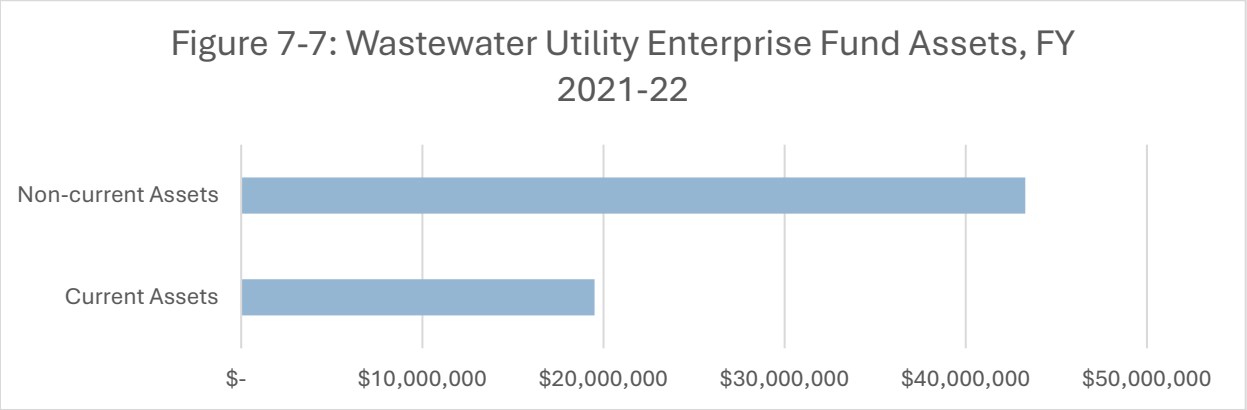
According to the FY 2023-24 budget, the largest revenue source for the Sewer Enterprise Fund is Sewer Enterprise Charges at approximately $9.15 million. The only other revenue stream is an additional $100k in interest and investment income.

Figure 7- 6: FY 2023-24, All City Funds Revenue by Category



Ratio of Reserves or Fund Balance to Annual Expenditures

Figure 7-7 below shows assets for the city's Wastewater Utility Enterprise Fund from the most recent audit completed in FY 2021-22.

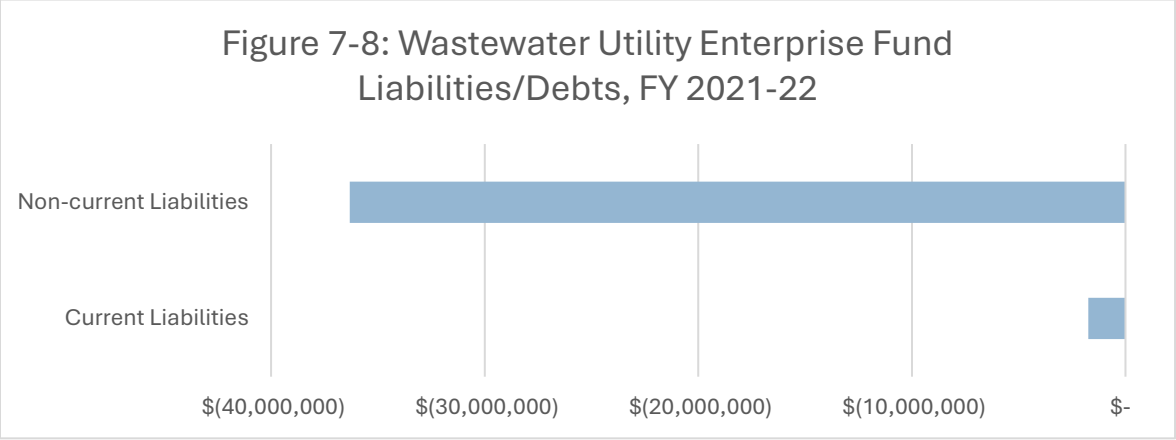


An indicator of the ability to absorb an unexpected loss of revenue in a given FY is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures. The most recent audit, completed in FY 2021-22, shows an unrestricted

amount of $11,022,842. Operating expenses for the same FY came to $6,736,755. This equates to a positive ratio of 164%, a very good ratio (Pinole, 2022). Current assets include cash and investments, accounts receivable, prepaid items, and inventory. The City had approximately $43.3 million in net capital assets for the Wastewater Utility Enterprise Fund in FY 2021-22.

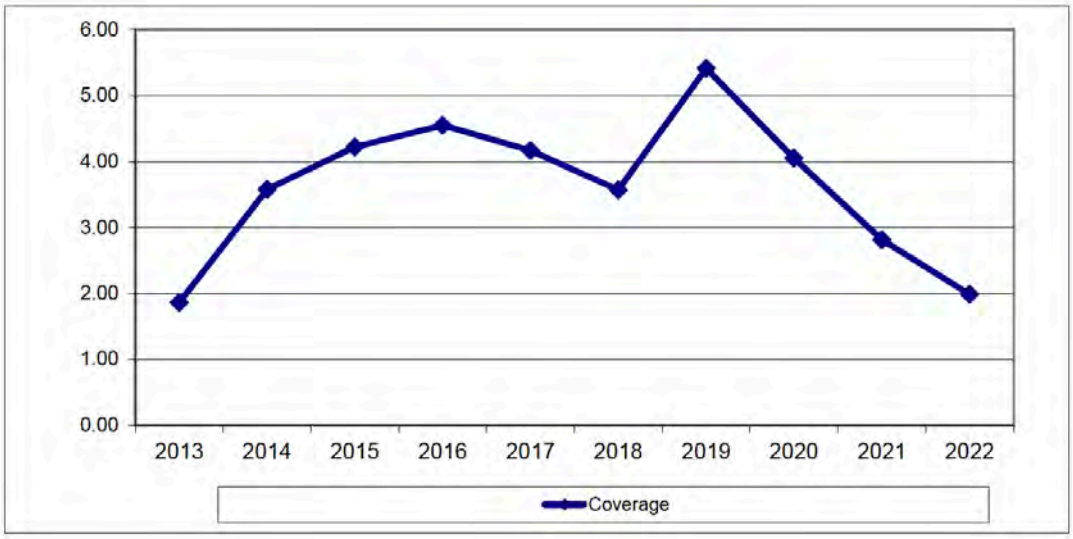
Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. Specifically, the city of Pinole has several types of debt related to wastewater services, including total OPEB liability, refunding bonds, net pension liability, the 2016 Clean Water State Revolving fund, and revenue bonds. Figure 7-8 shows the liabilities for the city's Wastewater Utility Enterprise Fund as of FY 2021-22 (Pinole, 2022).



The ratio of annual debt service to total fund annual expenditures is an indicator of the city's ability to meet debt obligations in relation to service provision expenditures. Ideally, a ratio of 10% or less would reflect a very stable ratio. The Wastewater Fund's debt service ratio in FY 2021-22 was $1,742,248. Total expenditures that same year were $6,736,755. The debt service ratio to total expenditures was approximately 26%. This reflects the significant capital expenditures funded through bond revenue as part of the city's infrastructure upgrade program. Therefore, this ratio is higher than ideal. The FY 2021-22 audited financial statement included a chart of revenue bond coverage for the wastewater revenue bonds over the last ten fiscal years, as replicated in Figure 7-9 below.

Figure 7-9: Revenue Bond Coverage for Wastewater Revenue Bonds 2013-2022



Fiscal Year	Gross Revenue [a]	Operating Expenses [b]	Net Revenue Available for Debt Service	Debt Service Requirements			
				Principal	Interest	Total	Coverage
2013	$ 5,961,605	$ 4,806,424	$ 1,155,182	$ 200,000	$ 420,973	$ 620,973	1.86
2014	6,473,147	4,232,789	2,240,358	215,000	411,329	626,329	3.58
2015	6,912,213	4,253,609	2,658,605	230,000	399,648	629,648	4.22
2016	7,541,964	4,688,712	2,853,252	240,000	387,310	627,310	4.55
2017	6,315,563	4,055,187	2,260,376	385,000	157,267	542,267	4.17
2018	6,524,537	4,676,225	1,848,313	290,000	227,770	517,770	3.57
2019	7,211,834	4,413,017	2,798,818	298,000	219,097	517,097	5.41
2020	7,093,734	4,986,437	2,107,297	310,000	210,129	520,129	4.05
2021	7,527,056	6,067,198	1,459,858	318,000	200,866	518,866	2.81
2022	7,770,772	6,736,755	1,034,017	329,000	191,322	520,322	1.99

Revenue for Figure 7-9 includes all wastewater operating revenue, non-operating interest revenue, connection fees, and other non-operating revenue. Expenses include all wastewater operating expenses less depreciation. Since 2019, the city has seen expenses increase which has reduced the amount of net revenue to cover the debt service. This could be the start of a worrying trend for the city. Table 7-3 below shows a summary of the long-term liabilities for the Wastewater Utility Enterprise Fund as presented in the audited financial statement for FY 2021-22.

Table 7-3: Long-term Liabilities Debt, FY 2021-22

	Balance June 30, 2021	Addition	Retirements	Balance June 30, 2022	Current Portion
Business-type Activity Debt:					
2016 Wastewater Revenue Refunding Bond	$ 6,650,000	$ -	$ (329,000)	$ 6,321,000	$ 341,000
2016 Clean Water State Revolving Fund	24,773,976	-	(668,027)	24,105,949	679,383
Compensated Absences	110,327	152,302	(119,392)	143,237	16,017
Total Business-Type Activity Debt	$ 31,534,303	$ 152,302	$ (1,116,419)	$ 30,570,186	$ 1,036,400

In 2016, the city issued an $8,251,000 Wastewater Revenue Refunding Bond to redeem its 2006 Wastewater Revenue Bonds. The bonds bear an annual interest of 2.95%, payable semi-annually on March 1 and September 1 of each year through 2036. Principal payments are due annually from September 1, 2016 through 2036. The bond is secured with pledged net wastewater revenues. Table 7-4 below shows the future debt service payments for the city.

Table 7-4: 2016 Wastewater Revenue Refunding Bond Debt, FY 2021-22

Year Ending June 30,	2016 Wastewater Revenue Principal	Interest
2023	$ 341,000	$ 181,440
2024	347,000	171,292
2025	362,000	160,834
2026	372,000	150,008
2027	381,000	138,901
2028-2032	2,089,000	516,029
2033-2037	2,429,000	183,564
Total	$ 6,321,000	$ 1,502,068
Due within one year	$ 341,000	$ 181,440
Due after one year	5,980,000	1,320,628
Total	$ 6,321,000	$ 1,502,068

In May 2016, the city entered into a loan agreement with the State of California Water Resources Control Board to provide funding for its 50% share of upgrades to the Pinole-Hercules WPCP in order to achieve compliance with the Regional Water Quality Board National Pollution Discharge Elimination System. Funds are drawn on the agreement as work is completed up to a maximum amount of $26.7 million plus any construction period interest. The loan accrues interest at a rate of 1.7% annually. Annual principal payments are due each July 1, commencing July 1, 2020. The final payment is due July 2049. Net revenues, defined as all sewer enterprise fund revenues less operations and maintenance costs (excluding depreciation and amortization expenses), are pledged for future debt service. As of June 30, 2022, the total debt outstanding on the loan is $24,105,949. Table 7-5 below shows future debt service requirements.

Table 7-5: 2016 Clean Water State Revolving Loan, FY 2021-22

Year Ending June 30,	2016 Clean Water State Revolving Principal	Interest
2023	$ 679,383	$ 409,801
2024	690,932	398,252
2025	702,678	386,506
2026	714,624	374,560
2027	726,772	362,412
2028-2032	3,823,443	1,622,477
2033-2037	4,159,675	1,286,245
2038-2042	4,525,475	920,445
2043-2047	4,923,443	522,477
2048-2050	3,159,524	108,027
Total	$ 24,105,949	$ 6,391,202
Due within one year	$ 679,383	$ 409,801
Due after one year	23,426,566	5,981,401
Total	$ 24,105,949	$ 6,391,202

Based on average rates of revenue growth and expense growth over the last five years (2018 to 2022), the city will be unable to meet its yearly debt obligations within the next fiscal year with incoming revenue alone. Preliminary calculations, factoring in budgeted revenue and costs for FY 2022-23 and 2023-24, indicate that the city will not be able to cover debt obligations (using anticipated revenues minus anticipated expenditures). However, City staff provided additional information about how the city plans to meet its yearly debt obligations. The City indicates it has adequate funds from the sewer rate collection to meet the yearly debt obligations. It must be noted that the WWTP operations/maintenance and Capital Projects are a shared cost between the City of Pinole and the City of Hercules. The details of the share are available in the budget document for the FY 2023-28. Additionally, the city is conducting an update to its Sewer Rate study, and new rates will help fund the debt obligations and capital project needs (personal communication, S. Mishra, April 2024).

Capital Improvement Program

Pinole's annual CIP was most recently approved in 2022 by the city Council. The CIP indicates that the city plans to initiate a sewer pump station rehabilitation project and the development of a new recycled water supply (City of Pinole, 2022a). For FY 2022-23, the city's funds include a total of $8,476,899 for projects of various categories (City of Pinole, 2022a). The city's total funding for sanitary sewer projects includes $2,300,000 (City of Pinole, 2022a). The city's 2023 budget describes several capital improvement projects associated with the wastewater system, as listed in Table 7-6 below.

Table 7-6: CIP Related to Wastewater Services

Project #	Project Name
SS2203	Effluent Outfall
SS2201	Sanitary Sewer Rehabilitation
SS2101	Secondary Clarifier - Center Column Rehabilitation
SS2102	Air Release Valve Replacements
SS2002	Water Pollution Control Plant Lab Remodel
SS1702	Sewer Pump Station Rehabilitation

The city's Sanitary Sewer Master Plan Update (2022c) describes several capital improvement projects associated with the wastewater system, including pipeline projects such as the PVR Project, Pinon Project, San Pablo FM Project, South Project, Summit Project, Tennent Project, and other gravity main improvement projects.

Rate Structure

The city's rate structure includes a combination of fixed rate service charges for residential customers and consumption-based usage charges for non-residential customers. The current fee schedule can be seen in Table 7-7 below. The rates were approved by resolution in July 2018 and run through July 1, 2022.

Table 7-7: CIP Related to Wastewater Services

WASTE WATER (SEWER) UTILITY FEES Pinole Municipal Code Section 13.05.420 Resolution No. 2018- 66 / July 17, 2018					
	July 1, 2018	**July 1, 2019**	**July 1, 2020**	**July 1, 2021**	**July 1, 2022**
Single-Family	$65.40	$67.37	$69.34	$71.44	$73.62
Multiple-Family	$55.59	$57.26	$58.94	$60.72	$62.58
Non Residential Users, Minimum charge - based on water service size as provided by East Bay Municipal Utility District					
5/8"	$15.00	$15.45	$15.92	$16.40	$16.90
3/4"	$22.50	$23.18	$23.85	$24.60	$25.35
1.0"	$37.50	$38.63	$39.75	$41.00	$42.25
1.5"	$75.00	$77.25	$79.50	$82.00	$84.50
2.0"	$120.00	$123.60	$127.20	$131.20	$135.20
3.0"	$240.00	$247.20	$254.40	$262.40	$270.40
4.0"	$375.00	$386.25	$397.50	$410.00	$422.50
6.0"	$750.00	$772.50	$795.00	$820.00	$845.00
8.0"	$1,200.00	$1,236.00	$1,272.00	$1,312.00	$1,352.00
10.0"	$1,875.00	$1,931.25	$1,987.50	$2,050.00	$2,112.50
Non Residential Volumetric Rates are per 100 cubic feet (CCF) of water consumed, as provided by East Bay Municipal Utility District					
All Non Residential	$6.30	$6.49	$6.68	$6.88	$7.09
Sewer Lateral Video Inspection			$85.00		

On August 8, 2023, the city Council voted to maintain the sewer rates for FY 2023-24 as a stop-gap measure before the new sewer rate study assessment is completed (Pinole, 2023b). The most recently approved rates were established in 2018, based on the rate study conducted at that time. The rates have been adjusted for inflation annually in 2018 through 2023. The next rate study is anticipated to be conducted in Fall 2023 (Pinole, 2023c).

7.5: POPULATION

There are approximately 18,244 residents within the city boundary as of 2023 (CA DOF, 2023a). This is a decline in population of 5.91% from the 2020 population of 19,390. Of the 18,244 residents within the city boundary, it is estimated that 75% receive wastewater services from the city of Pinole. The remaining households in the city receive service from the WC WD. Pinole has approximately 7,117 housing units, including single-family and multi-family units (DOF, 2023b). Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

Table 7-8: Existing Permanent Population, City of Pinole, 2022 to 2023

Name of City	Population in Boundary (1)	Number of Registered Voters in Boundary (2)	Population in SOI only (3)
City of Pinole	18,244	12,259	Data not available

Sources:
(1) California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State: January 1, 2023. Sacramento, California. https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/.
(2). Registered Voter data provided by California Secretary of State, Registration by Political Subdivision by County, May 23, 2022.
(3): Calculated estimate based on an average of 3.02 persons per parcel in Contra Costa County.
Note: There are approximately 6,635 APNs within the boundary and SOI.

Projected Future Population: Projecting a city's future population is complicated due to varying annexation rates and census tracts that do not match City boundaries. Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County, as shown in Table 7-9 below. The anticipated future population growth of the city has the potential to influence the demand for the provision of wastewater services. The estimated projections are shown in Table 7-9 below.

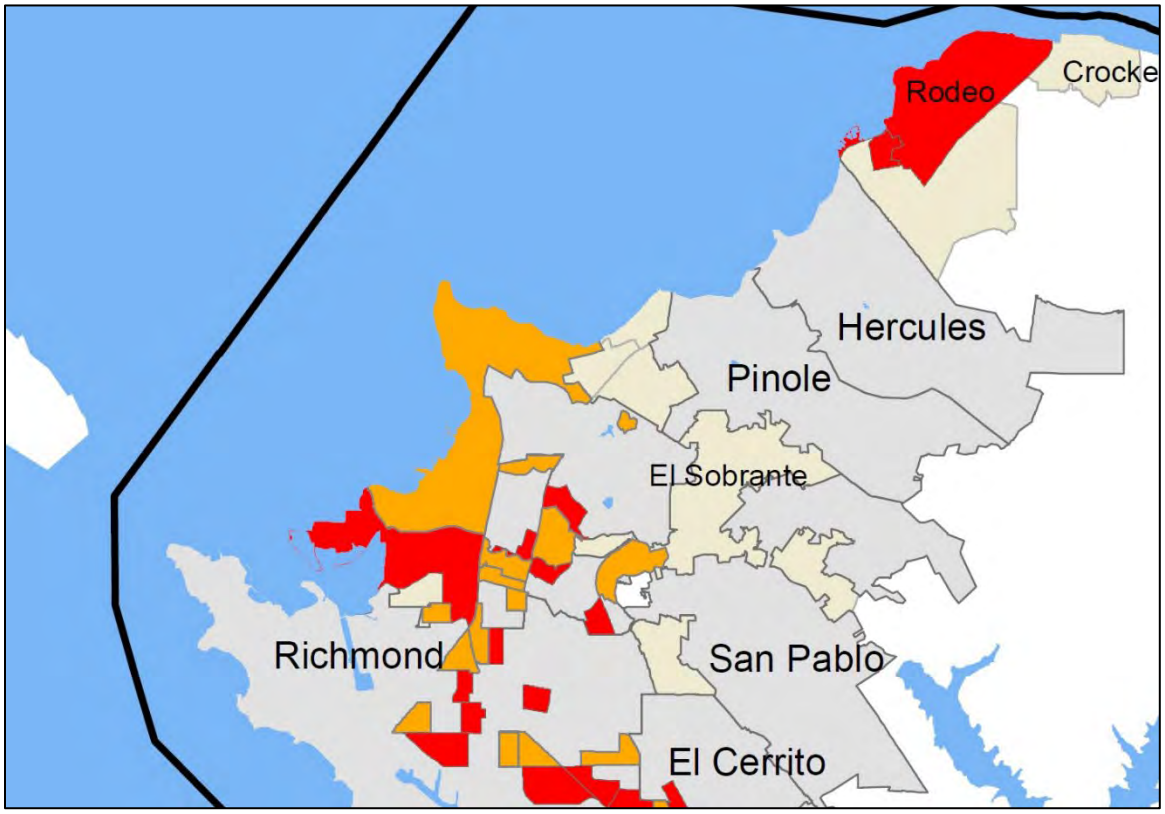
Table 7-9: Total Estimated & Projected Population (2020 – 2045)									
	2020	**2025**	**2030**	**2035**	**2040**	**2045**	**Percent Increase 2020 to 2045**	**Numeric Increase 2020 to 2045**	**CAGR 2020 to 2045**
County of Contra Costa[1]	1,149,800	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.80%	181,631	0.59%
City of Pinole[2]	19,022	20,192	20,981	21,648	22,134	22,453	15.80%	3,063	0.59%

Sources:
1: Contra Costa Department of Conservation. [Note: See also: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.]
2: Population projection for the city of Pinole calculated as 1.69 percent of The County of Contra Costa's population.

7.6: DISADVANTAGED COMMUNITIES

Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in some disadvantaged communities. Data from the 2020 U.S. Census was queried as part of this MSR update. Data query results showed no disadvantaged unincorporated communities (DUCs) within or contiguous to the city's SOI. In addition, an analysis of Figure 7-10 below shows no disadvantaged communities within Pinole's municipal boundary. The nearest disadvantaged community appears to be near Point Pinole Regional Park, located outside the city's boundary and SOI.

Figure 7-10: Disadvantaged Communities Near Pinole



7.7: GOVERNMENT STRUCTURE ALTERNATIVES

Two government structure options were identified for the city of Pinole in the 2014 MSR, and both remain valid options for future consideration:

Maintain the status quo

The City is currently providing adequate wastewater services within its boundary. The City implemented an aggressive CIP Program to maintain and upgrade necessary infrastructure. Section

7-10 below recommends that LAFCO retain the existing SOI in order to maintain the status quo.

Consolidate sanitary sewer service with the West County Wastewater District

The 2014 MSR noted that the city's previous studies indicated that consolidation with WCWD was financially infeasible. However, LAFCO has not received a copy of these previous studies. (Note: SWALE Consultants requested a copy of these previous studies from City staff via email on October 9, 2023. No response has been received as of 5/24.) Therefore, it is recommended that if LAFCO chooses to consider this option, a new study should be conducted to evaluate the feasibility of conveying flows from the cities of Hercules and Pinole to WCWD. The new study should analyze the costs of right-of-way, pipeline construction, decommissioning of the existing Pinole/Hercules WPCP, and the "buy-in" cost to the WCWD system. The study should also recognize that since the wastewater systems rely upon gravity flow given the topography, new pump and lift stations may be needed. The topography also poses a constraint on infrastructure sharing. The new study should also address any rate changes Pinole residents may experience as a result of any future consolidation. The public review process for this new study should include the numerous stakeholders associated with both wastewater systems.

> *Note: City staff provided the following comments regarding this option to potentially consolidate sanitary sewer service with the West County Wastewater District. The City noted that merging Pinole-Hercules with West County Wastewater District has been analyzed multiple times dating back to the 1990s. There may have been an opportunity to merge at some point over that time span, but that opportunity has now come and gone. ..... The cities have spent $50 million dollars to upgrade the WPCP. ..... Past studies indicated the ..... Buy-in was around $75-100 million, now it's probably double with the sharp escalation in construction and engineering costs.*
>
> *Response from MSR consultants: The CKH Act gives LAFCO the flexibility to consider a wide range of options regarding governance structure and/or sphere of influence. The text correctly describes the conclusions of the 2014 MSR. The MSR authors continue to recommend the option to maintain the status quo. If LAFCO and/or the subject agencies were to pursue other options, additional studies would be needed at that time. Additionally, this MSR provides suggestions about what issues should be included in any future study on this topic.*

7.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for the Commission's consideration:

Table 7-10: MSR Determinations for Pinole Wastewater Service

TOPIC AND PERFORMANCE MEASURES	DETERMINATION
Growth and Population for the affected area. • Is the existing population estimated? • Is the projected future growth estimated?	According to the Department of Finance, the current population of Pinole is 18,244. After experiencing rapid growth in the 1950s, 1960s, and 1970s, population growth in Pinole slowed in the 1980s and 1990s. From 2020 to 2045, population projections indicate a growth of 3,063 people for the city of Pinole, which is an increase of 15.80%.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence	U.S. Census data was queried to determine the MHI for areas in and near the city. Data query results showed no disadvantaged communities within or contiguous to the city's SOI.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. • Does the agency have a CIP? • Are SSOs identified? • Are local hazards identified?	The WPCP was upgraded in the 2015 to 2017 timeframe to help both Pinole and Hercules to meet RWQCB permit requirements on treatment capacity and operating compliance. Replacement of problem sewer mains and laterals to reduce infiltration continues to be a major priority in the city's CIP. No disadvantaged unincorporated communities are within or contiguous to the City of Pinole sphere of influence. The CIWQS-SSO database query revealed eight SSO events in the city of Pinole from January 1, 2018, to June 30, 2023. The City of Pinole did not participate in the countywide 2018 Local Hazard Mitigation Plan. It is recommended that the city participate in the next update to the Hazard Mitigation Plan.

Financial ability of agencies to provide services. • Has the agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures 10% or less?	The city completed the last rate study in 2018, with rates set through July 1, 2022, and a new rate study is currently underway. The financial outlook for the city's Sewer Enterprise Fund is in flux. Though expenses have slowly increased over the last three fiscal years, a large jump in expenses over revenues within the last two fiscal years is noted. However, City staff has recently indicated that these expenses are due to planned capital expenditures for those fiscal years. For example, a large Capital improvement Project expenditure is slated for FY 2023-24. Division: 642 Sewer Collections Total for the budget is $12,785,925. This is 267% higher than the previous year. This is based on the budget for Capital Projects, which are planned for the 5-Year period (personal communication, S. Mishra, April 2024). More information is available in the published FY 2023-2028 CIP on the city website. Revenues have exceeded expenses from FY 2019-20 through 2021-22. However, expenses are projected to exceed revenues by $3.04 million in FY 2022-23 and $14.9 million in FY 2023-24. The ratio of annual debt service to total fund annual expenditures is 26% which suggests the city may have difficulty meeting debt obligations in relation to service provision expenditures. Based on average rates of revenue growth and expense growth over the last five years (2018 to 2022), the city could potentially be unable to meet its yearly debt obligations. However, the city is currently updating its rate study and anticipates raising rates in the near-term. This would allow the city to be able to cover debt obligations (with anticipated revenues minus anticipated expenditures).
Status of, and opportunities for, shared facilities.	The primary cooperative program is the joint operation of the WPCP with the city of Hercules. The City also has an agreement with the EBMUD to handle and dispose of biosolids after treatment if surplus volume processing is required. The City also participates in regional staff training and pollution education programs.

Accountability for community service needs, including government structure and operational facilities. • Does the agency have a website? • Does the agency post a public outreach tool (such as a calendar or newsletter) on its website? • What is the recommendation for mergers, consolidations, or other changes to governance structure?	The City provides a comprehensive website at https://www.ci.pinole.ca.us/, which provides the public with internet access to City Council agendas and minutes, public notices, City budgets, and CIP programs. A City Calendar listing City Council meetings, committee meetings, and commission meetings, is also posted on the website. LAFCO's 2014 Wastewater MSR identified two government structure options: (1) status quo and (2) consolidation with the WCWD. Both of these options remain as valid recommendations. The 2014 MSR noted that the city's studies indicated that consolidation with WCWD is financially infeasible. However, LAFCO has not received a copy of these previous studies.
Any other matter related to effective or efficient service delivery, as required by commission policy.	No additional issues have been identified.

7.9: RECOMMENDED SPHERE OF INFLUENCE

Section 7.7, Government Structure Alternatives, describes various issues and options associated with changing the structure of this local government agency. LAFCO often accomplishes its government structure issues through changes to boundaries and/or SOIs. It is recommended that LAFCO reconfirm current determinations and coterminous City of Pinole SOI, consistent with the information noted in Section 7.7. When LAFCO reviews or modifies an SOI for a district, it typically considers all of its options to change the governance structure. For Pinole, two alternative options were considered as listed:

1) Maintain the status quo.
2) Consolidate sanitary sewer service with the West County Wastewater District.

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 requires that LAFCO review and update the sphere of influence (SOI) for each of the special districts and cities within the County (LAFCO, 2008). Pinole provides wastewater collection services to the residents, businesses, and visitors within its 11.6 square mile boundary area. There will be an increased need for cost-effective wastewater services within the Pinole service area, given current urban land uses, an aging wastewater collection system, and increasingly stringent water quality standards. The city has planned for service needs through its CIP and fee structure.

In conclusion, it is recommended that LAFCO maintain Pinole's existing boundary and SOI in relation to the provision of wastewater service.

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Chapter 8: CITY OF PITTSBURG – WASTEWATER SERVICES

Table of Contents

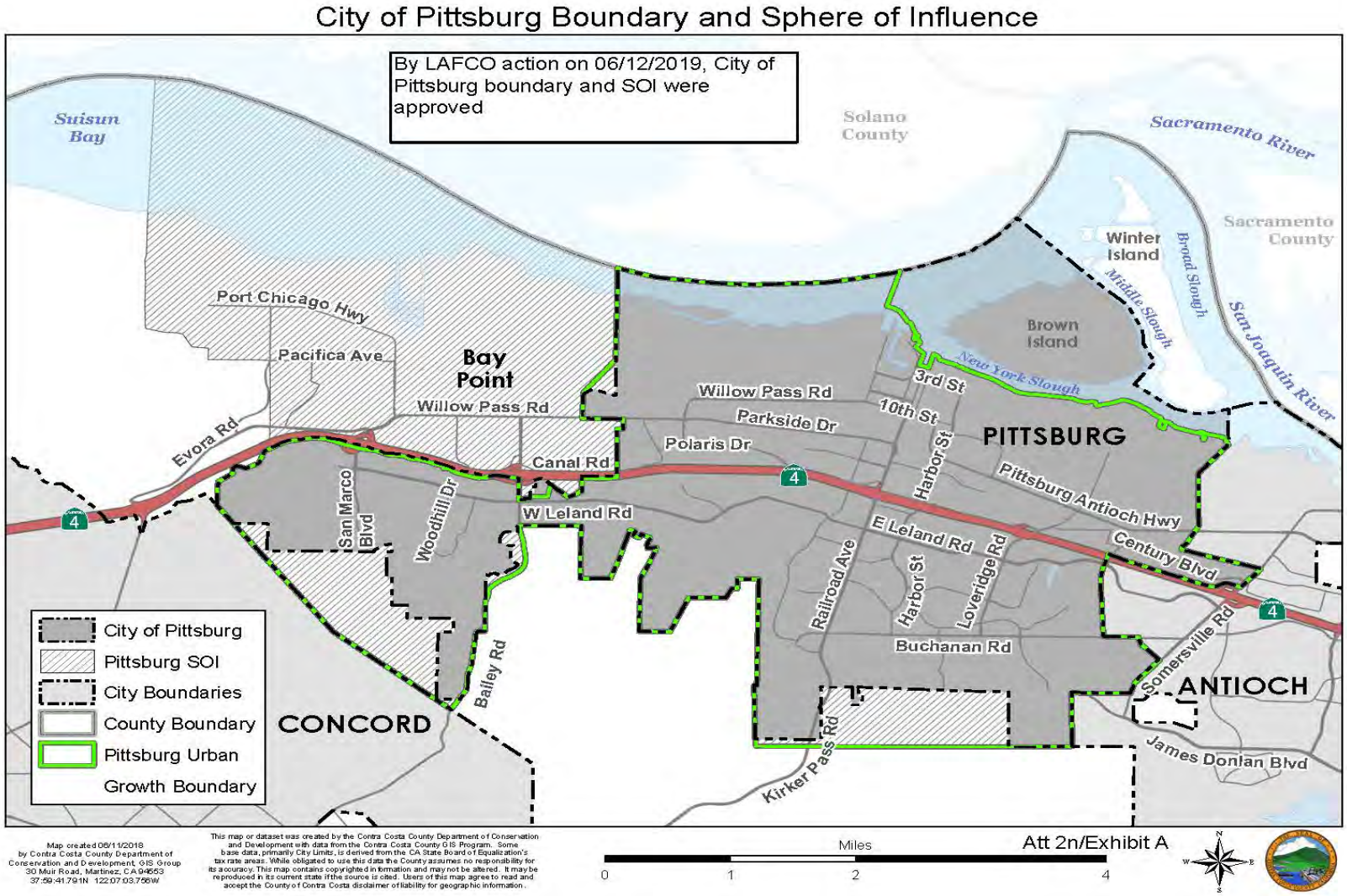
8.1: OVERVIEW

The City of Pittsburg (City) was established along the Suisun Bay/Delta shoreline as a 10,000-acre land grant from the government of Mexico in 1839. Initially named New York of the Pacific, the name was changed to New York Landing during the Gold Rush and then to Pittsburg in 1911. Originally a coal shipping port, the City was founded in 1849 and incorporated in 1903 as a general law city. In the 1940s and early 1950s, the City was a major commercial and industrial center for the County and the eastern ports of the greater San Francisco Bay Area. Pittsburg experienced rapid population growth during the 1970s and 1980s, evolving into a bedroom community for employment centers in west and central Contra Costa County. Today, the City is the second-largest industrial center in the County and has a population of approximately 76,416 (2020) [California Department of Finance (DOF), 2022]. The City provides wastewater collection services. The collected wastewater is discharged into the Delta Diablo (DD) system for treatment and disposal. The City's Agency Profile is in Table 8-1 (next page).

Table 8-1: Agency Profile – City of Pittsburg

General Information			
Agency Type	Municipal		
Principal Act	General laws of the State of California		
Date Formed	1903		
Services	Water and wastewater collection and conveyance		
Service Area			
Location	City of Pittsburg		
Sq. Miles/Acres	17.22 square miles/11,020 acres		
Land Uses	Residential, commercial, industrial, open space		
Population Served	76,416 (2020) (Department of Finance, 2023)		
Last SOI Update	06/12/2019		
Sewer Infrastructure/Capacity			
Facilities	Approximately 178 linear miles of sewer lines, two sewer lift stations, and over 18,850 sewer laterals		
Connections	n/a		
Treatment Plant Capacity (MGD)	Delta Diablo (DD) Wastewater Treatment Plant (WWTP) Design Flow: 19.5 Million Gallons per Day (MGD) (DD avg. dry weather		
Primary Disposal	DD WWTP		
Budget Information- FY 2023-24 (Sewer Utility Fund)			
	Revenues	Expenditures	Net Surplus/(Deficit)
Sewer Utility Fund	$5,589,315	$3,577,962	$3,603,203
	FY 2023-24	Long-Term Planned Expenditures	
Capital Expenditures	$7,740,148	5-Year Projection- Wastewater	
City Net Assets	$668,088,274	June 30, 2022 Financial Statement – Summary of Net Position	
Sewer Utility Fund	$2,433,311	Estimated Reserves for June 30, 2023	
Governance			
Governing Body	City Council (5 members)		
Agency Contact	Garrett Evans, City Manager, *gevans@ci.pittsburg.ca.us* , Hilario Mata, Assistant Director of Public Works, *Hmata@pittsburgca.gov*, or Jolan Longway, Development Services Supervisor,		
Notes			
None.			

Figure 8-2: Boundary/SOI Map – City of Pittsburg



8.2: PITTSBURG BOUNDARY & SOI

Boundary

The City's boundary encompasses 17.22 sq mi. Parcels within the City boundary are eligible to receive wastewater service from the City. Land use within the boundary includes a variety of low- to high-density residential, office, commercial, industrial, public facilities and institutions, utilities, parks, and open space. Sensitive receptors within the City include schools, hospitals, and convalescent homes. Steel, chemical, and other industrial uses[1] are located along the Delta waterfront near New York Slough, including DOW Chemical, USS-POSCO, Isle Capital, LLC, Marine Express, Tesoro, and NRG. Pittsburg's waterfront (including New York Slough) provides industries access to the Sacramento Deep Water Channel and rail lines. The DD WWTP is located at 2500 Pittsburg Antioch Highway, Antioch. Pittsburg has two waterfront parks, an East Bay Regional Park District regional preserve, public boat launch ramps and associated parking lots, and the Pittsburg Municipal Marina. In addition, several City parks provide playgrounds and recreation.

A new development is proposed in Pittsburg's boundary called "Tuscany Meadows." Tuscany Meadows is located near Antioch and will utilize Antioch's collection system with one shared trunk line. This development will be constructed in eight phases. Phase 1 has started construction. The City conducted studies to analyze wastewater capacity and discharge to DD (personal communication, H. Mata, Jan 2024).

Table 8-2: Existing General Plan Designations in Boundary & SOI

	Acreages	
Land Use	**City Limits**	**SOI**
Business Commercial	275.85	66.13
Community Commercial	133.07	-
Downtown Commercial	10.18	-
Downtown High Density Residential	14.07	-
Downtown Low Density Residential	52.76	-
Downtown Medium Density Residential	124.59	-
High Density Residential	224.12	158.21
Hillside Low Density Residential	152.55	93.56
Industrial	1,603.52	441.45
Low Density Residential	2,040.12	1,420.55
Marine Commercial	30.97	-
Medium Density Residential	357.77	46.88
Mixed Use	179.09	0.04
Open Space	1,390.38	1,821.45
Park	1,318.09	127.14
Public/Institutional	417.39	688.17
Regional Commercial	200.95	-
Roadway	8.21	-
Service Commercial	87.69	-
Utility/Right of Way	278.44	103.66
Water	221.71	350.96
Landfill	-	-
Total	**9,722.23**	**5,318.90**

Data Source: Pittsburg, 2019a, Existing Conditions Report, Chapter 1, Land Use

[1] These industrial sites are considered "Industrial Categorical Users" by the EPA and their wastewater may require pre-treatment as described <*https://www.epa.gov/npdes/national-pretreatment-program*>.

The SOI was most recently considered in LAFCO's 2019 City Services MSR, and the SOI was retained in its current configuration. Pittsburg's SOI is 11.26 square miles. in size. A map of the City's current boundary and SOI is shown in Figure 8-2 (previous page).

Faria South West Hills

The City and a private developer have applied to LAFCO to annex the Faria South West Hills site, indicating that the City will provide public services to the site.

Bay Point

Bay Point is an unincorporated community classified as a census-designated place (CDP). Bay Point is located in the East Bay, west of Pittsburg, California, and northeast of Concord. State Route 4, the California Delta Highway, crosses through the community. Since it is unincorporated, the County of Contra Costa provides most of its public services. DD provides wastewater services to Bay Point. The Bay Point CDP has a population of approximately 23,896 (2020). This calculates to an average population density of approximately 3,719 per square miles. The Bay Point CDP has a total area of 7.4 square miles, comprising 88.3% land and 11.7% water. Bay Point is within Pittsburg's SOI.

Sacramento/San Joaquin Delta

Portions of the City boundary and SOI are located within the Sacramento/San Joaquin Delta Estuary watershed (Delta), specifically within the "Secondary Zone". The Delta is a large inland river delta geographically connected to the San Francisco Bay Estuary and home to several rare and endangered fish species. The Delta is also designated a National Heritage Area. The Secondary Zone is within the "Legal Delta" and is described by various state laws and planning documents (DPC, 2010 and DSC, 2013). For local government planners and administrators, there are three key Delta planning documents listed below:

- The Delta Plan, by the Delta Stewardship Council (DSC). 2013 as updated through 2024.
- Land Use and Resource Management Plan for the Primary Zone of the Delta by the Delta Protection Commission (DPC). February 25, 2010.
- Socioeconomic Indicators Report: The Sacramento-San Joaquin Delta by Visser, M.A.; Brinkley, C.; Zlotnicki, J. in 2018.

DPC's Land Use and Resource Management Plan recognizes that urbanization and other development projects within the secondary zone have the potential to impact the Primary Zone of the Delta (DPC, 2010). These planning documents are important because the City's discharge of treated wastewater to the San Joaquin River has the potential to influence water quality and endangered species within the Delta.

City Planning Documents

The City of Pittsburg has several important planning documents to guide its future development, and those related to wastewater service are listed below:

- Existing City of Pittsburg General Plan adopted November 16, 2001 (City Council Resolution

No. 01-9490) is posted to the City website <*https://www.pittsburgca.gov/services/community-development/planning/general-plan-current*> and includes:

- Public Facilities Element lists several policies related to wastewater services.
- On May 6, 2024, the City adopted the2040 General Plan, which aims to allow responsible new development aligned within natural resource limitations, providing a diversity of available and affordable housing to residents and the local workforce. The 2040 General Plan Update identifies additional sites for multi-family housing and increased opportunities for a wide range of residential development types and densities.
- The City's Housing Element was updated in May 2023 and submitted to the California Department of Housing & Community Development (CA HCD) for approval. The Element identifies housing needs and issues for the 2023-2031 planning period. The Housing Element contains policies to address housing diversity and housing affordability as described on the website at: <*https://www.pittsburgca.gov/services/community-development/planning/advanced-planning-special-projects/housing-element-update-2015-2023*> (Pittsburg, 2023).
- The City of Pittsburg Municipal Code, Title 13 (Waters and Sewers), Chapter 13.20 (Industrial Waste Disposal), Chapter 13.24 (Sewer Service Charges), Chapter 13.26 (Sewer Maintenance and Repair), and Chapter 13.28 (Stormwater Management and Discharge Control) contain regulations associated with wastewater and sewer management.
- The City of Pittsburg maintains a Sewer System Management Plan (SSMP) document that guides the sewer utilities' design, development, and maintenance within the City.
- Pittsburg participates in the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) (2007) to streamline the environmental permitting process for impacts on endangered species. The Plan is available at: <*https://www.cocohcp.org/221/Final-HCP-NCCP*>.
- The Contra Costa County Northern Waterfront Economic Development Initiative ("Northern Waterfront Initiative") aims to elevate East Contra Costa County by attracting advanced manufacturing sub-sectors to create 18,000 new jobs by 2035 in advanced transportation fuels, biotech/biomedical, diverse manufacturing, food processing, and clean tech clusters. Pittsburg's waterfront (including the Delta and New York Slough) provides industries access to the Sacramento Deep Water Channel and rail lines.

8.3: WASTEWATER OPERATIONS

The City's wastewater service includes collection and conveyance to the DD for treatment and disposal. The City provides sewer collection services through approximately 178 linear miles of sewer lines ranging in diameter from six to 36 inches, two sewer lift stations, and over 18,850 sewer laterals within the City of Pittsburg rights-of-way (Pittsburg, Budget, 2023b). One City connection may serve many individual customers. The wastewater collection system has two distinct geographic sections:

- the older portion north of State Route 4, where sewer lines drain to DD's Pittsburg Pump

Station located south of Marina Park, and
- the portion serving newer areas south of State Route 4, where sewer lines enter the DD interceptor system on the Pittsburg-Antioch Highway (Pittsburg, 2023).

The City maintains and owns the local sewage collection system that serves the City's municipal users. The City's collection system operates independently, and there are no physical interties with other agencies.

During the previous year (FY 2022-23), City staff conducted ongoing maintenance to the collection system, including:
- Cleaned approximately 70,000 linear feet of sewer mains with sewer combination trucks to prevent mainline overflows, and
- Completed CCTV of approximately 4,950 linear feet of main sewer line to evaluate the pipe condition and to avoid sewer surcharges (Pittsburg, Budget, 2023b).

Wastewater Treatment by Delta Diablo

As described in Chapter 14, DD's service area includes the cities of Pittsburg and Antioch and the unincorporated Bay Point community. DD owns and operates the collection system that serves the Bay Point community, as well as the regional interceptors and the sewage treatment plant located north of the Pittsburg-Antioch Highway (Pittsburg, 2023).

Effluent treatment is provided under contract by DD Wastewater Treatment Plant (WWTP), as described in Chapter 14. The Delta Diablo WWTP originally opened on May 13, 1982. The WWTP is located north of Pittsburg-Antioch Highway, just east of Pittsburg City limits. The WWTP has a 54-square-mile service area with a 2023 average annual wastewater flow of 14.3 MGD and an average dry weather flow (ADWF) of 13.5 MGD (2023 Flows).

The WWTP serves the cities of Pittsburg and Antioch and the unincorporated Bay Point community. Therefore, it is important to consider future potential growth in all three communities[2]. Pittsburg and Antioch have a combined RHNA (6th Cycle) of 5,068. DD, like many other wastewater districts, uses an average wastewater flow of 200 gallons per day (gpd) per residential connection to estimate wastewater flows. Future flows to the WWTP are expected to increase by 1.01 MGD (5,068 x 200 gpd / 1,000,000). The 1.01 MGD increase is within the remaining capacity of the WWTP, approximately 5 MGD for average dry weather flows (Pittsburg, Housing Element, 2023). Please note that this

[2] The 2007 CC LAFCO MSR and the 2014 CC LAFCO MSR identified an issue regarding DD plans to accommodate increased growth (e.g., pending reorganization proposals, including Northeast Antioch). At that time (2014) DD had wastewater conveyance and treatment facilities planned and under construction to increase system capacity. DD collected Capital Facilities Capacity Charges (CFCCs) to build capacity as it is consumed by new connections. The Conveyance and Treatment Plant Master Plans utilized City planning data for the communities in the DD service area.

calculated remaining capacity is based on average dry weather flow and does not consider peak wastewater flows. During rainy periods, peak flows increase, and the ability (capacity) of the WWTP to accommodate peak flows is an important factor. The Delta Diablo Resource Recovery Facility 2022 Master Plan includes phased treatment plant expansion to increase the plant's solid loading capacity beyond the current capacity of 58,000 lbs BOD/day in order to accommodate the anticipated General Plan buildout for the communities of Pittsburg, Antioch, and unincorporated Bay Point (Pittsburg, Housing Element, 2023). The Master Plan projects that the current solids loading capacity will be exceeded sometimes between 2030 and 2037.

The City provided DD with legal authority to permit and inspect fats, oils, and grease (FOG)-producing facilities within the City's service area. The City amended its Municipal Code to provide this legal authority on April 5, 2010 (per Pittsburg, SSMP, 2019b).

Pittsburg and Antioch are described as "satellite" sewer systems that discharge into DD's conveyance system. The relationships among DD, Antioch, and Pittsburg are delineated in DD's Code. The DD Board is comprised of one Antioch City Council member, one Pittsburg Council member, and one member of the County Board of Supervisors.

Sewer System Management Plan

Pittsburg's SSMP was updated in 2019. The SSMP provides guidelines, plans, and schedules to manage, operate, and maintain all parts of the City's collection system. Providing adequate capacity to convey peak wastewater flows is listed as a goal. Additionally, the SSMP aims to reduce the frequency of sanitary sewer overflows (SSOs) and prevent SSOs from occurring in the future (Pittsburg, SSMP, 2019b).

Wastewater Collection System Master Plan

The City completed a Wastewater Collection System Master Plan ("Master Plan") in April 2003. The Master Plan was updated in February 2007, using revised peak wet weather design flows derived from the modified base wastewater flow projections. Flows were monitored at seven locations (four permanent and three temporary metering sites). The flows were estimated for gravity sewers 10 inches in diameter and larger (some 8-inch sewers were included in the model) using Wallingford HydroWorksTM flow modeling software and a 5-year 6-hour return interval design storm. Gravity sewers flowing full (d/D > 1) were considered deficient.

The 2003 Master Plan identified three capacity deficiencies: Highway 4 Trunk, West Leland Road, and Bailey Road[3]. The three projects are needed to serve new developments in the southwest portion

[3] The 2014 Wastewater MSR indicated that construction of the Highway 4 trunk line relief (Segment A) and the Bailey Road sewer main project were on hold pending new development. As of January 2024, these projects remain on hold and will be triggered by actual development. This project is now separated into two actual projects: 1) Highway 4, and 2) Bailey Road. The City is in the process of updating their sewer and water master plan which will provide additional details (personal communication, H. Mata, January 2024).

of the City. These three projects will be funded by the facility reserve charges collected from new development and implemented as the development proceeds. However, the Master Plan indicates that after the current projects are implemented, portions of the Highway 4 trunk will still be flowing full at the design peak weather flow. Any additional development may result in the need for further upsizing. The City aims to update its Master Plan every five years or as needed to address changes in the General Plan (Pittsburg, SSMP, 2019b). As of January 2024, the City is in the process of updating the master plan. Since the identified deficiencies relate to new proposed developments, they will be resolved once the development moves forward and the infrastructure is installed. The existing deficiencies will be further addressed in the forthcoming updated master plan (Personal communication, H. Mata, January 2024).

Recycled Water

Pittsburg receives an allotment of recycled water from DD and utilizes this recycled water to irrigate street medians and parks.

Local Hazards

The City developed a Local Hazard Mitigation Plan to meet the requirements of the Disaster Mitigation and Cost Reduction Act of 2000 as a condition to pre- and post-disaster assistance. The Plan was incorporated by amendment to the Safety Element of the 2040 General Plan. Figure 11-1 in the General Plan identifies critical infrastructure in the City, and Figures 11-2 and 11-3 identify hazards in the City. Some of the City's wastewater collection infrastructure lies within areas identified as having flood, earthquake and liquefaction risk. The Safety Element contains policies addressing these risks.

Sanitary Sewer Overflow Database

The State Water Board maintains a SSO database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. WQ 2022-0103-DWQ (SSS WDRs), on December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. A 3.5-year term from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. Since the database query for the City of Pittsburg resulted in a high amount of SSO reports, only 19 of the most recent SSOs are listed in Table 8-3 (next page).

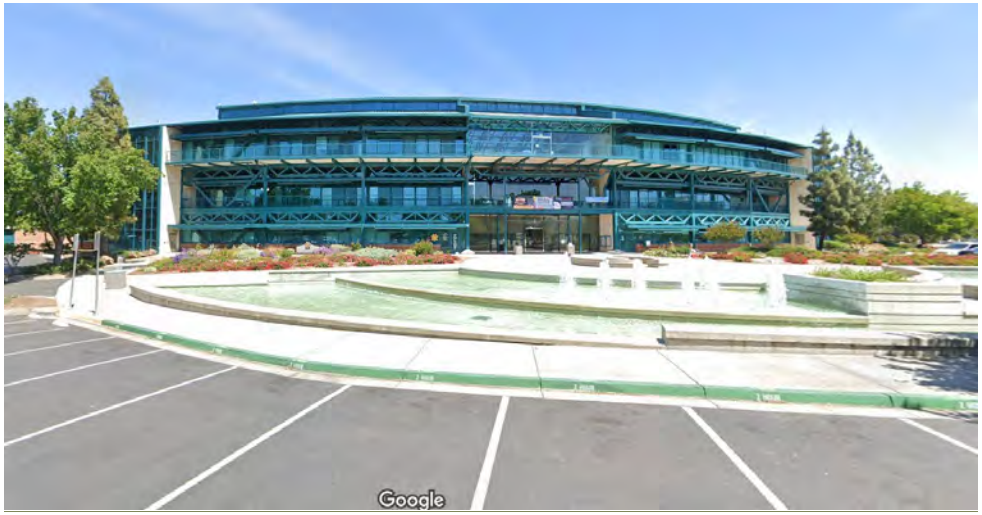
Based on the 3.5-year database query, there were 94 Sanitary Sewer Overflow events for the City of Pittsburg. In most cases, the SSOs originated from sewer maintenance holes. Most of the overflows

Table 8-3: City of Pittsburg Sanitary Sewer Overflows

EVENT ID	Region	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
878732	2	Pittsburg City CS	Category 3	1/3/2022	10	10	0	Lower Lateral (Public)	2SSO10113
879132	2	Pittsburg City CS	Category 3	1/27/2022	10	10	0	Lower Lateral (Public)	2SSO10113
879243	2	Pittsburg City CS	Category 3	1/28/2022	2	2	0	Lower Lateral (Public)	2SSO10113
879244	2	Pittsburg City CS	Category 3	1/30/2022	1	1	0	Lower Lateral (Public)	2SSO10113
879451	2	Pittsburg City CS	Category 3	2/15/2022	275	275	0	Lower Lateral (Public)	2SSO10113
879488	2	Pittsburg City CS	Category 3	2/17/2022	4	4	0	Lower Lateral (Public)	2SSO10113
880294	2	Pittsburg City CS	Category 3	3/23/2022	10	10	0	Lower Lateral (Public)	2SSO10113
880404	2	Pittsburg City CS	Category 3	3/23/2022	5	5	0	Lower Lateral (Public)	2SSO10113
880594	2	Pittsburg City CS	Category 3	4/5/2022	50	50	0	Lower Lateral (Public)	2SSO10113
880850	2	Pittsburg City CS	Category 3	4/21/2022	15	15	0	Lower Lateral (Public)	2SSO10113
880958	2	Pittsburg City CS	Category 2	4/26/2022	4,750	4,750	0	Maintenance hole	2SSO10113
880971	2	Pittsburg City CS	Category 3	4/27/2022	100	100	0	Upper Lateral (Public)	2SSO10113
880982	2	Pittsburg City CS	Category 3	4/25/2022	10	10	0	Lower Lateral (Public)	2SSO10113
881361	2	Pittsburg City CS	Category 3	5/18/2022	1	1	0	Lower Lateral (Public)	2SSO10113

EVENT ID	Region	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
881522	2	Pittsburg City CS	Category 3	5/26/2022	5	5	0	Lower Lateral (Public)	2SSO10113
881921	2	Pittsburg City CS	Category 3	6/18/2022	35	35	0	Lower Lateral (Public)	2SSO10113
882387	2	Pittsburg City CS	Category 3	7/18/2022	10	10	0	Maintenance hole	2SSO10113
882416	2	Pittsburg City CS	Category 3	7/22/2022	10	10	0	Lower Lateral (Public)	2SSO10113
882683	2	Pittsburg City CS	Category 3	8/9/2022	2	2	0	Lower Lateral (Public)	2SSO10113
Data Source: CIQWS Sanitary Sewer Overflow Database									

Figure 8-3. Google Image of the Pittsburg Civic Center (Google Maps Street View)



from the query had failure points at the lower public lateral. Based on the database query, the SSOs were contained, averaging 104.63 gallons overall, preventing any flows from reaching storm drains or channels. Within the database query, the largest spill occurred on April 26, 2022, and had a volume of 4,750 gallons. According to the SSO report, the cause of the spill was due to root intrusion, and the failure occurred at the maintenance hole. This spill did not reach surface water and instead was fully recovered. Most of the SSOs from the query were less than 100 gallons.

From July to October 2022, the San Francisco Bay experienced a harmful algal bloom (HAB) known as a red tide, as described in Appendix F. The species associated with this bloom, *Heterosigma akashiwo,* can cause water to turn reddish-brown. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay, and into San Pablo Bay. Fish deaths linked to the red tide were reported to include sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San Francisco Bay Water Board is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other agencies to study the potential impacts of nutrients on San Francisco Bay. The City of Pittsburg has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater districts and the Water Board.

Infrastructure Needs

Existing Infrastructure: The City currently maintains various equipment, vehicles[4], infrastructure, and associated assets as listed in Table 8-4 below.

Table 8-4: Major Equipment (Existing) for City Sewer Service

Equipment Number	Major Equipment Type	Year Purchased
561	Combination Hydroflush Truck	2016
562	Combination Hydroflush Truck	2018
563	Combination Hydroflush Truck	2014
564	Cues CCTV Truck	2017
990	6" portable pump	2010
981	Bobcat Mini Excavator	2009
585	F-750 Dump truck	2008

Data Source for Table 8-4: Pittsburg, SSMP, 2019b

[4] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the district, it is likely that sometime in the future, the district may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

The 2019 SSMP also contains a list of capital improvement projects, summarized in Table 8-5 below. The City has recently developed a comprehensive Capital Improvement Program (CIP), which is described in further detail in the Finance section on page 8-17.

Table 8-5: Wastewater Capital Improvement Plan

Project Number	Project Title	Estimated Project Costs	Current Funded Projects	FY 2019-2020	FY 2020-2021	FY 2021-2022	FY 2022-2023	FY 2023-2024
SS-2	2022/23 Sewer Replacement/ Rehabilitation Program (Central Addition Phase II)	$2,900,000					$400,000	$2,500,000
SS-20	P/A Highway Sewer Line Improvements	$605,000						
SS-23	Highway 4 Trunk Line Relief (Segment A) & Bailey Rd Sewer Main	$3,404,000		$200,000				
SS-29	Highway 4 Trunk Line Relief (Segment B)	$1,854,000						
SS-30	2014/15 Sewer/Water Replacement/Rehabilitation Program	$10,000,000	$10,000,000					
SS-34	2018/17 Sewer Replacement/Rehabilitation Program	$12,927,500	$11,627,500	$1,300,000				
SS-36	2020/21 Sewer Replacement/Rehabilitation Program	$2,100,000	$2,100,000		$500,000		$1,600,000	
	Totals	**$33,490,500**	**$23,927,500**	**$1,300,000**	**$500,000**	**$1,600,000**	**$400,000**	**$2,500,000**
	Source: Pittsburg, SSMP, 2019b							

Future Challenges: The American Society of Civil Engineers, Region 9 (2019) has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

1. Implement an education program at the state and local level about what a WWTP is, what kind of waste it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water reuse/recycling.

Cooperative Programs

Pittsburg collaborates with the City of Antioch and DD regarding open communication, emergencies, and equipment sharing. The City also participates with DD in regional pollution control education and prevention. There is multi-level coordination, including phone calls, Email, and Zoom. City council members participate on the DD board.

Cost Avoidance Opportunities

The City purchases supplies and chemicals with the aim of reducing annual costs. The City anticipates that annexations may benefit the sewer collection distribution systems since the

expansion of capacity will be coordinated with replacement projects. Typically, a compact City design lends itself to being an efficient wastewater collection system. The City should remain cognizant of this general principle when considering proposed annexations and proposed infill developments.

8.4: FINANCIAL OVERVIEW

This analysis focuses on the City's enterprise funds for wastewater services. The City's wastewater services utilize two enterprise funds: the Sewer Operations fund and the Sewer Facility Reserve. Enterprise Funds are used to separately account for self-supporting operations. The City's audits collectively review these funds under the Sewer Utility Fund. These funds will be collectively referred to as the Sewer Utility Fund moving forward in this analysis.

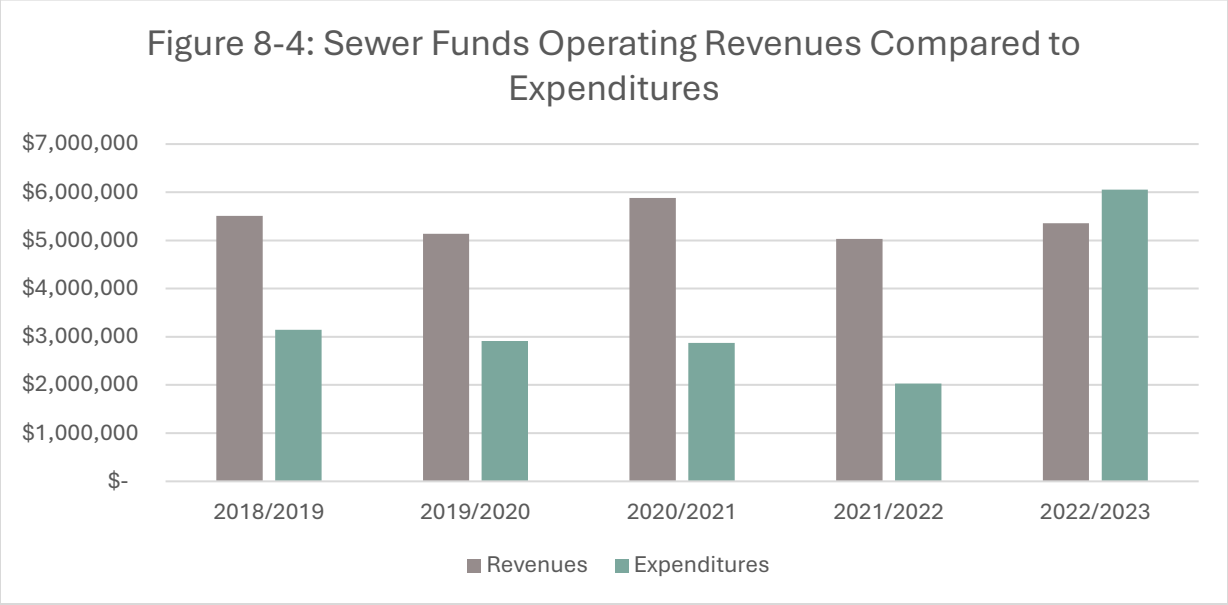
The Sewer Facility Reserve Charge (FRC) is a development impact mitigation fee to pay for public facilities in existence at the time the charge was imposed and to serve new development or to pay for new facilities that will be of benefit to the person or property being charged (new development or upgrades to existing meter capacity). The sewer FRC is intended to recover a portion of the City's CIP costs and utility rate payers' prior investment in capital facilities that support land development through utility system expansion prior to new development (City of Pittsburg, 2023). The FRC is collected at the time of building permit issuance. The FRC has an annual escalator, so it remains current. The City is updating the FRC structure, which will be studied in a 2025 update to the fee structure.

The City's budget and Certified Annual Financial Reports are the primary information source for data related to the Sewer Enterprise Fund. These reports are posted on the City's website at <*https://www.pittsburgca.gov/services/finance/budget-and-other-financial-documents*> (City of Pittsburg, 2019c, 2020, 2021, 2022b, 2022c, 2023b). This financial analysis represents a snapshot in time (i.e., a limited time period). However, the City regularly updates its financial data and readers may review the new data on the City's website above. Service fees comprise the majority of revenues that fund wastewater collection services. The Sewer Utility Fund does not receive funding either directly or indirectly from the City's General Fund. The City's sewer fees have remained the same since March 2014 (City of Pittsburg, 2023). Based on available information, it is difficult to determine whether necessary capital improvements have been deferred as a result of rate stabilization. On June 30, 2023, the estimated reserves for the Sewer Utility Fund were $2,433,311. This amount represents working capital and does not include fixed assets, inventory, long-term advances, or loans. There are six primary areas of criteria that have been utilized to assess the present and future financial condition of the City's wastewater service operations as discussed below.

5 Year Revenue/Expenditure Budget Trends

Sewer Utility Fund revenues have exceeded expenses for all years studied except FY 2022-23. The difference between the FY 2022-23 budget expenses and prior fiscal years is likely due to the

difference in financial accounting between audits and budgets. Expenditures have varied, with relatively stable expenses from FY 2018-19 through 2020-21, a decrease in 2021-22, and the highest level of expenses in FY 2022-23 at approximately $6.05 million. This key performance measure indicates that the Sewer Fund is solvent and has the capacity to cover its annual costs. The estimated gross revenue for the FY 2022-23 adopted budget is $5.2 million. The excess annual revenues over operating expenses are utilized to maintain and update the system's infrastructure through capital projects (City of Pittsburg, 2023b). Figure 8-4 below shows the Sewer Utility Funds revenues compared to expenditures for FY 2018-19 through FY 2022-23.

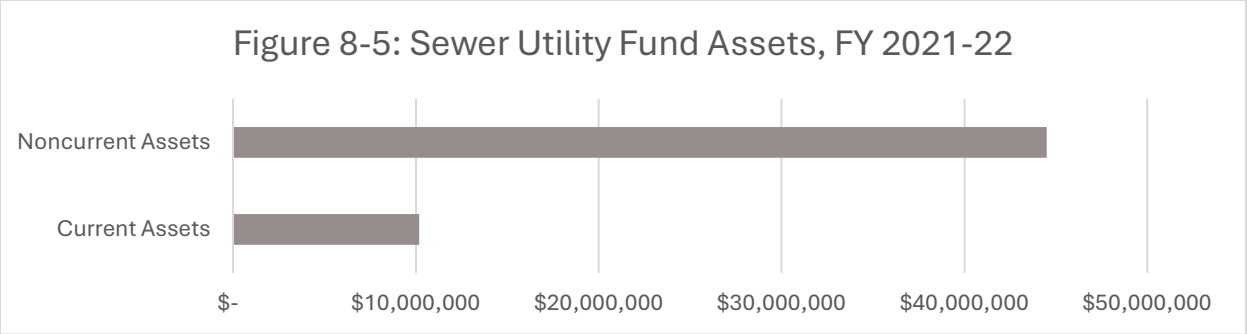


Ratios of Revenue Sources

In FY 2021-22, the City received 98% of its Sewer Utility Fund revenues from charges for services and the remaining from facility rental fees and other revenue sources. The ratios for the Sewer Utility Fund reflect an appropriate balance for typical enterprise fund services and minimizes the impact that negative economic factors could have on more elastic revenues, such as property taxes (City of Pittsburg, 2022b).

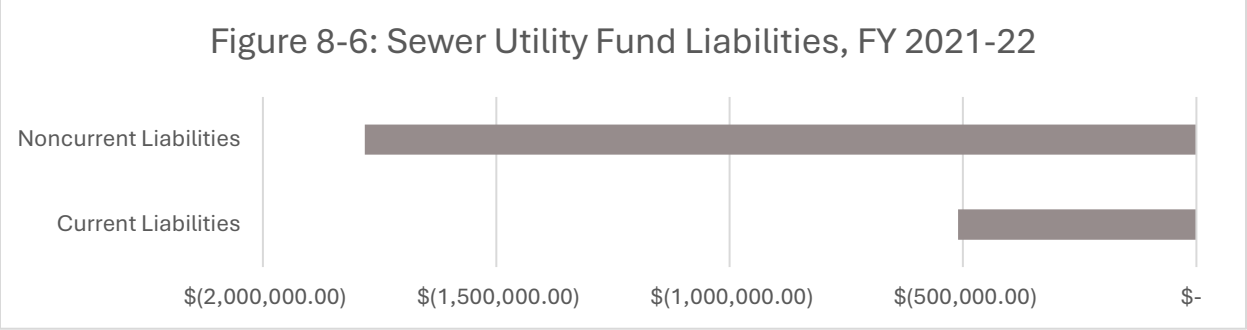
Ratio of Reserves or Fund Balance to Annual Expenditures

An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures. The most recent audit, completed in FY 2021-22, shows an unrestricted amount of $1,966,484. Operating expenses for the same fiscal year came to $2,030,549. This equates to a positive ratio of 97%, a very good ratio (City of Pittsburg, 2022b). Current assets include cash and investments, leases receivable, prepaid items, and other assets. Figure 8-5 below shows the assets for the Sewer Utility Fund for FY 2021-22.



Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. Specifically, the City of Pittsburg has several types of debt related to wastewater services, including accounts payable, refundable deposits, compensated absences, net pension liability, and net OPEB liability (City of Pittsburg, 2022b).



The ratio of annual debt service to total fund annual expenditures is an indicator of the City's ability to meet debt obligations in relation to service provision expenditures. Ideally, a ratio of 10% or less would reflect a very stable ratio. The City's Sewer Utility Fund annual debt service ratio to total expenditures is approximately 113%. This suggests the City may have difficulty meeting debt obligations in relation to service provision expenditures (City of Pittsburg, 2022b).

Interfund Transactions

In FY 2021-22, there were three interfund transfers from the Sewer Utility Fund as follows:

1) $60,000 to the General Fund to cover operations and administrative services. This is the cost of other City employees that worked on sewer-related work whose positions are not allocated to sewer services;
2) $794,490 to Water Utility Enterprise Fund to allocate Utility Billing administrative time. Employee costs are shared between Water and Sewer Funds. Additionally, some CIP projects share costs between the water and sewer funds. For example, the replacement of water and sewer lines on 9th Street; and

3) $23,596 to fund unfunded OPEB liability.

In addition, the City has utilized the Sewer Utility Fund to pay for costs accrued by City staff working on sewer projects, but who do not typically work for sewer services.

During fiscal year 2017-2018, the Sewer Utility Enterprise Fund advanced $650,000 to the General Fund for the purchase of property located at the Northwest Corner of Railroad Avenue and Civic Avenue (APN 086-100-015) and associated expenses. The advance is to be repaid within five years and bears simple interest at the average Local Agency Investment Fund (LAIF) rate. The balance as of June 30, 2022 was $105,755.

During fiscal year 2016-2017, the Sewer Utility Enterprise Fund advanced $252,960 to the Building Maintenance Internal Service Fund to assist in financing the City Hall HVAC Chiller Replacement project. The advance is to be repaid within ten years and bears interest at 1.5% per year. The balance as of June 30, 2022 was fully paid off (City of Pittsburg, 2022b).

Capital Improvement Program

The City's five-year CIP from 2022/23 through 2026/27 identifies 11 sewer CIP projects that total $27 million (City of Pittsburg, 2022). Of these, five sewer projects totaling $14.4 million are already funded/partially funded within the next five years. The CIP states "Rehabilitation, upgrade, and maintenance of the City's sanitary sewer system is usually funded by the City's Sewer Operation Fund, which is derived from customer service charges. Projects for system expansion are funded by new development connection facility reserve charges. There are sufficient funds to finance new projects in the immediate future (City of Pittsburg, 2022a). The projected funding availability is shown in Table 8-7 below. In addition, the City's Sewer Facility Reserve Fund (SFR) Collection System Capacity-Buy-In is funded by a one-time charge per residential unit paid by developers. This fund is projected to have a half-million dollars for FY 2023-24.

Table 8-6: CIP Projected Sewer Operations Funding Availability (Fund 521)

Description	FY 2022-23 ($)	FY 2023-24 ($)	FY 2024-25 ($)	FY 2025-26 ($)
SS-2 FY 22/23 Sewer Replacement/Rehabilitation Project (Central Addition Phase I)	-200,000	-100,000	-1,500,000	
SS-36 21/22 Sewer Replacement/Rehabilitation (11th Street Area)	-1,000,000			
SS-37 24/25 Sewer Replacement Rehab Program			-400,000	-2,000,000
G-2 City Standard & Details Update (Fou)	-50,000			
CIP Expenditures	**-1,250,000**	**-100,000**	**-1,500,000**	**-2,000,000**
Data Source: City financial documents				

One wastewater-related capital improvement project was allocated funding in the City's Budget for FY 2023-24, as listed in Table 8-7 below.

Table 8-7: CIP Projects Funded

Name of CIP Project	Funding Source	Amount Funded	Year
West Santa Fe Ave. Sewer Water Rehabilitation (1)	Sewer Operating Fund	$712,079	FY 2023-24
CCTV/Inspection/Sewer Replacement (2)	Not specified	$2,227,487	FY 2021-22
2021-2022 Sewer Replacement Project (2)	Not specified	$2,187,311	FY 2021-22
Data Source: (1) Pittsburg, Budget, 2023b and (2) Pittsburg, ACFR FY 2021-22, 2022			

Rate Structure

The City's monthly sewer charge for a residential family is a flat fee. The City's current published rate structure for wastewater reflects a fixed monthly base charge of $15.79 for single-family residential customers and $13.50 for multi-family residential customers. The City's sewer fees have remained the same since March 2014 (Pittsburg, Budget, 2023b). The City's "Water and Sewer Rates" document, effective 8/1/2022, as posted to the City's website at <*https://www.pittsburgca.gov/services/pittsburg-water/sewer*>, is shown below in Table 8-10. However, it should be noted that the City's rate structure is currently being studied. Rates from comparable wastewater service providers will also be studied. The City expects an updated rate structure to be considered in 2024 or 2025. Recommendation: To ensure that rates collected will meet future wastewater service needs, the City should provide LAFCO with a copy of its new wastewater rate study upon adoption and prior to June 2025.

Table 8-8: Pittsburg Sewer Fees

Sewer Fixed Fees

	3/6/2018	1/1/2019	1/1/2020	1/1/2021
Single Family Residential	$ 15.79	$ 15.79	$ 15.79	$ 15.79
Multi Family Residential	$ 13.50	$ 13.50	$ 13.50	$ 13.50
Non-Residential	$ 1.61	$ 1.61	$ 1.61	$ 1.61

In addition to the City's wastewater collection charges, Delta Diablo also has a fee for its wastewater treatment and disposal service. Delta Diablo's charge to Pittsburg residents is anticipated to be approximately $448.75 annually on property taxes (does not include collection system charges), the same level for FY 2023-24 as in FY 2022-23. Therefore, the average single-family home pays a monthly total of approximately $37.40.

8.5: POPULATION

Approximately 76,416 (2020) residents were within the City boundary as of April 2020 (CA DOF, 2022). Between the years 2010 and 2020, the population increased by approximately 17.48% or 11,057 persons, with an annual average increase of approximately 1.7%. By January 2023, the population had declined to 74,809 persons (CA DOF, 2023). Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

Table 8-9: Existing Permanent Population, City of Pittsburg, 2022

Name of City	Population in Boundary (1)	Number of Registered Voters in Boundary (2)	Population in SOI only (3)
City of Pittsburg	76,416 (2020)	39,276 (January 2023)	16,504

Sources:
(1) California Department of Finance. May 2023. Census 2020, Demographic Profile and Demographic and Housing Characteristics File (DHC) Data Release. Table 2: Land Area, Population, and Population Density for California, Counties, Incorporated Cities/Towns, and Census Designated Places (CDP). Excel file. Retrieved on August 30, 2023 from < *https://www.dof.ca.gov/Forecasting/Demographics*>.
(2). Registered Voter data provided by Contra Costa LAFCo City Directory/Profile, 2023.
(3): Calculated estimate based on an average of 3.02 persons per parcel in Contra Costa County.

Projected Future Population: Projecting a city's future population is complicated due to varying annexation rates and census tracts that do not match the City boundary. Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County. Additionally, the anticipated future population growth of the City has the potential to influence the demand for the provision of municipal wastewater services. The City's projected future population is listed in Table 8-10 (next page).

The City is located within the Legal Delta Secondary Zone, and a detailed population analysis of the Delta area has been prepared by state agencies (Visser et al., 2018). Readers are encouraged to review this information directly on the state website (as updates are expected soon) as follows:

- The Delta Plan available at: <*https://www.deltacouncil.ca.gov/delta-plan/*>.
- Land Use and Resource Management Plan for the Primary Zone of the Delta available at <*https://delta.ca.gov/wp-content/uploads/2019/12/Land-Use-and-Resource-Management-Plan-2.25.10_-m508.pdf* >.
- Socioeconomic Indicators Report: The Sacramento-San Joaquin Delta available at <*https://delta.ca.gov/wp-content/uploads/2020/09/Delta-Socio-Economic-Indicators-Report-508.pdf*>

Table 8-10: Total Estimated & Projected Population (2020 – 2045)

	2020	2025	2030	2035	2040	2045	Percent Increase 2020 to 2045[3]	Numeric Increase 2020 to 2045	CAGR 2020 to 2045
County of Contra Costa[1]	1,149,800	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.8%	181,631	0.59%
City of Pittsburg[2]	76,416	77,581	80,616	83,176	85,045	86,270	15.8%	9,854	0.59%

Sources:

1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.

2: California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State: January 1, 2020 and 2021. Sacramento, California.

3: Population projection for City of Pittsburg calculated as 6.48% of the County of Contra Costa's population.

8.6: DISADVANTAGED COMMUNITIES

Identifying disadvantaged unincorporated communities (DUCs) allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in disadvantaged communities. Data from the 2020 U.S. Census was queried as part of this MSR Update process. Data query results showed several disadvantaged areas in the unincorporated area within or contiguous to the City's SOI. The Bay Point community lies northwest of Pittsburg, and the DUCs within this community are listed by census block in Table 8-11.

DUCs are inhabited communities containing 12 or more registered voters that constitute all or a portion of a "disadvantaged community." A disadvantaged community is defined as a community in which the median household income (MHI) is 80% or less than the statewide MHI. This determination assesses the prospect of including a DUC(s) when an agency's SOI is updated or expanded. In 2011 SB 244 began requiring cities and counties to address the infrastructure needs of unincorporated disadvantaged communities in city and county general plans, MSRs, and annexation decisions. Therefore, this MSR update identified disadvantaged communities within relevant jurisdictions' SOI.

The MHI for California in the year 2020 was $83,056 (ACS, 2021). 80% of the MHI ($66,445) is the income threshold used to identify DUC status. 2020 is the base year because data from the US 2020 Census is readily available. Table 8-10 and Figure 8-7 below show that this MSR update identified disadvantaged communities within the unincorporated community of Bay Point, a Census Designated Place. Please note that the City has no plans to annex the Bay Point community. No wastewater from Bay Point moves through the City as this community is directly served by DD.

Readers can learn more about disadvantaged communities within the City and Contra Costa County through the U.S. Department of Health and Human Services database of socioeconomic and health indicators in disadvantaged communities called the Environmental Justice Explorer Database. This database can be queried at <*https://onemap.cdc.gov/portal/apps/sites/#/eji-explorer*>. Query results indicate that disadvantaged communities near the City may experience hardships, including: potentially hazardous and toxic sites, high volume roads, railways, socioeconomic disparities, high prevalence of asthma, and high rates of poor mental health.

LAFCO is required to consider the need for sewer, municipal, and industrial water, and structural fire protection services within identified disadvantaged communities as part of a SOI update for cities and special districts that provide such services. These services were last reviewed under the *2nd Round EMS/Fire Services Municipal Service Review/Sphere of Influence Updates (2016), the Contra Costa City Services Municipal Service Review and Sphere of Influence Study (2nd Round) (2019), and the Contra Costa County-wide Water Service Municipal Service Review and Sphere of Influence Study (2nd Round) (2014)*. These services have remained relatively unchanged since publication. Communities within the existing City boundary or SOI do not lack public services because they either receive services from a municipal provider or the properties are self-sufficient, relying upon

groundwater wells and septic tanks. No health or safety issues were identified.

Table 8-11: Disadvantaged Unincorporated Communities in Pittsburg's SOI and Delta Diablo Sanitation District Zone 1

Unincorporated Community	Census Tract Geo ID	Census Block Number	Median Household Income in 2020
Bay Point CDP	060133141031	1	$46,509
Bay Point CDP	060133141051	1	$51,250
Bay Point CDP	060133142001	1	$60,395
Bay Point CDP	060133142002	2	$44,091

Additionally, there are several low-income communities within Pittsburg's incorporated boundary. Two types of disadvantaged areas (DACs) include Severely Disadvantaged Communities (MHI <$47,203), shown in red, and Disadvantaged Communities, shown in orange in Figure 8-7 below. All parcels within Pittsburg's boundary receive municipal services. No public health and safety issues were identified. The City has no programs to help low-income residents pay their sewer bills.

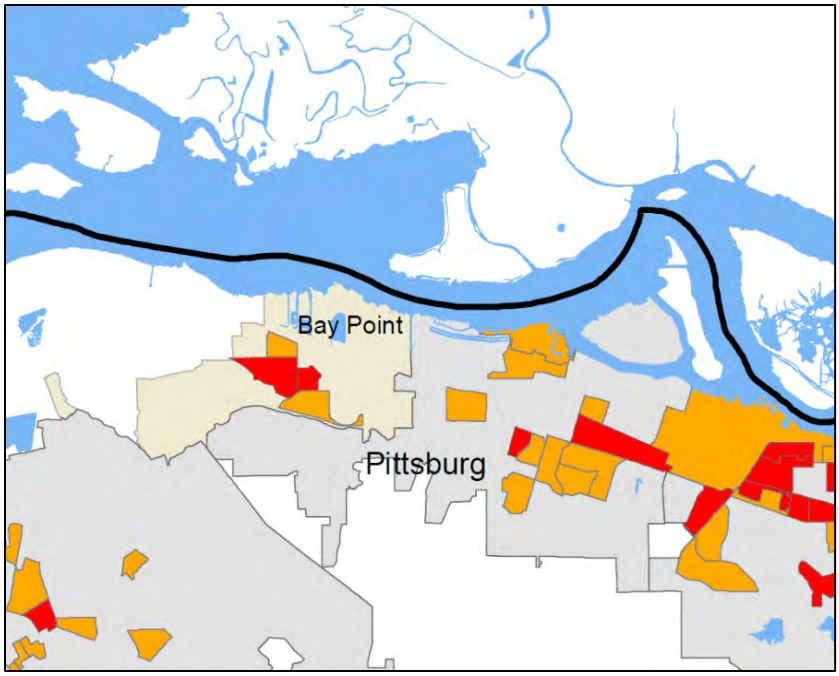


Figure 8-7: Disadvantaged Communities in Proximity to Pittsburg

Data Source for Figure 8-7: Contra Costa County GIS Data and U.S. Census at: *https://census.data.gov*

8.7: GOVERNMENT STRUCTURE ALTERNATIVES

LAFCO's 2014 MSR identified two government structure options for the City of Pittsburg: maintain the status quo and consolidate with DD. Both of the following options remain valid.

Maintain the status quo

The City is currently providing adequate wastewater services within its boundary. One parcel located outside the City boundary is also provided wastewater services; however, it is the subject of a

proposed annexation, which LAFCO is currently reviewing. The City is financially sound and has developed and adopted a CIP to maintain and upgrade necessary infrastructure (LAFCO, 2014).

Consolidate with DD

The City provides wastewater collection services, while the DD provides conveyance, treatment, and disposal services to the City. Additional analysis would be required to evaluate the long-term fiscal and operation impacts of consolidation and impacts on ratepayers (LAFCO, 2014).

8.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

Table 8-12: MSR Determinations

TOPIC AND PERFORMANCE MEASURES	DETERMINATION
Growth and Population for the affected area. • *Is the existing population estimated?* • *Is the projected future growth estimated?*	According to the Department of Finance, Pittsburg's population was 76,416 (2020). It is projected that the 2045 population for Pittsburg could be approximately 86,270, an increase of over 15.8%.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.	There are multiple DUCs within the City's SOI, located in the Bay Point area. Additionally, there are several low-income areas located within the City boundary. However, communities within the existing City boundary or SOI do not lack public services because they either receive services from a municipal provider or the properties are self-sufficient, relying upon groundwater wells and septic tanks. No health or safety issues were identified.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. • Does the agency have a capital improvement plan? • Ate SSOs identified? • Are local hazards identified?	Pittsburg's five-year CIP from 2022/23 through 2026/27 identifies 11 sewer CIP projects that total $27 million. Of these, five sewer projects totaling $14.4 million are already funded/partially funded within the next five years. New development is expected to install some needed pipelines as growth develops. Delta Diablo's Master Plan projects that the current solids loading capacity of the WWTP will be exceeded sometimes between 2030 and 2037.

	(continued) SSOs were counted for a 3.5-year term from January 1, 2019, to August 9, 2022, in the CIWQS-SSO database. The database query results showed 94 SSOs for the City of Pittsburg. This is a significant number of SSOs and is an item that needs improvement. Additionally, nutrient management is a concern for all wastewater service providers in the Bay Area. The City of Pittsburg prepared a Local Hazard Mitigation Plan which is incorporated by reference into the City's new General Plan Safety Element. Some of the City's wastewater collection infrastructure lies within areas identified as having flood, earthquake, and liquefaction risk. The Safety Element contains policies addressing these risks. There are multiple DUCs within the City's SOI, located in the Bay Point area.
Financial ability of agencies to provide services. • Has the agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures 10% or less?	The City's monthly sewer charge for a residential family is a flat fee of $15.79 for single-family residential customers and $13.50 for multi-family residential customers. The City's sewer fees have remained the same since March 2014. A rate study has not been prepared during the past 10 years. There is limited information about whether rates are sufficient to cover the needed capital improvement costs. The high number of SSO events indicates that some improvements are necessary. **Recommendation:** To ensure that rates collected will meet future wastewater service needs, the City should provide LAFCO with a copy of its new wastewater rate study upon adoption and prior to June 2025. Overall, the Sewer Utility Fund is considered stable and self-sustaining for operational, capital, and debt service activities. Revenues have exceeded expenses for all years studied except FY 2022-23. The difference between the FY 2022-23 budget expenses and prior fiscal years is likely due to the difference in financial accounting between audits and budgets.

	(continued) The City has a relatively good fund balance, providing good capability to absorb short-term impacts. The ratio of annual debt service to total fund annual expenditures is 113%, which suggests the City may have difficulty meeting debt obligations in relation to service provision expenditures.
Status of, and opportunities for, shared facilities.	The City participates with DD in regional pollution control education and prevention.
Accountability for community service needs, including government structure and operational facilities. • Does the agency have a website? • Does the agency post a public outreach tool (such as a calendar or newsletter) on its website? • What is the recommendation for mergers, consolidations, or other changes to governance structure?	The City has a comprehensive website that provides the public with access to City Council agendas and minutes, public notices, City budgets, CIP programs, rate studies, and water quality-related reports. A City Council meeting calendar listing upcoming meetings is posted at <*https://www.pittsburgca.gov/services/city-council/streaming-media*>. In addition, the City utilizes Facebook and Instagram to share information about upcoming community events. LAFCO's 2014 MSR identified two alternative government structures: (1) status quo, and (2) consolidation with DD. These alternatives remain valid. In the near-term, retention of the status quo is recommended. However, The City should pursue the preparation of a focused study evaluating the feasibility/cost-effectiveness of merging its wastewater operations with Delta Diablo as a potential long-term governance alternative.
Any other matter related to effective or efficient service delivery, as required by commission policy.	No additional issues have been identified.

8.9 SPHERE OF INFLUENCE

Section 8.7, Government Structure Alternatives, describes various issues and options associated with changing the structure of this local government agency as listed below.

- Maintain the status quo
- Consolidate with DD

LAFCO often accomplishes its government structure issues through changes to boundaries and/or

SOIs. The SOI was most recently considered in LAFCO's 2019 City Services MSR, and the SOI was retained in its current configuration. Pittsburg's SOI is 11.26 square miles. in size. For the reasons outlined in Section 8.7 retention of the status quo, with no change to the City's SOI is recommended. The SOI determinations LAFCO adopted in its 2019 City Services MSR and its 2021 Park and Recreation Services MSR can be reconfirmed.

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Chapter 9: CITY OF RICHMOND – WASTEWATER SERVICES

Table of Contents

9.1: OVERVIEW

The City of Richmond (City) is a Charter City, incorporated on August 7, 1905 (LAFCO, 2014). The city has a population estimated at 113,518 residents. The city is bounded on the north by San Pablo Bay, the unincorporated community of Tara Hills and the City of Pinole; on the south by the cities of El Cerrito and Berkeley; on the east by the unincorporated El Sobrante community; and, on the west by the San Francisco and San Pablo Bays (LAFCO, 2014). The city lies within the San Francisco Bay / Sacramento Delta Estuary watershed. Additional information about this watershed is provided in Appendix F.

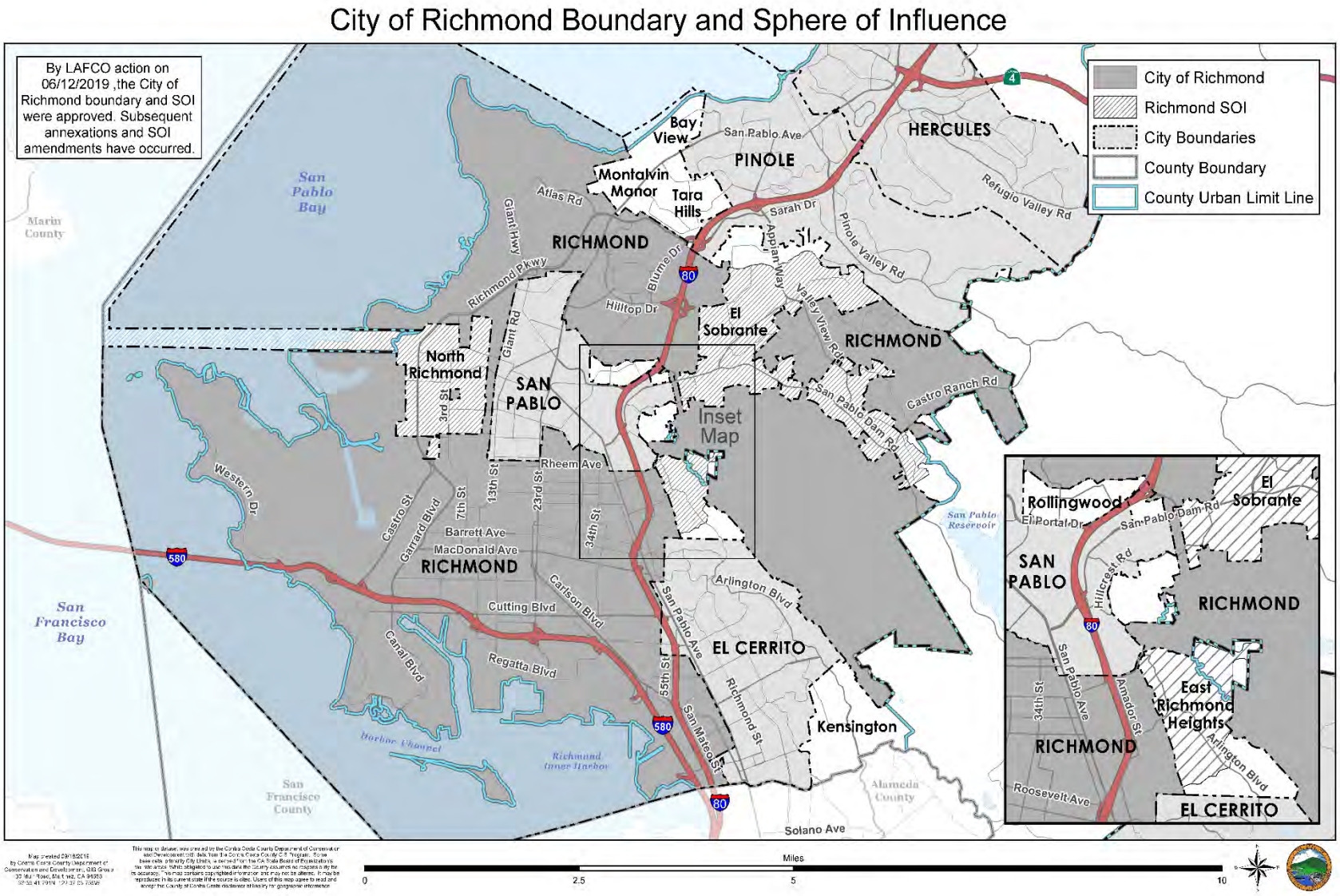
The city provides wastewater service to a majority of the city's residents (approximately 59% or 60,100 people) within Richmond (Phelps, personal communication, Jan 2023). In June 2021, the Richmond Municipal Sewer System served approximately 21,000 lateral sewer connections[1] (Phelps, personal communication, Jan 2023). A profile of the city's wastewater service is provided in Table 9-1. A map of the city's current boundary and sphere of influence (SOI) is shown in Figure 9-1.

[1] This is a slight increase from the previous year (2020) when the Richmond Municipal Sewer System served approximately 19,904 sewer connections (Richmond, 2022a).

Table 9-1: Agency Profile – City of Richmond

General Information			
Agency Type	Municipal		
Principal Act	General laws of the State of California- Charter City		
Date Formed	1905		
Water/Sewer Services	Wastewater collection and conveyance		
Service Area			
Location	City of Richmond		
Acres	Wastewater Service Area: 13.5 square miles/ 8,640 acres. City provides wastewater services to approximately 25% of the city's total acreage [Note the City of Richmond's full boundary contains a total of 52.6 square miles (which includes 18.9 square miles of tidal zones)].		
Land Uses	Residential, regional office, commercial, industrial, and port-related uses.		
Dwelling Units	40,375 (CA DOF, 2021)		
Population Served	Approximately 68,100 residents are served by the Richmond Municipal Sewer System (21,000 sewer lateral connections).		
Last SOI Update	June 12, 2019 (Contra Costa LAFCO, 2019)		
Infrastructure/Capacity			
Facilities	City of Richmond Wastewater Treatment Plant (WWTP), 194 miles of sewer collection system pipelines, 13 pump stations		
Treatment Plant Capacity	6.3 MGD (average dry weather flow), 33 MGD (peak wet weather flow) (City of Richmond, 2011)		
Primary Disposal Method	Treatment through Richmond WWTP and discharge through a deep-water outfall in central San Francisco Bay (LAFCO, 2014).		
Financial Information- FY 2021-2022 (Sewer Fund)			
	Revenues	Expenditures	Net
Sewer Fund (FY20/21)	$ 27,772,641	$ 20,466,640	$ 7,306,001
	FY 2023-2024	Planned Expenditures	
Capital Expenditures	$ 2,750.000	Proposed CIP Budget for FY23/24 per Table 9-12.	
Fund Balance	Data Not		
Net Assets Municipal Sewer Fund	$60 million in FY 2021-22 in Net Position	As of June 30, 2022 per the Annual Comprehensive Financial Report	
Governance			
Governing Body	City Council (7 members)		
Agency Contact	• Mary Phelps <Mary_Phelps@ci.richmond.ca.us>; • Lina Velasco <Lina_Velasco@ci.richmond.ca.us>; • Robert Armijo <Robert_Armijo@ci.richmond.ca.us>		
Notes			
LAFCO expanded Richmond's SOI (9/15/2010) in conjunction with the Kay Road Annexation.			

Figure 9-1: Boundary/SOI Map – City of Richmond



Abutting the city's service area, West County Wastewater District (WCWD) provides sewer collection service to a small portion of the city on its northern border, adjacent to the City of San Pablo, as shown in Figure 9-2. Stege Sanitary District collects wastewater for a portion of the city in the eastern hills adjacent to the City of El Cerrito (LAFCO, 2014).

9.2: BOUNDARY AND SOI

The city's boundary encompasses approximately 52.6 square miles, including approximately 18.9 miles of tidal zones on the San Pablo and San Francisco Bays shores, plus 33.7 square miles of land area. The city's General Plan along with the General Plan's Housing Element guides future growth in the community. It is projected that the city will grow to 132,600 by 2030, an increase of almost 15.8% over the current population of 113,518. The city's SOI encompasses the entire incorporated territory of the city as well as an additional 1.56 square miles of unincorporated territory to the north and east of the city.

There appears to be some geographic overlap between the City of Richmond's boundary and SOI and El Cerrito's boundary and SOI. Specifically, there is an area located along Vista Heights Road and Rifle Range Road that is currently served by the Stege Sanitary District and seems to have either geographic overlap or a mapping error.

It is recommended that when LAFCO next updates a MSR for the City of Richmond and/or the City of El Cerrito, the GIS data should be closely studied and compared to older maps to graphically depict any areas of geographic overlap.

9.3: CITY WASTEWATER OPERATIONS

The city operates and manages the Richmond Municipal Sewer District (RMSD). The City Public Works Department has a division named "Water Resource Recovery," which is responsible for wastewater services, including:

- Sanitary Sewer Collection System
- Wastewater Treatment Plant
- Capital Improvement Program
- Pre-treatment Program
- National Pollutant Discharge Elimination System (NPDES) Compliance

The Division aims to protect Richmond's public health and environment by carefully managing and monitoring stormwater and wastewater. The Division encourages private sewer lateral replacement by offering a grant program.

The RMSD (along with WCWD) is a member of the West County Agency (WCA), a joint powers authority (JPA) with the WCWD. Through the JPA, the city provides collection services to a portion of the city, operates its WWTP, and disposes of effluent through an outfall owned by the JPA (LAFCO, 2014). The city operates its WWTP through a 27-year contract with Veolia Water North America Corporation, which expires in May 2027 (Richmond, CIP, 2022). The contract covers the following items:

- Wastewater Treatment Plant
- Collection System (Sanitary and Storm Sewer)
- Emergency response for sewer problems and odors
- Capital Improvement Projects (CIP)
- (Source: Phelps, personal communication Jan 2023; March 2023)

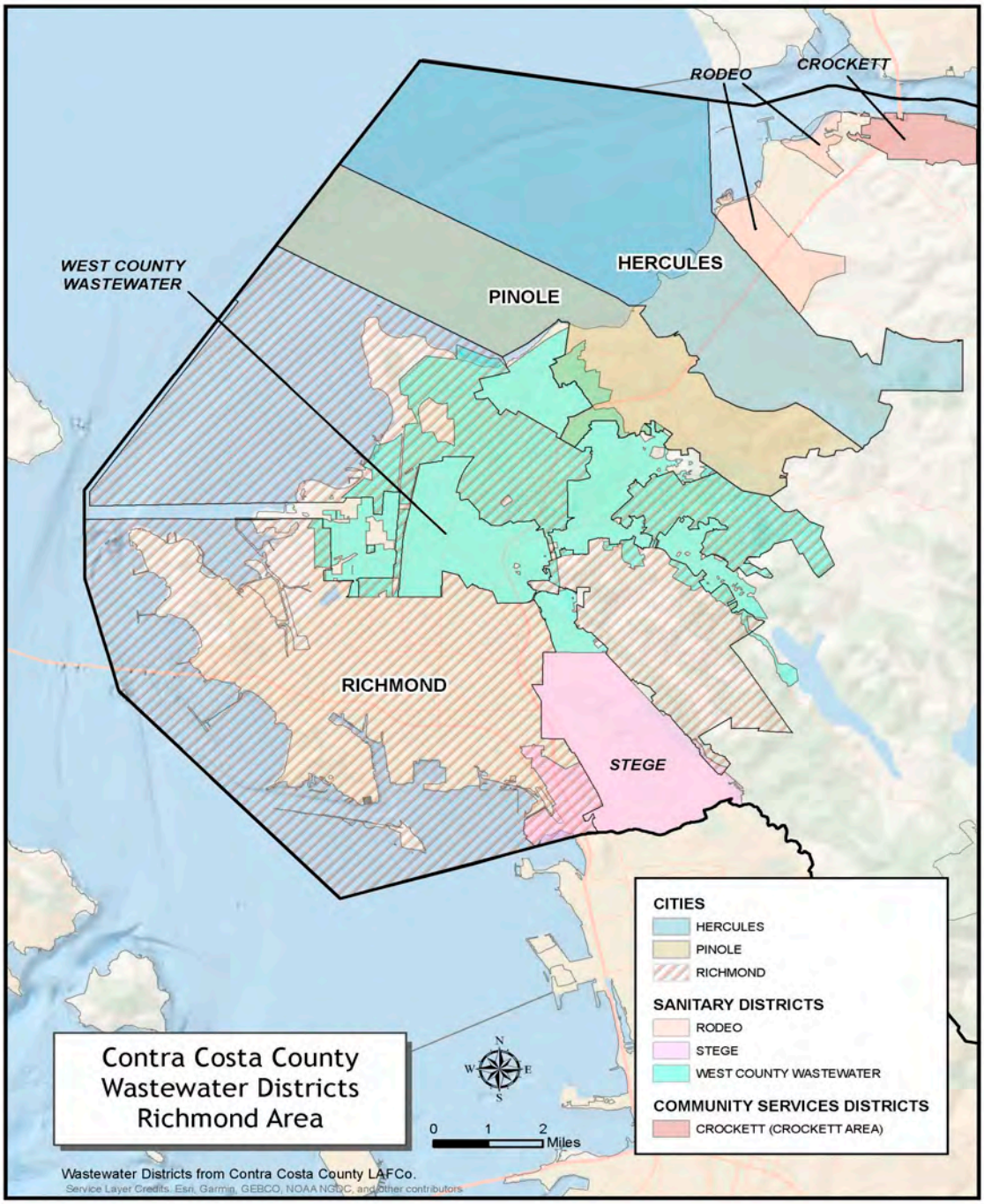
The city's wastewater service includes collection, conveyance to the City of Richmond WWTP, and disposal services. The city's Wastewater Collection System includes 183 miles of underground pipelines and 13 pump stations, which convey wastewater from Richmond residents and businesses to a WWTP. The city's Collection System Maintenance Crew and the Pump Station Mechanics work together to operate the pipelines, and pump stations operate continuously 7 days a week.

Three (3) WWTPs serve the city, including:

1) Richmond's Water Pollution Control Plant (run by Veolia) serves central Richmond.
2) West County Sanitation District on Garden Tract by the landfill serves the northern half of Richmond (approximately north of Rheem) [2910 Hilltop Drive, Richmond, CA]. See also Chapter 22 in this MSR.
3) In southern Richmond [i.e., the southern part of the Richmond "Annex"], the conveyance system (i.e., sewer pipes) is maintained by the Stege Sanitation District, and this wastewater travels to the EBMUD wastewater plant located near the Oakland San Francisco Bridge. See also Chapter 16 in this MSR.

The city provides wastewater collection and conveyance services to approximately 21,000 residential and business sewer connections (Phelps, personal communication, Jan 2023). One City sewer connection may serve many individual customers. Specifically, the city's wastewater system serves 1,344 commercial and industrial customers (Richmond, 2022a). Approximately 68,100 people are served by the Richmond Municipal Sewer District (Phelps, personal communication Jan 2023).

Figure 9-2: City of Richmond Area Overlap with Wastewater Districts



The National Pollutant Discharge Elimination System (NPDES) is administered by the U.S. Environmental Protection Agency (EPA) and California's State Water Board. Effluent limitations guidelines and pre-treatment standards are uniform national standards developed by EPA for specific industrial categories. These pre-treatment standards can also be considered pollutant discharge limits that apply to industrial users, commonly referred to as EPA Categorical Users. Richmond has four types of EPA categorical users, as listed below:

- 40 CFR Part 414 Subpart E, Thermosetting Resins
- 1- 40 CFR Part 433, Subpart A, Metal Finishing
- 1- 40 CFR Part 469, Subpart A, Semi-conductor
- 2 - Non-categorical Significant Industrial Users
- Source City of Richmond, 2022a

Existing Infrastructure

Richmond's Water Pollution Control Plant:

Richmond's Water Pollution Control Plant has a wastewater treatment system that includes screening, grit removal, primary sedimentation, conventional activated sludge (biological secondary treatment), secondary clarification, disinfection, and de-chlorination, as well as sludge thickening and anaerobic digestion (Richmond, CIP, 2022). The WWTP includes a new wet weather storage facility with some remaining capacity. This new facility includes improvements to the sewer collection system to reduce wet weather overflows from two engineered overflow structures, known as Boat Ramp and Harbour & Wright.

Veolia is a private company with a contract to operate Richmond's Water Pollution Control Plant. In 2018, Veolia prepared an Annual Operations Report for the City of Richmond WWTP. The report assessed WWTP performance, capital projects management, and sewer system status. The report outlined planned maintenance projects for 2019 (City of Richmond, 2018). Some of the high-priority projects planned include the completion of the 23rd Street storm water lift station M & C panel upgrade, wet-well safety hatch replacement for five sewer and storm pump lift stations, the replacement of clarifiers, and various other projects (City of Richmond, 2018). In addition, there were achievements in 2018, including the rehabilitation project that replaced pipes in the city on 13th Street and 23rd Street, the completion of the design engineering of a WWTP Biosolids to Energy Plan, and the initiation of construction for the Cutting, Carlson, and Hoffman Boulevard wet weather improvement sewer project (City of Richmond, 2018). During the past several years, the city completed three important milestones related to wastewater operations, including:

- Sewer Rate Increase - passed by City Council 07/01/2020
- Major CIPs upgrades at the WWTP
- Baykeeper Settlement Agreement 2018
- (Data Source City of Richmond, 2022a)

Additionally, during FY 2021-22, City staff completed the following tasks related to wastewater conveyance:

- Met Baykeeper Settlement Agreement (2018) Sanitary Sewer Overflows (SSOs)
- Reported 20 SSOs (the limit was 20 per Requirement for 2021)
- Completed 52 Point Repairs in the Sanitary Sewer System (SSS)
- Awarded 55 Sewer Lateral Repair Grants totaling $99,000
- Awarded CIPs:
- Upgrade Sodium Bisulfite Tank at WWTP - $6.4M
- North Richmond Pump Station - $1.8M (ARPA)
- High Priority Sewer Line Replacements - $956k
- Grade 5 Sewer Line Replacements - $474k
- Ferry Point Pump Station Rehabilitation - $2.7M
- (Data Source: Richmond Budget, 2022)

As of January 2023, the WWTP began undertaking construction for several CIPs (Phelps, personal communication, Jan 2023).

History of the Operation

The city system experienced significant system spills in the past. It was under a Cease & Desist Order until 2008 when a new National Pollutant Discharge Elimination System (NPDES) Permit was issued (City of Richmond, 2010). Before 2014, the city initiated several studies and identified alternative solutions for improving the collection system and for advanced treatment to reduce overflows in wet weather conditions (LAFCO, 2014).

In the fall of 2010, there was a significant increase in odor complaints from residents and businesses located around the wastewater treatment facility. Typically, increased odors occur due to changes in weather patterns and warm fall weather (LAFCO, 2014). The Bay Area Air Quality Management District (BAAQMD) investigated the facility and concluded that the covers on the anaerobic digester facility had failed. This failure resulted in the release of digester gas (methane and hydrogen sulfide) into the atmosphere, thus creating a potentially explosive condition at the plant and odor impacts to areas around the facility (LAFCO, 2014). The BAAQMD investigation also revealed a lack of proper maintenance and inspection on the covers and the removal of monitoring equipment that would have provided an alarm indicating that the covers were malfunctioning. As a result, the anaerobic digester facility was shut down, and raw, undigested sludge was trucked to the East Bay Municipal Utilities District (EBMUD) Oakland facility for several months while work was being completed to replace the cover as well as perform other maintenance and repair to the digesters (LAFCO, 2014). Veolia's response to residents' complaints was not satisfactory to the BAAQMD, which issued a number of "Notice of Violations" to Veolia as the plant operator and the City of Richmond as the facility's owner (LAFCO, 2014). The BAAQMD turned their investigation over to the Contra Costa County District Attorney, and the DA proceeded with further enforcement action against Veolia Water. However, they did not include the city in any of the enforcement. The two digester covers have since been replaced, and the city had two functioning redundant digesters (LAFCO, 2014).

The city completed a Sewer System Master Plan (SSMP) update in May 2017 that addresses maintenance requirements and system evaluations. The 13 pump stations deliver effluent to the WWTP for treatment and disposal through a jointly owned outfall with the WCA. Despite upgrades, the city's WWTP requires improvements to comply with modern standards since most structures are at least 45 years old (City of Richmond, 2016). One priority for the city is to develop a dewatering facility to avoid biosolid disposal costs from the WCWD (City of Richmond, 2016). Additionally, inflow from tidal surges and rainy weather may sometimes cause peak flow conditions and sewer system overflows (SSOs), as identified in Table 9-2. City staff indicates the SSMP is being updated (City staff, personal communication, Mar 2023).

Local Hazards

The Contra Costa County Hazard Mitigation Plan (HMP) maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards. The HMP identifies 11 critical wastewater infrastructure facilities in Richmond. Three facilities are located such that they are at potential risk. The Richmond area is at strong risk of Earthquake Peak Ground Acceleration. Portions of the city are at very high risk of Liquefaction Susceptibility. Other risks are described in the Contra Costa County HMP. The information about these hazards should be incorporated into the city's next Sanitary Sewer Management Plan update as recommended by the HMP (Contra Costa County, 2018). Additionally, it is recommended that detailed spatial mapping of the city's wastewater infrastructure in relation to the hazards identified in the HMP be conducted when LAFCO next updates its Wastewater Services MSR/SOI (Contra Costa County, 2018).

Sanitary Sewer Overflow Database

The State Water Board maintains a (SSO) database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for SSSs under Water Quality Order No. Order No. WQ 2022-0103-DWQ (SSS WDRs), on December 6, 2022. All public agencies that own or operate a SSS comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. A 3.5-year term from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. The 20 most recent SSOs from the database query regarding the City of Richmond are listed below in Table 9-2 (next page).

During the 3.5-year timeframe from 2019 to 2022, 61 SSO events occurred in the City of Richmond. In most cases, SSOs have failure points at the gravity mainline. Most overflows were relatively large, and many spills were not recovered. Query results showed that the 61 SSOs had a total volume of 3,411,771 gallons of sewage that were not recovered. In the database query, the largest SSO occurred on February 13, 2019, and had a volume of 580,670 gallons. This spill occurred due to a

storm surge that caused the flow to exceed capacity. None of the spill was recovered, leading to 580,670 gallons of sewage reaching surface waters. Only the SSOs occurring in 2021 and 2022 are listed in Table 9-2.

The San Francisco Baykeepers lawsuit and subsequent settlement agreement stipulate that the city cannot exceed 16 SSOs in a calendar year. This limitation could be waived if the city endures a 100-year storm event. For the 2023 calendar year, the city has already experienced 27 SSOs as of March 15, 2023. If the number of SSOs exceeds 16, the city must produce and submit a Sewer Spill Reduction Plan to San Francisco Baykeepers. The city submits a report of SSOs every March to Baykeepers. The city plans to submit a Sewer Spill Reduction Plan soon. Because of the settlement agreement, the Regional Water Quality Control Board has not escalated enforcement with the city due to the SSOs that have occurred. The Board is using the Baykeepers as an extension of oversight, which has kept the city from being fined. The city informed consultants that they are working well with San Francisco Baykeepers.

Atmospheric river events generate heavy rain. The January 2023 atmospheric river event resulted in localized flooding, infiltration, and inflow to local sewer pipes as described in Appendix F, Watersheds. One fundamental challenge with the Richmond wastewater system is that older sewer mains are too small to handle flows during heavy rains. For example, cracks can develop in older sewer pipes and joints, which then admit groundwater (i.e., "inflow and infiltration"). This is more noticeable in specific locations. For example, a local newspaper reported that in Richmond, at least six maintenance holes released sewage into San Francisco Bay during the atmospheric river event on January 11, 2023. Older privately owned sewer laterals can also develop cracks and create SSO problems. Given the SSO concerns described above, it is important for the city to charge a rate for sewer fees that can support and fund necessary upgrades to older sewer pipes.

The city has a program in place for replacing older privately-owned sewer laterals. When homes in the city change ownership, the seller must complete an inspection of the lateral for the home. Based on that inspection, the seller may have to repair or replace the lateral. The city has grants available for the replacement of laterals up to $250,000 a year. A large number of laterals need to be replaced, and the existing grant budget is expended every year. The city allows the seller to make the replacement or repair of the lateral a condition of the sale. If this is the case, the buyer has 60 days from the close of escrow to replace or repair the lateral. Based on costs, the city provided grant funding to replace 36 laterals in 2022. HOAs can also apply for grant money, but requests must be taken to the City Council for approval.

As part of the San Francisco Baykeepers settlement agreement, the city must rehabilitate, repair, or replace up to two miles of sewer line annually. Because the city could not maintain the terms of the agreement in 2016, the agreement was reinstated with the same terms in 2018 and will sunset in

Table 9-2: City of Richmond Sanitary Sewer Overflows

SSO Event ID	Region	Responsible Agency	Collection System	SSO Category	Start Date	SSO Address	SSO Volume	Volume of SSO Recovered	SSO Failure Point	WDID
875023	2	Richmond City	Richmond City CS	Category 3	6/2/2021 19:30	244	244	0	Gravity Mainline	2SSO10170
876081	2	Richmond City	Richmond City CS	Category 3	7/2/2021 17:45	20	18	0	Gravity Mainline	2SSO10170
876082	2	Richmond City	Richmond City CS	Category 3	7/5/2021 18:53	60	60	0	Gravity Mainline	2SSO10170
876083	2	Richmond City	Richmond City CS	Category 3	7/10/2021 8:00	297	297	0	Gravity Mainline	2SSO10170
877078	2	Richmond City	Richmond City CS	Category 1	10/24/2021 15:00	112,390	0	112,390	Gravity Mainline	2SSO10170
877079	2	Richmond City	Richmond City CS	Category 1	10/24/2021 5:45	492,025	0	492,025	Gravity Mainline	2SSO10170
877080	2	Richmond City	Richmond City CS	Category 1	10/24/2021 7:40	233,755	0	233,755	Gravity Mainline	2SSO10170
877081	2	Richmond City	Richmond City CS	Category 1	10/24/2021 5:45	220,475	0	220,475	Gravity Mainline	2SSO10170
877952	2	Richmond City	Richmond City CS	Category 2	12/2/2021 7:00	9,000	9,000	0	Maintenance hole	2SSO10170
878126	2	Richmond City	Richmond City CS	Category 1	12/13/2021 7:14	65,400	0	65,400	Gravity Mainline	2SSO10170
878127	2	Richmond City	Richmond City CS	Category 1	12/13/2021 7:25	112,575	0	112,575	Gravity Mainline	2SSO10170
878130	2	Richmond City	Richmond City CS	Category 1	12/13/2021 8:44	26,300	0	26,300	Maintenance hole	2SSO10170
878135	2	Richmond City	Richmond City CS	Category 2	12/14/2021 10:43	1,800	1,800	0	Gravity Mainline	2SSO10170

878160	2	Richmond City	Richmond City CS	Category 1	12/15/2021 23:31	13,875	0	13,875	Gravity Mainline	2SSO10170
878162	2	Richmond City	Richmond City CS	Category 1	12/15/2021 23:30	21,200	0	21,200	Maintenance hole	2SSO10170
879561	2	Richmond City	Richmond City CS	Category 2	2/18/2022 10:00	105,000	105,000	0	Force Main	2SSO10170
879562	2	Richmond City	Richmond City CS	Category 3	1/28/2022 21:00	120	120	0	Gravity Mainline	2SSO10170
879564	2	Richmond City	Richmond City CS	Category 3	2/7/2022 9:00	775	775	0	Gravity Mainline	2SSO10170
880857	2	Richmond City	Richmond City CS	Category 3	3/13/2022 11:00	215	215	0	Gravity Mainline	2SSO10170
881191	2	Richmond City	Richmond City CS	Category 2	5/9/2022 8:00	30,600	30,600	0	Gravity Mainline	2SSO10170
Data Source: CIQWS Sanitary Sewer Overflow Database										

Figure 9-3: Google Maps Street View of the City of Richmond Civic Center

2027. The city is committed to improving the sewer collection system to the equivalent of 10 miles. To make these improvements, the city assesses all PAPC rated grade five pipes for inclusion in capital improvement replacement projects, including lines with hydraulic capacity. The Harbor Way South project, a 10-million-dollar rehabilitation project, is scheduled to be completed in June 2026. Another project listed in the settlement agreement, South 33rd, was completed, and the city is asking to reallocate the remaining funds to other areas that would be more cost-effective.

At the regional level, from July to October 2022, San Francisco Bay experienced a harmful algal bloom (HAB) known as "a red tide", as described in Appendix F. The species associated with this bloom, *Heterosigma akashiwo*, can cause water to take on a reddish-brown color. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay, and into San Pablo Bay. Fish deaths linked to the red tide were reported to include sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San Francisco Bay Water Board is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other agencies to study potential impacts of nutrients on San Francisco Bay. The city of Richmond has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater Districts and the Water Board.

Infrastructure Needs

The City of Richmond maintains various equipment, vehicles[2], infrastructure, and associated assets. The MSR authors queried City staff about improvements that could be potentially made in the future to improve the efficiency and affordability of infrastructure and service delivery and sharing of resources and facilities. City staff indicates that several ideas are being considered for future long-term improvements to the system, including several CIP projects underway at the WWTP:

- Grit and Aeration Rehabilitation Project
- Sludge Thickener Project
- SCADA System Upgrade
- Co-generation Project
- Source City of Richmond, 2022a

In addition, due to the contract with Veolia ending in 2027, the city is currently looking at other opportunities and options for operations of the system. The city is considering

[2] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the city, it is likely that sometime in the future, the city may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

soliciting vendors or operators to take over the system after the Veolia contract expires. The city is informally exploring all options, such as inviting other jurisdictions like EBMUD or WCWD to contract with the city in the future to run operations.

During FY 2022-23, City staff hoped to complete the following:

- Complete First Street Wet Weather Project (replace/rehabilitate 7,452 linear feet of sewer line = 1.4 miles)
- Rehabilitate brick maintenance holes in the sanitary sewer system
- Replace/rehabilitate the force main sewer line on Dornan Drive
- Finalize Feasibility Study for Keller Beach sewer line
- Install trash capture device in stormwater collection system at Bayview Ave
- (Data Source: Richmond Budget, 2022)

Future Challenges:
Several factors influence an agency's ability to provide public wastewater-related service to customers. City staff has noted that an important factor influencing the system's ability to serve is the inflow and infiltration during storm events combined with King Tides (Source: City of Richmond, 2022a). SSOs occur in certain sections of the city, and the city conducts flow studies for those areas. In one area, Marina Bay Parkway, by extending the force main, the city could reduce the two or three SSOs that occur in that area yearly. The city plans to fix this force main in 2023 on an emergency basis. Inflow and infiltration can sometimes cause SSOs, as described in Table 9-2 below. Because inflow and infiltration occur in low lying areas, tides over six feet mean that the city is treating water from the Bay (City staff, personal communication, Mar 2023).

Integrating wastewater treatment plants into a healthy watershed context is an ongoing effort. For example, a non-profit organization, Resilient by Design Bay Area Challenge at: <*https://www.resilientbayarea.org*> suggests that recycled water from Richmond Area WWTPs could support restoration of coastal salt marsh.

The MSR authors note that Richmond has experienced high staff turnover. It is recommended that the staff turnover issue be studied in more detail in LAFCO's next City-wide MSR.

Also, the American Society of Civil Engineers, Region 9 has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

1. Implement an education program at the state and local level about what a WWTP is, what kind of waste it can treat, and the impacts waste has on the sewer pipes. Also, continue educational programs which identify a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water reuse/recycling.

Cooperative Programs

A JPA exists for the joint disposal of effluent by the agencies. The treated effluent from the city WWTP is combined with the effluent from the WCWD Water Pollution Control Plant (WPCP) and discharged into San Francisco Bay (City of Richmond, 2016). This agreement ends in December 2024. The city hopes to renegotiate with WCWD to continue to receive and treat the city's effluent. This renegotiation is in the infancy stages of planning. Additionally, the city is coordinating its potential participation in the EBMUD recycled water program (City of Richmond, 2016). The city's participation would support a future recycled water project and ensure that the WWTP improvements meet the State goal of maximizing water reuse (City of Richmond, 2016).

Cost Avoidance Opportunities

The city, WCWD, and EBMUD have coordinated programs to reduce costs, including pipeline main inspections, testing, repairs, and pump station maintenance (LAFCO, 2014). Operations staff training is coordinated on a regional level as part of the Bay Area Agencies' training group. The city, WCWD, and EMBUD are all participating members of the BACWA collections group. Quarterly meetings and trainings are held every year regarding the latest CCTV, maintenance, and inspection techniques available in the industry. City staff have attended meetings in the past but have been unable to attend recently due to staffing shortages and increased workload.

The city's WWTP is undergoing an innovative methane gas energy renewal project. The “Cogen Project” will be designed and delivered in two phases. The goal is to provide additional flexibility for the Richmond WWTP to develop a Fat-Oil-Grease (FOG) receiving program in the future but still capitalizes on the plant's currently available digester gas. The cogen unit that will be installed with this project will beneficially use digester gas instead of flaring off the gas, reducing plant energy use. A package cogen system would likely be an efficient and cost-effective option for the Richmond WWTP.

9.4: CITY FINANCIAL OVERVIEW

Two state databases provide City-wide financial summaries, including:

- California Auditor's website at: <*https://www.auditor.ca.gov/local_high_risk/lhr-main-landing*>.
- State Controller's Office at: <*https://cities.bythenumbers.sco.ca.gov*> runs the Government Financial Reports database that includes detailed financial data from 58 California counties and more than 450 cities and pension-related information for state and local government.

The main focus of this analysis is the Sewer Enterprise Fund described in the city's Annual Comprehensive Financial Report (ACFR) and its Operating Budget. The city's Financial Report and

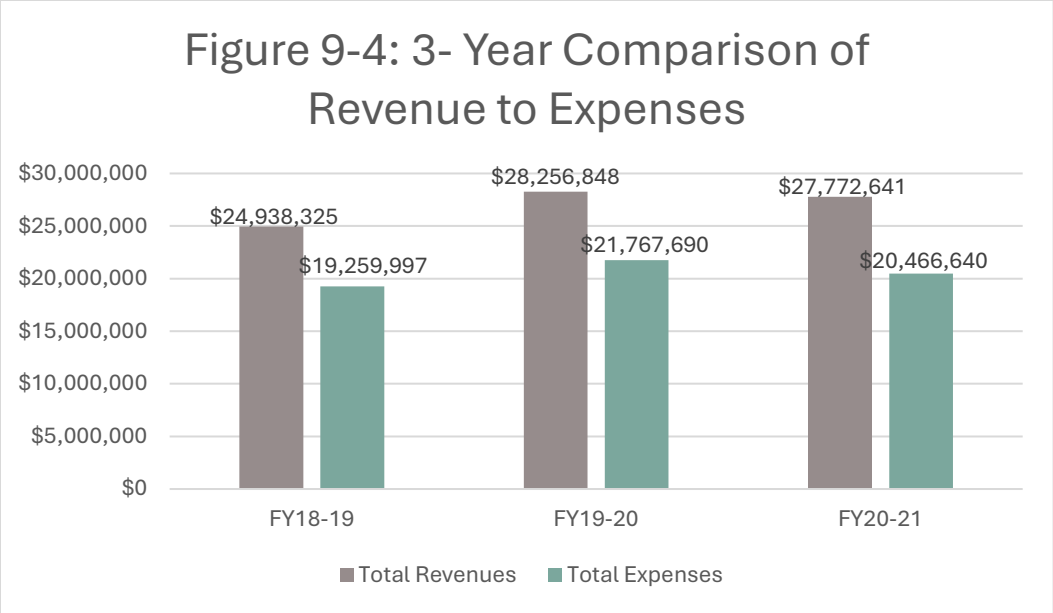
Operating Budget are updated annually, and readers are encouraged to view the city's most recent financial data as listed on its website: https://ci.richmond.ca.us/1000/Financial-Reports. Enterprise Funds are used to separately account for self-supporting operations. The city's budget and Certified Annual Financial Reports are the primary information sources for data related to the Sewer Enterprise Fund. These reports are posted on the city's website at: *https://ci.richmond.ca.us/2969/Annual-Comprehensive-Financial-Report-AC*. The city operates its wastewater service as an enterprise fund within the confines of overall City operations. Sewer service fees comprise the significant majority of revenues that fund the services provided (Richmond ACFR, 2021). The ACFR for the fiscal year ending June 30, 2021, is the most recent report available on the city's website.

The Municipal Sewer Fund accounts for all financial transactions relating to the city's Wastewater Collection and Treatment. Services are on a user-charge basis to residents and business owners located in Richmond (Richmond ACFR, 2021). Six primary areas of criteria have been utilized to assess the present and future financial condition of the city's wastewater service operations, as discussed below.

3 Year Revenue/Expenditure Budget Trends

Wastewater Enterprise Funds derives revenues from the sewer use tax fees, plan check fees and sewer lateral fees, pre-treatment permits, and design review fees. Expenditures include operating costs and capital improvements for the conveyance system and the WWTP (Richmond Budget, 2022). The city's Master Fee Schedule lists the sewer connection fee at $2,950.00 (Richmond, 2020). The Wastewater Enterprise Fund does not appear to receive funds directly or indirectly from the city's General Fund. During the pandemic years of 2020 through 2022, the City of Richmond received $27.7 million from the American Rescue-Plan Act, administered through the U.S. Treasury Department. The city received the first installment of $13.8 million in August 2021, and the second installment was expected in 2023. A small portion of these funds was designated towards investments in water, sewer, and broadband services for local residents and businesses (Richmond Budget, 2022).

The Municipal Sewer Fund reported an operating income of approximately $12.2 million in FY 2020-21. There were $4.9 million of non-operating expenses, the majority of which represented interest and swap expenses incurred on various Wastewater Debt issues, resulting in a $7.4 million increase in net position (Richmond ACFR, 2021). During the previous year (FY 2019-20), The Municipal Sewer Fund reported an operating income of approximately $11.2 million. There were $4.4 million of non-operating expenses, the majority of which represented interest and swap expenses incurred on various wastewater debt issues, offset by federal subsidies received to reduce interest cost associated with Richmond Wastewater Revenue Bonds, Series 2010B, resulting in a $7.1 million increase in net position to $43.2 million (Richmond ACFR, 2020).



(Data Source for Figure 9-4: City of Richmond, ACFR, 2021, 2020, and 2019)

As shown in Figure 9-4 above, the Wastewater Fund has experienced revenues that have been higher than expenses in each of the three study years. This indicates that the Fund has been experiencing surpluses in the operating portion of the Fund.

Ratios of Revenue Sources

The city' Annual Financial Report indicates that 99.95% of its Wastewater Fund receives revenues from charges and fees for services, no revenue from property taxes, and 0.05 percent from Capital Grants and Contributions, as shown in Table 9-3 below. However, the city budget (2022) indicates that of the total property tax received, approximately 16% is dedicated to the sewer fund. Property tax is considered a more elastic revenue source.

Table 9-3: Revenue Sources FY 2020-21

Revenue Sources	**Amount**	**Percent**
Charges For Service	$27,759,474	99.95%
Capital Grants and Contributions	$13,167	0.05%
Total Revenue	$27,772,641	100%

(Data Source: City of Richmond, ACFR, 2021)

Ratio of Reserves to Annual Expenditures

An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures. The wastewater fund currently has an unrestricted cash reserve of

$2,541,182. The annual Fund expenditures were $20,466,640 for FY 2020-21, as shown in Figure 9-4 above. The ratio of unrestricted reserves to expenditures is approximately 12% of annual expenditures, a slightly positive ratio.

Annual Debt Service Expenditures to Total Annual Expenditures

The City of Richmond has current liabilities, including accounts payable and accrued liabilities; interest payable; compensated absences – current; and long-term debt – current, as listed in Table 9-4 below. Noncurrent liabilities include unearned revenue; compensated absences; long-term debt; net pension liability; and net Other Post Employment Benefit (OPEB) liability (Richmond, ACFR, 2021).

Table 9-4: Liabilities (FY 2020-21)

Current liabilities:	
Accounts payable and accrued liabilities	6,491,825
Interest payable	2,315,458
Compensated absences - current	102,443
Long-term debt - current	2,480,000
Total current liabilities	11,389,726
Noncurrent liabilities:	
Unearned revenue	36,280
Compensated absences	5,200
Long-term debt	135,406,366
Net pension liability	3,253,302
Net OPEB liability	1,522,213
Total noncurrent liabilities	140,223,361
Total liabilities	**151,613,087**

(Data Source: City of Richmond, ACFR, 2021)

The ratio of annual debt service to total fund annual expenditures is an indicator of the city's ability to meet debt obligations in relation to service provision expenditures. Ideally, a 10% or less ratio would reflect a very stable ratio (LAFCO, 2014). The Municipal Sewer Fund's annual debt service was $8,148,851 in FY 2020-21 due to bond service liability, as shown in Table 9-5 below (Richmond, ACFR, 2021). Given the annual expenditures of $20,466,640, the ratio of annual debt service to total expenditures is approximately 40%. This reflects the significant capital expenditures funded through bond proceeds as part of the city's infrastructure upgrade program. Therefore, this ratio is high relative to the ideal. Additional details are provided in the following paragraphs.

Table 9-5: Revenue Bond Coverage 1999, 2006, 2008, 2010a, 2010b, 2017a, 2019a and 2019b Wastewater Revenue Bonds Last 10 Fiscal Years

Fiscal Year	Gross Revenue (1)	Operating Expenses (2)	Net Revenue Available for Debt Service	Debt Service Requirements			Coverage
				Principal	Interest	Total	
2012	$ 17,697,208	$ 8,956,411	$ 8,740,797	$ 975,000	$ 4,399,406	$ 5,374,406	1.63
2013	17,840,042	9,447,236	8,392,806	1,005,000	4,613,635	5,618,635	1.49
2014	18,569,191	9,734,277	8,834,914	1,055,000	4,560,528	5,615,528	1.57
2015	19,098,835	9,524,878	9,573,957	2,115,000	4,536,302	6,651,302	1.44
2016	19,843,677	9,954,037	9,889,640	2,200,000	4,393,375	6,593,375	1.50
2017	20,880,739	10,831,250	10,049,489	2,295,000	4,344,233	6,639,233	1.51
2018	23,752,946	11,885,819	11,867,127	2,400,000	5,599,008	7,999,008	1.48
2019	29,993,700	10,647,739	19,345,961	35,240,000	5,286,578	40,526,578	0.48
2020	28,589,996	13,183,065	15,406,931	3,420,186	3,386,178	6,806,364	2.26 (3)
2021	27,879,891	12,214,607	15,665,284	2,515,000	5,633,851	8,148,851	1.92

Notes: (1) Includes all Municipal Sewer Operating Revenues and Non-operating Interest Revenue excluding Derivative Investment Interest.
(2) Includes all Municipal Sewer Operating Expenses less Depreciation and Pension and OPEB Expense related to GASB Statements 68 and 75.
(3) Includes the current refunding of the 2008A Wastewater Revenue Refunding Bonds

Source: City of Richmond Annual Financial Statements

On May 13, 2015, Moody's Investor Services ("Moody's") considered the city's Wastewater Enterprise bonds and placed under review for possible downgrades. On August 4, 2015, Moody's downgraded its rating on the city's Wastewater Revenue Bonds, Series 2006A, to "Baa2" from "A2". Other credit rating downgrades included S&P's assigned underlying rating (SPUR) for the Wastewater Enterprise Fund, which was lowered from "A+" to "BBB" (Richmond, ACFR, 2021).

FY 2020-21 saw the termination of the 2008A Wastewater SWAP agreement (Richmond ACFR, 2021). During FY 2018-19, the city issued Series 2019B Wastewater Revenue Bonds to partially refund and defease $36,480,000 of the 2010B Bonds (described below). The bonds were paid in full as of June 30, 2021 (Richmond ACFR, 2021).

Richmond Wastewater Revenue Bonds, Series 2017A – Original Issue $33,530,000

On July 19, 2017, the city issued Series 2017A Wastewater Revenue Bonds in the amount of $33,530,000. The proceeds from the Bonds were used to finance improvements to the city's wastewater collection, treatment, and disposal system and to refund all of the city's outstanding Wastewater Revenue Refunding Bonds, Series 2006A. Principal payments are due annually on August 1. Interest rates on the Bonds range from 2% to 5.25%, and payments are due semiannually on August 1 and February 1 beginning February 1, 2018. The bonds mature on August 1, 2047.

The Series 2017A Bonds (as of June 30, 2021) are described in Table 9-6 below.

Table 9-6: 2017A Bonds – Description

Bonds outstanding	$ 29,750,000
Unamortized premium	5,134,610
Net	$ 34,884,610

The annual debt service requirements on the 2017A Bonds are listed in Table 9-7 below.

Table 9-7: 2017A Bonds – Wastewater, Annual Debt Service

For the Years Ending June 30,	Principal	Interest	Total
2022	$ 1,365,000	$ 1,502,225	$ 2,867,225
2023	1,430,000	1,432,350	2,862,350
2024	-	1,396,600	1,396,600
2025	-	1,396,600	1,396,600
2026	-	1,396,600	1,396,600
2027-2031	-	6,983,000	6,983,000
2032-2036	-	6,983,000	6,983,000
2037-2041	910,000	6,924,000	7,834,000
2042-2046	17,610,000	4,604,319	22,214,319
2047-2048	8,435,000	448,744	8,883,744
Total	$ 29,750,000	$ 33,067,438	$ 62,817,438

(Data Source: Richmond, ACFR, 2021).

Richmond Wastewater Revenue Bond Series 2019A and Wastewater Revenue Refunding Bonds, Series 2019B – Original Issue Series 2019A ($22,510,000) and Series 2019B ($66,075,000): On June 26, 2019, the city issued Series 2019A Wastewater Revenue Bonds and the 2019B Wastewater Revenue Refunding Bonds in the amounts of $22,510,000 and $66,075,000, respectively. The proceeds from the 2019A Bonds were used to finance improvements to the city's wastewater collection, treatment, and disposal system. The proceeds from the 2019B Bonds were used to refund all of the city's outstanding Wastewater Revenue Refunding Bonds, Series 2008A, and to partially refund and defease the city's outstanding Wastewater Revenue Refunding Bonds, Series 2010B. The outstanding balance of the defeased 2010B Bonds was $36,480,000 on June 30, 2019. Principal payments are due annually on August 1. Interest rates on the bonds range from 3% to 5%, and payments are due semiannually on August 1 and February 1 beginning February 1, 2020. The refund resulted in an overall debt service savings of $6,799,507. The net present value of the debt

service savings is called an economic gain and amounted to $4,738,022. The bonds mature on August 1, 2049. The Series 2019A Bonds are described in Table 9-8 below.

Table 9-8: Series 2019A Bonds description as of June 30, 2021

Bonds outstanding	$ 22,510,000
Unamortized premium	2,598,745
Net	$ 25,108,745

The annual debt service requirements on the 2019A Bonds are listed in Table 9-9 below.

Table 9-9: Annual Debt Service Requirements on the 2019A Bonds

For the Years Ending June 30,	Principal	Interest	Total
2022	$ -	$ 973,900	$ 973,900
2023	-	973,900	973,900
2024	-	973,900	973,900
2025	-	973,900	973,900
2026	-	973,900	973,900
2027-2031	-	4,869,500	4,869,500
2032-2036	-	4,869,500	4,869,500
2037-2041	3,480,000	4,607,000	8,087,000
2042-2046	4,960,000	3,408,950	8,368,950
2047-2050	14,070,000	1,508,800	15,578,800
Total	$ 22,510,000	$ 24,133,250	$ 46,643,250

(Data Source for Table 9-9: Richmond, ACFR, 2021).

Richmond Wastewater Revenue Bond Series 2019A and Wastewater Revenue Refunding Bonds, Series 2019B – Original Issue Series 2019A ($22,510,000) and Series 2019B ($66,075,000): The Series 2019B bonds as of June 30, 2021, are described in Table 9-10 below:

Table 9-10: Series 2019B Bonds as of June 30, 2021 Description

Bonds outstanding	$ 66,075,000
Unamortized premium	11,818,011
Net	$ 77,893,011

The annual debt service requirements on the 2019B bonds are listed in Table 9-11 below.

Table 9-11: Annual Debt Service Requirements on the 2019B Bonds

For the Years Ending June 30,	Principal	Interest	Total
2022	$ 1,115,000	$ 3,018,975	$ 4,133,975
2023	1,170,000	2,961,850	4,131,850
2024	2,815,000	2,862,225	5,677,225
2025	2,930,000	2,718,600	5,648,600
2026	3,050,000	2,569,100	5,619,100
2027-2031	17,300,000	10,373,750	27,673,750
2032-2036	21,225,000	4,064,325	25,289,325
2037-2041	16,470,000	1,166,475	17,636,475
Total	$ 66,075,000	$ 29,735,300	$ 95,810,300

(Data Source: Richmond, ACFR, 2021).

In summary, the city has pledged future wastewater customer revenues, net of specified operating expenses, to repay the 2017A, 2019A, and 2019B Bonds through 2050. The Municipal Sewer Enterprise Fund's total principal and interest remaining to be paid on the bonds are $206,801,213. The Municipal Sewer Enterprise Fund's principal and interest paid for the current year and total customer net revenues were $8,148,851 and $15,510,420, respectively.

Capital Improvement Program

The city has developed and implemented a comprehensive Capital Improvement Program for wastewater infrastructure improvements (LAFCO, 2014). The city's FY 2022-23 to FY 2026-27 Capital Improvement Program was approved in 2022. The largest project identified in the city's is the WWTP Critical Improvements. This project rehabilitates or replaces treatment plant process equipment and structures that have reached the end of their useful life and are a liability from a regulatory and safety standpoint. Project elements include grit and screening, an aeration system for the biological secondary treatment process, sludge thickening, dechlorinating, and protecting plant assets and property from rockslides. This project will cost $34,314,184 over multiple fiscal years. Funding Sources include Clean Water State Revolving Fund Loan, Revenue Bonds, and Enterprise Fund (Richmond CIP, 2022c). The CIP for 2022 to 2027 is shown in Table 9-12 below.

Table 9-12: Capital Improvement Program for Wastewater Infrastructure FY 2022-23 to FY 2026-27

Public Works - Water Resource Recovery Department-22
Wastewater CIP Overview

TOTAL CIP BUDGET - HISTORICAL COMPARISON

	FY2021-22 Adopted	FY2021-22 Actual 3/31/2022	FY2022-23 Adopted	FY2023-24 Proposed	FY2024-25 Proposed	FY2025-26 Proposed	FY2026-27 Proposed	5 Year Total
SOURCES BY FUND								
Wastewater - 4003	63,756,081	18,020,186	36,305,185	1,955,870	1,955,870	1,955,870	1,955,870	44,128,665
Wastewater Impact Fee - 2120	1,946,212	794,130	794,130	794,130	794,130	794,130	794,130	3,970,650
TOTAL SOURCES BY FUND	**65,702,293**	**18,814,316**	**37,099,315**	**2,750,000**	**2,750,000**	**2,750,000**	**2,750,000**	**48,099,315**
USES BY PROJECT								
2017A Bond Cutting Carlson, Hoffman Sewer Capa	647,041							-
2017A Bond Design Services	714,751	197,976						-
Brick Manhole Rehabilitation Project	794,130	38,170	794,130	250,000	250,000	250,000	250,000	1,794,130
Design Cutting, Carlson, Hoffman Sewer Capacity	778,080	60,316						-
Dornan Drive Force Main	4,000,000		4,000,000					4,000,000
Ferry Point Dornan Drive Pump Station	3,816,164	175,878	375,000					375,000
First and Bissell Sewer Rehabilitation	365,620	355,185						-
First Street Wet Weather	2,719,422	2,471,379						-
Fleet Replacement/CCTV Truck	1,570,000		515,000					515,000
Flood Risk Reduction Rheem Creek Watershed			1,598,844					1,598,844
Grit and Aeration Replacement	34,314,184	11,429,037	20,000,000					20,000,000
Macdonald and Virginia Sewer Capacity	593,308	499,937						-
Marina Bay Parkway Force Main	511,232	83,633	350,000					350,000
Sanitary Sewer Pipeline Rehabilitation Project	5,442,653	2,044,920	3,325,000	2,500,000	2,500,000	2,500,000	2,500,000	13,325,000
Sanitary Sewer Point Repairs	500,000	16,345	475,000					475,000
Wastewater Treatment Plant (WWTP) Cogeneration	2,652,082	174,373	1,461,280					1,461,280
WWTP Dechlorination System Replacement	3,521,283		3,250,000					3,250,000
WWTP Supervisory Control and Data Acquisition (SCADA) Upgrades	899,658	899,658						-
WWTP Seismic Retrofit - Phase II	345,479	35,044	325,000					325,000
WWTP Sludge Thickener Replacement	1,517,206	332,465	630,061					630,061
TOTAL USES BY PROJECT	**65,702,293**	**18,814,316**	**37,099,315**	**2,750,000**	**2,750,000**	**2,750,000**	**2,750,000**	**48,099,315**
			-					
USES BY ORG CODE								
Wastewater CIP - 40322931	63,756,081	18,020,186	36,305,185	1,955,870	1,955,870	1,955,870	1,955,870	44,128,665
Wastewater Impact Fee - 22022031	1,946,212	794,130	794,130	794,130	794,130	794,130	794,130	3,970,650
TOTAL USES BY ORG CODE	**65,702,293**	**18,814,316**	**37,099,315**	**2,750,000**	**2,750,000**	**2,750,000**	**2,750,000**	**48,099,315**

FY2022-23 to FY2026-27 Capital Improvement Plan

72

As part of the CIP program outlined in Table 9-12 above, during the week of December 6, 2023, Veolia Water West Operating Services, Inc. ("Veolia") and its contractors completed two important steps in the $42 million project to rehabilitate portions of Richmond's wastewater treatment plant and provide better environmental services to the Richmond community. Construction crews replaced an outdated fan that dispersed exhaust air from the wastewater processing area, and they drained a wastewater process tank in preparation for connecting new piping from that tank to aeration basins being upgraded as part of the project.

It is important to remember that the city is responsible for funding capital improvements to both the wastewater collection system and the WWTP. Veolia is a private company contracted to operate the treatment plant and may not necessarily be responsible for all of the capital improvements.

Additionally, the city has a list of sewer infrastructure projects it will undertake as a result of the major storms and the Baykeeper settlement within the next two to three years, as listed here:

a) Sanitary Sewer Line Improvement at 21st Street and Cutting Blvd
b) Sanitary Sewer Line Improvement at Cutting Blvd and Harbour Way
c) Extension of Force Main on Marina Bay Parkway (South 27th St)
d) Possible sewer line improvement at South 33rd Street (this project is under review based on flow modeling)

Rate Structure

The city's rate structure for wastewater services is determined by its Master Fee Schedule for 2022. The Master Fee Schedule lists various fees, including:

- Developer Fees (also known as a public facility impact fee) which fund major infrastructure improvements to serve new development, such as off-site roads, traffic signals, fire and police facilities, and park and recreation facilities. This fee is currently set at 3,625 per single-family dwelling unit. However, this fee varies depending on the type of development.
- The sewer Connection Fee is currently set at $3,018 per connection.
- The sewer pipeline incident Basic Response Fee is currently set at $ 442
- Sanitary System Sewer Charges, Richmond Municipal Sewer District No. 1, single-unit residential, annual charge is $880 (2020). The city's fees vary depending on the specific location or zone the customer is located in and can range from $770 to $880.
    - Commercial customers pay this fee at a different rate: FY 19-20 $63.81 per IWU $1.350 per pound of biological oxygen demand and $0.630 per pound Total suspended solid (TSS), but not less than $527 based on water usage.
- Industrial customers pay a waste discharge fee, depending on the type of waste produced. For example, the Annual Permit fee, Class I A (Categorical Industrial Users as defined in 40 CFR Chapter I Subchapter N), discharges more than 25,000 gallons of wastewater daily. The annual fee is $ 3,797.
- Wastewater Inspection Program: Fees vary by type of inspection needed.

- Fats Oils and Grease Program Fees. For example, the Annual Permit fee, Class V (Commercial Facility classified as a Fats, Oils, and Grease "FOG" as determined by the Control Authority is $306.
- Wastewater Plan Review Fee
- Certificate of Lateral Compliance
- Other miscellaneous wastewater fees

The most recent rate increase was adopted on July 1, 2021, based on an Employment Cost Index factor of 1.052% per the Master Fee Schedule.

9.5: POPULATION

There are approximately 113,518 residents within the city boundaries as of 2023 (CA DOF, 2023). This is a decrease in the population of two percent from the 2020 population of 115,894. Of the 113,518 (2023) residents within the city boundaries, it is estimated that 68,100 receive wastewater services from the Richmond Municipal Sewer System (Phelps, personal communication, Jan 2023). This equates to approximately 59% of City residents receiving wastewater services from the Richmond Municipal Sewer System. Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

Table 9-13: Existing Permanent Population, City of Richmond, 2022

Name of City	Population in Boundary (1) (2023)	Number of Registered Voters in Boundary (2)	Population in SOI only (3)
City of Richmond	113,518	57,512 (as of January 2023 per LAFCO)	19,162

Sources:
(1) California Department of Finance. Demographic Research Unit, Report E-4. Population Estimates for Cities, Counties, and the State, 2021-2023.
Released: May 1, 2023
Sacramento, California. *https://www.dof.ca.gov/Forecasting/Demographics/Estimates/*
(2). Registered Voters have declined in 2023 as compared to 2022 which had 58,705 registered voters per data provided by California Secretary of State, Registration by Political Subdivision by County, May 23, 2022.
(3): Calculated estimate based on an average of 3.02 persons per parcel in Contra Costa County.

As shown in Figure 9-5 below, Richmond's population has been declining in recent years.

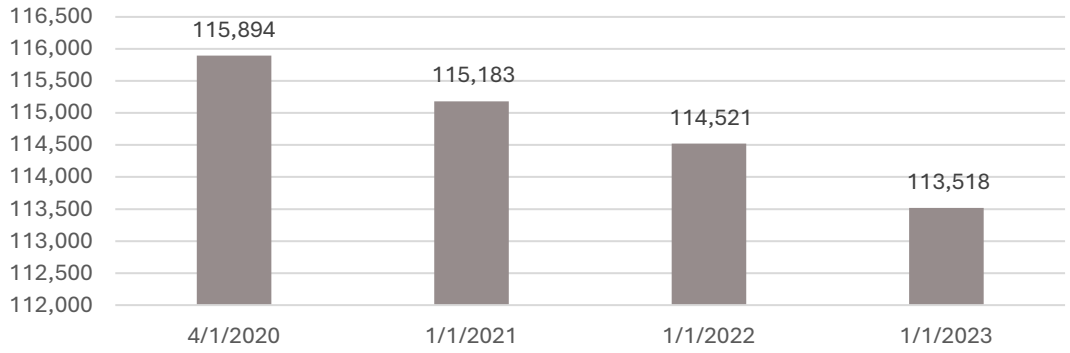


Figure 9-5: Population in Richmond 2020 to 2023

Source: CA DOF, Demographic Research Unit, Report E-4. Population Estimates for Cities, Counties, and the State, 2021-2023. Released: May 1, 2023

Projected Future Population

Projecting a city's future population is complicated due to varying annexation rates and census tracts that do not match City boundaries. Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County, as shown in Table 9-14 below. Since the anticipated future population growth of the city has the potential to influence the demand for the provision of wastewater services, the projections are shown in Table 9-14 below. By 2045, the city is projected to have 127,710 residents (CA, DOF, 2021). To ensure that wastewater infrastructure is sufficient to accommodate future development, the city utilizes a consultant to analyze future development and to create a hydraulic study to ensure the existing infrastructure can handle the new development.

9.6: DISADVANTAGED COMMUNITIES

Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist. Data from the 2020 U.S. Census was queried as part of this MSR update process. Data query results showed the City of Richmond is adjacent to the North Richmond CDP which contains one small census block that is a disadvantaged unincorporated community (DUC) as shown in Figure 9-6. The North Richmond CDP and its associated DUC is provided wastewater service by the West County Wastewater District, as described in Chapter 22.

Table 9-14: Total Estimated & Projected Population (2020 – 2045)									
	2020	**2025**	**2030**	**2035**	**2040**	**2045**	**Percent Increase 2020 to 2045**	**Numeric Increase 2020 to 2045**	**CAGR 2020 to 2045**
County of Contra Costa[1]	1,149,800	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.8%	181,631	0.59%
City of Richmond [2]	115,894	114,848	119,340	123,130	125,898	127,710	15.8%	17,422	0.59%

Sources:

1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.

2: California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State: January 1, 2020, and 2021. Sacramento, California.

3: Population projection for the City of Richmond calculated 9.59% of the County of Contra Costa population.

Figure 9-6: North Richmond DUC

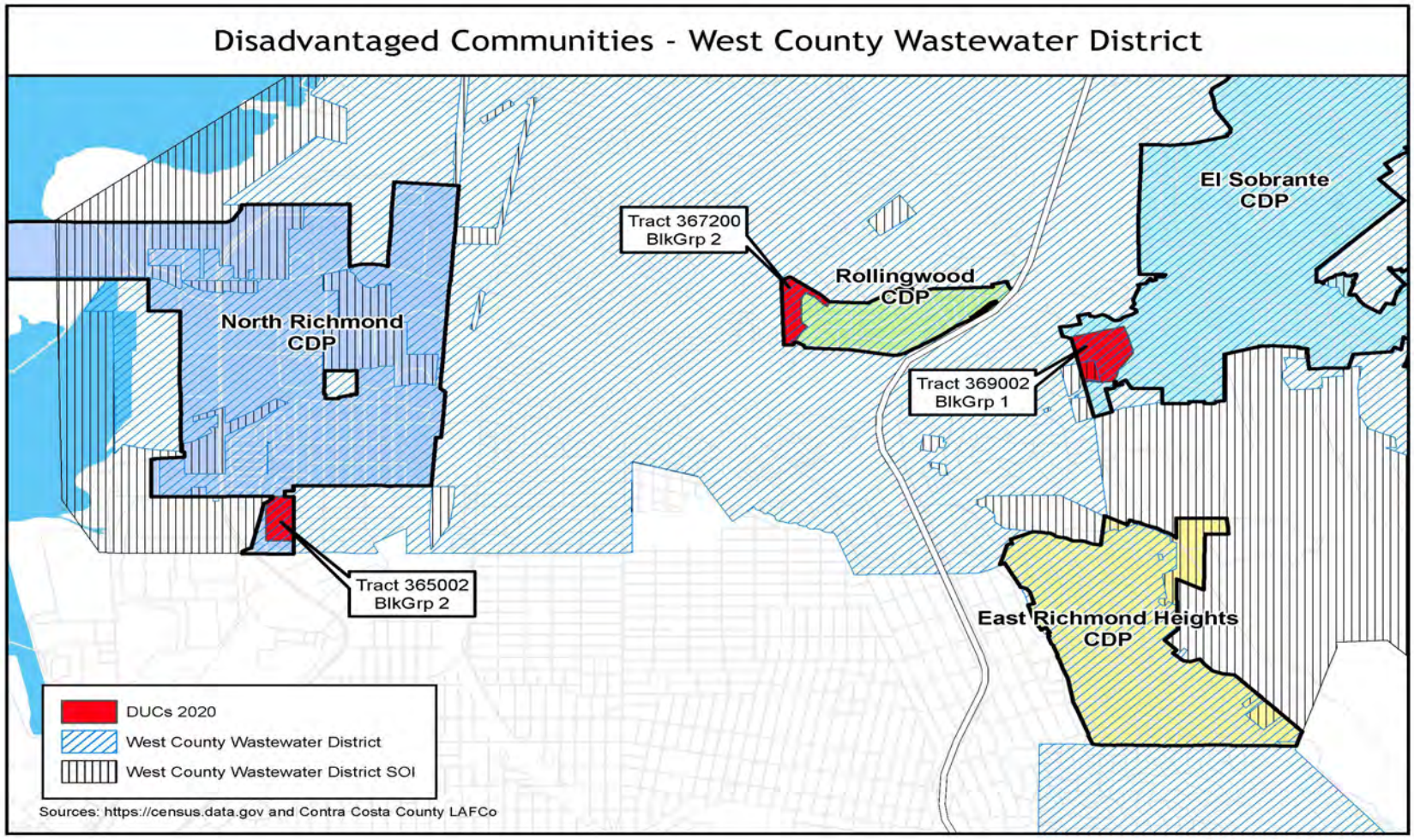
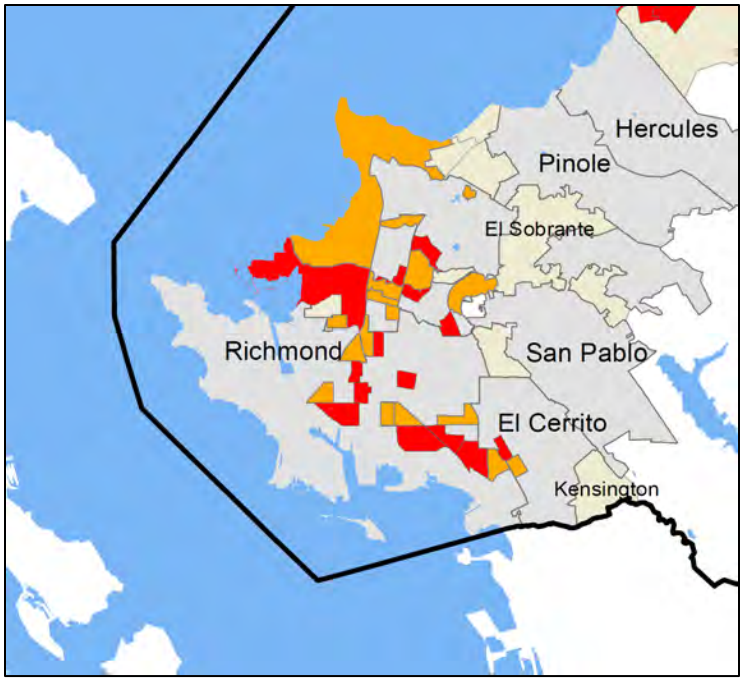


Figure 9-7: Disadvantaged Communities In and Near Richmond



Within the city's boundary, there are census blocks which meet the income criteria to be classified as disadvantaged as shown in Appendix B and in Figure 9-7 (U.S. Census Bureau 2021). This area receives sewer, water, and fire protection services. No public health or safety issues have been identified.

Readers can learn more about disadvantaged communities within the City of Richmond and Contra Costa County through the U.S. Department of Health and Human Services database of socioeconomic and health indicators in disadvantaged communities called the Environmental Justice Explorer Database. This database can be queried at <*https://onemap.cdc.gov/portal/apps/sites/#/eji-explorer*>.

9.7: GOVERNMENT STRUCTURE ALTERNATIVES

The city has a current contract with Veolia Water North America, which will sunset in 2027. Staff informed consultants that the city is looking at other options and opportunities, such as solicitations for other vendors or operators to take over the system after the Veolia contract ends. The city is open to other jurisdictions, such as EBMUD or other operators, to step in and run operations. The city is also looking at running the plant on its own.

Three government structure alternatives were identified in LAFCO's 2014 MSR: (1) maintain the status quo, (2) contract with [or annex to] EBMUD, and (3) contract with [or annex to] with WCWD.

Maintain the Status Quo: The city's wastewater collection and treatment system only serves the central, older core of the city. Areas in north Richmond are provided service from WCWD. The Stege Sanitary District serves a small portion of south Richmond. Each service area is geographically separate, and each of the three wastewater agencies has an established service area. There is no overlap in service (LAFCO, 2014).

Contract With [Or Annex To] with East Bay Municipal Utilities District: The city has entertained a preliminary review of options for future wastewater treatment, including a feasibility study of the cost/benefit of contracting or annexing its sewer collection and treatment area to EBMUD. No policy

decisions have been made to date. Additional study is needed. The city should consider initiating a focused study evaluating the fiscal and operational feasibility of merging the city's wastewater treatment operation with EBMUD (LAFCO, 2014). There have been no new studies considering the feasibility of merging the city's wastewater treatment operation with EBMUD (City staff, personal communication, March 2023).

Contract With [Or Annex To] West County Wastewater District: The city is open to exploring all options regarding wastewater collection and treatment options, including annexing to or contracting with WCWD. Additional study is needed. The city should consider initiating a focused study evaluating the fiscal and operational feasibility of merging the city's wastewater treatment operation with WCWD (LAFCO, 2014). There have been no studies to date looking at the fiscal and operational feasibility of the city merging wastewater treatment operations with WCWD (City staff, personal communication, March 2023).

9.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

Table 9-15: MSR Determinations – City of Richmond

TOPIC AND PERFORMANCE MEASURES	DETERMINATION
Growth and Population for the affected area. • Existing population is estimated. • Projected future growth is estimated.	The city has a total current population of 113,518. Approximately 68,100 residents are served by the Richmond Municipal Sewer System (21,000 sewer lateral connections). The city's 2030 General Plan projects that the city will grow to 132,600 by 2030, an increase of 16.8% from the current population of 113,518. However, the General Plan's Growth Rate estimate is higher than that calculated in this MSR analysis with a 2045 population projected to be approximately 127,710 persons.
	(continued) It is recommended that when LAFCO next updates a MSR for the City of Richmond and/or the City of El Cerrito, the GIS data should be closely studied and compared to older maps to graphically depict any areas of geographic overlap.

Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.	Data from the 2020 U.S. Census was queried as part of this MSR update process. The City of Richmond contains disadvantaged communities and is adjacent to North Richmond CDP which is a disadvantaged unincorporated community. This area received sewer, water, and fire protection services. No public health or safety issues have been identified.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. • Agency has a capital improvement plan. • SSOs are identified • Local Hazards are identified.	Richmond's CIP for wastewater infrastructure improvements encompasses FY 2022-23 to FY 2026-27 and was approved in 2022. The largest project identified in the city's CIP is the WWTP Critical Improvements. The city completed an SSMP update in May 2017 that addresses maintenance requirements and system evaluations. A 3.5-year term from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. During that time frame, there were 61 SSOs for the City of Richmond. The city should continue to improve its infrastructure to reduce the number of SSOs. When LAFCO next updates the city's MSR or a wastewater MSR, the number of SSOs should be studied more comprehensively, and recommendations should be jointly developed with the city to reduce SSOs.

	(continued) The Contra Costa County Hazard Mitigation Plan identifies 11 critical wastewater infrastructure facilities in Richmond. The Richmond area is at strong risk of Earthquake Peak Ground Acceleration. In addition, portions of the city are at very high risk of Liquefaction Susceptibility. The information about these hazards should be incorporated into the city's next Sanitary Sewer Management Plan update as recommended by the Hazard Mitigation Plan.
Financial ability of agencies to provide services. • Agency prepared a rate study • Revenues exceed expenditures • Ratio of annual debt service to total fund annual expenditures is 10% or less.	The city operates its wastewater service as an enterprise fund within the confines of overall City operations. Sewer service fees comprise the significant majority of revenues that fund the services provided. These fees are listed on the Master Fee Schedule. The sewer bill is distributed to customers as follows: • The sewer fees are submitted to the County Tax Assessor in August each year. • The Tax Assessor places the fees on the Property Tax Rolls. • The County Tax Assessor pays the city in three payments (55% of the total amount of fees are paid in December, 40% in April, and the balance in June). Revenues exceed expenditures in each of the three study years, and this is a very good indicator that rates cover operating expenses. The ratio of annual debt service to total fund annual expenditures was studied in this MSR. Given the annual expenditures of $20,466,640, the ratio of annual debt service to total expenditures is approximately 40%. This reflects the significant

	(continued) capital expenditures funded through bond proceeds as part of the city's infrastructure upgrade program. As a result, this ratio is high relative to the ideal.
Status of, and opportunities for, shared facilities.	The city participates with the Bay Area Clean Water Agencies in shared training and some maintenance operations. A JPA exists for the joint disposal of effluent by the agencies. Additionally, the city is assessing the feasibility of participating in some recycling services with the EBMUD to maximize water reuse.
Accountability for community service needs, including government structure and operational facilities. • Agency has a website. • Agency posts a public outreach tool (such as a calendar or newsletter) on its website. • Recommendation for mergers, consolidations, or other changes to the governance structure.	The city's website provides the public with internet access to City Council agendas and minutes, public notices, City budgets, CIPs, and audits. The City of Richmond also offers a free "E-News Signup" service for residents wishing to receive weekly updates on city projects, programs, and agendas. High staff turnover has been noted and it is recommended that LAFCO study this issue in the next City-wide MSR. There are three WWTPs that serve the city. Additionally, Figure 9-2 shows that there is significant overlap among wastewater service providers and the City of Richmond. Abutting the city's service area, WCWD provides sewer collection service to a small portion of the city on its northern border, adjacent to the City of San Pablo. Stege Sanitary District collects wastewater for a portion of the city in the eastern hills adjacent to the City of El Cerrito. In addition, EBMUD provides water and wastewater service in the general region. The 2014 MSR recommended preparing a focused fiscal/feasibility study evaluating the feasibility/

	(continued) cost-effectiveness of merging its wastewater operations with the WCWD or EBMUD. This was not completed at the time. However, due to the contract with Veolia Water North America expiring in 2027, the city may consider inviting EBMUD or WCWD to take over operations. No official studies are underway at the time of this report. In the past, the city conducted a Recycled Water Feasibility Study to investigate how feasible it is to reuse treated effluent by conveying it to EBMUD.
Any other matter related to effective or efficient service delivery, as required by commission	No additional issues have been identified.

9.9: SPHERE OF INFLUENCE RECOMMENDATIONS

This MSR focuses solely on wastewater service. The city does not currently anticipate needing any changes to the city's boundaries or SOI in relation to wastewater service. Therefore, this report recommends that Contra Costa LAFCO maintain the existing SOI for the City of Richmond in the near-term. However, the city's contract with its WWTP operator will be expiring in 2027 and this may present an opportunity for further collaboration or governance structure changes with neighboring wastewater service providers. Any decisions regarding future SOI or governance structure refinements should take into consideration the location of disadvantaged census blocks within the city boundary. Additionally, when LAFCO next considers City-wide municipal services, the city's General Plan should be consulted as its policies may signal the intention to ultimately adjust the city's boundary and SOI in certain areas of the city. Additionally, the City Council may wish to share additional information with LAFCO about their potential future boundaries and SOI. See also LAFCO's June 12, 2019 MSR on City Municipal Services.

9.10: BIBLIOGRAPHY

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Chapter 10: COUNTY SANITATION DISTRICT NO. 6

Table of Contents

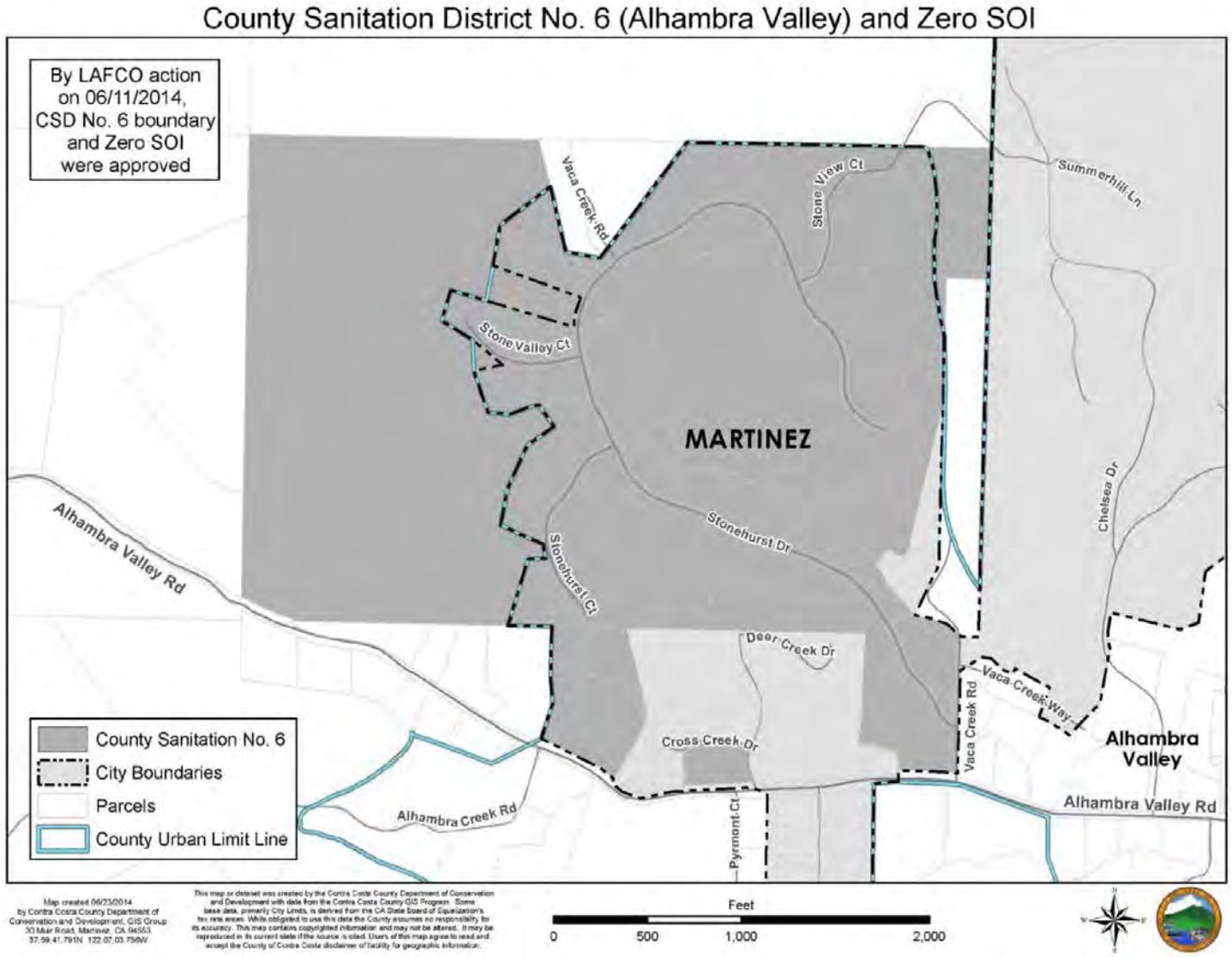
10:1: OVERVIEW

The Contra Costa County Sanitation District No. 6 (SD No. 6) is a dependent special district formed in 1992 to provide wastewater service to the Stonehurst subdivision located within the City of Martinez. Stonehurst is a gated, single-family subdivision consisting of 47 parcels primarily developed during the 1990s (Sub-Final Map recorded 4-26-91). Approximately 134 (2022) residents live in the community, and little or no growth is anticipated. The area was annexed to the City of Martinez in September 2012 as part of the larger Alhambra Valley annexation. The District's sphere of influence (SOI) is coterminous with the agency boundary, as shown in Figure 10-1. Each parcel has an individual septic tank where wastewater receives primary treatment; the effluent from each tank is conveyed to a community wastewater treatment plant owned by the district, where it is filtered, disinfected, and then discharged through a leach field at the top of an adjacent ridge for final treatment and disposal. The district lies within the San Francisco Bay / Sacramento Delta Estuary watershed. Additional information about this watershed is provided in Appendix F. The Agency Profile for SD No. 6 is provided in Table 10-1.

Table 10-1: Agency Profile – County Sanitation District No. 6 – Wastewater Services

General Information			
Agency Type	County Sanitation District		
Principal Act	County Sanitation District Act, Health, and Safety Code		
Date Formed	January 28, 1992; CCC Res 92/57		
Water/Sewer Services	Sewage collection, treatment, and disposal for Stonehurst Subdivision (Alhambra Valley)		
Service Area			
Location	Stonehurst Subdivision, City of Martinez (Alhambra Valley)		
Sq. Miles/Acres	0.36 square miles/232 acres		
Land Uses	Residential		
Dwelling Units	47 (one undeveloped parcel outside Stonehurst Subdivision)		
Population	Approximately 134		
Last SOI Update	05/14/2014 (Contra Costa LAFCO, 2014)		
Infrastructure/Capacity			
Facilities	3.25 miles of sewer main, 1 pump station		
Treatment Plant Capacity	14,100 gallons per day (GPD) (permitted flow)		
Primary Disposal Method	Septic tank systems; community disposal system with sand filter; UV disinfection; leach field disposal		
Budget Information- FY 2023-24			
	Revenues	Expenditures	Net
Operating/General	$115,150	$123,279	$(-8,129)
Combined Other	$99,302	$139,537	$(-40,235)
All Funds	$214,452	$123,279	$ (-48,364)
	FY 2023-24	Long-Term Planned Expenditures	
Capital Expenditures		Implementation of the draft plan pending approval of a new permit	
Net Assets (Reserves)		A reserve fund is pending approval of the Long-Range Plan and permit.	
Governance			
Governing Body	Contra Costa County Board of Supervisors		
Agency Contact	• Randy Leptien, Consulting Engineer (rleptien@cityofmartinez.org) • Joe Enke (jenke@cityofmartinez.org) • Ali Hatefi (ahatefi@cityofmartinez.org)		
Notes			
LAFCO adopted a "zero" SOI for SD No. 6 on 4/9/2008 and reconfirmed the zero SOI in May 2014.			

Figure 10-1: Boundary/SOI Map – County Sanitation District No. 6



10.2: SD NO. 6 BOUNDARY & SOI

SD NO. 6 is an independent district formed in 1992 pursuant to the California County Sanitation District Act, Health & Safety Code. SD No. 6 serves the Stonehurst subdivision located in the City of Martinez. It has 47 wastewater connections (i.e., customers) within its 0.36 square miles/232 acres boundary area. SD NO. 6's profile is shown in Table 10-1. A map of SD NO. 6's current boundary and SOI is shown in Figure 10-1. The community lies within the County Urban Limit Line approved by the voters in 2006; it is surrounded by lands designated as open space and agriculture, including EBPRD lands and other open space, which is protected by the John Muir Land Trust through conservation easements to the north, west, south, and east. Land use within the Stonehurst subdivision (i.e., SD NO. 6 boundary area) is currently comprised of single-family homes developed on relatively large-sized lots.

The City of Martinez General Plan and Zoning Ordinance regulates future development within the boundary area. The City Council adopted the General Plan 2035 on November 2, 2022. The General Plan, EIR, and accompanying documents are on the City's website at: <*https://www.cityofmartinez.org/departments/planning/2035-general-plan/-fsiteid-1#!/* >. Most of the Stonehurst Subdivision has the following General Plan designation: Alhambra Valley Estate Residential - Very Low Density (City of Martinez, General Plan, 2022).

No plans exist to expand the subdivision by creating or annexing new lots. However, in recent years, California has passed several new housing laws that describe a potential process to consider infill development in the form of accessory dwelling units.

Sphere of Influence

The Sphere of Influence and the district boundary are coterminous. LAFCo action on 8/13/2008 affirmed the existing District boundary and coterminous SOI. LAFCO also reaffirmed the coterminous boundary and SOI as part of its May 14, 2014 MSR/SOI for water and wastewater services. SD No. 6 has a zero SOI, which signifies the need to dissolve SD No. 6 as soon as sanitary sewer service becomes available in the area (LAFCO, 2014).

10.3: WASTEWATER OPERATIONS

SD No. 6 is a dependent special district administered by the City of Martinez that serves one subdivision of homes in the northwest area of the County. There are no commercial, industrial, or EPA categorical users of the SD No. 6 system. Each residential parcel within the Stonehurst development participates in SD No. 6, and each parcel has an individual septic tank that provides primary treatment. The effluent receives secondary treatment through an on-site wastewater treatment facility and is discharged through a leach field at the top of an adjacent ridge (LAFCO, 2008). The effluent from the septic tank is transferred to a small, on-site wastewater treatment plant (WWTP) with 14,100 GPD capacity. Average Dry Weather Flows are estimated at approximately 8,500

GPD. Table 10-2 below summarizes the district's facilities.

Table 10-2: County Sanitation District No. 6 Wastewater System Overview	
Facility	**Quantity**
Sewer Mains/ Effluent Line	3.25 miles
Pump Stations	1 pump station
Average Age of Collection System	32 years
Average Dry Weather Flow / Permitted Flow	8,500 gpd / 14,100 gpd
Treatment /Disposal	Primary: Individual septic systems; Community Disposal System with sand filter, UV disinfection Disposal: leach field
Data Source: LAFCO, 2008. Updated in 2024.	

The wastewater collection and treatment system[1] was installed in 1991 for the development of the subdivision. It is permitted under the San Francisco Bay Regional Water Quality Control Board (RWQCB) Order No. R2-1991-0096 – Waste Discharge Requirements. The District's existing sanitary sewer system infrastructure includes small gravity lines, including a pressurized sewer main and pump station, sewer laterals between the valve and sewer main, treatment facilities and pumps, and a leach field, as listed in Table 10-2 above. Additionally, the leach fields at the ridge and the Ultra Violet disinfection at the plant provide additional treatment.

The system was originally constructed and permitted to provide recycled water that could be used for subsurface irrigation of the community landscape during dry months. During wet months, the treated effluent would be discharged through the leach field. The system includes a recirculating sand filter and ultraviolet disinfection treatment process to meet State requirements for this intended use of reclaimed water. The system operates as permitted; however, irrigation has never been implemented, and there are no plans to do so in the future (LAFCO, 2008).

Permit from Regional Water Quality Control Board

The wastewater treatment system was designed to serve the buildout condition of this subdivision only, as specified in the Waste Discharge Requirements issued by the San Francisco Bay RWQCB[2].

[1] Each parcel has an individual septic tank with pipelines that gather wastewater from residential bathrooms, kitchen sink, laundry, etc. A septic tank system is a self-contained, underground wastewater treatment system. The community -wide septic system holds the wastewater and allow solids to settle and temporarily remain in the tank. The liquids exit into a buried drain absorption field, where wastewater is sent through pipes to the underground soil. Naturally occurring bacteria and minerals located within the soil work to further filter the wastewater before it encounters any groundwater.

[2] In 2006, the State Water Resources Control Board adopted the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (WQO No. 2006-003-DWQ) and all sanitary sewer overflows (SSOs) must now be reported to the California Integrated Water Quality System (CIWQS). Additionally, per WQO No. 2006-003-DWQ, SD No. 6 is required to have a Sewer System Management Plan (SSMP) that provides a plan

The 1991 RWQCB permit contains Provision F.1, which states: "If at any time sanitary sewer services become available in the Alhambra Valley, the sewage flow from Stonehurst shall be directed to the sanitary sewer line. Redirection of the sewage flows from the on-site treatment system to the sewer shall take place at the earliest possible time after construction of the sewer has been completed. A report shall be filed with the Regional Board which details the closure of the on-site wastewater treatment and disposal system".

The Central Costa Contra Sanitary District (Central San) has a pipeline and a connection opportunity located approximately 1/5 mile away at the intersection of Alhambra Valley Road and Quail Lane. To study this connection opportunity, Woodard and Curren consulting engineers prepared two studies to ascertain the cost of a pipeline and pump station to connect the current service users.

Based on requests from the homeowner's association and a study from Woodard & Curran, SD No. 6 plans to request RWQCB to revise the permit to apply for coverage under Small Domestic General Order to 1) eliminate treatment (ultraviolet disinfection) and monitoring requirements for recycled water; and 2) discharge to leach fields indefinitely, except Alternative #4 connection to Central San.

Sanitary Sewer Management Plan

The agency's sanitary sewer management plan (SSMP) is typically described in this section of the MSR. The SSMP was completed on August 31, 2008, and revised on June 14, 2012 (LAFCO, 2014). However, a more recent SSMP has not been posted on the City's website. So, it was not available for review by the MSR Authors. To address the unique needs of SD No. 6, the County, the City of Martinez, and/or Central San have prepared evaluation reports written by consulting engineers as described in the following paragraphs.

System Evaluation and Recommended Improvements Report

In 2014, consulting engineers, Harris & Associates, authored a report about SD. No. 6 entitled "System Evaluation and Recommended Improvements Report" (Harris Report). The Harris Report outlines the evaluation of the wastewater system's mechanical equipment, identifies deficiencies in various areas, and provides recommendations for improvements to address these deficiencies. The report also suggested possible future annexation to the Central San. Key sections of the report include the following:

- An introduction and background on SD No. 6 and the purpose of the Report.
- A detailed system description.
- Evaluations of emergencies, costs of operations and maintenance, existing deficiencies and needed improvements, annual replacement costs, and budget review.
- Considerations for possible permit changes, an evaluation of risks associated with

and schedule to manage, operate, and maintain all parts of the sanitary sewer system to reduce and prevent SSOs and mitigate any SSOs that do occur; this includes a Fats, Oils and Grease control program and an Overflow Emergency Response Plan (LAFCO, 2008).

continued operations, and comprehensive conclusions and recommendations.

The report also includes numerous tables detailing invoices from operating services, emergency costs, operational and maintenance expenses, needed improvements, and other financial assessments crucial for understanding the wastewater system's current state and future needs (CC County, 2014).

SD6 Annexation Alternatives Evaluation Final Technical Memorandum

Woodard & Curran Inc. Consulting Engineers prepared a Technical Memorandum entitled "SD6 Annexation Alternatives Evaluation Report," dated September 10, 2021. This Technical Memorandum analyzes four sewer alternatives for SD No. 6 concerning the annexation possibilities for sewer service by the Central Contra Costa Sanitary District (Central San). The report evaluates feasible alternatives for providing sewer service to the community by building upon previous studies and considering Central San's current standards. Four main alternatives are discussed, each with planning-level cost estimates and a high-level alternatives analysis. The alternatives developed are based on several assumptions, including the non-utilization of existing SD-6 facilities, the direction of flow to Central San's system, and the specific requirements for new pump stations and private infrastructure. The report considers criteria such as cost, operations, and maintenance (O&M) implications, constructability, community impact, permitting and easement acquisition, and environmental requirements. The report describes four alternatives for providing sewer service to the Stonehurst Subdivision as part of an annexation evaluation. The Consulting Engineers evaluated each alternative based on various criteria, including cost, operations and maintenance implications, constructability, community impact, permitting and easement acquisition, and environmental considerations (Woodard & Curran Inc., 2021). Table 10-3 provides a brief overview of each alternative.

December 2022 Summary Wastewater Alternatives Descriptions

In December 2022, Woodard & Curran prepared a PowerPoint presentation entitled "City of Martinez Stonehurst (SD-6) Wastewater Alternatives Summary Descriptions". The analysis was funded by SD-6 enterprise funds and the Stonehurst HOA. City staff conducted public outreach by meeting with the Stonehurst HOA and residents to review the study's findings and the need for improvements. This presentation analyzes five alternatives numbered 1, 2, 3, 4a, and 4b and provides an Alternatives Life Cycle Cost Analysis for each alternative as listed in Table 10-4. The alternatives (4a and 4b) that consider consolidation with Central San as recommended in LAFCO's 2008 and 2014 MSRs estimate total capital costs ranging from $6,112,000 to $7,256,000. This equates to a per-parcel cost ranging from $130,042 to $154,383.

The analysis concludes that Alternative 2, Rehabilitation and Upgrade of Existing Facilities, appears to be the low-cost alternative with reasonable risk. Alternative 2 has an Immediate Rehabilitation cost of $165,000 and a Long-Term Rehabilitation of $1,494,000. The estimated annual O&M, not including an annual contribution to a sewer replacement fund, is $92,000.

Table 10-3: Comparison of Alternatives from 2021 Woodard & Curran Report		
Name of Alternative	**Description of Alternative**	**Estimated Cost of Alternative***
Alternative 1 – Street Alignment utilizing Gravity and Pressure Mains	Involves installing a new eight-inch gravity sewer main along existing streets, with portions constructed via trenchless methods to avoid additional pump stations. This alternative also incorporates multi-use low-pressure (MULP) collectors for certain areas.	Approximately $3.8 million. This includes new Central San-owned facilities within the subdivision only.
Alternative 2 – Street and Creek Alignments Gravity Main	Proposes the installation of an eight-inch gravity sewer main along existing streets and through a creek alignment to eliminate the need for new pump stations. This alternative leverages the natural topography to facilitate gravity flow out of the subdivision.	Approximately $4.1 million. This includes new Central San-owned facilities within the subdivision only, and it represents the highest cost among the alternatives.
Alternative 3 – Multi-use Low Pressure Pipe with Trenchless Gravity Mains	It suggests installing new two-inch double-encased MULP force main collectors along existing streets, connecting to a proposed 8-inch gravity trunk sewer installed via horizontal directional drilling (HDD) within green space areas of the subdivision. This maintains the original collection system design but updates it to meet Central San standards.	Approximately $3.2 million. This is the lowest cost among the alternatives, including new Central San-owned facilities within the subdivision only.
Alternative 4 – Street Alignment Gravity Main with HDD and Multi-use Low-Pressure Pipe	Similar to Alternative 1, this involves installing a new 8-inch gravity sewer main by open cut methods within the subdivision, with certain sections constructed using trenchless methods (HDD and Jack and Bore) to navigate difficult terrain. Additionally, this alternative includes the use of 2-inch MULP collectors in specific areas to connect to the gravity system.	Approximately $3.7 million
Data Source: (Woodard & Curran Inc., 2021)		
*Note: These cost estimates include new Central San-owned facilities within the subdivision but do not account for demolition of existing facilities, new sewer construction along Alhambra, property owner improvements (e.g., grinder pumps, laterals, connection fees), engineering/administration, or project contingency costs.		

Table 10-4: Alternatives Life Cycle Cost Analysis, December 2022

Project Alternatives		Capital Cost	Annual O&M	Total 30 Year Life Cycle Cost NPW	Expected Life Span	When to Implement
Alt 1	No Improvements	$ -	$ 97,000	$ 1,784,000	Short term (existing facilities are 50+ years old)	N/A
Alt 2	Rehabilitation and Upgrade of Existing Facilities	$ 1,659,000	$ 92,000	$ 3,333,000	Short Term/ up to 20 years	Immediate
Alt 3	New Treatment Plant	$ 3,587,000	$ 121,000	$ 5,773,000	Long Term/30+ years	Immediate (secure funding)
Alt 4a	Connection to CCCSD Trenchless away from the Creek	$ 7,256,000	$ 60,000	$ 8,281,000	Long Term/50+ years	Immediate (secure funding)
Alt 4b	Connection to CCCSD *Creek alignment*	$ 6,112,000	$ 54,000	$ 7,039,000	Long Term/50+ years	Immediate (secure funding)
Sewer Replacement (For All Alternatives)		$ 7,016,000	$ 35,000	$ 7,584,000	Long Term/50+ years	Defer (Immediate for Alt 4)

- 3.5% interest rate
- Salvage Values were considered for calcs at interest rate of 3.5%
- NPW=Net present worth

Woodard & Curran

Data Source: Excerpt from Woodard % Curran, December 2022

Based on the cost comparison, Woodard and Curran, Consulting Engineers recommended the following:

- Proceed with Alternative 2- Rehabilitation and Upgrade of Existing Facilities
- Proceed with establishing a Sewer Replacement fund
- Apply for coverage under Small Domestic General Order with SF RWQCB once the alternative is approved (Woodard & Curran, 2022)

Trade-offs Associated with Septic Tank Systems vs. Municipal Wastewater Treatment

The use of septic tanks in modern urban/suburban areas such as Contra Costa County has both positive and negative aspects. Septic tank systems are an affordable and decentralized method of wastewater treatment and disposal. When operated properly, maintained, and routinely updated, they can offer an alternative wastewater treatment and disposal option. The negative trade-offs typically associated with using septic systems can sometimes include methane emissions, leakage of polluted water, infiltration during rainstorm events, and less availability of professional staff to perform management tasks. If leaks develop, they can become smelly and present a health hazard[3]. An alternative to septic tanks is modern municipal wastewater treatment systems such as those operated by Central San. Central San's wastewater system also has both positive and negative trade-offs. The positive benefits are easier compliance with RWQCB regulations, professional staff, efficient response to leaks, and the ability to recycle water and sludge materials, among other benefits. The potential negative trade-offs include the centralized system, more expensive costs, and concentration of waste. To help local agencies consider these types of environmental and social trade-offs associated with operating or upgrading their wastewater treatment plant, the U.S. Environmental Protection Agency (EPA) has prepared a five-page fact sheet about a methodology called *life cycle assessment (LCA)* available online at: <*https://www.epa.gov/system/files/documents/2023-01/understanding-environmental-tradeoffs-2023.pdf* >. *A* community can use a LCA to identify, quantify, and compare different options' environmental benefits and impacts. An LCA may be especially useful in helping the community understand and evaluate trade-offs between environmental benefits, such as water quality protection, and environmental impacts, such as reduced air quality and increased greenhouse gas emissions (EPA, 2023). Although the Woodard & Curran 2021 and 2022 studies utilize the term "Life Cycle Assessment", their reports were functionally a "Life Cycle Cost Analysis". The Woodard & Curran reports focus primarily on costs and does not include many elements outlined in the EPA's

[3] Residents should be careful about what is flushed into the tank, as specific items (non-biodegradable items, food waste, paper towels, etc.) can clog up the system and backed-up drains can become problematic. Additionally, antibiotics and other medications should not be disposed of in a septic system as they can damage the bacteria in the septic system.

Fecal sludge that is removed from septic tanks is sometimes referred to as septage. Fecal sludge from septic tanks is pumped out and typically disposed of at a local landfill. An alternative to landfill disposal would be the "reuse" of the material and this involves the storage, collection, transport, treatment, and safe end use. Reuse activities within the sanitation system may focus on the nutrients, water, energy, or organic matter contained in excreta and wastewater. SD No. 6 does not appear to have a material reuse component.

guideline for LCAs, such as inputs (raw materials, chemicals, and energy) and outputs (releases of solid waste, air emissions, and water emissions). Specifically, methane and carbon dioxide, two greenhouse gases, should be described in a LCA. Additionally, the potential for water and sludge recycling should be included in a LCA. It is recommended that SD No. 6 submit a life cycle assessment, that is consistent with the referenced EPA guidelines, to LAFCO prior to preparation of the next MSR for the district, anticipated in five to ten years.

Local Hazards

The Contra Costa County Hazard Mitigation Plan (HMP) Volume 2, dated January 2018, maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards (Contra Costa County, 2018). SD No. 6 did not directly participate in this county-wide HMP. However, the City of Martinez actively participated in developing the HMP by attending the workshop, completing the template, and reviewing Chapter 8 of the Plan's Volume 2. As part of this process, the City of Martinez performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement hazard mitigation strategies. Earthquakes are the hazard for which the City has the most risk, as listed in Table 10-5 below. Other potential hazards and risks include wildfires, severe weather, landslides, and floods. For SD No. 6, specifically, flooding is a potential risk as a small creek drainage and intermittent stream tributary to Arroyo Del Hambre Creek are nearby. The boundary area of SD No. 6 also has a "High" risk for wildfires (Contra Costa County, 2018).

Table 10-5: City of Martinez Hazard Risk Ranking

Rank	Hazard Type	Risk Rating Score (Probability x Impact)	Category
1	Earthquake[b]	48	High
2	Landslide[e]	39	Medium
3	Severe weather	30	Medium
3	Wildfire[e]	30	Medium
4	Flood[c]	24	Medium
5	Dam and levee failure[a]	12	Low
5	Sea level rise[d]	12	Low
6	Drought	9	Low
7	Tsunami	0	None

a. Based on the level of detail conducted in the risk assessment, the risk ranking for this hazard is focused solely on dam failure impa
See Chapter 6.4 of Volume 1 for combined dam inundation list on which this assessment is based.
b. Haywired M7.05 event was used to assign probability and impacts
c. 1-percent annual chance event was used to assign probability and impacts
d. 2100 upper range estimates and extreme tide are used to assign probability and impacts
e. Very High and High severity zones were used to assign probability and impacts

Data Source: Contra Costa County HMP Volume II, Chapter 8

Sanitary Sewer Overflow Database

The State Water Board maintains a Sanitary Sewer Overflows (SSO) database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. WQ 2022-0103-DWQ (SSS WDRs), December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. The MSR authors ran a query in the state database. The query was run for Place ID#258777 and Place Name: Stonehurst SD-6 WWTP. Data query results show no SSOs occurred during the 3.3-year timeframe from 1/1/2020 through 3/1/2-24 for the County Sanitation District No. 6.

Future Challenges

This section considers factors that influence an agency's ability to collect, treat, and dispose of wastewater and provide public service to customers. City staff indicates that SD No.6 has collection, treatment, and disposal systems that are 30 years old and are reaching the end of their design life and will need to be replaced. According to studies that have been prepared, an increase in rates will be necessary to make the improvements necessary to maintain compliance with water quality regulations (Martinez, 2024).

The American Society of Civil Engineers, Region 9 has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

1. Implement an education program at the state and local level about what a wastewater treatment plant is, what kind of wastes it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water reuse/recycling (ASOCE, 2019).

Cooperative Programs

SD No. 6 works cooperatively with the City of Martinez, the RWQCB, and a private contractor. For example, the City Public Works Department, Special Districts Section ensures regulatory compliance and provides financial and long-term planning. The City contracts with a private contractor to manage the day-to-day operations and maintenance of the system. SD No. 6 is a dependent special district administered by the City of Martinez and receives administrative services and contract services from the City. Due to the small size of the facilities, no additional cooperative programs appear viable (LAFCO, 2014).

LAFCO is required by the CKH Act to make a determination regarding the status of and opportunities for, shared facilities. In the long term, consolidation with Central San may be feasible, resulting in more sharing of staff expertise, equipment, and regulatory compliance.

Cost Avoidance Opportunities

SD No. 6 works to control costs for the services by utilizing a private contractor, Valley Operators Inc., headquartered in Manteca, to perform maintenance work and to provide professional management of the treatment system. LAFCO's 2008 MSR noted an opportunity to reduce costs by modifying the terms of the district's Waste Discharge Requirements issued by the RWQCB. The subsurface irrigation component of the district's wastewater system was never implemented, and there are no plans to use recycled water in the future. Therefore, ultraviolet disinfection may not be necessary. The ultraviolet disinfection process requires significant energy and is costly to operate. SD No. 6 would like to discontinue its use and has been attempting to work with the RWQCB for several years on this issue, as it would reduce costs through less energy usage, simplified maintenance, and a lower permit fee. This change in the Waste Discharge Requirements had not yet been approved by the RWQCB (LAFCO, 2008). In the near term, the City will apply to the San Francisco Bay Regional Water Board for a Small Discharge Permit. Included in the application is a request to remove the need for sand filtration and ultraviolet disinfection from the permit requirements, as the effluent is not now and has never been discharged above ground as was originally intended. This change in the permit would reduce the cost of replacing the facilities (Martinez, 2024).

In the long term, the system would benefit from connecting to a regional wastewater collection and treatment system (LAFCO, 2014). The City's Public Works Director/City Engineer reports that annexation of the SD-6 facilities and the Stonehurst subdivision to the Central Contra Costa Sanitary District is an option that continues to be studied. A timeline for annexation to Central San has not been established (Martinez, 2024).

10.4: FINANCIAL OVERVIEW

LAFCO is required to make specific financial determinations for special districts per the CKH Act. The data described in this section was obtained from a seven-page Annual Written Statement of Revenue and Expense Fiscal Year (FY) 2023-24 for SD No. 6, as prepared by the City of Martinez (Martinez, 2023). This financial Report is posted on the district's website at: <*https://www.cityofmartinez.org/departments/engineering/ccc-sanitary-district-no-6*>. Please note that a certified public accountant has not audited this Annual Written Statement of Revenue and Expense FY2023-24 for SD No. 6. LAFCO typically prefers that audited financial statements be provided to LAFCO and uploaded to the State Controller's Office financial transactions reports open data website at *https://bythenumbers.sco.ca.gov*.

Nevertheless, the Annual Written Statement summarizes the financial outlook and changes,

highlighting the district's revenue streams, expenditure categories, and overall financial health. Typically, an MSR analyzes financial data for a total of five study years. However, in this case, the Annual Written Statement of Revenue and Expense details only three fiscal years:

- FY 2021-22 (Actual),
- FY 2022-23 (Projected), and
- FY 2023-24 (Budget).

The Annual Written Statement of Revenue and Expense for SD No. 6 is accounted for separately from the City's general fund by the city's Finance Department. This is typical for self-supporting operations and dependent districts such as SD No. 6. The district is funded through fees for services charged to the system's customers. The City Public Works Department provides oversight of the system, and a private contractor is hired to perform routine system maintenance work.

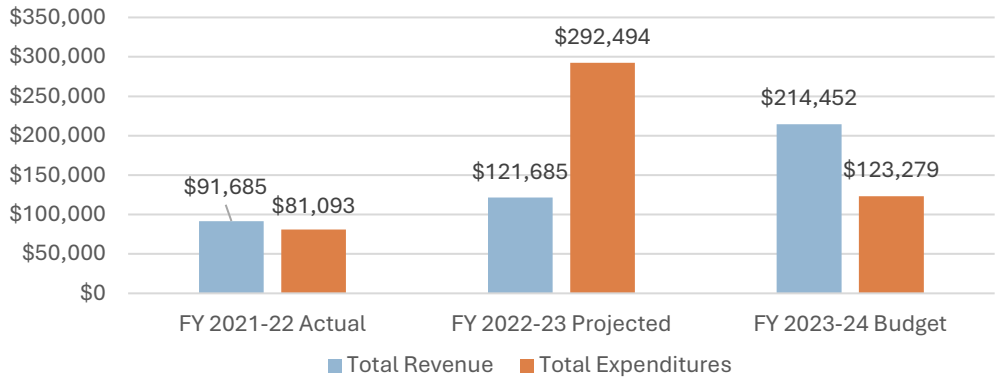
Please note that City staff provided the Budget Report for each of the years listed above, which lists year-end income and expense for the fiscal year. Subsequently, City staff also proved the FY 2023 budget report for SD-6 prepared by City Finance. FY 2023 shows the expenditures for emergency storm-related repairs that had to be performed. The city has applied to FEMA for reimbursement for these costs. Also included in the FY 2023 report is a $30,000 contribution by the Stonehurst HOA to help pay for the evaluation of the existing facilities and to prepare estimates of cost for future system repairs and upgrades.

Six primary areas of criteria were utilized to assess the present and future financial condition of SD No. 6 wastewater service operations, as discussed in the following paragraphs.

3 Year Revenue/Expenditure Budget Trends

The FY 2023-24 Budget projects Total Revenues of $214,452 and Total Expenditures of $123,279. Revenues exceeded expenditures in two of the three study years, as shown in Figure 10-2 below.

Figure 10-2: Comparison of Revenue to Expenditures for 3 Fiscal Years



Data Source: Martinez, 2023

This key performance measure indicates SD No. 6 was solvent in two of three years and generally has the capacity to cover its costs. SD No. 6 has been experiencing challenged budgets for operations due to the age of its infrastructure and the need to make future improvements. Therefore, annual service charges have recently been increased to cover the anticipated future costs.

Revenue Sources

SD No. 6 receives most of its revenues from charges and fees for services, as is typical for an enterprise-type service. The Annual Written Statement also lists three additional sources of revenue, including interest earnings, HOA funds for rate study, and anticipated disaster relief funds (Martinez, 2023). SD No. 6 does not receive property tax (LAFCO, 2014). The sources of revenue are graphically depicted in Figure 10-3 and listed in more detail in Table 10-6.

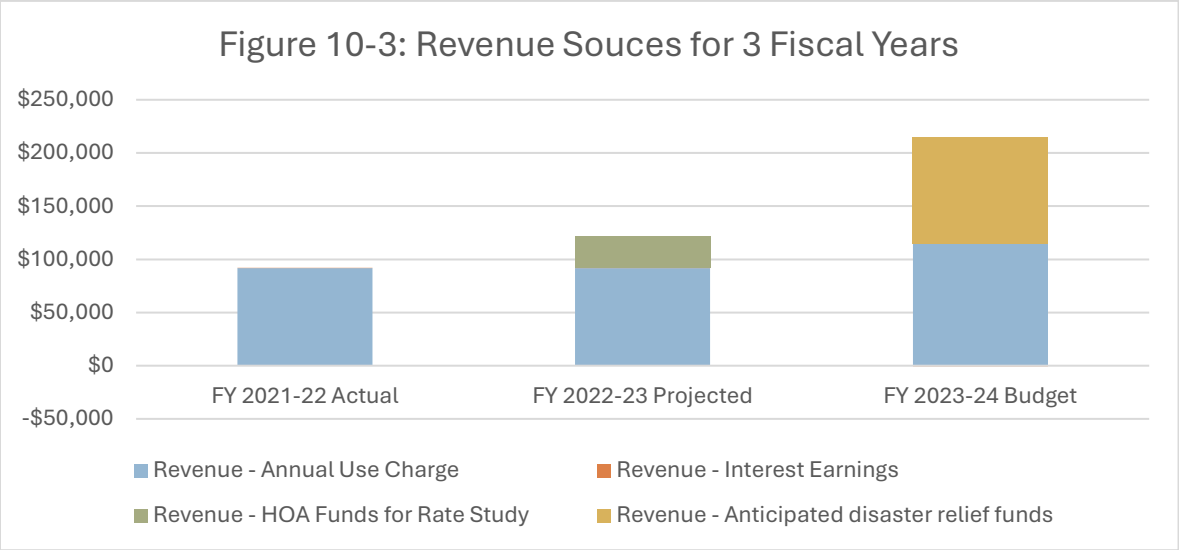


Table 10-6: Revenue Sources for 3 Fiscal Years

Description	FY 2021-22 Actual	FY 2022-23 Projected	FY 2023-24 Budget
Fund Balance July 1	***$20,699***	***$31,272***	***-$139,537***
Revenue - Annual Use Charge	$91,650	$91,650	$115,150
Revenue - Interest Earnings	$35	$35	-$698
Revenue - HOA Funds for Rate Study	$0	$30,000	$0
Revenue - Anticipated disaster relief funds	$0	$0	$100,000
Total Revenue	***$91,685***	***$121,685***	***$214,452***

Data Source: Martinez, 2023

Ratio of Reserves or Fund Balance to Annual Expenditures

An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures.

LAFCO's 2008 MSR noted that the district did not have reserves that could be used to address emergencies or extraordinary expenses (LAFCO, 2008). This remains true as SD No. 6 does not currently maintain a reserve fund balance (Martinez, 2023). The fund balance at the start of FY 2023-24 Budget was negative ($-139,537) (Martinez, 2023). This indicates that should a significant capital repair be necessary, the district does not have reserves it could draw on and would have to take on debt and/or assess the parcels accordingly. If any unanticipated loss of revenue occurs, SD No. 6 should avoid impacting other City revenue sources or services.

Please note that if SD No. 6 were to be considered for annexation into Central San in the future, then a level of reserve funds will need to be established. If the City determines that consolidation with Central San is not yet feasible, then an infrastructure and capital equipment replacement schedule should be implemented, and associated funding should be provided.

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. The ratio of annual debt service to total fund annual expenditures is an indicator of the ability to meet debt obligations in relation to service provision expenditures. Ideally, a 10% or less ratio would reflect a very stable ratio. SD No. 6 has no debt and, therefore, no debt service.

Capital Improvement Program

SD No. 6 does not maintain a formal capital improvement program. However, recently, two studies were conducted that outline the infrastructure needed in order to move forward with a range of options (i.e., future alternatives) as described on pages 10-6 to 10-10 of this MSR. Financing capital improvements is a challenge for small districts such as SD No. 6. The boundary contains no disadvantaged communities, so there are no grant opportunities. Alternative financing vehicles could potentially include raising rates to establish a capital reserve fund, low-interest loans, or municipal bonds.

Infrastructure Needs

Existing Infrastructure: SD No. 6 currently maintains various equipment, vehicles[4], infrastructure, and associated assets. The current collection and treatment system provides minimum service per the approved operating permit from the RWQCB.

Since its inception, the SD No. 6 wastewater collection facilities and treatment plant were considered temporary and never intended to operate in perpetuity. Therefore, as with other temporary systems, this system has not been maintained to the same standard as a permanent system. In addition, reserve funds were not set aside for the replacement of capital facilities when they have reached the end of their useful lives. This "temporary" status has lasted longer than anticipated and is now reaching its 32nd year of operation. The deferred maintenance and capital replacement have now resumed. SD No. 6 anticipates increasing operation and maintenance costs as the system ages. LAFCO's 2014 MSR identified[5] (system deficiencies (LAFCO, 2014). The aging infrastructure has experienced unreliable operation and a lack of redundancy at times for extended periods. For example, critical equipment, such as the recirculation pumps, Filter No. 1, and the alarm system at the pump station, are inoperative (Contra Costa County Public Works, 2014, as cited in Woodard & Curran, 2021). In another example, debris has clogged the screens of the pumps. Aging and unreliable infrastructure creates a risk of a sewage spills which can potentially impact the local environment and invite scrutiny from the San Francisco Bay RWQCB (Woodard & Curran, 2021). SD No. 6 made improvements to the system in 2023 to address minor issues associated with coliform contamination due to wildlife and infiltration and inflow (personal communication, R. Leptien, March 18, 2024).

Rate Structure

SD No. 6 levies an annual service charge to the service area. The SD No. 6 Board of Directors recently adjusted the service charge to $2,450 annually per parcel, as detailed in Table 10-7. SD No. 6 prepares an annual financial document listing each parcel of real property receiving sewer service from the district (all parcels are assessed yearly). This is used to establish the annual service charge, which the County collects through the tax roll. The current rate is shown in Table 10-7.

[4] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. However, it is unlikely that SD No. 6 owns or operates any vehicles. SD No. 6 likely relies upon vehicles utilized by contractors, the City of Martinez, or the local homeowner's association. Therefore, this new rule is not directly applicable to SD No. 6.

[5] Several pump failures occurred from 2010 through 2012 due to system aging. It is possible that additional equipment will need to be repaired or replaced. The City has been maintaining the system as an interim system that was meant to ultimately connect to a larger sanitary system, such as CCCSD. Back in 2014, the County indicated to LAFCO that the interim status has lasted longer than originally anticipated (LAFCO, 2014). In 2014, the County obtained sanitary engineering consulting services to explore several options for the district. The system evaluation and recommendation report was completed in early 2014 (LAFCO, 2014).

Table 10-7: County Sanitation District No. 6, 2024 Wastewater Service Charge	
Type	**Residential**
Wastewater Service Charge	$2,450 / year (equates to $204.17/ month)
Data Source: Martinez, 2023	

The District's Board of Directors establishes sewer service charges for all properties served within the district each fiscal year. The Contra Costa County Assessor provides a map and a description of each parcel of real property receiving sewer service from the district. The rates charged for each parcel are computed in conformity with the charges prescribed under District Ordinances and the budget report. In FY 2023-24, the district Board found it necessary to increase the sewer service charge rate on a temporary, interim basis by $500 from $1,950 to $2,450 parcel (or unit) per year for FY 2023-24, 2024-25 and 2025-26. The rate will revert to $1,950 per year effective July 1, 2026, subject to the district Board proposing a rate adjustment in compliance with Proposition 218 prior to July 1, 2026. A mailed notice was sent to each property owner 45 days prior to the public hearing on this recent rate increase (Martinez, 2023).

10.5: POPULATION

SD No. 6 has 47 wastewater connections (i.e., customers) within its 0.36 square miles/232 acres boundary area. The Stonehurst subdivision has a total of 48 lots; however, one lot functions as open space and does not have a wastewater connection. There are approximately 134 residents within the district boundary as of 2020, as listed in Table 10-8 below.

Table 10-8: Existing Permanent Population, County Sanitation District No. 6			
Name of District	**Population in Boundary(1) (2022)**	**Number of Registered Voters in Boundary (2)**	**Population in SOI**
County Sanitation District No.6	134	107 as of January 2023	N/A (the district has zero SOI)
Sources: 1) Note: Contra Costa County has an average of 2.86 persons per household. If one multiplied the 2.86 average by 47 customers, it would calculate an estimated population of 134. See also, California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State: January 1, 2021 and 2022. Sacramento, California. https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/. 2) Registered Voter data provided by Contra Costa County Elections Office to LAFCO, 2022.			

Projected Future Population: Projecting an agency's future population is complicated due to varying annexation rates and census tracts that do not match City boundaries. Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County, as shown in Table 10-9 below. Anticipated future population growth of the SD No. 6 neighborhood has

Table 10-9: Total Estimated & Projected Population (2020 – 2045)

	2020	2025	2030	2035	2040	2045	Percent Increase 2020 to 2045	Numeric Increase 2020 to 2045	CAGR 2020 to 2045
County of Contra Costa[1]	1,149,853	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.1%	174,876	0.61%
CSD No. 6 (no growth scenario) [2]	134	134	134	134	134	134	0	0	0
CSD No. 6 (moderate growth scenario) [3,4]	134	144	149	154	158	160	19.4%	26	0.71%

Notes and Sources:

1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021. https://dof.ca.gov/Forecasting/Demographics/projections/.

2: The "no growth scenario" is based on existing barriers to future growth in the neighborhood, including a lack of a geographic expansion area, "high" fire risk designation in the LHMP, and constrained capacity in the existing wastewater treatment system (i.e., if no improvements are made).

3: Population projection for CSD No. 6 calculated as 0.012 percent of The County of Contra Costa population.

4. U.S. Census Bureau, American Community Survey (ACS) and see also California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State: January 1, 2020 and 2021. Sacramento, California.

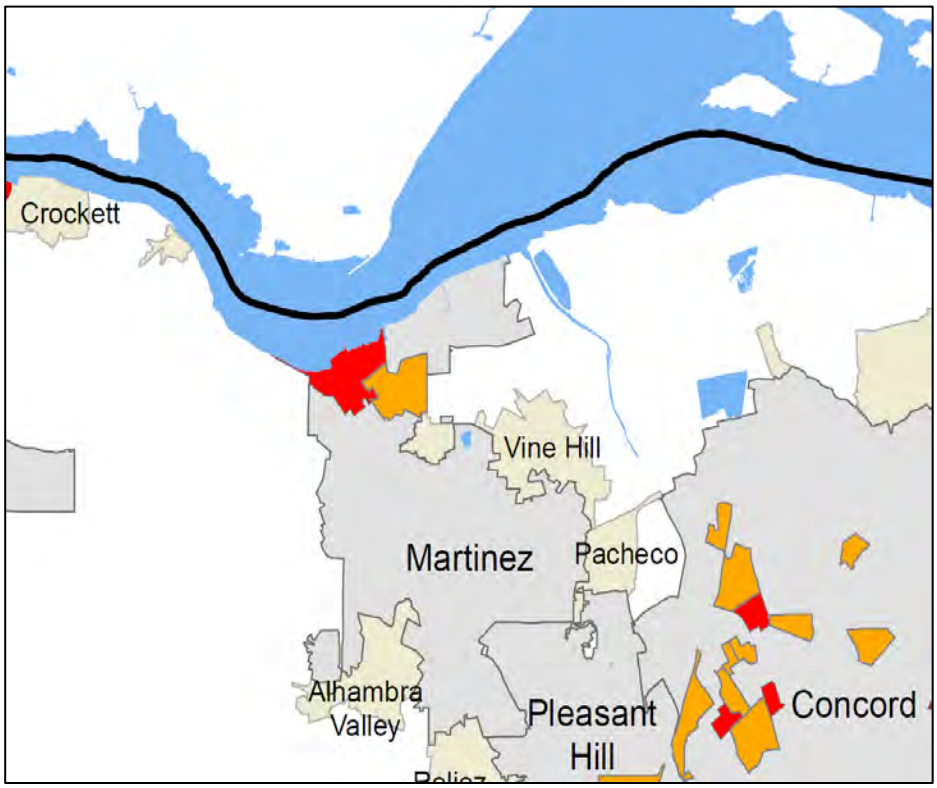
the potential to influence the demand for the provision of wastewater services and vice-versa. In this particular case, future growth appears to be constrained due to numerous factors, including a lack of geographic expansion area, being located in an area designated as "high" fire risk, and potential capacity issues with the existing wastewater system. Therefore, the future projected growth shown in Table 10-9 below depicts a stable population in this area for the next 20 years in the "no growth scenario". If the barriers to growth are solved, repaired, or removed, then the community may grow in population in the future, as listed in Table 10-9.

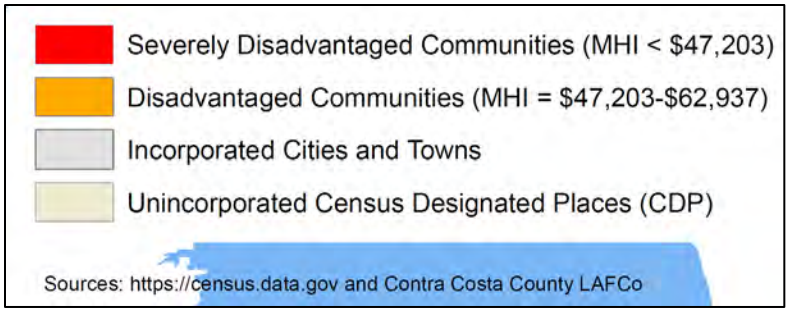
10.6: DISADVANTAGED COMMUNITIES

Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in some disadvantaged communities. Data from the 2020 U.S. Census was queried as part of this MSR Update process. Data query results showed no disadvantaged unincorporated communities (DUCs) within or contiguous to the SOI for SD No. 6.

The northwestern portion of the City of Martinez does contain a low-income neighborhood that meets the criteria to be classified as disadvantaged as shown in Figure 10-4 below. However, this neighborhood is not located near SD No. 6. Additionally, most public services, including water, sewer, and fire protection, are made available to all residents of the City, including the disadvantaged neighborhoods. No public health and safety issues associated with disadvantaged neighborhoods were identified.

Figure 10-4: Two Disadvantaged Neighborhoods in City of Martinez





10.7: GOVERNMENT STRUCTURE ALTERNATIVES

SD No. 6 was formed in 1992 as a County Sanitation District. It serves only the Stonehurst Subdivision. The District's principal act is the County Sanitation District Law (Health and Safety Code §4700 et seq.). The Board Of Directors for SD No. 6 is the City of Martinez City Council[6]. The City Council holds regular meetings on the 1st and 3rd Wednesdays at 7:00 PM, City Council Chamber, 525 Henrietta Street. The City Council's meetings are open to the public. Meeting notices and agendas are posted at least 96 hours in advance at the City's offices and on the City's website (*https://www.cityofmartinez.org/*). The website includes financial information on SD No. 6.

Table 10-10: Contact Information for the City of Martinez and SD No. 6

Location of office and mailing address	City of Martinez 525 Henrietta Street Martinez CA 94553
Telephone numbers	(925) 372-3505
FAX number	(925) 229-5012
Web page	www.cityofmartinez.org
E-mail address	jenke@cityofmartinez.org

Central San's Alhambra Valley annexation resulted in their service area being located less than one mile to the east of SD No. 6. Two government structure options are identified, including 1) maintain the status quo and 2). connect to a sanitary sewer line (Central San) at the earliest possible time as described in the following paragraphs.

[6] The Stonehurst Subdivision was annexed to the City of Martinez and on March 12, 2015, the Contra Costa County Board of Supervisors adopted Resolution No. 2015/108 designating the Martinez City Council as the Board of Directors of Contra Costa County Sanitation District No. 6 in accordance with Health and Safety Code Section 4730.

Maintain the Status Quo

SD No. 6 has a zero SOI, signifying the need to dissolve SD No. 6 as soon as sanitary sewer service becomes available in the area. Maintaining the existing system of septic tanks/on-site treatment and disposal is not a viable, long-term option (LAFCO, 2008 and 2014). However, Woodard & Curran Inc., consulting engineers, prepared studies that indicate that the costs to physically connect the Stonehurst neighborhood to Central San range from $130,042 to $154,383 per parcel. This high cost represents a significant financial burden for SD No. 6 customers. Therefore, for the short-term, it is recommended that LAFCO consider this recommendation to maintain the status quo. SD No. 6 has operated for 32 years and consistently provided wastewater service. The City of Martinez provides professional and transparent management and oversight to the SD. No. 6 and helps the district maintain compliance with water quality regulations from the RWQCB. However, this MSR identified several infrastructure needs associated with aging infrastructure, and improvements are needed to address the issues (Woodard & Curran, 2021 and 2022).

Consolidation with Central Contra Costa Sanitary District

LAFCO's 2008 MSR described this governance structure option as follows: *connect to a sanitary sewer line at the earliest possible time when services are available, and the on-site wastewater treatment and disposal system should be closed. At that time, SD No. 6 should be dissolved* (LAFCO, 2008). This option was also described in LAFCO's 2014 MSR. Central San facilities are located approximately 1/5 mile away at the intersection of Alhambra Valley Road and Quail Lane. Connection to Central San provides a potential solution for long-term sewer service to this development. This option to consolidate with Central San remains viable as a long-term option for the Stonehurst neighborhood.

10.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

Table 10-11: MSR Determinations

TOPIC AND PERFORMANCE MEASURES	DETERMINATION
Growth and Population for the affected area. • Is the existing population estimated? • What is the projected future growth for the district?	Approximately 134 residents live within the community. The parcels are developed as a low-density residential neighborhood. There is a continuing need for a managed wastewater system to serve the area.

	(continued) It is not certain that growth will occur in the Stonehurst neighborhood in the future due to existing constraints (i.e. high fire hazard, rural location). Therefore, a no-growth scenario is analyzed in this MSR. Alternatively, if allowed by state and local regulations, there may be potential future infill or creation of ADUs in the neighborhood. If the constraints to future growth can be overcome, then the MSR's moderate growth scenario estimates that by 2045, the population could potentially grow to 160, with an annual average growth rate of 0.71 percent.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the SOI.	There are no DUCs within or contiguous to the SD No. 6 SOI.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. • Does the Agency have a capital improvement plan? • Do the query results from the CIWQS database show an excessive number of SSOs? • Are Local Hazards identified?	The SD No. 6 wastewater system includes a collection system, treatment facilities with a recirculating sand filter, and ultraviolet disinfection treatment process. The system was designed and constructed to meet the wastewater service needs of the subdivision. There are no DUCs within or contiguous to SD No. 6 SOI. Two recently completed reports by Woodard & Curran (2021 and 2022) assess the infrastructure, describe capital replacement needs, and consider a range of future options. It is recommended that SD No. 6 submit a life cycle assessment (consistent with the EPA's referenced guidelines) to LAFCO prior to preparation of the next MSR for the district, anticipated in five to ten years. The state CIWQS database was queried for SSO data using Place ID#258777 and Place Name: Stonehurst SD-6 WWTP.

	(continued) Data query results show no SSOs occurred during the 3.3-year timeframe from 1/1/2020 through 3/1/2024 for the County Sanitation District No. 6. The City of Martinez actively participated in the development of the 2018HMP by attending the workshop, completing the template, and reviewing Chapter 8 of the Plan's Volume 2. Earthquakes are the hazard for which the City has the most risk. For SD No. 6, specifically, flooding is a potential risk as a small creek drainage and intermittent stream tributary to Arroyo Del Hambre Creek are located in the vicinity. The boundary area of SD No. 6 also has a "High" risk for wildfires.
Financial ability of agencies to provide services. • Has the agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures 10% or less?	SD No. 6 levies an annual service charge to the service area. The SD No. 6 Board of Directors recently adjusted the service charge to $2,450 annually per parcel. SD No. 6 prepares an annual financial document that lists each parcel of real property receiving sewer service from the district. This is used to establish the annual service charge, which the County collects through the tax roll. The FY 2023-24 Budget projects Total Revenues of $214,452 and Total Expenditures of $123,279. Revenues exceeded expenditures in two of the three study years. SD No. 6 does not have reserves to address extraordinary or emergency capital needs. The District should establish reserves. SD No. 6 has no debt. Therefore, the ratio of annual debt service to total fund annual expenditures is zero. This ratio meets the determination indicator since it is less than 10 percent.
Status of, and opportunities for, shared facilities.	SD No. 6 is a dependent special district administered by the City of Martinez and receives administrative and contract services from the City. Due to the small size of the facilities, no additional cooperative programs appear viable. However, consolidation with Central San may be feasible in the long term, resulting in a higher degree of staff expertise and equipment sharing.

Accountability for community service needs, including government structure and operational facilities. • Does the Agency have a website? • Does the agency post a public outreach tool (such as a calendar or newsletter) on its website? • Recommendation for mergers, consolidations, or other changes to the governance structure.	SD No. 6 is a dependent special district governed by the City of Martinez as described on the City's website at: <*https://www.cityofmartinez.org/departments/engineering/ccc-sanitary-district-no-6*>. This website also provides financial information for SD No. 6. The City Council addresses services for SD No. 6 at regular meetings which are open to the public. Meeting notices and agendas are posted in advance at the City's offices and on the City's website at: <*https://www.cityofmartinez.org/government/meetings-and-agendas* >. SD No. 6 has a zero SOI, signifying the need to dissolve SD No. 6 as soon as sanitary sewer service becomes available in the area. LAFCO's 2008 and 2014 MSRs for SD No. 6 both recommended that that connection to the Central San should be aggressively pursued to provide a long-term sewer system solution for Stonehurst residents. The future governance structure for SD No. 6 was also carefully considered in this 2024 MSR. Woodard & Curran Inc., consulting engineers, prepared studies that indicate that the costs to physically connect the Stonehurst neighborhood to Central San ranges from $130,042 to $154,383 per parcel. This high cost represents a significant financial burden for SD No. 6 customers. Therefore, for the short-term, it is recommended that LAFCO consider this recommendation to maintain the status quo. Connection to the Central San remains a viable long-term option.
Any other matter related to effective or efficient service delivery, as required by commission policy.	No additional issues were identified.

10.9 SPHERE OF INFLUENCE

Section 10.7, Government Structure Alternatives, describes various issues and options associated with changing the structure of this local government agency. LAFCO often accomplishes its government structure issues through changes to boundaries and/or SOIs. It is recommended that LAFCO reconfirm current determinations and current zero SOI for SD No. 6.

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 requires that LAFCO review and update the SOI for each of the special districts and cities within the County (LAFCO, 2008). SD NO. 6 provides wastewater treatment and disposal services for 47 of the 48-parcel Stonehurst subdivision (one parcel is open space). There is a need for managed wastewater services in this community. A private contractor is utilized to operate and maintain the system.

The current SOI for SD No. 6 is coterminous with its boundary. With Central San's Alhambra Valley annexation, Central San's service area is now in close proximity to the site. The RWQCB Waste Discharge Requirements for SD No. 6 mandates the connection of the development to an Alhambra Valley sanitary sewer and the closure of the development's on-site wastewater treatment and disposal system. SD No. 6 and Central San prepared several feasibility studies to consider whether it is worthwhile for the Stonehurst property owners to connect to the Central San sanitary sewer system. Therefore, it is recommended that LAFCO retain the existing zero SOI for SD No. 6. This will allow the district to continue to exist until such time as it is physically and financially feasible to annex to Central San.

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CHAPTER 11: BYRON SANITARY DISTRICT – WASTEWATER SERVICES

Table of Contents

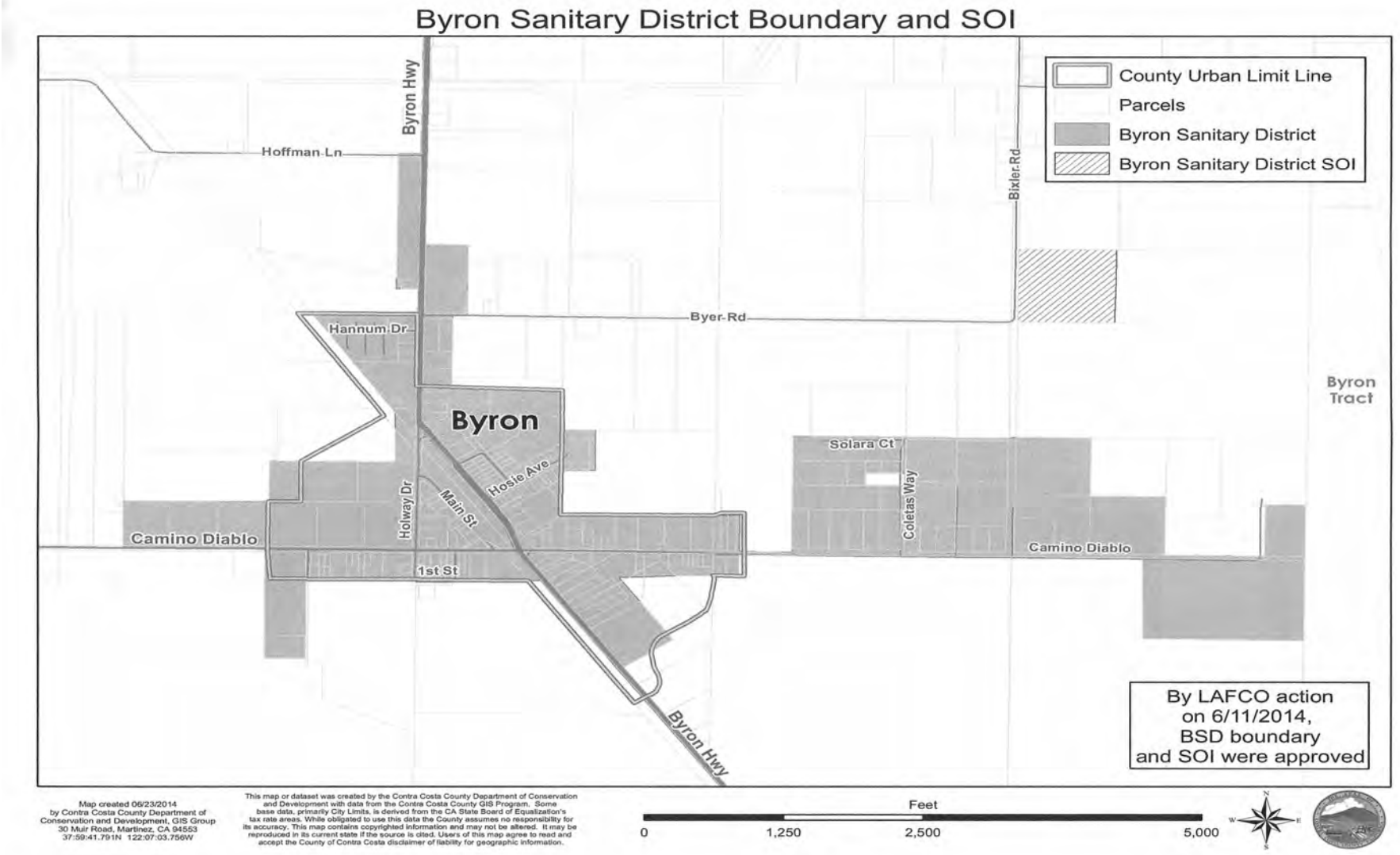
11.1: OVERVIEW

The Byron Sanitary District (BSD) was formed in 1948 and became operational in 1958. It operates pursuant to the Sanitary District Act of 1923 (Health and Safety Code, Section 6400 et seq.). BSD is located in the eastern portion of Contra Costa County along the east and west sides of Byron Highway at Camino Diablo. BSD encompasses the unincorporated community of Byron (LAFCO, 2014). BSD's boundary and sphere of influence (SOI) are conterminous with the exception of an area to the northeast along Byer Road and Bixler Road. BSD comprises approximately 0.53 square miles (LAFCO, 2023). A map of BSD's current boundary and (SOI) is shown in Figure 11-1 on page 11-4. The District lies within the San Francisco Bay/Sacramento Delta Estuary watershed. Additional information about this watershed is provided in Appendix F. BSD is an independent special district with a five-member Board of Directors. BSD collects, treats, and disposes of municipal wastewater. The District also contracts with Mt. Diablo Resource Recovery Services for solid waste (garbage) disposal and recycling services. BSD services 278 connections representing about 378 Equivalent Dwelling Units (EDUs) (CCSDA, n.d.). The BSD's Agency Profile is presented in Table 11-1 (next page).

Table 11-1: Agency Profile – Byron Sanitary District

General Information			
Agency Type	Independent Special District		
Principal Act	Sanitary District Act of 1923, Health and Safety Code, §6400 et seq.		
Date Formed	1948 (operational in 1958)		
Services	Sewage collection, treatment, and disposal; solid waste by contract		
Service Area			
Location	Community of Byron		
Sq. Miles/Acres	Approximately 0.53 square miles; 339.2 acres.		
Land Uses	Residential, commercial, industrial, and public uses		
Dwelling Units	234 (California DOF, 2021)		
Population Served	Approximately 676 at 3.02 persons per household (California DOF, 2021)		
Connections	Approximately 278 with a total of 378 equivalent dwelling units (EDUs)		
Last SOI Update	5/14/2014		
Infrastructure/Capacity			
Facilities	BSD Wastewater Treatment Plant (WWTP) located at 4200 Camino Diablo Road Byron, CA; 12,174 lineal feet of sewer collection pipeline (10,474 feet owned by the District); and 278 connections (CCSDA, n.d.)		
Treatment Plant Capacity	Average daily dry weather limit = 96,000 gallons per day (GPD) between the months April through October, and the average daily flow limit is 100,800 GPD between the months November through March (CA Central Valley Regional Water Quality Control Board Order No. R5-2009-0002).		
Primary Disposal	Treatment at BSD WWTP and discharge into adjacent effluent disposal ponds.		
Budget Information- FY 2023-2024			
	Revenues	Expenditures	Net
All Funds	$576,000	$636,350	-$60,350
Capital Repayment		$130,789	
Net Assets (Reserves)	$2,032,846	June 30, 2023 Financial Statement- Restricted & Unrestricted (BSD, 2024b)	
Governance			
Governing Body	Board of Directors (5 members elected at large for four-year terms). Meetings are held monthly on the 2nd Thursday every other month.		
Agency Contact	Edwin Pattison, General Manager, (209) 968-4436 Brittany Johnson, Somach, Simmons & Dunn, Legal Counsel		
Notes			
Net Assets do not include Capital Assets.			

Figure 11-1: Boundary/SOI Map – Byron Sanitary District



11.2: DISTRICT BOUNDARY AND SOI

BSD's boundary encompasses 0.53 square miles (339 acres). BSD serves the Byron community along Byron Highway and residential uses along Camino Diablo, which extends east and west from Byron Highway, as shown in Figure 11-1. There are also commercial and industrial uses along Main Street, the Camino Mobile Home Park, and the Byron Unified School District to the north. LAFCO's 2014 MSR/SOI for BSD described a potential to expand the SOI to address wastewater services provided to the former Orrin Allen Youth Rehabilitation Facility.

The former Orrin Allen Youth Rehabilitation Facility was closed by Contra Costa County in early 2023 due to very low utilization of the facility. Discussions are underway to re-purpose the facility as a Contra Costa Fire Protection District training center. (Mike Nisen, Board Member; personal communication). The former Orrin Allen Youth Rehabilitation Facility is outside the BSD boundary, but within the SOI. BSD serves a population of approximately 676. County GIS notes that part of the former Orrin Allen Youth Rehabilitation Facility is in the District's SOI. In the future, LAFCO may wish to consider including the entire youth camp area in the District's SOI.

Land Use and Planning

Any future development within the District has the potential to influence the demand for the provision of wastewater services. Therefore, land use and planning issues are relevant. Byron is a small, unincorporated community located in rural eastern Contra Costa County. The Byron community contains single-family residential development, commercial and industrial development, schools, churches, and wineries. Development is primarily centralized along the Byron Highway, with additional development located along Camino Diablo and Holway Drive. Byron is surrounded by agricultural lands.

The Byron Municipal Advisory Council (MAC) serves as an advisory committee to the Board of Supervisors on land use and other issues relating to the Byron community as detailed on the County's website at: <*https://www.contracosta.ca.gov/6444/Municipal-Advisory-Councils* >. BSD interacts with the MAC as necessary. The Byron MAC and BSD provide comments to the Contra Costa County Planning Department (and/or Planning Commission) on land use applications.

Two planning documents guide the development and growth of the Byron community:

- The "Byron Township General Plan, 1999-2020" was prepared by the MAC. The Byron Township General Plan covers a much larger geographic planning area. Although cited frequently, the Byron Township General Plan is not the official General Plan for the area. It does not supersede the County's General Plan, which remains the official land use planning document for unincorporated territory within Contra Costa County.
- The "Contra Costa County General Plan 2005-2020" was adopted by the Board of Supervisors in January 2005. The County General Plan provides for growth and development within the voter-approved Urban Limit Line (ULL), including only the developed town site of

Byron and excluding the surrounding open space areas.

The County's General Plan will be updated through a process called "Envision Contra Costa 2040". The updated General Plan will respond to current concerns about sustainability, environmental justice, and affordable housing while carrying forward enduring County values like balancing growth and conservation, as detailed on <*https://envisioncontracosta2040.org/*>.

Airport Master Plan

The Byron Airport opened in 1994 and is located south of the Byron community. The Airport currently utilizes a septic system for wastewater disposal as it is located outside the BSD boundary. Contra Costa County owns and operates the Byron Airport as a general aviation airport. The Airport Master Plan guides the continued improvement of Byron Airport to the year 2023 and beyond. The Master Plan describes estimates of facility requirements and a development plan for Byron to accommodate the forecasted aviation demand (County Public Works, 2005). A concept potential for cargo development at the Byron Airport (which could be related to trucking activity) is presented in the Master Plan. The airport faces several constraints in regard to future development, including external issues such as the concentration of cargo-generating businesses, population, and business relevant to general aviation, as well as improvements to the regional road and highway network. Other constraints include water supply and sewer discharge infrastructure capacity (County Public Works, 2005). LAFCO approval would be required to define and/or confirm the boundary of any water and sanitation district in relation to service to the Airport[1]. Since the aviation industry contributes approximately 5% to the current anthropogenic climate change via carbon and ozone emissions, LAFCO would be required to evaluate environmental justice and CEQA issues while considering any proposal related to the Airport.

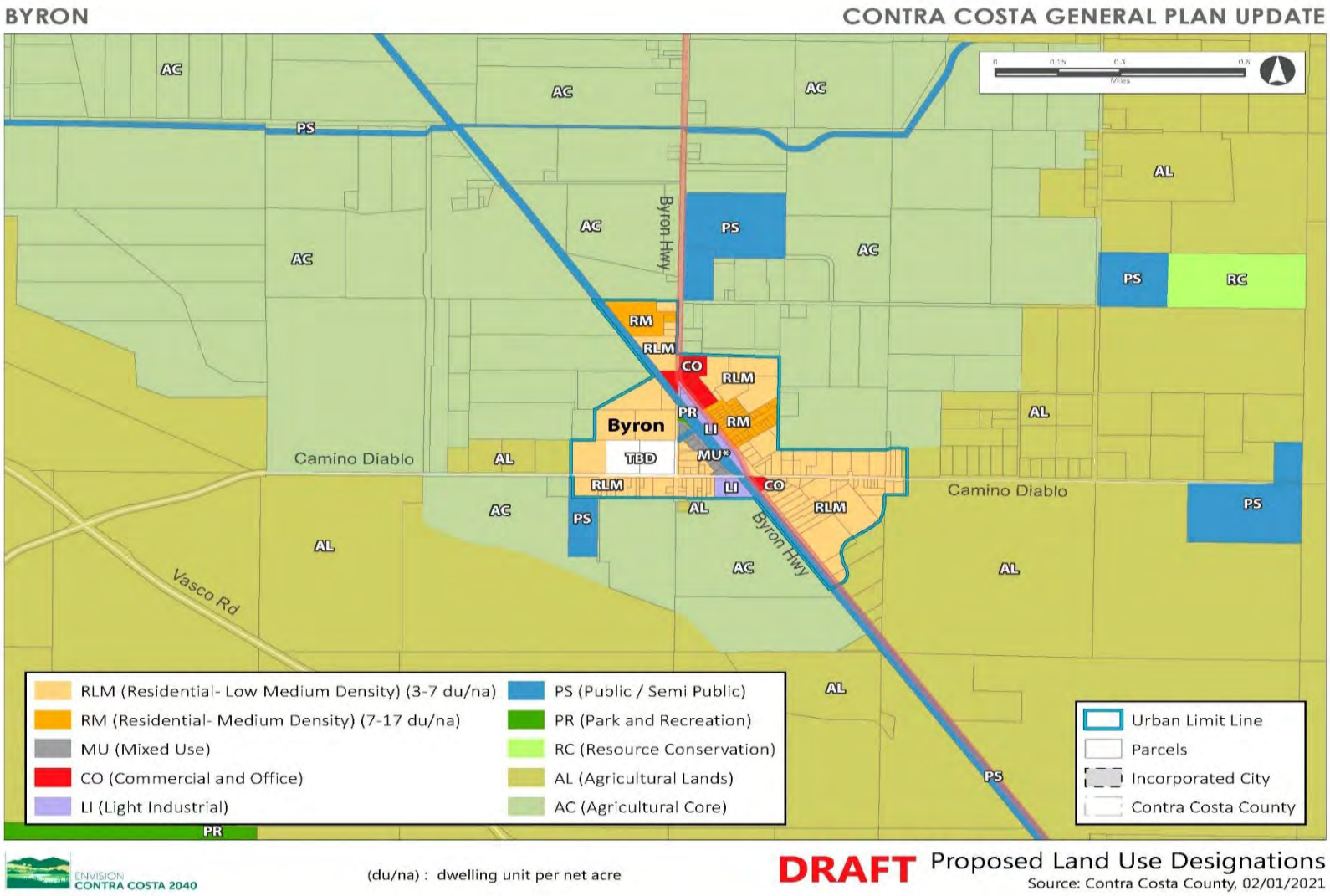
Sacramento/San Joaquin Delta

Portions of the District boundary and SOI are located within the Sacramento/San Joaquin Delta Estuary watershed (Delta), specifically within the "Secondary Zone". The Delta is a large inland river delta geographically connected to the San Francisco Bay Estuary and home to several rare and endangered fish species. The Delta is also designated a National Heritage Area. The Secondary Zone is within the "Legal Delta" and is described by various state laws and planning documents (DPC, 2010 and DSC, 2013). For local government planners and administrators, there are three key Delta planning documents listed below:

- The Delta Plan, by the Delta Stewardship Council (DSC). 2013 as updated through 2024.

[1] Byron Airport completed a study by Kimley-Horn (Feb 2021) summarizing potable water system, fire protection system, and wastewater system analysis and evaluation considering buildout conditions. As a result of this analysis, airport officials and consultants approached BSD regarding potential wastewater connection to BSD collection system and treatment plant, as well as operating an onsite wastewater package treatment plant and disposal system. BSD did not receive post-meeting feedback from airport officials and the effort seems to have paused (personal communication, E Pattison, April 2024).

Figure 11-2: Byron Proposed Draft Land-Use Map Update as of December 2022



- Land Use and Resource Management Plan for the Primary Zone of the Delta by the Delta Protection Commission (DPC). February 25, 2010.
- Socioeconomic Indicators Report: The Sacramento-San Joaquin Delta by Visser, M.A.; Brinkley, C.; Zlotnicki, J. in 2018.

DPC's Land Use and Resource Management Plan recognizes that urbanization and other development projects within the secondary zone have the potential to impact the Primary Zone of the Delta (DPC, 2010). BSD does not discharge directly to the Delta.

11.3: DISTRICT OPERATIONS

BSD's wastewater service includes collection, conveyance to the WWTP, and disposal. The District provides wastewater services to the community of Byron, located in Contra Costa County, California. BSD serves approximately 278 sewer connections, as shown in Table 11-1 (CCSDA, n.d.). One BSD connection may serve many individual non-residential customers. BSD operates a wastewater collection system that includes 12,174 feet of sewer lines (1,700 feet privately owned, 10,474 feet owned by BSD).

BSD operates a WWTP permitted to treat 96,000 GPD and collects effluent through 12,174 linear feet of sewer mains (LAFCO, 2014). Treated effluent is disposed of using four primary and two reserve holding ponds (see photo below). Before 2014, BSD upgraded its WWTP (WWTP) in response to treatment problems and direction from the Central Valley Regional Water Quality Control Board (SRWQCB) (LAFCO, 2014).

The District's sewer system collects wastewater from approximately 378 equivalent dwelling units (EDUs), including 224 residences, a 1,364-student elementary-middle-high school complex, School District offices, and commercial and industrial facilities. The single largest commercial facility is Marin Food Specialties, Inc., a small health food packaging plant with a bakery that discharges process and wash water (BSD, 2011). The Camino Mobile Home Park has 66 spaces. The former Orrin Allen Youth Rehabilitation Facility once constituted approximately nine percent of total wastewater volume; however, it has since been closed.

BSD completed a $3.5 million rehabilitation of its wastewater treatment facility, including improvements to the collection system, the headworks and pump station, sludge removal and wastewater flow configurations, and the replacement of four monitoring wells prior to 2014 (LAFCO, 2014). Additionally, BSD installed upgrades to a clarifier, security fencing, and the controls building (LAFCO, 2014).

In 2023, the District completed system-wide upgrades to improve system reliability. Utilizing work crews from Byron Bethany Irrigation District (BBID) and paid for by BSD, sewer mains were hydro-

flushed (cleaned), and video logs were prepared for all sewer collection lines. Work was also conducted to remove bio-solids (sludge) from Pond No. 1 and bring that pond back on line, along with the installation of a new aerator in Pond No. 1 for mixing to improve primary treatment and dissolved oxygen levels. This work was accomplished under a $300,000 Capital Improvement Plan (CIP) approved by the Board of Directors.

Figure 11-3: Aerial Photo

Figure 11-3 above is an aerial photo showing the treatment facility in the lower left, aeration ponds in the center, sludge ponds at the top, and reserve ponds in the upper left. Camino Diablo Road is to the left.

BSD has a Sewer Use Ordinance, "Ordinance Code No. 1". Sewer Use Ordinance Code No. 1. was originally adopted on November 18, 1986, and then updated on January 11, 2010, by the Board of Directors (BSD, 2010). This Ordinance governs the following:

- Use of Public Sewers Required
- Sewer Installation and Connections
- Fees, Rates, and Charges (Other than Sewer Capacity Charges, Sewer Service Charges, Trunk Line Fees, and Annexation Fees.)
- Enforcement/Inspection Measures
- Rebates
- Permits
- Provision of Service Outside District Boundaries by Contract

Local Hazards

The Contra Costa County Hazard Mitigation Plan (HMP) Volume 2, dated January 2018, maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards (Contra Costa County, 2018). The District did not participate in the County-wide HMP. Therefore, it is recommended that BSD either 1) contact Contra Costa County directly and request an invitation to participate in the next update to the Local HMP, or 2) BSD may conduct and provide LAFCO its own detailed spatial mapping of the District's wastewater infrastructure in relation to hazards before the next update to the Wastewater Services MSR/SOI.

Sanitary Sewer Overflow Database

The State Water Board maintains a Sanitary Sewer Overflows (SSO) database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. WQ 2022-0103-DWQ (SSS WDRs), on December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. A 4-year term from January 1, 2018, to January 1, 2023, was queried in the CIWQS-SSO database. The database query results showed that no (zero) SSOs were found for the BSD (CA SWRCB, 2023). This indicates that the wastewater system is well-maintained and can avoid SSOs.

Table 11-2: Byron Sanitary District Contact Information

Location of office and mailing address	7995 Bruns Road, Byron, CA 94514
Telephone numbers	209-835-4850
Web page	byronsan.org
E-mail address	byronsanitarydistrict@bbid.org

Infrastructure Needs

Existing Infrastructure: BSD maintains various equipment, vehicles[2], infrastructure, and associated assets. BSD completed a Sanitary Sewer Management Plan (SSMP) in 2011. The SSMP outlines the BSD's strategies and procedures to effectively manage its wastewater collection system. The development of this SSMP was required by the State Water Resources Control Board's (SWRCB) adoption of the Statewide General Waste Discharge Requirement and Monitoring and Reporting Program in 2006. The Plan covers various aspects of wastewater collection system management,

2 The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the District, it is likely that sometime in the future, the District may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

including organization, legal authority, operation and maintenance, design and performance, overflow emergency response, fats-oils-grease (FOG) control, system evaluation and capacity assurance, monitoring and measurement, program modifications, audits, and communication. The District is updating its SSMP. A draft SSMP was considered at the regular Board meeting held on April 10, 2024.

BSD is currently identifying needed improvements, which can be implemented as funds become available. Ideally, any aging sewer mains will be planned for replacement as trouble locations are identified. BSD recently received an 'un-used', new aerator from the Town of Mountain House at no cost, which was installed in Pond No. 1.

Cooperative Programs

Although BSD is not directly adjacent to other sanitary districts, it is within a 1- or 2-mile proximity of the Discovery Bay Community Services District (DBCSD), which owns and operates a 6 MGD wastewater treatment and disposal facility. BSD shares administrative operations with the nearby BBID through a Joint Powers Agreement (Byron Bethany JPA), which includes administrative offices, a General Manager, and operations and maintenance staff. Staff operations have been consolidated, and efficiencies have been achieved over the past ten years. Continuing these efforts should sustain these cost reductions. Grant funding for capital projects for the jointly managed districts has also been successful.

After the formation of the Byron Bethany JPA, BSD entered into an agreement for services with the BBID. BBID provides administrative, operations/maintenance support to BSD. The principal office of BSD resides at BBID's headquarters. BSD has no employees other than the five elected Directors, who are considered employees for purposes of IRS reporting (LAFCO, 2014).

Future challenges

Like many wastewater service providers in California, BSD faces challenges. The most significant issue is deferred capital replacement to address aging infrastructure. For example, existing vitreous clay pipelines are over 50 years old, beyond their useful life, and need to be replaced. Replacement costs could be mitigated somewhat through technology, sliplining, and improving trouble spots as a short-term strategy to address needs.

The American Society of Civil Engineers, Region 9 has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

1. Implement an education program at the state and local level about what a WWTP is, what kind of waste it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water re-use/recycling.

(Source: American Society of Civil Engineers, 2019)

Cost Avoidance Opportunities

BSD has achieved cost savings by participating in the Byron Bethany JPA with BBID and utilizing contract services for management and operations. BSD plans to continue these efforts and look for additional cost savings opportunities. BSD's General Manager also serves as the General Manager for BBID. The General Manager is a position appointed by the Board of Directors responsible for implementing policy and for planning, organizing, directing, and controlling the activities and operations of BSD; developing policy recommendations for Board of Directors action; providing highly responsible and complex administrative support to the Board of Directors (BSD, 2011).

BSD has contained or reduced operating costs through the WWTP and collection system upgrades (LAFCo, 2014). Installation of the replacement aerator in Pond No. 1 has resulted in increased dissolved oxygen levels and allowed the District to install a timer on the aerator to reduce the run hours, conserve electrical energy, and reduce costs. The next priority for the District will be a new generator with an automatic transfer switch, perhaps funded by a grant (Ed Pattison, General Manager; personal communication).

11.4: DISTRICT FINANCIAL OVERVIEW

The District's Annual Budget and Certified Annual Financial Reports are typically the primary information source for data related to the financing. These reports are available to the public upon request. The Board of Directors adopted the current FY 2023-2024 Budget on June 13, 2023. The FY 2022-2023 Independent Auditor's Report was approved by the Board of Directors on February 8, 2024. However, these financial documents are not on the District Website and should be added.

BSD operates as an enterprise-type activity, with its primary revenue source being service charges and fees. BSD's financial status is stable as operations and maintenance expenditures are fully met by revenues received (LAFCO, 2014). BSD maintains a substantial reserve fund balance, providing good capability to absorb short-term impacts. However, BSD has a significantly high debt service to annual expenditure ratio due to the bond funding for the recent rehabilitation of the wastewater treatment facility, collection system, and associated infrastructure (LAFCO, 2014). Any negative impact on revenues must be carefully monitored and addressed to meet operational and debt service requirements. Because BSD is a very small operation, the long-term viability of the District is questionable. Unless new customers (and revenue) are added to the District, there might come a time when reserve funds are depleted due to past significant deferred capital improvements associated with the replacement of aging infrastructure beyond its planned life cycle (Ed Pattison, General Manager; personal communication).

Five primary areas of criteria have been utilized to assess the present and future financial condition of BSD's wastewater service operations, as discussed below:

2 Year Revenue/Expenditure Budget Trends

The wastewater fund overall experienced surplus and deficit spending before 2014. However, this was attributed primarily to planned capital expenditures. Each fund generally experienced surpluses in the operating portions of the funds. Rate increases were implemented prior to 2014 to accommodate the expenditures. BSD overall experienced balanced budgets with annual surpluses until the current Fiscal Year (FY). Notably, a significant portion of BSD's annual expenditures were for debt service activities (LAFCO, 2014). Any negative impact on revenues must be carefully monitored and addressed to ensure operational, and debt service requirements are met.

For FY 2022-2023, budgeted Revenues exceeded Expenditures by $144,305; with $482,220 in Revenues and $337,915 in Expenditures. For FY 2023-2024, anticipated Expenditures will exceed anticipated Revenues by $241,129; with $526,000 in Revenues and $767,139 in Expenditures. Primary revenue sources are: sewer charges ($420,000;79.8%); property taxes ($49,000;9.3%, and interest income ($47,000;8.9%). Primary expenditures are: operations and maintenance ($569,700;74.3%); general and administration ($66,650;8.7%); and capital repayment (debt payment and interest) ($130,789;17.0%). A large portion of the operations and maintenance expenditures was due to significant capital improvements to ensure BSD is in compliance with its WDR permit with the regional board. It is recognized that BSD has capital improvement cost as part of its CIP implementation. This may necessitate the utilization of Reserve Funds to balance this year's budget.

Ratios of Revenue Sources

BSD received approximately 79.8 percent of its revenues from charges and fees for services, 9.3 percent of revenue from property taxes, and 10.9 percent from miscellaneous other sources (BSD, 2024a). This ratio reflects an appropriate balance for a typical enterprise-type service and minimizes negative economic factors' impact on more elastic revenues such as property tax. As BSD received a small portion of its revenue from property tax, any impact on this revenue due to any future economic downturn would have an insignificant impact on the district (LAFCO, 2014).

Ratio of Reserves or Fund Balance to Annual Expenditures

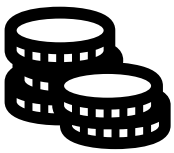
An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures. As of June 30, 2023, BSD had unrestricted reserves of $2,052,846. (BSD, 2024b). This means that the District will need to utilize approximately 11.7 percent of its unrestricted reserves to balance its budget. Should this trend continue going forward, the long-term viability of the District will come into question.

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. The ratio of annual debt service to total fund annual expenditures is an indicator of BSD's ability to meet debt obligations in relation to service provision expenditures. Ideally, a ratio of 10 percent or less would reflect a very stable ratio. BSD's annual debt service ratio to total expenditures was approximately 17 percent, a fairly high ratio (BSD, 2024b).

BSD, together with BBID, formed the Byron Bethany JPA. The Byron Bethany JPA was formed under both the JPA law and the Bond Polling Act to facilitate project funding for both agencies. In 2007, the Byron Bethany JPA issued $2,750,000 in Series 2007A Revenue Bonds for improvements to the system referenced above. In 2012, the Byron Bethany JPA authorized the issuance of Series 2012 Wastewater Refunding Revenue Bonds for the refunding and defeasance of the Series 2007A Revenue Bonds. The 2012 Series runs through 2039 with a current liability of $1,746,100 in principal and $394,529 in interest (BSD, 2024b).

Capital Improvement Program



BSD developed a CIP to make improvements to the collection system in the future. Before 2014, BSD established a Capital Improvement Reserve (currently $500,000), and an Operations and Maintenance Reserve (currently $195,000). The District has also established reserve funds for: Revenue Bonds reserve ($246,000), and Insurance reserve ($50,000) (BSD, 2024b). BSD also participates with BBID in the Byron Bethany JPA as a financing mechanism for each district's capital and infrastructure projects.

Rate Structure

BSD's service rate structure reflects consumption-based and fixed charges for its customers, although the last rate adjustment was adopted on July 1, 2009. The District currently charges $87.32 per month for an Equivalent Dwelling Unit (EDU). Non-residential uses are charged equivalent EDUs based on a fee calculation methodology developed by Nolte Vertical Five (NV5), consulting engineers. For example, restaurants are charged one EDU per 10 seats, plus one EDU for the connection. It would be appropriate for the District to update its rate structure, perhaps on an annual basis, to reflect inflationary costs, especially for materials and replacement equipment.

11.5: POPULATION

There are approximately 676 residents within the BSD boundaries as of 2022, utilizing the 'Medium' estimates as shown in Table 11-3. This table provides additional 'High' and 'Low' population scenarios. The "Medium" estimate is based on the County of Contra Costa GIS data showing that approximately 249 parcels (APNs) are within BSD's boundaries. Of these 249 parcels, approximately 224 are residential, and 25 are public, commercial, and/or industrial. All of the residential parcels within the BSD boundaries receive wastewater services. Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

Table 11-3: Existing Permanent Population, Byron Sanitary District, 2020 to 2022

Byron Sanitary District	**Population in Boundary (1)**	**Number of Registered Voters in Boundary (2)**	**Population in SOI only (3)**
High Population Estimate (CA DWR estimation) 3.3 residents @ 224 residential sewer connections	739	346	0
Medium Population Estimate (Contra Costa County Byron CDP) 3.02 people per household @ 224 dwelling units	676	346	0
Low Population Estimate (Contra Costa County County-wide) 2.86 people per household @224 dwelling units	640	346	0

Sources:
(1) Assessor Parcel data provided by Contra County GIS.
(2) Household data provided by California Department of Finance
(3) Registered Voter data provided by LAFCO as of January 2023
(4) The Sphere of Influence and Boundary are co-terminus.

Other Recommended Data Sources:

- Contra Costa Special District Association. (n.d.). *Byron Sanitary District*. Retrieved on December 27, 2022, from <*https://contracostasda.specialdistrict.org/byron-sanitary-district*>.

U.S. Census Bureau. *QuickFacts – Contra Costa County, California*. Retrieved on December 27, 2022, from <*https://www.census.gov/quickfacts/fact/table/contracostacountycalifornia/HSD310221#HSD310221*>.

Projected Future Population: Projecting a District's future population is complicated due to varying annexation rates and census tracts that do not match District boundaries. Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County, as shown in Table 11-4 below.

Table 11-4: Total Estimated & Projected Population (2022 – 2045)

	2022	2025	2030	2035	2040	2045	Percent Increase 2020 to 2045	Numeric Increase 2020 to 2045	CAGR 2020 to 2045
County of Contra Costa[1]	1,156,555	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.1%	174,876	0.61%
Byron Sanitary District [2]	676	685	694	700	706	712	5.3%	36	n/a

Sources:
1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.

- *California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State: January 1, 2021, and 2022. Sacramento, California. https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/.*
- U.S. Census Bureau. *QuickFacts – Contra Costa County, California*. Retrieved on December 27, 2022, from <https://www.census.gov/quickfacts/fact/table/contracostacountycalifornia/HSD310221#HSD310221>.

2: Population projection for BSD is based on data from the District.

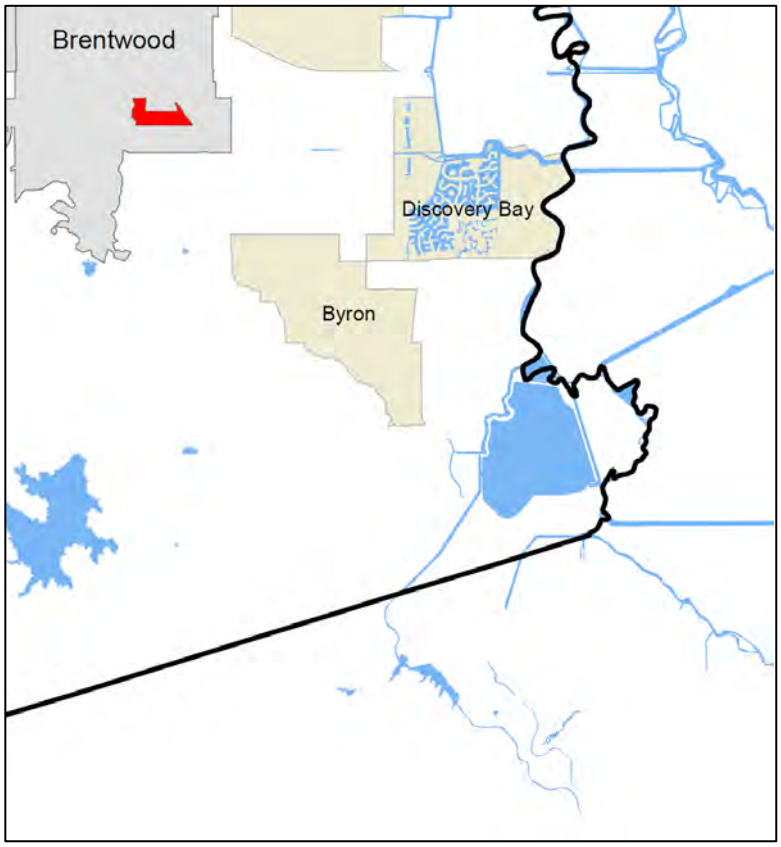
The District is located within the Legal Delta Secondary Zone, and a detailed population analysis of the Delta area has been prepared by state agencies (Visser et al., 2018). Readers are encouraged to review this information directly on the state website (as updates are expected soon) as follows:

- Visser, M.A.; Brinkley, C.; Zlotnicki, J. (2018) *Socioeconomic Indicators Report: The Sacramento-San Joaquin Delta*. Sacramento, CA: The Delta Protection Commission. 46-pages. Available online at: <*https://delta.ca.gov/wp-content/uploads/2020/09/Delta-Socio-Economic-Indicators-Report-508.pdf*>.

11.6: DISADVANTAGED COMMUNITIES

Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in some disadvantaged communities. Data from the 2020 U.S. Census was queried as part of this MSR Update process. Data query results showed there are no disadvantaged census tracts within the District's boundary or its SOI. The local community of Byron is unincorporated and has a low population density. As a result, the census tract has a large geographic extent[3]. The nearest DAC is within the City of Brentwood, as shown in red in Figure 11-4 below.

Figure 11-4: Disadvantage Communities Near Byron per CKH Act Definition



[3] BSD staff indicates that significant portions of Byron likely meet the median income thresholds to be classified as disadvantaged. However, this data gets diluted in the large census tract size. More specific surveys (such as use of free lunch data at the local elementary school) might be able to identify specific areas of the community that qualify as DAC/DUC.

Although the Byron community does not contain DUCs under the CKH Act definition, both state and federal agencies have other definitions of disadvantaged communities. For example, the U.S. Department of Health and Human Services (HHS) manages a database of socioeconomic and health indicators in disadvantaged communities called the Environmental Justice Explorer Database (https://onemap.cdc.gov/portal/apps/sites/#/eji-explorer). This database was queried for the Byron area. Query results indicate that disadvantaged communities within the Byron community may experience hardships including geographic proximity to several hazards including:

- Ozone air pollution
- Noisy airport

The Byron community also experiences a built environment that lacks community features, including:

- Lack of Recreational Parks
- Lack of Walkability
- Housing - Group Quarters
- Housing - Mobile Homes

The Byron community also experiences socio-economic conditions, including:

- Unemployment
- Lack of Health Insurance
- High percentage of population Age 65 and Older
- Percentage of population Age 17 and Younger
- Speaks English "Less than Well"

Figure 11-5 : U.S. Department of Health and Human Services Environmental Justice Explorer

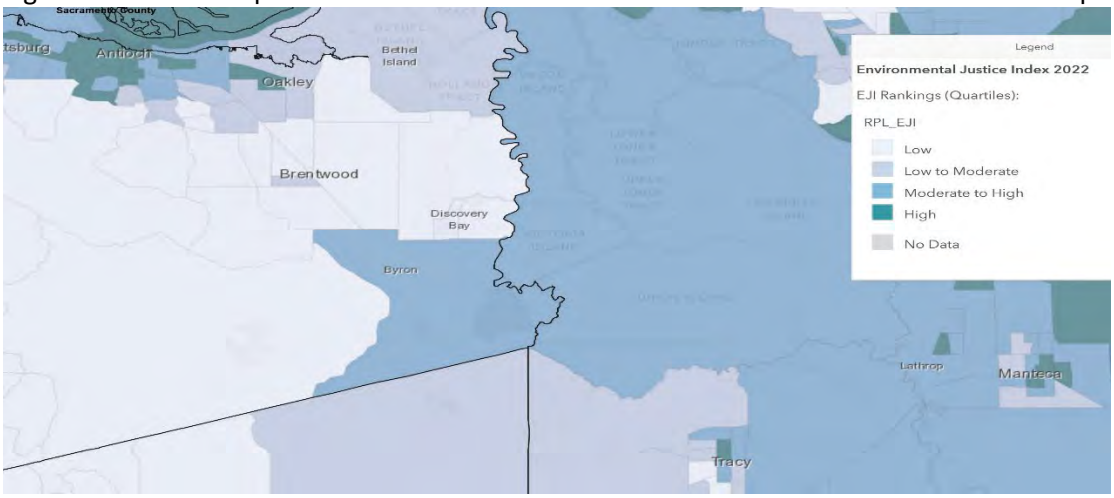


Figure 11-5 provided courtesy of US HHS at: https://onemap.cdc.gov/portal/apps/sites/#/eji-explorer

11.7: GOVERNMENT STRUCTURE ALTERNATIVES

Based on the information presented in this MSR, several options for BSD's governance structure were considered. Over the next year, maintaining the status quo may be the best option as follows:

Maintain the Status Quo:

BSD is currently providing adequate wastewater collection, treatment, and disposal services within its service area. Historically, BSD has been able to utilize its reserve funds to finance needed maintenance projects and infrastructure improvements. However, BSD is facing financial challenges associated with deferred capital replacement to address aging infrastructure. As capital improvement/replacement costs continue to rise, there is no guarantee that adequate funds will be available in the long term (Ed Pattison, General Manager; personal communication).

RECOMMENDATIONS FOR FURTHER STUDY

LAFCO anticipates the preparation of a new MSR for the BSD in approximately five to ten years (2028 to 2033). In lieu of a new MSR, it is recommended that LAFCO consider the preparation of a "special study" for the Byron community. BSD is a very small-sized district. It is possible that longer-term viability could be achieved by merging or consolidating with a nearby district to achieve economies of scale. Three options for future study are outlined below.

- Option No.1: Potential merger/consolidation with the BBID for wastewater service deserves further consideration. BBID currently provides administrative, operations, and maintenance support to BSD. Currently, BSD has no employees other than the five elected Directors. In addition, the principal office of BSD resides at BBID's headquarters. Consolidation of the two districts may provide additional opportunities for operational efficiency. Because BBID is a multi-county district (serving Alameda, Contra Costa, and San Joaquin counties), San Joaquin LAFCO (BBID's principal LAFCO) would be involved in any consolidation effort. In addition, latent powers would need to be activated to enable BBID to provide sewer service. An additional complication to this concept is the provision of water service. Currently, BBID does not provide potable water service to the Byron community. A merger or consolidation with BBID would not necessarily include water service and could be limited to wastewater service. These issues would need to be precisely defined and studied as tradeoffs are associated with this option. Further study is required to ascertain the fiscal/operational impacts of a consolidation (LAFCO, 2014).

- Option No. 2: The next MSR or special study could analyze the potential for merger/consolidation with the DBCSD to achieve a regional approach to East Contra Costa County wastewater services. This feasibility study would consider two government restructuring options: (1) a service agreement between BSD and DBCSD to treat and dispose

of BSD sewage and (2) the dissolution of BSD and concurrent annexation of its service area to DBCSD. However, at this time there is no guarantee that DBCSD has the capability or capacity to take on additional wastewater collection, treatment, and disposal operations outside its current boundary (Refer to Chapter 21 – DBCSD).

- Option No.3: In the future, LAFCo and Contra Costa County, together with the Byron community, could study the feasibility of establishing a community services district (CSD) to provide basic services to Byron. This community services district could be enlarged to provide additional services and additional territory, although the County ULL may preclude this approach. One public issue noted is that the Contra Costa County Fire Protection District has a fire station that is not actively utilized in the community. Re-use of this fire station site could be studied concurrently with this idea for a community services district. Development of a community water system would be desirable for a CSD; however, groundwater quality in the area is poo[4]r. Currently, all parcels within the District are served by individual wells. Trail maintenance is another issue that could be studied with a CSD proposal.

BSD currently provides out-of-boundary wastewater service to the former Orrin Allen Youth Rehabilitation Facility site through a contract between BSD and Contra Costa County. County GIS notes that part of the former Orrin Allen Youth Rehabilitation Facility is in the District's SOI. In the future, LAFCO may wish to consider including the site in the District's SOI. The 2014 MSR reported that BSD had no plans to initiate annexation of this facility into BSD's boundary. However, BSD will consider service area/SOI expansions as conditions warrant (LAFCO, 2014). It is recommended that the next MSR/SOI Update include a special study of the financial feasibility of annexing this facility into BSD's boundaries and expanding the area between this facility and the current District (south of Bixler Road).

11.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

[4] Groundwater quality and the permeability of deposits are both poor quality in the Byron area. BBID has raw surface water available of good quality available, but it would require treatment. BBID has been approached by the City of Brentwood and Discovery Bay with a preliminary concept such that BBID could consider wholesale raw water deliveries to a new JPA. In theory, a new JPA could have a new water treatment plant located on the south side of the City of Brentwood near Discovery Bay and this concept could possibly include the Community of Byron, if the state and federal grant funding were available.

Table 11-5: MSR Determinations	
TOPIC AND PERFORMANCE MEASURES	**DETERMINATION**
Growth and Population for the affected area. • What is the existing population (estimated)? • What is the projected future growth (estimated)?	BSD serves a population of approximately 676. Growth within BSD is expected to reach a population of 712 by 2045.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence. • *Based on available data, does the boundary or SOI contain any disadvantaged communities?*	Data query results indicate there are currently no *disadvantaged communities* within or contiguous to the BSD SOI under the CKH Act definition. However, BSD staff feels that a more detailed socio-economic study could show nuances in local median income.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. • Does the agency have a CIP? • Are SSOs identified? • Are Local Hazards identified?	BSD completed the SSMP in 2011, and is nearing completion of the revised plan. The SSMP identifies needed improvements, and these projects are being implemented as funds become available. Aging sewer mains are continuing to be replaced as trouble locations are identified. The CIWQS-SSO database was queried, and no SSOs were identified for BSD. BSD did not participate in the county-wide Local HMP. It is recommended that BSD either 1) participate in the next County update of the HMP, or 2) conduct its own detailed spatial mapping of the District's wastewater infrastructure in relation to hazards identified prior to LAFCO's next update of the Wastewater Services MSR/SOI.

Financial ability of agencies to provide services. • Has the agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures 10% or less?	BSD operates as an enterprise-type activity, with its primary revenue source being service charges and fees. BSD's current financial status has been historically stable, as operations expenditures were fully met by revenues received through FY 2022-2023. In FY 2023-2024, expenditures are expected to exceed revenues primarily due to capital improvement/replacement expenditures associated with aging infrastructure. BSD maintains a substantial reserve fund balance, providing good capability to absorb short-term impacts. However, any negative impact on revenues must be carefully monitored and addressed to ensure operational and debt service requirements are met. It is recommended that the District undertake a rate study to evaluate anticipated future costs.
Status of, and opportunities for, shared facilities. • Are cooperative programs and shared facilities utilized as cost savings measures?	BSD is not directly adjacent to other sanitary districts. However, it does share administrative operations with BBID through the Byron Bethany JPA, which includes administrative offices, a general manager, and field personnel. Staff operations were consolidated, and efficiencies were achieved over the past 10 years. Continuing these efforts should sustain cost reductions. Grant funding for capital projects will also be necessary in order to conserve reserve funds.
Accountability for community service needs, including government structure and operational facilities. • Does the Agency have a website? • Does the Agency post a public outreach tool (such as a calendar or newsletter) on its website? • Recommendation for mergers, consolidations, or other changes to governance structure.	The District has initiated a website and has begun populating its pages with important information about BSD and its operations. Board agendas, meeting minutes, and agenda packets are now part of the website. Additional archived agenda packets should be added, as well as financial documents. This MSR lists three potential options for improving the governance structure of BSD in the future. It is recommended that LAFCO prepare a "special study" along with its partners to evaluate the feasibility of these three options.

Any other matter related to effective or efficient service delivery, as required by commission policy.	No additional issues have been identified.

11.9: RECOMMENDED SPHERE OF INFLUENCE DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed SOI determinations, pursuant to Section 56425, are presented below for Commission consideration:

Table 11-6: SOI Determinations

SOI Metric	**Determination**
Present and planned land uses in the area, including agricultural and open-space lands.	The Byron community is guided by two inconsistent planning documents: the "Byron Township General Plan, 1999-2020" and the County's General Plan, the official land use plan for Byron. The County's ULL includes only the developed township of Byron (which is largely built-out) and excludes the surrounding open space. The township of Byron includes residential, commercial, and educational facility uses. The former Orrin Allen Youth Rehabilitation, which is served by the District, is located outside the District's boundaries and the ULL.
Present and probable need for public facilities and services in the area.	Growth within BSD is expected to be limited over the next 10 to 20 years. It is possible that some limited residential development will occur.
Present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide.	BSD completed a SSMP in 2011 and nearing completion of its revised SSMP (2024). BSD is proceeding with needed improvements as funds become available. Aging sewer mains are also planned for replacement as trouble locations are identified. BSD has been able to contain operating costs.
Existence of any social or economic communities of interest in the area if the commission determines that they are relevant to the agency.	None have been identified.

Present and probable need for those public facilities and services of any disadvantaged unincorporated communities with the existing sphere of influence.	Data query results indicate there are currently no *disadvantaged communities* within or contiguous to the BSD SOI under the CKH Act definition. However, BSD staff feels that a more detailed socio-economic study could show nuances in local median income.

Recommended Sphere of Influence: In the near-term, it is recommended that LAFCO maintain the existing SOI. BSD is currently providing adequate wastewater collection, treatment, and disposal services within its service area. Historically, BSD has been able to utilize its reserve funds to finance needed maintenance projects and infrastructure improvements. Therefore, LAFCO could re-affirm the existing SOI utilizing the determinations presented in the above table.

In the long-term, LAFCO may wish to adjust the SOI. For example, as costs for operation and maintenance continue to rise, there is no guarantee that adequate funds will be available long-term, and changes may become necessary. LAFCO should consider several options:

- Amend the BSD SOI to include the Orrin Allen Youth Rehabilitation Facility property, which is currently located outside the BSD service boundary. County GIS notes that part of the former Orrin Allen Youth Rehabilitation Facility is in the District's SOI. In the future, LAFCO may wish to consider including the entire youth camp area in the District's SOI.
- Conduct further studies as listed in Option #1, #2, and #3 on pages 11-18 to 11-19.

11.10: BIBLIOGRAPHY

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CHAPTER 12: CENTRAL CONTRA COSTA SANITARY DISTRICT – WASTEWATER SERVICE

Table of Contents

12.1: OVERVIEW/BACKGROUND

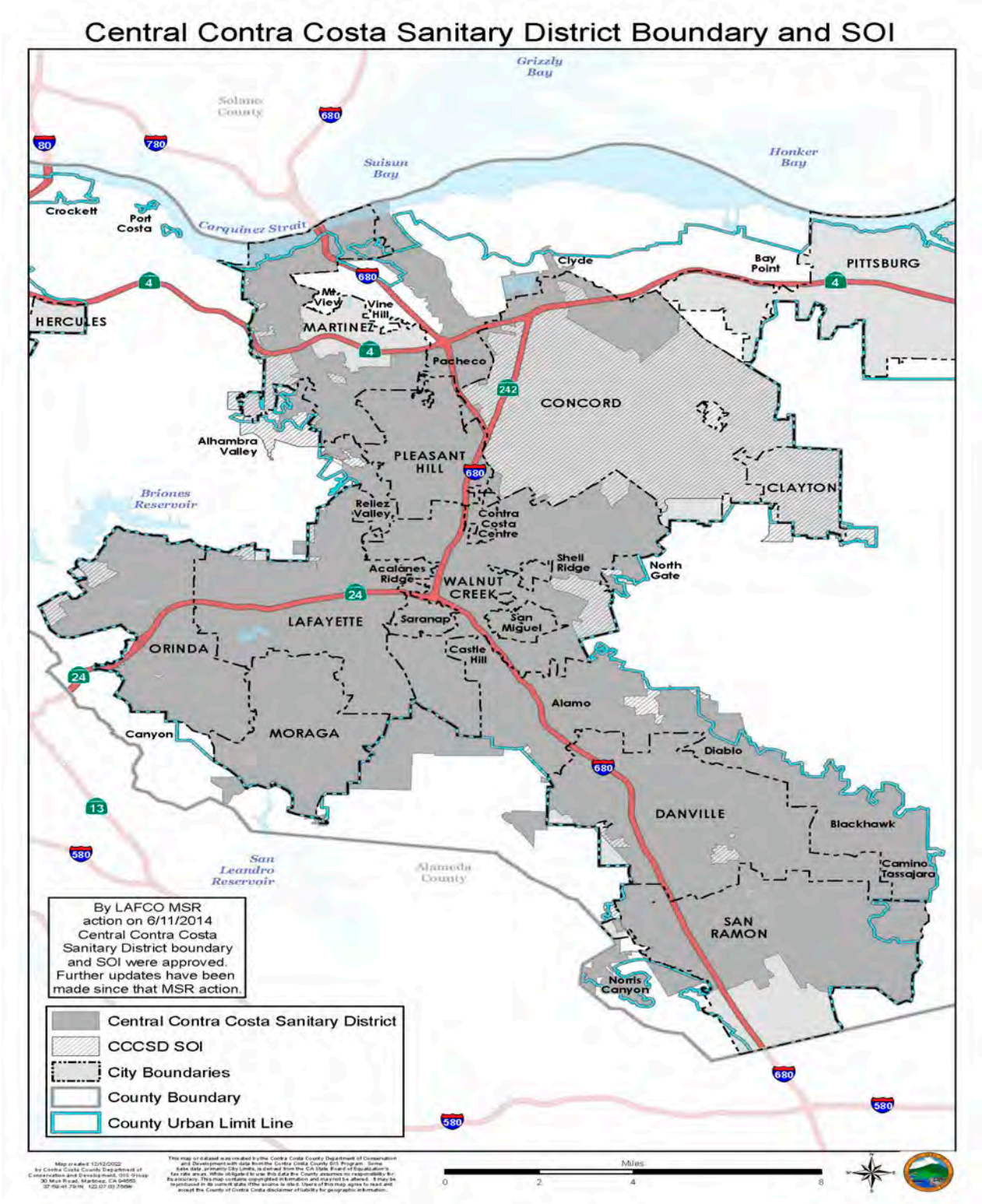
In June 1946, local voters approved a sanitary district for areas of the central portion of Contra Costa County to address a sanitation crisis created by septic system utilization. On July 15, 1946, the County Board of Supervisors passed a resolution officially creating the Central Contra Costa Sanitary District (Central San) consistent with the Sanitary District Act of 1923.

For the past 75 years, Central San has been responsible for collecting and treating wastewater in the central area of Contra Costa County. A five-member Board of Directors governs Central San, each elected to a four-year term. The Board employs a General Manager, the organization's CEO, who leads its 293 budgeted full-time employees (Central San, RFI, 2022b). Central San is a special district with fiscal and administrative autonomy. A profile of Central San is presented in Table 12-1, and a map of Central San's boundary and SOI is presented in Figure 12-1.

Table 12-1: Agency Profile –Central Contra Costa Sanitary District

General Information			
Agency Type	Independent Special District		
Principal Act	Sanitary District Act of 1923, Health and Safety Code Section 6400 et		
Date Formed	1946		
Services	Wastewater collection, treatment, and disposal. Additionally, recycled water for landscape use, pollution prevention, permanent household hazardous waste collection facility		
Service Area			
Location	Cities of Concord, Clayton, Danville, Lafayette, Moraga, Orinda, Pleasant Hill, Walnut Creek, portions of the cities of Martinez and San Ramon, and other unincorporated areas within central Contra Costa County		
Sq. Miles/Acres	Approx. 145 square miles (Central San, 2022)/ Approx. 92,800 acres		
Land Uses	Residential, commercial, industrial, and institutional		
Population Served	487,329 (Central San, 2022a)		
Last SOI Update/Amendment	May 14, 2014		
Infrastructure/Capacity			
Facilities	Wastewater treatment plant, 1,535 miles of pipelines, 18 pump stations (Central San, 2022a)		
Treatment Plant Capacity (MGD)	• 35 MGD average dry weather flow • 34 MGD average daily flow; • 13 billion gallons of wastewater treated and cleaned annually. • 54 MGD is the design capacity of the Treatment Plant. • The Plant can accommodate 250 MGD of wet weather flow. • Recycled water: approximately 600 million gallons per year (MGY) used for irrigation, industrial processes, and plant operations		
Primary Disposal Method	Secondary treatment effluent discharged to Suisun Bay; tertiary treatment effluent recycled for irrigation use		
Budget Information- FY 2023-24			
	Projected Revenues	Projected Expenditures	Net Surplus/(Deficit)
Operating/General Fund	$ $90,946,671	$ $90,946,671	0
Combined Other Funds	$ 82,522,142	$ 82,522,142	0
All Funds	$ 173,468,813	$ 173,468,813	0
		Long-Term Planned Expenditures	
Capital Expenditures	$ 71.2 million	10 Year Projection $980.21 million (as of 2023)	
Net Assets (Reserves)	$20,557,487 contribution to reserves FY 2023-24	Each fund type has an associated reserve fund. Projected Reserve Fund Total in June 2023 was $171,798,899.	
Governance			
Governing Body	Board of Directors (5 members)		
Agency Contact	(925) 228-9500		
Notes: Net Assets do not include Capital Assets			

Figure 12-1: Boundary/SOI Map – Central Contra Costa Sanitary District



12.2: DISTRICT BOUNDARY AND SOI

In the 1940s, Central Contra Costa County was a rural area of farms, orchards, and a few small towns. With the end of World War II, a building boom began. As the nearby cities of San Francisco, Oakland, and Berkeley grew, so did the population of the County. A map of Central San's current boundary and sphere of influence (SOI) is shown in Figure 12-1. Central San's Agency Profile is included in Table 12-1. Today, Central San serves approximately 487,329 residents and 3,000 businesses, covering a 145-square-mile area. Cities and communities served by Central San include Danville, Lafayette, Moraga, Orinda, Pleasant Hill, and Walnut Creek, portions of Martinez and San Ramon, and other unincorporated areas within the central portion of the County as listed in Table 12-2 below. Central San also receives and treats wastewater from the collection systems of the City of Concord and the City of Clayton.

Table 12-2: List of Cities and Communities Served Directly by Central San		
Alamo	Martinez	Pleasant Hill
Clyde	Moraga	San Ramon
Danville	Orinda	Walnut Creek
Lafayette	Pacheco	
Data Source: Central San, SSMP, 2020		

In 2020, Central San's Board of Directors transitioned from an "at-large" to an area-based "by-division" election system under the California Voting Rights Act. The five-division boundaries were updated based on data from the 2020 Census to reflect how local populations have changed over the past 10 years. Redistricting determines which neighborhoods or communities are grouped into a division to elect a Board member and ensures that each Board member represents about the same number of constituents at roughly 70,000 each. These changes became effective during the November 2022 election cycle (Central San, RFI, 2022b). Figure 12-2 shows the election districts for the Central San.

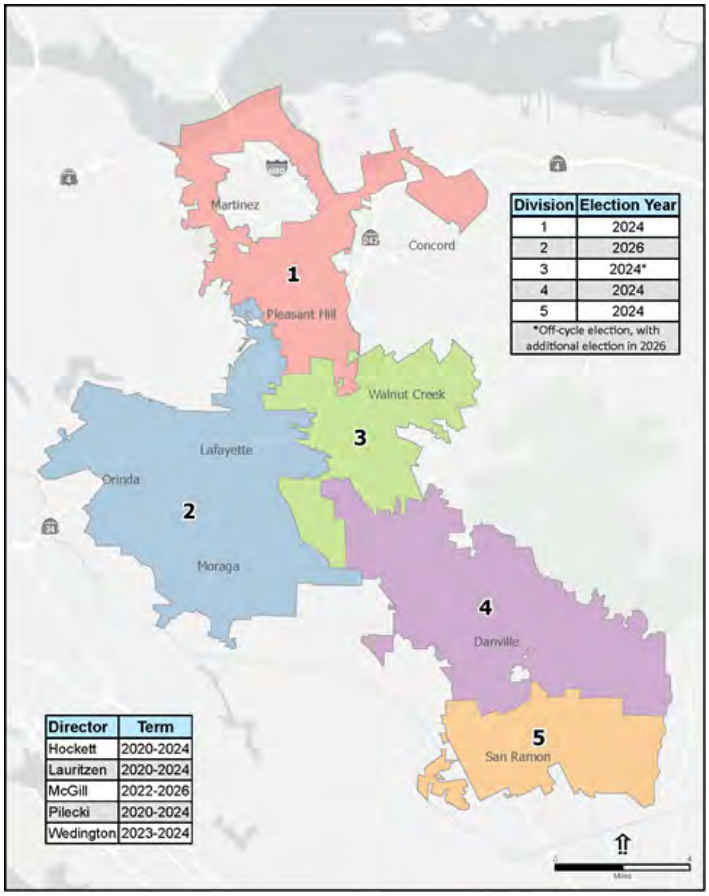


Figure 12-2: Election Districts for the Central San.

Please note that there is a geographic overlap between the boundaries for Central San and the City of Concord. There is no overlap in facilities, just boundary line.

Sphere of Influence

The District's Sphere of Influence (SOI) was expanded as part of LAFCO's 2014 MSR/SOI Update for Wastewater Services.

Service Agreements

Central San does not provide service to any parcels outside its boundaries, except for sewage treatment services to parcels located in the cities of Concord and Clayton (Central San, RFI, 2022c). These cities operate and maintain their own collection systems, delivering their sewage to the Central San Martinez wastewater treatment facility. The interagency service agreement with Concord stipulates that the City will operate its collection systems in accordance with Central San's codes and policies. Wastewater flows from Clayton are treated as a portion of Concord's flow since Concord performs the maintenance on Clayton's collection system. The memorandum of understanding between Central San and the City of Clayton requires the City to follow the practices of Central San within the service territory. In accordance with the service agreement and memorandum of understanding, the City of Concord receives bills from Central San that are based on the volume received. The City of Concord then shares these costs with the City of Clayton (Central San, SSMP, 2020).

The Service Agreement with Concord was originally adopted on September 10, 1974, and amended five times (1976, 1985, 1987, and 2002). The contract renews itself automatically every 25 years on the same terms unless one party of the contract gives a 5-year notice to the other party, prior to the expiration of any 25-year term, of its intention to terminate. Concord/Clayton's sewer system is connected to the Central San interceptor sewers at three locations. Wastewater flow meters record the volume discharged at each location. Concord pays the Central San for its share of operation and maintenance costs and its share of capital costs for commonly used facilities based on the total volumes and strengths of sewage generated within the service area. The flow proportion for the FY 2017-18 from Concord/Claton was approximately 34% (Jones Hall, et al., 2018)

A 28.7-acre area of Walnut Creek is the topic of a service agreement dated July 22, 1968. This Service Agreement is between the City of Concord and the Central San, such that Concord provides disposal and treatment of the sewage from this area. However, Central San is responsible for maintaining and repairing the sewer pipe (Jones Hall, et. al., 2018).

Annexations

In the past, Central San established a program to clean up its service boundary and address a backlog of annexation requests. This program was very successful from 2000 to 2014, and Central San annexed several islands in large groups. As a result of this effort, Central San was awarded the 2011 CALAFCO's Government Leadership Award (LAFCO, 2014). Since 2014, LAFCO has processed several annexations related to Central San, as described in Table 12-3.

Table 12-3: List of Annexations Since 2014		
File Name	**Description**	**Date**
LAFCO 13-07 -	Annexation 184 to Central Contra Costa Sanitary District	January 28, 2014
LAFCO 14-04	Reorganization 185: Annexations to Central San and EBMUD	March 11, 2015
LAFCO 14-05	Reorganization 186: Annexations to Central San and EBMUD	November 16, 2020
LAFCO 14-05	Reorganization 187 (Podva): Annexations to Central San and EBMUD	January 12, 2015
LAFCO 18-06	Chang Property Reorganization 190: Annexations to Central San and EBMUD	(pending)
LAFCO 16-11	Reorganization 191 (Faria Preserve West): Annexations to Central San and EBMUD	April 19, 2017
Data Source: Central San, RFI, 2022		

SF Bay Land Use

The Bay Area Regional Collaborative includes the Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), San Francisco Bay Conservation and Development Commission (BCDC) and Bay Area Air Quality Management District. This collaborative multi-agency regional committee allows for cross-jurisdictional work on projects such as Resilient Bay Area and Carbon Free Future.

Central San's boundary/SOI is adjacent to or encompasses a portion of the San Francisco Bay which is a sensitive environmental resource. The California state planning and regulatory agency with regional authority over the San Francisco Bay, the Bay's shoreline band, and the Suisun Marsh is called the San Francisco Bay Conservation and Development Commission (BCDC). Its mission is to protect and enhance San Francisco Bay and to encourage the Bay's responsible and productive use for this and future generations. BCDC works to ensure projects are compatible with the conservation of Bay resources as described on its website at: <*https://bcdc.ca.gov/* >.

12.3: WASTEWATER OPERATIONS

The District provides direct retail wastewater collection services to approximately 171,340 residential and business sewer connections (Central San, ACFR, 2021). Please note that one Central San connection may serve many individual customers. Additionally, Central San provides conveyance, treatment, and disposal services to several cities, including the cities of Concord, Clayton, Danville, Lafayette, Moraga, Orinda, Pleasant Hill, Walnut Creek, and portions of the cities of Martinez and San Ramon. Central San directly collects and treats wastewater from about 3,000

non-residential businesses and institutions. Their flow is estimated to be less than five percent of the total flow processed by Central San (Central San, RFI, 2022b).

Existing Infrastructure

Central San's wastewater service includes collection, conveyance to its Treatment Plant, and disposal. Central San directly collects and treats wastewater from approximately 135,000 households and about 3,000 non-residential businesses and institutions. Central San also treats wastewater from about 50,000 households by contract from Clayton and Concord (Central San, RFI, 2022b). Central San's collection system includes 1,500 miles of sewer lines and 18 pumping stations, as listed in Table 12-4 (next page). An average of 35.6 million gallons of wastewater per day flows through the collection system to the treatment plant in Martinez. (Central San, RFI, 2022b).

Table 12-4: Service Account Types

CENTRAL CONTRA COSTA SANITARY DISTRICT
Active Service Accounts and Fiscal Year 2016-17 Billings (1)

User Group (2)	No. of Accounts	2016-2017 Sewer Service Charge Billings	Residential Unit Equivalents	Percentage of Total
Residential	113,045	$68,963,633	137,105	81%
Mixed Use	213	2,669,727	5,308	3
Office	772	2,330,477	4,633	3
Food Service	234	2,120,572	4,216	2
Hotel/Motel	22	1,180,440	2,347	1
Government	174	870,631	1,731	1
Market/Supermarket	48	851,179	1,692	1
Schools	251	841,767	1,673	1
Businesses	429	726,188	1,444	1
Automotive/Car Wash	241	630,563	1,254	1
Recreation/Entertainment	103	562,221	1,118	1
All Other User Groups	872	3,320,804	6,602	4
Subtotal	116,404	$85,068,203	169,122	100%

(1) Does not include revenue from the City of Concord under the Concord Agreement.
(2) Residential includes mobile homes; Food Service includes bakeries; Mixed Use includes commercial with food service, retail; and shopping centers; All Other User Groups includes permitted industry amounts with four major hospitals.
Source: Central Contra Costa Sanitary District.

Table 12-5: Central San Existing Infrastructure and Assets

Asset	Value
Property	
420 acres of land	$17,320,568
Critical Infrastructure and Equipment	
43 process structures	$133,730,462
Piping throughout plant	$30,345,675
1500 miles of pipe throughout the District	$800,240,720
18 pump stations	$32,367,643
25 tanks	$66,393,796
105 vehicles	$7,287,526
Total:	***$960,366,022***
Critical Facilities	
16 Process Buildings	$215,973,025
12 Power Buildings	$33,555,709
9 Other Buildings	$41,881,664
Total:	***$291,410,398***

Data Source: Contra Costa County LHMP, 2018.

Central San collects sewage and conveys it through approximately 1,535 miles of pipelines and 16 pump stations for treatment at its wastewater treatment plant (WWTP) (CCSD, 2022a). The treatment plant is located in Martinez and has a treatment capacity of 54 million gallons per day (MGD), and cleans an average of 34 MGD (Central San, n.d.b). Central San has implemented an aggressive sewer main maintenance and replacement program since 2007 and replaced many of its problem sewer main pipelines. Central San disposes of its secondary treated effluent into Suisun Bay.

Gravity Mains: Wastewater is collected and conveyed along pipes and mains to the wastewater treatment plant by gravity (most commonly). Utilizing gravity, the sewer pipes are sloped towards the direction of the treatment plant. There are about 1,540 linear miles of gravity sewer mains.

Force Mains: Force mains are pressurized sewer pipes, and Central San maintains 25 linear miles of force mains. Force mains are scoured daily with high-velocity flow, and occasionally the slime layer (a precursor to hydrogen sulfide corrosion) is removed with a shock treatment of sodium hydroxide or other chemical (Central San, SSMP, 2020).

Pumping Stations: Central San owns and operates 16 pumping stations that move wastewater up in elevation in areas of hilly terrain or low-lying areas. Central San also maintains three additional privately owned pumping stations, as listed in Table 12-6 below. The pumping stations need monitoring 24 hours a day, 365 days a year. They include a connection to the SCADA system, station valves, and a power connection (which may allow a generator connection) (Central San, SSMP, 2020).

Table 12-6: List of Pumping Stations

CCCSD Pumping Stations

1. Martinez
2. Fairview
3. Maltby
4. Clyde
5. Concord Industrial
6. Buchanan Field North
7. Buchanan Field South
8. Sleepy Hollow
9. Acacia
10. Flush Kleen
11. Lower Orinda
12. Bates Blvd. - Orinda
13. Orinda Crossroads
14. Via Roble
15. Moraga
16. San Ramon

PRIVATELY OWNED:

17. Wagner Ranch
18. Lower Wilder
19. Upper Wilder

Wastewater Treatment Plant

The wastewater treatment plant (WWTP) is located at 5019 Imhoff Place in Martinez, CA. The treatment plant processes an average daily flow of approximately 35 million gallons per day (MGD) of ADWF. This totals to more than 13 billion gallons of wastewater treated and cleaned annually. The design capacity of the Treatment Plant is 54 MGD. The Plant can accommodate 250 MGD of wet weather flow. In 2017, a peak hourly flow of 181 MGD was reached (Jones Hall, et. al., 2018).

The WWTP operations building contains a control center and a state-of-the-art computerized system that monitors and controls every phase of the treatment process. The WWTP is staffed 24 hours per day, every day of the year (Jones Hall, et. al., 2018). Central San operates a water quality laboratory located at the wastewater treatment plant in Martinez, California. Field staff collect water samples at various points. The laboratory can analyze the samples for ammonia, total coliform, fecal coliform, enterococcus, and e-coli. Central San's laboratory is certified by the California State Environmental Laboratory Accreditation Program (Central San, SSMP, 2020). By the year 2035, an expansion of the wastewater treatment plant is expected to allow treatment of up to 41 MGD ADWF.

Disposal: Most of the wastewater is treated to a secondary level, then disinfected by ultraviolet light, and then discharged into the Suisun Bay (Jones Hall, et. al., 2018). Approximately 200 wet tons of sludge are incinerated each day. This incineration process reduces the sludge to approximately 10-14 tons of sterile ash, which is beneficially reused as a fertilizer amendment by a third party. The on-site incineration process utilizes Multiple Hearth Furnaces (MHFs) where solids are incinerated and transformed into energy, which is then used by the wastewater treatment plant (Central San, RFI, 2022c).

Table 12-7: Wastewater Treatment Plant Summary Data

Treatment Plant	Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
		Millions of Gallons per Day (mgd)									
Treatment Plant Permitted Capacity	Calendar	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8	53.8
Average Dry Weather Flow (ADWF)	Calendar	33.2	33.8	30.4	29.1	30.8	33.3	31.8	34.1	33.2	29.5
Wastewater Treated per day	Calendar	39.8	36.8	35.6	31.8	35.4	43.2	36.0	41.2	35.3	34.6
		Tons per Year									
Sludge to Furnace (Dry)*1	Fiscal	15,097	14,590	16,789	16,623	17,031	16,279	16,498	16,056	16,029	15,959
Ash to Reuse Site (Wet)*2	Fiscal	3,667	3,618	3,811	3,651	4,230	3,475	3,577	3,450	3,410	3,627

*1 In the multi-hearth furnace, the wet sludge is converted to dry ash. Water is added to the dry ash as it is loaded into trucks (ratio of 60 percent ash to 40 percent water) to prevent the ash from blowing out of the truck during transport.

*2 Wet sludge, which at 19 to 27 percent solids, is pumped to the multiple-hearth furnace for incineration. The table above shows the dry tons per year of sludge to the furnace, excluding the 73 to 81 percent water in the wet sludge.

Figure 12-3: Google Maps Street View of the Central Contra Costa Sanitary District Office

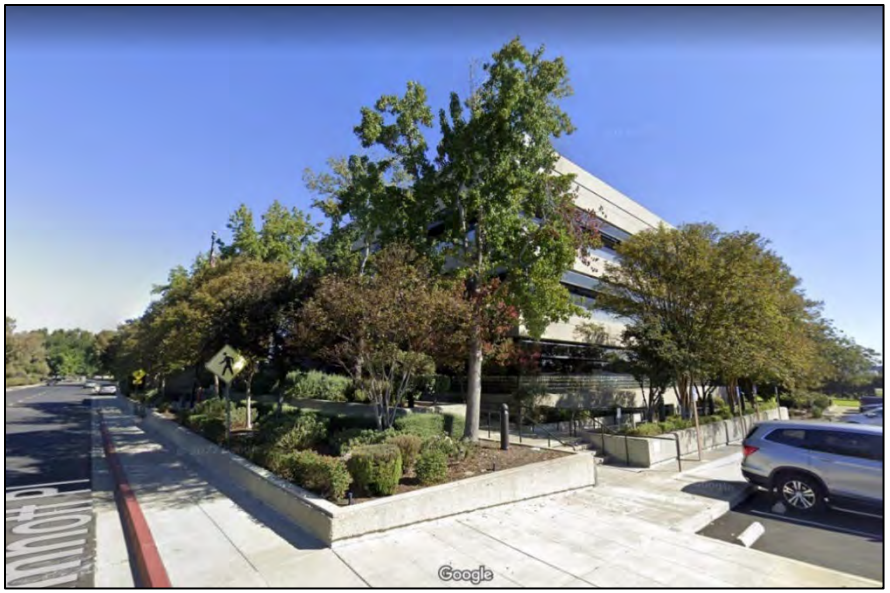


Figure 12-4: Service Area Map

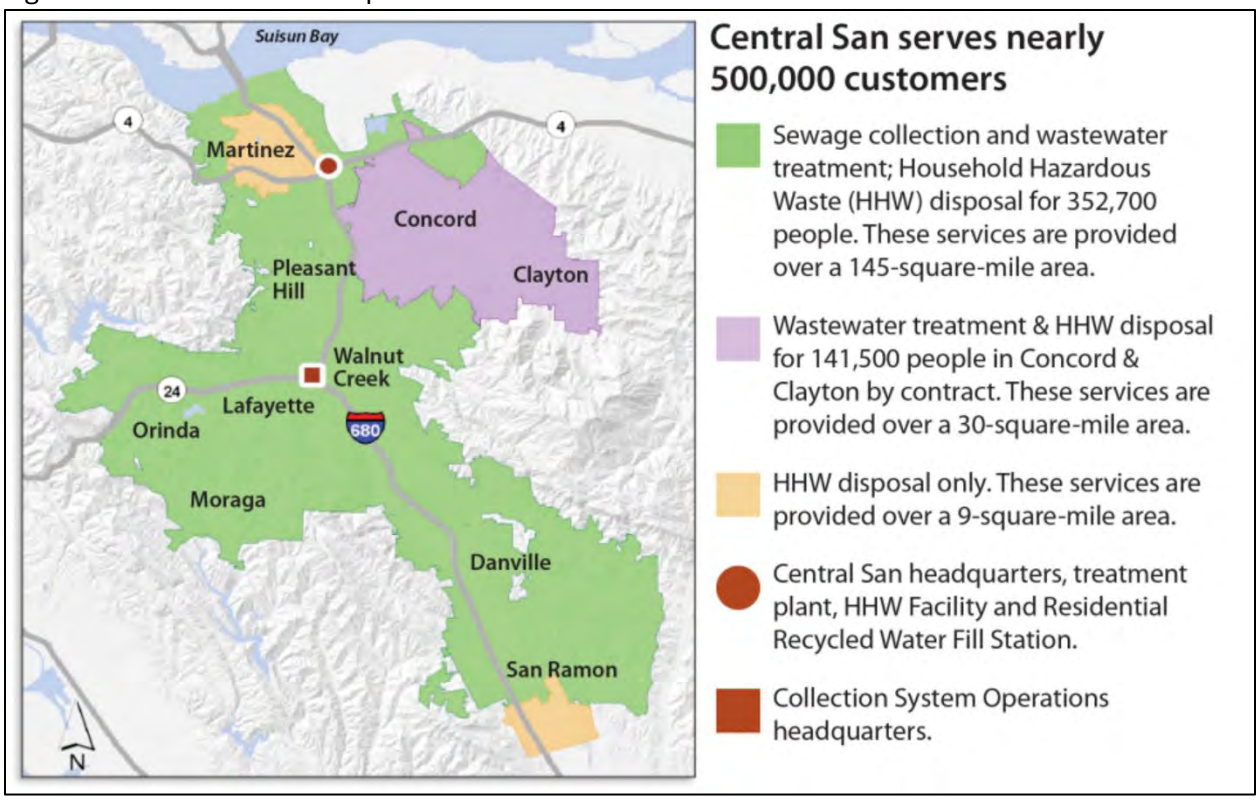


Figure 12-4 provided courtesy of Central San from <https://www.centralsan.org/sewer-system>.

Central San's sewage sludge incineration is required to comply with the Federal Clean Air Act Section 129, which went into effect in March 2016. This regulation limits pollutant emissions in order to protect public health and safety. Central San cooperates with the Bay Area Air Quality Management District (BAAQMD) to resolve reportable compliance activity reports. BAAQMD has issued six notices of violation to Central San. As a result, the District constructed new wet scrubbers to resolve the issue (Jones Hall, et. al., 2018).

The District operates a cogeneration facility that uses a combination of methane from a landfill and natural gas to produce electricity and steam for the Plant. On average, approximately 3,200 kilowatts of power are produced. This provides more than 90% of the Plant's daily power needs (Jones Hall, et. al., 2018).

Recycled Water

The wastewater treatment plant generates nearly 600 million gallons of recycled water each year, which is recycled for plant operations, industrial uses, and landscape irrigation. The recycled water program sells tertiary treated effluent for landscape irrigation use to the following communities: Cities of Pleasant Hill, Concord (including areas south of the Buchanan Field Airport), and unincorporated Martinez (LAFCO, 2014). The recycled landscape irrigation water meets all the requirements of the CA Department of Health Services and the CA Regional Water Quality Control

Board for uses at schools, parks, and playgrounds, etc. The recycled water is distributed directly to users via a pressure distribution system that includes purple pipelines, pumping stations, and meter box assemblies. Regular inspections are conducted by the Department of Health Services (Jones Hall, et. al., 2018). The Recycled Water Program is operated by Central San in collaboration with the Contra Costa Water District. Additionally, Central San is exploring options with EBMUD to expand the Recycled Water Program by conducting new projects together (Central San, ACFR, Dec 2022).

Sanitary Sewer Management Plan

Central San's Sanitary Sewer Management Plan (SSMP) was adopted on June 5, 2020, and serves as a guide to help staff manage, operate, and maintain the sanitary sewer system to minimize and mitigate sanitary sewer overflows (SSOs). The Sewer System Management Plan (SSMP) was most recently updated and adopted in October 2022. The major topics in the SSMP include: Goals, Organization, Legal Authority, Operation and Maintenance Program, Design and Performance Provisions, Overflow Emergency Response Plan, Fats, Oils, and Grease (FOG) Control Program, System Evaluation and Capacity Assurance Plan, Monitoring, Measurement, and Program Modifications, SSMP Program Audits, and a Communication Program. These SSMP sections collectively cover the framework and strategies for managing the sanitary sewer system, ensuring compliance with environmental regulations, and safeguarding public health. The Plan is a comprehensive strategy designed to ensure compliance with regulatory requirements, protect public health and the environment, and improve the efficiency and reliability of the sewer system (Central San, SSMP, 2020).

Comprehensive Wastewater Master Plan

In its 2017 Comprehensive Wastewater Master Plan (CWMP), Central San conducted an evaluation of its collection system capacity regarding future growth and service area expansion. A similar effort was made to provide alternative liquid treatment and solids handling at the treatment plant as part of Central San's evolution toward a net-zero greenhouse gas operation. The CWMP also reiterated that sufficient treatment capacity to accommodate planned growth within its sphere of influence (SOI) for the next several decades, based on Association of Bay Area Government (ABAG) growth projections (Central San, RFI, 2022b).

NPDES Permit

The National Pollutant Discharge Elimination System (NPDES) is administered by the U.S. Environmental Protection Agency and California's State Water Board. Under the federal Clean Water Act, an NPDES permit is required for Central San to legally discharge treated wastewater into Suisun Bay. Central San's new NPDES permit was adopted by the San Francisco Bay Regional Water Board in June 2022. The new permit will expire on July 31, 2027. The NPDES permit allows Central San to treat up to 53.8 million gallons per day (Central San, RFI, 2022b). Central San's staff believes that the Regional Water Board acknowledged Central San's exceptional work. The permit sets pollutant limits, monitoring, and reporting requirements to ensure commitments to protect public health and the environment are met (Central San, RFI, 2022b).

Central San has achieved 24 consecutive years of 100% compliance with its National Pollutant Discharge Elimination System Permit (NPDES) governing wastewater discharge. That is a record achieved by fewer than 20 of the over 16,000 publicly owned treatment facilities in the United States. Sanitary sewer overflows were reduced to a record low of 18 in FY 2020-21. The facility used by customers to drop off their household hazardous waste also offers free recycled water (up to 300 gallons per visit). Central San produces about three million gallons of recycled water per year, which is used in the community. Approved uses include irrigation at schools, parks, playgrounds, median strips, and playing fields, as well as dust control and industrial process uses (Central San, RFI, 2022b).

The NPDES effluent limitations guidelines and pre-treatment standards are uniform national standards developed by EPA for specific industrial categories. These pre-treatment standards can also be considered pollutant discharge limits that apply to industrial users, commonly referred to as EPA Categorical Users. Emcore Corporation in Concord is permitted with Environmental Compliance as a Categorical Industrial User (CIU) and allowed to discharge categorical wastewater into the Central San sewer system. Emcore is a manufacturing facility, assembly, and testing of inertial sensors and systems. As a Categorical Industrial User, defined by the EPA, they are in the Metal Finishing category (chemical etching, electroplating). Emcore's permit requires annual inspection, reporting, and sampling by Environmental Compliance (Central San, RFI, 2022b). Additionally, Central San has 18 Significant Industrial Users (SIU) that are not listed in one of the EPA's defined categories of CIUs. SIUs discharge an average of 25,000 or more gallons per day or are subject to pre-treatment regulations due to the discharge of pollutants of concern that could adversely impact the sewer and treatment system (Central San, RFI, 2022b).

A separate NPDES Permit CA 0038849 (Order R2-2022-0038) regulates waste discharge requirements for mercury and PCBs from municipal and industrial wastewater discharges.

EPA Categorical Users

Wastewater systems sometimes have EPA categorical users (i.e., Significant Industrial Users), which are regulated under a local pre-treatment ordinance. Emcore Corporation in Concord is permitted with Environmental Compliance as a Categorical Industrial User (CIU) and allowed to discharge categorical wastewater into the Central San sewer system. Emcore is a manufacturing facility, assembly, and testing of inertial sensors and systems. As a Categorical Industrial User, defined by the EPA, they are in the Metal Finishing category (chemical etching, electroplating). Emcore's permit requires annual inspection, reporting, and sampling by Environmental Compliance (Central San, RFI, 2022b).

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Local Hazards

The Contra Costa County Hazard Mitigation Plan Volume 2 maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards. Central San participated in this planning process. In the past, the District has experienced winter storms, severe weather, and landslides. The Hazard Mitigation Plan's Chapter 18 shows that Central San's wastewater treatment plant and some pump stations are in flood zones/coastal areas. Additionally, the District is exposed to significant earthquake risk and has facilities, such as the District Building and Treatment Plant, that would benefit from seismic retrofits. The Walnut Creek/Grayson Creek levee is designed to protect the area from most floods; however, the levee would benefit from rehabilitation. Central San has critical facilities and infrastructure that are exposed to impacts from earthquakes, severe weather, landslide, and flood hazards (Contra Costa County, 2018). Central San staff works towards incorporating the LHMP information about these hazards into the District's planning initiatives and documents (Contra Costa County, 2018).

Sanitary Sewer Overflow Database

The State Water Board maintains a Sanitary Sewer Overflows (SSO) database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. WQ 2022-0103-DWQ (SSS WDRs), on December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. A 3.5-year term from January 1, 2019, to August 19, 2022, was queried in the CIWQS-SSO database. During this 3.5-year timeframe, there were 84 Sanitary Sewer Overflow events in the Central San. Due to space constraints, only the 20 most recent SSOs are listed below in Table 12-8 (next page). In most cases, the Sanitary Sewer Overflows had point failures at the gravity mainline. Most of the overflows were less than 1000 gallons of spill material; however, not all material was recovered. The spill with the greatest volume occurred on March 22, 2022, with a volume of 23,800 gallons. According to the CIWQS-SSO database, the total spill of 23,800 gallons reached surface water; however, 19,525 gallons were recovered. The spill was due to the force main being hit by a private drilling contractor.

From July to October 2022, the San Francisco Bay experienced a harmful algal bloom (HAB) known as a red tide, as described in Appendix F. The species associated with this bloom, *Heterosigma akashiwo*, can cause water to take on a reddish-brown color. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay, and into San Pablo Bay. Fish deaths linked to the red tide were reported to include sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San Francisco Bay Water Board is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other

Table 12-8: Central Contra Costa Sanitation District Sanitary Sewer Overflows (20 of 85 shown)

SSO Event ID	Region	Responsible Agency	SSO Category	Start Date	SSO Volume	Volume of SSO Recovered	Volume of SSO that reached Surface Water	SSO Failure Point	WDID
877094	2	Central San	Category 3	10/15/2021	50	49	0	Gravity Mainline	2SSO10105
877097	2	Central San	Category 3	10/21/2021	250	238	0	Gravity Mainline	2SSO10105
877636	2	Central San	Category 3	10/28/2021	80	79	0	Gravity Mainline	2SSO10105
877639	2	Central San	Category 3	10/27/2021	8	7	0	Gravity Mainline	2SSO10105
877900	2	Central San	Category 3	11/25/2021	15	0	0	Gravity Mainline	2SSO10105
877921	2	Central San	Category 3	12/1/2021	9	9	0	Maintenance hole	2SSO10105
878040	2	Central San	Category 3	12/4/2021	59	59	0	Gravity Mainline	2SSO10105
878229	2	Central San	Category 3	12/14/2021	15	0	0	Maintenance hole	2SSO10105
878836	2	Central San	Category 3	1/3/2022	92	92	0	Gravity Mainline	2SSO10105
879145	2	Central San	Category 3	1/19/2022	160	160	0	Gravity Mainline	2SSO10105
879290	2	Central San	Category 3	2/3/2022	5	0	0	Gravity Mainline	2SSO10105
879555	2	Central San	Category 1	2/19/2022	12,150	12,150	12,150	Gravity Mainline	2SSO10105
879693	2	Central San	Category 3	2/16/2022	34	32	0	Gravity Mainline	2SSO10105
879694	2	Central San	Category 3	2/16/2022	629	600	0	Gravity Mainline	2SSO10105
879930	2	Central San	Category 2	3/11/2022	3,000	3,000	0	Gravity Mainline	2SSO10105
880257	2	Central San	Category 1	3/22/2022	23,800	19,525	23,800	Force Main	2SSO10105
880529	2	Central San	Category 3	3/31/2022	295	0	0	Gravity Mainline	2SSO10105
881788	2	Central San	Category 3	6/2/2022	20	0	0	Gravity Mainline	2SSO10105
881888	2	Central San	Category 3	6/20/2022	25	20	0	Gravity Mainline	2SSO10105
882605	2	Central San	Category 3	7/4/2022	118	118	0	Maintenance hole	2SSO10105
Data Source: CA EPA, n.d. CIQWS Sanitary Sewer Overflow Database									

agencies to study potential impacts of nutrients on San Francisco Bay. The District has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater Districts and the Water Board.

Future Challenges

Wastewater service providers in the Bay Area face several future challenges, including anticipated Nutrient Management Regulations. The RWQCB is expected to implement interim SF Bay-wide and individual WWTP effluent limits. This may include aggressive, long-term SF Bay-wide nutrient limits based on current scientific information with a multi-year compliance schedule.

The American Society of Civil Engineers, Region 9 (2019) has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

1. Implement an education program at the state and local level about what a wastewater treatment plant is, what kind of wastes it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water reuse/recycling.

Cooperative Programs

Central San works cooperatively with nearby agencies to share facilities and other resources to help meet regional goals. For example, Central San operates its Household Hazardous Waste Collection Facility in cooperation with Mt. View Sanitary District, the Cities of Concord and Clayton, and a portion of the City of San Ramon. Central San also participates in several system maintenance and operations training programs with other local sewer agencies. Recently, Central San began sharing wastewater for a limited duration at its San Ramon Pumping Station with the East Bay Municipal Utility District/Dublin San Ramon Services District (DERWA) Recycled Water Program. This sharing helps DERWA meet its recycled water supply obligations during its higher-demand dry weather season when the supply of raw wastewater flowing to DERWA facilities is insufficient. Central San is also investigating the potential of partnering with golf courses and even neighboring communities to facilitate the creation of satellite water reclamation facilities (SWRF) or water exchange agreements (Central San, RFI, 2022b).

Central San and CCWD, in collaboration with other Bay Area water agencies, continue to study a potential project to serve 13 MGD[1] of recycled water produced at Central San's treatment plant to the two Martinez area refineries (Shell Martinez Refinery and Marathon) (Central San, RFI, 2022c). The recycled water is hoped to replace CCWD-supplied water from the Central Valley Projectsystem.

[1] This project used to be estimated at 20 MGD, but now with Marathon's transition to renewable diesel production, its water demands have dropped significantly (Central San, RFI, 2022c).

Awards

The District has received several awards and recognitions, as listed below:

- National Association of Clean Water Agencies (NACWA) Peak Performance Platinum Award for
- California Water Environment Association (CWEA) awards:
- Large Treatment Plant of the Year (Regional Award in 2016, Statewide Award in 2017)
- Large Treatment Plant of the Year for Safety (Regional Award in 2016, Statewide Award in 2017)
- Statewide awards for Gadget of the Year and Amateur Video Production, both in 2017 (Contra Costa County 2018)
- GFOA Award for Achievement of Excellence in Financial Reporting (received annually)
- GFOA Distinguished Budget Presentation Award (Received annually since 2018) (Central San, RFI, 2022b).

Cost Avoidance Opportunities

Central San participates in several regional programs (including those listed above) to achieve savings through coordination. Pre-planning street maintenance work with the four main cities has reduced street cuts and repaving costs and allowed for projects to be coordinated for less traffic impacts (LAFCO, 2014). Additionally, the recycled water program assists in controlling effluent disposal and generating long-term revenue. In another example, in 2009, Central San completed a major pipeline replacement with the City of Concord, which eliminated the need for one pump station (Central San, RFI, 2022c).

12.4: FINANCIAL OVERVIEW

Central San operates as an enterprise-type activity, with its primary revenue source being service charges and fees. Central San also receives property tax revenue. Revenue is also derived from Central San's service contracts with the City of Concord and Clayton. The enterprise fund is comprised of four internal sub-funds:

- Running Expense – accounts for the general operations of Central San. Substantially all operating revenues and expenses are accounted for in this fund (also referred to as Operations & Maintenance or O&M).
- Sewer Construction – accounts for non-operating revenues to be used to acquire or construct Treatment Plant, property, and equipment (also referred to as the Capital Fund).
- Self-Insurance – accounts for interest earnings on cash balances in this sub-fund and cash allocations from other funds, as well as costs of insurance premiums and claims not covered by Central San's insurance policies.
- Debt Service Fund – accounts for activity associated with the payment of Central San's long-term debt through bonds and loans.

Each year, the Board of Directors adopts the following four budgets: Capital Improvement, Operations and Maintenance, Self-Insurance, and Debt-Service. Central San publishes a Comprehensive Annual Financial Report that is submitted to the Government Finance Officers Association for independent review. The District's Budget and Certified Annual Financial Reports are

the primary information source for data for this analysis, and these reports are posted on the District's website at: <*https://www.centralsan.org/financial-information*>. This financial analysis represents a snapshot in time (i.e. a limited time period). However, Central San regularly updates its financial data and readers may review the new data on Central San's website.

Central San has maintained a significant commitment to financial efficiency and has, since 2014, completed the following initiatives:

- Replaced a 25+-year-old enterprise resource planning (ERP) system with a new Oracle Cloud ERP in 2020. This new ERP is the foundation for financial administration, purchasing, and human resource administration, providing significant workflow and automation efficiencies.
- Implemented an internal audit function performing reviews of various functions to ensure efficiency and prudent use of funds and safeguarding of assets.
- Produced annual optimization reports highlighting operational efficiencies implemented across operational and other systems to reduce cost and improve reliability and service.
- For the past 3 years, benchmarked operations and costs against national and statewide utilities through participation in the American Water Works Association benchmarking surveys.
- Received "clean" / unmodified audit opinions in the annual independent financial statement audits.
- Paid off the unfunded pension liability in 2021, decreasing it from $142 million in 2012. Brought the funded ratio up from 56% in 2012 to 100% in 2021.
- Brought the funded ratio of the Other Post Employment Benefit (OPEB) obligation from 22% in 2012 to 99% funded in 2021. Source: (Central San, RFI, 2022b).

Five primary areas of criteria have been utilized to assess the present and future financial condition of Central San's wastewater service operations, as discussed below:

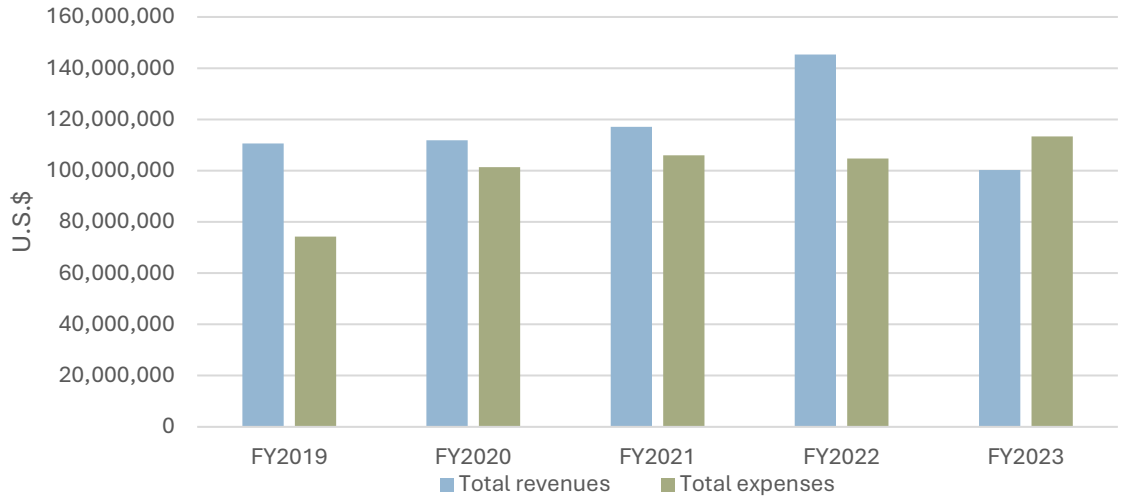
3 Year Revenue/Expenditure Trends

Central San's Annual Comprehensive Financial Report (ACFR) states that "Total operating revenue decreased by $48.9 million or 41.2% in FY 2022-23". This decrease is directly attributable to the portion of sewer service charges revenue allocated to operations decreasing from 66.9% in the prior year to 41.1% in FY 2022-23, a decrease of $49.0 million. In the prior year, a significant increase to the operational share of the sewer service charge allocation was directed by the Board after 2021 Wastewater Certificates of Participation (2021 COPs) were issued, generating $58.0 million in proceeds to help fund capital projects in lieu of sewer service charges. This decrease is partially offset by a large increase of $3.4 million in investment earnings when compared to the prior year due to multiple interest rate hikes from the Federal Reserve throughout 2022 and into 2023" (Central San, ACFR, 2023).

As shown in Figure 12-5 below, revenues exceeded expenditures in four of the five fiscal years studied. This indicates that, on average, Central San's fees and charges are sufficient to pay for the

costs of operating the wastewater system. However, for FY2023, total expenditures of $113,330,918 were in excess of total revenues of $100,296,021 (Central San, ACFR, 2023).

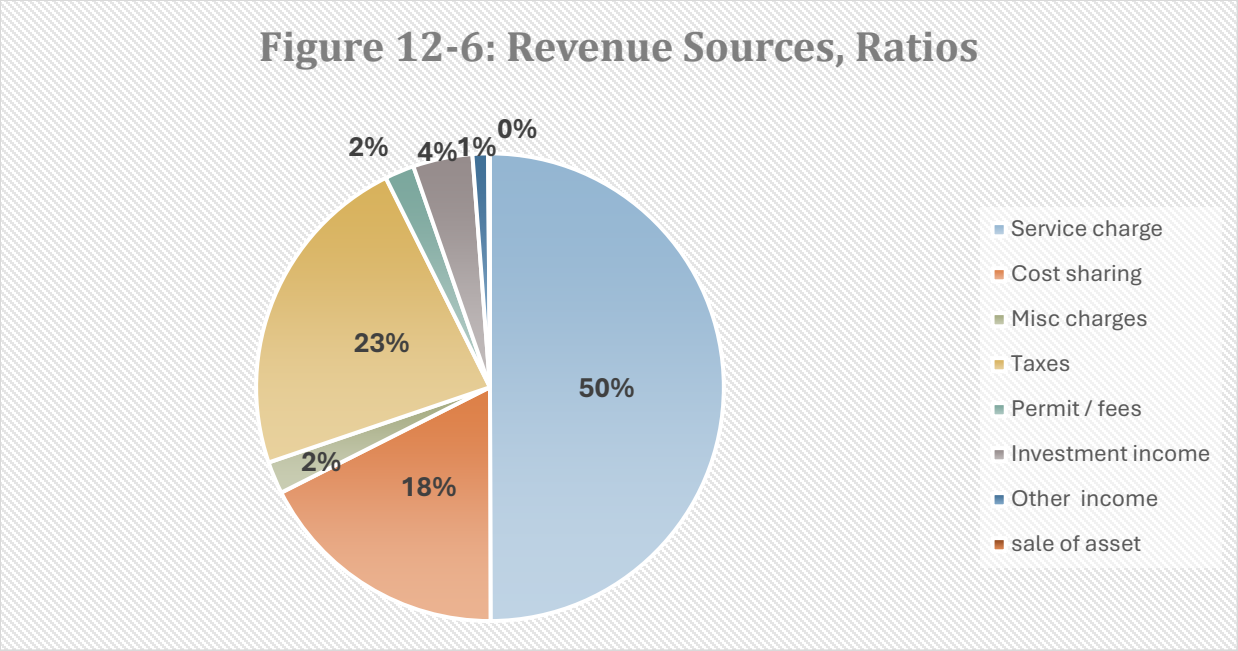
Figure 12-5: Comparison of Revenue to Expenses



Data Source: DD Annual Financial Statement 2023 and 2020

Ratio of Revenue Sources

In FY2023, Central San received both operational and non-operational revenue, including approximately 50% of its revenues from charges and fees for services; 23% from property taxes; 18% from cost sharing with the City of Concord, and 4% from investment income (Central San, ACFR, 2023). The remainder of the revenue is derived from permit fees, Misc charges, other income, and sale of assets, as shown in Figure 12-6 below. In FY2023, Central San did not receive any revenue from grants; however, in past years, grant funds were received. Overall, this ratio reflects an appropriate balance for a typical enterprise-type service and minimizes the impact that negative economic factors will have on more elastic revenues such as property tax. However, any negative economic impact on Central San's property tax revenue could have some impact on Central San's operational budget and spending plan for capital projects.



Ratio of Reserves or Fund Balance to Annual Expenditures

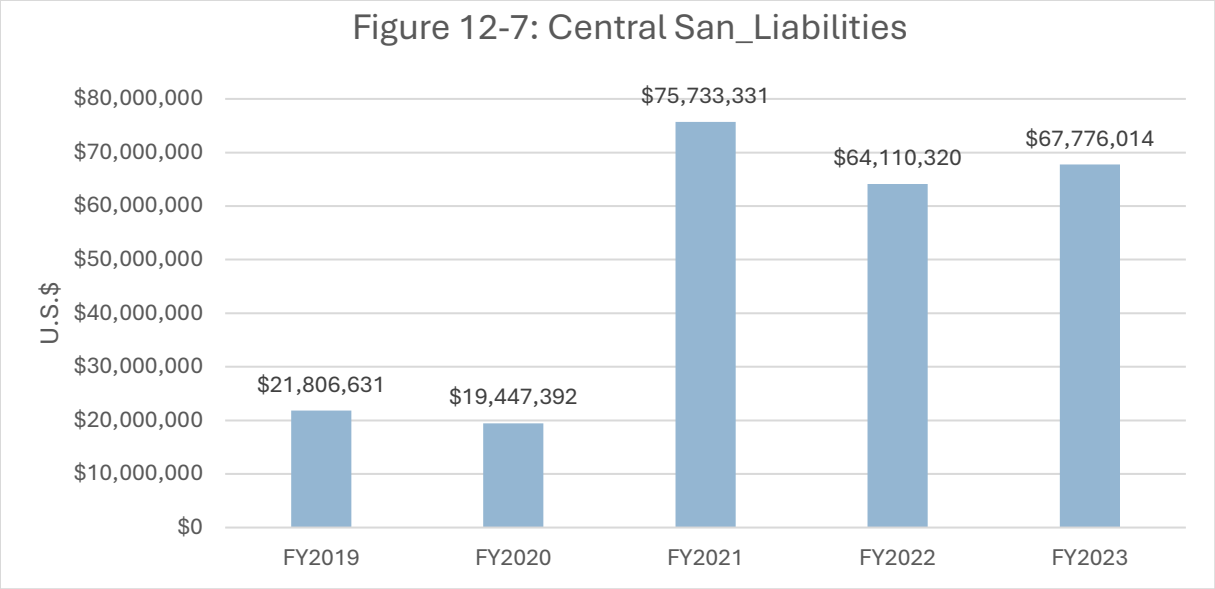
An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures. Central San currently has an unrestricted cash $23,058,319 (Central San, ACFR, 2023). Total expenditures for 2023 were $ 113,330,918. This calculates to a ratio of reserves or fund balance to annual expenditures approximately 20.35%.

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. The Central San has several types of long-term debt related to wastewater services. These include:

- 2018 Series A Wastewater Revenue Refunding Bonds
- 2018 Series B Wastewater Revenue Refunding Bonds
- 2021 Wastewater Revenue Certificates of Participation
- Clean Water State Revolving Fund Loan

The total debt of the Central San is $67,776,014 as of June 30, 2023. This calculates to an increase of $3.7 million or 5.7% over the debt balance of $64.1 million on June 30, 2022 (Central San, ACFR, 2023). FY 2019-20, which ended June 30, 2020, had the lowest debt at $ 19,447,392, as shown in Figure 12-7 below.



The ratio of annual debt service to total fund annual expenditures is an indicator of the ability to meet debt obligations in relation to service provision expenditures. Ideally, a ratio of 10%or less would reflect a very stable ratio. As of June 30, 2023, the annual debt service due was approximately $7,090,000. Annual expenditures were $113,330,918. This calculates to an annual debt service ratio to total expenditures is approximately 6.26%. Since this is less than LAFCO's 10% metric, Central San has a very good ratio.

Capital Improvement Program

The physical collection system assets are valued at approximately $2.5 billion (Central San, SSMP, 2020). The District currently maintains various equipment, vehicles[2], infrastructure, and associated assets. Therefore, Central San maintains a comprehensive long-term Capital Improvement Program/Plan (CIPP) addressing many substantial infrastructure improvements. The 10-Year CIPP is updated annually as part of the budgeting process. The CIPP identifies and prioritizes capital projects needed to accomplish the District's Strategic Plan and provides the basis for project scheduling, staffing, and long-range financial planning. The CIPP also serves as the framework for rate setting and decisions based on planned expenditures. The current 10-year CIPP is designed to address infrastructure needs and is funded by revenues from service charges, ad valorem taxes, and capacity fees. Central San has established a Collection System Program that will address aging and deteriorating infrastructure. In addition, the program will serve to meet regulatory requirements,

[2] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the District, it is likely that sometime in the future, the District may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

address capacity issues, and help meet sustainability goals (Central San, n.d.a). According to the FY 2022-23 Budget, "Central San staff will continue to update the new collection system hydrodynamic model (*InfoWorks*®) to confirm the need and timing for future projects required to alleviate capacity deficiencies and to determine sewer replacement needs (Central San, n.d.a).

The CIPP budget for FY 2023-24 is approximately $71.2 million in capital project expenditures. This includes $35.7 million for the collection system, $31.3 million for the WWTP, $3.4 million in general improvements, and $818,000 for the recycled water system. The CIPP has a 10-year planning horizon, and Central San updates the ten-year planning and budget on an annual basis. The 10-Year CIP is projected to be $980.21 million (as of 2023), as shown below in Table 12-9.

Table 12-9: CIPP Budget Overview for FY 2023-24

Program	Budget-to-Date (1)	FY 2023-24 (2)	Future FYs (3)	Total Estimated Project Budgets (1)+(2)+(3)	FY 2023 Ten Year CIP
Collection System	$55,199,150	$35,734,000	$103,645,000	$194,578,150	$309,773,000
Treatment Plant	$105,501,332	$31,300,000	$315,450,000	$456,251,332	$612,000,000
General Improvements	$13,199,000	$3,350,000	$7,810,000	$24,359,000	$22,060,000
Recycled Water	$42,869,000	$818,000	$8,366,000	$52,053,000	$36,380,000
Total	***$220,768,482***	***$71,202,000***	***$435,271,000***	***$727,241,482***	***$980,213,000***
CIB Contingency	$5,000,000	-	-	-	-

The Budget to Date (1) above includes approximately 80% budget already spent for on-going projects, not including contingency.

Last year (FY 2022-23), staff completed several CIPP projects, including collection system sewer replacement such as the replacement rehabilitation of 6.0 miles of sewers, most of which were 6-inch vitrified clay pipes in poor condition. Construction included sewer replacement, new maintenance access holes, and other infrastructure improvements in public rights-of-way and backyard easements. Trenchless technology was utilized where possible for cost-effectiveness and to minimize construction impacts.

Rate Structure

Central San's service rate structure reflects fixed rates for its residential customers and a combination of fixed-rate and consumption-based rates for commercial customers. Rates are reviewed annually by Central San, and adjustments are made as appropriate. The current residential rate for the typical single-family dwelling is $725 per year for FY2024. Commercial consumption rates are fixed based on each 1,000 gallons of water consumption depending on the type of activity

and are subject to minimum annual charges. Central San also collects connection and permit fees and capacity charges.

Central San's sewer service charge is collected through the County Tax Collector's Office on the annual tax roll. This method of fee collection is allowed under the CA Health and Safety Code (Division 5, Part 3, Chapter 6, Article 4). The first and second installments are due on November 1 and February 1 each year. Table 12-10 shows the Schedule of Sewer Service Charges (effective July 6, 2023), which was established by Central Contra Costa Sanitary District Ordinance No. 330 and adopted June 21, 2023.

Rate Study

In the spring of 2023, Central San commissioned Raftelis Financial Consultants, Inc. to prepare a Wastewater Cost-of-Service Rate Study Report. The Rate Study was prepared with the objectives to be equitable and align with Proposition 218 requirements; review the wastewater rate structure, including accessory dwelling units; review the customer classifications; and to update the cost-of-service analysis for wastewater. Based on this Rate Study, the Board of Directors adopted the rate structure shown in Table 12-10 below.

Table 12-10: Schedule of Sewer Service Charges (effective July 6, 2023)

User Group	Effective July 1, 2022	Effective July 6, 2023	Effective July 1, 2024
Single Family Dwellings	$690.00	$697.00	$725.00
Apartments, Condominiums, Duplexes, Second Living Units, Mobile Homes	$654.00	$622.00	$647.00
Accessory Dwelling Units	(note 1)	$339.00	$353.00
Low (Retail, Office, Churches, Fraternal & Service Organizations, State and Local Institutions, Tax Exempt, Utilities with Special Tax Status, Independent Living Facilities, Rest Homes, & Convalescent Hospitals, customers with shared water meters with less than 50% food service, and other businesses with a combined BOD + TSS of less than 350 mg/l)	$7.20	$7.63	$7.94
Medium-Low (Delicatessens, Yogurt Shops, Ice Cream Shops, Coffee Shops, Bar, and other businesses with BOD + TSS less than or equal to 700 mg/l)	$8.83	$9.32	$9.69
Medium (customers with shared water meters with 50% or more food service, other businesses with BOD + TSS less than or equal to 1,000 mg/l)	$11.07	$10.99	$11.43
Medium-High (Restaurants, Supermarkets, Hotels and Motels, customers with shared meters which include bakeries, other businesses with BOD + TSS greater than 1,000 mg/l)	$12.35	$12.04	$12.52
High (Bakeries, Restaurants with on-site breweries, Restaurants with food-waste grinders or emulsifiers, other businesses with BOD + TSS greater than 1,300 mg/l)	$16.37	$14.48	$15.06
Minimum Annual Charge	$654.00	$622.00	$647.00

Schools			
Schools - Daycare, Preschool, University (per hundred cubic feet)	$7.20	$7.63	$7.94
Schools - Elementary	$8.58 per student	$8.94 per student	$9.30 per student
Schools – Intermediate, High School	$16.95 per student	$17.89 per student	$18.61 per student
Permitted Industrial Users (includes food processing, breweries, and wineries)			
Wastewater Flow (per hundred cubic feet)	$5.57	$7.28	$7.57
Biochemical Oxygen Demand (per 1,000 pounds)	$1,473.00	$1,268.00	$1,338.00
Suspended Solids (per 1,000 pounds)	$769.00	$644.00	$670.00
Fixed charge	$108.20	$248.00	$258.00
Special Discharge Permits & Contractual Agreements:	Determined Individually	Determined Individually	Determined Individually
Notes: • BOD – Biochemical Oxygen Demand • TSS – Total Suspended Solids • Note 1 – billed as one multi-family residential unit			

12.5: POPULATION

Central San serves approximately 487,329 residents and over 3,000 businesses in a 145,000 square mile service area, which includes the cities of Alamo, Clayton, Concord, Danville, Lafayette, Moraga, Orinda, Pacheco, Pleasant Hill, Walnut Creek; portions of Martinez and San Ramon; and unincorporated communities within the central County area (Central San, RFI, 2022b). The distribution of the 487,329 residents as of January 1, 2022, in several cities is shown in Table 12-11 below. Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

The data listed in Table 12-11 was provided directly from Central San staff. Central San's base information is from the California Department of Finance (CDF) Demographic Research Unit's annual population and housing estimates for cities, released on May 1 each year. CDF updates this data on a regular basis, and readers are encouraged to view the most recent data on the CDF website at <*https://dof.ca.gov/Forecasting/Demographics*/ >.

Table 12-11: Existing Permanent Population in 2022 in Central San Boundary

City	Population (2022)	Totals
City of Danville	43,352	
City of Lafayette	25,064	
City of Martinez (a)	22,008	
City of Moraga	17,105	
City of Orinda	19,478	

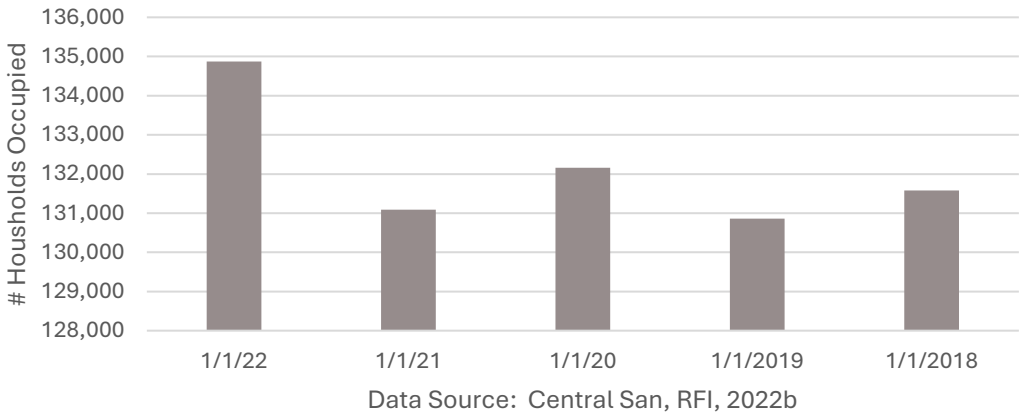
City of Pleasant Hill	34,026	
City of San Ramon (a)	69,479	
City of Walnut Creek	69,891	
Unincorporated (a)	52,429	
	Sub-total within Central San Boundary	**352,832, plus approximately 3,000 businesses**
City of Clayton	10,863	
City of Concord	123,634	
		134,497
TOTAL SERVICE AREA POPULATION		**487,329**
LAFCO's Population Estimate (2020)	365,218	

(a) For Martinez, San Ramon, and unincorporated Contra Costa County, the population served is adjusted by deducting the estimated populations of those areas within Mt. View Sanitary District and Dublin San Ramon Services District. For example, San Ramon is estimated to have a total population of 83,820 persons. However, only 80% of the population receives service from Central San. The City of Martinez has a total population of approximately 36,908; however, only 50% of the City receives service from Central San.

(b) Starting in 2013, septic users are no longer netted out, so that the resulting total represents the population within the boundaries of Central San, not the served population.

Data Source: All data in this Table was provided by Central San staff. Their base information is as follows:
1: California Department of Finance. (2022). Report E-1: Population Estimates for Cities, Counties, and the State January 1, 2021, and 2022. Retrieved on August 11, 2022, from: <https://dof.ca.gov/Forecasting/Demographics/estimates-e1/>.
2: Central Contra Costa Sanitation District. (2022a). *Sanitary Sewer Management Plan*. 157-pages. Retrieved on October 15, 2022 from: <https://www.centralsan.org/sites/main/files/file-attachments/2020_ssmp_approved_audit_06.05.2020.pdf?1665594125>.

Figure 12-8: Number of Households Occupied in Central San



Data Source: Central San, RFI, 2022b

Table 12-12 provides a geographic summary of Central San's boundary and SOI. Table 12-13 lists calculated population projections through the year 2040.

Table 12-12: Geographic Summary (2022) for CCSD

	Boundary Area	SOI	Total Boundary & SOI
Total Acres	91,897	23,718	115,615
Square Miles	143.6	37.1	180.7
Number of Assessor Parcels	131,982	42,448	174,430

Source:
1: Contra Costa County GIS Data, 2022
2: California Department of Finance. (2022). Report E-1: Population Estimates for Cities, Counties, and the State January 1, 2021, and 2022. Retrieved on August 11, 2022 from: <https://dof.ca.gov/Forecasting/Demographics/estimates-e1/>.
3: County of Contra Costa. (2022). *Public Parcels*. Retrieved on October 26, 2022 from: <https://gis.cccounty.us/Downloads/Assessor/>.

The number of registered voters in the Central San boundary is 227,765 as of June 12, 2019, as calculated by the Contra Costa County Elections Office (per LAFCO Directory).

SOI Population: The Central San total SOI, excluding the District boundary, contains 23,718 acres (Source: County of Contra Costa GIS data, 2022) and 42,448 APNs (County of Contra Costa, 2022). On average, Contra Costa County has 3.02 people per APN. With 42,448 APNs, CCSD is estimated to have 71,628 people residing within its SOI.

Projected Future Population: Projecting a district's future population is complicated due to varying annexation rates and census tracts that do not match District boundaries. It is anticipated that population growth will increase in the future as a result of parcel splits, infill development, and construction of in-law units. Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County, as shown in Table 12-13 above. Since the anticipated future population growth of the City has the potential to influence the demand for the provision of wastewater services, the projections are shown in Table 12-13.

District's Ability To Accommodate Future Growth

Future growth and development are planned for the Dougherty Valley, the former Concord Naval Weapons Station site, and Alhambra Valley. Central San staff indicates that the District has sufficient treatment capacity to accommodate planned growth within its SOI for the next several decades. Specifically, Central San's current discharge permit allows an average dry weather flow discharge rate of 53.8 million gallons per day (MGD) based on a secondary level of treatment. The average dry weather flow rate in 2022 was 30.9 MGD (Central San, RFI, 2022c).

Table 12-13: Total Estimated & Projected Population (2022 – 2045) in Service Area (Including Concord and Clayton)

	2022	2025	2030	2035	2040	2045	Percent Increase 2022 to 2045	Numeric Increase 2022 to 2045	CAGR 2020 to 2045
County of Contra Costa[1]	1,156,555	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.1%	174,876	0.61%
Central San[2]	487,329	501,686	521,308	537,862	549,953	557,870	15.2%	73,670	0.62%

Sources:
1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.
2: Central Contra Costa Sanitation District. (2022a). *Sanitary Sewer Management Plan*. 157-pages. Retrieved on October 15, 2022 from: <https://www.centralsan.org/sites/main/files/file-attachments/2020_ssmp_approved_audit_06.05.2020.pdf?1665594125>.
3: Population projection for Central San calculated as 41.9% of the County of Contra Costa population.

According to Central San's 2017 Compressive Wastewater Master Plan (CWMP) (page 7), for the most part, influent flows and loads have increased steadily since Central San's inception in 1946. However, in three periods, flows declined from drought and economic conditions, such as during the late '70s and early '90s. Starting in 2008, Central San has experienced an unprecedented, long-term reduction in dry weather flows that lasted through 2015. This reduction was caused by the recession, a persistent drought, and water conservation measures. In 2016, the flows rebounded slightly (from 29 MGD to 32 MGD) but not yet to the pre-drought flows of around 35 MGD (Central San, RFI, 2022c).

Historically, flows have returned to near pre-drought conditions when normal rainfall patterns resumed, and water usage increased after drought restrictions are lifted. However, a full rebound may never occur this time because water conservation measures and investments from residences and businesses may permanently reduce water consumption and wastewater flows. The CWMP assumed flows would rebound to approximately 34 MGD and would steadily increase at an average rate less of less than one percent per year for the next 20 years. This is a rate that would accommodate planned growth within Central San's SOI for the next several decades (Central San, RFI, 2022c).

12.6: DISADVANTAGED COMMUNITIES

Disadvantaged Communities are census "blocks" where the annual median household income (MHI) is less than 80% of the statewide MHI. California's annual median household income (MHI) in 2021 was $84,097 (U.S. Census, 2022). Eighty percent of the statewide MHI (2021) equals $67,278.00, the threshold used to determine which geographic areas qualify for classification as disadvantaged communities. Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in some disadvantaged communities.

Data from the 2020 U.S. Census was queried as part of this MSR Update process. Data query results showed no disadvantaged unincorporated communities (DUCs) within the District's boundary or its SOI.

Although incorporated cities do not contain DUCs by definition, they may sometimes contain disadvantaged communities within their municipal borders. Figure 12-9 shows a general picture of disadvantaged communities within municipal boundaries in the central Contra Costa area. Specifically, there are disadvantaged communities within the City of Martinez, Pleasant Hill, and Walnut Creek. For example, within the City of Walnut Creek, there are two census tracts located along Rossmore Parkway that have senior citizens who may be on a fixed income as shown in Table 12-14 and Table 12-15 below.

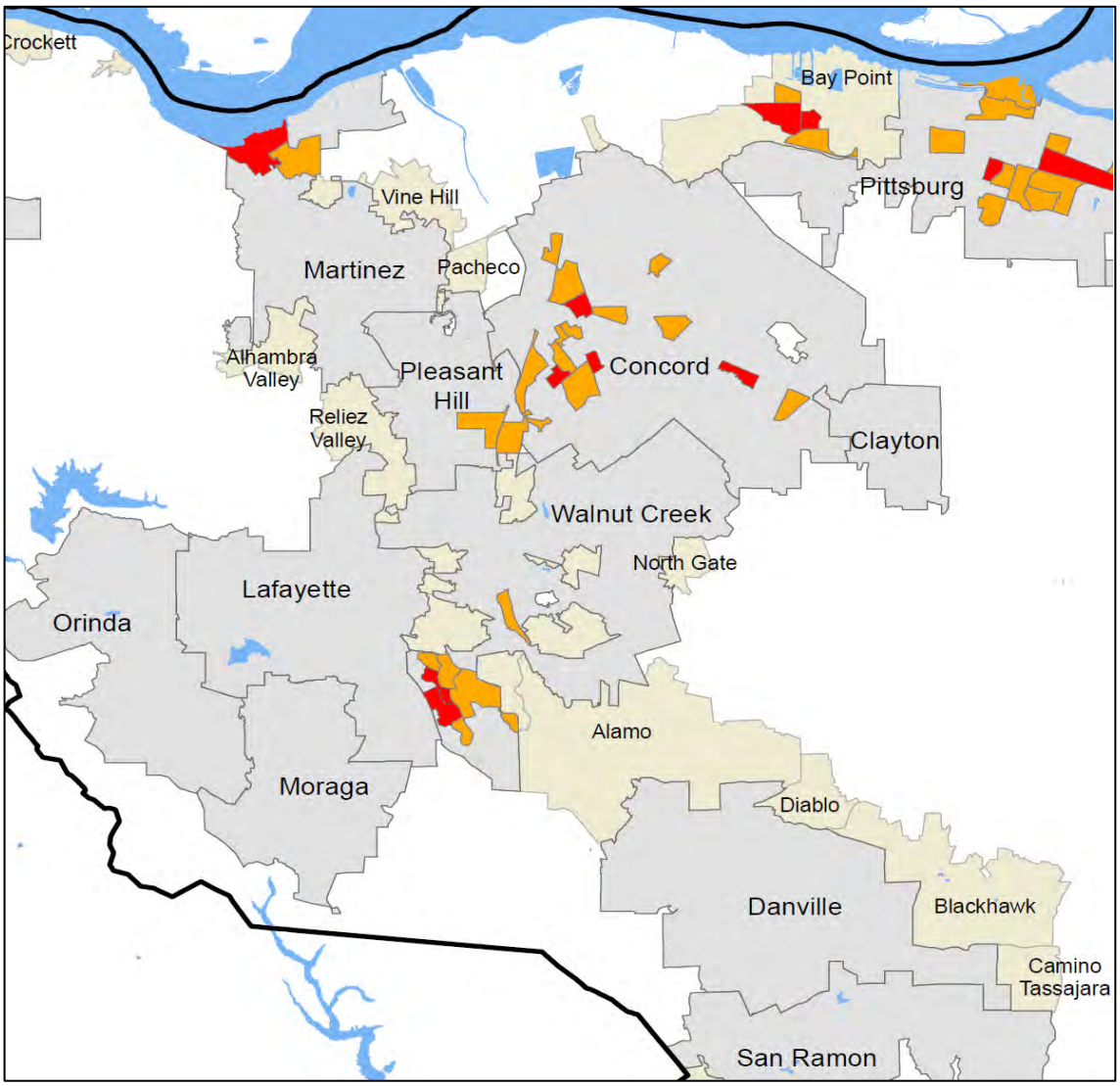
Table 12- 14: Summary of Disadvantaged Status in Census Tract 3490	
Location	Census Tract 3490, Contra Costa County, California
Total Population	5,554
Household Characteristics	⚠0.78
Age 65 and Older	0.75
High Pre-existing Chronic Disease Prevalence Sum	1 out of 5
High Estimated Prevalence of Cancer	Yes⚠
Data Source: Department of Health and Human Services Environmental Justice Explorer Database	

Table 12- 15: Summary of Disadvantaged Status in Census Tract 3511.03	
Location	Census Tract 3511.03, Contra Costa County, Calif
Total Population	2,012
Built Environment	⚠0.90
Lack of Walkability	⚠0.95
Household Characteristics	⚠**0**.87
Age 65 and Older	⚠1.00
Civilian with a Disability	⚠0.99
High Pre-existing Chronic Disease Prevalence Sum	3 out of 5
High Estimated Prevalence of Cancer	Yes⚠
High Estimated Prevalence of High Blood Pressure	Yes⚠
High Estimated Prevalence of Diabetes	Yes⚠
Data Source: Department of Health and Human Services Environmental Justice Explorer Database	

Please note that all residents within a city are eligible to receive municipal services, including fire protection, drinking water, and wastewater services. No public health or safety issues have been identified. Readers can learn more about disadvantaged communities within Contra Costa County through the U.S. Department of Health and Human Services database of socioeconomic and health indicators in disadvantaged communities called the Environmental Justice Explorer Database. This database can be queried at <*https://onemap.cdc.gov/portal/apps/sites/#/eji-explorer*>.

Please note that If low-income households experience challenges paying their Central San annual Sewer Service Charge, the Low-Income Household Water Assistance Program (LIHWAP) may be able to help. LIHWAP is a limited-term, federally funded program that offers low-income households a one-time payment to help pay their residential water or wastewater bills, as described on the website: <*https://www.centralsan.org/financing-programs*>.

Figure 12-9: Disadvantaged Communities near Centra Contra Costa Area



12.7: GOVERNMENT STRUCTURE ALTERNATIVES

Central San provides wastewater collection, treatment, and disposal services, including recycled water, within its service area in the central portion of the County. In addition, Central San provides treatment and disposal services for the Cities of Concord and Clayton. Based on information in LAFCO's 2008 and 2014 Wastewater Services MSRs and the Central San staff response to LAFCO's Request for Information, the following paragraphs briefly describe several government structure options for the District.

Central San is an award-winning agency with a long track record of regional leadership. This District has the existing capacity to provide technical and managerial assistance to neighboring wastewater service providers. LAFCO encourages Central San's continued cooperation with other agencies. In the future, Central San and LAFCO may wish to consider the preparation of a "special study" as allowed under the CKH Act. This special study could consider the feasibility of improving regional operational and service efficiencies, by inviting SD6, Mt View San District, and/ or other entities as described below to consider mergers, consolidations, or other changes to governance structure in conjunction with Central San. Public outreach would be an important component of any future special study, and it is recommended that the results of a study be presented to LAFCO Commissioners, the County Board of Supervisors, and the Boards of each participating agency.

Maintain the Status Quo

LAFCO's 2014 MSR noted that Central San is currently providing comprehensive wastewater services within its boundaries. Central San has established a program to clean up its service boundary and address a backlog of annexation requests. To date, the program has been very successful. Central San provides adequate service, maintains its infrastructure, is financially sound, and plans for future growth (LAFCO, 2014).

Additionally, Central San indicated that the District is a fiscally stable, well-planned, well-managed, and high-performance organization. Its broad customer base and diversity of asset age and conditions allow the organization an economy-of-scale advantage over smaller public agencies in its field. This stability and professionalism have allowed for the development of a loyal and dedicated workforce that is committed to excellence in customer service, communications, and education (Central San, RFI, 2022b).

Misc. Adjustments to District Boundary or SOI

LAFCO is aware of several pending development projects where an SOI change and/or a boundary change would be needed for Central San to be the wastewater service provider. These projects in Orinda, Moraga, and Danville (Tassajara) have been or are involved in legal challenges, so their future is uncertain (Central San, RFI, 2022b).

Annexation of or Merge or Consolidate with Sanitary District No. 6

There have been discussions in the community about Central San offering organizational support in Alhambra Valley with County Sanitation District No. 6 (SD6). The Stonehurst subdivision, located in Alhambra Valley, consists of 47 single-family homes. Sewage collection, treatment, and disposal for this development are provided through septic tank systems and a community disposal system. Sanitary District No. 6 (SD6) provides management of the septic tank and disposal system. The NPDES permit was issued in approximately 1992 to operate a small collection system, treatment plant, and leach field disposal system. The wastewater treatment plant consists of centrally located recirculating sand filters, an ultraviolet (UV) disinfection system, and disposal leach fields. The wastewater is discharged to the leach fields. The system was designed for subsurface irrigation during the summer, though that capability was never used (Central San, RFI, 2022b).

As part of the permit process, the San Francisco Bay Regional Water Quality Control Board Waste Discharge Requirements for SD6 mandates the connection of the Stonehurst development to a sanitary sewer and the closure of the development's on-site wastewater treatment and disposal system. Central San is the likely future service provider, given that Central San's sanitary system is located about 0.42 miles east of the entrance to the Stonehurst subdivision (Central San, RFI, 2022b). The permit is to expire when Central San's sanitary sewer service reaches Alhambra Valley (Central San, RFI, 2022b).

Contra Costa County was originally the administrator of SD6. However, in 2012, the City of Martinez annexed the Stonehurst area, making the City the governing agency for SD6. In 2014, LAFCO established a Zero SOI and boundary for SD 6 as an indicator that SD6 would not be allowed to add new customers. This allowed SD6 to continue to exist until such time as it is physically and financially feasible to annex to Central San. Since then, technical studies have been prepared to identify the short- and long-term needs and potential costs to operate and, at some point, to connect it to Central San's facilities. Central San continues to have discussions with City of Martinez staff about the future of SD6 and has expressed a willingness to serve this area when the infrastructure is upgraded to a more traditional system closer to Central San's standards (Central San, RFI, 2022b). The City of Martinez is responsible for planning the future connection with Central San.

It is recommended that the City and Central San work with LAFCO on the potential inclusion of this area to Central San's boundary through a mechanism such as annexation, merger, or consolidation of SD6 with Central San. Annexation of SD6 by Central San would allow for the dissolution of SD6. This planning process would require the submittal of an application to LAFCO along with relevant information. LAFCO would be responsible for holding a public hearing on the application. LAFCO has the ability to require conditions of approval for annexation applications. Additionally, funding issues would need to be resolved prior to any annexation. One potential option for future consideration is to allow Central San to annex SD6 as a separate zone, for rate setting purposes.

Merge or Consolidate with Mt. View Sanitary District(MVSD)

Established in 1923, MVSD is an "island" within Central San's service area. Much of the reason for this island configuration dates back to the late 1960s, when the City of Martinez voters chose to annex the City's wastewater collection and treatment system to Central San. MVSD already served unincorporated Martinez and some parts of the City not served by the City's system. The result was the encirclement of MVSD's service area by Central San (Central San, RFI, 2022b).

MVSD contracts with Central San to share resources and increase cost-effectiveness on certain services, including laboratory testing, inspection services for MVSD's commercial accounts, and implementing the Fats, Oils, and Grease control program. Additionally, Central San assists MVSD in the preparation of MVSD's Annual Pollution Prevention Report, and the two agencies are partners in a permanent household hazardous waste collection facility on the Central San campus (Central San, RFI, 2022b).

In the early 1990s, the State's threat of reduced property tax revenues for special districts lead to considering various special district consolidation options. At the time, Central San's management was reluctant to consider consolidating with MVSD due to MVSD's unique treatment system and purpose (advanced secondary treatment to allow for shallow effluent discharge to support a nearby marsh). In contrast, Central San's facilities allowed it to meet lesser standards of a deep-water effluent discharge system (Central San, RFI, 2022b).

LAFCO's 2008 and 2014 MSRs for MVSD noted these facility differences and the potential loss (if discontinued) of environmental benefits from MVSD providing a water supply and managing the marsh system. The 2014 MSR specifically identified that MVSD did not support consolidation with Central San for the following reasons: significant capital investment and real estate acquisition would be required to pump MVSD effluent to the Central San system; current service boundaries of MVSD and Central San are largely defined by topography; and that consolidation would not provide any economic advantage to ratepayers. The MSRs noted that consolidation would require further study to determine whether there would be real operational efficiencies and potential benefits and costs (Central San, RFI, 2022b).

Since 2014, both Districts have experienced financial, regulatory, and operational changes. Although studies of potential merger or consolidation among the two Districts have not yet been conducted, Central San staff believe the current situation may make such studies worthwhile. For example, the 2014 MVSD MSR identified that rates were proposed to increase for five consecutive years based on the CPI. However, in February 2020, a MVSD Proposition 218 newsletter proposed a five-year, 84% sewer service charge increase (more than a 16% annual increase). This proposal prompted a letter to the editor of the Martinez News-Gazette suggesting exploration of options other than "exorbitant fee increases," noting that Central San's fee structure "is not rising at a rate nearly as steep." Currently, the adopted FY 2022-23 sewer service charge rates for MVSD are approximately 18% higher than Central San's rates. Rate discussion for the next five years is quite

different for both agencies as MVSD is considering five years at 9% a year while Central San has planned five years at 4% a year. This would increase the rate differential to approximately 49% or $413 per year, as summarized in Table 12-16 (Central San, RFI, 2022b).

Table 12-16: Rates							
Agency	**Type**	**2022-23**	**2023-24**	**2024-25**	**2025-26**	**2026-27**	**2026-27**
MVSD	Single Family Residential	$814.20	$887.48	$967.35	$1,054.41	$1,149.31	$1,252.75
$ Change		**$124.20**	**$169.88**	**$221.05**	**$278.26**	**$342.11**	**$413.26**
% Change		**18%**	**24%**	**30%**	**36%**	**42%**	**49%**
Central San	Single Family Residential	$690	$718	$746	$776	$807	$839
		Adopted	Est.	Est.	Est.	Est.	Est.
Data Source: Central San, RFI, 2022b							

Central San staff expressed a willingness to study a potential future merger or consolidation with MVSD, especially as it could benefit ratepayers from both agencies. Central San is willing to work cooperatively with MVSD to undertake a comprehensive study, as it believes there can be efficiencies in a consolidation for a more regional approach of service. There is an overlap of many staff duties, and MVSD employees could consolidate into Central San, as evidenced historically when Concord's treatment facility was merged into Central San. There are potential efficiencies, even if the MVSD advanced secondary treatment facility remains with discharge into the nearby marsh (Central San, RFI, 2022b).

It is recommended that the Central San and MVSD work together to prepare studies of future options. Additionally, both Central San and MVSD should coordinate with LAFCO on the potential inclusion of this area to Central San's boundary through a mechanism such as annexation, merger, or consolidation of MVSD with Central San. Annexation of MVSD by Central San would allow for the dissolution of MVSD. This planning process would require the submittal of an application to LAFCO along with relevant information. LAFCO would be responsible for scheduling a public hearing on the application.

CCCSD and MVSD have embarked on a special study to look at governance options.

12.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

Table 12-17: MSR Determinations for Central San	
PERFORMANCE MEASURE	**DETERMINATION**
Growth and Population for the affected area ▪ Is the existing population estimated? ▪ Is the projected future growth estimated?	Within the Central San boundary, the estimated population is 487,329 people in 2022. By 2045, it is estimated that the population will increase to 557,870. Future growth is expected to be 0.62 percent annually.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.	There are no DUCs within or contiguous to the Central San SOI. Within the municipal boundaries of Walnut Creek, Martinez, and Pleasant Hill, there are low-income neighborhoods. Please note that all residents within a city are eligible to receive municipal services, including fire protection, drinking water, and wastewater services. No public health or safety issues have been identified.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. ▪ Does the agency have a CIP? ▪ Are SSOs identified? ▪ Are local hazards identified?	Central San maintains a comprehensive long-term Capital Improvement Program (CIP) addressing many substantial infrastructure improvements. The current 10-year CIP is designed to address infrastructure needs and is funded by revenues from service charges, ad valorem taxes, and capacity fees. For example, Central San has established a Collection System Program that will address aging and deteriorating infrastructure. In addition, the program will serve to meet regulatory requirements, address capacity issues, and help meet sustainability goals. The physical collection system assets are valued at approximately $2.5 billion. A 3.5-year term from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. The query resulted in 84 SSOs for Central San. The 2018 County-wide Local Hazard Mitigation Plan identified several risks for Central San, including earthquakes, floods, and storms. Central San staff work towards incorporating the LHMP information about these hazards into the District's planning initiatives and documents (Contra Costa County,

	(continued) 2018). It is recommended that detailed spatial mapping of the District's wastewater infrastructure in relation to the hazards identified in the Hazard Mitigation Plan be conducted when LAFCO next updates its Wastewater Services MSR/SOI. There are no disadvantaged unincorporated communities within or contiguous to the Central San SOI.
Financial ability of agencies to provide services. ▪ Has the agency prepared a rate study? ▪ Do revenues exceed expenditures? ▪ Is the ratio of annual debt service to total fund annual expenditures 10% or less?	In the spring of 2023, Central San commissioned Raftelis Financial Consultants, Inc. to prepare a Wastewater Cost-of-Service Rate Study Report. The Rate Study was prepared with the objectives to be equitable and align with Proposition 218 requirements; review the wastewater rate structure, including accessory dwelling units; review the customer classifications; and to update the cost-of-service analysis for wastewater. Based on this Rate Study, the Board of Directors adopted the rate structure during a public hearing. Central San's total revenues exceeded total expenditures in four of the five fiscal years studied. For FY2023, total expenditures of 113,330,918 were in excess of total revenues of 100,296,021. The ratio of annual debt service to total fund annual expenditures is an indicator of the ability to meet debt obligations in relation to service provision expenditures. Ideally, a ratio of 10%or less would reflect a very stable ratio. As of June 30, 2023, the annual debt service due was approximately $7,090,000. Annual expenditures were $113,330,918. This calculates to an annual debt service ratio to total expenditures is approximately 6.26%. Since this is less than LAFCO's 10% metric, Central San has a very good ratio.

Status of, and opportunities for, shared facilities.	Central San manages a vast network of infrastructure assets and is committed to continuous improvement, leveraging technology and best practices for sustainable wastewater management. Central San participates in several cooperative programs. For example, Central San participates in several regional programs, including: the Hazardous Waste Collection Facility; the Urban Pesticide Committee, working to reduce the use of pesticides; the Bay Area Air Toxics Group, which coordinates efforts with the air quality control agencies; and the Contra Costa Green Business Program which recognizes efforts to implement environmental regulations and conserve resources. Central San and CCWD, in collaboration with other Bay Area water agencies, continue to study a potential project to serve 13 MGD of recycled water produced at Central San's Treatment Plant, to the two Martinez area refineries (Shell Martinez Refinery and Marathon) (Central San, RFI, 2022c). The recycled water is hoped to replace CCWD-supplied water from the Central Valley Projectsystem.
Accountability for community service needs, including government structure and operational facilities. ▪ Does the agency have a website? ▪ Does the agency post a public outreach tool (such as a calendar or newsletter) on its website? ▪ What is the recommendation for mergers, consolidations, or other changes to governance structure?	Central San is governed by a five-member Board of Directors, elected by division. District Board meetings are open to the public. The Central San website includes comprehensive information on the District budget, public notices, meetings, capital improvement plans, and community programs. Central San also publishes an informative community newsletter ("Pipeline") two or three times a year. Central San is an award-winning agency with a long track record of regional leadership. This District has the existing capacity to provide technical and managerial assistance to neighboring wastewater service providers. LAFCO encourages Central San's continued cooperation with other agencies. Central San has the existing capacity to provide technical and managerial assistance to neighboring wastewater service providers. In the future, Central

	San and LAFCO may wish to consider preparation of a "special study" as allowed under the CKH Act. This special study could consider the feasibility of improving regional operational and service efficiencies, by inviting SD6, Mt View San District, or other entities to consider mergers, consolidations, or other changes to the governance structure in conjunction with Central San.
Any other matter related to effective or efficient service delivery, as required by commission policy.	No additional issues have been identified.

12.9: RECOMMENDED SPHERE OF INFLUENCE:

Section 12.7, Government Structure Alternatives, describes various issues and options associated with changing the structure of this local government agency. LAFCO often accomplishes its government structure issues through changes to boundaries and/or SOIs. Section 12.7 contains a detailed analysis of four governance alternatives including the following:

- Maintain the Status Quo
- Misc. Adjustments to District Boundary or SOI
- Annexation of or Merge or Consolidate with Sanitary District No. 6
- Merge or Consolidate with Mt. View Sanitary District (MVSD)

In the short-term, it is recommended that LAFCO reaffirm the Central San's current SOI determinations and reaffirm the District's current SOI. In the long-term, LAFCO may wish to consider each of the different government service options provided in the preceding pages. LAFCO may wish to request additional studies be conducted prior to modifying a governance structure or SOI.

Please note that LAFCO's 2014 MSR recommended that LAFCO reaffirm the Central San's current SOI determinations and reaffirm the District's current SOI. Consideration should be given to the expansion of Central San's SOI to include the governance structure options described in the Section 12.7 regarding Mt. View Sanitary District and/or SD No. 6.

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CHAPTER 13: CROCKETT COMMUNITY SERVICES DISTRICT – WASTEWATER SERVICES

Table of Contents

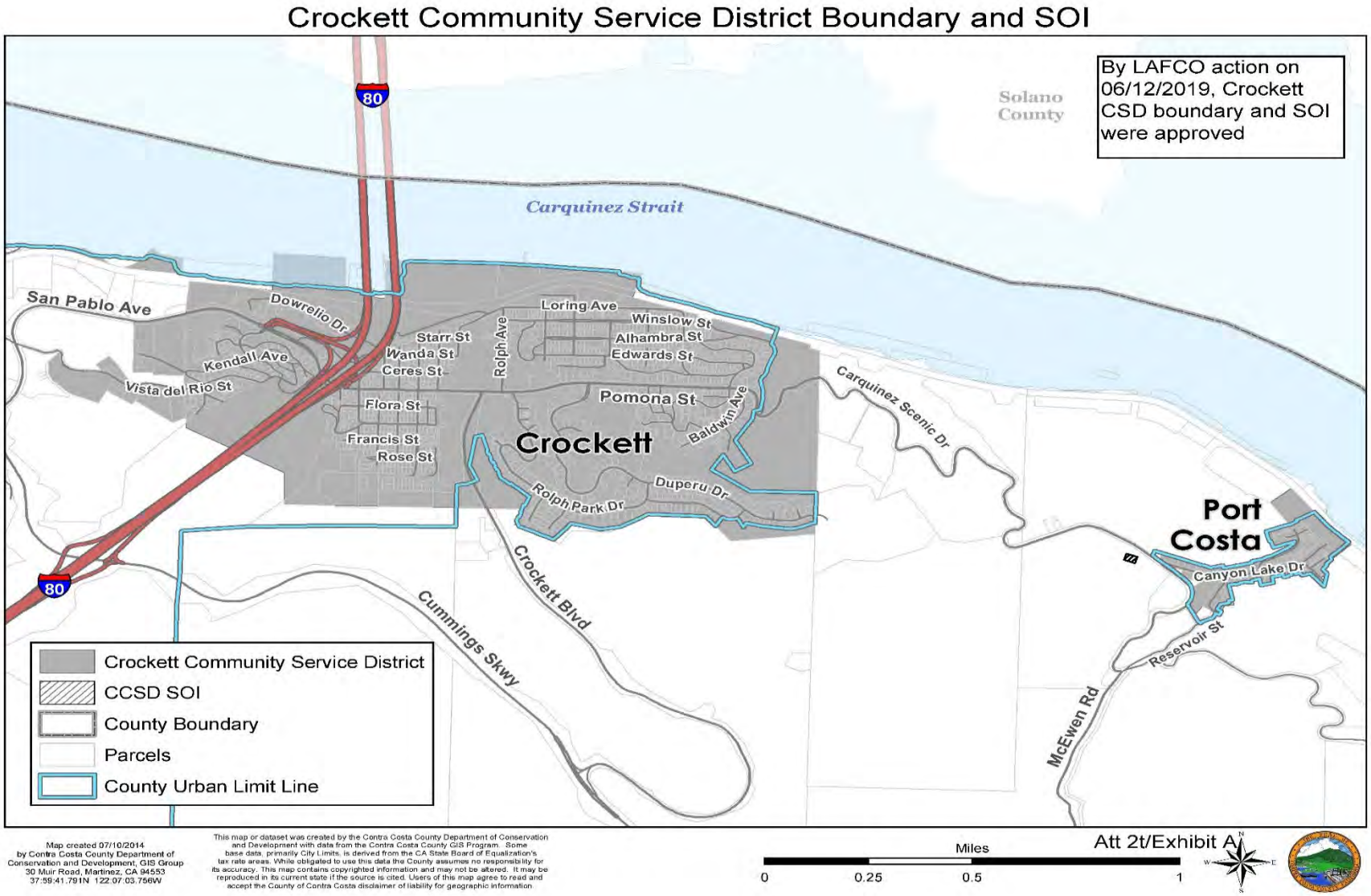
13.1 OVERVIEW

The unincorporated communities of Crockett and Port Costa, separated by the rolling hills of regional parks, are located in the northwest corner of Contra Costa County. During the late 19th century and the turn of the 20th century, wheat production, and later sugar production, dominated the area. C&H Sugar Company continues to refine sugar in Crockett (LAFCO, 2014). The Crockett Community Services District ("CCSD") was formed in 2006 through the reorganization of three agencies: Crockett-Valona Sanitary District, County Sanitation District No. 5 (Port Costa), and County Service Area P-1 (LAFCO, 2014). On June 6, 2006, Crockett and Port Costa residents approved Measure D, which voted the Crockett Community Services District ("District") into existence. CCSD serves two separate and distinct communities – Crockett and Port Costa – and is authorized to provide the following services: wastewater collection, treatment, and disposal; community recreation services; street lighting; landscape maintenance; and graffiti abatement. In 2009, CCSD also formed a Police Liaison Commission to improve communications between area residents and law enforcement agencies of the County and State (LAFCO, 2014). This report focuses on the district's wastewater services. A map of CCSD's current boundary and sphere of influence (SOI) is shown in Figure 13-1. Table 13-1 below presents CCSD's Agency Profile.

Table 13-1: Agency Profile – Crockett Community Services District

General Information			
Agency Type	Community Services District		
Principal Act	Community Services District Law, Government Code Section 61000 et seq. & SB 135, Community Services District Law		
Date Formed	2006		
Services	Sewage collection, treatment, and disposal; community recreation services; decorative streetlights; graffiti abatement; landscape maintenance		
Service Area			
Location	Communities of Crockett and Port Costa		
Sq. Miles/Acres	1.08 square miles/ 690 acres		
Land Uses	Residential, commercial, public use		
Population Served	Approx. 3,432 (Crockett: 3,242) (Port Costa: 190)		
Last SOI Update	05/14/2014 and 6/12/2019		
Infrastructure/Capacity			
Facilities	2 sewage treatment plants: 1) C&H Sugar Company owns, operates, and maintains the C&H Sugar – Crockett CSD/Philip F. Meads Water Treatment Facility. 2) The district owns the Port Costa Wastewater Treatment Plant (WWTP) and, through contracts with Valley Operators LLC, operates and maintains the plant. Additional wastewater infrastructure includes sewer lines, a pump station, and a storage tank. The district also has recreation facilities.		
Sewer Connections	Crockett: 1,175 and Port Costa 86 for a total of 1,261 residential and business sewer connections		
Treatment Plant Capacity (MGD)/Dry Weather Design Capacity	1) C&H Sugar-Crockett CSD/Philip F. Meads WTP: 1.78 MGD (secondary treated wastewater) 2) Port Costa Wastewater Treatment Plant: 0.033 MGD		
Primary Disposal Method	Both the Crockett and Port Costa treatment plants discharge into the Carquinez Strait		
Financial Information- FY 2020-2021 (All Services- Wastewater/Recreation)			
	Revenues	Expenditures	Net
Operating/General Fund	$ 733,032	$ 1,125,957	$702,424
Combined Other Funds	$2,011,455	$1,802,244	$13,663,410
All Funds	$ 2,744,487	$ 2,928,201	$14,365,834
	FY 2020-2021	Long-Term Planned Expenditures	
Capital Expenditures	$664,782	Data not readily available	
Net Assets	$ 17,328,104	June 30, 2021 Financial Statement- Restricted	
Governance			
Governing Body	Board of Directors (5 members)		
Agency Contact	CCSD Sanitary Dept. (510) 787-2992		
Notes:			
None			

Figure 13-1, Boundary/SOI Map – Crockett Community Services District



13.2: DISTRICT BOUNDARY AND SOI

District boundary: CCSD's boundary encompasses 690 acres (1.08 square miles). The unincorporated Crockett and Port Costa communities are geographically non-contiguous and have separate wastewater systems. Land uses within the CCSD boundary are almost entirely residential, including single-family homes and some multi-family parcels. Commercial and public uses are intermixed. Parks, recreational facilities, and open space are located within the district Boundary, and CCSD provides recreation services. Agricultural land uses, as designated in the Contra Costa County General Plan, are intended for grazing livestock or dry grain farming (LAFCO, 2019). Development in Crockett and Port Costa is constrained by the Carquinez Strait to the north, hilly topography, and unstable soils. New development outside the CCSD boundary is not anticipated due to geographic constraints. However, California's new housing laws, such as SB 9, could spur new infill development within CCSD's boundary. Crockett and Port Costa share a proximity along the Carquinez Strait and location within the San Francisco Bay / Sacramento Delta Estuary watershed. Additional information about this watershed is provided in Appendix F.

LAFCO's 2014 wastewater MSR noted that a single property was receiving District service outside CCSD's boundary. This one property (located at 7000 Carquinez Scenic Drive in Port Costa) is receiving sanitary sewer service through an out-of-agency agreement (CC LAFCO Resolution No. 07-05). The property owner is reluctant to annex to CCSD, and CCSD has indicated that a resolution to this issue is not expected in the short term. In October 2023, the CSD's General Manager (Gaunt Murdock) reported that this property continues to pay for and receive sewer service. Although this parcel is not within the district boundary, it is the only such property that receives service (G. Murdock, personal communication, October 2023).

Please note that LAFCO's files indicate there may have been one 2007 out-of-agency service (OAS) pertaining to County Sanitation District No. 5. However, it oddly appears to be in Crockett CSD's SOI. However, Crockett CSD was formed in 2006. There was also an OAS in 2000.

SOI: CCSD's SOI is nearly coterminous with the service area boundary, except for one parcel located west of Canyon Lake Drive (Port Costa area), as shown in Figure 13-1. The CCSD does not request any changes to its SOI at this time. CCSD's SOI was reconfirmed in LAFCO's MSRs/SOI updates on 05/14/2014 and 6/12/2019.

A private development project has been informally proposed as a potential school or conference center near Port Costa. The Contra Costa County Planning Dept. will likely evaluate the proposal. If approved, wastewater collection and treatment services may be needed to serve the development. Therefore, this privately owned parcel may require annexation to CCSD. Further, the Port Costa sewer system, including the WWTP, may not be able to handle additional flows resulting from new development. The Port Costa sewage treatment plant currently operates at or near capacity. Since the Port Costa WWTP has a small customer base, any additional flow represents a significant

increase. Future studies would be needed to determine the wastewater capacity and the proposed flow generation. If an application for boundary and/or SOI expansion were made to LAFCO, then LAFCO should consult with the CCSD on infrastructure capacity and other issues.

SF Bay Land Use

The Bay Area Regional Collaborative includes the Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), San Francisco Bay Conservation and Development Commission (BCDC), and Bay Area Air Quality Management District. This collaborative multi-agency regional committee allows for cross-jurisdictional work on projects such as Resilient Bay Area and Carbon Free Future.

The CCSD's boundary/SOI is adjacent to or encompasses a portion of the San Francisco Bay, a sensitive environmental resource. The California state planning and regulatory agency, which has regional authority over San Francisco Bay, the Bay's shoreline band, and the Suisun Marsh, is called the San Francisco Bay Conservation and Development Commission (BCDC). Its mission is to protect and enhance San Francisco Bay and to encourage the Bay's responsible and productive use for this and future generations. BCDC works to ensure projects are compatible with the conservation of Bay resources as described on its website at: <*https://bcdc.ca.gov/* >.

13.3: DISTRICT WASTEWATER OPERATIONS

CCSD provides a range of services to the local community, including community recreation services; decorative streetlights; graffiti abatement; landscape maintenance; and wastewater collection, treatment, and disposal (LAFCO, 2014). the district's wastewater service includes collection, conveyance, treatment, and disposal services. The CCSD manages two sewer systems through the Crockett Sanitary Department and the Port Costa Sanitary Department. Each department serves one of the two distinct unincorporated areas.

Crockett Community

Crockett Sanitary Department provides sewage collection, treatment, and disposal services to 1,175 properties in the Town of Crockett (CCSD, SSMP, 2020). CCSD flows are conveyed to the C&H Sugar WWTP. C&H Sugar provides treatment services under a Joint Use Agreement signed in 1976. Under this agreement, C&H Sugar Company, Inc., and the CCSD jointly own the WWTP, and C&H Sugar Company is the operator.

Existing Infrastructure

The CCSD currently maintains various equipment, vehicles[1], infrastructure, and associated assets.

[1] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the district, it is likely that sometime in the future, the

Specifically, CCSD has two sewage treatment plants:

1) C&H Sugar Company owns, operates, and maintains the C&H Sugar – CCSD/Philip F. Meads Water Treatment Facility.
2) CCSD owns the Port Costa WTP and, through contracts with Valley Operators LLC, operates and maintains the plant.

Additional wastewater infrastructure includes sewer lines, a pump station, and a storage tank as follows:

- sewer lines (approx. 88,100 lf);
- pump station (4.0 MGD);
- storage tank (1.0 MG);
- Crockett Sewer pipe (approx. 15.4 miles); and
- Port Costa sewer pipe (approx. 1.3 miles)
- (Data Source: Contra Costa County, 2018).

The Crockett area utilizes a joint C&H Sugar-Crockett Phillip F. Meads WWTP (NPDES Permit CA0005240) with a capacity of 1.8 MGD, as described in Table 13-2 below. Sewage effluent is collected through approximately 81,000 lineal feet of sewer main and two pump stations in Crockett (LAFCO 2014). CCSD received a NPDES permit in November 2012 to treat Crockett area wastewater at the joint Philip F. Meads WWTP, which was renewed in April 2018. In 2019, the San Francisco Bay Regional Water Quality Control Board issued a notice of water quality violations for cyanide and copper (SFRWQCB, 2019). Although the WWTP is aged, increased maintenance efforts were made by C&H at the Crockett Joint Treatment Plant (G. Murdock, personal communication, 2023).

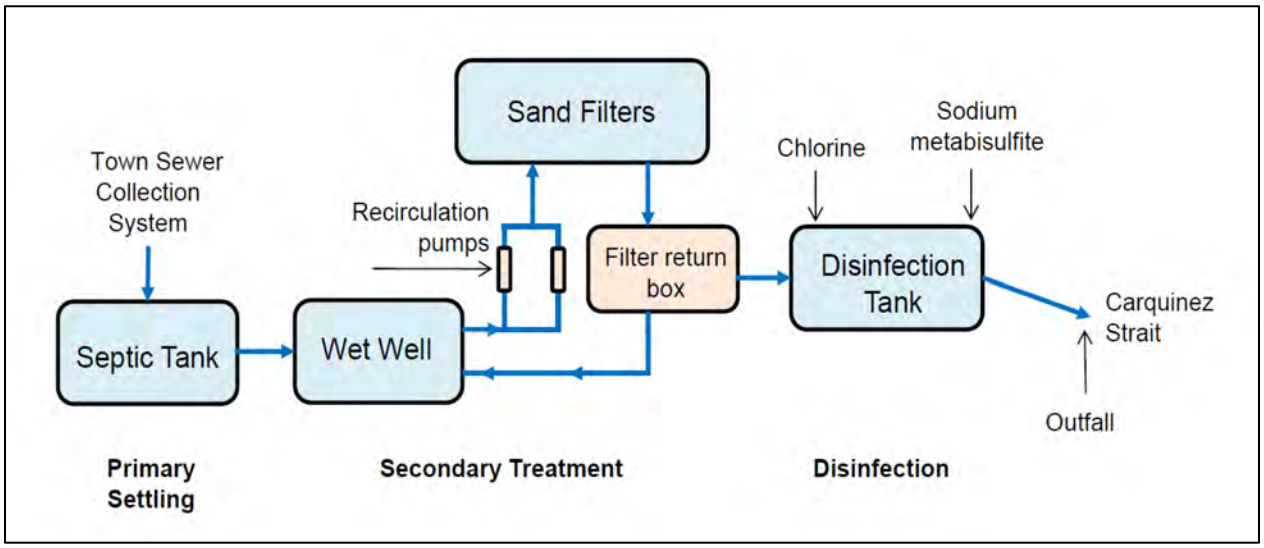
Table 13-2: Philip F. Meads Water Treatment Plant Details	
Name of Facility	Joint C&H Sugar Company-CCSD Philip F. Meads Water Treatment Plant and its collection system
WDID	2071006001
CIWQS Place ID	212212
NPDES Permit	CA0005240
Discharger	C&H Sugar Company, Inc. CCSD
CIWQS Discharger Party ID	6755
Facility Address	830 Loring Avenue Crockett, CA 94525
CIWQS Party ID	521474
Mailing Address	Crockett Community Services District – P.O. Box 578, Crockett, CA 94525
Data Source: California Water Board, 2012	

district may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

In 2008, CCSD's Port Costa Sanitary Department took responsibility for the wastewater flows previously managed by County Sanitation District No. 5. Today, CCSD provides wastewater services to 86 properties in the Town of Port Costa (CCSD, SSMP, 2020). Wastewater flows are conveyed to the Port Costa WTP for treatment. The Port Costa area has a small WWTP able to accommodate up to 0.033 million gallons per day (MGD) average dry weather effluent flow (LAFCO, 2014 and Calif Water Board, 2018). The Port Costa collection and conveyance system includes 7,100 lineal feet of sewer main (LAFCO, 2014). The NPDES permit for the Port Costa Service Area and WWTP was issued in October 2013 and renewed in December 2018. The Port Costa Treatment Plant wastewater is treated to the "secondary" level, as shown in Figure 13-2 (next page). The WWTP is considered aged. However, CCSD staff is currently considering a replacement /renovation program (G. Murdock, personal communication, 2023).

Table 13-3: Port Costa Wastewater Treatment Plant Details	
Discharger	Crockett Community Services District
Facility Name	Port Costa WTP and Wastewater Collection System
Facility Address	End of Canyon Lake Drive Port Costa, CA 94569 Contra Costa County
CIWQS Place Number	248886
NPDES No.	CA0037885
RWQCB Order No.	R2-2018-0053
Mailing Address	850 Pomona St, Crockett, CA 94525
Type of Facility	Publicly-Owned Treatment Works (POTW)
Major or Minor Facility	Minor
Threat to Water Quality	3 (on a scale of?)
Mercury and PCB Requirements	NPDES Permit No. CA0038849
Nutrients Requirements	NPDES Permit No. CA0038873
Facility Permitted Flow	0.033 million gallons per day (MGD)
Facility Design Flow	0.033 MGD – Average dry weather design flow capacity
Watershed	Suisun Basin Watershed
Receiving Water	Carquinez Strait
Receiving Water Type	Estuarine
Data Source: California Water Board, 2018	

Figure 13-2: Post Costa Wastewater Treatment Process Diagram



Data Source for Figure 13-2: California Water Board, 2018

the district provides wastewater services to 1,261 residential and business sewer connections (86+ 1,175). One connection may serve many individual customers. Secondary treated effluent is disposed of into the Carquinez Strait, a tributary to the San Francisco Bay. CCSD's infrastructure is currently at capacity on both systems, and there is no significant expansion capacity (Gaunt Murdock, personal communication, 2023).

CCSD relies upon private contractors (companies) and nearby public agencies for a significant portion of fieldwork and maintenance, as listed below:

- Operation of the Phillip Mead WWTP is conducted by C&H Sugar.
- CCTV inspection service, emergency response by request, and sewer maintenance and repair service are provided through a contract with L. R. Paulsell.
- Port Costa SD treatment plant operations and maintenance work is done through a service agreement with Valley Operators.
- Facilities planning and design are completed by consultant engineers, and construction is completed by licensed contractors (CCSD, SSMP, 2020).
- WCWD currently provides preventative maintenance of the CSD's main Crockett Pump Station, the smaller lift pump at Loring street in Crockett. Additionally, WCWD provides both sewer cleaning (Rodding) and emergency sewer service. The WCWD does not provide engineering support or other engineering services. The CCSD is not considering or anticipating any increase in WCWD services at this time (Murdock, personal communication, October 2023).

On October 14, 2022, the San Francisco Chronicle published a news article about the "swamp gas" smell emitting from the CCSD WWTP. According to the article, hydrogen sulfide had been emitted

into the air due to an operational dysfunction. The Bay Air Quality Management District has received many notices and public complaints. The community was advised to stay indoors and use air filters to reduce exposure to the "sewage gas" (Bindman, 2022). Residents with odor complaints are encouraged to call the Public Access number for BAAQMD (800 334 6367). CCSD staff utilizes direct phone and email contacts with BAAQMD staff to aid in ongoing communication (Murdock, personal communication, October 2023).

The timeframe of October 2022 to March 2023 brought extreme weather to California in the form of atmospheric rivers, resulting in significant rainfall. The Crockett and Port Costa collection systems and WWTPs were able to handle the rains without spillage. However, both systems reached flow capacity repeatedly, and there was noticeable inflow and infiltration (I&I) from storm water. The CCSD will continue to replace sewer mains, encourage private lateral replacement, and to require lateral replacement on transfer of parcel ownership (Murdock, personal communication, October 2023).

Local Hazards

The Contra Costa County Hazard Mitigation Plan Volume 2, dated January 2018, maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards (Contra Costa County, 2018). The Hazard Mitigation Plan does not include a map of the district's wastewater infrastructure in relation to liquefaction, earthquake risk, and potential flood hazards. However, the Hazard Mitigation Plan does mention that, in general, disruption of wastewater is a secondary impact of a natural disaster or intentional act. In the surrounding regional area, sewer services are provided by the Central Contra Costa Sanitary District, Ironhouse Sanitary District, Delta Diablo Sanitation District, Mountain View Sanitary District, West County Wastewater District, Dublin San Ramon Services District, Rodeo Sanitary District, Pinole Sanitary District, Hercules Sanitary District, and CCSD. Disruption of the planning area's wastewater collection and treatment plants could result if the system were to be overwhelmed by a significant storm or discharge of materials in such quantities that the treatment plant could not adequately treat the waste (Contra Costa County, 2018). Natural hazards such as earthquakes or floods, major power outages, or terrorism directed at the facilities and systems could disrupt the process of collecting and treating millions of gallons of sewage. WWTPs may also have emergencies internal to the plant, such as oxygen deficiencies that render them incapable of treating waste. Service disruption could also have significant environmental impacts on the waterways adjacent to the treatment plants (Contra Costa County, 2018).

The 2018 Local Hazard Mitigation Plan provides complete risk assessments for each identified hazard of concern. Noted vulnerabilities within the district include the following:

- Risk of earthquake damage to wastewater and recreation facilities, including the district office.
- Climate change effect on sea-level rise will likely inundate the Crockett WWTP and primary pump station, by sea level rise by 2100.

- Flooding from extreme or prolonged storm events could overwhelm the existing capacity of sewer wastewater collection systems in Crockett or Port Costa.
- Crockett and Port Costa communities could be cut off and isolated as a result of a hazard event, such as an earthquake or wildfire. (Contra Costa County, 2018).

In addition to the above list, wildfires are a community concern, but traditionally, they have not impacted wastewater service. For example, a wildfire burned near Crockett on October 29, 2019, commonly called the "Sky Fire". The fire began at approximately 9:30 AM and quickly generated so much dense smoke that Caltrans closed the Carquinez Bridge to traffic in both directions. The CCSD has implemented hazard mitigation planning within its existing programs and plans (Contra Costa County, 2018). Specifically, the Local Hazard Mitigation Plan lists 12 action items for CCSD to complete in future years. For example, one action item is as follows: "CRCSD-1—Where appropriate, support retrofitting or relocation of structures in high-hazard areas, prioritizing structures that have experienced repetitive losses.". To better understand its risk/vulnerability, the LHMP suggests that CCSD develop a "Capability Assessment Plan" and a study on the effect of climate change on District sanitary department facilities (including WWTPs, pump stations, and collection system sewer pipes). The LHMP suggests that CCSD may wish to pursue grant funding or other alternative funding sources to support the completion of the list of action items.

Sanitary Sewer Overflow Database

The State Water Board maintains a Sanitary Sewer Overflows (SSO) database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. WQ 2022-0103-DWQ (SSS WDRs), on December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. A 3.5-year term from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. Database query results regarding the CCSD are listed below in Table 13-4 (next page).

During this 3.5-year timeframe, there were 13 SSO events in the CCSD. In most cases, the SSOs had failure points at the gravity mainline. The overflows were relatively small, but most spill material was not recovered. The largest spill within the query results occurred on January 22, 2022, with a volume of 1,120 gallons. None of the sewage spill was recovered, but none of the material reached surface water. The spill reached an unpaved surface and was caused due to root intrusion. Another spill occurred on January 2, 2020, and had a volume of 940 gallons. The spill was caused by debris rags and did not reach surface water. However, none of the spilled material was recovered.

Table 13-4: Crockett Community Service District Sanitary Sewer Overflows

EVENT ID	Region	Responsible Agency	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
857160	2	CCSD	Joint C&H-CCSD Biological CS	Category 3	3/24/2019 10:45	36	0	0	Pump Station-Controls	2SSO10145
857712	2	CCS D	Joint C&H-CCSD Biological CS	Category 3	4/13/2019 8:00	18	1	0	Gravity Mainline	2SSO10145
862444	2	CCSD	Joint C&H-CCSD Biological CS	Category 1	10/27/2019 9:00	278	0	278	Gravity Mainline	2SSO10145
864253	2	CCSD	Joint C&H-CCSD Biological CS	Category 3	1/2/2020 12:00	940	0	0	Gravity Mainline	2SSO10145
864368	2	CCSD	Joint C&H-CCSD Biological CS	Category 1	1/22/2020 22:00	450	0	360	Gravity Mainline	2SSO10145
866651	2	CCSD	Joint C&H-CCSD Biological CS	Category 1	4/21/2020 11:00	180	0	90	Bypass discharge hose folded over.	2SSO10145
867968	2	CCSD	Joint C&H-CCSD Biological CS	Category 3	7/14/2020 8:00	50	0	0	Gravity Mainline	2SSO10145
870462	2	CCSD	Joint C&H-CCSD Biological CS	Category 3	11/4/2020 14:00	5	0	0	Gravity Mainline	2SSO10145
870742	2	CCSD	Joint C&H-CCSD Biological CS	Category 3	11/26/2020 8:00	25	1	0	Gravity Mainline	2SSO10145
873283	2	CCSD	Joint C&H-CCSD	Category 3	3/13/2021 16:45	10	0	0	Gravity Mainline	2SSO10145

			Biological CS							
877038	2	CCSD	Joint C&H-CCSD Biological CS	Category 3	10/8/2021 10:30	5	0	0	Upper Lateral (Public)	2SSO10145
879730	2	CCSD	Joint C&H-CCSD Biological CS	Category 2	1/22/2022 2:00	1,120	0	0	Gravity Mainline	2SSO10145
881207	2	CCSD	Joint C&H-CCSD Biological CS	Category 3	5/1/2022 15:00	525	5	0	Gravity Mainline	2SSO10145

Figure 13-3. Google Maps Street View of the Crockett Community Center

Please note that CCSD has successfully reduced the number of spills occurring over time, improving its record. LAFCo's 2014 MSR noted that the Crockett and Port Costa collection systems had experienced Sanitary System Overflows (SSOs) since 2008. At that time, there were 29 SSOs on the Crockett collection system and six on the Port Costa collection system, for a total of 24,921 gallons spilled. Only seven spills exceeded 1,000 gallons. CCSD continues to adjust maintenance activities and prioritize capital projects to minimize SSOs.

From July to October 2022, San Francisco Bay experienced a harmful algal bloom (HAB) known as a red tide. The species associated with this bloom, *Heterosigma akashiwo,* can cause water to take on a reddish-brown color. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay, and into San Pablo Bay. Fish deaths linked to the red tide were reported to include sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San Francisco Bay Water Board is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other agencies to study potential impacts of nutrients on San Francisco Bay. The CCSD has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater districts and the Water Board.

Infrastructure Needs

CCSD owns and maintains several key assets, as listed below in Table 13-5. The two WWTPs and associated collection pipelines/pump stations are the primary infrastructure for the district. For the Crockett area, the joint WWTP is an activated sludge wastewater treatment facility that treats primary treated sugar refining wastewater and pretreated (comminuted and de-gritted) domestic wastewater from CCSD. The Sugar Refinery's sanitary wastes and tank truck washings, which account for less than 0.01 MGD, are combined with the pretreated sewage from the district. The average dry weather flow from the district to the Joint Treatment Plant is 0.3 MGD (CA Water Board, 2012). During wet weather, the peak wet weather flow may increase to 3.3 MGD (CA Water Board, 2012). Excess sewage, due to stormwater I&I, is temporarily stored in the CCSD's stormwater surge tanks before returning it to the Joint Treatment Plant. During wet weather, peak flows are stored in the stormwater surge tanks before processing. The secondary-treated wastewater is discharged through a deep-water Discharge Point 002 to the Carquinez Strait. The design flow for the WWTP is 1.8 MGD for secondary treated wastewater discharged through Outfall 002 (CA Water Board, 2012). The 1.8 MGD design flow easily accommodates the 0.3 MGD average dry weather flow from the district. However, the 1.8 MGD design flow is exceeded during peak wet weather flow up to 3.3 MGD. Wet weather flows that exceed design capacity are managed by the district through the use of the previously mentioned stormwater surge tanks. To prevent future sanitary sewer overflows, CCSD has an approved SSMP dated March 2020.

Waste biosolids from the dissolved air clarifiers at the Joint Treatment Plant are dewatered by belt presses, mixed with lime if stabilization is necessary, and trucked for off-site disposal. Liquor

removed from the belt-presses is combined with washings, waste samples, drips, stormwater, and other process waters are returned to the treatment process.

Table 13-5: CCSD Key Physical Assets and Associated Value

Asset	Value
Property	
5.6 acres of land	$2,385,000
Critical Infrastructure and Equipment	
Total length of sewer pipe in Crockett 15.4 miles ($1.32M per mile x 15 miles)	$20,328,000
Total length of sewer pipe in Port Costa 1.3 miles ($1.32M per mile x 1.3 miles)	$1,716,000
District Emergency Response Vehicle	$25,000
Total:	**$22,064,000**
Critical Facilities	
Crockett Community Center	$3,500,000
Crockett Aquatics Building, Pool, and Alexander Park	$1,500,000
Crockett Downtown Public Plaza	$850,000
Crockett Veterans Memorial Hall	$750,000
C&H / Crockett Joint-Wastewater-Treatment-Plant (17% share ownership)	$3,400,000
Crockett Pump Stations – Port St (main) and Loring Street (satellite)	$1,400,000
Crockett Equalization Tank, garage, and control building	$2,400,000
Port Costa Wastewater Treatment Plant	$3,000,000
Total:	**$16,800,000**

Data Source: Contra Costa County Local Hazard Mitigation Plan, 2018

CCSD maintains and replaces portions of its collection and treatment facilities as needed. All work is done on a priority basis by the limited staff of CCSD (LAFCO, 2014). The Crockett Sanitary Department has developed a capital improvement plan (CIP) for its sewer collection system. The District considers the age of the sewer collection pipe, current condition, and risk of failure in prioritizing projects (Contra Costa County, 2018). The hazard mitigation plan may identify potential funding sources to accelerate sewer pipe replacement, lowering the risk of a sewer spill or equipment failure. Additionally, C&H Sugar Company, which operates the Joint-Sewer-Treatment Plant in Crockett, manages the capital improvement plan for the treatment plant (Contra Costa County, 2018).

CCSD has a CIP as part of its budget. The CIP outlines improvements as associated budget line items for projects. Each of the WWTP's are considered as being in an "aged" operating condition and require ongoing rehabilitation.

Future challenges

The American Society of Civil Engineers, Region 9 has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and summarized below:

1. Implement an education program at the state and local level about what a WWTP is, what kind of waste it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event

occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water reuse/recycling.
(Source: American Society of Civil Engineers, 2019)

Cost Avoidance Opportunities

To obtain efficiencies and cost reductions, the district utilizes several cooperative programs to help reduce costs. With a small operations staff, this is important.

Cooperative Programs

CCSD utilizes cooperative programs and services to carry out several functions as follows:

- C&H Sugar operates the Crockett Joint Treatment Plant through a contract with Inframark (*https://www.inframark.com/*), an infrastructure management company. Weekly testing of Port Costa effluent is performed by Valley Operators (*https://www.valleyoperators.com*), a water resource operations company located in Northern California (G. Murdock, personal communication, 2023). C&H Sugar operates and maintains the WWTP (Crockett CSD, 2020). The C&H Sugar Co. also has the responsibility to perform testing and reporting requirements (Crockett CSD, 2020).
- The Crockett Sanitary and Port Costa sanitary departments have an Access and Repair Agreement program whereby low-interest loans are offered to senior citizens if their building sewer lateral is defective, and it would be a financial hardship to replace it otherwise (LAFCO, 2019).
- West County Wastewater District (WCWD) currently provides preventative maintenance of the CSD's main Crockett Pump Station, the smaller lift pump at Loring street in Crockett. Additionally, WCWD provides both sewer cleaning (Rodding) and emergency sewer service (Murdock, personal communication, October 2023).
- CCSD utilizes other independent contractors for inspection and repair of the collection system.
- The CCSD is not a member of any joint powers authorities (LAFCO, 2019).

13.4: DISTRICT FINANCIAL OVERVIEW

CCSD utilizes Enterprise Funds as the financial mechanism to support wastewater services. Enterprise Funds are used to separately account for self-supporting operations. The CCSD's finances were analyzed in detail in LAFCO's 2019 MSR which also offered several recommendations to improve financial reporting (LAFCO, 2019). This analysis focuses on funding for wastewater services. The District's budget and independent financial audits for fiscal years (FY) 2018-19 through FY 2020-21 and budgets for FY 2021-22 and FY 2022-23 are the primary information sources for data related to the financial health of the district. These reports are posted on the district's website at:

<*https://www.town.crockett.ca.us/district-financial-information* (CCSD, 2019a; 2020b; 2021; 2022). This financial analysis represents a snapshot in time (i.e., a limited time period). However, CCSD regularly updates its financial data, and readers can review the new data on its website.

The two Enterprise Funds for wastewater operations are the Port Costa Operating Fund and the Crockett Operating Fund. The audited financial statement for FY 2020-21, the most recent audit completed for the district, includes information such as the independent auditor's opinion, statements of net position, revenues, expenses, changes in net position, cash flows, notes to financial statements, and required supplementary information. The auditor noted that the CCSD's management has omitted management's discussion and analysis that accounting principles generally accepted in the United States of America require to be presented to supplement the basic financial statements. The auditor is of the opinion that the basic financial statements are not affected by this missing information (CCSD, 2020b).

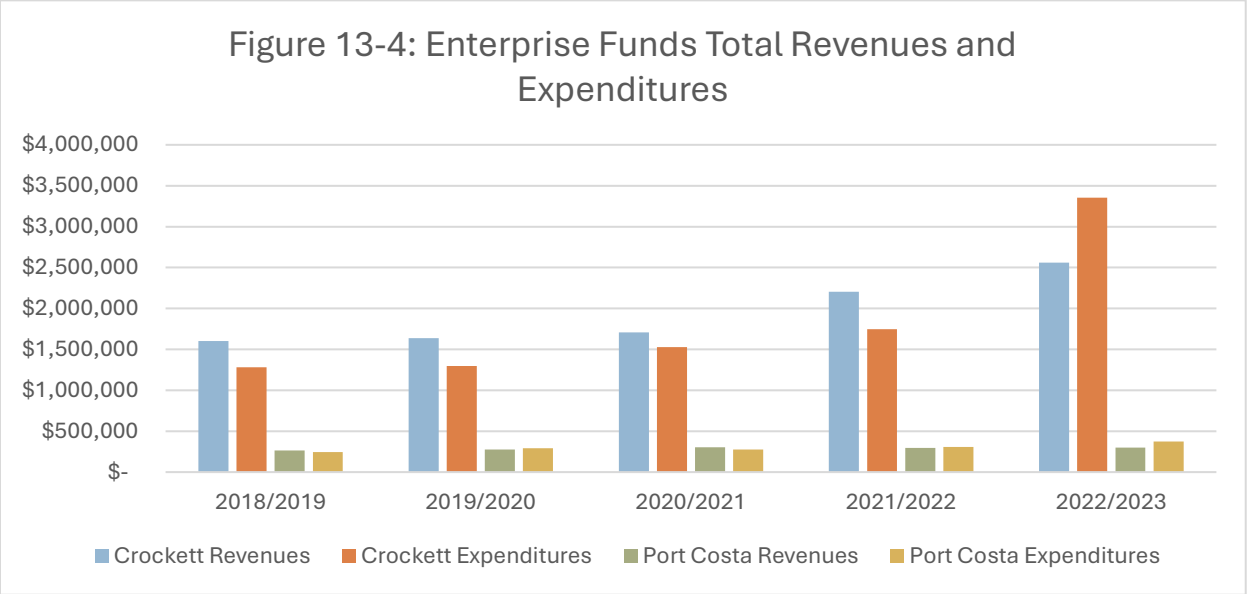
The CCSD is primarily funded through sewer use charges, residential recreation assessments, local property taxes, facility rentals, and grants (Contra Costa County, LHMP, 2018). Regarding wastewater funds, specifically, CCSD operates its wastewater services as enterprise-type activities, with its primary revenue sources being service charges and fees. CCSD operates both the Crockett Sanitary Department and the Port Costa Sanitary Department within its overall operations. The Crockett Operating Fund, which provides sanitary services, is funded by property tax and sewer use charges. The Fund receives a base minimum of $239,918 property taxes annually, derived from the allocation rate of 85.315 percent that was set in FY 2007-08 with 14.684% or $42,293 of property taxes annually allocated to the Crockett Recreation Department. These base amounts are guaranteed unless the property taxes received drop below $281,211 at which point the historical Tax Rate Area (TRA) allocation formulas will be used to determine the taxes due each department. Property taxes received above $281,211 are allocated to departments that serve the Crockett community based on budgetary needs identified during the annual budget process, taking into consideration the historical (TRA) property tax allocation rates but not requiring them to be followed (CCSD, 2019b). The Port Costa Operating Fund revenues consist only of sewer service charges (CCSD, 2022).

The FY 2022-23 adopted budget assumes a decrease of approximately $1.02 million annual budget, from $6.095 million to $5.077 million. This is a decrease of approximately 16.7 percent from FY 2021-22. The Districts total net position increased by approximately $4.4 million from FY 2019/-20 to FY 2020-21 (CCSD, 2020b; 2021; 2022). There are five primary areas of criteria that have been utilized to assess the present and future financial condition of the CCSD's wastewater service operations, as discussed below.

3 Year Revenue/Expenditure Budget Trends

The Crockett Enterprise Fund operated with revenues exceeding expenditures for FY 2018-19 through FY 2021-22. The adopted FY 2022-23 budget anticipates expenditures exceeding revenue by

$639,163, as shown in Figure 13-4 below[2].

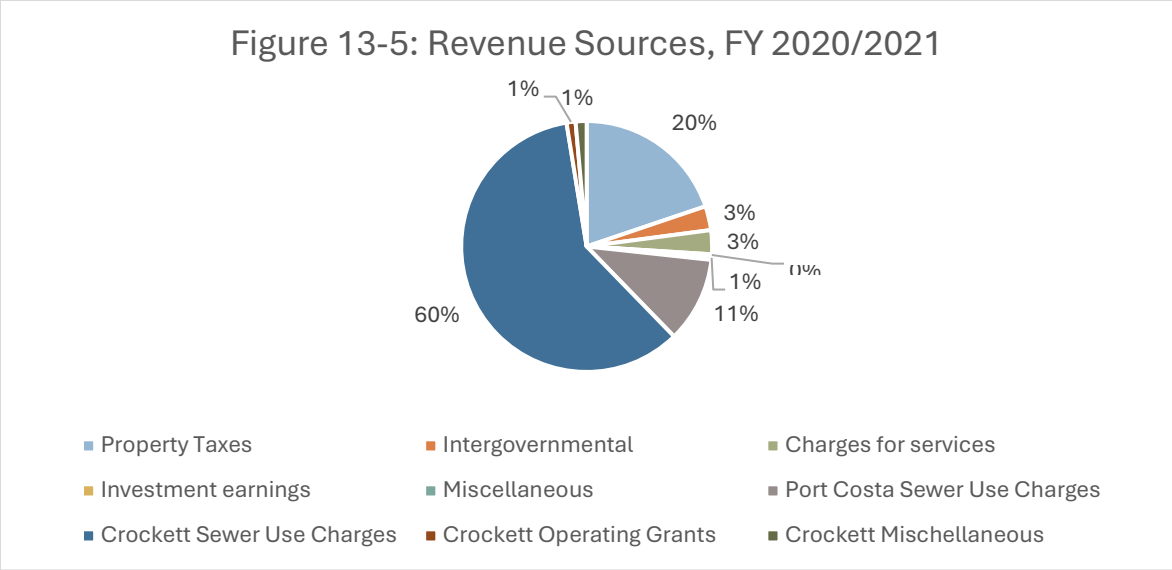


This expenditure increase is due to anticipated capital project expenses and capital replacement costs budgeted for the year. The Port Costa Enterprise Fund operated with expenses exceeding revenues for FY 2019-20, FY 2021-22, and FY 2022-23. The fund averaged an approximately $15,000 deficit for FY 2019/-20 and FY 2021-22. The budget for FY 2022-23 anticipates a much larger deficit of approximately $72,500. This is likely due to $85,000 allocated for capital projects and some small increases in maintenance and operating costs compared to FY 2021-22 (CCSD, 2019a; 2020b; 2021; 2022). CCSD's Crockett Sanitary Department completed the last rate study in 2012 and is implementing rate adjustments as appropriate to meet operational and capital requirements (CCSD, 2023a).

Ratios of Revenue Sources

CCSD's operational and non-operational revenue sources for FY 2020-21 are shown in Figure 13-5.

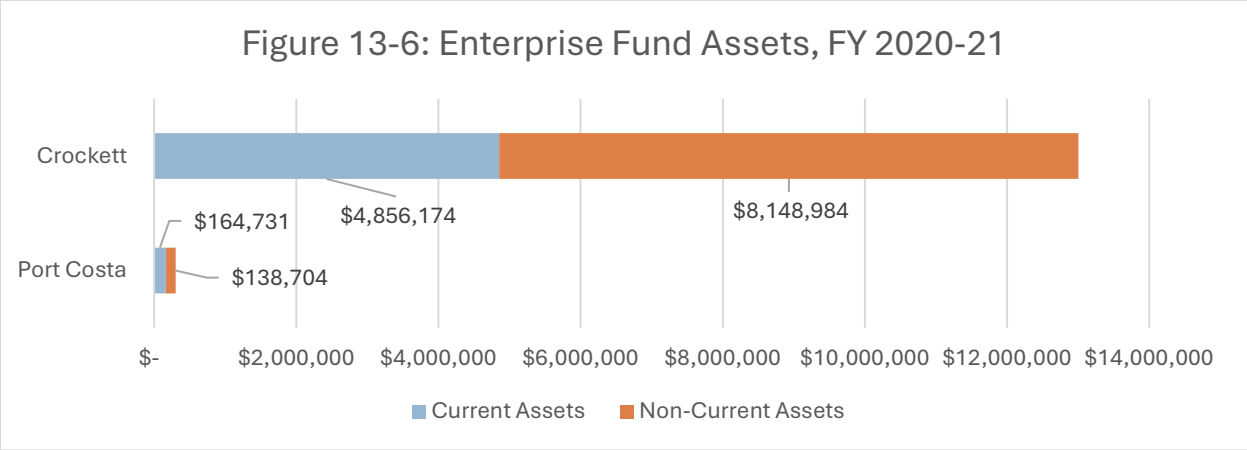
[2] The financial data in this MSR focuses on the wastewater enterprise fund. The data does not include recreation funds or the funds from Measure R, passed In June 2012, approving a 220% increase to the Recreation Special Tax to support recreational services in Crockett and Port Costa. The text of Measure R suggests the tax does not expire.



The District receives approximately 71 percent of its wastewater fund revenues from charges and fees for services for Crockett and Port Costa and 20 percent of revenue from property taxes. Property taxes are divided between the Crockett Enterprise Fund and Recreation Services. The Port Costa Enterprise Fund does not receive any property taxes. The remaining revenue sources vary from three percent to one percent, including permit and inspection fees, franchise and connection fees, interest income, rents, and leases (CCSD, 2021). This ratio of sources is typical for an enterprise-type service, such as a wastewater district.

Ratio of Reserves or Fund Balance to Annual Expenditures

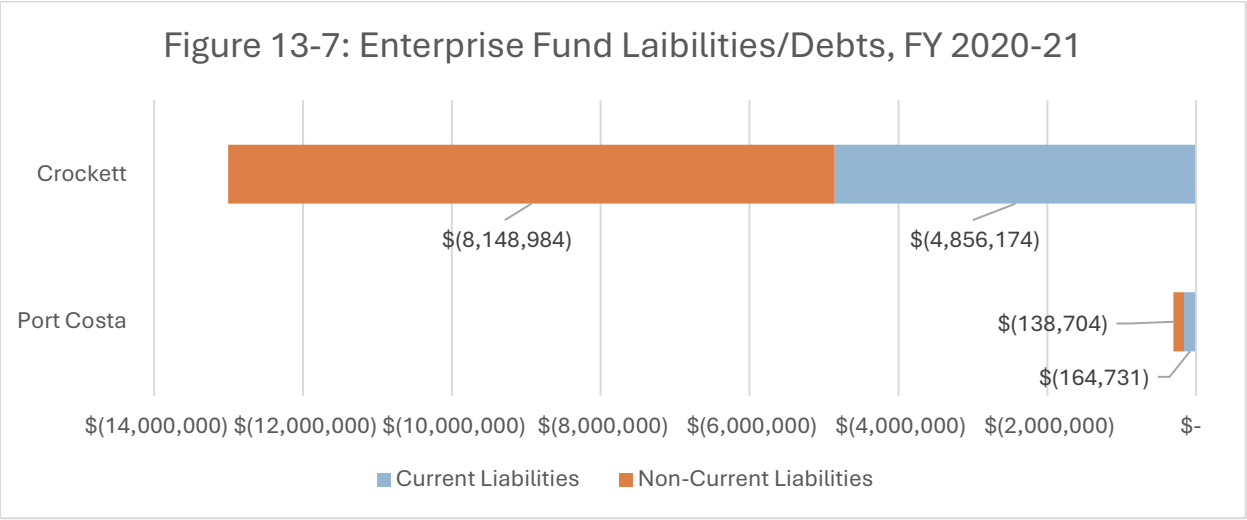
An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures (LAFCO, 2014). The CCSD maintains a separate Crockett Sanitary Reserve Fund and Port Costa Fund (LAFCO, 2014). The audited financial report for FY 2020-21 shows an unrestricted net position of $148,555 for Port Costa and $4,994,747 for Crockett. Based on expenses for this same fiscal year, the Port Costa fund has a negative ratio of -0.53, and the Crockett fund has a positive ratio of 0.31 percent (CCSD, 2021a). Figure 13-6 shows the total assets for both enterprise funds reflecting current assets and noncurrent assets for FY 2020-21. Current assets include cash and investments; accounts receivable, net; advances to other funds; and prepaid items. Noncurrent assets include advances to other funds; land; buildings; machinery, equipment, and vehicles; sewer distribution system; and less accumulated depreciation (CCSD, 2021a).



The FY 2023/2024 Sewer Use Charge Study for the Port Costa Sanitary Department determined that the budget setting the sewer use charges maintains insufficient capital reserves to respond to unanticipated system failures or emergencies and has an inadequate contingency fund. When CCSD took over operations of Port Costa sanitation, Contra Costa County left no inventory of the system, inspection data, repair records, or condition assessment, and performed no known preventive maintenance on the system. The District anticipated significant costs to bring the collection system up to current standards of reliability within as short a timeframe as possible. The small tax base and constrained revenue stream available for capital expenditures have restricted the ability of the district to undertake desired projects (CCSD, 2023c).

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. Figure 13-7 shows the liabilities for both Enterprise funds as of FY 2020-21 (CCSD, 2021b).



The ratio of annual debt service to total fund annual expenditures is an indicator of CCSD's ability to meet debt obligations in relation to service provision expenditures. Ideally, a ratio of 10 percent or less would reflect a very stable ratio (LAFCO, 2014). According to the district's FY 2020-21 audited financial statement, the district had $258,587 in notes payable for noncurrent liabilities with the Crockett Enterprise Fund. This equates to a ratio of 16.9 percent, which suggests that the district may have trouble meeting debt obligations in relation to service provision expenditures. In addition, both funds had a net pension liability with $11,743 for Port Costa and $92,855 for Crockett. For these funds, expenses for FY 2020-21 did not include any debt payments (CCSD, 2021b).

According to the audited financial statement for FY 2020-21, the district has four long-term loans as follows:

- $122,291 notes payable issued May 13, 2002, principal payable in various annual installments through October 17, 2021; interest payable annually at 2.400%.
- $495,153 notes payable issued December 9, 2002, principle payable in various annual installments through December 18, 2022; interest payable annually at 2.700%.
- $290,844 notes payable issued August 20, 2020, principal payable in various bi-annual installments through August 11, 2026; interest payable semi-annually at 2.75%.
- $642,500 notes payable issued August 20, 2020, principal payable in various bi-annual installments through August 11, 2040; interest payable semi-annually at 3.25%

The Crockett Sanitary Department entered into a loan agreement with the Port Costa Sanitary Department in September 2013 to pay off the remaining balance of a loan owed to Contra Costa County for treatment plant upgrades. Port Costa Sanitary has agreed to repay the loan in five years, with the first annual payment made in October 2014. A second inter-agency loan agreement to pay off the remaining balance of a West America loan for treatment plant upgrades was completed in March 2016. A third loan was needed in April 2020 for project costs associated with the wastewater settling tank. This loan is scheduled to start repayment in 2023. The interest rate for each loan is 1.5% over what the district receives on its investments from the Local Agency Investment Fund (LAIF). Amortized payments through December of 2029 will be paid to the Crockett Sanitary Department annually. As of April 2023, this asset will be valued at $300,012 (CCSD, 2023a). For FY 2022-23, the district budgeted $39,648 in principle payment as part of the Port Costa Sanitary Department Budget. This equates to a ratio of 10.6 percent, which suggests that the district can meet debt obligations in relation to service provision expenditures for this fund. The FY 2022-23 budget also includes an interfund loan to the Maintenance Department from the Crockett Sanitary Department budget of $100,000. This suggests that the district may be having trouble keeping pace with the costs associated with maintaining its other services outside of wastewater services for FY 2022-23 (CCSD, 2022a).

Capital Improvement Program

According to the district's Sewer System Management Plan (SSMP), updated May 2023, the district must establish a short- and long-term CIP to address identified hydraulic deficiencies, including prioritization, alternatives analysis, and schedules. The CIP may include increases in pipe size, I&I reduction programs, increases and redundancy in pumping capacity, and storage facilities. The CIP shall include an implementation schedule and shall identify sources of funding. The District shall develop a schedule of completion dates for all portions of the CIP. This schedule shall be reviewed and updated at least every two years (CCSD, 2023b). The District has collected years of flow data from existing facilities and is planning to utilize this data in a capacity analysis for each of the sanitary departments. The capacity analysis is planned for completion within five years from the date of the May 2023 SSMP update (CCSD, 2023b). Although CCSD does not have a detailed CIP which projects needs for future years, it does have a list of capital improvement projects included within its annual budget, as shown in Table 13-6 below.

The 2022-23 budget includes sewer collection system projects and treatment plant projects for the Port Costa Sanitary Department, totaling $96,000. In addition, there is a list of future capital reserved for large projects, including: sand replacement reserve; sand bed engineering study; RR crossing; Influent metering MH and flume; and survey and main replacement on Canyon Lake.

The capital improvement projects for the Crockett Sanitary Department include sewer projects and equipment, pump station improvements, and treatment plant improvements totaling approximately $886,322 for FY 2022-23 (CCSD, 2022b).

Table 13-6: Capital Projects for Crockett

Capital Projects for FY 2023/24 ADOPTED 7-26-23

Capital Projects for FY 2023/24

ADOPTED (6/4/19)

CROCKETT SANITARY DEPARTMENT

PUMP STATION	CAPITAL REPLACEMENTS O&M	CAPITAL IMPROVEMENTS FIXED ASSET	CAP. IMP. FUNDING SOURCE
MCC Phase 1 - Parts, Phase 2 install ASAP		$600,000.00	#3426/Reserve
Improve ventilation of wet well (additional. vent fans)		$3,300.00	Reserve
Loring Power Generator Package		$10,000.00	
Rebuild Air Compressor and motor 1 & 2	$25,000.00		
Rebuild of Grit Pump No. 1	$25,000.00		
Install Pump No. 5 air vent system	$5,000.00		
TOTAL	$55,000.00	$613,300.00	

TREATMENT PLANT	REPLACEMENTS O&M	IMPROVEMENTS FIXED ASSET	FUNDING SOURCE
Replace DAF air compressor	$3,370.00		
Install french drain south of reactors	$5,055.00		Fund 3427
New wires from control room to reactor pump	$940.00		
Miscellaneous projects - cap replacement	$2,528.00		
Replace influent pumps, impellers, etc.		$8,425.00	
Replace sewer liner		$13,712.00	Fund 3427
Overhaul DAF #1		$84,250.00	Fund 3427
Trns to JTP Cap. Reserve - diffusers/3rd clarifier		$32,000.00	#3426
TOTAL	$11,893	$138,387.00	

7/25/2023

Table 13-7: Capital Projects for Port Costa Sanitary Department

Capital Projects for FY 2023/24

PORT COSTA SANITARY DEPARTMENT

SEWER COLLECTION SYSTEM PROJECTS	CAPITAL IMPROVEMENTS FIXED ASSET	GRANT FUNDED	PCSAN FUNDED
Sewer Main&Manhole realignment (approx 150+LF)	$ 50,000		
Emergency project(s)	$ 10,000		$ 10,000
CCTV Inspection	$ 25,000		$ 25,000
TOTAL	**$ 85,000**		

TREATMENT PLANT	CAPITAL REPLACEMENTS O&M	CAPITAL IMPROVEMENTS FIXED ASSET	
Septic Tank Hatches		$0	$0
Sump high alarm		$1,500	$1,500
Backup chemical pump		$1,500	$1,500
Various emergency WWTP	$3,000.00	$5,000	$8,000
TOTAL	$3,000.00	**$8,000**	

EQUIPMENT	CAPITAL IMPROVEMENTS	
No tools or equipment planned	$0.00	
TOTAL	$0.00	
		$46,000.00

Future Capital Reserve for large projects

Sand Replacement Reserve	TBD
Sand bed engineering study	TBD
RR Crossing	TBD
Influent metering MH and flume	TBD
Survey & Main replacement on Canyon Lake	TBD

Rate Structure

The district reviews the sewer use charges for the Crockett-Valona Sanitary District and the Port Costa Sanitary Department. The rate sheet (218 Notice) shows the current single-family residence (SFR) rates are;

- Crockett: $916/ yr ($76.33/month)
- Port Costa: $2,345/ yr ($195.42/month)
- (Source: G. Murdock, 2023)

Crockett-Valona Sanitary District Sewer Use Charge Study

CCSD's board reviewed a Sewer Use Charge Study for the Crockett-Valona Sanitary District during their April 26, 2023 meeting. This study provided a rationale for the determination of the Crockett Sewer Use Charge for FY 2023/2024 as required by law. Though the district has experienced four decades of price stability, inflation is expected to factor into increases over the next year.

The sewer services currently provided by the CCSD for Crockett have been determined through a comprehensive study of properties undertaken in 1992 with continuous updates. The district currently serves 891 single-family dwellings, 779 apartments, 23 commercial non-residential, 40 mixed-use, and two industrial properties. Calculations for rates conducted by staff can be shown in Table 13-8 below.

Table 13-8: Crockett-Valona Sanitary District Sewer Use Charge Rates for FY 2023/2024

Single Family Residence .....**$ 918** Apartment..... ...**$ 759** The rate for Commercial and Mixed-use accounts is the base amount paid by the associated residential user, plus a volumetric fee per hundred cubic feet (ccf) of water used in excess of the 6-year average of 5554 cf per year. Volumetric Rate.....$ **15.24** / ccf (water unit)

As part of the Crockett-Valona Sanitary District Sewer Usage Charge Study, staff noted that the financial outlook for the district remains strong as the district has met the goal of establishing a reserve fund of $2.5 million. Significant upgrades are anticipated to the Crockett pump station that are expected to provide a long service life and can be spread over a ten-year period while utilizing supplemental reserve funds.

Because of pandemic measures that closed commercial venues, sewer use charge revenue from commercial users was slightly diminished. Water use by apartments, by the same token, increased. Because of these effects, both apartments and single-family residences have increased burden, with a greater increase seen in apartments due to their increased usage relative to single-family residences. The District expects this usage pattern to normalize as business returns to normal. Staff recommends that the rate stabilization fund be used to augment shortfalls. An estimated transfer of

$267,145 from the rate stabilization fund will be required to slow the change of rates. Based on calculations in the Crockett-Valona Sanitary District Sewer Use Charge Study, staff does not recommend any rate increases for FY 2023/2024 (CCSD, 2023a).

Port Costa Sanitary Department Sewer Use Charge Study

CCSD's board reviewed a Sewer Use Charge Study for the Port Costa Sanitary Department during their May 10, 2023 meeting. This study provided a rationale for the determination of the Port Costa Sanitary Department Sewer Use Charge for FY 2023/2024 as required by law. CCSD provides service to 85 properties with one additional property outside of District boundaries through the Port Costa Sanitary Department. The Sewer Use Charge is the sole source of revenue for the Department except for rare permit and capacity fees. The Sewer Use Charge is $2345/ yr ($195.42/month) for the typical single-family home as listed in Table 13-9.

Annual Sewer Use Charge increases are generally recommended to build operating reserves to cover ongoing and increasing operating expenses. However, for FY 2023/2024, Port Costa Sanitary Department staff recommends that Port Costa Commission maintains the prior year Sewer Use Charge as written in existing Resolution 22-3. The sewer services to be provided by Port Costa Sanitary Department are determined to include 72 single-family residences (SFR), 7 duplex/apartments, four mixed-use properties (containing 26 apartments), and three commercial customers. The report expects a $207,612 deficit for FY 2023/2024, which continues a trend of expenditures exceeding revenues for the Port Costa Sanitary Department. This is approximately 11 percent lower than the FY 2022-23 budgeted. Based on the number of existing connections and the operating deficit, the district has determined the annual Sewer Use Charge, as shown in Table 13-9 below.

Table 13-9: Tabulation of Sewer Use Charge for Port Costa Sanitary Department FY 2023-24

EQUIVALENT TYPE OF OCCUPANCY/USE	NUMBER OF UNITS	USE FACTOR PER UNIT	USE FACTOR UNITS
Single family dwelling	72	1.00	72.00
Apartment	14	1.00	14.00
Non-residential property	3	varies	3.09
Mixed-use property	4	varies	38.48
	Discharge Units		127.58

In order to provide sufficient revenue for the O&M&R and capital budget, Sewer Use Charge would be determined as follows:

OPERATING DEFICIT $299,169
---------- = $2,345 /UNIT
NO. DISCHARGE UNITS 127.58

By this method, the recommended annual Sewer Use Charge per single family residence is $2,345. The recommended annual Sewer Use Charge per apartment is also $2,345.

The charges for other properties would vary with water consumption in proportion to the Crockett Community Services District standard for residential uses. The recommendation is to maintain the 2022/23 Sewer Use Charge set in Proposition 218, at a rate of $2,345 plus $50.31 per 100 cubic feet of water consumption in excess of 4662 cubic feet per year.

The Study includes language that the district recognizes that this budget maintains insufficient capital reserves to respond to unanticipated system failures or emergencies and has an inadequate contingency fund. The budget is calculated to provide adequately for regular collection system maintenance, WWTP operation, expected costs due to regulatory permitting, and repayment of outstanding debt to the Crockett Sanitary Department. Specific collection system repairs or replacement projects are not anticipated. CCTV inspection has not been authorized, and this eliminates the possibility of estimating potential project costs. The District recognizes that high costs to ratepayers are a burden. This burden is a result of the low number of residential and business customers sharing the costs of an expensive operation. Staff and board members are researching potential local, state, and federal grants to help fund future capital improvements in order to protect the ratepayers from excessive Sewer Use Charge rate increases (CCSD, 2023c).

13.5: POPULATION

As population levels increase, community leaders typically plan for growth and the provision of basic services and infrastructure. Both Crockett and Port Costa are unincorporated communities and "Census Designated Place(s)" (CDP). In 2020, the U.S. Census estimated that the Crockett CDP had a population of 3,242, as shown in Table 13-10. Port Costa CDP had a population of 190 (U.S. Census, 2023). This sums to a total of 3,432 persons in the combined CDPs.

Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

Table 13-10: Crockett CDP Demographics

Crockett CDP, California	
Total Population	3,242
	Source: 2020 Decennial Census
Median Household Income	$ 95,357
	Source: 2021 American Community Survey 5-Year Estimates
Bachelor's Degree Or Higher	41.7 %
	Source: 2021 American Community Survey 5-Year Estimates
Employment Rate	58.9 %
	Source: 2021 American Community Survey 5-Year Estimates
Total Housing Units	1,676
	Source: 2020 Decennial Census
Without Health Care Coverage	2.2 %
	Source: 2021 American Community Survey 5-Year Estimates
Total Households	1,516
	Source: 2021 American Community Survey 5-Year Estimates

Data source: U.S. Census
https://www.census.gov

Table 13-11: Existing Permanent Population, Crockett Community Service District, 2022

Crockett Community Service District	**Population in Boundary**	**Number of Registered Voters in Boundary (3)**	**Population in SOI only**
U.S Census Data **(1)**	3,432	approximately 2,000 voters (2018)	N/A
Higher Population Scenario **(2)**	4,527b		

Sources:
(1): Data from U.S. Census for Crockett and Port Costa CDP and from Contra Costa Department of Conservation & Development.
(2): County of Contra Costa. (2022), GIS Data, Public *Parcels*. Retrieved on October 26, 2022 from: <*https://gis.cccounty.us/Downloads/Assessor/*>. To verify the US Census Data, a new estimated population within the district boundary was calculated by multiplying the average number of people per parcel within the County of Contra Costa by the number of parcels in the CCSD. County GIS data shows there are 1,499 parcels within the CCSD boundary. Since the County has an average of 3.02 people per parcel, these numbers were multiplied to calculate a population of 4,527 persons within the CCSD boundary. This estimate can be used for comparison purposes.
(3): Registered Voter data provided by Contra Costa County Local Hazard Mitigation Plan (2018)

Table 13-12: Geographic Summary (2022) of Crockett Community Services District

Geographic Feature	**Boundary Area (All Services)**
Total Acres	690
Square Miles	1.08
Number of Assessor Parcels	1,499

Source:
(1): County of Contra Costa GIS Data, 2022
unty of Contra Costa. (2022). Public Parcels. Retrieved on October 26, 2022 from <https://gis.cccounty.us/Downloads/Assessor/>.

Projected Future Population: Projecting a community's future population is complicated due to varying annexation rates and census tracts that do not match District boundaries. CCSD is not a land-use authority. However, anticipated future population growth has the potential to influence the demand for the provision of wastewater services. Since CCSD serves an unincorporated community, the adopted Contra Costa County General Plan (2000) and its associated Housing Element guide future growth and development. Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County, as shown in Table 13-13 below. By the year 2045,

it is estimated that approximately 5,193 persons will reside within the district's boundaries. This is a 14.7 percent increase above today's levels, indicating a positive rate of future growth. However, the CSD is surrounded by dedicated parks. Therefore, it is unlikely that expansion of the CSD boundary or SOI would be sought or approved to accommodate future population growth. Additionally, there is no significant amount of vacant land to accommodate future growth within the CCSD boundary. However, several new housing laws in the State, such as SB9, allow the construction of accessory dwelling units. It is theoretically possible that new housing and population growth could potentially occur within the CSD's current boundaries through increases in housing density. CCSD's infrastructure is currently at capacity on both systems, and there is no significant expansion capacity (Gaunt Murdock, personal communication, 2023).

Figure 13-8: View of Port Costa

Table 13-13: Total Estimated & Projected Population (2022 – 2045)									
	2022	2025	2030	2035	2040	2045	Percent Increase 2020 to 2045	Numeric Increase 2020 to 2045	CAGR 2020 to 2045
County of Contra Costa[1]	1,156,555	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.1%	174,876	0.61%
Crockett Community Service District [2]	3,432	4,670	4,852	5,006	5,119	5,193	14.7%	666	0.6%

Sources:
1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.
2: County of Contra Costa. (2022). Public Parcels. Retrieved on October 26, 2022 from: <https://gis.cccounty.us/Downloads/Assessor/>.
3: County of Contra Costa GIS Data, 2022
4: Population projection for the Crockett Community Service District calculated as 0.39 percent of the County of Contra Costa population.

13.6: DISADVANTAGED COMMUNITIES

Identifying disadvantaged communities allows public agencies, cities, and counties to address potential municipal service and infrastructure deficiencies. A disadvantaged community is defined as a community with a median household income (MHI) of 80% or less than the statewide MHI. The MHI for California in 2020 was $83,056 (ACS, 2021). 80 percent of the MHI ($66,445) is the income threshold used to identify disadvantaged status. 2020 is the base year because data from the US 2020 Census is readily available. In 2011, SB 244 began requiring cities and counties to address the infrastructure needs of unincorporated disadvantaged communities in city and county general plans, MSRs, and annexation decisions. Therefore, this MSR update identifies disadvantaged communities within relevant jurisdictions' SOI.

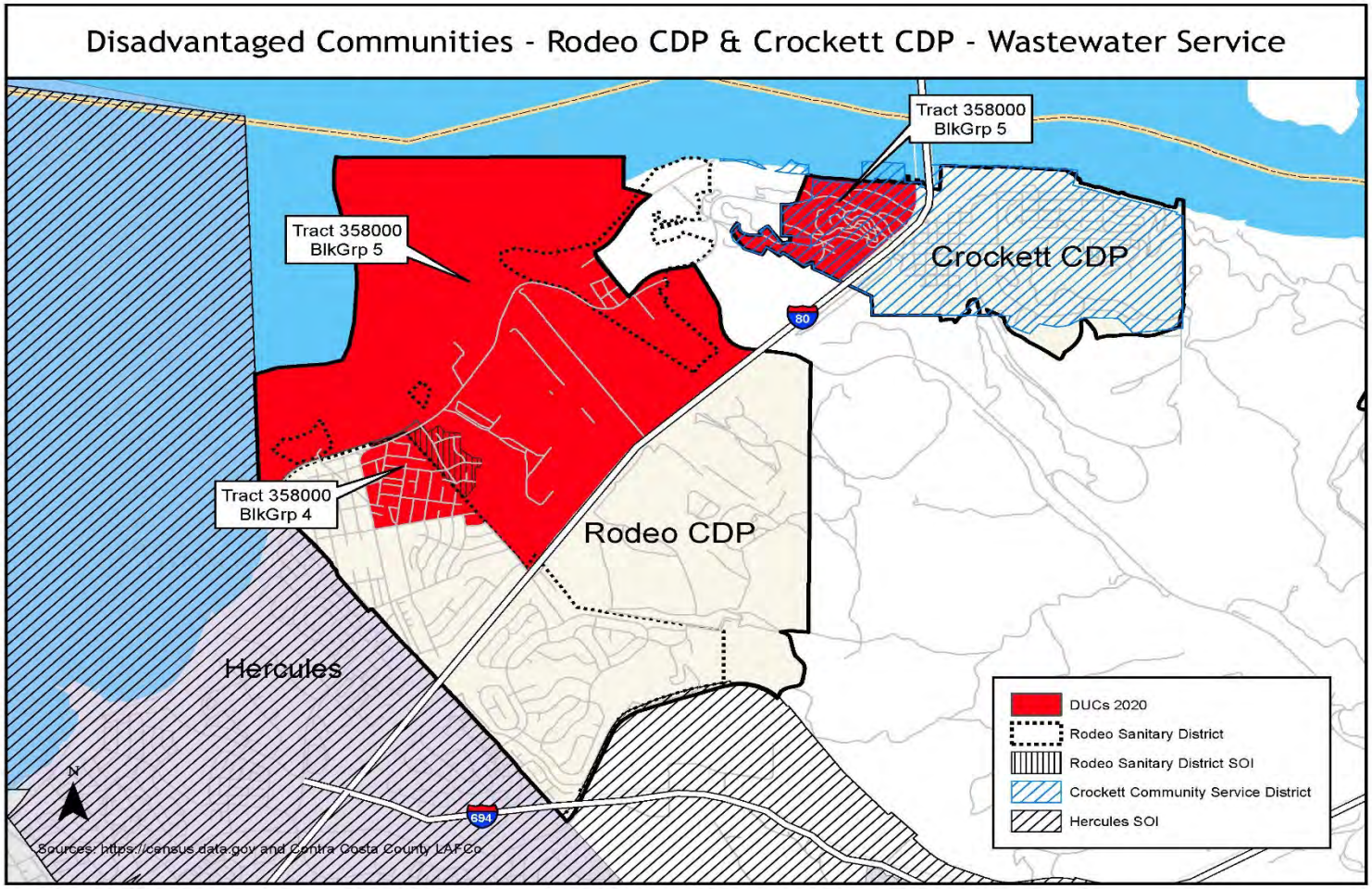
Data from the U.S. Census was queried to determine the location of any disadvantaged communities within the CCSD's boundary and SOI. Query results shown in Table 13-14 and Figure 13- 8 (next page) show an identified DUC within the western portion of Crockett, a CDP. DUCs are inhabited communities containing 12 or more registered voters that constitutes all or a portion of a "disadvantaged community." This determination assesses the prospect of including a DUC(s) when an agency's SOI is updated or expanded.

LAFCO is required to consider the need for sewer, municipal and industrial water, or structural fire protection services within identified disadvantaged communities as part of an SOI update for cities and special districts that provide such services. These services have been recently reviewed under the *2nd Round EMS/Fire Services Municipal Service Review/Sphere of Influence Updates (2016), the Contra Costa City Services Municipal Service Review and Sphere of Influence Study (2nd Round) (2019),* and the *Contra Costa County-wide Water Service Municipal Service Review and Sphere of Influence Study (2nd Round) (2014)*. These services have remained relatively unchanged since publication. Communities within the existing district boundary and SOI do not lack public services because they either receive services from a municipal provider or the properties are self-sufficient, relying on groundwater wells and septic tanks. No health or safety issues have been identified. As shown in Appendix B, Disadvantaged Communities (DACs), there are no other DACs within a municipal boundary in proximity to CCSD.

Table 13-14: Disadvantaged Unincorporated Communities in Crockett Community Services District

Unincorporated Community	**Census Tract Geo ID**	**Census Block Number**	**Median Household Income in 2020**
Crockett CDP	060133580005	5	$38,865

Figure 13-8: DUC Map – Rodeo/Crockett Area Block Group



Readers can learn more about disadvantaged communities within the CCSD and Contra Costa County through the U.S. Department of Health and Human Services database of socioeconomic and health indicators in disadvantaged communities called the Environmental Justice Explorer Database. This database can be queried at <*https://onemap.cdc.gov/portal/apps/sites/#/eji-explorer*>.

13.7: GOVERNMENT STRUCTURE ALTERNATIVES

One property (7000 Carquinez Scenic Drive in Port Costa) receives sanitary sewer service through an out-of-agency agreement (CC LAFCO Resolution No. 07-05). The property owner is reluctant to annex to CCSD, and CCSD has indicated that resolution of this issue is not expected in the short term. Two government structure options are identified as described below:

Maintain the Status Quo:
CCSD currently provides wastewater services for its residents and businesses in Crockett and Port Costa. CCSD provides adequate service, maintains its infrastructure, and is financially sound.

Annex area outside District boundaries receiving service:
One property owner outside the district is receiving service through an out-of-agency agreement. Although the property owner is reluctant to annex in the short term, consideration should be given to expanding CCSD's SOI to include this property.

13.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

Table 13-15: MSR Determinations

TOPIC AND PERFORMANCE MEASURES	MSR DETERMINATION
Growth and Population for the affected area. • Is the existing population estimated? • Is the projected future growth estimated?	CCSD currently serves a population of 3,242 in Crockett and 190 in Port Costa. Development in Crockett and Port Costa is geographically constrained by the Carquinez Strait to the north. To the south and east is the hilly topography managed by the East Bay Regional Park District (EBRPD) and/or the Port Costa Conservation Society. Infill development may occur within the CCSD boundary in the future, given California's new housing laws, including SB 9.

	(continued) By the year 2045, it is estimated that approximately 5,193 persons will reside within CCSD's boundary. Source? This is a 14.7 percent increase above today's levels, indicating a positive rate of future growth.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.	A DUC was identified in the west Crockett CDP area. Census Tract Geo ID 060133580005 had a median household income in 2020 of $38,865. Public services have been recently reviewed under the *2nd Round EMS/Fire Services Municipal Service Review/Sphere of Influence Updates (2016), the Contra Costa City Services Municipal Service Review and Sphere of Influence Study (2nd Round) (2019), and the Contra Costa County-wide Water Service Municipal Service Review and Sphere of Influence Study (2nd Round) (2014)*. These services have remained relatively unchanged since publication. Communities within the existing District boundary and SOI do not lack public services because they either receive services from a municipal provider or the properties are self-sufficient, relying upon groundwater wells and septic tanks. No health or safety issues were identified.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. • Does the agency have a CIP? • Are SSOs identified? • Are local hazards identified?	C&H Sugar owns, operates, and maintains the C&H Sugar-Crockett CSD/Philip F. Meads Treatment Facility. CCSD subleases a 17.14 % undivided interest in the Phillip F. Mead WWTP in Crockett. CCSD owns the Port Costa WWTP and, through a service agreement with Valley Operators LLC, operates and maintains the plant (CCSD, 2020). CCSD maintains and replaces portions of its collection and treatment facilities as needed. Repair and upgrades to infrastructure are done on a priority basis by a contractor coordinated by the limited staff of CCSD.

	(continued) Each of the WWTP's are considered to be in an "aged" operating condition and requires ongoing repair rehabilitation. CCSD expects to invest funds in capital improvements in the next five years. A 3.5-year term from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. It revealed that there were 13 SSOs. CCSD has an SSMP to guide its continued work to reduce the number of SSOs in the future. However, a "swamp gas" smell emitting from the CCSD WWTP was reported in the Fall of 2022 by the San Francisco Chronicle on October 14, 2022. Hydrogen sulfide emitted into the air due to an operational dysfunction created complaints to the Bay Air Quality Management District. The Local Hazard Mitigation Plan (2018) shows that the district's wastewater infrastructure has earthquake and flooding risks. Specifically, • Climate change effect on sea-level rise will likely inundate Crockett WWTP and primary pump station, by sea level rise by 2100. • Flooding from extreme or prolonged storm events could overwhelm the existing capacity of sewer wastewater collection systems in Crockett or Port Costa. Therefore, information about these hazards should be incorporated into the district's next Sanitary Sewer Management Plan update as the Hazard Mitigation Plan recommends. Additionally, the CCSD may wish to apply for grants to support the implementation of the LHMP's action items. A DUC was identified in the west Crockett area. Future consideration of any SOI change or service expansion in this area would first require a detailed evaluation of CCSD's capability to serve this territory adequately.

Financial ability of agencies to provide services. • Has the agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures 10% or less?	LAFCO's 2019 MSR offered several recommendations to improve CCSD's financial reporting. Consideration of whether the CCSD implemented these recommendations was beyond the scope of this MSR. CCSD's Crockett Sanitary Department completed the last rate study in 2023 for FY 2023/2024. The financial outlook for the Crockett Sanitary Department remains strong as the district met the goal of establishing a reserve fund of $2.5 million. CCSD's board reviewed a Sewer Use Charge Study for the Port Costa Sanitary Department during their May 10, 2023 meeting. The FY 2023/2024 budget maintains insufficient capital reserves to respond to unanticipated system failures or emergencies and has an inadequate contingency fund. Specific collection system repairs or replacement projects are not anticipated, CCTV inspection has not been authorized, this eliminates the possibility of estimating potential project costs. The District recognizes that high costs to ratepayers are a burden. This burden is a result of the low number of residential and business customers sharing the costs of an expensive operation. Staff and commissioners are researching potential local, state, and federal grants to contribute to future capital improvements in order to protect the ratepayers from excessive Sewer Use Charge rate increases. The Crockett Enterprise Fund operated with revenues exceeding expenditures for FY 2018-19 through FY 2021-22. This increase in expenditures is due to anticipated capital project expenses and capital replacement costs budgeted for the year. The Port Costa Enterprise Fund operated with expenses exceeding revenues for FY 2019/-20, FY 2021-22, and FY 2022-23. The fund averaged an approximate $15,000 deficit for FY 2019/-20 and FY 2021-22. The budget for FY 2022-23 anticipates a much larger deficit of approximately $72,500. This is likely due to $85,000 allocated for capital projects and some small increases in maintenance and operating costs compared to FY 2021-22.

	(continued) According to the district's FY 2020-21 audited financial statement, the district had $258,587 in notes payable for noncurrent liabilities with the Crockett Enterprise Fund. This equates to a ratio of 17 percent which suggests the district may have trouble meeting debt obligations in relation to service provision expenditures for this fund. For FY 2022-23, the district budgeted $39,648 in principle payment as part of the Port Costa Sanitary Department Budget. This equates to a ratio of 10.6 percent which suggests the district can meet debt obligations in relation to service provision expenditures for this fund.
Status of, and opportunities for, shared facilities.	CCSD utilizes cooperative programs and services to carry out several functions. Collection system preventive maintenance, emergency response, and engineering are contracted with the WCWD. CCSD utilizes other independent contractors for the inspection and repair of the collection system. C&H Sugar operates the Crockett Joint Treatment Plant through a contract with Seven Trent. Weekly testing of Port Costa effluent is performed by the Cal Science Environmental Company.
Accountability for community service needs, including government structure and operational facilities. • Does the agency have a website? • Does the agency post a public outreach tool (such as a calendar or newsletter) on its website? • What is the recommendation for mergers, consolidations, or other changes to governance structure?	• CCSD has a fully functional website at: <*https://crockettcsd.specialdistrict.org/crockett-sanitary-department*>. CCSD's website provides meeting agendas, minutes, financial information and reports, and a Sanitary Sewer Management Plan. • The District website functions as a public outreach tool by sharing a calendar. • The CCSD directors are elected at large by voters within the district. CCSD meetings are open and accessible to the public. Two alternative governance structures have been identified: (1) maintain the status quo; and (2) expand the CCSD SOI to include the one property currently served through an out-of-agency agreement. Additionally, CCSD should consider preparing a focused study evaluating the feasibility/cost-effectiveness of merging its wastewater operations with neighboring service providers as a potential long-term governance alternative.

Any other matter related to effective or efficient service delivery, as required by commission policy.	No additional issues were identified.

13.9: RECOMMENDED SPHERE OF INFLUENCE DETERMINATIONS

Section 13.7, Government Structure Alternatives, describes various issues and options associated with changing the structure of this local government agency. LAFCO often accomplishes its government structure issues through changes to boundaries and/or SOIs. Based on the information, issues, and analysis presented in this report, proposed SOI determinations, pursuant to Section 56425, are presented below for Commission consideration:

Table 13-16: SOI Determinations

SOI TOPIC AND PERFORMANCE MEASURES	**SOI DETERMINATION**
Present and planned land uses in the area, including agricultural and open-space lands.	The Crockett and Port Costa communities are geographically separated by land managed by the EBRPD. These two unincorporated communities are geographically small in size. CCSD currently serves approximately 3,432 residents (Crockett: 3,242) (Port Costa: 190). Land uses in the local area include residential, commercial, recreation, and open space. Infill development is expected in the future, given California's new housing laws, such as SB 9.
Present and probable need for public facilities and services in the area.	Limited growth is expected within the CCSD boundary area. However, future growth rates are uncertain given California's new housing laws, such as SB 9, which allow construction of accessory dwelling units. The District's physical capacity appears adequate for the near term. However, complaints about a "swamp gas" smell have been noted in the San Francisco Chronicle. One parcel served by CCSD through an out-of-area agreement is located outside CCSD's SOI. As the logical long-term service provider for this property, expanding CCSD's current SOI to include this property is an option that would require additional study.

Present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide.	CCSD utilizes two WWTPs, including: • In the Crockett area, the C&H Sugar Company and the CCSD jointly own the Philip F. Meads Water Treatment Plant and its collection system (WDID 2071006001). • In the Port Costa area, the CCSD owns and maintains the WWTP and Wastewater Collection System (CIWQS # 248886). • CCSD maintains and replaces portions of its collection and treatment facilities as needed. Repair and upgrades to infrastructure are done on a priority basis by a contractor coordinated by the limited staff of CCSD.
Existence of any social or economic communities of interest in the area if the commission determines that they are	The CSD's boundaries contain DUCs. No other communities of interest have been identified.
Present and probable need for those public facilities and services of any disadvantaged unincorporated communities with the existing sphere of influence.	Future consideration of any SOI change or service expansion in this area would first require a detailed evaluation of CCSD's capability to adequately serve this territory. A DUC was identified in the west Crockett CDP area. Census Tract Geo ID 060133580005 had a median household income in 2020 of $38,865. Public services were previously reviewed in the *2nd Round EMS/Fire Services MSR/SOI Updates (2016), the Contra Costa City Services MSR and SOI MSR (2nd Round) (2019), and the Contra Costa County-wide Water Service MSR and SOI MSR (2nd Round) (2014)*. These services have remained relatively unchanged since publication. Communities within the existing District boundary and SOI do not lack public services because they either receive services from a municipal provider or the properties are self-sufficient, relying upon groundwater wells and septic tanks. No health or safety issues have been identified.

Recommended Sphere of Influence: The 2014 MSR/SOI recommended that LAFCO consider expanding the CCSD's SOI to include the property located at 7000 Carquinez Scenic Drive in Port

Costa. However, this recommendation was never implemented. Therefore, based on the new information presented in this MSR/SOI analysis, it is recommended that LAFCO retain the existing SOI for Crockett CSD. If an application to expand the boundary/SOI to include the property located at 7000 Carquinez Scenic Drive in Port Costa is received, LAFCO should evaluate the application based on the full range of services to be provided to the site. Future consideration of any SOI change or service expansion in this area would first require a detailed evaluation of CCSD's capability to adequately serve this territory.

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14. DELTA DIABLO – WASTEWATER SERVICES

Table of Contents

14.1: OVERVIEW

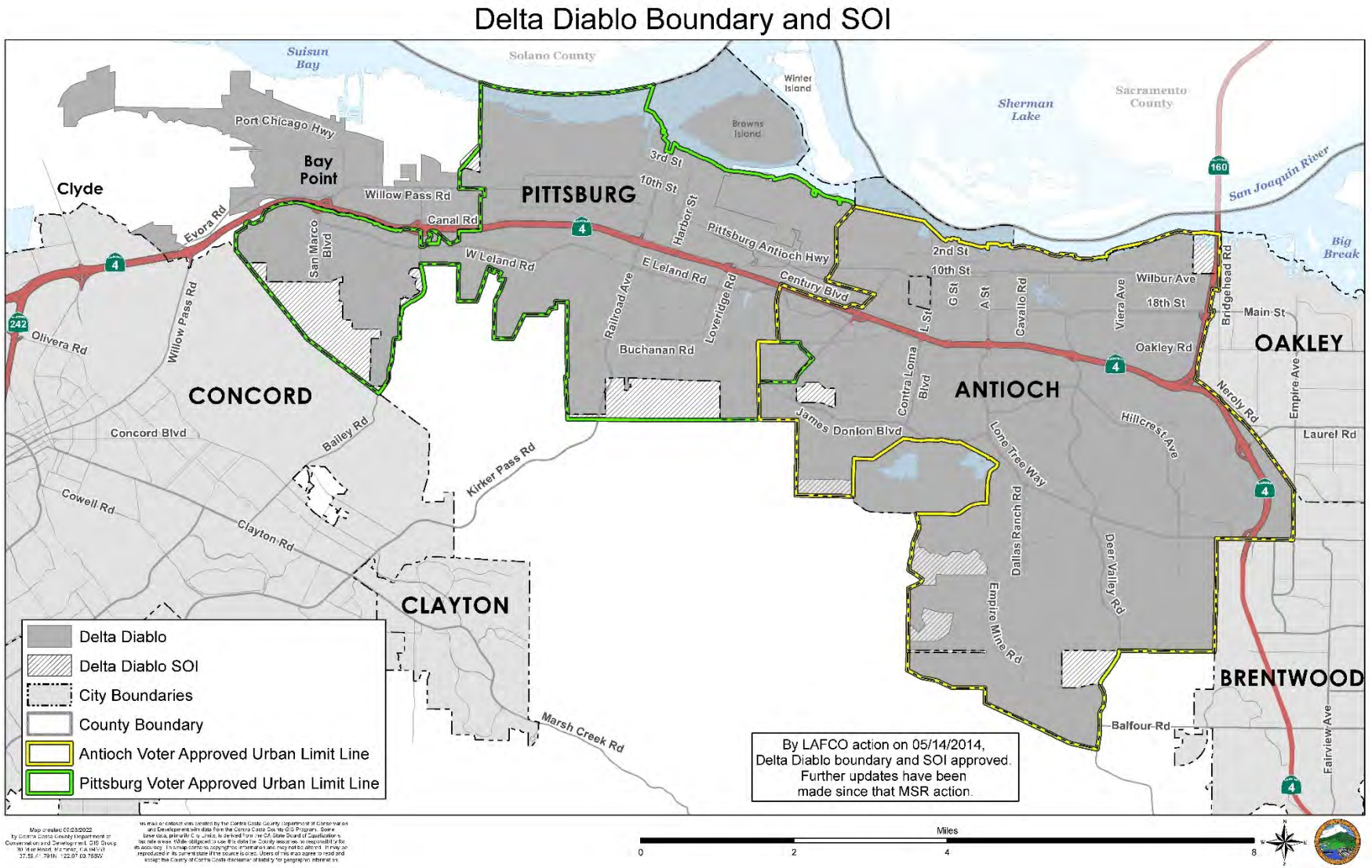
Formed in 1955 as County Sanitation District 7-A, Delta Diablo (DD) is a special district that provides wastewater resource recovery services in the cities of Antioch and Pittsburg and the unincorporated Bay Point community in east Contra Costa County. These services include wastewater collection, conveyance, and treatment; recycled water production and distribution; renewable energy production; beneficial biosolids reuse; pretreatment and pollution prevention; street sweeping; and household hazardous waste collection.

In 2001, County Sanitation District 7-B, which served the United States Naval Facility at Port Chicago, was dissolved by CC LAFCO and annexed to DD. Wastewater treatment for the three communities began in 1982 (LAFCO, 2014). DD now serves an estimated population of over 218,000 residents in a service area of approximately 54 square miles. DD also operates the Delta Household Hazardous Waste (HHW) Collection Facility for residents in the eastern portion of the County. DD also produces and distributes recycled water, which is used for cooling water at two power plants in Pittsburg and for industrial, commercial, and landscape irrigation purposes. The profile for DD is presented in Table 14-1. The boundary and SOI for DD are presented in Figure 14-1.

Table 14-1: Agency Profile – Delta Diablo

General Information			
Agency Type	Dependent Special District		
Principal Act	County Sanitation District Act, Health & Safety Code Section 4700 et seq.		
Date Formed	1955 (originally County Sanitation District 7A)		
Water/Sewer Services	Wastewater collection and conveyance, treatment, and disposal; recycled water treatment and distribution; household hazardous waste collection and reuse/disposal; street sweeping		
Service Area			
Location	Cities of Antioch and Pittsburg, the unincorporated community of Bay Point		
Sq. Miles/Acres	54 square miles (approx. 34,560 acres)		
Land Uses	Residential, commercial, industrial, open space		
Population Served	201,000 (in 2020) and 218,000 (in 2024)		
Last SOI Update	05/14/2014		
Infrastructure/Capacity			
Facilities	Wastewater Treatment Plant and Recycled Water Facility; 75.5 linear miles total of sanitary sewer pipe (DD, ACFP 2022-23); 5 wastewater pump stations (DD, ACFP 2022-23); 16.2 miles of recycled pipeline (DD, ACFP 2022-23)		
Connections	Sewer System (Total) – 72,066 Recycled Water sent to - 28 sites		
Treatment Plant Capacity (MGD)	Wastewater– 19.5 million gallons per day (MGD) (average dry weather flow) (DD, n.d.b) Recycled Water – 12.8 MGD (DD, n.d.b)		
Primary Reuse/Disposal Method	On an annual average basis, 50% of the influent flow is further treated for reuse; the remaining 50% discharged to New York Slough through a deep-water outfall		
Budget Information- FY 2022-23			
	Source of Funds	Expenditures	Net
Operations & Maintenance	$ 21,941,851	$ 25,818,943	($ 3,877,092)
Capital Asset	$ 9,607	$ 200,190	($ 190,582)
Advanced Treatment	$ 46,119	$ -	$ 46,119
Capital Asset Replacement	$ 17,714,698	$ 11,198,169	$ 6,516,530
Wastewater Expansion	$ 1,840,206	$ 127,632	$1,712,575
Recycled Water	$ 3,784,886	$ 3,484,269	$ 300,617
Hazardous Waste	$ 956,803	$ 1,062,967	($106,164)
Street Sweeping	$ 652,771	$ 756,525	($103,754)
Bay Point	$ 1,115,259	$ 1,119,293	($ 4,034)
Total All Funds	**$ 48,062,202**	**$ 43,767,987**	**$ 4,294,214**
	FY 2022-23	Long-Term Planned Expenditures	
Capital Expenditures	$ 12,082,535	$ 135.9 million (FY 2022-23 – 2026-27)	
Total Assets	$ 269,848,463	June 30, 2022 Financial Statement – Total Assets	
Governance			
Governing Body	Board of Directors (3 members by appointment - City of Antioch, City of Pittsburg, and County Supervisor – 5th District)		
Agency Contact	Vince De Lange (General Manager) / 925-756-1920		

Figure 14-1: Boundary/SOI Map – Delta Diablo



14.2: DISTRICT BOUNDARY & SOI

DD was formed in 1955 (originally County Sanitation District 7A). DD is a dependent special district established under Health and Safety Code Section 4700 governed by a three-member Board of Directors. DD provides wastewater services for over 218,000 customers in the cities of Antioch and Pittsburg, as well as the unincorporated Bay Point community in east Contra Costa County. These services include wastewater collection, conveyance, and treatment; recycled water production and distribution; renewable energy production; beneficial biosolids reuse; pretreatment and pollution prevention; street sweeping; and household hazardous waste collection. The district's Sphere of Influence (SOI) was modified (reduced) in 2014 as part of LAFCO's 2014 MSR/SOI Update for Wastewater Services. The SOI was reduced to remove four areas designated as permanent open spaces near the City of Antioch. DD is governed by a three-member Board of Directors: one member is appointed by the City of Antioch, one member is appointed by the City of Pittsburg, and one member is appointed by the Contra Costa County Board of Supervisors (5th District) (LAFCO, 2014). The Board meets on the 2nd Wednesday of each month at 4:30 PM. The DD Agency Profile is included in Table 14-1 (previous page). A geographic summary of the acreage within the boundary and SOI is shown below in Table 14-2. DD contains a total of 60,929 Assessor Parcels, as shown in Table 14-3 below.

Table 14-2: Geographic Summary (2024) of Delta Diablo

	Boundary Area *(all Services except HHW)*	**SOI** *(all Services except HHW)*	**Total Boundary & SOI**
Total Acres	67,957	2,054	70,011
Square Miles	106.18	3.21	109.39
Number of Assessor Parcels	61,249	89	61,338

Source:
(1): *County of Contra Costa GIS Data, 2022*
(2): County of Contra Costa. (2022). Public Parcels. Retrieved on October 26, 2022 from: <*https://gis.cccounty.us/Downloads/Assessor/*>.

Table 14-3: Number of APNs in Delta Diablo Zones

Area	**# of Assessor Parcels**
Zone 1	6,014
Zone 2 (Pittsburg)	20,050
Zone 3 (Antioch)	34,865
Total	**60,929**

Data Source:
(1): County GIS data shared via .png files
(2): County of Contra Costa. (2022). *Public Parcels*. Retrieved on October 26, 2022 from: <*https://gis.cccounty.us/Downloads/Assessor/*>.

LAFCO's previous MSR (2014) noted that in July 2009, an SOI expansion included 3,161 acres (including areas within Pittsburg's ULL). Additionally, LAFCO's previous MSR (2014) briefly noted plans to annex properties currently served by DD, but outside the DD boundary. Specifically, the Mirant Power Plant Reorganization (2008) and the Northeast Area Reorganization Annexation (2010) included annexation of properties formerly receiving service outside District boundaries. The City of Antioch submitted three Northeast Antioch Reorganization proposals to CC LAFCO; two have been approved (Areas 1 and 2B), and the third area (Area 2A) was considered by the Commission in March 2014 and was terminated.

More recently, LAFCO approved Application #23-08, Annexation to DD for Loreto Bay Estates located on a 2.88± acre site at the northeast corner of Pullman Avenue and Fairview Avenue, Bay Point, Contra Costa County (APN 096-050-016). The Contra Costa County Planning Commission approved a tentative subdivision map to subdivide the 2.88± acre project site into 15 residential lots and four common area parcels for bioretention basins and a park.

Over the years, there have been numerous annexations to DD, including Bay Point Regional Shoreline and Mirant Power Plant (2017), Montreux Subdivision (2016), and Northeast Antioch (2012).

Regional Plans

San Francisco Bay Land Use: The Bay Area Regional Collaborative includes the Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), San Francisco Bay Conservation and Development Commission (BCDC), and Bay Area Air Quality Management District. This collaborative multi-agency regional committee allows for cross-jurisdictional work on projects such as Resilient Bay Area and Carbon Free Future. Part of DD's boundary/SOI is adjacent to or encompasses a portion of the San Francisco Bay, which is a sensitive environmental resource. The California state planning and regulatory agency, which has regional authority over San Francisco Bay, the Bay's shoreline band, and the Suisun Marsh, is called the San Francisco Bay Conservation and Development Commission (BCDC). Its mission is to protect and enhance San Francisco Bay and to encourage the Bay's responsible and productive use for this and future generations. BCDC ensures projects are compatible with the conservation of Bay resources as described on its website at: <*https://bcdc.ca.gov/*>.

Sacramento/San Joaquin Delta: Portions of DD's boundary and SOI near Pittsburg and Antioch are within the Sacramento/San Joaquin Delta Estuary watershed (Delta), specifically within the "Secondary Zone." The Delta is a large inland river delta geographically connected to the San Francisco Bay Estuary and home to several rare and endangered fish species. The Delta is also designated a National Heritage Area. The Secondary Zone is within the "Legal Delta" and is described by various state laws and planning documents (DPC, 2010 and DSC, 2013). For local government planners and administrators, there are three key Delta planning documents listed below:

- The Delta Plan, by the Delta Stewardship Council (DSC). 2013 as updated through 2024.
- Land Use and Resource Management Plan for the Primary Zone of the Delta by the Delta Protection Commission (DPC). February 25, 2010.
- Socioeconomic Indicators Report: The Sacramento-San Joaquin Delta by Visser, M.A.; Brinkley, C.; Zlotnicki, J. in 2018.

DPC's Land Use and Resource Management Plan recognizes that urbanization and other development projects within the secondary zone have the potential to impact the Primary Zone of the Delta (DPC, 2010). These planning documents are important because the district's discharge of treated wastewater to the San Joaquin River has the potential to influence water quality and endangered species within the Delta. A detailed population analysis of the Delta area, including the Legal Delta Secondary Zone, has been prepared by state agencies (Visser et al., 2018). Readers are encouraged to review this information directly on the state website (as updates are expected soon) as follows:

- Delta Stewardship Council (DSC). 2013 as updated through 2024. The Delta Plan. Available online at: <*https://www.deltacouncil.ca.gov/delta-plan/* >.
- Delta Protection Commission (DPC). February 25, 2010. Land Use and Resource Management Plan for the Primary Zone of the Delta. 42-pages. Retrieved on April 8, 2024 from <*https://delta.ca.gov/wp-content/uploads/2019/12/Land-Use-and-Resource-Management-Plan-2.25.10_-m508.pdf* >.
- Visser, M.A.; Brinkley, C.; Zlotnicki, J. (2018) *Socioeconomic Indicators Report: The Sacramento-San Joaquin Delta*. Sacramento, CA: The Delta Protection Commission. 46-pages. Available online at: <*https://delta.ca.gov/wp-content/uploads/2020/09/Delta-Socio-Economic-Indicators-Report-508.pdf*>.

14.3: WASTEWATER OPERATIONS

DD's wastewater service includes collection and conveyance to its Wastewater Treatment Plant (WWTP), wastewater treatment, and disposal. DD provides wastewater conveyance and treatment services to approximately 72,066 sewer service connections (total), including 2,403 commercial, 400 industrial, and 185 institutional. The remainder is residential (personal communications, T. Vo and team, 2024). One DD connection may serve many individual customers. DD only provides wastewater collections services to the unincorporated area of Bay Point, where DD owns and maintains the sewer collection system. The cities of Antioch and Pittsburg own and maintain their own sewer collection systems.

DD serves a 54-square-mile area, including the cities of Antioch and Pittsburg and a portion of the unincorporated area of Bay Point. DD operates a WWTP with a National Pollutant Discharge Elimination System (NPDES) permitted average dry weather flow capacity of 19.5 million gallons per day (MGD) (DD, NPDES Permit), five pump stations, and a collection and conveyance system of 75.5 miles of sewer pipeline (DD, ACFP 2023). Through 72,066 sewer connections, over 201,000 (in 2020)

residential and business customers[1] receive service. DD also provides household hazardous waste collection, recycled water, and street sweeping to a portion of the service area. Treated wastewater is either recycled or discharged through a deep-water outfall to New York Slough (within the Sacramento Delta).

In 2023, DD collected 5,216 million gallons of wastewater (2023 Flows). The DD collection and treatment system includes the following components:

- Wastewater Collection: The District owns, operates, and maintains 43 miles of collection system sewer lines in the Bay Point community. The cities of Antioch and Pittsburg own and operate approximately 130 miles and 300 miles, respectively, of their own satellite systems that feed into DD. Portions of the collection system were constructed in the 1970s and earlier, making aging infrastructure one of the challenges DD faces. Please refer to the Capital Improvement Program described on page 14-19 for additional details.
- Wastewater Conveyance: DD owns, operates, and maintains 14 miles of gravity sewer interceptors (12- to 42-inch diameter), 18.5 miles of force mains (4- to 24-inch diameter), flow equalization/diversion facilities, and five wastewater pumping stations. Five equalization storage facilities provide four million gallons (MG) of storage. The majority of the system was constructed in the late 1970s and early 1980s.
- Wastewater Treatment: The WWTP was placed in service in 1982. DD's WWTP has a permitted average dry weather flow (ADWF) capacity of 19.5 MGD and a peak wet weather design flow capacity of 31.1 MGD. In 2023, the annual average daily flow at the WWTP was 14.3 MGD, with a maximum wet weather daily flow of 28.0 MGD. Flows vary annually, depending on weather and other variables.
- Recycled Water: The District's Recycled Water Facility (RWF) began operation in 2001 and has a permitted capacity of 12.8 MGD with 2023 annual average daily flow and maximum daily flows of 6.5 MGD and 12.3 MGD, respectively (personal communications, Amanda Roa, et al., 2024).

WWTP

The DD WWTP originally opened on May 13, 1982. The WWTP is located north of Pittsburg-Antioch Highway, just east of Pittsburg City limits. The WWTP has a 54-square-mile service area with a 2023 average annual wastewater flow of 14.3 MGD and an average dry weather flow (ADWF) of 13.5 MGD (2023 Flows). The conventional treatment process consists of screening, grit removal, primary clarification, biological treatment by trickling towers and aeration basins, secondary clarification, chlorination, and de-chlorination. The DD WWTP has an average dry weather flow permitted capacity of 19.5 MGD, equating to 7,117.5 million gallons in a year. Treatment infrastructure also includes a 2.2 MG flow equalization basin, a 14.9 MG emergency retention basin, and a 1.0 MG emergency storage basin. Treated wastewater is either recycled or discharged through a deep-water outfall to New York Slough (within the Sacramento/San Joaquin Delta).

[1] Population does not necessarily equal residential and commercial customers, since some commercial customers may live outside the service area.

The WWTP's solids are anaerobically digested, centrifuged, and beneficially reused as fertilizer, primarily through land application (Pittsburg, Housing Element, 2023). Additionally, the district generates 54% of the WWTP's electricity demand by fueling the district's 800-kW cogeneration (cogen) engine with biogas produced from anaerobic digestion. Benefits of the district's biosolids reuse program include reducing waste, producing renewable energy, and supporting sustainable agriculture (Delta Diablo, 2022).

Projected Future Demand for Services

The WWTP serves the cities of Pittsburg and Antioch and the unincorporated Bay Point community. Therefore, it is important to consider future potential growth in all three communities[2]. Pittsburg and Antioch have a combined RHNA (6th Cycle) of 5,068. Like many other wastewater districts, DD uses an average wastewater flow of 200 gallons per day (gpd) per residential connection to estimate wastewater flows. Future flows to the WWTP are expected to increase by 1.01 MGD (5,068 x 200 gpd / 1,000,000). The 1.01 MGD increase is within the remaining capacity of the WWTP, approximately 5 MGD for average dry weather flows (Pittsburg, Housing Element, 2023). Please note that this calculated remaining capacity is based on average dry weather flow and does not consider peak wastewater flows. During rainy periods, peak flows increase, and the ability (capacity) of the WWTP to accommodate peak flows is an important factor. The DD Resource Recovery Facility 2022 Master Plan includes phased treatment plant expansion to increase the plant's solid loading capacity beyond the current capacity of 58,000 lbs BOD/day in order to accommodate the anticipated General Plan buildout for the communities of Pittsburg, Antioch, and unincorporated Bay Point (Pittsburg, Housing Element, 2023). The Master Plan[3] projects that the current solids loading capacity will be exceeded sometime between 2030 and 2037.

Sanitary Sewer Management Plan

DD adopted its Sanitary Sewer Management Plan (SSMP) in 2018 and updated it in 2021. The SSMP outlines the goals, organization, and regulatory requirements for the sanitary sewer system. The SSMP describes how DD plans, operates, and maintains its sanitary sewer system to reliably convey flows, reduce sanitary sewer overflows, and mitigate the impact of overflows. It also includes procedures for responding to sewer backups and managing risks associated with the system.

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[2] The 2007 CC LAFCO MSR and the 2014 CC LAFCO MSR identified an issue regarding DD plans to accommodate increased growth (e.g., pending reorganization proposals, including Northeast Antioch). At that time (2014) DD had wastewater conveyance and treatment facilities planned and under construction to increase system capacity. DD collected Capital Facilities Capacity Charges (CFCCs) to build capacity as it is consumed by new connections. The Conveyance and Treatment Plant Master Plans utilized City planning data for the communities in the DD service area.

[33] The District's BOD load capacity is 58,000 lbs/day. That translates into different equivalent flow (ADWF) depending on the assumed concentration of the wastewater (see Table 3-7 in the Master Plan). The Plan assumes a concentration of 376 mg/L BOD, equivalent to 18.4 MGD. See the Master Plan for a more in-depth discussion of the decoupling of flows and solids loading.

Recycled Water

DD's recycled water facility (RWF) began operations in 2001. DD's Recycled Water program currently produces approximately 6.5 MGD of recycled water on average (DD, 2023 Flows). The recycled water facility is permitted to produce 12.8 MGD of recycled water. Prior to disinfection and according to demand, secondary effluent is diverted from the WWTP to the RWF, where it undergoes treatment through flocculating clarifiers, tertiary filtration, and disinfection prior to distribution for cooling tower make up water at two local Calpine power plants (~93% of the water) or landscape irrigation and other uses within the community. The portion of the recycled water that is used in the power plant cooling towers (blowdown) is returned to the WWTP and combined with secondary effluent just upstream of the disinfection process (personal communications, T. Vo, et. al., 2024) and discharged to New York Slough through DD's outfall.

The majority of the recycled water is distributed to two Calpine power plants, Delta Energy Center (DEC) and Los Medanos Energy Center (LMEC), collectively Energy Centers (Delta Diablo, 2022). DD also sends recycled water to the cities of Pittsburg and Antioch for irrigation of public parks, median landscapes, and a golf course (LAFCO, 2014). DD coordinates with both cities, and the cities contribute funding to pay for recycled water facilities within their boundaries. The cities maintain agreements with the Contra Costa Water District (CCWD) and DD for water and recycled water, respectively.

DD is developing a new recycled water master plan to assess capital improvements needed to keep the RWF running for another 25 years and reassess the market for new customer uses for recycled water. The master plan is scheduled to be complete in 2025.

Resource Recovery Facility 2022 Master Plan

The DD Resource Recovery Facility 2022 Master Plan outlines the DD's wastewater treatment and resource recovery services, including biosolids reuse, recycled water production, and renewable energy generation. The Plan covers a 20-year planning horizon from 2020 to 2040 and includes 10 major tasks. The plan is organized into six focus areas: planning and regulatory, infrastructure renewal and compliance vulnerability, nutrient management, advanced treatment, biosolids reuse and renewable energy, recycled water management, and energy management. The Master Plan includes a capacity analysis, process modeling, and nutrient removal alternatives to optimize the DD's wastewater treatment and resource recovery services (Delta Diablo, 2022).

Antioch's Brackish Water Desalination Facility

The City of Antioch has favorable water rights to the Sacramento/San Joaquin Delta. However, the Delta experiences high salinity and total dissolved solids (TDS) during certain time periods (i.e., summer). This means Antioch cannot utilize Delta water year-round. To mitigate this issue, the City applied for grants and loans to design and construct a brackish water desalination facility that utilizes a reverse osmosis process that removes the TDS, allowing them to take water year-round. The $110 million project is nearing completion. As part of that process, Antioch's desalination facility will generate a reverse osmosis (RO) concentrate that will be conveyed to the DD WWTP for disposal

through DD's existing outfall. DD and Antioch have entered into an agreement to allow for the acceptance of the RO concentrate and recovery of all costs associated with operating and maintaining the RO concentrate discharge facilities and use of DD's outfall.

Local Hazards

The Contra Costa County Hazard Mitigation Plan (HMP) Volume 2, dated January 2018, maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards (Contra Costa County, 2018). The Mitigation plan notes that a small portion of the district's service area is located in a hazardous flooding zone, including the treatment plant (Contra Costa County, 2018). In addition, it states that a flooding event could potentially overwhelm the collection system and impact service for an extended period (Contra Costa County, 2018). DD is also at high risk during an earthquake event. It is recommended that DD integrate the results of the Contra Costa HMP into its future planning efforts with the aim of reducing the risks from floods and earthquakes.

Sanitary Sewer Overflow Database

The State Water Board maintains a Sanitary Sewer Overflows (SSO) database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. Order No. 2022-0103-DWQ (SSS WDRs), on December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements.

A time period of 3.5 years, from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. The results of the database queries regarding DD are listed below in Table 14-4 (next page). During this 3.5-year timeframe, there were two Sanitary Sewer Overflow events in DD (District). The overflows were relatively small, and the spill material was fully recovered for the larger spill event. The larger spill within the query results took place on November 26, 2019, with a volume of 60 gallons. This sewage spill was fully recovered, and none of the material reached surface water. The spill reached a paved surface and was caused due to an Air Relief Valve (ARV) and Blow-Off Valve (BOV) failure. The other spill took place on December 14, 2021, with a volume of 15 gallons. The spill was caused by corrosion at the flange that supports the ARV, but it did not reach surface water. None of the spill material was recovered.

During July to October 2022, San Francisco Bay experienced a harmful algal bloom (HAB) known as a red tide, as described in Appendix F. The species associated with this bloom, *Heterosigma akashiwo,* can cause water to turn reddish-brown. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay, and into San Pablo Bay. Fish deaths linked to the red tide

Table 14-4: Delta Diablo Sanitary Sewer Overflows

EVENT ID	Region	Responsible Agency	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
863739	2	DD	Delta Diablo SD	Category 3	11/26/2019	60	60	0	Air Relief Valve (ARV)/Blow-Off Valve (BOV)	2SSO10127
878812	2	DD	Delta Diablo SD	Category 3	12/14/2021	15	0	0	Flange supporting the ARV	2SSO10127
Data Source: CIQWS Sanitary Sewer Overflow Database										

Figure 14-2: Google Maps Street View of the Delta Diablo Plant Operations Center

were reported to include sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San Francisco Bay Water Board is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other agencies to study the potential impacts of nutrients on San Francisco Bay. DD has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater Districts and the Water Board.

Future Challenges: Many wastewater service providers in California may face challenges in the future. DD, in particular, faces challenges related to: 1) aging infrastructure, 2) more stringent regulatory requirements, 3) workforce development, and 4) the cost of infrastructure to provide adequate nutrient management. For example, the RWQCB is expected to implement interim SF Bay-wide and individual WWTP effluent limits related to nutrients. This includes aggressive, long-term SF Bay-wide nutrient limits based on current scientific information with a multi-year compliance schedule. Effluent limits requiring nutrient reductions will require physical infrastructure along with the associated financing for the infrastructure cost. DD staff are working to address these challenges through participation in regional industry efforts (Bay Area Clean Water Agencies). DD staff attends meetings with RWQCB and other stakeholders to negotiate alternative options, such as a phased approach that would allow additional time to fund improvements.

The American Society of Civil Engineers, Region 9 (2019) has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

1. Implement an education program at the state and local level about what a wastewater treatment plant is, what kind of wastes it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water reuse/recycling.

Cooperative Programs

DD has several ongoing efforts to develop sustainable resource management approaches. The DD's mission focuses on seeking and developing regional solutions to challenges by collaborating with the community and industry. DD has engaged in the following groups and projects that promote the development of long-term sustainable resources and further DD's commitment to progressive environmental stewardship:

- Western Recycled Water Coalition – Formerly known as the Bay Area Recycled Water Coalition, the Western Recycled Water Coalition (WRWC) has successfully sought federal legislation to fund recycled water projects, resulting in over $38 million in federal funding to date. Currently, 18 WRWC member agencies are seeking to implement recycled projects to reduce the pumping of fresh water from the Delta and local sources, providing sustainable, drought-resistant water supplies for industrial, agricultural, and municipal uses. The District

has served as the lead agency for WRWC since its inception.

- Bay Area Biosolids Coalition – The Bay Area Biosolids Coalition (BABC) was formed to develop sustainable biosolids management alternatives for Bay Area agencies. DD actively participates in monthly strategic planning workshops and steering committee meetings to guide alternatives evaluation, investigate potential site locations, and support research and product market assessments that highlight the environmental benefits of biosolids.
- Regional Wipes Campaign – The district led a public outreach campaign with five East Contra Costa County public wastewater processing agencies (Byron Sanitary District, City of Brentwood, Delta Diablo, Ironhouse Sanitary District, and the Town of Discovery Bay) focused on creating an engaging and informative campaign to alert customers to the issues that wastewater agencies face when items labelled "flushable" are disposed of in toilets. The campaign helps customers understand how personal hygiene and household cleaning/disinfecting wipes marked "flushable" or "flush friendly" are often not readily biodegradable. Titled "No Wipes in the Pipes," a range of communication tools, targeted messaging, and media outlets are being used to show how disposing of wipes in toilets can clog collection system pipes and equipment, resulting in sanitary sewer overflows or expensive repairs to equipment at their local treatment plant (personal communication, A. Roa, 2024).

The District's commitment to regional partnerships and environmental stewardship is further demonstrated through its Household Hazardous Waste (HHW) program[4]. Since 1995, the district has been working closely with the cities of Antioch, Brentwood, and Pittsburg, Ironhouse Sanitary District, and Contra Costa County to serve the household hazardous waste (HHW) needs of East Contra Costa County. The District entered into a contract with the aforementioned jurisdictions to provide HHW services for the community and has been managing the HHW program since 1996. The contract was amended in 2011 to remove the Ironhouse Sanitary District and include the City of Oakley (personal communication, A. Roa, 2024).

DD was recognized for outstanding industry leadership and a progressive commitment to innovation and advancing resource efficiency and recovery with the prestigious "Utility of the Future Today"

[4] In 2003, DD constructed the Delta Household Hazardous Waste Collection Facility (DHHWCF) which was partially funded through a regional HHW grant from CalRecycle. The DHHWCF is open three days per week (Mondays, Fridays and Saturdays) from 9:00 a.m. to 4:00 p.m. and serves both residents and small businesses in the area. The existing HHW program consists of the DHHWCF and the management of three temporary collection events per fiscal year in areas furthest away from the permanent facility.

The purpose of the HHW Program is to prevent hazardous pollutants from reaching waterways, landfills, and the wastewater system in support of the district's Pollution Prevention Program, and meeting state and federal solid waste requirements for our HHW partners. Use of the district's DHHWCF is free of charge for residents and small businesses in East Contra Costa County (Antioch, Bay Point, Bethel Island, Brentwood, Byron, Discovery Bay, Knightsen, Oakley, and Pittsburg). This facility accepts medications, used oil and filters, antifreeze, paints and stains, batteries, fluorescent and high-intensity lamps, cosmetics, pesticides, pool chemicals, household cleaners, cooking oils and grease, and electronic waste.

national industry association award received at the 2019 and 2018 Water Environment Federation (WEF) annual conferences. This utility recognition program recognizes the achievements of innovative water utilities that provide resilient, value-added community services with a focus on community engagement, watershed stewardship, and recovery of resources such as water, energy, and nutrients. The National Association of Clean Water Agencies sponsors this award.

LAFCO's 2014 MSR noted that DD initiated several cooperative programs that served to contain costs and promote collaboration. For example, in 2007-2008, DD served as the lead agency in obtaining funding and facilitating a group of East County cities, water and wastewater agencies, and active power companies to explore the potential for sharing facilities, pooling recycled water, and using existing infrastructure to distribute recycled water to prospective power plant sites. In 2012, DD launched a comprehensive recycled water master planning effort that engaged the cities of Antioch and Pittsburg, local power companies, and local industries to project future recycled water demands and evaluate how best DD can optimize facilities to meet those demands. In 2008, DD entered into a Memorandum of Agreement with eight Bay Area agencies (since expanded to 18 agencies) to secure federal funding for recycled water projects. DD also participates in the Bay Area Biosolids Coalition (BABC), a group of cities and wastewater agencies exploring the potential of converting biosolids into energy commodities.

DD hosts periodic coordination meetings with Contra Costa County and the cities of Antioch and Pittsburg regarding permitting and development and other coordination matters. One aspect of this coordination is the exchange of utility GIS information, including location data for sewer, water, recycled water, and stormwater systems. The local stormwater systems, managed by the Contra Costa Flood Control and Water Conservation District and Antioch and Pittsburg, respectively, are separate from the cities' and DD's sewer systems, i.e., not combined systems. However, DD's Environmental Compliance division provides stormwater inspections by contract through the Contra Costa Clean Water Program.

Cost Avoidance Opportunities

DD utilizes cost-avoidance strategies to address increased costs for personnel, contract services, and chemicals, as was also noted in LAFCO's 2014 MSR. DD uses a multi-year rate model to project costs and revenue requirements, including cost of living increases. Other cost containment strategies include operational changes to reduce chemical use, implementation of energy-efficient initiatives, including a new solar energy project, and strategic use of contractual services for peak workloads and specialized services. The sale of recycled water generates some revenues to offset costs and reduce the discharge volume through the treatment plant outfall.

DD also participates in multiple cost-sharing programs, as was also documented in LAFCO's 2014 MSR. DD manages the Delta Household Hazardous Waste Collection Facility, a joint project of the County, the cities of Pittsburg, Antioch, and Oakley, and DD. Additionally, DD provides street sweeping services within its service area.

14.4: DISTRICT FINANCIAL OVERVIEW

DD operates as an enterprise-type activity, with its primary revenue source being sewer service charges (SSCs) and permits (CFCCs). The District charges rates and fees to users to cover the costs of operations and capital improvements. Economic factors that may affect the district include:

- The economic cycle, which impacts Capital Facility Capacity Charges (CFCCs) as new development projects are highly sensitive to the economic cycle;
- Interest rate and/or investment return, which directly impact investment earnings, borrowing costs, and pension and Other Post-Employment Benefits (OPEB) Trust Fund contribution rates;
- Consumer price index (CPI), which is a measure of inflation. San Francisco/Bay Area Wage earners directly impacts Costs of Living Adjustments (COLAs) provided in the employee Memorandum of Understanding (MOUs) and costs for supplies and expenses;
- Crude oil prices impact the energy market for electricity and gas prices and the chemicals used for wastewater treatment. The District's chemical and utility expenses ranged from $4.2 million to $3.1. Million in the three-year period ending FY 2021-22; and

The District produces an Annual Comprehensive Financial Report (ACFR) each fiscal year in accordance with Generally Accepted Accounting Principles (GAAP). In addition, the district's finances are the subject of annual independent financial audits. The ACFRs for FY's 2018-19, 2019-20, 2020-21, and 2021-22, as well as the budget for FY 2022-23, were the primary sources of information for data related to the financial health of the district (DD, 2019b; 2020; 2021; 2022b; 2022c). These reports are posted on the district's website at: *https://www.deltadiablo.org/financial-information*. The financial analysis presented in this Chapter represents a snapshot in time (i.e. a limited time period). However, DD regularly updates its financial data, and readers may review the new data on its website.

Please note that recently, the Government Finance Officers Association (GFOA) awarded DD the Distinguished Budget Presentation Award for Fiscal Year 2023-24 and the Certificate of Recognition for Budget Preparation for FY 2023-24. GFOA's Distinguished Budget Presentation Award Program (Budget Award Program) is the highest form of recognition in governmental budgeting.

Five primary criteria were utilized to assess the present and future financial condition of DD's wastewater service operations, as discussed below:

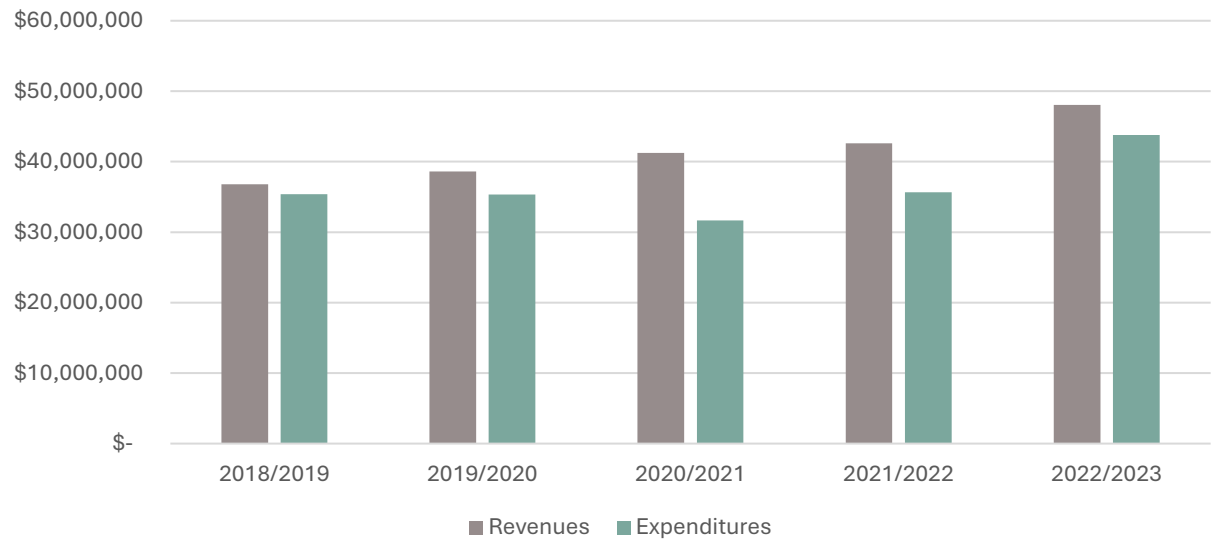
5 Year Revenue/Expenditure Budget Trends

The 2007 CC LAFCO MSR and the 2014 CC LAFCO MSR identified an issue regarding DD Net operating expenses vs. net operating revenues. During the timeframe 2007 to 2014, DD experienced net operating expenses exceeding net operating revenues. This was the result of planned, systematic drawdown of operating revenues over time to meet DD's policy target of 40 percent of annual

operating revenue. At the time, DD used a multi-year rate model to project revenue requirements (LAFCO, 2014). Since then, regular rate adjustments were implemented to ensure sufficient revenues to fund ongoing operations and capital requirements while maintaining prudent levels of reserves. The District has financial policies and best practices that set forth guidelines to maintain accountability and control over operating revenue and expenses, ensure proper appropriation of reserves and restricted funds, and proactively address the rising costs of pension and other post-employment benefits.

DD has revenues exceeding expenditures for all of the fiscal years studied, as shown in Figure 14-3 below. This key performance measure indicates that DD is solvent and has the capacity to cover its costs. DD has been experiencing balanced budgets with annual surpluses overall. Expenditures have fluctuated, with decreases from FY 2018-19 to FY 2020-21 and increases from FY 2020-21 through FY 2022-23. Revenues have slowly increased over the five years studied, as shown in Figure 14-3 below. The majority of revenue comes from wastewater service charges at approximately $41.45 million in FY 2021-22, with all other revenue making up approximately $1.14 million.

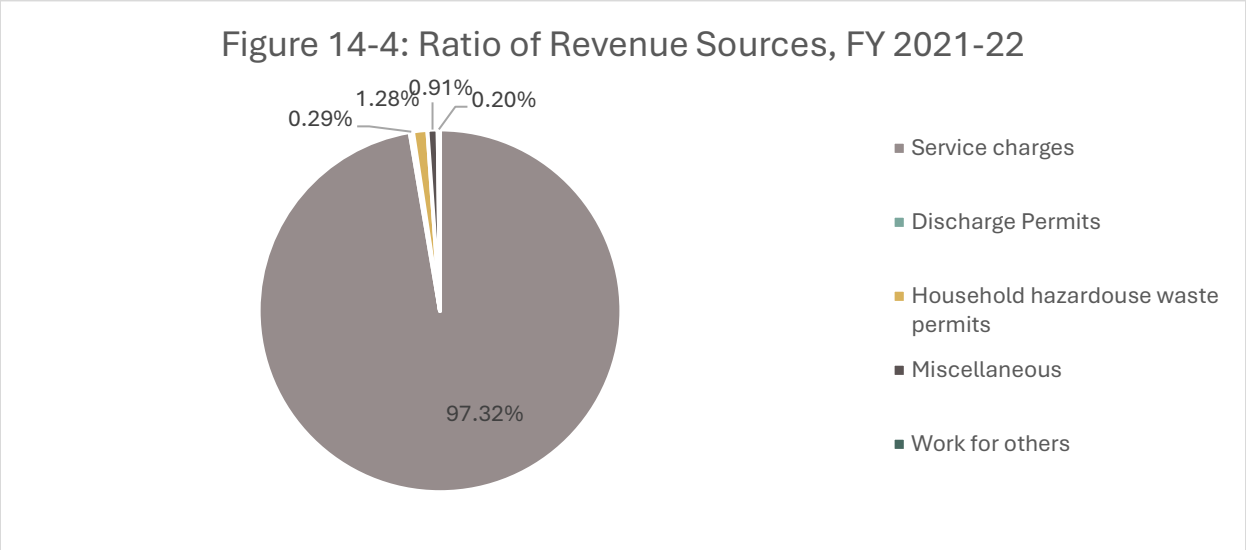
Figure 14-3: Operating Revenues Compared to Expenditures



The adopted total operating and capital budget for FY 2021-22 was $43.6 million compared to $47.1 million for FY 2020-21. SSCs increased by 6.5 percent and 5.9 percent for customers in Pittsburg/Antioch and Bay Point, respectively, in FY 2021-22, compared to 3.5 percent for Pittsburg/Antioch and 3.0 percent for Bay Point the previous year due to updated capital planning needs and implementation of 2022 Cost of Service Study findings. The District began proposing and adopting a single-year budget in FY 2018-19 instead of the previous approach of proposing a three-year operating budget and planning cycle. The District's intent is to transition to a budget cycle that better aligns the rate-setting and capital improvement program development process (Delta Diablo, 2022c).

Ratios of Revenue Sources

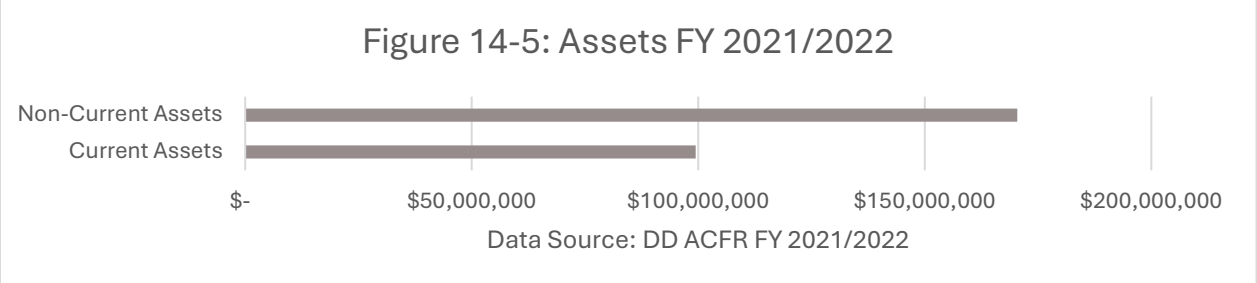
In FY 2021-22, DD received approximately 97.3 percent of its revenues from service charges and the remaining 2.7 percent from discharge permits, household hazardous waste permits, work for others, and miscellaneous, as shown in Figure 14-4 below. This ratio reflects an appropriate balance for a typical enterprise-type service and minimizes the impact that negative economic factors could have on more elastic revenues.



Service charges made up approximately $41.5 million, with the next highest revenue source being contributions to the household hazardous waste program at approximately $544,000.

Ratio of Reserves or Fund Balance to Annual Expenditures

Figure 14-5 below shows the total assets for wastewater operations by current assets and noncurrent assets for FY 2021-22. An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures.



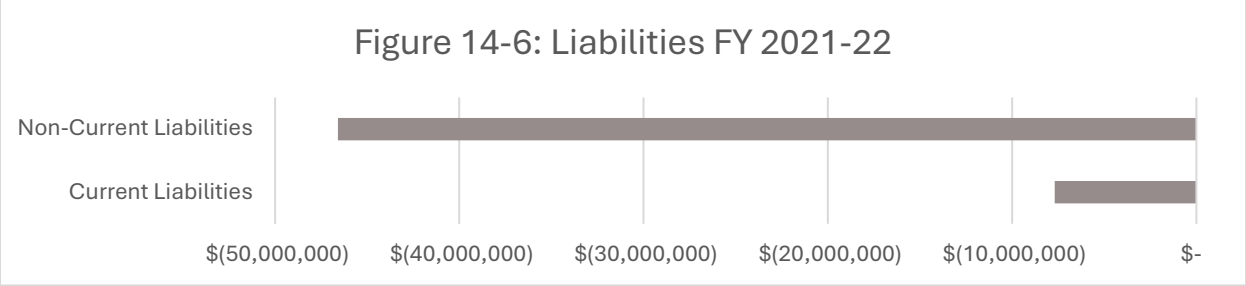
DD's most recent audit, completed in FY 2021-22, shows an unrestricted net position of $75,447,219. Operating expenses for the same fiscal year were $35,649,486 (DD, 2022c). This

equates to a ratio of 212 percent.

According to the ACFR for FY 2021-22, the district has two types of reserves: economic reserves and advanced treatment reserves. Economic reserves are essential to the district's operating requirements and ensure the continued ability to provide services during budget shortfalls or unforeseen circumstances. This reserve aims to provide adequate funding to mitigate overall rate volatility resulting from economic changes or events that significantly decrease the district's revenues or increase the district's operating costs. The District continues to modify its original approach to collecting revenues for the Advanced Treatment Fund, which was proactively established in 2011 to avoid sharp rate increases to customers due to the implementation of nutrient removal upgrades at the district's WWTP. The District has successfully collaborated with regulators, the scientific community, and other Bay Area Clean Water Agencies members to focus on nutrient impact analyses and water quality modeling in San Francisco Bay rather than the future imposition of regional nutrient removal permit limits. The outcome of this effort is an approximate 15-year extension in the implementation timeline. Based on this new information and extended timeline for use of these funds, staff continued to suspend collection of the Advanced Treatment Fund Sewer Service Changes (SSC) component for FY 2020-21 (DD, 2022b).

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. Specifically, DD has several types of liabilities related to wastewater services, including accounts payable, accrued payroll and benefits, deposits payable, unearned revenue, compensated absences, lease liability, long-term debt, state revolving fund loans, California energy commission loans, net pension liability, net OPEB liability, and installment sales agreement. Figure 14-6 shows the total liabilities for DD organized by current liabilities and noncurrent liabilities for FY 2021-22.



The ratio of annual debt service to total fund annual expenditures is an indicator of DD's ability to meet debt obligations in relation to service provision expenditures. Ideally, a ratio of 10 percent or less would reflect a very stable ratio. In FY 2022, DD's annual debt service[5] was $1,668,250. DD's

[5] Annual debt service included $1,178,878 (principal) and $ 489,372 (interest) in FY 2022 (Source DD ACFR, 2021).

annual debt service ratio for current liabilities to total expenditures is approximately 3.8 percent[6] for FY 2021-22 (DD, 2022b). This is lower than the ten percent metric, suggesting DD will likely be able to continue meeting its debt obligations concerning service provision expenditures.

For FY 2022-23, the district's budget included approximately $1.3 million in debt service expenses allocated as follows: $150,190 capital asset fund, $763,169 capital asset replacement fund, $127,632 wastewater expansion fund, and $281,545 Bay Point collections fund. According to the FY 2022-23 budget, the debt service coverage ratio for the district was significantly lower before FY 2017-18. This is because the DD Integrated Finance Corporation (IFC) 1991 Certificates of Participation expired in FY 2016-17, which caused a reduction in the district's annual debt service.

The most updated debt service coverage ratio was presented to the district's Integrated Financing Corporation (IFC) in January 2024: <*https://www.deltadiablo.org/files/f1e248b20/G2.+IFC+Debt+Financing+Presentation+011024.pdf* >. Table 14-5 below shows the district's Debt Service Coverage Ratio based on the audited financial statements (ACFR) for the past few fiscal years.

Table 14-5: Delta Diablo Debt Service Coverage Ratio

	FY22/23	**FY21/22**	**FY20/21**
Debt Service (Principal/Interest)	1,641,367	1,688,249	1,494,499
Operating Net Income	9,057,489	6,942,380	9,522,580
Debt Service Coverage to "Revenue" Ratio	**5.52**	**4.11**	**6.37**

The District currently has a solid financial position as the debt service to "revenue" coverage ratio indicates the district has sufficient cash flows to pay debt obligations. The current ratio of 5.52 means that DD has 5.52 times enough net revenue to cover its debt service. Additionally, the district is making significant efforts to increase reserves to fund anticipated future major capital projects (personal communications, A. Lyons et al., 2024). The District anticipates annual debt service requirements to continue to increase, with peak costs occurring from FY 2027-28 through FY 2031-32. Table 14-6 below shows all principal, interest, and annual debt service payments by fiscal year to FY 2052-53 for all existing debt (DD, 2022c).

[6] Expenditures were $43,767,987 for FY 2022. This calculates as $43,767,987/ $ 1,668,250 equals 0.03811.

Table 14-6: Debt Service Requirements

Fiscal Year	Principal	Interest	Total
22/23	$1,200,022	$441,345	$1,641,367
23/24	1,516,006	748,696	2,264,702
24/25	1,547,249	610,588	2,157,837
25/26	1,579,477	582,047	2,161,524
26/27	1,612,734	552,567	2,165,301
27/28-31/32	7,930,190	2,289,269	10,219,459
32/33-36/37	5,204,081	1,620,043	6,824,124
37/38-41/42	5,368,140	1,125,037	6,493,177
42/43-46/47	5,702,761	593,115	6,295,876
47/48-51/52	2,912,724	182,930	3,095,654
52/53	443,943	4,774	448,717
Total Payments Due	**$35,017,327**	**$8,750,411**	**$43,767,738**

Capital Improvement Program

Infrastructure Needs: DD currently maintains various equipment, vehicles[7], infrastructure, and associated assets. DD has completed various master planning efforts, most recently the 2022 Resource Recovery Facility Master Plan (RRFMP), which identified a series of improvements required over the next 10 years. The DD's Board of Directors adopted the current Five-Year Capital Improvement Program (CIP) in June 2023. The CIP lists WWTP improvements, pump station upgrades, and other system improvements as described in the following paragraphs.

Table 14-7: Planning for Future Infrastructure

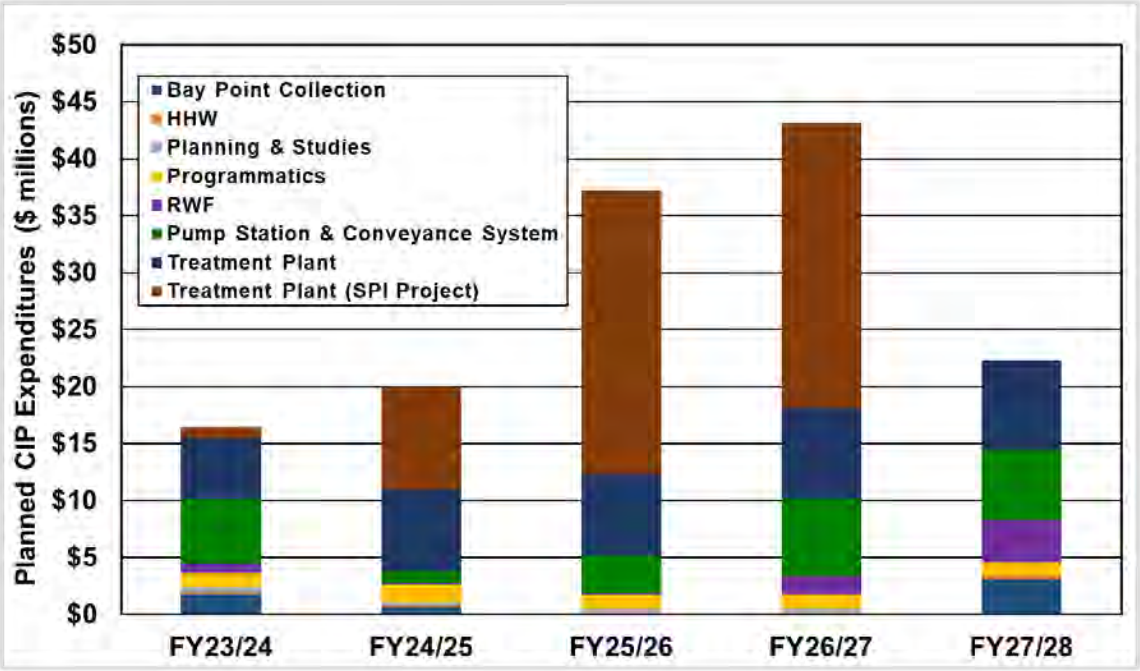
Description	**Cost ($M)**	**Schedule**
Electrical System Master Plan	0.3	FY 2025-26
Supervisory Control and Data Acquisition (SCADA) Master Plan	0.5	FY 2026-27
Biosolids Management Master Plan	0.4	FY 2024-25
Recycled Water Master Plan Update	0.3	FY 2023-24

Source: Delta Diablo,06/25/20. FY21-25 CIP Presentation, Retrieved on November 9, 2023, from <*https://www.deltadiablo.org/current-cip*>.

[7] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. DD staff has indicated that the district is subject to electric fleet requirements. Therefore, in the future, the district may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen and alternative fuel/energy for vehicles can sometimes be cheaper.

DD adopted its Five-Year CIP [8] covering FY 2023-24 – 2027-28 in June 2023. The CIP focuses on infrastructure and capital asset rehabilitation initiatives for wastewater and recycled water. The funding for the program comes from various sources, such as grants, loans, and revenue bonds. The CIP provides detailed information on the various projects, timelines, and budgets. The District's CIP is updated annually to reflect current priorities, address new project needs, and adjust estimated project costs and implementation schedules. The Planned Expenditures by Major Area of the CIP is shown below in Figure 14-7.

Figure 14-7: CIP Overview – Planned Expenditures by Major Area



The CIP describes several types of funds as listed below:

- Wastewater Capital Asset Fund
- Wastewater Capital Asset Replacement Fund
- Wastewater Capital Expansion Fund
- Advanced Treatment Fund
- Recycled Water Fund
- Bay Point Capital Asset Rehabilitation Fund
- (Source: Delta Diablo, CIP, 2019)

[8] LAFCO's previous MSR (2014) noted that several construction projects were completed: Bridgehead Pump Station expansion; WWTP expansion/improvements including updates to the secondary clarifier mechanisms and aeration rehabilitations; recycled water pipeline extensions in Antioch and Pittsburg; and digester rehabilitations (LAFCO, 2014). Other major projects expected to be completed soon after 2014 included the Triangle Pump Station rehabilitation and the Pittsburg Pump Station capacity improvements (LAFCO, 2014).

For example, the Wastewater Capital Expansion Fund is utilized to develop and construct wastewater collection, conveyance, and treatment facilities for future growth and expansion of the service area. The facilities are to be paid for from revenues and fees from new development in the various zones within the district boundary. In the past, the Fund has issued several offerings and refinancing of Certificates of Participation (COPs) to fund many of the improvements. The Fund pays the annual debt service associated with these items and serves as a financial plan to match revenues and appropriations so that necessary facilities and equipment match the growth projections within the service boundary of the district (Delta Diablo, CIP, 2019). Due to ageing infrastructure and pending regulations, the upcoming CIP costs could increase significantly in order to fund needed projects (personal communications, T. Vo and team, 2024).

The Bay Point Capital Asset Rehabilitation Program focuses on rehabilitating and replacing wastewater collection system facilities in Zone 1 (Bay Point). The program aims to improve the Bay Point community's infrastructure and enhance its residents' quality of life (Delta Diablo, CIP, 2019).

Rate Structure

DD collects SSCs from its customers as the primary revenue source to fund capital infrastructure improvements, labor, energy, and other operational expenses. As shown in Table 14-8, DD raised SSCs for FY 2021-22 by 6.5 percent (i.e., +$26.32 per year) for residential customers in Antioch and Pittsburg. Bay Point residential customers saw their charge increase by 5.9 percent (+$32.78). The increase in rates was properly noticed as required by Proposition 218, and a public hearing was held on June 9, 2021. A "Cost of Service Study" noted that fee adjustments were necessary to allow the district to continue to maintain effective and reliable wastewater conveyance and treatment. Residential customers receive their SSC bill on their annual property tax bill.

Table 14-8: DD Typical Annual Residential SSC on Property Tax Bill

Residential Service Customer	**FY20/21**	**FY21/22**	**Annual Change**
Antioch/Pittsburg	$403.10	$429.42	+$26.32
Bay Point	$556.47	$589.25	+$32.78

Data Source: Delta Diablo. FY 2021-22 Sewer Service Charges Prop 218 Notice. Retrieved from <*https://www.deltadiablo.org/financial-information* >.

Multi-unit residential customers (i.e., apartments, etc.) calculate their SSC by multiplying the per-unit charge by the number of total units.

Non-residential customers (i.e., commercial and industrial) pay their SSC based on their annual potable water consumption data (i.e., per one hundred cubic feet per year of potable water consumption), as shown in Table 14-9 below.

Table 14-9: Non-Residential User Charges, SSC ($) per Hundred Cubic Feet per Year

Business Class (Commercial/ Industrial)	Bay Point (Zone 1)		Pittsburg (Zone 2)		Antioch (Zone 3)	
	Current FY20/21	Proposed FY21/22	Current FY20/21	Proposed FY21/22	Current FY20/21	Proposed FY21/22
Bakeries/Restaurants	$9.47	$9.02	$8.01	$7.33	$7.94	$7.33
Hotels/Motels	-	$4.57*	$4.27	$4.57	$4.64	$4.57
Institutional	$6.52	$5.91	$4.89	$4.22	$4.85	$4.22
Light Industrial	$6.52	$5.71	$4.89	$4.02	$4.85	$4.02
Marinas	-	$6.03*	$6.30	$6.03	$6.34	$6.03
Misc. Commercial	$6.52	$5.91	$4.89	$4.22	$4.79	$4.22
Mortuaries	-	$5.83*	$5.53	$5.83	$5.55	$5.83
Annual Minimum	$556.47	varies**	$403.10	varies**	$403.10	varies**

Notes: * SSC per HCF/y for FY21/22 provided, although no businesses in these classes are known in Bay Point.
** Annual minimum charge is calculated by multiplying 80 HCF/y by the applicable SSC per HCF/y

14.5: POPULATION

There were approximately 201,000 residents within the district boundary as of 2020. This includes approximately 76,416 residents in Pittsburg, 115,291 in Antioch, and 9,293 in Bay Point. Note: DD provides a slightly higher population estimate on its ACFR 2022-23, as shown in Table 14-10 below. In the SOI, the current population is estimated to be approximately 269 persons. Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

Table 14-10: Existing Permanent Population, Delta Diablo, 2018 to 2022

	Population in Boundary	**Population in SOI only (3)**
High Population Scenario from DD (2024) (1)	218,281	269
Population (2020) Estimate based on Contra Costa Dept of Conservation (2)	201,000	269

Sources:
(1): Delta Diablo. ACFR 2022-23
(2): County of Contra Costa. (2022). Department of Conservation. Population Estimate for 2020.
(3) Based on County GIS Data and an average estimate of 3.02 persons per parcel.

Projected Future Population

Projecting an agency's future population is complicated by varying annexation rates and census tracts that do not match boundaries. Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County, as shown in Table 14-11 below. The anticipated future population growth within the county will likely influence the demand for the provision of wastewater services. As shown in Table 14-11 below, it is estimated that by the year 2045, DD will serve a residential population of approximately 231,115 people.

Table 14-11: Total Estimated & Projected Population (2022 – 2045)

	2020	2025	2030	2035	2040	2045	Percent Increase 2020 to 2045	Numeric Increase 2020 to 2045	CAGR 2020 to 2045
County of Contra Costa[1]	1,156,555	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.10%	174,876	0.56%
Delta Diablo[2]	201,000	219,473	228,057	235,299	240,588	244,051	21.41%	43,051	0.78%

Sources:

1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.

2: Population projection for Delta Diablo calculated at 18.33 percent of the County of Contra Costa population.

14.6: DISADVANTAGED COMMUNITIES

This section assesses disadvantaged communities so Contra Costa LAFCo may utilize the information when an agency's SOI is updated or expanded. Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in some disadvantaged communities.

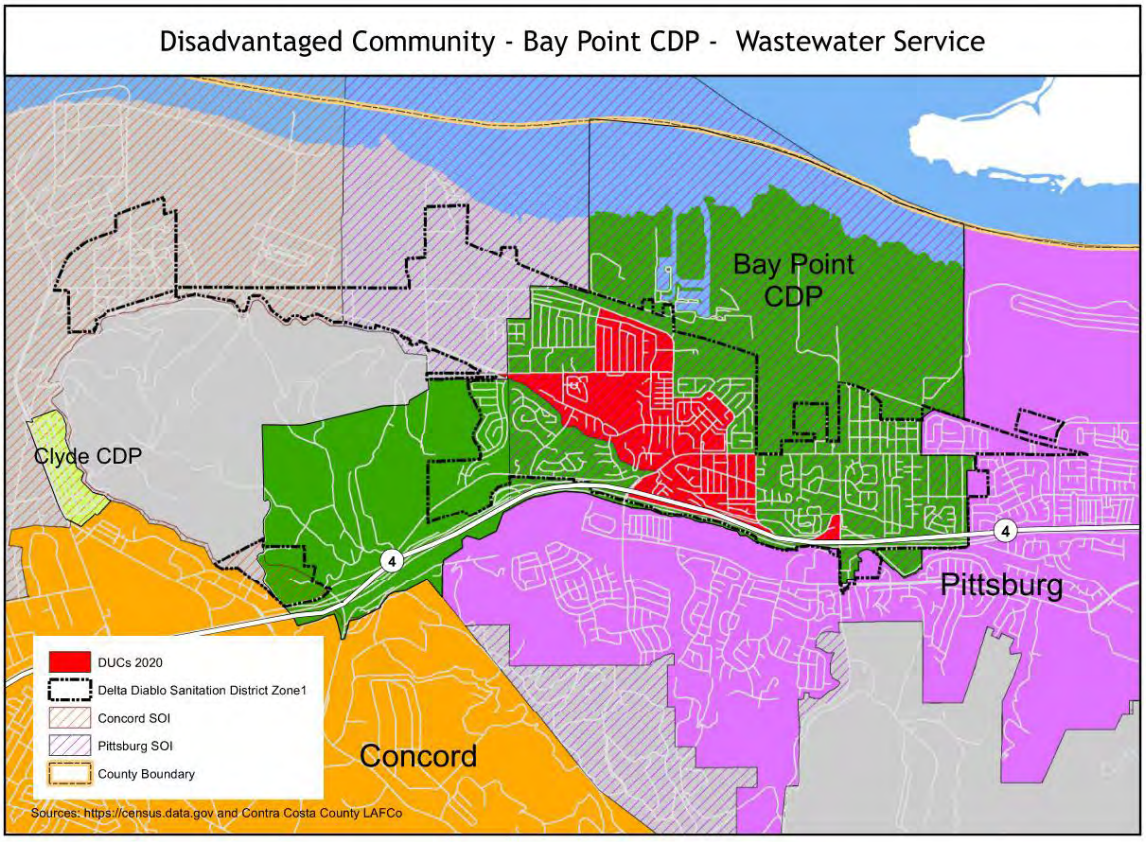
In unincorporated areas, the CKH Act defines disadvantaged communities as inhabited communities containing 12 or more registered voters that constitute all or a portion of a "disadvantaged community." A disadvantaged community is defined as a community in which the median household income is 80% or less than the statewide median household income. In 2011, Senate Bill (SB) 244 began requiring cities and counties to address the infrastructure needs of unincorporated disadvantaged communities in city and county general plans, MSRs, and annexation decisions. Therefore, this MSR Update identified disadvantaged communities within relevant jurisdictions' SOI.

The Median Household Income (MHI) for California in the year 2020 was $83,056 (ACS, 2021). 80 percent of the MHI ($66,445) is the income threshold used to identify DUC status. 2020 is used as the base year because data from the US 2020 Census is readily available. Table 14- 12 and Figure 14- 8 below identify disadvantaged communities within the unincorporated community in Bay Point, which is a Census Designated Place (CDP). LAFCO is required to consider the need for sewer, municipal, and industrial water, or structural fire protection services within identified disadvantaged communities as part of a SOI update for cities and special districts that provide such services. These services were recently reviewed in the *2nd Round EMS/Fire Services Municipal Service Review/Sphere of Influence Updates (2016), the Contra Costa City Services Municipal Service Review and Sphere of Influence Study (2nd Round) (2019), Contra Costa County-wide Water Service Municipal Service Review and Sphere of Influence Study (2nd Round) (2014)*. These services have remained relatively unchanged since publication. Communities within the existing District boundary or SOI do not lack public services because they either receive services from a municipal provider or the properties are self-sufficient, relying upon groundwater wells and septic tanks. No health or safety issues were identified.

Table 14-12: Disadvantaged Unincorporated Communities in Delta Diablo Sanitation District Zone 1

Unincorporated Community	Census Tract Geo ID	Census Block Number	Median Household Income in 2020
Bay Point CDP	060133141031	1	$46,509
Bay Point CDP	060133141051	1	$51,250
Bay Point CDP	060133142001	1	$60,395
Bay Point CDP	060133142002	2	$44,091

Figure 14-8: DUC Map – Bay Point CDP – Wastewater Service



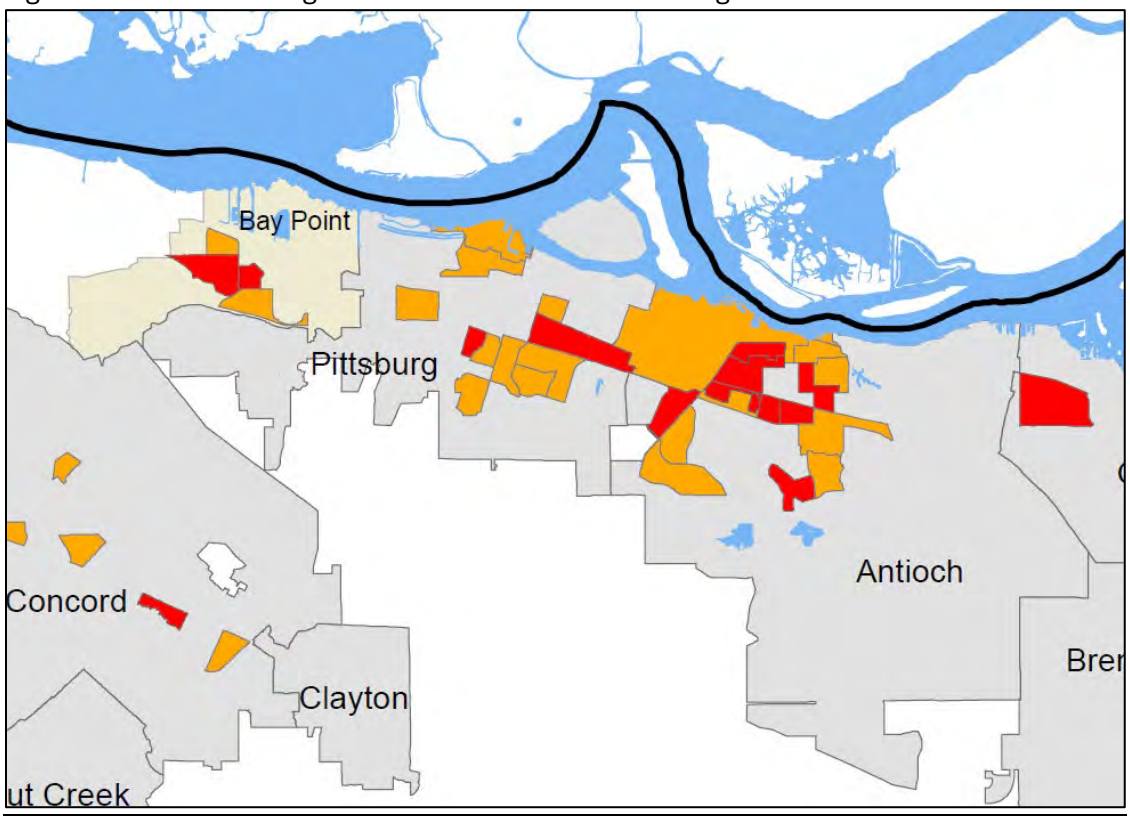
DD annexed the Bay Point community in the 1970s; however, the infrastructure was already installed concurrent with the original housing construction. Bay Point contains aging infrastructure, which should be addressed through forthcoming CIPs. DD does not have a program to assist low-income customers with the bill for services (personal communications, T. Vo, et. al., 2024). Readers can learn more about disadvantaged communities within the DD and Contra Costa County through the U.S. Department of Health and Human Services database of socioeconomic and health indicators in disadvantaged communities called the Environmental Justice Explorer Database. This database can be queried at <*https://onemap.cdc.gov/portal/apps/sites/#/eji-explorer*>. Query results indicate that disadvantaged communities near the Bay Point community may experience hardships, including:

- Exposure to Risk Management Plan Sites
- Minority Status
- Poverty
- No High School Diploma
- Unemployment
- Housing Tenure
- Housing Burdened, Lower-Income Households

- Households with Age 17 and Younger
- Speaks English "Less than Well"
- High Estimated Prevalence of Asthma
- High Estimated Prevalence of Poor Mental Health

In addition to studying unincorporated areas, LAFCO also considers low-income areas located within a municipality. DD provides service to two cities (Pittsburg and Antioch), and both cities contain low-income areas that meet the financial threshold to be classified as disadvantaged. Figure 14-9 shows the location of disadvantaged communities in Pittsburg and Antioch. The red areas in Figure 14-9 indicate severely disadvantaged communities with an MHI of less than $47,203 in 2020. The orange areas depict disadvantaged communities with an MHI greater than $47,203 but less than $62,937. Future consideration of any SOI change or change in service area for DD would first require a detailed evaluation of DD's capability to adequately provide wastewater service to these disadvantaged communities, consistent with the requirements of the CKH Act.

Figure 14-9: Disadvantaged Communities within Pittsburg and Antioch



14.7: GOVERNMENT STRUCTURE ALTERNATIVES

LAFCO's previous MSR (2014) identified three government structure alternatives: (1) maintain the status quo, (2) consolidate sewer collection service with the cities of Antioch and Pittsburg, and (3)

reduce the DD SOI to remove areas designated as permanent open space and outside the Urban Limit Line (ULL). In 2014, alternative #3 was implemented, and DD's SOI was reduced to remove the areas protected as open space located outside Antioch's ULL. Alternative #1 (maintain the status quo) and Alternative #2 (consolidate sewer collection services with the cities of Antioch and Pittsburg) remain valid for future study as described in the following paragraphs.

Maintain the Status Quo
DD is currently providing wastewater services for residents and businesses within its boundary. This includes the provision of collection services to the Bay Point community. The District also provides approximately 7.5 MGD (average) of recycled water for use in regional power plants and the irrigation of golf courses and municipal parks. DD is providing adequate wastewater service and is financially stable.

Consolidate sewer collection service with the cities of Antioch and Pittsburg
The Cities of Antioch and Pittsburg provide wastewater collection services, while DD provides conveyance, treatment, and disposal services. Additionally, DD provides collection services for the Bay Point community. LAFCO's 2014 MSR noted that consolidation could provide potential opportunities for economies of scale and other efficiencies. Further study is needed to determine the merits of this option and the benefits/costs that would affect ratepayers for DD and both cities. For example, the cities have their own collection systems, and they are responsible for the maintenance and operations. DD currently has size constraints (financial and staffing) that would make it challenging to assume responsibility for additional collection systems. Antioch and Pittsburg have much larger collection systems, so it would be challenging for DD to take over that responsibility (personal communications, T. Vo, et. al., 2024). An alternative option could be for the City of Pittsburg to potentially assume responsibility for the Bay Point collection system in the future, which is briefly described in Chapter 8.

14.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

Table 14-13: MSR Determinations – Delta Diablo

TOPIC AND PERFORMANCE MEASURE	**DETERMINATION**
Growth and Population for the affected area. • Is the existing population estimated? • Is the projected future growth estimated?	• DD serves an existing population of 201,000 (in 2020).

	(continued) • In the future, the population of DD is expected to grow, consistent with the General Plans for the cities of Antioch and Pittsburg, and Contra Costa County. In 2045, the calculated (projected) population may reach 244,051 persons at a growth rate of 21.4 percent.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.	Several disadvantaged unincorporated communities were identified within the unincorporated community in Bay Point, a Census Designated Place. Additionally, the cities of Antioch and Pittsburg also contain low-income areas that meet the income threshold to be classified as disadvantaged. LAFCO is required to consider the need for sewer, municipal, and industrial water, or structural fire protection services within identified disadvantaged communities as part of an SOI update for cities and special districts that provide such services. These services were recently reviewed in the *2nd Round EMS/Fire Services Municipal Service Review/Sphere of Influence Updates (2016), the Contra Costa City Services Municipal Service Review and Sphere of Influence Study (2nd Round) (2019), Contra Costa County-wide Water Service Municipal Service Review and Sphere of Influence Study (2nd Round) (2014).* These services have remained relatively unchanged since publication. Communities within the district's boundary or SOI do not lack public services because they either receive services from a municipal provider or the properties are self-sufficient, relying upon groundwater wells and septic tanks. No health or safety issues were identified. However, future consideration of a SOI change or change in service area for DD would require a detailed evaluation of DD's capability to adequately serve these disadvantaged communities.

Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. • Does the agency have a CIP? • Are SSOs identified? • Are local hazards identified?	DD adopted its Five-Year Capital Improvement Program covering FYs 2023-24 through 2027-28 in June 2023. The CIP focuses on infrastructure and capital asset rehabilitation initiatives for DD. The funding for the program comes from various sources, such as Capital Facilities Capacity Charges, sewer service charges, grants, loans, and revenue bonds. The CIP provides detailed information on the various projects, their timelines, and budgets. DD's CIP is updated annually to reflect current priorities, address new project needs, and adjust estimated project costs and implementation schedules. SSOs were queried in the CIWQS-SSO database for a 3.5-year term from January 1, 2019, to August 9, 2022. During this 3.5-year timeframe, there were two SSO events in DD. Local hazards are identified in the Contra Costa HMP, and DD was an active participant in this Plan. The Plan notes that a small portion of DD service area is located in a hazardous flooding zone, including the treatment plant. In addition, it states that a flooding event could potentially overwhelm the collection system and impact service for an extended period. DD is also at high risk during an earthquake event. It is recommended that DD integrate the results of the Contra Costa HMP into its future planning efforts with the aim to reduce the risks from floods and earthquakes.
Financial ability of agencies to provide services. • Has the agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures 10% or less?	The district prepared a wastewater rate study in 2021. Revenues exceed expenditures in all of the five years studied. This key performance measure indicates that DD is solvent and has the capacity to cover its costs. The district has experienced balanced budgets with annual surpluses.

	(continued) In FY 2022, DD's annual debt service was $1,668,250. DD's annual debt service ratio for current liabilities to total expenditures is approximately 3.8 percent for FY 2021-22 (DD, 2022b). This is lower than the ten percent metric, suggesting DD will likely be able to continue meeting its debt obligations in relation to service provision expenditures. The District anticipates annual debt services requirements to continue to increase due to necessary capital improvement expenditures. However, DD staff submitted additional information demonstrating that its annual revenues are sufficient to cover debt service.
Status of, and opportunities for, shared facilities.	DD participates in several regional partnerships, including Household Hazardous Waste, Western Recycled Water Coalition, Bay Area Biosolids Coalition, and the East County Water Management Association. One of DD's goals is to "build and sustain effective, positive partnerships within our community to provide valuable services to our customers and promote environmental stewardship." DD has won several awards. DD was recognized for outstanding industry leadership and a progressive commitment to innovation and advancing resource efficiency and recovery with the prestigious "Utility of the Future Today" national industry association award received at the 2019 and the 2018 Water Environment Federation (WEF) annual conferences. The street sweeping and hazardous materials collection programs are supported by the County and the cities of Pittsburg and Antioch to reduce pollution to the watershed and meet

	(continued) RWQCB standards. DD continues to manage the Delta Household Hazardous Waste Collection Facility, a joint project of the County, the cities of Pittsburg, Antioch, and Oakley, and DD.
Accountability for community service needs, including government structure and operational facilities. • Does the agency have a website? • Does the agency post a public outreach tool (such as a calendar or newsletter) on its website? • What is the recommendation for mergers, consolidations, or other changes to governance structure?	DD demonstrates accountability for community service needs through its governance and public transparency. DD has a comprehensive website that provides the public with internet access to Board agendas and minutes, public notices, budgets, CIP programs, and water quality-related reports. A calendar listing Board meetings and public hearings is available at <*https://www.deltadiablo.org/calendar* >. The DD website includes comprehensive information on the DD sewer service charges, CIP, and community programs. DD is governed by a Board of Directors that includes three voting members. The Directors are the presiding officers, or their designees, of the elected bodies of the communities served by DD: the City of Antioch, the City of Pittsburg, and the Contra Costa County Supervisor for District 5. District Board meetings are open to the public. Regular Board Meeting agendas are posted at least 72 hours prior to the meeting date on DD's website. LAFCO's previous MSR (2014) identified government structure alternatives: (1) maintain the status quo, and (2) consolidate sewer collection service with the cities of Antioch and Pittsburg. Both of these alternatives remain valid for future study. In the future, DD should pursue the preparation of a focused study evaluating the feasibility/cost-effectiveness of merging its

	(continued) wastewater operations with Antioch and/or Pittsburg as a potential long-term governance alternative. Further analysis is needed to determine the operational merits of the consolidation option and the benefits/costs that would affect DD ratepayers and both cities.
Any other matter related to effective or efficient service delivery, as required by commission policy.	No additional issues have been identified.

14.9: RECOMMENDED SPHERE OF INFLUENCE

It is recommended that LAFCO reconfirm the current SOI configuration to maintain the status quo for the near term.

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 requires that LAFCO review and update the sphere of influence (SOI) for each of the special districts and cities within the County (LAFCO, 2008). DD provides public services including wastewater collection, conveyance, and treatment; recycled water production and distribution; renewable energy production; beneficial biosolids reuse; pretreatment and pollution prevention; street sweeping; and household hazardous waste collection.

DD only provides wastewater collection services to the unincorporated area of Bay Point, where DD owns and maintains the sewer collection system. The cities of Antioch and Pittsburg own and maintain their own sewer collection systems. Given current urban land uses, an aging wastewater collection system, and increasingly stringent water quality standards, there will be an increased need for cost-effective wastewater services within the DD service area. The district has planned for service needs through its CIP and fee structure. DD's SOI is 3.21 sq. mi. in size and contains 89 APNs.

Section 14.7, Government Structure Alternatives (see page 14-27), analyzes two different options to change the DD governance structure. When LAFCO reviews or modifies an SOI for a district, it typically considers all of its options to change the governance structure. For DD, two alternative options were considered as listed:

1) Maintain the status quo
2) Consolidate sewer collection service with the cities of Antioch and Pittsburg.

It is recommended that LAFCO reconfirm the current SOI configuration to maintain the status quo

for the near term. Over the medium- to long-term, LAFCO may wish to study alternative options for DD's SOI.

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Chapter 15: DUBLIN SAN RAMON SERVICES DISTRICT –WASTEWATER SERVICES

Table of Contents

15.1: OVERVIEW

The Dublin San Ramon Services District (DSRSD) was formed in 1953. Originally named the Parks Community Services District, the name was changed to Valley Community Services District in 1963 and Dublin San Ramon Services District in 1977. DSRSD's Agency Profile is included in Table 15-1. DSRSD provides water, wastewater collection, wastewater treatment, and recycled water services in Dublin and a portion of San Ramon. DSRSD provides wastewater treatment services for Pleasanton by contract. In addition to its wastewater services, DSRSD also provides potable water and recycled water service to customers within its boundaries. Water services were described in a previous MSR. The District lies within the San Francisco Bay / Sacramento Delta Estuary watershed. Additional information about this watershed is provided in Appendix F. A map of DSRSD's current boundary and sphere of influence (SOI) is shown in Figure 15-1.

Table 15-1: Agency Profile – Dublin San Ramon Services District

General Information			
Agency Type	Community Services District		
Principal Act	Community Services District Law, Gov't Code 61000 et seq. and SB 135		
Date Formed	1953		
Water/Sewer Services	sewer collection, treatment, and disposal; recycled water; and potable water supply within Contra Costa County. DSRSD provides wastewater collection/treatment to the southern portion of San Ramon and water/recycled water services to the Dougherty Valley area.		
Service Area			
Location	Multi-county District serving Alameda and Contra Costa counties, including Dublin, San Ramon, U.S. Army Reserves Forces Training Area (Camp Parks), Federal Correctional Institution at Dublin, Alameda County's Santa Rita Jail, and Pleasanton by contract.		
Square	26.92 square miles/ 17,230 acres		
Land Uses	Residential, commercial, industrial, open space/public use		
Population Served	Approx. 199,952 people (see Table 15-8)		
Last SOI Update	• November 2021 (Alameda LAFCO, 2021) • May 14, 2014 (Contra Costa LAFCO, 2014)		
Sewer Infrastructure/Capacity			
Facilities	Dublin-San Ramon Wastewater Treatment Plant (WWTP), District's share in the Livermore-Amador Valley Water Management Agency (LAVWMA), dechlorination facility, one pump station.		
Treatment Plant Capacity (MGD)	17 MGD Treated Wastewater (DSRSD, 2017). 5.16 million gallons per day recycled water (Tetra Tech 2023)		
Primary Disposal Method	DSRSD Treatment Plant (secondary treatment); majority of effluent transported to LAVWMA for dechlorination and disposal; approximately 25% of water sales is recycled (used for landscape irrigation purposes).		
Budget Information- F.Y. 2023-2024			
	Revenues	Expenditures	Net Surplus/(Deficit)
Operating/General Fund	$94,903,670	$ 81,100,887	$ 13,802,783
Combined Other	Included Above	Included Above	N/A
	F.Y. 2024	Long-Term Planned Expenditures	
Capital Expenditures	$25,373,000	$ 327,330 million- 10 Year Projection	
Net Assets (Reserves)	$607,276,718	June 30, 2023 Financial Statement- Restricted & Unrestricted	
Governance			
Governing Body	Board of Directors (5 members)		
Agency Contact	• General Manager, Jan Lee • Jason Ching P.E., Senior Engineer, 7051 Dublin Boulevard, Dublin, CA, 94568. Phone: 925.875.2263. Email: ching@dsrsd.com		
Notes	None		

15.2: DISTRICT BOUNDARY & SOI

DSRSD provides wastewater collection and treatment services for the City of Dublin, the southern portion of San Ramon, the U.S. Army Reserve's Parks Reserve Forces Training Area, and the Alameda County Santa Rita Jail. DSRSD also provides wastewater treatment outside its jurisdictional boundaries to the City of Pleasanton under contract. Additionally, wastewater from Castlewood County Service Area's collection system utilizes the City of Pleasanton's collection system to reach the treatment plant operated by DSRSD (Alameda LAFCO, 2021). DSRSD's service area extends into two counties – Alameda County and Contra Costa County. DSRSD's "principal" county for LAFCO purposes is Alameda County. The District's service area is approximately 26 square miles (Tetra Tech, 2023). The District is an independent district governed by an elected board of directors. Throughout its two-county boundary area, there are 25,301 single-family residential wastewater tax roll assessments (excludes commercial, industrial, institutional, and multi-family accounts). Additionally, there are approximately 473 recycled water accounts.

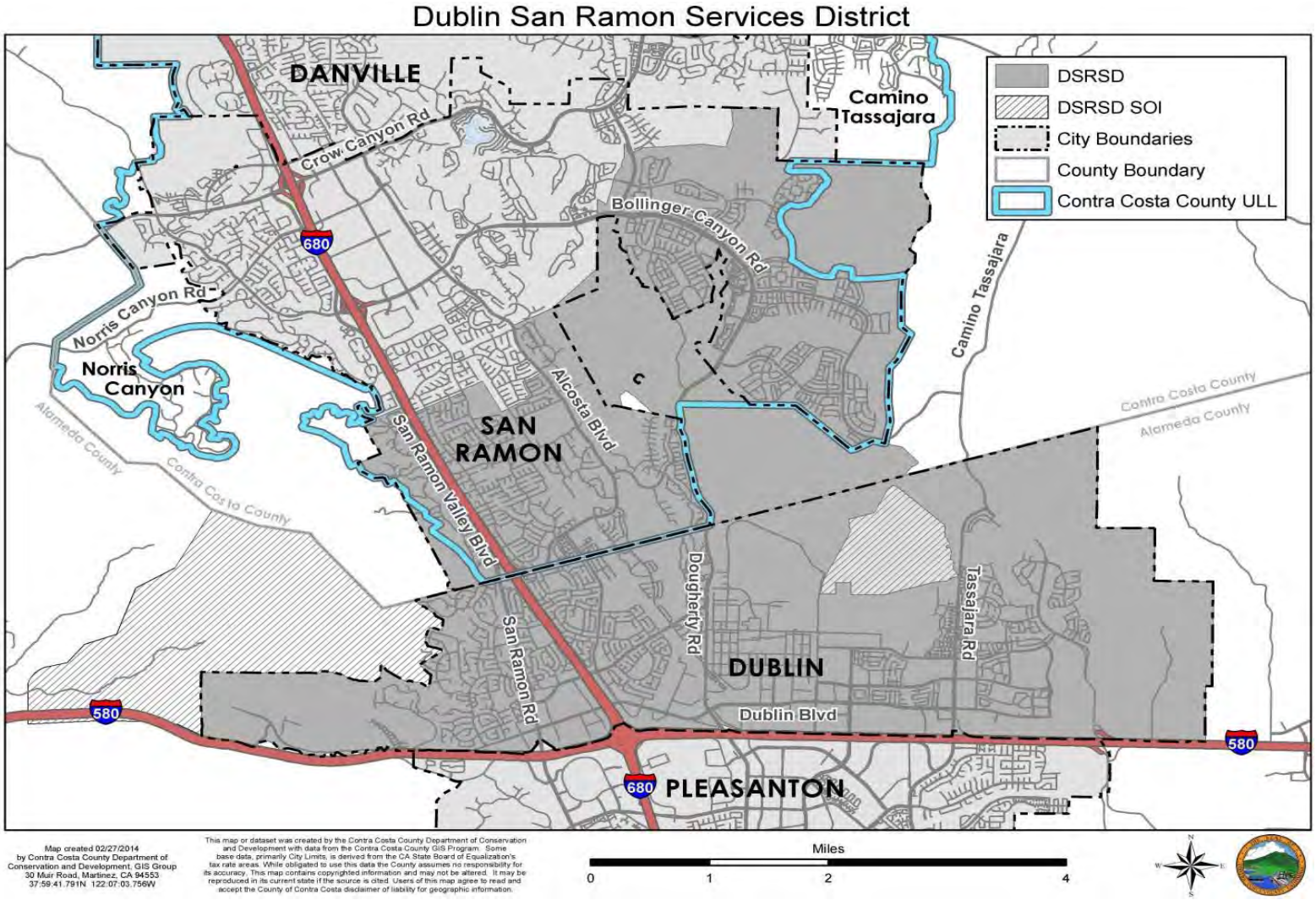
DSRSD does not have direct land use authority. Therefore, its facilities and services are based on the existing development patterns. Future growth within the District is anticipated to occur according to ABAG projections, which correspond to the policies of the cities' general plans. DSRSD provides wastewater service in the southern portion of San Ramon in Contra Costa County. Limited growth is projected for this area, as no significant new development projects are anticipated [1] (personal communication, S. Delight, January 2024).

Sphere of influence

The District's Sphere of Influence (SOI) is nearly coterminous with its boundary. Anticipated growth within the boundary (and the Pleasanton service area) is considered and accommodated with the District's management planning documents as described in the following pages. DSRSD provides wastewater service directly or indirectly outside its boundaries to the City of Pleasanton via contract (Alameda LAFCO, 2021). DSRSD partially overlaps the East Bay Municipal Utility District (EBMUD) service area for potable water services. The cities of Dublin and Pleasanton are located in Alameda County. The District's SOI was reconfirmed in 2014 as part of Contra Costa LAFCO's 2014 MSR/SOI Update for Wastewater Services. Additionally, Alameda LAFCo's 2021 Countywide Water and Wastewater Services MSR recommended that Alameda LAFCO maintain and reaffirm the existing SOI for DSRSD. In summary, Alameda LAFCO's 2021 MSR found that there are no anticipated changes in the type of public services and facilities required within the SOI for DSRSD. The level of demand for these services and facilities was reviewed and accommodated within the master infrastructure planning documents of the District (Alameda LAFCO, 2021).

[1] In their Alameda County area, future growth within the City of Pleasanton is estimated, and DSRSD reserves capacity in the WWTP for Pleasanton. The District also anticipates increased demand for recycled water and increased flows of wastewater to be treated as additional development occurs in eastern Dublin (Tetra Tech, 2023).

Figure 15-1: Boundary/SOI Map – Dublin San Ramon Services District (2014 -remains accurate)



SF Bay Land Use

The Bay Area Regional Collaborative includes the Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), San Francisco Bay Conservation and Development Commission (BCDC), and Bay Area Air Quality Management District. This collaborative multi-agency regional committee allows for cross-jurisdictional work on projects such as Resilient Bay Area and Carbon Free Future.

DSRSD's discharge location can potentially influence a portion of the San Francisco Bay, which is a sensitive environmental resource. The California state planning and regulatory agency, which has regional authority over San Francisco Bay, the Bay's shoreline band, and the Suisun Marsh, is called the San Francisco Bay Conservation and Development Commission (BCDC). Its mission is to protect and enhance San Francisco Bay and to encourage the Bay's responsible and productive use for this and future generations. BCDC ensures projects are compatible with the conservation of Bay resources as described on its website at: <*https://bcdc.ca.gov/* >.

15.3: WASTEWATER OPERATIONS

DSRSD is a multi-county agency serving portions of Alameda County and southern Contra Costa County. In the Contra Costa County portion of their boundary area, the District provides service to 5,049 sewer connections. DSRSD provides wastewater service to approximately 30 commercial and industrial customer accounts. However, none of these commercial and industrial customers are classified as Environmental Protection Agency (EPA) categorical users (DSRSD, RFI, 2022). Therefore, pre-treatment is not required.

DSRSD's wastewater infrastructure includes 223 linear miles of wastewater pipes, two sanitary sewer lift stations, and a WWTP capable of processing 17 million gallons per day (MGD). A recycled water treatment facility capable of producing 16.2 MGD is co-located at the WWTP in Pleasanton (Tetra Tech, 2023).

The collection system includes a series of pipelines ranging from six to 42 inches in diameter that are from five to over 60 years old (Alameda LAFCO, 2021). The collection system includes four inverted siphons. DSRSD's collection system is in good condition, and relatively few needed repairs were identified through previous CCTV inspections (Alameda LAFCO, 2021). Wastewater collected travels by gravity and lift stations to the DSRSD WWTP located in the City of Pleasanton (DSRSD, 2012).

Disposal of treated effluent from the WWTP is the responsibility of LAVWMA, which exports secondary treated wastewater to the East Bay Dischargers Authority interceptor pipeline for discharge to the San Francisco Bay via a deep-water outfall (Alameda LAFCO, 2021). LAVWMA[2]

[2] The LAVWMA JPA agreement may contain text that prevents DSRSD from geographic expansion of their

exports wastewater from the City of Dublin, the City of Pleasanton, the City of Livermore, and the southern portion of San Ramon.

Wastewater Treatment Plant

DSRSD WWTP was initially constructed in 1961. Wastewater is treated at the Dublin-San Ramon WWTP located in the City of Pleasanton (in Alameda County). The district treats an average of 11.23 MGD of wastewater (Tetra Tech, 2023), as shown in Figure 15-4 (see page 15-9). The total design capacity for the WWTP (ADWF capacity) is 20.2 MGD (Alameda LAFCO, 2021). This design capacity is split between an average daily dry weather design flow capacity of 17.0 MGD, and 3.2 MGD of reverse osmosis reject water from Zone 7 (Alameda LAFCO, 2021).

Disposal of treated effluent from the Treatment Plant in Pleasanton is the responsibility of LAVWMA, which exports secondary treated wastewater to the EBDA interceptor pipeline for ultimate discharge to Marina Dechlorination Facility, then San Francisco Bay via a deep-water outfall located near San Lorenzo Creek (DSRSD, 2012). During wet weather events, the permit allows discharge to the Alamo Canal, although this discharge option has not been utilized. This allows the District to adequately serve its boundary and account for growth. Expansion may be required after the projected buildout date (Alameda LAFCO, 2021). The District provides wastewater collection and conveyance services to approximately 5,049 sewer connections in Contra Costa County (DSRSD, 2022). One DSRSD connection may serve many individual customers. (Please note that CA DWR estimates 3.3 residents per sewer connection).

Figure 15-2: Satellite View of Wastewater Treatment Facilities at 7399 Johnson Drive in Pleasanton

boundaries in that direction (personal communication, S. Delight, January 2024). LAFCO may wish to research this issue in the future.

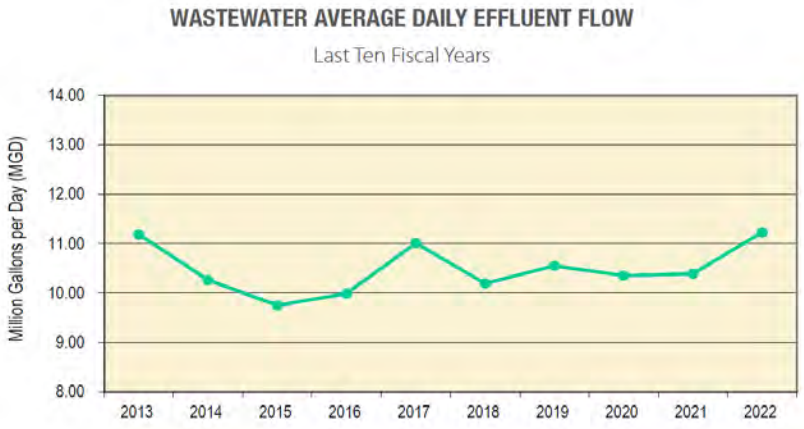
Recycled Water

Due to ongoing droughts and aridification, California's water resource managers and planners are encouraging water reclamation, recycling[3], and reuse. Districts, including DSRSD, are working together to initiate recycled water services within their communities and reduce the impacts of droughts and aridification. Since 1999, the District produced and distributed recycled water for landscape irrigation and construction. The District distributes 5.16 MGD of recycled water (Tetra Tech, 2023). The District's primary recycled water source is wastewater recovered at the District's WWTP in Pleasanton, California, and a small supply of wastewater from Central Contra Costa Sanitation District (CCCSD) customers (via diversion structure) in San Ramon, California (Tetra Tech, 2023).

DSRSD owns and operates a recycled water treatment facility (RWTF) at its WWTP and participates with EBMUD in a joint power authority DSRSD-EBMUD Recycled Water Authority (DERWA), which operates the San Ramon Valley Recycled Water Program (SRVRWP) (DSRSD, 2017). DERWA provides recycled water to the agencies for service to each of the agencies' customers (Alameda LAFCO, 2021). Additionally, DERWA provides recycled water on a wholesale/contract basis to the City of Pleasanton. DERWA runs the San Ramon Valley Recycled Water Program (SRVRWP), which consists of treating, storing, and using recycled water for landscape irrigation in parts of Blackhawk, Danville, Dublin, and San Ramon. Future phases of the program will extend recycled water into other parts of the San Ramon Valley (Alameda LAFCO, 2021). Figure 15-4 is regularly updated by DSRSD staff, and updated chart and data can now be obtained from the FYE 23 ACFR - page 93 on the DSRSD website.

[3] The Western Recycled Water Coalition (WRWC), formerly the Bay Area Recycled Water Coalition (BARWC), is an independent group of cities and public agencies in the Western United States working together to advocate federal funding for water reuse projects. There are currently 19 member agencies in the WRWC, which include five agencies that provide water within Alameda County: Cal Water, Hayward, Pleasanton, DSRSD, and Zone 7 (Western Recycled Water Coalition, 2017). Current WRWC projects will provide a sustainable and reliable water supply to meet the household water needs of 875,000 people (Western Recycled Water Coalition, 2017).

Figure 15-4: Wastewater Average Flows, Trends



Data Source: DSRSD Comprehensive Annual Financial Report, F.Y. 2022

Fiscal Year Ending	Wastewater Avg. Daily Flow (MGD)	Wastewater Total Annual Flow (MG)
2013	11.19	4,083
2014	10.26	3,745
2015	9.75	3,547
2016	9.99	3,646
2017	11.01	4,019
2018	10.19	3,719
2019	10.55	3,852
2020	10.35	3,777
2021	10.39	3,792
2022	11.23	4,100

Source: Dublin San Ramon Services District Comprehensive Annual Financial Report

Local Hazards

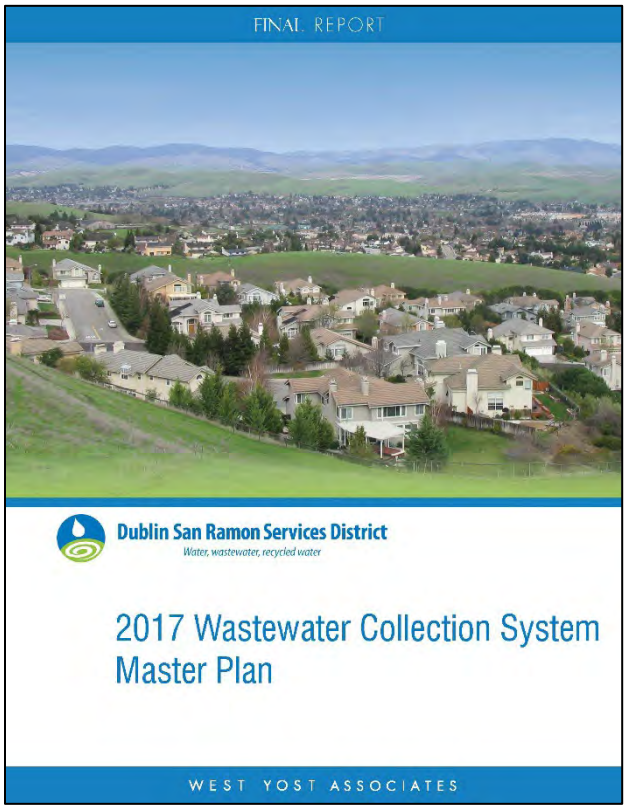
Although DSRSD did not participate in the Contra Costa County Hazard Mitigation Plan, they did participate in the Tri-Valley Hazard Mitigation Plan (HMP) dated June 2023 and authored by Tetra Tech Consultants. The HMP notes that in the past, the DSRSD geographic area experienced severe weather and flooding (2022), COVID-19 Pandemic (2020), severe winter storm (2017), severe drought (2014-2016 and 2007), and more severe winter storms[4] (2015, 2014, 2009, 2008). The HMP also notes that the area is at high risk for earthquakes (Tetra Tech, 2023). The HMP contains several action items which DSRSD is working to implement. Action Item #2 is "Integrate the hazard mitigation plan into other plans, ordinances, and programs within the District." This recommendation would assist the district in protecting its infrastructure, and it is pertinent to this MSR.

[4] Stormwater is managed by the cities of Dublin and San Ramon. Stormwater is directed to local creeks and drainages in pipes that are completely separate from the wastewater systems. Storm drains do not connect with the sewer system (personal communication, S. Delight, January 2024).

Additionally, the District has an Emergency Response Plan adopted in 2020 as policy P300-20-3, and it designates the District Emergency Manager and authorizes that person to manage emergency operations.

Wastewater Collection System Master Plan

The Wastewater Collection System Master Plan was approved in–2017 and remains valid for approximately 15 years. The Master Plan addresses existing and future challenges in wastewater collection and provides specific recommendations for improving the District's wastewater infrastructure. These recommendations include the construction of a parallel relief gravity main for the existing 42-inch trunk from Stoneridge Drive downstream to the WWTP influent line in 2025. The report also provides a preliminary layout and sizing plan for future infrastructure to aid in the orderly extension of the collection system in the future. The recommended future system improvements will likely be implemented when flows approach those projected for 2035. The report is a valuable resource for the District as it plans for the future of its wastewater collection system.



Sewer System Management Plan

The DSRSD Sewer System Management Plan (SSMP) serves as its wastewater strategic planning document that outlines the management of the sewer system facilities. The SSMP was initially released in March 2007 and was updated in November 2018. The SSMP covers a range of topics, including system maintenance, emergency response procedures, and information on the different components of the sewer system, such as gravity mains, lift stations, and treatment plants. Finally, the Plan outlines the goals and objectives of the District in managing the sewer system facilities.

Other DSRSD Planning Documents include the Wastewater Treatment and Biosolids Facilities Master Plan, Wastewater Collection System Master Plan, DSRSD Strategic Plan, Odor Control Study, and Emergency Response Plan.

Sanitary Sewer Overflow Database

The State Water Board maintains a Sanitary Sewer Overflows (SSO) database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. W.Q. 2022-0103-DWQ (SSS WDRs), on December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. A 3.5-year term from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. The results of the database queries regarding DSRSD are listed below in Table 15-2 (next page).

During July to October 2022, San Francisco Bay experienced a harmful algal bloom (HAB) known as a red tide, as described in Appendix F The species associated with this bloom, *Heterosigma akashiwo*, can cause water to turn reddish-brown. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay, and into San Pablo Bay. Fish deaths linked to the red tide were reported to include sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San Francisco Bay Water Board is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other agencies to study the potential impacts of nutrients on San Francisco Bay. The DSRSD has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater Districts and the Water Board.

During this 3.5-year timeframe, there was one Sanitary Sewer Overflow event in the DSRSD. According to the CIWQS database, SSO failure occurred in a residential lateral and was not associated with a storm event. The entire spill volume reached surface water, and the final spill destination was a separate storm drain. Factors influencing the District's ability to collect, treat, and dispose of wastewater and provide public service to customers were considered. DSRSD staff indicates that factors, such as the availability of various materials, influence their ability to collect, treat, and dispose of wastewater (DSRSD, 2022).

Table 15-2: DSRSD Sanitary Sewer Overflows

EVENT ID	Responsible Agency	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
877939	DSRSD (WWTP NPDES & SSO)	Dublin San Ramon Serv Dst C.S.	Category 1	12/2/2021	300	0	300	Residential lateral	2SSO10128

Figure 15-5: Google Maps Street View of the DSRSD, 7399 Johnson Ave., Pleasanton

Infrastructure Needs

The District currently maintains various equipment, vehicles[5], infrastructure, and associated assets. A summary of the District's existing physical assets and infrastructure is listed in Tables 15-3 and 15-4 below. For the collection system, DSRSD has a robust pipeline maintenance system to dislodge roots and clean the system (personal communication, S. Delight, January 2024).

Table 15-3: List of DSRSD Assets

Asset	Value
Property	
203 acres of land	$71,000,000
Critical Infrastructure and Equipment	
359 miles of potable water pipe and 3610 hydrants	$853,841,000
17 potable water pump stations	$19,808,000
72 miles of recycled water pipe and 24 hydrants	$144,251,000
5 recycled water pump stations	$4,044,000
223 miles of wastewater pipes	$588,540,000
2 sanitary sewer lift stations	$2,028,000
14 potable water reservoirs capable of storing 25 million gallons	$39,276,000
4 recycled water reservoirs capable of storing 11 million gallons	$23,623,075
Wastewater Treatment Plant capable of processing 17 million gallons per day	$157,059,000
Recycled Water Plant capable of producing 16.2 million gallons per day	$19,398,430
4 Operational Potable Water Turnout Delivery Facilities (Intertied with Zone 7 Water Agency) – Turnouts 2, 4 and 5 are in-service, Turnout 1 is out-of-service, Turnout 3 is decommissioned, and Turnout 6 is planned.	$2,033,000
6 Emergency Interconnect Facilities (3 interties with EBMUD, 2 interties with City of Pleasanton, 1 intertie with City of Livermore)	$631,000
Total:	***$202,944,505***
Data Source for Table 15-3: Tetra Tech, 2023	

Table 15-4: Administrative Facilities

Asset	Value
Critical Facilities	
Administrative Building – District Office (Headquarters)	$8,635,000
Administrative Building – Field Operations Facility	$5,994,000
Total:	***$14,629,000***
Data Source for Table 15-4: Tetra Tech, 2023	

[5] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the District, it is likely that sometime in the future, the District may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

Future Challenges: The MSR authors asked DSRSD staff to describe the factors that may affect the ability to serve wastewater customers in the future. DSRSD staff indicated that over the past five years, DSRSD has not experienced major changes that affect operations (DSRSD, 2022). District staff noted that there are new regulatory requirements that increase the workload and may eventually cause the need for additional staffing or consultants (DSRSD, 2022). DSRSD has a Fiscal Year Ending (FYE) 2024 – 2028 Strategic Plan. Implementing this Plan will aid the District in preparing for future challenges.

The American Society of Civil Engineers, Region 9 (2019) has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

1. Implement an education program at the state and local level about what a WWTP is, what kind of wastes it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water reuse/recycling.

Cooperative Programs

DSRSD covers a wide area in both Contra Costa and Alameda counties and actively engages in several cooperative programs. DSRSD coordinates cooperative programs with EBMUD on recycled water development and LAVWMA to treat and recycle water in the overall service area. DSRSD has also participated in the regional recycling water program grant funding development, including the California DWR and Bureau of Reclamation grants and loans. Additionally, DSRSD staff participates with other agencies in the Tri-Valley to pool resources when possible (DSRSD, 2022). In this Tri-Valley cooperation, agencies share procurement for various items to reduce costs (DSRSD, 2022). Additionally, Alameda LAFCO's recent MSR for DSRSD notes the following cooperative programs:

- DSRSD, Livermore, and Pleasanton share a wastewater conveyance pipeline through LAVWMA's export pipeline.
- DSRSD operates and maintains the LAVWMA effluent export pipeline by contract.
- LAVWMA contracts with EBDA for disposal services.
- DSRSD provides treatment services to the City of Pleasanton by contract.
- Pleasanton conveys Castlewood CSA wastewater to the DSRSD Treatment Plant by contract.
- The San Ramon Valley Recycled Water Program (SRVRWP) is a partnership between EBMUD and DSRSD to provide recycled water to both agencies' customers.
- DSRSD cooperates with Livermore, Pleasanton, and other parties in the Tri-Valley Intergovernmental Reciprocal Services Agreement, which allows for the sharing of resources (and contracting between the agencies) as agreed to by Task Orders.
- DSRSD collaborates with the Bay Area Pollution Prevention Group. This Group developed and implemented pollution prevention strategies and exchanged information to coordinate pollution prevention efforts. The Group is composed of many agencies that provide services

in Alameda County (including the CCCSD, DSRSD, EBMUD, Hayward, Livermore, and San Leandro).

- (Source: Alameda LAFCO, 2021)

Joint Powers Authority

DSRSD participates in a Joint Powers Authority (JPA) called the Livermore-Amador Valley Water Management Agency (LAVWMA) regarding wastewater transport out of the area. The JPA is composed of DSRSD, the City of Livermore, and the City of Pleasanton. Since 1979, LAVWMA has owned the conveyance facilities that transport treated wastewater from the Livermore Water Reclamation Plant over the Dublin grade and eventually to the East Bay Dischargers Authority, which dechlorinates the effluent and discharges it through a deep-water pipeline into the San Francisco Bay (Alameda LAFCO, 2021).

DSRSD also participates in the DSRSD-EBMUD Recycled Water Authority (DERWA), a JPA formed in 1995 between DSRSD and EBMUD. DERWA's mission is to provide a safe, reliable, and consistent supply of recycled water and to maximize the amount of recycled water delivered. The Authority has four board members, including two from DSRSD and two from EBMUD, as described on the Authority's website at: <*http://www.derwa.org/*>. DERWA runs the San Ramon Valley Recycled Water Program (SRVRWP), which consists of treating, storing, and using recycled water for landscape irrigation. Future phases of the program will extend recycled water into other parts of the San Ramon Valley (Alameda LAFCO, 2021).

Cost Avoidance Opportunities

DSRSD has implemented several projects that aim to avoid future cost increases over the long term. For example, DSRSD initiated an in-house Biosolids Harvesting Program, saving the cost of continuing to use outside contractor resources. In another example, in 2021/22, DSRSD began a $4.66 million project to upgrade the Supervisory Control and Data Acquisition (SCADA) system to improve a set of industrial computers and a monitoring system DSRSD staff use to operate the Regional Wastewater Treatment Facility. The project can issue commands and report data at the facility, such as flow readings, temperatures, and tank levels. The SCADA provides improved operations and reduces the risk of system overflows and stoppages, as well as the security of the infrastructure. In 2014, DSRSD conducted a biannual assessment of facilities and CIP projects to select the most needed and cost-effective projects for implementation. By constructing facilities on an as-needed basis, funds are maintained for longer terms in the event of immediate or unforeseen infrastructure needs.

Additionally, DSRSD staff noted that the District participates with other agencies in the Tri-Valley to pool resources when needed. For example, sharing procurement for various items helps to reduce costs for participating agencies (DSRSD, RFI, 2022).

15.4: DISTRICT FINANCIAL OVERVIEW

DSRSD funds sewer facilities from its enterprise funds derived from capacity reserve charges, service rates, and charges. Enterprise Funds are used to separately account for self-supporting operations. DSRSD has three separate enterprises:

1. **Water** – distributes potable and recycled water to Dublin and the Dougherty Valley area of San Ramon.
2. **Local Sewer** – collects wastewater through underground sewer systems in Dublin and southern San Ramon.
3. **Regional Sewer** – treats wastewater from Dublin, southern San Ramon, and Pleasanton to recover water and energy and prepare effluent for safe disposal in the San Francisco Bay.

In this MSR, the analysis focuses on the Local Sewer (#2) and the Regional Sewer (#3) Enterprise Funds. To ensure customers pay only for services they receive, DSRSD manages the revenues and expenses for each enterprise separately. The District produces an Annual Comprehensive Financial Report (ACFR) each fiscal year in accordance with Generally Accepted Accounting Principles (GAAP). In addition, the District's finances are the subject of annual independent financial audits. The ACFR for FY's 2019-20, 2020-21, 2021-22, and 2022-23, as well as the adopted operation budget for FY 2024/2025, will be the primary sources of information for data related to the financial health of the District (DSRSD, 2020; 2021; 2022; 2023; 2024). These reports are posted on the District's website at: <*https://www.dsrsd.com/about-us/library/financial-information*>. This financial analysis represents a snapshot in time (i.e., a limited time period). However, DSRSD regularly updates its financial data and readers may review the new data on its website.

DSRSD also has a financing corporation that provides financial assistance to the DSRSD by financing, refinancing, acquiring, constructing, improving, leasing, and selling of buildings, building improvements, equipment, and other public improvements, lands, and any other real or personal property for the benefit of customers or the Dublin San Ramon Services District (DSRSD, 2019; 2020; 2021a; 2021b; 2022b; 2023c). **Recommendation**: When LAFCO next updates the MSR for DSRSD, additional information about the finance corporation should be included.

DSRSD operates its wastewater services as enterprise-type activities, with its primary revenue sources being service charges and capacity reserve charges. The most recent ACFR for FY 2022-23 includes an audited report that features the Management's Discussion and Analysis. The most recent audit noted that the financial statements presented by the District were presented fairly and in accordance with accounting principles generally accepted in the United States. The primary revenue resources of the District totaled $103,648,331 in the FY 2022-23, compared to $88,055,389 in FY 2021-22. The 17.7 percent increase was primarily the result of an increase in capacity reserve fees and increased water sales post-drought (DSRSD, 2021a). Five primary areas of criteria are utilized to assess the present and future financial condition of DSRSD's wastewater service operations, as discussed below:

5 Year Revenue/Expenditure Budget Trends

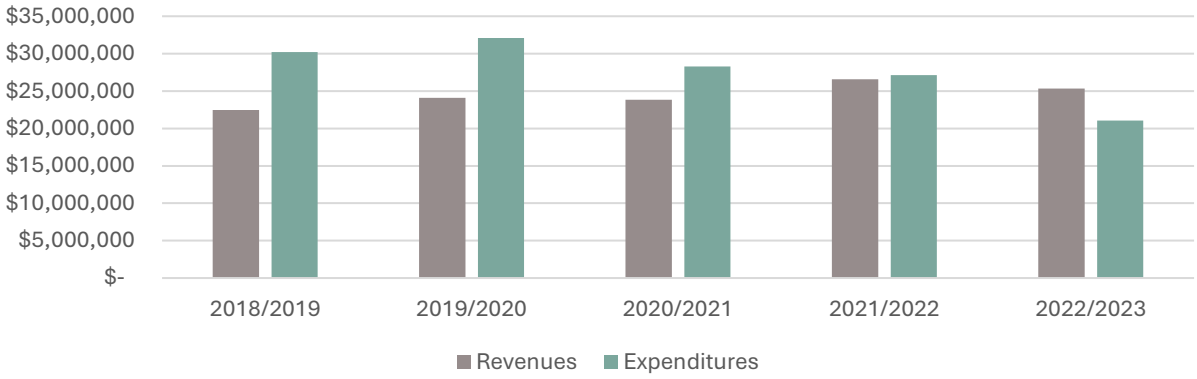
The DSRSD has two separate enterprise funds for sewer: Local Sewer and Regional Sewer. Each fund generates the revenue needed to build, operate, and maintain its systems and prudent reserves and is part of a larger combination of funds used for wastewater operations. Each ACFR includes a breakdown in funds for Regional Wastewater Operations and Local Wastewater Operations, including the Enterprise Fund for each area, a Rate Stabilization Fund, a Replacement Fund, and an Expansion Fund. This document will reference these combined funds using the terminology outlined in the ACFRs as Regional Wastewater Operations and Local Wastewater Operations (DSRSD, 2023c). The last three funds mentioned are described below:

- **Rate Stabilization Fund:** Each enterprise fund is paired with a rate stabilization fund (RSF) to support the District's strategic goal of managing public funds to assure financial stability, including stability of revenues and related rates and charges. In some years, there may be a surplus above the working capital target in one or more of the District's enterprise funds; in other years, unexpected events may cause a fund balance to fall below the target. Rate stabilization funds allow the District to properly manage these different circumstances to achieve the desired stability; avoiding wide fluctuations in rates to fund operations (DSRSD, 2023c).
- **Replacement Funds:** Replacement funds receive non-operating revenue from developer capacity reserve fees ("buy-in" component) and replacement allocation transfers from enterprise funds. Replacement allocations are based upon funding requirements identified in the District's updated Asset Replacement Planning Model. The buy-in component represents the benefit developers receive from connecting to existing infrastructure that is maintained primarily by ratepayers. This long-term planning model ensures that sufficient funds will be available when capital assets need refurbishment or replacement (DSRSD, 2023c).
- **Expansion Funds:** Expansion funds receive revenue from developer capacity reserve fees. These fees are designed to cover the cost of building expanded facilities for new development, including debt service for assets built to serve new development. Capacity reserve fees, which are considered "non-operating" revenue, are recognized upon receipt, but may not be used for many years until the need arises. Costs for growth-related capital projects, including direct staff time and overhead, are charged to expansion funds (DSRSD, 2023c).

In addition to these funds, the District uses the Administrative Cost Center to capture costs not specifically identifiable to any one of its enterprises. Costs for all the District's administrative divisions are included in this fund. General Administrative costs for services provided to two JPAs (DERWA and LAVWMA) are also recorded in this fund. Net fund costs are allocated based upon proportionate personnel costs across enterprise funds (DSRSD, 2023c). These are broken into the combining statement of net position for each fund and are not included in the revenue/expenditure discussion in this section.

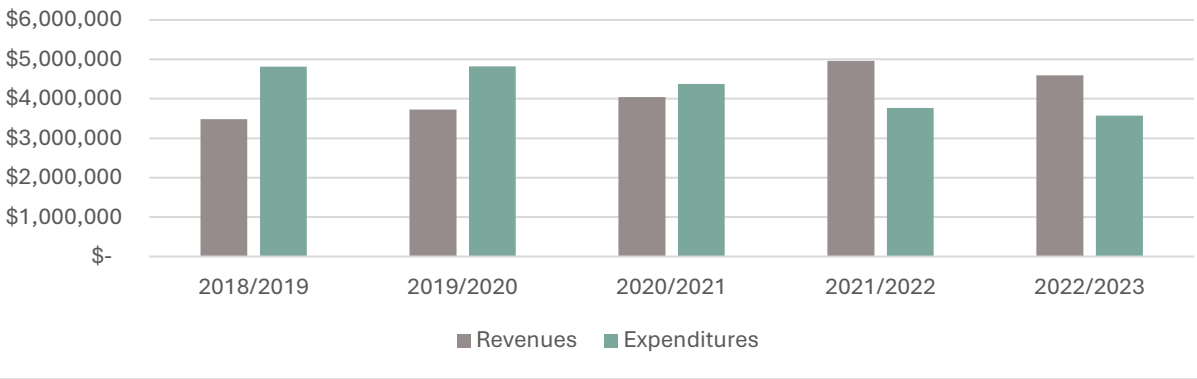
The Regional Sewer Enterprise Fund had operating expenditures exceeding revenues for the four ACFRs studied and operating revenues exceeding expenditures for the FY 2023-24 budget, as shown in Figure 15-6 below (DSRSD, 2021b). Expenditures reached a high of approximately $32.1 million in FY 2019-20 and have continued to trend downward since. Revenues have slowly increased since FY 2020-21. For FYE 2022-23, the majority of revenues come from wastewater service charges at approximately $23.7 million, with other revenues making up $7.4 million. This same fiscal year, non-operating revenues for the fund, which includes investment income; state grants; gain on sale of assets; and gain on investment in JPA, ended the year at $2.2 million (DSRSD, 2019; 2020; 2021a; 2021b; 2022b). The district regularly updates its budget numbers, and these are available on their website.

Figure 15-6: Regional Sewer Enterprise Fund Operating Revenues Compared to Expenditures



The Local Sewer Enterprise Fund had operating expenditures exceeding revenues for three of the four ACFRs studied and revenues exceeding expenditures for the FY 2021-22 ACFR and FY 2022-23 and 2023-24 budget, as shown in Figure 15-7 below (DSRSD, 2019; 2020; 2021a; 2021b; 2022b).

Figure 15-7: Local Sewer Enterprise Fund Operating Revenues Compared to Expenditures



Expenditures reached a high of approximately $4.8 million in FY 2019-20 and have continued to trend downward since. Revenues have slowly increased since FY 2018/2019. The majority of revenues come from wastewater service charges at approximately $4.6 million, with other revenues making up approximately $122 thousand in FY 2022-23. This same fiscal year, non-operating revenues for the fund, which includes investment income; state grants; and gain on sale of assets, ended the year at $221 thousand (DSRSD, 2019; 2020; 2021a; 2021b; 2022b).

Though expenses have exceeded revenues for both the Regional and Local Funds for the majority of the fiscal years studied, both have seen increases in the net position year over year due to capital contributions capacity reserve fees as described in the Replacement and Expansion funds above. The Operating Budget for FY 2022-23 stated the following for the Local Sewer Enterprise Fund:

> *"In 2017, the Board received a report on some systemic financial challenges facing the Local WW Enterprise Fund, primarily due to a substantial reduction of the rates back in 2004. To stabilize the Fund, the Board approved a significant rate adjustment in FYE 2017 that would increase the local annual charge for residential users by over 94% over five years and deferred transfers to the Local Wastewater Replacement Fund. In addition, vacancies and expenditure reductions over the past four years have resulted in the working capital balance to rebound to minimum reserve policy levels faster than anticipated. Finally, a comprehensive review of the allocation of administrative overhead costs has been completed, resulting in some transfer of costs from the Local WW Fund. As a result of all of the above actions, the Local WW Enterprise Fund currently shows a sustainable financial position"* (DSRSD, 2021b).

This same report stated the following for the Regional Sewer Enterprise Fund:

> *"The Regional Enterprise Fund continues to be in good financial condition with no rate increases implemented in FYE 2017 and FYE 2018 and inflationary adjustments from FYE 2018 through FYE 2022. A 1.6% rate adjustment (February 2021 Consumer Price Index) is reflected for FYE 2022, and a 3.0% rate adjustment is assumed for FYE 2023. The next Regional Rate Study is anticipated for Spring 2022"* (DSRSD, 2021b).

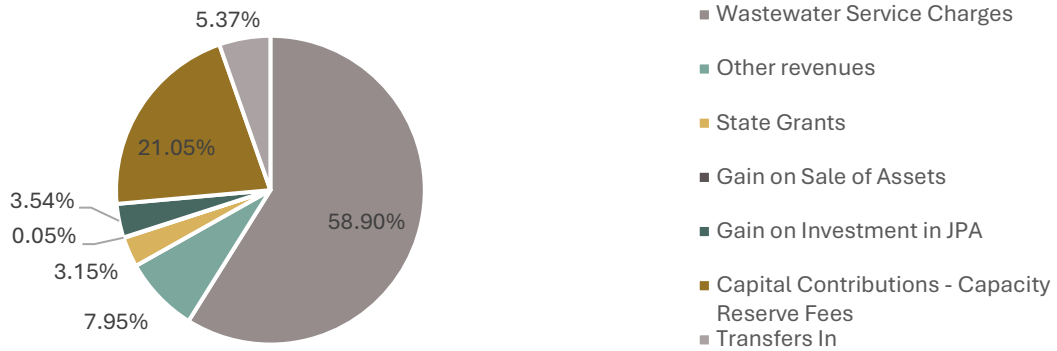
Though the District is currently operating in the black for both wastewater operations, it appears that developer fees are crucial to keeping both funds solvent. When looking purely at operating revenues versus operating expenditures, both wastewater operations may not be sustainable over the long term. However, DSRSD appears to be proactive in managing both funds through comprehensive financial policies based on industry best practices, 5-year rate studies, long-term approaches to financial planning spanning 10 years, and ensuring 4 months of working capital for each fund (DSRSD, 2023c).

The Regional Sewer Fund ended the fiscal year June 30, 2023 with a net position of $230,655,470, and the Local Sewer Fund with a net position of $62,922,648; both significant amounts of reserve fund balance (DSRSD, 2022b). This appears to be more than sufficient to absorb short-term and minor long-term downturn in revenues.

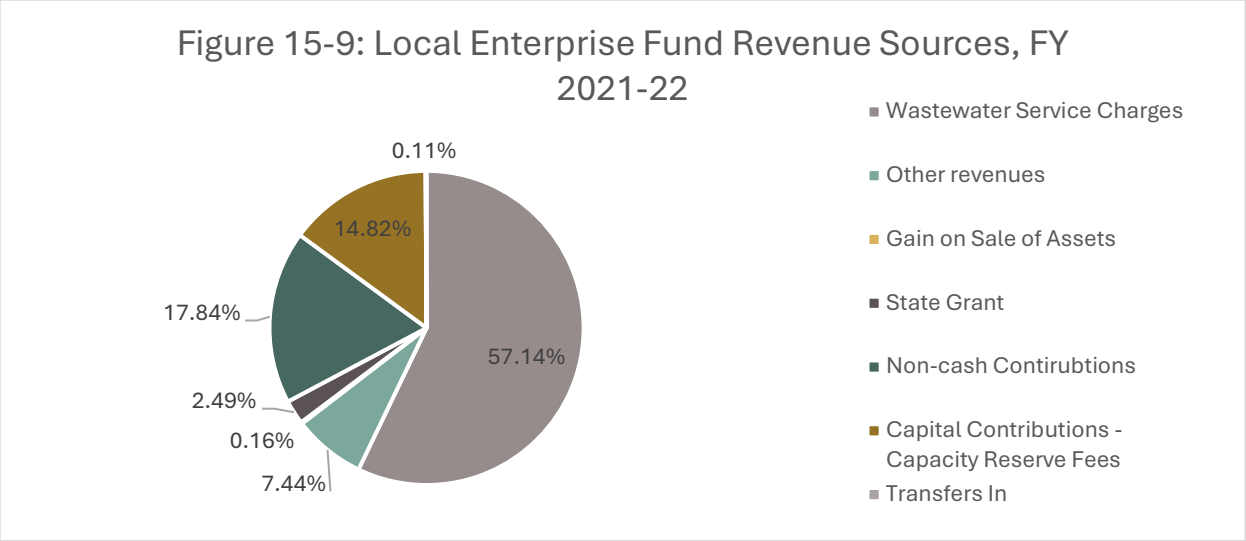
Ratios of Revenue Sources

Regional Wastewater Operations received revenues from a variety of sources over the four funds. Those revenues are shown in Figure 15-8 below. Approximately 59 percent of revenues originated from Wastewater Service Charges, with the next largest revenue source being Capital Contributions – Capacity Reserve Fees at approximately 21 percent for FY 2021-22. The third largest revenue source was Transfers In, making up approximately eight percent or $2.13 million, made up of approximately $335k from the Rate Stabilization Fund and $1.8 million from the Replacement Fund. The remaining revenue sources are from Other Revenues, State Grants, Gain on Sale of Assets, and Gain on Investment in the JPA (DSRSD, 2022b). The district regularly updates its revenue data and its new FY 2022023 ACFR contains updated information and is available on the DSRSD website.

Figure 15-8: Regional Enterprise Fund Revenue Sources, FY 2021-22



Local Wastewater Operations received revenues from a variety of sources over the four funds included in local wastewater operations. Those revenues are shown in Figure 15-9 below. Approximately 57 percent of revenues come from Wastewater Service Charges, with the next largest revenue source being Non-cash Contributions at approximately 18 percent (DSRSD, 2022b).

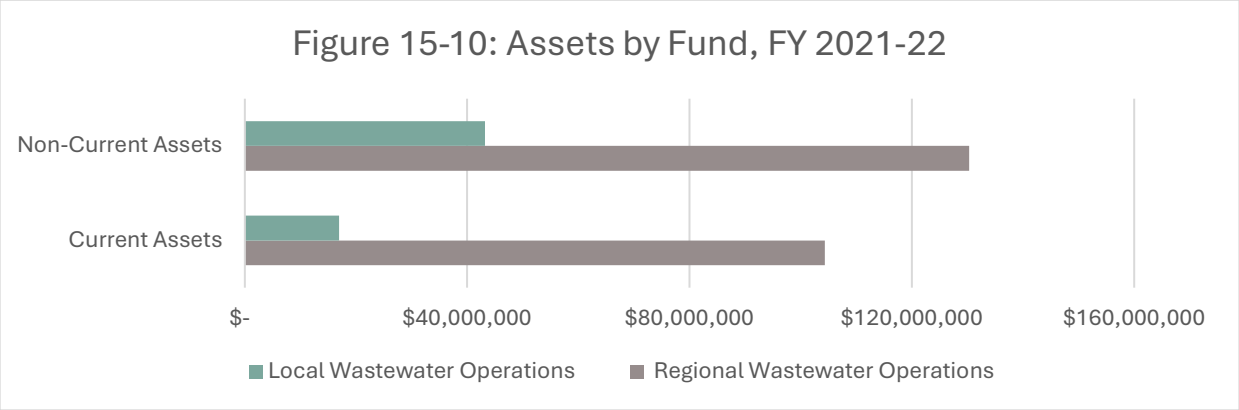


The third largest revenue source was Capital Contributions – Capacity Reserve Fees, making up approximately 15 percent or $1,137,246 combined from the Replacement Fund at $1,103,584 and the Expansion Fund at $33,662. The remaining revenue sources are from Other Revenues, State Grant, Gain on Sale of Assets, and Transfers In (DSRSD, 2022b).

Though over half of each operations revenue come from a stabilize revenue source (wastewater service charges), the 21 percent for the Regional Wastewater Operations and 15 percent for the Local Wastewater Operations portion of revenues that come from capital contributions. These revenues could be impacted by negative economic factors such as a development downturn and are considered a less stable source of revenue.

Ratio of Reserves or Fund Balance to Annual Expenditures

Figure 15-10 below shows the total assets for Local and Regional Wastewater Operations broken up by current and noncurrent assets for FY 2021-2022. An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures. Please note that updated financial data regarding expenditures and reserves can be found in the current budget available on the agency's website.



For Regional Wastewater Operations, the most recent audit completed in FY 2022-23 shows an unrestricted amount of $57,467,195. Operating expenses for the same fiscal year totaled $34,747,941. This equates to a positive ratio of 165 percent, a very good ratio (DSRSD, 2022). For Local Wastewater Operations, the most recent audit completed in FY 2022-23 shows an unrestricted amount of $9,989,267 Operating expenses for the same fiscal year totaled $5,293,984. This equates to a positive ratio of 189 percent, a very good ratio (DSRSD, 2022b).

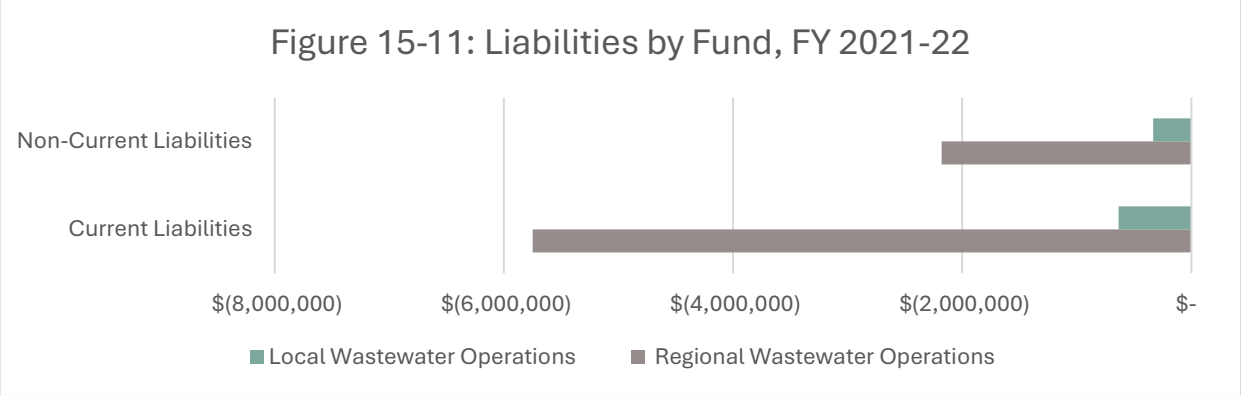
According to the FY 2022-23 Operating budget, staff undertook the first comprehensive update of staffing allocations across the three enterprises since the Great Recession. In many cases, individual staff provide support to more than one of the three enterprises, and the cost of this shared staff effort is allocated by formula to the three enterprises. This new reallocation of staff effort towards the enterprises has resulted in savings for the local wastewater enterprise's financial condition. Thus, the Local Wastewater Enterprise has recovered sooner than expected. This enterprise will meet reserve policy goals for the enterprise fund in both budget years, and the rate stabilization fund will meet the target reserve level in the second year. Lastly, the suspension of capital rehabilitation funding can be reversed and funding partially reinstated in FYE 2023, with the transfer of $800,000 from the enterprise fund to the capital replacement fund (DSRSD, 2021b).

The Operating Budget also states that the Regional Wastewater program is extraordinarily well funded, with working capital levels at or near maximum reserve levels throughout both years of the operating budget cycle. Combined Regional enterprise and rate stabilization fund working capital levels will exceed $27.6 million throughout the two-year budget cycle (DSRSD, 2021b).

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. Specifically, the DSRSD has several types of liabilities related to wastewater operations across both local and regional including accounts payable, contractor bonds and deposits, compensated absences, unearned revenue, net pension liability, DLD remediation reserve, and Other Post Employment Benefits (OPEB) liability (DSRSD,

2022a). Figure 15-11 shows total liabilities for Local and Regional Wastewater Operations delineated by current liabilities and noncurrent liabilities for FY 2022-23 (DSRSD, 2022b). The district regularly updates its financial data and new information about liabilities can be found in the most recent annual report available on the DSRSD website.



The ratio of annual debt service to total fund annual expenditures is an indicator of DSRSD's ability to meet debt obligations in relation to service provision expenditures. Ideally, a ratio of 10 percent or less would reflect a very stable ratio. DSRSD's annual debt service ratio for Regional Wastewater Operations to total expenditures is approximately 21 percent for FYE 2022 (DSRSD, 2021b). There is no debt service expenditure for Local Wastewater Operations. The District debt in the regional fund is its proportionate share of the 2021 LAVWMA Pledge Obligation through a contribution to JPA expense. As a member of LAVWMA, the District has pledged its regional service charges to a portion of these bonds. We refunded this debt in 21/22 with a net present value savings of $9.6M for the three LAVWMA partners. This has resulted in a savings of $980K/yr in interest expense for the DSRSD and Pleasanton obligation. Debt will be fully paid off in 2031 (personal conversation, C. Atwood 2023).

Capital Improvement Program

DSRSD conducts capital improvement planning over a 10-year planning horizon but is updated bi-annually during the budgeting cycle. The most recent Capital Improvement Plan (CIP) was adopted by Board Resolution No. 26-23 on June 20, 2023, and is posted online at: <https://www.dsrsd.com/about-us/library/financial-information>. The CIP aims to support the District's mission and strategic Plan. In fiscal years 2024 and 2025, DSRSD is investing $71.4 million in replacement and expansion projects. The CIP describes four wastewater funds as listed below:

- *Local Wastewater Replacement (Fund 210)* – The funding source to replace and improve local sewer facilities to handle existing wastewater flows. Facilities include trunk sewer lines, lift stations, and related appurtenances that transfer wastewater from the point of origin to the regional WWTP.
- *Local Wastewater Expansion (Fund 220)* – The funding source to expand or add local sewer facilities to accommodate increased wastewater flows from new development.

- *Regional Wastewater Replacement (Fund 310)* – The funding source to replace and improve the regional WWTP to process existing wastewater flows before further treatment for recycled water or transit through the LAVWMA pipeline to the San Francisco Bay for disposal.
- *Regional Wastewater Expansion (Fund 320)* – The funding source to expand or add to the regional WWTP and related appurtenances that process future wastewater flows.

Proposed expenditures for two fiscal years are shown in Table 15-6 below for each of the four funds described in the preceding paragraph.

Table 15-6: CIP Expenditures by Fund ($ 1,000's)

Fund	***2024***	***2025***
Local Replacement	939	2,129
Local Expansion	156	171
Regional Replacement	11,267	15,298
Regional Expansion	418	1,343

Data Source for Table 15-6: DSRSD, 2023b

The cost of replacing existing assets is built into the charges current customers pay for water and sewer services. Developers pay for expanding water and wastewater systems on behalf of future customers. Developer fees also purchase capacity in the community's existing infrastructure.

Alameda LAFCO's 2021 MSR on DSRSD noted that the Capital Improvement Program adopted during fiscal year budget hearings and the Sewer System Management Plan accommodates District-wide needed improvements for the existing SOI (Alameda LAFCO, 2021).

Rate Structure

Alameda LAFCO's 2021 MSR found that the present capacity of public facilities in DSRSD appears adequate. The District anticipates it will continue to provide adequate levels of services based on existing financing resources, which includes a specific rate based on service levels. If the District continuously updates rates accordingly with appropriate inflation and/or construction cost indices, service levels will remain adequate (Alameda LAFCO, 2021).

In May 2023, DSRSD adopted the new Sewer Cost of Service Study, as prepared by HDR Consultants (DSRSD, 2023a). The Sewer Cost of Service Study provides a financial plan that meets the operating and capital needs of the wastewater system. The Study describes the basis for developing and implementing regional and local sewer rates that are cost-based and proportional to both regional and local customers. Customers receive sewer bills on a bi-monthly basis. The local sewer service rates relate to the collection system and are listed in Table 15-7 below.

Table 15-7: Local Sewer Service Rates

Local System Residential Sewer Rates						
Customer Class	Current Rates	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Residential						
Single Family	$23.09	$24.36	$26.06	$26.85	$27.65	$28.48
Townhouse	$23.09	$24.36	$26.06	$26.85	$27.65	$28.48
Condominium	$17.32	$17.83	$19.07	$19.65	$20.23	$20.84
Duplex	$46.18	$48.72	$52.13	$53.69	$55.30	$56.96
Single Family Home with 2nd Dwelling Unit	$38.17	$42.18	$45.14	$46.49	$47.89	$49.32
Multifamily	$15.08	$17.83	$19.07	$19.65	$20.23	$20.84
Non-Residential	$1.23	$1.29	$1.38	$1.42	$1.46	$1.51

Data Source: DSRSD, Rate Study, 2023a

In addition to the local sewer rate shown above, DSRSD also charges a regional fee, which relates to wastewater treatment costs. DSRSD calculates the fee (local and regional) separately because they are two distinct enterprises. The local and regional fees are collected on the County property tax roll every six months. The average single-family home pays $82.58 bimonthly, which is charged six times per year. The total annual charge for a typical single-family home calculates to approximately $495.48.

Commercial customers are billed in a slightly different manner. The County does not handle commercial fees. Rather, the fees for commercial customers are based on water usage, and the fee is routed through EBMUD. EBMUD bills the customers (on behalf of DSRSD). There are very few commercial customers in San Ramon (approximately 30). For example, commercial customers include one golf course and a linear street mall with a grocery store (personal communication, S. Delight, January 2024).

DSRSD also charges various permit fees and capacity reserve fees to fund infrastructure improvements. Additional charges, such as a base rate, may be applicable. DSRSD maintains rate stabilization funds for local sewers to minimize rate increase impacts on customers.

15.5: POPULATION

DSRSD serves a total population of approximately 199,952 people, as listed in Table 15-8 below. In the Contra Costa County portion of the DSRSD, there are 27,220 registered voters as of January 2023. Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

Table 15-8: Existing Permanent Population, DSRSD, 2020	
Dublin San Ramon	**Population in Boundary [1]**
City of Dublin[2]	74,211
City of San Ramon [3]	46,000
unincorporated Contra Costa area (i.e., Federal Correctional Institution, Camp Parks)	n/d
Subtotal (In Boundary)	***120,211***
City of Pleasanton [4]	79,741
Grand Total for Service Area	**199,952**

Sources:

1) California Department of Finance. May 2023. E-5 Population and Housing Estimates for Cities, Counties, and the State: January 2021-2023 with 2020 Benchmark. Sacramento, California. *https://www.dof.ca.gov/Forecasting/Demographics/* .
2) The City of Dublin is located in Alameda County, and DSRSD serves the entire City.
3) (3): DSRSD serves only a portion (74%) of the City of San Ramon. San Ramon lies entirely within Contra Costa County. CCCSD provides wastewater service to the remaining portion of San Ramon. San Ramon's total population is 84,605 (2020 Census).
4) (4) The City of Pleasanton is located in Alameda County and has a contract with DSRSD.

Projected Future Population

Projecting a district's future population is complicated due to varying annexation rates and census tracts that do not match district boundaries. Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County, as shown in Table 15-10 below. Since the anticipated future population growth of the City has the potential to influence the demand for the provision of wastewater services, the projections are shown in Table 15-10 below.

Table 15-10: Total Estimated & Projected Population (2020 – 2045)

	2020	2025	2030	2035	2040	2045	Percent Increase 2020 to 2045	Numeric Increase 2020 to 2045	CAGR 2020 to 2045
County of Contra Costa[1]	1,149,800	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.8%	181,631	0.59%
Dublin San Ramon Services District (Contra Costa Portion Only [2, 3, 4])	46,000	47,475	49,331	50,898	52,042	52,791	14.70%	6,791	0.55%

Sources:
1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.
2: 46,000 residents in Contra Costa portion of the boundary. Data provided by Contra Costa LAFCO.
3. See also California Department of Finance. (2021). E-1 Population Estimates for Cities, Counties, and the State: January 1, 2020 and 2021. Sacramento, California.
4: Population projection for the San Ramon portion calculated as 3.97 percent of the County of Contra Costa population.

See also Alameda LAFCO. Approved November 2021. County-wide Municipal Services Review on Water, Wastewater, Flood Control, and Stormwater Services. Contributions from Q.K. 300-pages. (Available via Alameda LAFCO request).

15.6: DISADVANTAGED COMMUNITIES

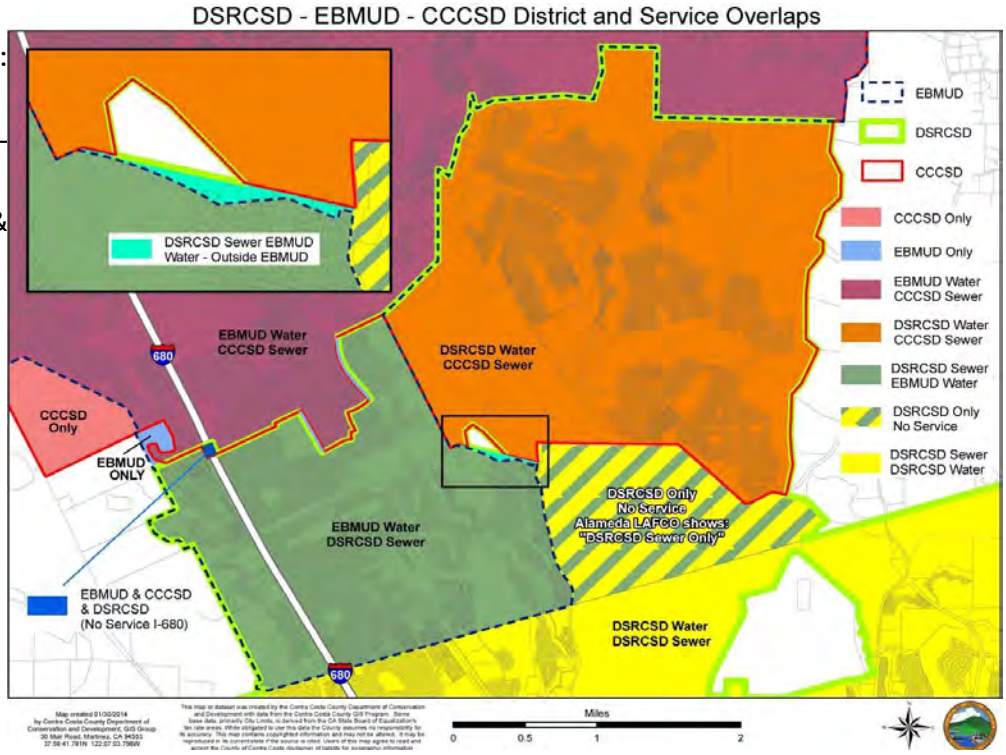
Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in some disadvantaged communities. Data from the 2020 U.S. Census was queried as part of this MSR Update process. Data query results showed no disadvantaged unincorporated communities (DUCs) within the District's boundary or its SOI. Low-income areas within the city limits were also queried. There are no disadvantaged areas within the cities of Dublin and San Ramon boundaries.

15.7: GOVERNMENT STRUCTURE ALTERNATIVES

Alameda County LAFCO is the principal LAFCO for DSRSD and is legally responsible for determining DSRSD SOI in both Alameda and Contra Costa counties. However, both LAFCOs work cooperatively in evaluating the future service needs of the DSRSD's entire service population and in evaluating DSRSD's SOI. Within Contra Costa County, DSRSD's boundary is currently coterminous with its SOI. According to the DSRSD staff, the District does not anticipate any consolidations or adjustments to the boundary in the next five years (DSRSD, 2022). No modifications to the District's current SOI within Contra Costa County are recommended at this time. In addition, no alternative governance structure options have been identified for DSRSD for CC LAFCO within Contra Costa County.

However, it should be noted that DSRSD, EBMUD, and Central Contra Costa Sanitary District appear to have overlapping boundaries in an area located in the southern part of the County and identified in Figure 15-8 below. This may be a drawing error since there is not any infrastructure in this area. Further study by the affected districts, CC LAFCO, and Alameda LAFCO may be warranted to identify opportunities to simplify water and wastewater service delivery in this location.

Figure 15-8: Overlapping Boundary – EBMUD, CCCSD & DSRSD



Regarding the geographic overlap, DSRSD staff has noted that the District has a strong relationship with EBMUD, and they jointly participate in one (or more) JPA. Although there are a few situations where pipelines for EBMUD, DSRSD, and Central Contra Costa Sanitary District overlap, the field staff from each agency work together to resolve any pipe issues. One benefit in the overlap area is that a few physical interconnections can be opened in the event of an extreme emergency. Standard operating procedures and agreements describe the process to open pipe interconnections.

15.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

DSRSD's "principal" county for LAFCO purposes is Alameda County. No Municipal Service Review determinations are included in this report.

15.9: RECOMMENDED SPHERE OF INFLUENCE DETERMINATIONS

DSRSD's "principal" county for LAFCO purposes is Alameda County. No SOI determinations are included in this report.

15.10: BIBLIOGRAPHY

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CHAPTER 16: EAST BAY MUNICIPAL UTILITY DISTRICT –WASTEWATER SERVICES

Table of Contents

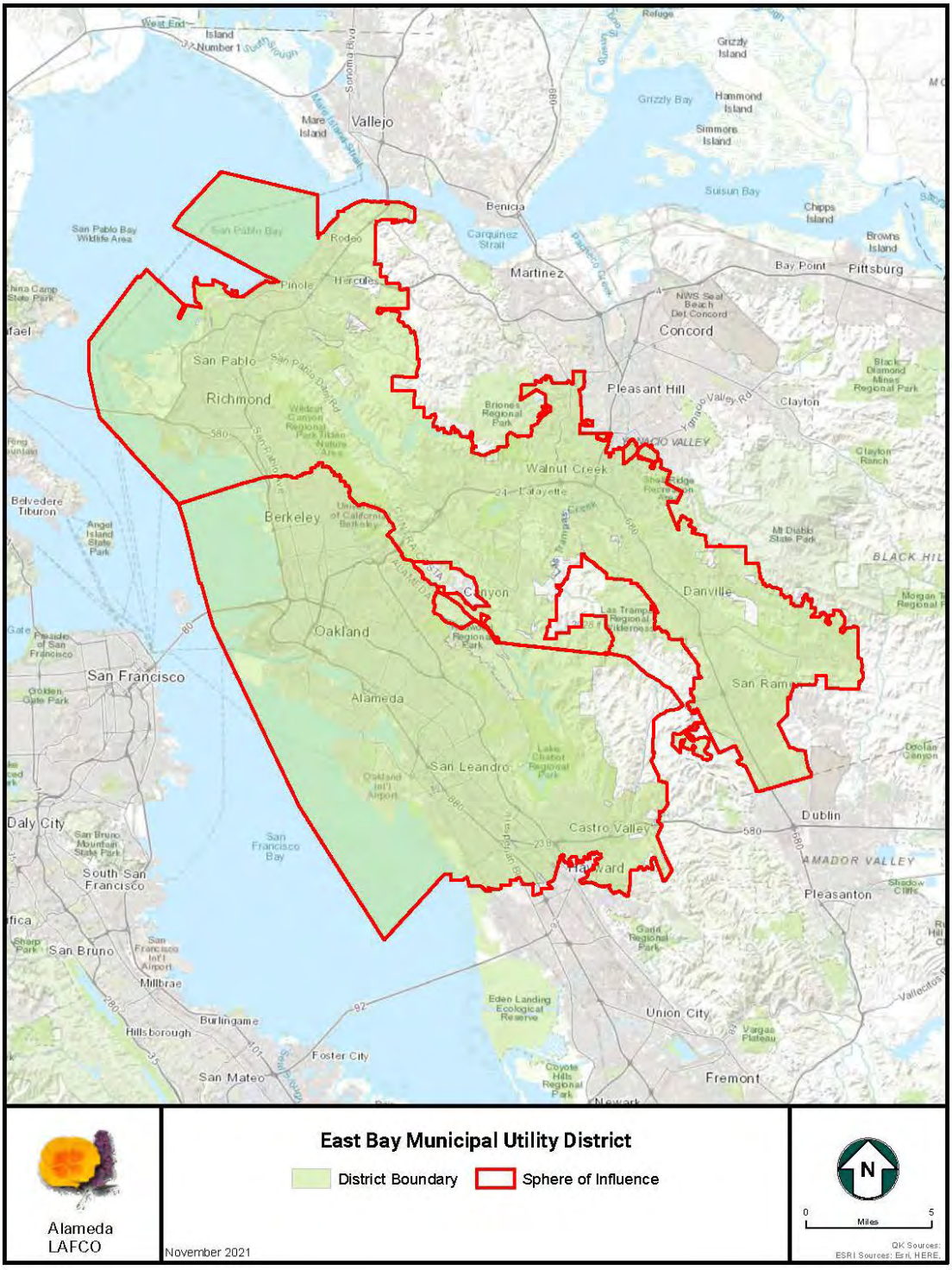
16.1: OVERVIEW

The East Bay Municipal Utility District's (EBMUD) "principal county" for purposes of LAFCO is Alameda County. EBMUD was recently reviewed in the Alameda Lafco Countywide Municipal Services Review On Water, Wastewater, Flood Control, And Stormwater Services, adopted in November 2021. Information regarding EBMUD is included in this 2024 MSR for discussion purposes only. No MSR determinations for EBMUD are included in this report. A map of EBMUD's current boundary and sphere of influence (SOI) is shown in Figure 16-1 and is courtesy of Alameda LAFCO. EBMUD provides wholesale water, retail water, wastewater collection, and wastewater treatment services for an area of approximately 332 square miles in Contra Costa and Alameda counties. In Contra Costa County, EBMUD also provides wastewater treatment and disposal services to the Stege Sanitary District (SSD). SSD operates a wastewater collection system and relies on EBMUD for wastewater treatment and disposal. SSD's wastewater service area comprises approximately 13,123 service connections located in the City of El Cerrito, the unincorporated community of Kensington, and a portion of the City of Richmond. EBMUD's Agency Profile is shown in Table 16-1. EBMUD lies within the San Francisco Bay / Sacramento Delta Estuary watershed. Additional information about this watershed is provided in Appendix F.

Table 16-1: Agency Profile – East Bay Municipal Utility District

General Information			
Agency Type	Municipal Utility District		
Principal Act	Municipal Utility District Act, Public Utilities Code Section 11501 et.		
Date Formed	1923		
Sewer Services	recycled water and wastewater treatment		
Service Area			
Location	Parts of Contra Costa and Alameda Counties		
Acres	• 88 square miles of wastewater service area (Contra Costa and Alameda Counties) (EBMUD, n.d.a) • 5.3 square miles (Stege Sanitary District, Contra Costa County only) (SSD, 2022a)		
Land Uses	Residential, commercial, industrial, institutional, agricultural/irrigation		
Population Served	• Wastewater: 740,000 (Contra Costa and Alameda Counties) (EBMUD, n.d.a). • Approx. 38,270 (Stege Sanitary District, County of Contra Costa) (SSD, 2022a)		
Last SOI Update	Alameda County LAFCO (District's principal LAFCO) reaffirmed EBMUD's SOI in 2021.		
Sewer Infrastructure/Capacity			
Facilities	Regional wastewater treatment facility; three wet weather facilities; 15 pumping plants; 37 miles of large pipelines (EBMUD, n.d.a)		
Treatment Plant Capacity (MGD)	Dry weather- 120 MGD permitted capacity. Wet weather- 320 MGD (maximum) • Primary Treatment Capacity-320 MGD; • Secondary Treatment Capacity-168 MGD; • Average Treatment- 54 MGD (EBMUD, 2021a)		
Primary Disposal Method	EBMUD Main Wastewater Treatment Plant (primary and secondary treatment); treated effluent discharged through an outfall into San Francisco Bay.		
ACFR Information- FY 2023			
	Revenues	Expenditures	Net Surplus/(Deficit)
Operating/General Fund	$780,427,000	$599,186,000	$181,241,000
Combined Other Funds	$86,591,000	$119,578,00	$148,254,000
All Funds	$867,018,000	$718,764,000	$222,199,000
	FY 2024/2025	Long Term Planned Expenditures	
Capital Expenditures	$ 2.8 billion	5 Year Projection (FY 2024-2028)	
Total Assets	$ 6.91 billion	June 30, 2023 Financial Statement- Restricted & Unrestricted	
Governance			
Governing Body	Board of Directors (7 members elected by ward)		
Agency Contact	Clifford C. Chan, General Manager, Clifford.chan@ebmud.com		
Notes			

Figure 16-1: Boundary/SOI Map – East Bay Municipal Utility District



16.2: DISTRICT BOUNDARY & SOI

EBMUD originated as a private water company that was formed to provide water to the newly incorporated City of Oakland in 1866. In 1916, the Contra Costa Water Company was incorporated into the East Bay Water Company. Following World War I, several laws were enacted regarding providing municipal services to California's growing population, including the Municipal Utility District Act passed in 1921. In 1923, EBMUD was formed. In 1944, EBMUD added wastewater collection to its services by forming Special District No. 1 (SD-1). SD-1 operates as a subsidiary district within EBMUD and is administered by EBMUD's Wastewater Department. SD-1 is governed by the same EBMUD Board of Directors, who meet in the Administrative Building shown in Figure 16-2 (LAFCO, 2008). Wastewater treatment services were added in 1951 with the opening of the regional wastewater treatment facility. SD-1 serves approximately an 88-square-mile area of Alameda and Contra Costa counties along the east shore of the San Francisco Bay.

The District's SOI was reconfirmed as part of LAFCO's 2014 MSR/SOI Update for Wastewater Services. Most recent annexations to EBMUD included one annexation in unincorporated Alamo (2021) and one in 2020 (unincorporated Diablo).

In 2021, Alameda LAFCO approved a MSR which included EBMUD's water and wastewater services as shown in Figure 16-1.

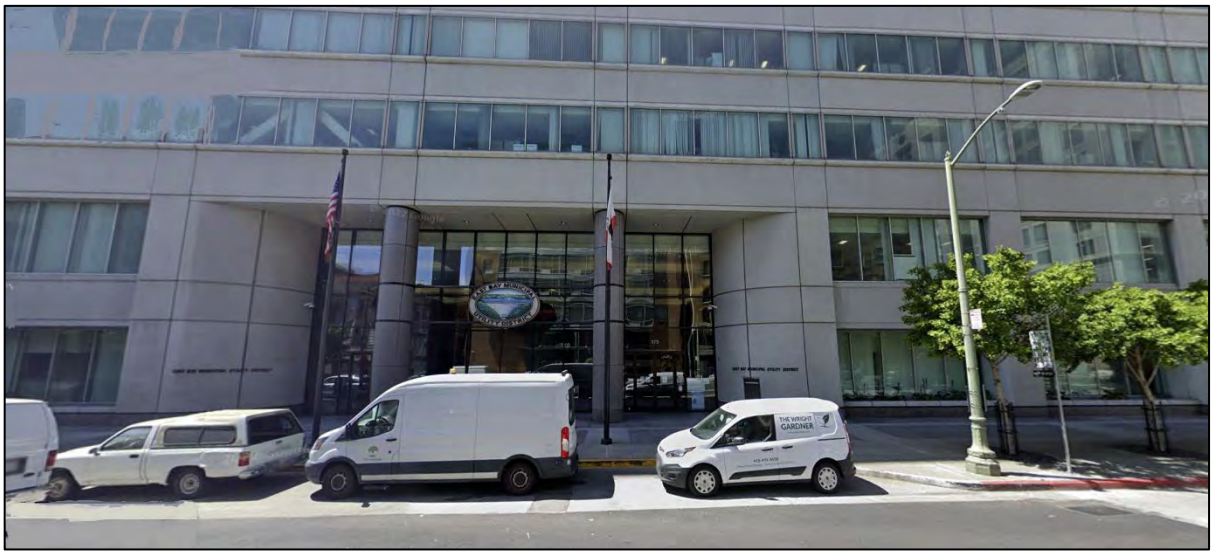


Figure 16-2: EBMUD Administration, 375 11th Street, Oakland, CA 94607-4240
Courtesy of Google Maps

SF Bay Land Use

The Bay Area Regional Collaborative includes the Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), San Francisco Bay Conservation and Development Commission (BCDC) and Bay Area Air Quality Management District. This collaborative multi-agency regional committee allows for cross-jurisdictional work on projects such as Resilient Bay Area and Carbon Free Future.

EBMUD's boundary/SOI is adjacent to a portion of the San Francisco Bay which is a sensitive environmental resource. The California state planning and regulatory agency with regional authority over the San Francisco Bay, the Bay's shoreline band, and the Suisun Marsh is called the San Francisco Bay Conservation and Development Commission (BCDC). Its mission is to protect and enhance San Francisco Bay and to encourage the Bay's responsible and productive use for this and future generations. BCDC works to ensure projects are compatible with the conservation of Bay resources as described on its website at: <*https://bcdc.ca.gov/* >.

16.3: DISTRICT WASTEWATER OPERATIONS

EBMUD treats domestic, commercial, and industrial wastewater within the 88-square-mile service area of SD-1 (EBMUD, n.d.a.). In Contra Costa County, SD-1 accepts wastewater for treatment from Stege Sanitary District (SSD) (see Chapter 20), which services the City of El Cerrito, the community of Kensington, and a portion of the City of Richmond. SSD's wastewater is conveyed to the EBMUD Main Wastewater Treatment Plant. EBMUD provides wastewater treatment to approximately 13,123 SSD sewer connections (SSD, 2022b).

Infrastructure

EBMUD routes wastewater through 29 miles of interceptor sewer pipe, 15 pump stations, three wet weather facilities, and five overflow structures (EBMUD, LHMP, 2022a). The seven satellite collection systems are owned and operated by separate service providers and are discharged into EBMUD's interceptor system. The wastewater is then sent to EBMUD's Main Wastewater Treatment Plant in Oakland, near the entrance to the San Francisco-Oakland Bay Bridge. The average annual daily flow is approximately 50 MGD. A portion of the treated effluent is also utilized for recycled water supply within EBMUD and other water agencies' recycled water programs. EBMUD maintains an aggressive Capital Improvement Program (CIP) to expand and rehabilitate its infrastructure with a planned $2.5 billion budget for FY 2020-2024 (EBMUD, n.d.b). Table 16-2 provides a brief list of EBMUD's wastewater infrastructure.

Table 16-2: List of System-wide Infrastructure		
Type of Facility	**# of Units in Total Service Area**	**Notes**
Main Wastewater Treatment Plant	1	• Design capacity 120 MGD • Average annual flow 70 (2010 MGD) • Peak wet weather flow 320 MGD
Pump Stations	15	
Intercepting sewer pipelines	29 linear miles	
sewer force mains	8 linear miles	
Resource Recovery		Includes receiving tanks, PGS Turbine, blend tanks etc.
Misc. Facilities	• Three wet weather facilities, • two dichlorination facilities, • one discharge transition structure, • four overflow structures • one laboratory	
Data Source: EBMUD, 2022, SSMP		

Although portions of the wastewater infrastructure are aging and deteriorating, EBMUD remains committed to maintaining and rehabilitating infrastructure. Implementing the Integrated Master Plan is a core component of this work.

Wastewater Treatment Plant

The Main Wastewater Treatment Plant (WWTP) is located at Bay Bridge Trail, Oakland, CA 94607. The WWTP is designed to provide primary treatment for a flow of up to 320 MGD and secondary treatment for a maximum flow of 168 MGD. The average daily flow is 60 MGD (EBMUD, 2022, SSMP). EBMUD has an approximate nine-MGD capacity of recycled water production (Alameda LAFCO, 2021).

Primary treatment removes floating materials, oils and greases, sand and silt, and organic solids heavy enough to settle in water. Secondary treatment biologically removes most suspended and dissolved organic and chemical impurities. Storage basins provide a short-term plant capacity of 415 MGD during peak wet weather events.

Disposal and Biosolids

The treated effluent is disinfected, dechlorinated, and discharged through a deep-water outfall into the San Francisco Bay. The remaining dried sludge is directed to the Biosolid Program, where seven percent is composted, 36 percent is sent to local landfills for use as cover-material, and 57 percent is applied to farmland as fertilizer. Please note that in 2022, Senate Bill 1383 added requirements to the Biosolid Program.

Figure 16-3: EBMUD Wastewater Service Area

Wet Weather Facility – Point Isabel

EBMUD owns and operates the Point Isabel Wet Weather Facility (Facility) at 2755 Isabel Street, in Richmond, within Contra Costa County. This facility provides storage and treatment for peak wet weather flows diverted from an interceptor system. If influent flows exceed the on-site storage capacity, the facility provides treatment consisting of coarse screens, bar screens, grit chambers, and sedimentation/disinfection basins. The facility discharges from Discharger Point 001 into the Richmond Inner Harbor in San Francisco Bay. The facility is required to comply with effluent limitations for discharges for pH, total, and chlorine residues. On October 24, 2021, the facility experienced an accident where it discharged highly chlorinated wastewater, approximately

3,795,500 gallons, into the San Francisco Bay. This discharge violated water quality permits Order R2-2020-0003 and NPDES Permit CA0038440. Therefore, the RWQCB assessed fines and penalties.

Sewer System Management Plan

EBMUD's Sewer System Management Plan (SSMP) was initially approved in 2009 and updated in 2022. The SSMP is a planning document that helps EBMUD staff effectively manage, operate, and maintain the wastewater collection system. The plan seeks to provide adequate capacity for conveying flows, minimize sanitary sewer overflows (SSOs), and mitigate their impacts. It includes a Fats, Oils, and Grease (FOG) control program, legal authority, resources and budgeting for system maintenance, and preventive measures. The SSMP also covers capacity management, monitoring, audits, and a communication plan, emphasizing community outreach and environmental compliance. Regular updates to the SSMP and staff training support the wastewater system's efficiency and reliability (EBMUD, 2022b, SSMP).

Integrated Master Plan

The Main WWTP is the focus of the Integrated Master Plan, which provides a 30-year roadmap for capital improvement, focusing on managing aging infrastructure, enhancing capacity, adapting to new regulations, and building climate change resiliency. The Master Plan integrates various aspects of wastewater management, including environmental, financial, social, and technical elements, to ensure sustainable and cost-effective solutions. Implementing the projects described in the Master Plan will involve significant investment in infrastructure renewal, including seismic retrofit projects and the development of new treatment facilities, while also considering future uncertainties and potential technological advancements. The plan is a dynamic, adaptive strategy designed to meet the evolving needs of the wastewater service area and environmental regulations (EBMUD, n.d.a.).

Water Recycling

The treated wastewater is utilized for recycling and production of renewable energy. EBMUD transforms sewage and other organic wastes into green energy, nutrient-rich soil conditioner, and recycled water. The innovative green energy program produces more than enough renewable energy to meet the power demands on-site at the WWTP. Alameda LAFCO's 2021 MSR notes the following:

> The four recommended non-potable reuse projects in the updated Recycled Water Master Plan include continued expansion and implementation of the DSRSD-EBMUD Recycled Water Authority (DERWA)/San Ramon Valley Recycled Water Project (pending adequate supply), the East Bayshore Recycled Water Project, development of a new recycled water supply for the Phillips 66 refinery in Rodeo using effluent from the Pinole-Hercules and Rodeo Wastewater Treatment Plants, and expansion of the recycled water supply to the Chevron refinery in Richmond, potentially using the City of Richmond's Wastewater Treatment Plant. Most of the capital cost for construction for these projects is planned to occur after 2030 (Alameda LAFCO, 2021).

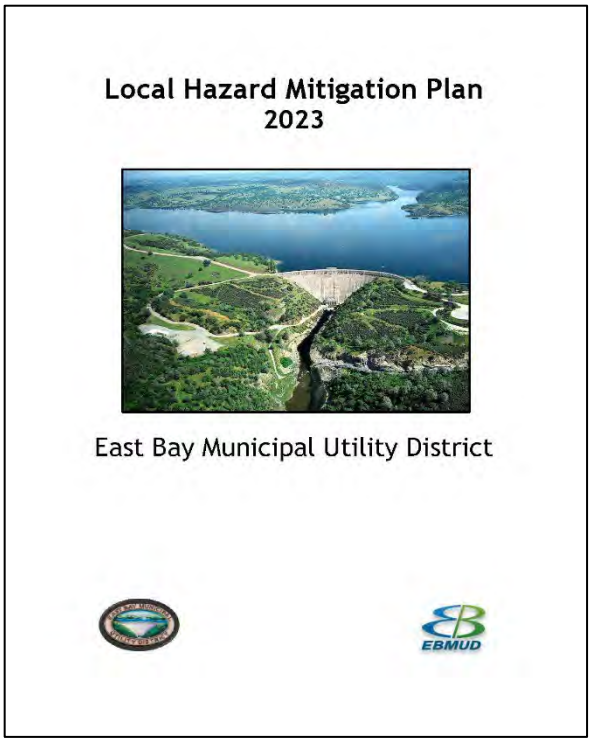
Local Hazards

The Contra Costa County Hazard Mitigation Plan Volume 2, dated January 2018, maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards (Contra Costa County, 2018). EBMUD did not participate in the Contra Costa County-wide Hazard Mitigation Plan. However, the district developed its own Local Hazard Mitigation Plan (LHMP) in 2023. The LHMP is an update of its previous plans, focusing on reducing risks from natural hazards to its water and wastewater facilities. It identifies and assesses hazards such as earthquakes, floods, wildfires, droughts, and climate change. The LHMP outlines strategies for reducing potential damages and service disruptions caused by these hazards. It emphasizes the integration of regional and local mitigation efforts, public involvement, and coordination with state and federal agencies. The plan includes a detailed vulnerability assessment of EBMUD's facilities and prioritizes mitigation goals and actions for implementation over the next five years (EBMUD, 2022a). Additionally, the district's Integrated Master Plan recognizes risks associated with rising sea levels and other hazards.

Sanitary Sewer Overflow Database

The State Water Board maintains a Sanitary Sewer Overflows (SSO) database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). Since EBMUD's wastewater treatment plant is located in Alameda County, SSOs are not analyzed herein. The State Water Board's SSO database lists SSO events that occurred in relation to EBMUD facilities, most of the SSO events occurred in Alameda County.

During heavy storms, inflow and infiltration (I&I) into private sewer laterals and subsequently into the wastewater system, may occur. I&I may cause overflows throughout the system. In 1979, EBMUD entered into a JPA powers agreement with the communities in its sewer service area to develop a regional solution for rehabilitating city and community-owned and operated wastewater collection systems (and private sewer laterals). Anytime ownership of property changes, owners are encouraged to seek improvement to their lateral. EBMUD coordinates the private sewer lateral program on a regional level. This is a service that EBMUD provides in partnership with its satellite collection districts (except for the City of Berkeley which has its own program). The program website is: <*Eastbaypsl.com*>. EBMUD also has robust replacement of older infrastructure, such as inceptor lines. Similar to any agency dealing with storm water, when storms come in,



EBMUD sees more water (personal communication, J. Flynn EBMUD, March 20, 2024).

EBMUD is under a consent decree with the CA Water Board and the Environmental Protection Agency (EPA) to repair leaky pipes throughout the East Bay, which should help prevent SSOs in the future. The legal document associated with this consent decree was filed in 2014 with the United States District Court, Northern District Of California (U.S.D.C, 2014). Additionally, atmospheric river events, which occurred in January 2023, can result in infiltration and inflow to local sewer pipes as described in Appendix F, Watersheds. Please refer to Chapter 19 for information on SSOs in relation to the Stege Sanitary District.

From July to October 2022, San Francisco Bay experienced a harmful algal bloom (HAB) known as a red tide, as described in Appendix F. The species associated with this bloom, *Heterosigma akashiwo*, can cause water to take on a reddish-brown color. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay, and into San Pablo Bay. Fish deaths linked to the red tide were reported to include sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San Francisco Bay Water Board is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other agencies to study the potential impacts of nutrients on San Francisco Bay. EBMUD has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater districts and the Water Board.

Cooperative Programs

EBMUD and SSD share a wastewater service area in Contra Costa County and have a good working relationship. Both agencies continue to share information. EBMUD aims to work well with its sister agencies within its entire service area (personal communication, J. Flynn, March 20, 2024). For example, EBMUD collaborates with the Bay Area Pollution Prevention Group. This group developed and implemented pollution prevention strategies and exchanged information to coordinate pollution prevention efforts. The group is composed of many agencies that provide services in Alameda County, including the Central Contra Costa Sanitation District, Dublin San Ramon Services District (DSRSD), EBMUD, and the cities of Hayward, Livermore, and San Leandro (Source: Alameda LAFCO, 2021)

EBMUD participates in wastewater programs, including water recycling projects, in the Contra Costa and Alameda County regions. Specifically, EBMUD is a partner in the DSRSD-EBMUD Recycled Water Authority. DERWA is a joint powers authority (JPA) formed by DSRSD and EBMUD to increase the amount of recycled water delivered in Dublin and the San Ramon Valley. The City of Pleasanton also participates in the service on a wholesale/contract basis. (Alameda LAFCO, 2021). Formed in 1995, this JPA encourages recycled water development in the San Ramon Valley. DERWA is directed by four board members, two from DSRSD and two from EBMUD. DERWA runs the San Ramon Valley Recycled Water Program, which consists of treating, storing, and using recycled water for landscape irrigation in portions of the Blackhawk, Danville, Dublin, and San Ramon areas. In the future, it is

hoped the program will extend recycled water into other parts of the San Ramon Valley (Alameda LAFCO, 2021).

Cost Avoidance Opportunities

EBMUD participates in regional purchasing programs for treatment chemicals and equipment and provides specialized maintenance and inspection services for several agencies. These programs assist in reducing overhead costs and provide staff efficiencies to all utilizing agencies. EBMUD has also developed several jointly funded recycled water projects (supplemented through grant funding from state and federal agencies) with other agencies.

Future challenges

In the future, EBMUD will likely face several key challenges in providing wastewater treatment and disposal services:

- Aging Infrastructure
- Seismic Safety
- Nutrient Management
- Dewatering
- Biosolid utilization

To address these challenges, EBMUD has a 10-year CIP (EBMUD, 2020a).

The American Society of Civil Engineers, Region 9, has several recommended remedies for California's aging wastewater infrastructure, as outlined in Appendix J and summarized below:

1. Implement an education program at the state and local level about what a WWTP is, what kind of waste it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water reuse/recycling.
4. (Source: American Society of Civil Engineers, 2019)

16.4: DISTRICT FINANCIAL OVERVIEW

The main focus of this analysis is the Sewer Enterprise Fund. Enterprise funds are used to account separately for self-supporting operations. EBMUD's Annual Comprehensive Financial Reports (ACFRs) are the primary information source for data related to the Sewer Enterprise Fund. The District offers the public a robust financial report accounting on their webpage for financial reports. Documents available to the public include annual audited basic financial statements (last five years), the district's ACFRs (last five years), single audits, annual unaudited continuing disclosure information statements (last five years), quarterly unaudited financial statements, unaudited investment reports, annual audited employees' retirement system financial statements (last five years), and annual audited joint power authorities financial statements (1 year). These reports are posted on the district's website at: *https://www.ebmud.com/about-us/financial-*

information/financial-reports. This financial analysis represents a snapshot in time (i.e. a limited time period). However, EBMUD regularly updates its financial data and readers may review the new data on its website.

The District produces an Annual Comprehensive Financial Report (ACFP) each fiscal year (FY) in accordance with Generally Accepted Accounting Principles (GAAP). In addition, the district's finances are the subject of independent financial audits each year. The ACFRs for FY's 2018-19, 2019-20, 2020-21, 2021-22, and 2022-23 will be the primary sources of information for data related to the financial health of the district (EBMUD, 2019; 2020b; 2021b; 2022b; 2023). One of the district's goals is to manage EMBUD's finances to meet funding needs and maintain fair and reasonable water and wastewater rates.

EBMUD adopted a biennial budget for FY 2024 and 2025. Total Wastewater System Board-adopted appropriation is $222.3 million in FY 2024, and $230.5 million in FY 2025. Over the five-year period (FY 2024 to 2028), major capital work includes anticipated spending of $140 million to rehabilitate and improve the infrastructure at the wastewater treatment plant including seismic retrofits; $58 million to rehabilitate sewer interceptors and pump stations; $40 million to make improvements to various treatment processes including the oxygen production plant, sedimentation tanks, and clarifiers; and, $27 million to improve the dewatering building and equipment that produce beneficial biosolids.

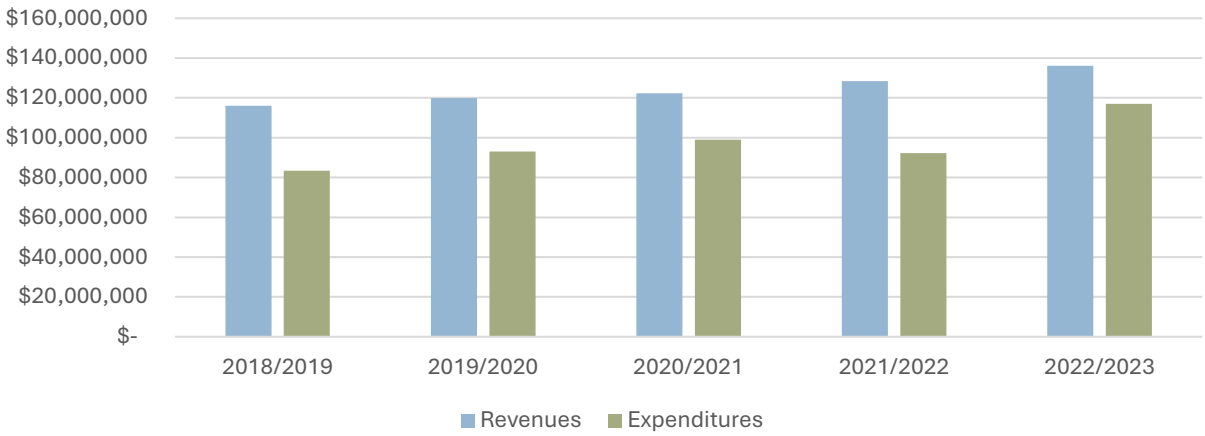
EBMUD operates its wastewater services as an enterprise-type activity, with its primary revenue sources being service charges and fees. Overall, EBMUD's financial status is very stable. EBMUD maintains a long-term CIP and maintains sufficient revenue generation for funding projects. EBMUD maintains a very good reserve fund balance, providing good capability to absorb short-term impacts. Although its debt service to annual expenditure ratio is moderately high, its significant reserve balances alleviate any concern regarding debt service obligations. EBMUD recently adopted rate increases on July 1, 2023.

Five primary areas of criteria have been utilized to assess the present and future financial condition of EBMUD's wastewater service operations, as discussed below:

5 Year Revenue/Expenditure Budget Trends

The District's Wastewater Enterprise Fund has revenues exceeding expenditures for all fiscal years studied as shown in Figure 16-4 below. Wastewater Fund expenses for FY 2022-23 were approximately $117.028 million, which was $19.06 million less than Total Revenue that same FY ($136,095,000). This key performance measure indicates the Wastewater Fund is solvent and has the capacity to cover its costs. The Fund has been experiencing surplus spending over the last five years. Rate increases have been implemented over the last several years to accommodate the expenditures.

Figure 16-4: Operating Revenues Compared to Expenditures

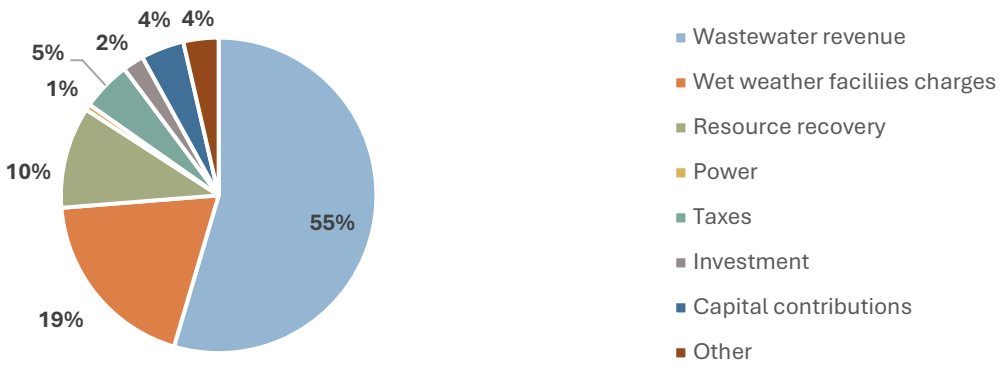


EBMUD's Wastewater Fund has experienced balanced budgets overall with significant annual surpluses. EBMUD maintains significant amounts of reserve fund balances, more than sufficient to absorb short-term and minor long-term downturn in revenues.

Ratios of Revenue Sources

In FY 2022-23, EBMUD received approximately 74 percent of its revenues for wastewater services from charges and fees for services, five percent from property taxes, 10 percent from resource recovery sources, and 11 percent from other sources including power, investments, and capital contributions as shown in Figure 16-5 below. This ratio reflects an appropriate balance for a typical enterprise-type service and minimizes the impact that negative economic factors will have on more elastic revenues such as property tax.

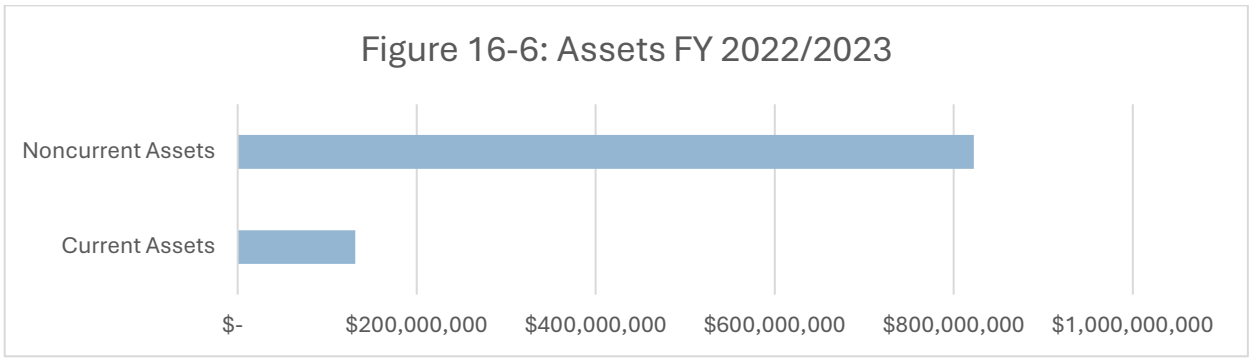
Figure 16-5: Ratio of Revenue Sources



Wastewater revenue made up $87.7 million followed by Wet Weather Facilities Charges (WWFC) at $30.8 million. The WWFC was established in 1987 (Resolution No. 31890) to recover the ongoing capital costs of implementing the district's wet weather program. The program provides storage, conveyance, and treatment facilities for the excess wastewater flows that enter the sewer collection system during wet weather in order to prevent the release of untreated wastewater to San Francisco Bay.

Ratio of Reserves or Fund Balance to Annual Expenditures

Figure 16-6 below shows the total assets for wastewater operations by current assets and noncurrent assets for FY 2022-23. An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures.



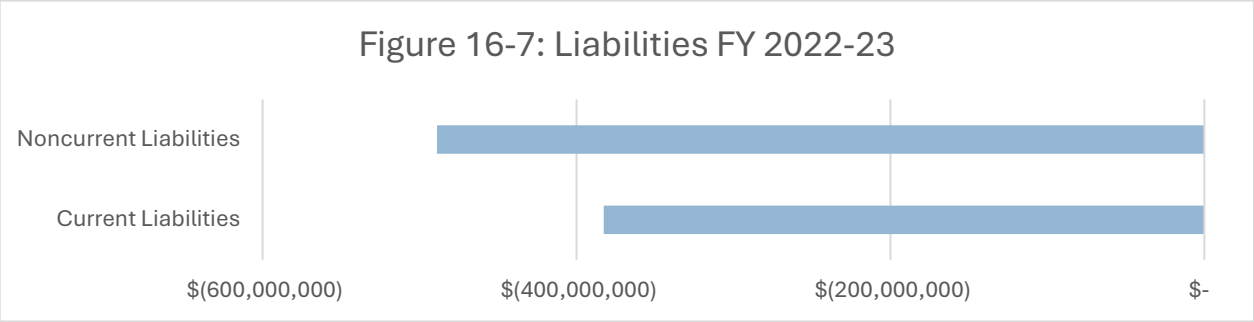
EBMUD's most recent audit completed in FY 2022-23, shows an unrestricted amount of $11,773,000. Operating expenses for the same FY were $117,028,000. This reflects a positive ratio of approximately 10 percent of annual expenditures.

In addition to the district's unrestricted reserves, EBMUD maintains a Contingency and Rate Stabilization Reserve in accordance with District's Fiscal Policy 4.02. The purpose of this fund is to provide an adequate reserve to mitigate overall rate volatility resulting from climatic or economic changes that significantly decrease the district's revenues or increase the district's operating costs. Under this policy the district maintains at least five percent of annual operating and maintenance expenses for wastewater services.

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. Specifically, EBMUD has several types of debt related to wastewater services including pension obligation bonds, revenue bonds, USDA COP loan, PG&E retrofit loan, equipment lease, net pension liability, total Other Post Employment Liability (OPEB), and compensated absences. Figure 16-7 shows total liabilities for EBMUD by current liabilities and noncurrent liabilities for FY 2022-23. For this FY, the wastewater system had authorized but unissued revenue bonds at $167,885,000 and outstanding short-term debt (due

within one year) at $14,310,000.



The ratio of annual debt service to total fund annual expenditures is an indicator of EBMUD's ability to meet debt obligations in relation to service provision expenditures. Ideally, a ratio of 10 percent or less would reflect a very stable ratio. According to the FY 2022-23 ACFR 10-Year Summary of Net Revenue and Debt Service Coverage on page 120, the district had approximately $149.1 million in total revenue and approximately $94.1 million in operations and maintenance expense. This lends approximately $55 million available for debt services. Therefore, EBMUD's annual debt service ratio to total expenditures for wastewater in 2023 is approximately 28.5 percent, a moderately high ratio.

As of the end of FY 2023, the Wastewater System had total long-term revenue bonds outstanding of $357.8 million. Prudent financial management and strong financial performance have resulted in high long-term bond ratings. The Wastewater System's long-term bond ratings are AAA from Standard & Poor's, Aa1 from Moody's, and AA+ from Fitch. The District did not issue any Wastewater System revenue bonds in FY 2023. Total wastewater debt outstanding was approximately $338.3 million for FY 2022-23. This debt outstanding figure does not include State low interest loans, commercial paper, or outstanding refunded but not yet called debt.

Capital Improvement Program

EBMUD has developed and implemented a comprehensive CIP for its wastewater infrastructure improvements. The 10-year CIP and an annual operating budget are prepared as part of the district's biennial budget process. The document(s) are available at *http://www.ebmud.com* on the menu bar under "About Us →Bond Investors → Budget and Rates." The largest wastewater system capital projects funded as part of EBMUD's FY2022-26 CIP include:

- New Dewatering Building, $90M
- IPS Resiliency Project, $45M
- Secondary Clarifier Rehabilitation (multiple phases), $44M
- Secondary Reactor Rehabilitation (multiple phases), $35M
- Seismic Retrofit Projects, $67M
- South Interceptor Rehabilitation Projects, $40M
- North Interceptor Rehabilitation Projects, $24M
- Alameda Interceptor Rehabilitation Projects, $11M
- MWWTP Utilities Improvements, $16M
- Grit Dewatering Improvements, $15M
- (data source: EBMUD, LHMP, 2022a)

Infrastructure Needs: The District currently maintains various equipment, vehicles[1], infrastructure, and associated assets. EBMUD has a comprehensive asset management plan that provides information on repair and rehabilitation needs on an ongoing basis based on age and condition. The CIP consists of a $2.5 billion budget that includes upgrades and replacement projects for wastewater facilities (EBMUD, n.d.b). Specifically, the CIP indicates that $92 million will be spent on wastewater treatment plant infrastructure (EBMUD, n.d.b). The CIP plans to improve concrete structures, upgrade digesters, replace capital equipment, and make other necessary improvements.

Rate Structure

EBMUD's wastewater service rate structure reflects a fixed rate for residential customers and combined fixed rate and consumption-based rates for non-residential customers. The current residential rate is $31.63 per month for single-family residences and $27.90 – $100.84 for multi-family residential units, depending on the size of units. Non-residential rates are $8.56 per month plus consumption-based rates that vary from $1.60 – $21.98 per month for every 100 cubic feet of flow.

All residential customers in EBMUD's Wastewater System, including are billed a monthly SF Bay Residential Pollution Prevention fee to fund programs to reduce residential pollutant loadings to the treatment plant and San Francisco Bay. The monthly fee is $0.20/month per dwelling unit up to five dwelling units.

EBMUD reports that new rate increases were approved on July 1, 2023. Wastewater rates were increased by four percent in 2021 and an additional four percent in 2022. This allowed the district to adopt a two-year, $2.25 billion budget to pay for critical improvements to the wastewater and water systems essential to supporting the community (EBMUD, 2021). The new biennial budget for FY 2024 and FY 2025 includes an 8.5 percent wastewater system increase for FY 2024, and an 8.5 percent increase for FY 2025 (EBMUD, 2023).

16.5: POPULATION

EBMUD provides wastewater treatment to the area covered by the Stege Sanitary District (SSD). As described in Chapter 20, SSD's boundaries contain approximately 38,270 residents as of 2020. Additionally, EBMUD provides recycled water to the Richmond area in the County of Contra Costa (EBMUD, 2021a). Please see Chapter 9 for additional details about the population within the City of Richmond.

[1] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the district, it is likely that sometime in the future, the district may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

EBMUD provides water service to additional areas located in Alameda and Contra Costa counties. The population within EBMUD's boundary is described in Alameda LAFCO's 2021 MSR (Alameda LAFCO, 2021).

16.6: DISADVANTAGED COMMUNITIES

Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in some disadvantaged communities. Data from the 2020 U.S. Census was queried as part of this MSR Update process. EBMUD's wastewater treatment area is covered by the Stege Sanitary District, analyzed in Chapter 20. The data query results for the SSD showed no disadvantaged unincorporated communities (DUCs) within the wastewater treatment service area within Contra Costa County.

However, EBMUD's water service area in both Alameda and Contra Costa counties does contain disadvantaged communities, as described in Alameda LAFCO's 2021 MSR (Alameda LAFCO, 2021). Additionally, SSD's boundaries include the City of El Cerrito, a portion of the City of Richmond, and the unincorporated community of Kensington. El Cerrito and Richmond areas contain disadvantaged communities within their boundary, as described in Chapter 20. The residents of the El Cerrito DAC and other nearby DACs have access to municipal services including fire prevention, water, and wastewater. No health and safety issues have been identified.

Readers can learn more about disadvantaged communities within the EBMUD service area and Contra Costa County through the U.S. Department of Health and Human Services database of socioeconomic and health indicators in disadvantaged communities called the Environmental Justice Explorer Database. This database can be queried at <*https://onemap.cdc.gov/portal/apps/sites/#/eji-explorer*>.

EBMUD offers a customer assistance program called "CAP" as described on the program website at <*https://www.ebmud.com/customers/customer-assistance-program*>. Although CAP primarily relates to water service, there is also a sewer bill component (personal communication, J. Flynn, March 20, 2024). For specific satellite agencies, the program is designed for those in the most need. Customers of EBMUD who may have low incomes are encouraged to view the EBMUD website and contact EBMUD directly.

16.7: GOVERNMENT STRUCTURE ALTERNATIVES

EBMUD's SOI (on the Contra Costa County side) is currently coterminous with EBMUD's boundary. No alternative government structure alternatives were identified for EBMUD. However, the 2014 MSR noted that EBMUD, the Dublin San Ramon Services District (DSRSD), and the Central Contra Costa Sanitary District (CCCSD) appear to have overlapping boundaries in an area located in the southern portion of the County. Further study by the affected districts, CC LAFCO, and Alameda LAFCO may

be warranted to identify opportunities to simplify water and wastewater service delivery in this location (LAFCO, 2014).

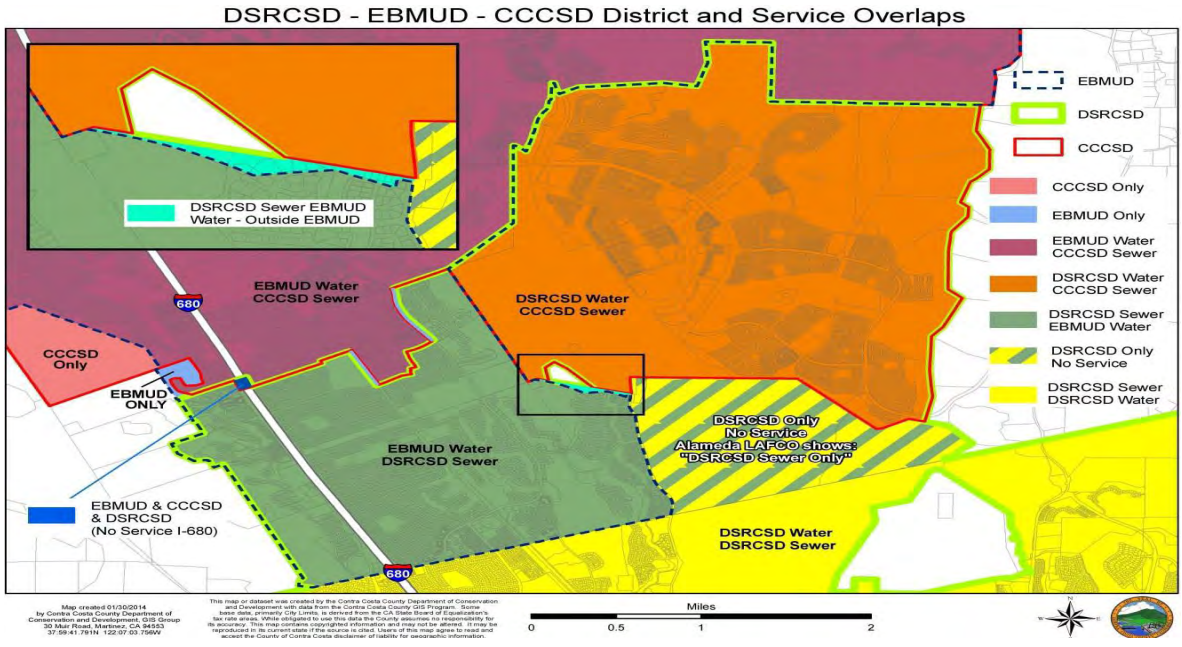
16.8: RECOMMENDED MUNICIPAL SERVICE REVIEW (MSR) DETERMINATIONS

Alameda County is considered the principal LAFCO for EBMUD and provided written MSR determinations and recommendations as part of *the Alameda LAFCO MSR* (2021) *for County-wide Municipal Service Review on Water, Wastewater, Flood Control, and Stormwater Services*. (Alameda LAFCO, 2021). MSR determinations are not part of this MSR.

16.9: RECOMMENDED SPHERE OF INFLUENCE

Alameda LAFCO is the principal LAFCO for EBMUD and provided written SOI determinations and recommendations as part of *the Alameda LAFCO MSR* (2021) *for County-wide Municipal Service Review on Water, Wastewater, Flood Control, and Stormwater Services (*Alameda LAFCO, 2021). Contra Costa LAFCO is not providing MSR determinations as part of this report.

Figure 16-8: Overlapping Boundary – EBMUD, CCCSD & DSRSD



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Chapter 17: IRONHOUSE SANITARY DISTRICT – WASTEWATER SERVICES

Table of Contents

17.1: OVERVIEW/BACKGROUND

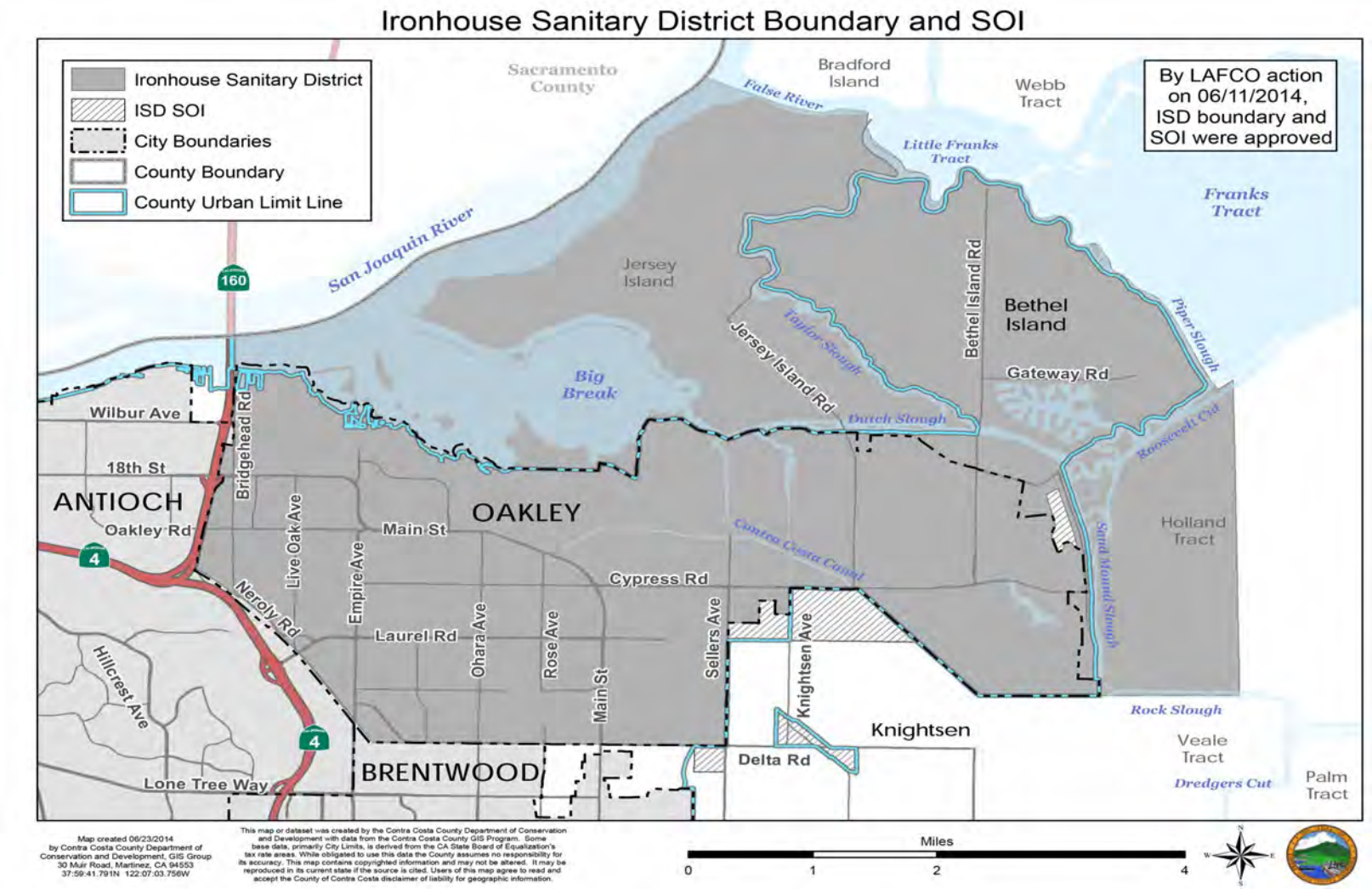
The Ironhouse Sanitary District (ISD) provides sewage collection, treatment, disposal, and recycling services to the City of Oakley, the unincorporated area of Bethel Island, and other unincorporated areas of the County of Contra Costa including Holland Tract and Jersey Island. The San Joaquin River bounds ISD to the north, the Delta Diablo Sanitation District to the west, the City of Brentwood to the south, and the unincorporated area in the Holland Tract to the east. ISD has approximately 12,778 wastewater service connections (equivalent service units-ESUs) and provides service to approximately 46,391 community residents. A map of ISD's current boundary and sphere of influence (SOI) is shown in Figure 17-1 (next page).

ISD originated with the Oakley Sanitary District (OSD) formation in 1945. In the mid-1960s, a Joint Powers Authority (JPA) was established between the OSD and County Sanitation District No. 15 to address septic system issues in the Hotchkiss Tract. In 1977, a JPA was signed between OSD and Bethel Island to establish the Oakley-Bethel Island Wastewater Management Authority. In January 1992, OSD annexed Bethel Island, the JPA was dissolved, and OSD merged with Oakley-Bethel Island Wastewater Management Authority and County Sanitation District No. 15. The newly formed district was renamed the Ironhouse Sanitary District. ISD's unique name originated from the Ironhouse School, which served much of the territory now served by the ISD (LAFCO, 2014). ISD's Agency Profile is shown in Table 17-1 (next page).

Table 17-1: Agency Profile – Ironhouse Sanitary District

General Information			
Agency Type	Independent Special District		
Principal Act	Sanitary District Act of 1923, Health & Safety Code, Section 6400 et seq.		
Date Formed	August 21, 1945		
Services	Collection, treatment, and disposal/reuse of wastewater. Wastewater recycling.		
Service Area			
Location	City of Oakley and unincorporated areas of Bethel Island, Holland Tract, Hotchkiss Tract, Dutch Slough, Taylor Slough, and Sand Mound Slough		
Sq. Miles/Acres	36.4 square miles/23,285 acres		
Land Uses	Residential, commercial, industrial, open space		
Population Served	46,391		
Last SOI Update	May 2014 (Contra Costa LAFCO, 2014)		
Infrastructure/Capacity			
Facilities	Water Recycling Facility (WRF); 125 miles of gravity sewer main; 15.9 miles of force main (pressure pipe); 32 lift stations (ISD, 2017)		
Treatment Plant Capacity (MGD)	The facility design capacity is 4.3 million gallons per day (MGD) average daily flow (ADF). The WRF has 8.6 MGD maximum wet weather flow. Current ADF is 2.52 MGD.		
Primary Disposal Method	Effluent from the Water Recycling Facility is: (1) stored in an on-site pond for later use as irrigation water and (2) discharged into San Joaquin River through a 550-foot outfall with 16 diffusers (RWQCB, n.d.).		
Annual Comprehensive Financial Report - FY 2021-2022			
	Revenues	Expenditures	Net
Operating	$ 21,168,469	$ 13,031,259	$ 8,137,210
Combined Other Funds	$ 2,500,969	$ 0	$ 1,871,969
All Funds	$ 23,669,438	$ 13,031,259	$10,638,179
	FY 2021-2022	Long-Term Planned Expenditures	
Capital Expenditures	$ 657,433	Determined annually.	
Net Assets (Reserves)	$ 134,714,446	June 30, 2022, Financial Statement- Total Assets	
Governance			
Governing Body	Board of Directors (5 members)		
Agency Contact	President, Susan Morgan, smorgan@isd.us.com		

Figure 17-1: Boundary/SOI Map – Ironhouse Sanitary District



17.2: DISTRICT BOUNDARY AND SOI

ISD's boundary includes the City of Oakley, Bethel Island, and unincorporated areas within eastern Contra Costa County. The District lies within the San Francisco Bay / Sacramento Delta Estuary watershed and has a service area of approximately 36.4 square miles. Additional information about this watershed is provided in Appendix F. ISD's boundary encompasses approximately 36.4 square miles. Most residents within the District receive wastewater services from ISD. However, some older properties are on septic systems. ISD anticipates that these properties will be connected to the collection system in the future (personal communication, Zimmerman, 2024).

City of Oakley: The City of Oakley provides a wide range of municipal services as described in LAFCO's 2019 MSR. The SOI for the City of Oakley is mostly coterminous with the municipal boundary, with the exception of an extension to the east (Sandmound Slough area). The City adopted the county-wide Urban Limit Line in 2008. Land uses in the City include a mix of industrial, residential, office, commercial, institutional, retail, agricultural, and open space. Agricultural uses include vineyards, orchards, row crops, animal husbandry, active cultivation of crops, or some other type of use that is substantially agricultural (LAFCO, 2019).

Significant new development is expected to occur within the City of Oakley, consistent with the City's General Plan and its Housing Element (Oakley, 2022 and Oakley, 2023). ISD is responsible for responding to new development projects by providing adequate infrastructure for collection, conveyance, treatment, and recycling. This will require that the District phase in improvements to its infrastructure, including its treatment and recycling facilities, pump stations, force mains, and other pipelines. The City and ISD indicate that the District has the ability to meet the projected housing needs. The Housing Element includes a site inventory, and those sites identified for potential new housing appear to have adequate sewer access or planned access (Oakley, 2023).

Bethel Island: Bethel Island is the" heart" of the Sacramento Delta and is mostly below sea level. Bethel Island is protected with a 14.9-mile perimeter levee and is surrounded by Delta sloughs. The Island is home to approximately 3,700 people, with 1,300 residential units. Many of the residential units are waterfront vacation homes. Additionally, the island contains 13 commercial marinas, a commercial business area, and agricultural land.

Brentwood Area: Since the 2014 MSR, the City of Brentwood has extended sewer on Sellers adjacent to the treatment plant (personal communication, Zimmerman, 2024). Although ISD does not serve Brentwood, it is located adjacent to the City. Chapter 4 of this MSR provides additional details about wastewater service in the City of Brentwood.

Sacramento/San Joaquin Delta: Portions of the ISD boundary and SOI are located within the Sacramento/San Joaquin Delta (Delta), specifically within the "Secondary Zone". The Delta is a large

inland river delta geographically connected to the San Francisco Bay Estuary and home to several rare and endangered fish species. The Delta is also designated a National Heritage Area. The Secondary Zone is within the "Legal Delta" and is described by various state laws and planning documents (DPC, 2010 and DSC, 2013). For local government planners and administrators, there are three key Delta planning documents listed below:

- The Delta Plan, by the Delta Stewardship Council (DSC). 2013 as updated through 2024.
- Land Use and Resource Management Plan for the Primary Zone of the Delta by the Delta Protection Commission (DPC). February 25, 2010.
- Socioeconomic Indicators Report: The Sacramento-San Joaquin Delta by Visser, M.A.; Brinkley, C.; Zlotnicki, J. 2018.

DPC's Land Use and Resource Management Plan recognizes that urbanization and other development projects within the secondary zone have the potential to impact the Primary Zone of the Delta (DPC, 2010). These planning documents are important because ISD's discharge of treated wastewater to the San Joaquin River has the potential to influence water quality within the Delta.

Will Serve Letters to Schools: Prior to 2014, ISD issued the Liberty Union High School District a Will Serve letter, which indicated that ISD was willing and able to accept wastewater from the proposed fourth high school site[1] (LAFCO, 2014). However, since 2014, the situation has changed. ISD staff indicates that the provision of service to additional school sites is not anticipated at this time (personal communication, Zimmerman, 2024).

Boundary History: In 2007, CC LAFCO reduced ISD's SOI by: (1) eliminating ISD's overlap with the City of Brentwood SOI and (2) removing the Veale Tract from the ISD SOI. The most recent MSR/SOI Update for the ISD was the May 14, 2014, Final Contra Costa County Water and Wastewater Agencies Combined Municipal Service Review and Sphere of Influence Study (2nd Round) written by GST Consulting. ISD's SOI was expanded as part of the 2014 Update. ISD's SOI is currently 0.8 sq. mi. in size.

In the future, there might be other sites that could be considered for annexation to the SOI and/or the ISD boundaries. For example, a site at Knightsen, north of Delta Road from Sellers east to Delta Road, might request sewer service (personal communication, Zimmerman, 2024).

[1] The fourth high school site was located southwest of the intersection of Delta Road and Sellers Avenue. To serve the high school, the school district would need to construct a pump station and force main that conveys wastewater from the school to an existing sewer. The high school property also had the option to be placed into the ISD SOI and potentially annexed to ISD. Also, prior to 2014, the Liberty Union High School District proposed a fifth high school site (located east of Bixler Road, north of Kellogg Creek Road, and south of Highway 4 and the Town of Discovery Bay). However, the proposal for a fifth high school site has not transpired. ISD staff indicates it is unlikely that ISD would be asked to provide service to these proposed school sites (personal communication, Zimmerman, 2024).

17.3: DISTRICT WASTEWATER OPERATIONS

The District's wastewater service includes collection, conveyance to the wastewater treatment plant, and disposal. The District provides wastewater collection and conveyance services to approximately 12,778 sewer connections. One ISD connection may serve many individual customers.

The collection system has 125 miles of pipelines, 15.9 miles of force main, and 34 pump stations and is extensively laid out in the residential and commercial areas of the City of Oakley and communities to the north (ISD, 2017).

Disposal: The majority of ISD's recycled water is discharged into the San Joaquin River. ISD is permitted to land apply biosolids from the Water Recycling Facility (WRF) on Jersey Island[2] (personal communication, Zimmerman, 2024).

Water Recycling Facility (WRF): ISD's WRF is its primary infrastructure, providing wastewater treatment and recycling services. The WRF was constructed in 2011 and is located in northern Oakley[3]. Specifically, the WRF is located on 285 acres adjacent to the south side of Big Break and the San Joaquin River (Oakley, 2023). The WRF was designed for an average dry weather flow (ADWF) of 4.3 MGD with a peak wet weather flow (PWWF) of 8.6 MGD, with expansion capability to 6.8 MGD ADWF / 13.6 MGD PWWF in the future (personal communication, Zimmerman, 2024). Currently, the WRF is receiving an average annual flow of approximately 2.6 MGD. Highly treated effluent is discharged into the San Joaquin River through a National Pollutant Discharge Elimination System (NPDES) permit (CA0085260 / Order No: R5-2013-0157) issued by the Central Valley Regional Water Quality Control Board (personal communication, Zimmerman, 2024).

The WRF is an advanced treatment Membrane Bioreactor process unit. Wastewater is preliminarily treated through mechanical screens and vortex grit removal. The wastewater undergoes a secondary process through biological treatment. Tertiary treatment is achieved through ultraviolet (UV) disinfection. The District operates the WRF in compliance with the Waste Discharge Requirements (WDR R5-2018-0050) issued by the Regional Water Quality Control Board, Central Valley Region. In addition, the District has obtained a NPDES permit (Order R5-2018-0090, NPDES CA0085260) to

[2] Jersey Island is owned by ISD. In the past, reclaimed water was used to irrigate 3,500 acres of agricultural lands on Jersey Island, approximately 155 acres on its Oakley property (Contra Costa County, 2018). Hay was grown by ISD and was used to feed cattle. As of 2024, The farming and grazing fields are irrigated using water from sloughs and rivers surrounding Jersey Island through ISD's riparian water rights. ISD's cattle and farming in house operations ceased in 2022. The entire ISD cattle herd was liquidated through video auctions and farming equipment was sold through an online auction. A grazing and farming lessee was selected through a competitive bidding process (personal communication, Zimmerman, 2024).

[3] The WRF became operational in 2011 to replace an existing wastewater treatment facility that had reached its capacity and also could not comply with newer more stringent discharge limits (personal communication, Zimmerman, 2024).

regulate discharges of tertiary disinfected effluent to the San Joaquin River (ISD, ACFR, 2022b).

Sewer Master Plan: A Sewer Master Plan (SMP) was originally adopted by ISD's Board on January 30, 2004, and updated in February 2007. The SMP evaluates the capacity needs of the sewer collection system and guides capital improvement projects. It identified collection system improvements necessary to accommodate future development in ISD's service area at ultimate build-out conditions. A computer model called "H20MAP Sewer" was utilized as the hydraulic modeling software to develop the sewer collection system assessment (ISD, 2007). ISD performed an interim update to the SMP in 2018. Staff is currently working on a full update to the SMP, which is anticipated to be completed by March 2025 (personal communication, Zimmerman, 2024).

Sewer System Management Plan: The ISD 2015 Sewer System Management Plan (SSMP) outlines the procedures and standards for managing and maintaining the sewer system. The SSMP complies with the requirements of the State Water Resources Control Board (SWRCB) Order No. 2006-003 and Order No. WQ 2013-0058-EXEC to properly manage, operate, and maintain all parts of the ISD sanitary sewer system. The SSMP helps the ISD prevent sanitary sewer overflows (SSOs) and mitigate any SSOs that occur. The SSMP includes an Overflow Emergency Response Plan, a Fog Control Program, and a System Evaluation and Capacity Assurance Plan. The certified SSMP is available to personnel operating and maintaining the ISD sanitary sewer system, the general public at ISD's main office, and on the ISD website (ISD, 2015).

Strategic Plan

Wastewater operations are guided by the Board's adopted Strategic Plan for 2022-2027+, which outlines services, environmental initiatives, and community advocacy efforts. IDS's goals include excellence, diversity, community, trust, equity, and partnership. Based on these goals, the Strategic Plan includes priority objectives that will be measured, evaluated, and recalibrated bi-annually. The Plan emphasizes collaboration with valued stakeholders to formulate plans for a collective future, including staff working within the framework of executing the Board's direction and collaboratively working together to minimize the District's risk and optimize opportunities (ISD, 2021).

Local Hazards

The Contra Costa County Hazard Mitigation Plan (HMP) Volume 2, dated January 2018, maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards (Contra Costa County, 2018). ISD participated in this plan, and its potential hazards are described in Annex 27. According to the Hazard Mitigation Plan, the District headquarters and Water Recovery Facility are near the San Joaquin River, making them susceptible to potential flood hazards and liquefaction (Contra Costa County, 2018). Another jurisdictional vulnerability is that Bethel Island is at high risk of potential flooding (Contra Costa County, 2018). Lastly, the District service area has the potential to experience strong shaking from a Calaveras M7.0 earthquake (Contra Costa County, 2018). The Contra Costa County HMP identified several action items for ISD, including the following:

- Installation of redundant force main from Bethel Island as a future project.

- Installation of East Cypress corridor redundant collection system as a future project.
- Continue to support implementing, monitoring, and updating the Contra Costa County HMP.

Sanitary Sewer Overflow Database

The SWRCB maintains an SSO database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The SWRCB formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. WQ 2022-0103-DWQ (SSS WDRs), December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. A 3.6-year term from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. The results of the database queries regarding ISD are listed below in Table 17-2.

During this 3.6-year timeframe, there were four SSOs in the ISD. Most of the sewer overflows had failure points at the gravity mainline. The largest spill within the CIWQS-SSO database query occurred on June 15, 2022, with a spill volume of 3,900 gallons. The spill was caused by a contractor that hit the force main while installing a storm culvert for the County of Contra Costa. None of the spill material was recovered, nor did it reach surface water.

ISD has a SSMP that requires the District to track SSOs and to record volume, location, frequency, and cause. Adjustments are made to prevent further SSOs (ISD, SSMP, 2015).

From July to October 2022, San Francisco Bay experienced a harmful algal bloom (HAB) known as a red tide, as described in Appendix F. The species associated with this bloom, *Heterosigma akashiwo*, can cause water to take on a reddish-brown color. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay, and into San Pablo Bay. Fish deaths, linked to the red tide, were reported to include sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San Francisco Bay Water Board is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other agencies to study the potential impacts of nutrients on San Francisco Bay. ISD has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater Districts and the Water Board.

Table 17-2: Ironhouse Sanitary District Sanitary Sewer Overflows

EVENT ID	Region	Responsible Agency	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
882088	5S	Ironhouse Sanitary District	Ironhouse Sanitary District CS	Category 3	6/30/2022 9:15	317	317	0	Gravity Mainline	5SSO10970
874789	5S	Ironhouse Sanitary District	Ironhouse Sanitary District CS	Category 2	6/15/2021 10:32	3,900	0	0	Force Main	5SSO10970
870874	5S	Ironhouse Sanitary District	Ironhouse Sanitary District CS	Category 3	11/25/2020 21:00	49	49	0	Gravity Mainline	5SSO10970
870867	5S	Ironhouse Sanitary District	Ironhouse Sanitary District CS	Category 3	11/25/2020 21:00	49	49	0	Gravity Mainline	5SSO10970
Data Source: CIQWS Sanitary Sewer Overflow Database										

Figure 17-2. Google Maps Street View of Ironhouse Sanitary District

Infrastructure Needs

ISD currently maintains various equipment, vehicles[4], infrastructure, and associated assets. Wastewater infrastructure includes property, pipelines, a sewage treatment plant, and ponds, as listed below in Table 17-3.

Table 17-3: ISD Existing Assets

Asset	Value
Property	
265 acres in Oakley	$8,912,467
Total:	***$8,912,467***
Critical Infrastructure and Equipment	
125 miles of sewer collection main, plus related easements	$236,559,469
34 pump stations	$8,000,000
Rolling stock, 37 vehicles	$1,114,500
86 pieces of heavy equipment and farm tractors	$1,654,500
Total:	***$247,328,469***
Critical Facilities	
2.7 MGD sewer treatment plant	$2,542,788
Ongoing construction of 4.3 MGD treatment plant	$59,040,728
350 acre feet, or 114 million gallon storage ponds for treated wastewater	$908,232
Main office compound and shop with vehicle and parts storage facilities	$4,141,140
Jersey Island facilities	$1,682,521
Total:	***$67,775,459***

Data Source for Table 17-3 above: Contra Costa County, 2018

ISD's sewer treatment plant currently has a capacity of 2.7 MGD (Contra Costa County, 2018). Prior to 2014, the district completed the construction of Phase 1 of a new $55 million Water Recycling Facility (WRF) and completed the Ironwood Force Main extension, which provided an alternate flow route near the old wastewater treatment plant (WWTP). ISD maintains three larger sized pump stations (Ironwood, Quail Valley, and Marsh Creek). At the time of the 2014 MSR, no upgrades were necessary.

Jersey Island is listed as an asset in Table 17-3 above. Jersey Island is a 3,500-acre property owned by ISD located between Oakley and Bethel Island. In May 2019, ISD entered into a partnership agreement with Montezuma Water LLC to address future uses for Jersey Island. The partnership agreement describes terms regarding how ISD and Montezuma Water will study, approve, and implement specific new uses or business opportunities on Jersey Island. Reclamation District 830

[4] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the District, it is likely that sometime in the future, the District may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

maintains and repairs the Jersey Island levees.

ISD's Strategic Plan states, "Our assets are under threat from aging infrastructure, environmental and natural disaster factors, and increasing regulatory requirements, and as such are in the forefront of the district's focus to repair, replace, and maintain to their full life cycle. We recognize that we have an obligation to meet regulatory standards and to maximize the fullest potential to realize the public's investment while creating a resilient community and environment" (ISD, 2021).

Cooperative Programs

ISD's Strategic Plan outlines its many cooperative efforts to consider regional solutions and maximize federal and state funding opportunities. For example, to understand regional water needs and seek common interests, ISD actively participates in three regional organizations:

- East County Water Managers Association,
- East Contra Costa County Integrated Regional Water Managers, and
- Western Recycled Water Coalition

<u>ISD Mission Statement</u>
"Ironhouse Sanitary District protects public health, resources, and the environment through dependable, efficient, and innovative collection, treatment, and multi-benefit reuse of our community's wastewater for a resilient future."
(Per ISD Strategic Plan)

ISD is an active member of the Western Recycled Water Coalition (WRWC). The WRWC developed regional recycled water program facilities through a federal and state grant program. Cooperative programs were developed with Delta Diablo (DD), Contra Costa Water District (CCWD), Central Contra Costa Sanitation District (CCCSD), and the cities of Antioch, Oakley, and Pittsburg. Additionally, ISD is currently working collaboratively with Diablo Water District to develop a water reuse project that will use ISD's highly treated recycled water (personal communication, Zimmerman, 2024). Readers are encouraged to read ISD's Strategic Plan for additional information on cooperative programs.

Awards: ISD has received several good government awards in recent years as listed in Table 17-4 below. For example, the Government Finance Officers Association awarded ISD a Certificate of Achievement for Excellence in Financial Reporting Presented to Ironhouse Sanitary District California For its Annual Comprehensive Financial Report For the Fiscal Year Ended June 30, 2021.

Table 17-4: Awards and Certifications - ISD

Awards (2022)

California Association of Sanitation Agencies (CASA)

- Organizational Excellence: Strategic Plan 2022-27+

California Special Districts Association (CSDA)

- Staff Member of the Year Award: Cecilia Goff

Awards (2021)

California Water Environment Association (CWEA)

- Plant of the Year (SFBS)
- Community Engagement Project of the Year (SFBS)

Awards (2020)

California Water Environment Association (CWEA)

- Collection Person of the Year (State and SFBS): Leon Lauciirica
- Mechanical Technician of the Year (State and SFBS) - John Abdilla

Awards (2019)

California Water Environment Association (CWEA)

- Plant of the Year Award (SFBS) - Small Agency
- Collection System of the Year Award (SFBS) - Small Agency
- Supervisor of the Year Award (SFBS and State): Collections System Supervisor Louis Solana
- Collection Person of the Year (SFBS): Ian Robertson
- Operator of the Year Award (SFBS): Adrian Vazquez
- Community Engagement and Outreach: Project of the Year Award (SFBS and State): East County Regional Coalition's 'No Wipes In The Pipes' campaign

Accreditations and Certifications

Government Finance Officers Association

- Certificate of Achievement for Excellence in Financial Reporting (2017, 2018, 2019, 2021)

Special District Leadership Foundation

- District of Distinction Accreditation (2016 to 2025)
- District Transparency Certificate of Excellence (2014 to 2024)

Future Challenges

The American Society of Civil Engineers, Region 9 has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

1. Implement an education program at the state and local level about what a wastewater treatment plant is, what kind of waste it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.

3. Continue advancements in water reuse/recycling.
(Source: American Society of Civil Engineers, 2019)

Cost Avoidance Opportunities

The WRF utilizes a significant amount of electricity in its routine operations. To offset this cost, the district leases a 1.1 megawatt (MW) solar power system. This is an innovative cost-recovery measure. Additionally, ISD has participated in regional wastewater and recycled water program planning and grant funding proposals. In the past (i.e., prior to 2014), their participation resulted in obtaining grant money to fund the development of a Recycled Water Master Plan and Recycled Water Feasibility Study. Additionally, ISD developed a coordinated program with local developers and implemented an incentive program that reduced connection fees, resulting in an additional 234 Equivalent Residential Units (EDUs) being issued from September 12, 2011, to September 30, 2013, increasing revenues and efficiencies in implementing capital projects. ISD continues to manage a solar energy project at the Administration/Maintenance Buildings and Wastewater Recycling Facility, resulting in approximately $100,000 in savings per year (LAFCO, 2014).

17.4: DISTRICT FINANCIAL OVERVIEW

ISD produces an annual comprehensive financial report (ACFP) each fiscal year in accordance with Generally Accepted Accounting Principles (GAAP). In addition, IDS's finances are the subject of annual independent financial audits. The ACFP for FY's 2020-2021 and FY 2021-2022, as well as the audits for FY's 2017-18, 2018-19, and 2019-20, will be the primary sources of information for data related to the financial health of the district (ISD, 2018a; 2019; 2020b; 2021a; 2022b). ISD operates as an enterprise-type activity with primary sources of funding from service charges, service connection fees, and capacity fees from users of the services provided by the district. The most recent ACFP for FY 2021-22 includes an audited report that features the Management's Discussion and Analysis, the Statement of Net Assets, the Statement of Revenues, Expenses, and Changes in Net Assets, the Statement of Cash Flows, and the Notes to Financial Statements. The most recent audit noted that the financial statements presented by the district were presented fairly and in accordance with accounting principles generally accepted in the United States.

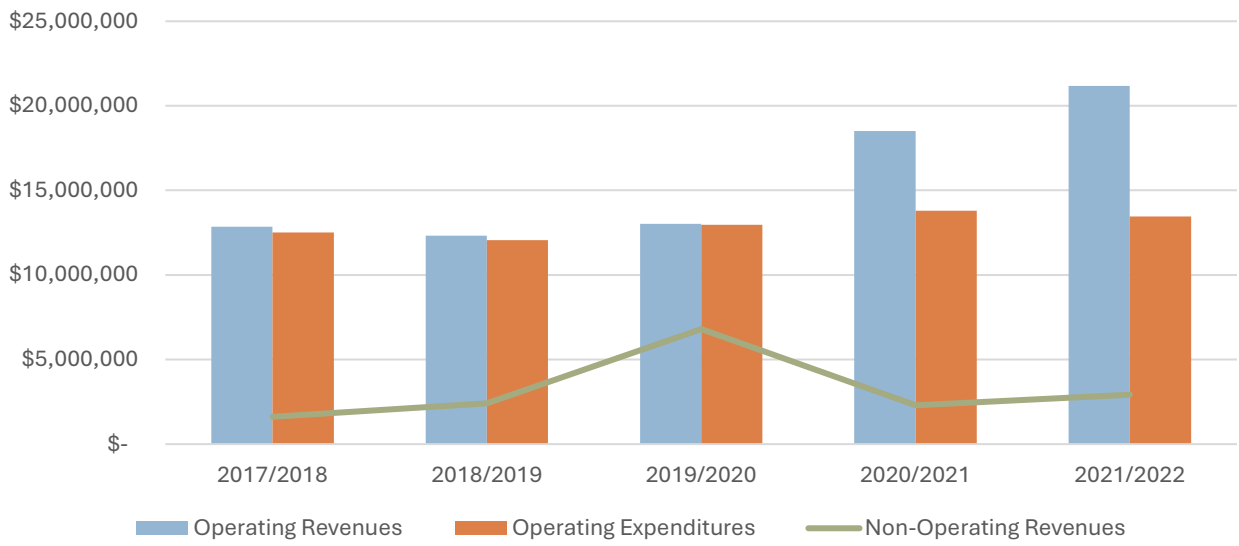
The primary revenue resources of the district totaled $20,852,065 in FY 2021-22, compared to $18,241,563 in FY 2020-21. The 14.3 percent increase was primarily the result of an additional 159 new connections into the system for FY 2021-22. The increase in new connections resulted in a significant increase in service connection and capacity-related fees. In addition, there was an overall 3 percent increase in the service fee per equivalent service units (ESUs) during that same year (ISD, 2022b). There are five primary areas of criteria that have been utilized to assess the present and future financial condition of ISD's wastewater service operations, as discussed below:

3 Year Revenue/Expenditure Budget Trends

The Enterprise Fund operating revenues exceeded operating expenditures for all years studied, as

shown in Figure 17-3 below. The ACFP for FY 2021-22 showed an operating income increase of 57.3 percent from FY 2020-21. Because revenues exceed expenditures, the Enterprise fund appears to have the capacity to cover its costs year over year. Expenditures for the fund fluctuated over the last five fiscal years studied, with a small decrease in expenses from FY 2017-18 to FY 2018-19; increases from FY 2018-19 to FY 2019-20 and FY 2019-20 to FY 2020-21; and a small decrease between FY 2020-21 and FY 2021-22. The largest increase occurred between FY 2018-19 and 2019-20 with an eight percent increase in expenses that fiscal year. This was due to an increase in salaries, benefits, payroll taxes; utilities; and insurance. Insurance costs went up 20 percent in FY 2019-20 compared to FY 2018-19. The district completed a rate and capacity fee study in March 2020 that sets sewer service charges for FY's 2020-21 through 2024-25. Prior to this study, the last sewer rate increase study occurred in 2015.

Figure 17-3: Enterprise Funds Operating Revenues Compared to Expenditures and Non-Operating Revenues

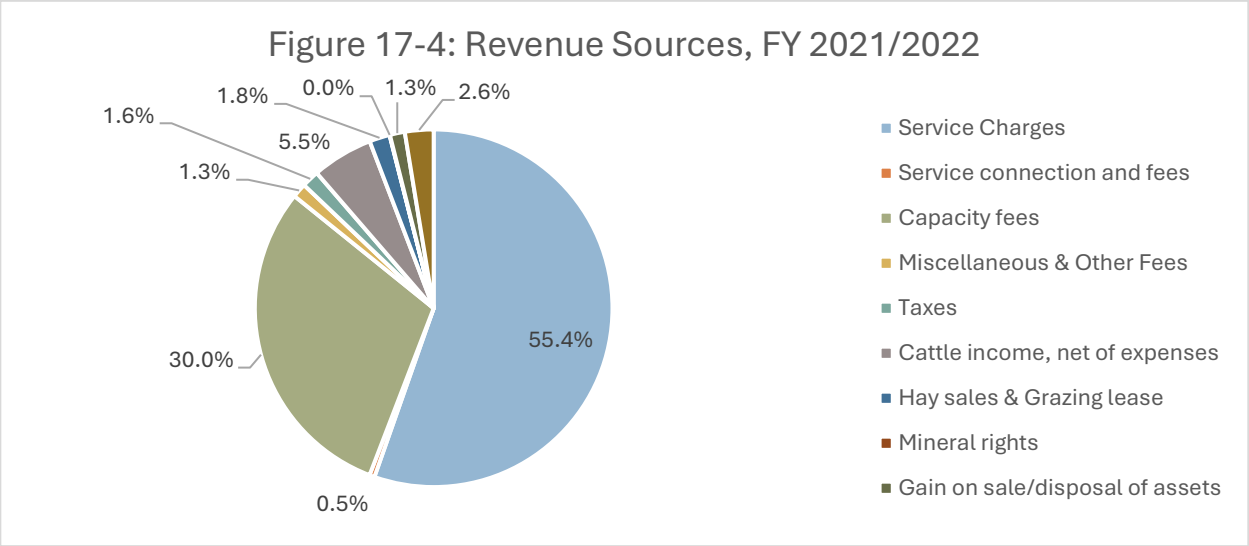


Non-operating revenues for ISD include taxes; cattle income, net of expenses; hay sales; mineral rights; investment income; a grazing lease; gain on sale and disposal of assets; and capital contributions (ISD, 2018a; 2019; 2020b; 2021a; 2022b). Non-operating revenues saw a large increase in FY 2019-20 due to $4.95 million in capital contributions from developers for the installation of sewer system infrastructure.

Ratios of Revenue Sources

ISD's operational and non-operation revenue sources for FY 2021-22 are shown in Figure 17-4 below. ISD received approximately 55 percent of its funds from service charges and 30 percent from capacity fees. The next greatest income source for this fiscal year was cattle income, net of expenses. According to the auditor's notes, during the fiscal year ended June 30, 1997, the district acquired several herds of cattle. These cattle were purchased primarily to maintain the grass levels

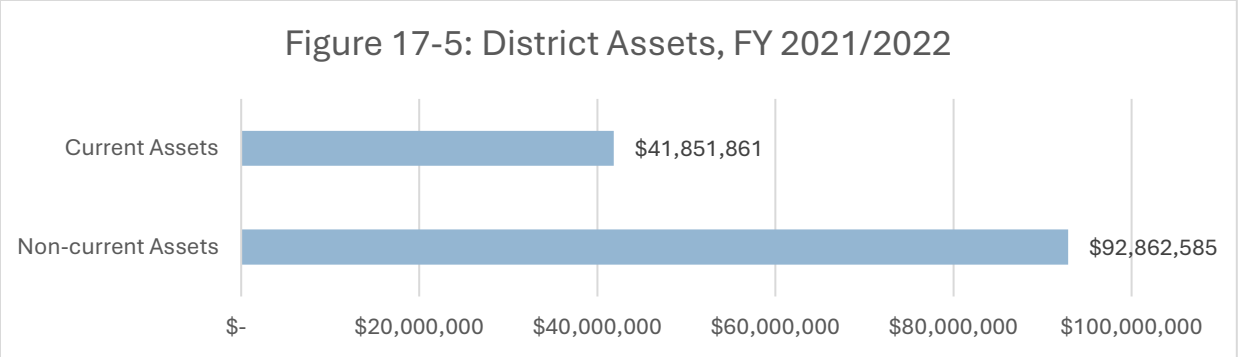
of the ISD-owned Jersey Island land. In accordance with Accounting Standards Codification 905-10 Accounting by Agricultural Producers and Agricultural Cooperatives, the cost of purchasing and raising these cattle is capitalized. Mature cattle are depreciated over their useful lives, which is considered to be eight years. Immature cattle are capitalized and are charged to cattle operations expense when sold. During 2022, ISD dissolved its cattle operations and sold all its cattle. The district sold approximately $3.09 million in cattle, which offset cattle operational expenses and acquisitions that year, resulting in a net income of approximately $1.34 million. The grass levels of Jersey Island are now being maintained by an agreement with a third party.



Taxes make up a small percentage of total revenue year over year, comprising 1.6 percent of revenue in FY 2021-22. Service charges and capacity fees made up an average of 96 percent of revenue in the enterprise fund for the years studied. When compared to all revenue, these two sources of income equated to 85 percent in FY 2021-22 (ISD, 2022b).

Ratio of Reserves or Fund Balance to Annual Expenditures

Figure 17-5 shows the total assets for ISD with current assets and noncurrent assets for FY 2021-22. An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures (LAFCO, 2014).

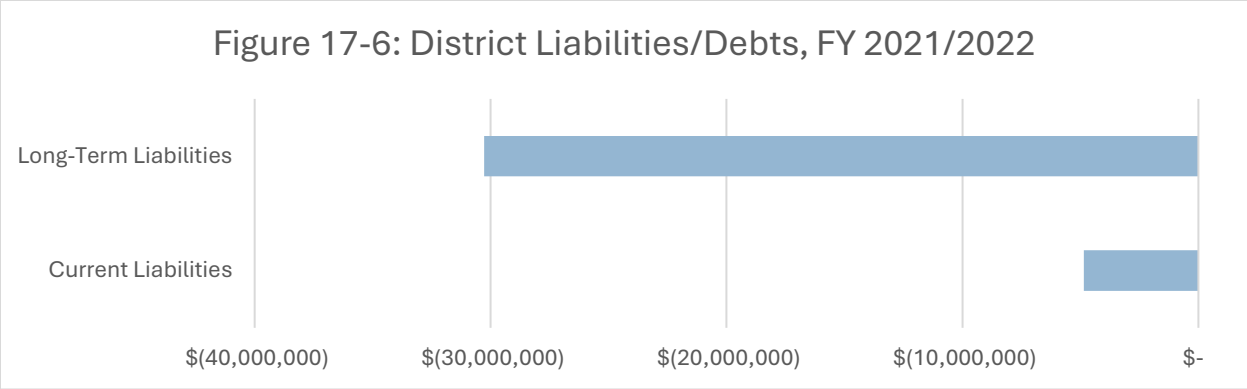


The audited financial report for FY 2021-22 shows an unrestricted net position of $17,652,992. Based on expenses for this same fiscal year, ISD has a positive ratio of 131 percent, a very good ratio (ISD, 2022). Current assets include cash and investments; accounts receivable; related party receivables; interest receivables; supply inventory; prepaid expenses; and prepaid interest. Noncurrent assets include prepaid interest; deposit for sales agreement; capital assets (net of accumulated depreciation) (ISD, 2022b).

According to the Management's Discussion and Analysis for the FY 2021-22 audited financial statement, the increase in Unrestricted Designated Net Position primarily reflects a transfer of $5,016,949 from Unrestricted Undesignated Net Position to the Capital Expenditure Reserve and an allocation of $367,005 of Ad Valorem taxes received in accordance with reserve policies. These increases were offset by purchases of capital assets of $1,424,746 and the payment of a capital asset deposit of $2,327,563 to be used for the future replacement of wastewater membranes. In addition, ISD had Operating Revenues of $21,168,469 for the fiscal year 2022 versus $18,514,287 for 2021 (a 14.3% increase) and Operating Expenses of $13,031,259 for fiscal year 2022 versus $13,340,625 fiscal year 2021 (a 2.3% decrease) (ISD, 2022b).

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. Figure 17-6 shows the liabilities for the district as of FY 2021-22 (ISD, 2022).



The ratio of annual debt service to total fund annual expenditures is an indicator of ISD's ability to meet debt obligations in relation to service provision expenditures. Ideally, a ratio of 10 percent or less would reflect a very stable ratio (LAFCO, 2014). According to the district's FY 2021-22 audited financial statement, ISD had $2,937,701 in debt service as part of the restricted net position. This equates to a ratio of 22 percent which exceeds LAFCO's 10 percent guideline, suggesting the district may have trouble meeting debt obligations in relation to service provision expenditures. In addition, ISD had a net pension liability of $2,475,709 for FY 2021-2022 (ISD, 2022b).

ISD entered into a project financing agreement with the SWRCB under their Clean Water State Revolving Fund Program. This program provides low-interest loan funding for construction of publicly-owned wastewater treatment facilities. ISD was approved for funding for its Wastewater Treatment Plant Upgrade and Expansion Project. The cost for the project was $58,754,020. The loan was disbursed as costs were incurred. Repayment of the loan is paid in annual installments which began October 2012. Full repayment of the loan will be made by October of 2031. The loan bears no interest however; in order to participate in the zero-interest loan program, ISD was required to provide 16.667% of the total loan amount. This portion of the loan represents interest costs and is reported on the Statement of Net Position as prepaid interest. Interest expense is amortized over the life of the loan at an effective interest rate of 1.8%. Approximately $421,000 of the prepaid balance was amortized in the current year, resulting in a remaining balance of $2,106,263 as of June 30, 2022, of which $382,957 is current. In the event of termination, upon written notice at the option of the SWRCB or upon violation of any material provisions of the project financing agreement, ISD has agreed to, upon demand, repay the Board all unpaid installment payments in full. In the event of termination, interest shall accrue on all amounts due at the highest legal rate of interest from the date of notice to the date of full repayment (ISD, 2022b). Debt service requirements for the State Revolving Fund Loan are shown in Table 17-5 below.

Table 17-5: Debt Service Requirements for the State Revolving Fund Loan

For the Year Ending June 30,	Principal	Total Payments	Interest Expense
2023	$ 2,937,701	$ 2,937,701	$ 382,957
2024	2,937,701	2,937,701	344,661
2025	2,937,701	2,937,701	306,366
2026	2,937,701	2,937,701	268,070
2027 - 2031	14,688,505	14,688,505	765,914
2032	2,937,696	2,937,696	38,295
Total	$ 29,377,005	$ 29,377,005	$ 2,106,263

Capital Improvement Program

Since 2011, ISD has operated a wastewater recycling facility 24/7. Periodic equipment replacement and reliability improvements are necessary to adequately serve the community's ongoing needs. ISD operates and maintains roughly 125 miles of sewer pipelines and 32 lift stations. Some of these pipelines are undersized and/or over 60 years old. Lift stations and other infrastructure require regular updates and periodic replacement. Therefore, a capital improvement plan (CIP) or an equivalent planning document is helpful to the ISD.

The ISD produced a Water Recycling Facility Reliability Study for the Water Recycling Facility (June 2018) and a Risk Model for the Collection System in 2019. Both plans identify long-term plans for replacements, refurbishment, and upgrades. Staff prepares a short-term plan each fiscal year to address near-term needs. These plans summarize capital improvement projects through 2025 for the district's Water Recycling Facility. By proactively identifying the projects needed over a 25-year planning horizon, the district can structure revenues and manage expenses to ensure that these projects can be completed fiscally (ISD, 2018b). ISD also has a Sewer Master Plan (January 30, 2004) that identifies Capital Improvement Projects anticipated to be timed to accept flows from future developments as they occur.

The district's five-year rate plan provides additional service fees for an estimated $25.4 million of capital improvements for ISD's sewer system and water recycling facility infrastructure beginning fiscal year 2020-21 through fiscal year 2025-26. The estimated capital improvements are partially based on a third-party comprehensive reliability study of its water recycling facility, which includes recommendations for various facility operating improvements. The study was conducted by an engineering firm specializing in facility reliability studies (ISD, 2022b).

The most recent rate study, completed in 2020, states: "The District needs to complete approximately $29.7 million in improvement projects over the next five years to keep the sewer system and Water Recycling Facility (WRF) operating reliably and in compliance with regulatory

requirements. This includes the replacement of aging sewer pipelines and equipment. The sewer system includes all the pipelines, maintenance holes, and sewer pumping stations throughout Oakley and Bethel Island, which collect sewage from homes and businesses. The WRF treats an average of 2.5 million gallons of wastewater each day. The District operates these facilities 24 hours a day, 365 days a year" (ISD, 2020b).

Rate Structure

On June 16, 2020, ISD adopted a new rate structure. The rate structure adjusts the fees for existing user classes and establishes new user classes. These new fees will be assessed over five years, with rate increases imposed during the first three years.

- The adjustment ensures that ISD correctly assesses sewer customers' proper share based on the amount and type of wastewater they discharge.
- Proposed fees are adjusted for each user class to ensure they are equitable and appropriate.
- Sewer fees for some user classes will be reduced.

Details are provided on this webpage: *https://www.ironhousesanitarydistrict.com/294/Prop-218-Sewer-Rate-Changes-2020*. In Fiscal Year 2020-21, two things occurred: a reallocation and a rate increase. A "Cost of Service" reallocation changed the fees within each customer category to reflect the actual cost of providing sewer service to a particular customer type. Because costs needed to be reallocated to single-family residential customers, the district proposed to increase the fee for single-family homes beyond the nine percent increase for all customer types. This adjustment was made in Fiscal Year 2020-21 to ensure no ratepayers were being overcharged. Table 17-6 below shows the proposed reallocation adjustments and rate increases for all customer classes (ISD, 2021b).

Table 17-6: Proposed Reallocation Adjustment and Rate Increases for All Customer Classes, FY 2020-2021

Sewer Rate Schedule	Current Rate	% Change Due to Reallocation Adjustment	Reallocation Adjustment	Current Rate plus Reallocation Adjustment	Proposed FY 20/21 % Rate Change	Proposed Rate
Residential	Per Dwelling Unit				9%	
Single Family Residential	$ 658.00	18%	$ 119.37	$ 777.37	$ 69.96	$ 847.33
Multi-Family Residential	$ 658.00	-56%	$ (366.02)	$ 291.98	$ 26.28	$ 318.26
Mobile Home	$ 658.00	-33%	$ (217.79)	$ 440.21	$ 39.62	$ 479.83
Non-Residential	Per Equivalent Dwelling Unit					
Commercial	$ 658.00	13%	$ 87.81	$ 745.81	$ 67.12	$ 812.93
Industrial*	n/a					$ 1,028.49
Public Building	$ 658.00	11%	$ 72.39	$ 730.39	$ 65.73	$ 796.12
Recreational	$ 658.00	10%	$ 69.06	$ 727.06	$ 65.44	$ 792.50
Restaurant	$ 658.00	13%	$ 85.57	$ 743.57	$ 66.92	$ 810.49

*Note: Industrial is a new rate class

New Development Capacity Fee: New development is charged a one-time capacity fee for customers connecting to or upsizing their connection to ISD's sewer system. The Capacity Fee was adopted via Ordinance 72 by the Board in July 2020. Ordinance 27 replaced three past sewer connection fees. The purpose of the capacity fee is to provide revenue to recover costs for existing and future facilities that benefit new development. The new capacity fee schedule was determined by a consultant and complies with California law (ISD, 2020).

17.5: POPULATION

There are approximately 46,391 residents within ISD's boundary based on data from the Contra Costa Department of Conservation & Development. Two other lower population estimates from different data sources are similar, as shown below in Table 17-7. Detailed information regarding population demographics in Contra Costa County is provided in Appendix A. ISD is located within the Legal Delta Secondary Zone, and a detailed population analysis of the Delta area was prepared by state agencies (Visser et al., 2018). Readers are encouraged to review this information as follows:

- Visser, M.A.; Brinkley, C.; Zlotnicki, J. (2018) *Socioeconomic Indicators Report: The Sacramento-San Joaquin Delta*. Sacramento, CA: The Delta Protection Commission. 46-pages. Available online at: <*https://delta.ca.gov/wp-content/uploads/2020/09/Delta-Socio-Economic-Indicators-Report-508.pdf*>.

Table 17-7: Existing Permanent Population, Ironhouse Sanitary District, 2020/2022

Scenario	Population	Notes and Data Source
Low Population Scenario	45,488	• Calculated as City of Oakley 43,357 residents plus Bethel Island with 2,131 residents • U.S. Census Bureau. (n.d.a). Explore Census Data. Retrieved on December 19, 2022, from <*https://data.census.gov/table?q=oakley&tid=DECENNIALPL2020.P1*>. • U.S. Census Bureau. (n.d.b). Explore Census Data. Retrieved on December 19, 2022, from <*https://data.census.gov/table?q=Bethel+Island+CDP,+California&tid=DECENNIALPL2020.P1*>.
Medium Population Scenario	45,800	Source: ISD's Annual Financial Report (Audit) (2022)
High Population Scenario	46,391	Contra Costa Department of Conservation
Number of Registered Voters in Boundary	28,260	as of June 12, 2019 Source: Registered Voter data provided by Contra Costa LAFCO, District Profile, 2019.
Population in SOI only	378	(2022 Approx.) Calculated based on GIS and APN data, the

		estimated average is 3.02 persons per parcel in Contra Costa County.

Projected Future Population: Projecting a district's future population is complicated due to varying annexation rates and census tracts that do not match district boundaries. Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County, as shown in Table 17-8 below. Since anticipated future population growth within the ISD's boundaries has the potential to influence the demand for wastewater services, the projections are shown in Table 17-8 below.

17.6: DISADVANTAGED COMMUNITIES

Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in disadvantaged communities. Specifically, disadvantaged communities are inhabited communities containing 12 or more registered voters that constitute all or a portion of a "disadvantaged community." A disadvantaged community is defined as a community with a median household income of 80% or less than the statewide median household income. In 2011, SB 244 began requiring cities and counties to address the infrastructure needs of unincorporated disadvantaged communities in city and county general plans, MSRs, and annexation decisions. Therefore, this MSR update identifies disadvantaged communities within relevant jurisdictions' SOI. Figure 1-4 in Chapter 1 shows the location of all disadvantaged communities in Contra Costa County. The MHI for California in 2020 was $83,056 (ACS, 2021). 80 percent of the MHI ($66,445) is the income threshold used to identify DUC status. 2020 is used as the base year because data from the US 2020 Census is readily available.

U.S. Census data was queried as part of this MSR update. Data query results, shown in Table 17-9 and Figure 17-5 below, identify the disadvantaged community of Bethel Island (unincorporated) within the ISD boundary area. Immediately adjacent to the ISD boundary and partly within its SOI is a disadvantaged community encompassing approximately half of Knightsen, a Census Designated Place (CDP). Knightsen is located in unincorporated Contra Costa County.

Table 17-8: Total Estimated & Projected Population (2020 – 2045)

	2020	2025	2030	2035	2040	2045	Percent Increase 2020 to 2045	Numeric Increase 2020 to 2045	CAGR 2020 to 2045
County of Contra Costa[1]	1,149,800	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.80%	181,631	0.59%
Ironhouse Sanitary District[2]	46,391	47,415	49,269	50,834	51,976	52,725	15.91%	7,237	0.59%

Sources:
1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.
2: U.S. Census Bureau. (n.d.a). Explore Census Data. Retrieved on December 19, 2022, from <https://data.census.gov/table?q=oakley&tid=DECENNIALPL2020.P1>.
3: U.S. Census Bureau. (n.d.b). Explore Census Data. Retrieved on December 19, 2022, from <https://data.census.gov/table?q=Bethel+Island+CDP,+California&tid=DECENNIALPL2020.P1>.
4: Population projection for Ironhouse Sanitation District calculated as 3.96 percent of the County of Contra Costa population.

LAFCO is required to consider the need for sewer, municipal, and industrial water, or structural fire protection services within identified disadvantaged communities as part of a SOI update for cities and special districts that provide such services. These services have been recently reviewed under the *2nd Round EMS/Fire Services Municipal Service Review/Sphere of Influence Updates (2016), the Contra Costa City Services Municipal Service Review and Sphere of Influence Study (2nd Round) (2019), and Contra Costa County-wide Water Service Municipal Service Review and Sphere of Influence Study (2nd Round) (2014)*. These services remain relatively unchanged since publication. A portion of the community of Knightsen is a disadvantaged community and is within the ISD SOI, as shown in Figure 17-7. This determination assesses the prospect of including a disadvantaged community when an agency's SOI is updated or expanded. No health or safety issues have been identified. ISD currently provides sewage collection infrastructure/service to portions of Bethel Island. The expansion of infrastructure on the island would require detailed future study as the island is mostly below sea level, with a 14.9-mile perimeter levee, and is surrounded by Delta sloughs. In the future, ISD and LAFCO may wish to study further the feasibility of expanding ISD's SOI to encompass the entire Knightsen disadvantaged community.

Table 17-9: Disadvantaged Unincorporated Communities In and Near Ironhouse Sanitary District

Unincorporated Community	**Census Tract Geo ID**	**Census Block Group Number**	**Median Household Income in 2020**
Bethel Island CDP	060133010002	2	$35,721
Knightsen CDP	060133020112	2	$50,912

Data Source: U.S. Census Bureau. November 2, 2021. 2020 American Community Survey 1-Year Experimental Estimates. Table ID: XK201902. Table Title: Median Household Income In The Past 12 Months (In 2020 Inflation-Adjusted Dollars). Retrieved July 7, 2021 from *https://www.census.gov/programs-surveys/acs/data/experimental-data/1-year.html*.

Additionally, within the part of the ISD's boundary/SOI that overlaps with the City of Oakley, disadvantaged communities receive municipal services from the City, as shown in Figure 17-8.

Figure 17-7: Disadvantaged Communities Near ISD and in the Unincorporated Area

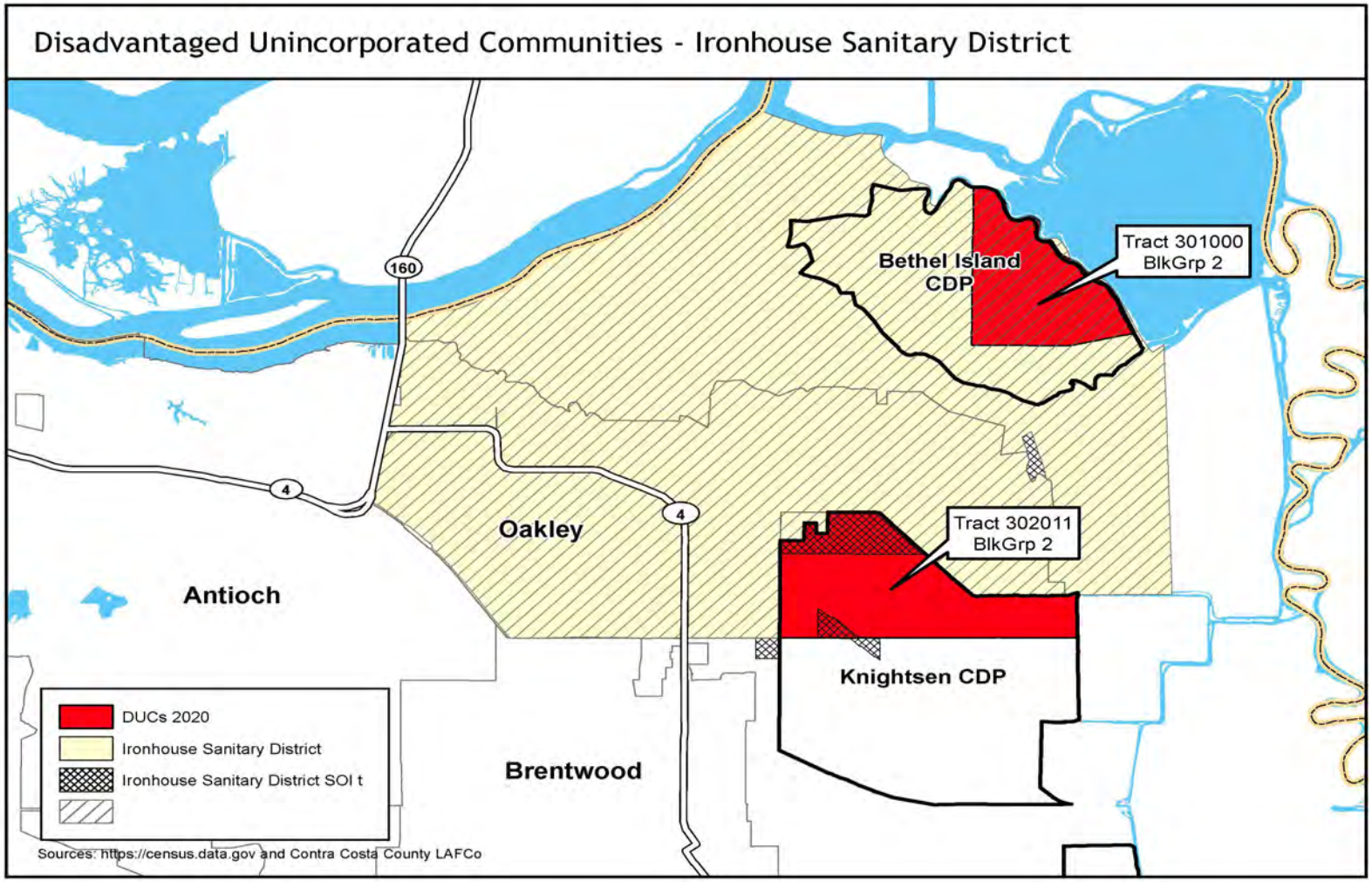
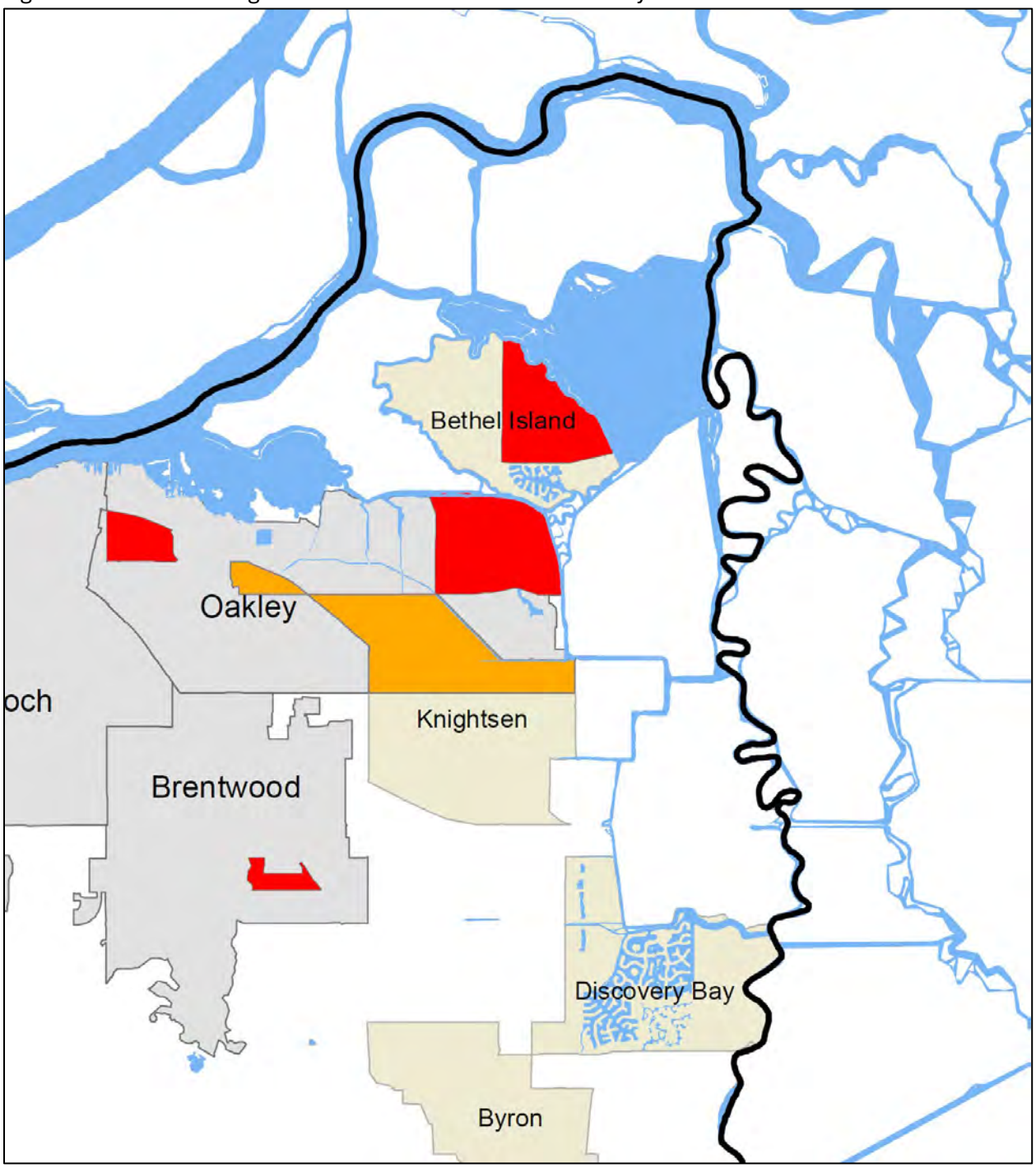


Figure 17-8: Disadvantaged Communities near ISD and Oakley



17.7: GOVERNMENT STRUCTURE ALTERNATIVES

Two government structure options were identified as part of this MSR process: 1) maintain the status quo and 2) future partnerships with nearby agencies. Each of these alternatives is described in more detail in the following paragraphs.

Option #1: Maintain the status quo

ISD provides wastewater services for the City of Oakley, Bethel Island, and unincorporated areas within eastern Contra Costa County. Due to projected growth in the area, there will be an increased need for district services in the future, and ISD has planned for service needs through master plans and upgrades of its sewer and wastewater facilities. ISD is financially sound and has invested considerable revenue in developing new and upgraded facilities to accommodate projected growth in service demands and to meet increased regulatory requirements. The MSR authors recommend retaining the status quo, with no changes to boundaries or the SOI in the near-term.

Option #2: Future Partnership with Nearby Agencies

ISD is located in geographic proximity to several service providers. Additionally, ISD has a good track record of positive collaborative relationships with regional organizations, local municipalities, and other service providers. ISD's boundaries overlap with several of these agencies. For example, ISD's western boundary is contiguous to the boundary for the DD, and a portion of its southern boundary is contiguous to the boundary of the City of Brentwood. ISD and LAFCO may wish to explore the potential for more in-depth partnerships with these organizations. In the future, ISD and LAFCO may wish to study further the feasibility of expanding ISD's SOI to encompass the entire Knightsen disadvantaged community. Overall, no specific opportunities for changes to the governance structure in relation to other service providers and partners were identified as part of this MSR.

17.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

Table 17-10: MSR Determinations for ISD	
TOPIC AND PERFORMANCE MEASURES	**MSR DETERMINATION**
Growth and Population for the affected area. • Is existing population estimated? • Is projected future growth estimated?	ISD's service area is expected to experience steady growth over the next 25 years. The current population is estimated at 46,391. By 2045, it is estimated at 52,725. The percent increase from 2020 to 2045 is 15.91.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the SOI.	U.S. Census data was queried as part of this MSR update process. 80 percent of the MHI ($66,445) is the income threshold for identifying DUC status in 2020. The disadvantaged community of Bethel Island (unincorporated) is within the ISD boundary area. Immediately adjacent to the ISD boundary and partly within its SOI is a disadvantaged community encompassing approximately half of Knightsen, a CDP. Additionally, disadvantaged communities are located within the City of Oakley. No public health and safety issues were identified.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the SOI. • Does the Agency have a CIP? • Are SSOs identified? • Are Local Hazards identified?	A CIP helps agencies describe the planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies. The ISD produced a Water Recycling Facility Reliability Study and CIP in June 2018, summarizing capital improvement projects through 2025 for the district's Water Recycling Facility. By proactively identifying the projects needed over a 25-year planning horizon, ISD can structure revenues and manage expenses to ensure that these projects can be completed fiscally. ISD also has a Sewer Master Plan (January 30, 2004) identifying Capital Improvement Projects. The ISD 2015 Sewer System Management Plan (SSMP) outlines the procedures and standards for managing and maintaining the sewer system.

	(continued) SSOs were identified by querying a 3.6-year term from January 1, 2019, to August 9, 2022, in the CIWQS-SSO database. Based on the query, there were four SSOs during this timeframe. The 2018 Contra Costa County HMP identified several action items for ISD, including: 1) Installation of redundant force main from Bethel island as a future project. 2) Installation of East Cypress corridor redundant collection system as a future project. 3) Continue to support implementing, monitoring, and updating the Contra Costa County HMP. The American Society of Civil Engineers, Region 9 generally recommends: 1) Implement an education program at the state and local levels about what a wastewater treatment plant is, what kind of waste it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs. 2) Make risk-based decisions on capital improvements, maintenance, and operations. 3) Continue advancements in water reuse/recycling.
Financial ability of agencies to provide services. • Has the Agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures 10% or less?	ISD completed the last rate study in 2021 for FY 2024/2025. The financial outlook for ISD remains strong as it continued to increase its net position year over year for the fiscal years studied. The district's operating revenues exceeded operational expenditures for all fiscal years studied. Because revenues exceed expenditures, the Enterprise fund appears to have the capacity to cover its costs year over year.

	(continued) The ratio of annual debt service to total fund annual expenditures is 22 percent which suggests ISD may have trouble meeting debt obligations in relation to service provision expenditures. In addition, ISD had a net pension liability of $2,475,709 for FY 2021-2022. The district entered into a project financing agreement with the California SWRCB under their Clean Water State Revolving Fund Program. Approximately $421,000 of the prepaid balance was amortized in the current year, resulting in a remaining balance of $2,106,263 as of June 30, 2022, of which $382,957 is current. The Sewer Master Plan was updated on an interim basis in 2018. Staff is currently working on a full update to the Sewer Master Plan, which is anticipated to be completed by March 2025. When complete, this updated Master Plan will help ISD assess capital facility needs and budget accordingly.
Status of, and opportunities for, shared facilities.	ISD staff did not specifically mention any shared facilities. However, ISD is located in close proximity to the City of Oakley and Delta Diablo. Therefore, it is recommended that ISD continue to pursue informal arrangements to share facilities with nearby agencies as needed. In addition, ISD's Strategic Plan also outlines its many cooperative efforts to consider regional solutions and maximize federal and state funding opportunities. For example, to understand regional water needs and seek common interests, ISD actively participates in two regional organizations: • East County Water Managers Association and • East Contra Costa County Integrated Regional Water Managers.

Accountability for community service needs, including government structure and operational facilities. • Does the Agency have a website? • Does the Agency post a public outreach tool (such as a calendar or newsletter) on its website? • Recommendation for mergers, consolidations, or other changes to governance structure.	ISD's website provides the public with internet access to Board agendas and minutes, public notices, ISD budgets, and audits. "The Ironhouse Insider" newsletter is published multiple times per year (also available online) and is provided free of charge to ISD customers. It provides the public with updates on ISD activities and projects. This MSR/SOI considered potential future options for mergers, consolidations, contracted services, and other arrangements. Two options were identified for ISD as follows: • Option #1: Maintain the status quo • Option #2: Future Partnership with Nearby Agencies Based on the information in this MSR, the authors recommend retaining the status quo, with no changes to boundaries or the SOI in the near-term.
Any other matter related to effective or efficient service delivery, as required by commission policy.	No additional issues have been identified.

17.9: RECOMMENDED SPHERE OF INFLUENCE

Section 17.7, Government Structure Alternatives, describes various issues and options associated with changing the structure of this local government agency. LAFCO often accomplishes its government structure issues through changes to boundaries and/or SOIs. After consideration of potential future options for mergers, consolidations, contracted services, and other arrangements, two governance structure options were identified for ISD as follows:

- Option #1: Maintain the status quo
- Option #2: Future Partnership with Nearby Agencies

In regards to the SOI, based on the information in this MSR, the authors recommend retaining the status quo, with no changes to boundaries or the SOI in the near-term. Based on the information, issues, and analysis presented in this report, proposed SOI determinations, pursuant to Section 56425, are presented below for Commission consideration:

Table 17-11: SOI Determinations for ISD	
TOPIC AND PERFORMANCE MEASURES	**SOI DETERMINATION**
Present and planned land uses in the area, including agricultural and open-space lands.	The major portion of ISD's service area is comprised of the City of Oakley and the unincorporated community of Bethel Island. The City of Oakley's General Plan includes a broad mix of land uses, including residential, commercial, industrial, recreational, and public land uses. Bethel Island, a residential/vacation area, is expected to remain largely residential. The City of Oakley's General Plan (2022) and Housing Element (2023) anticipate significant new development. ISD will need to continue to upgrade its infrastructure to accommodate this anticipated future development.
Present and probable need for public facilities and services in the area.	ISD's existing facilities are necessary to provide service within its boundary. Significant new development is expected to occur within the City of Oakley, consistent with the City's General Plan and its Housing Element (Oakley, 2022 and Oakley, 2023). ISD is responsible for responding to new development projects by providing adequate infrastructure for collection, conveyance, treatment, and recycling. This will require that ISD phase-in improvements to its infrastructure, including its treatment and recycling facilities, pump stations, force mains, and other pipelines.
Present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide.	The district's collection system comprises 125 miles of gravity sewer main, 15.9 miles of force main, and 32 lift stations. The collection system is extensively laid out in the residential and commercial areas of the City of Oakley and communities to the north. The ISD Water

	(continued) Recycling Facility has a design capacity of 4.3 MGD average dry weather flow. The WRF has 8.6 MGD maximum wet weather flow. Current ADF 2.52 MGD. Prior to 2014, ISD completed construction of Phase 1 of a $55 million project for the ISD Water Recycling Facility to accommodate growth and meet future regulatory requirements. Recently, ISD plans to undergo an Old Pipeline Improvement project. The updated infrastructure will improve the demand capacity of the wastewater system.
Existence of any social or economic communities of interest in the area if the commission determines that they are relevant to the agency.	None have been identified.
Present and probable need for those public facilities and services of any disadvantaged communities with the existing SOI.	U.S. Census data was queried as part of this MSR Update process. 80 percent of the MHI ($66,445) is the income threshold for identifying DUC status in 2020. The disadvantaged community of Bethel Island (unincorporated) is within the ISD boundary area. Immediately adjacent to the ISD boundary and partly within its SOI is a disadvantaged community encompassing approximately half of Knightsen, a CDP. Additionally, disadvantaged communities are located within the City of Oakley. No public health and safety issues have been identified.

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Chapter 18: MT. VIEW SANITARY DISTRICT – WASTEWATER SERVICES

Table of Contents

18.1: OVERVIEW

The Mt. View Sanitary District (MVSD) provides three related municipal services, as follows:

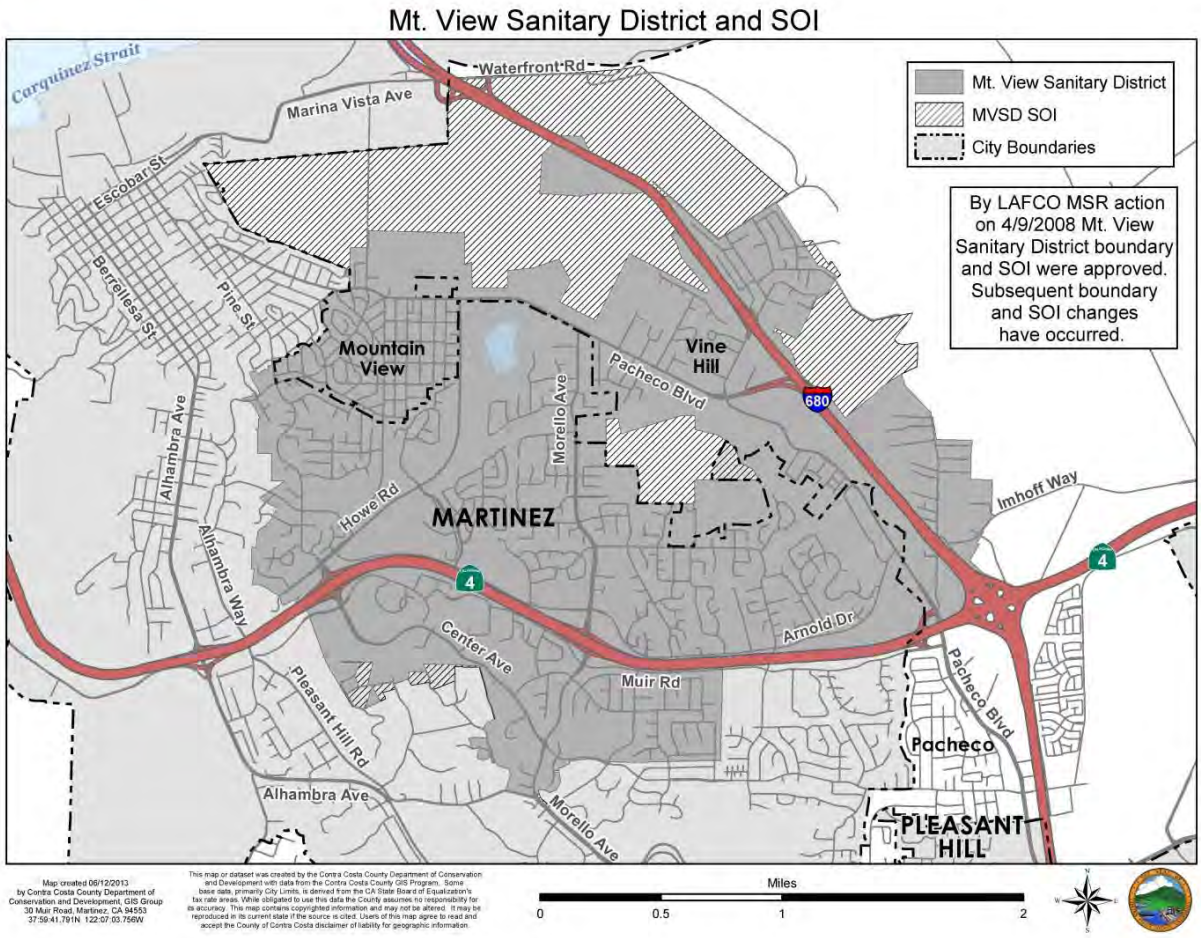
- Wastewater collection, treatment, and disposal services for the northeasterly portion of the City of Martinez and adjacent unincorporated lands to the northeast.
- The household hazardous waste program is provided by MVSD through a contract with Central Contra Costa Sanitary District (CCCSD) (Corona, 2023). The services include a Household Hazardous Waste Collection facility and disposal services. In addition, MVSD collaborates with CCCSD to provide a permanent Household Hazardous Waste Collection facility and disposal services for the central portion of the County (LAFCO, 2014).
- Trash hauling, recycling, and disposal services are provided by MVSD through a franchise agreement with Republic Services (formerly Allied Waste) to the unincorporated areas of the District. The contract with Republic Services has been extended to December 31, 2031 (Corona, 2023).

This MSR focuses on MVSD's wastewater collection, treatment, and disposal services. A map of MVSD's current boundary and sphere of influence (SOI) is shown in Figure 18-1. A Profile of MVSD's services is provided in Table 18-1 (next page).

Table 18-1: Agency Profile – Mt. View Sanitary District

General Information			
Agency Type	Independent Special District		
Principal Act	Sanitary District Act of 1923, Health & Safety Code Section 6400 et seq.		
Date Formed	1923		
Services	Collection, treatment, and disposal of wastewater		
Service Area			
Location	City of Martinez (portion) and adjacent unincorporated areas		
Sq. Miles/Acres	4.71 square miles/ 3,012 acres		
Land Uses	Residential, commercial, industrial, public use		
Sewer Connections	9,489 connections (MVSD, 2022d); 280 commercial customers and 1 industrial customer (MVSD, 2022d)		
Population Served	Population estimated to range from 20,770 to 25,620		
Last SOI Update	05/14/2014, retained existing SOI		
Infrastructure/Capacity			
Facilities	Wastewater Treatment Plant, 73 miles of sewer pipelines (MVSD, n.d.a), approximately two (2) miles of force main, and 4 pump stations (Corona and Elliott, 2023).		
Treatment Plant Capacity	3.2 MGD (design capacity) (MVSD, n.d.) 1.04 MGD (average dry weather flow) (MVSD, 2022d)		
Primary Disposal	Tertiary treatment and discharge into a series of wetlands and marshlands		
Financial Information- FY 2021-2022			
	Revenues	Expenditures	Net Surplus/(Deficit)
Operating/General Fund	$ 7,919,784	$7,570,607	$ 349,177
All Funds	$ 7,919,784	$ 8,603,378	
	FY 2021-2022	Long-Term Planned Expenditures	
Capital Expenditures	$ 3,207,125	$51.3 million - 10-year Projection	
Reserves Fund Balance	$ 13,223,114	Source: MVSD Annual Budget FY 20212022 (last complete fiscal year audit)	
Governance			
Governing Body	Board of Directors (5 members)		
Agency Contact	Lilia Corona, General Manager, lcorona@mvsd.org		
Notes			
District's SOI was reduced by LAFCO in July 2013. Financial data provided by MVSD staff, personal communication, 2023			

Figure 18-1: Boundary/SOI Map – Mt. View Sanitary District –



Established in 1923, MVSD's initial sewer system fed into a large community septic tank. In 1951, MVSD installed primary treatment units to meet the needs of the growing local population. Secondary treatment began in 1968. In 1974, to meet effluent disposal limits outlined by the Regional Water Quality Control Board, MVSD reclaimed wetland areas rather than incur the higher cost of constructing a deep-water outfall line. The acreage of the wetlands increased from 21 acres to over 86 acres. Additional acreage was acquired through joint management with East Bay Regional Park District for a total of 151 acres of wetlands. The increase was a proactive effort based on projected increases in flow which never manifested. Flow has in fact decreased to an average dry weather flow of 1 MGD[1].

In 1988, MVSD added an ammonia removal unit. In 1994, MVSD added filtration and ultraviolet disinfection systems – the first full-scale operation in Northern California (LAFCO, 2014). Today, MVSD serves approximately 25,620 residents, treating an average daily dry weather flow of 1.04 million gallons of wastewater per day (MVSD, 2022d). The MVSD service area comprises approximately 4.71 square miles and is contiguous on all sides with the Central Contra Costa Sanitary District (CCSD). MVSD is an "island" within CCCSD's service area. The District lies within the San Francisco Bay / Sacramento Delta Estuary watershed. Additional information about this watershed is provided in Appendix F. The MVSD's Agency Profile is in Table 18-1 on Page 2.

18.2: DISTRICT BOUNDARY & SOI

The MVSD's Sphere of Influence (SOI) was reduced in July 2013 following the review of a proposal by CCCSD to annex 99.7 acres located in Lafayette and Martinez. It was discovered that approximately 18.2 acres of the proposed annexation territory were located within the MVSD's sphere of influence. CC LAFCO and both agencies agreed that CCCSD was the most logical service provider for the area and supported concurrent sphere adjustments to both agencies (LAFCO, 2014).

The 2014 MSR noted that MVSD served one parcel outside its current boundary. The parcel houses the Household Waste Collection Facility (HHWCF-jointly sponsored by MVSD and CCCSD) and a commercial building owned by CCCSD. A reorganization to detach the parcel from MVSD and annex it to CCCSD was considered in 2010 but was not supported by both districts. District staff indicates this parcel containing the HHWCF is not considered out of agency since there is an agency-to-agency agreement for the HHWCF dated 9/24/1997, which established that MVSD would treat the wastewater from the HHWCF (Corona, 2023).

[1] For example, during a drought, customers tend to conserve potable water and this results in less generation of wastewater. Many wastewater service providers in California have experienced this.

Figure 18-2: MVSD Service Area Map -

18.3: DISTRICT WASTEWATER OPERATIONS

The District's wastewater service includes collection, conveyance to the wastewater treatment plant, and disposal. The District provides wastewater collection and conveyance services to approximately 9,489 sewer connections, as shown in Table 18-1 above (MVSD, 2022d). Of those, 280 are Commercial customers, and only one is industrial. Please note that, upon occasion, one MVSD sewer connection may serve many individual customers.

MVSD operates a 3.2 million-gallon per day (MGD) dry weather designed flow wastewater treatment plant (WWTP). The WWTP averages 1.04 MGD for dry weather flow, according to the District website: *https://www.mvsd.org/*. MVSD's collection system consists of 73 miles of sewer pipelines and four (4) pump stations (MVSD, n.d.a). Treated effluent is discharged to the Moorhen Marsh constructed wetland (MVSD, 2021a). From Moorhen Marsh, effluent is discharged to Peyton Slough and then into McNabney Marsh and Suisun Bay (MVSD, 2021a). Dried biosolids are distributed to a couple of locations. The District sends some to Lystek[2] in Fairfield, where the biosolids are treated and turned into a high-grade fertilizer that can be customized to meet the needs of farmers. A portion of the biosolid waste is sent to the landfill (Corona, 2023).

MVSD maintains approximately 2 miles of force main as listed below:

- Pump station 4 – 0.85 miles
- Pump station 3 – 0.80 miles
- Pump station 2 – 0.20 miles
- Pump station 1 – 0.16 miles
- (*Data Source: Corona and Elliott, 2023*)

Local Hazards

The Contra Costa County Hazard Mitigation Plan Volume 2 (HMP), dated January 2018, maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards (Contra Costa County, 2018). The Mt View Sanitary District did not participate in the county-wide Hazard Mitigation Plan. However, several neighboring jurisdictions participated in the HMP, including the City of Martinez and the CCCSD. It is recommended that MVSD participate in the next update to the HMP. Alternatively, MVSD could provide a detailed spatial mapping of the District's wastewater infrastructure in relation to hazards identified to LAFCO before the next update of its Wastewater Services MSR/SOI.

Sanitary Sewer Overflow Database

The State Water Board maintains a Sanitary Sewer Overflows (SSO) database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General

[2] (Information on Lystek: <*https://www.dailyrepublic.com/all-dr-news/solano- news/fairfield/fairfield-operation-lifts-veil-on-first-of-its-kind-sewage-to-fertilizer-process/*>.)

Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. Order No. WQ 2022-0103-DWQ (SSS WDRs), on December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. A 3.6-year term from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. The results of the database queries regarding MVSD are listed in Table 18-2.

During this 3.6-year timeframe, the Mt View Sanitary District had 17 SSO events. In most cases, the SSOs had failure points at the gravity mainline. Most of the SSOs were greater than 1,000 gallons, thus making them relatively large. According to the CIWQS-SSO database query, the largest spill occurred on August 23, 2021, with a volume of 9,209 gallons. The spill was caused by pipe structural failure, and the wastewater moved from the mainline void into the drainage canal. Of the 9,209 gallons of sewage, 8,218 gallons were recovered from the drainage channel. Factors influencing the District's ability to collect, treat, and dispose of wastewater and provide public service to customers were considered. District staff mentioned that the daily average dry weather flow of 1.04 is less than 32% of the MVSD dry weather capacity (MVSD, 2022d). To help improve its ability to collect, treat, and dispose of wastewater, MVSD worked toward awarding a contract for a Master Plan Study (MVSD, 2022d). The Master Plan Study will ensure all infrastructure and equipment condition assessments are completed, planned rehabilitation is scheduled, and that replacement is scheduled (MVSD, 2022d). Plans for a Merger Feasibility Study with CCCSD have postponed the award of the Master Plan Study.

Infrastructure Needs

The 2014 MSR identified several infrastructure needs at MVSD, including:

- Wet weather storage reservoir
- Supervisory Control and Data Acquisition (SCADA) monitoring system upgrades to track flows and monitor pump stations to prevent overflow events.
  MVSD implements smoke testing and TV monitoring to identify high-priority pipe repair locations on an ongoing basis (LAFCO, 2014). These routine pipe repairs are typically addressed through the annual upgrade or replacement program, which is budgeted at $280,000 for FY 2023-24

In recent years MVSD has made several improvements to infrastructure, including:

- Completed Capital Projects: Moorhen Marsh Rehabilitation and Habitat Enhancement, Biotower & Biofilter Rehabilitation, Biotower Pumps & Discharge Pipes Replacement, SCADA System Upgrades, Manhole Repair/Replacement, and the UV Disinfection Replacement Project is nearly complete.
- The Collection System Cleaning & CCTV Project is ongoing.

Table 18-2: Mt View Sanitary District Sanitary Sewer Overflows

EVENT ID	Region	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
856196	2	MVSD CS	Category 1	2/14/2019 12:30	22	8	22	Gravity Mainline	2SSO10158
859644	2	MVSD CS	Category 3	7/5/2019 8:32	217	217	0	Maintenance hole	2SSO10158
860960	2	MVSD CS	Category 1	8/30/2019 7:39	4,317	370	3,947	Maintenance hole	2SSO10158
860975	2	MVSD CS	Category 1	9/1/2019 8:10	4,504	418	4,086	Gravity Mainline	2SSO10158
862380	2	MVSD CS	Category 1	10/22/2019 6:45	1,760	1,699	61	Gravity Mainline	2SSO10158
865046	2	MVSD CS	Category 1	2/20/2020 7:10	3,620	8	3,612	Gravity Mainline	2SSO10158
865091	2	MVSD CS	Category 1	2/20/2020 19:55	3,620	28	3,592	Gravity Mainline	2SSO10158
865181	2	MVSD CS	Category 1	2/22/2020 12:20	184	0	184	Gravity Mainline	2SSO10158
867198	2	MVSD CS	Category 3	5/3/2020 17:47	20	1	0	Gravity Mainline	2SSO10158
868898	2	MVSD CS	Category 1	9/5/2020 8:26	181	7	174	Gravity Mainline	2SSO10158
870989	2	MVSD CS	Category 1	12/12/2020 10:30	2,493	14	2,479	Gravity Mainline	2SSO10158
872141	2	MVSD CS	Category 1	2/2/2021 12:27	59	0	59	Gravity Mainline	2SSO10158
872242	2	MVSD CS	Category 1	2/11/2021 10:21	1,325	0	1,325	Gravity Mainline	2SSO10158
875986	2	MVSD CS	Category 1	8/23/2021 7:30	9,209	8,218	9,209	Gravity Mainline	2SSO10158
877121	2	MVSD	Category 1	10/24/2021	282	0	282	Large 6" hose was	2SSO10158

		CS		17:25				dragged to load and then unloaded and gained a hole at some point, which leaked. We used towels and duct tape to slow the leak. Not using the pump would have caused multiple upstream maintenance holes to overflow.	
877204	2	MVSD CS	Category 1	10/24/2021 21:10	3,526	0	3,526	No failure. Severe storms and severe flooding in the neighborhood created too much flow, and we eventually could not handle the flow.	2SSO10158
877431	2	MVSD CS	Category 1	11/2/2021 9:40	2,357	400	1,957	Gravity Mainline	2SSO10158
Data Source: CIQWS Sanitary Sewer Overflow Database									

- Engineering studies were completed: Disinfection Study, the Co-digestions Study, the Biosolids Dryer, Heat Use Study, Electrical & SCADA Systems Study Update, Collection System Capacity Assessment Update, Collection System Condition Assessment Program, Plant Improvements Preliminary Design, and Pump Stations Condition Assessment
- (*Data Source: MVSD, Response to RFI, 2022d and personal communication, MVSD staff, 2023*).

With a daily average dry weather flow of 1.04, MVSD uses less than 32% of its dry weather capacity. MVSD plans to conduct a Master Plan Study to ensure all infrastructure/equipment condition assessments are completed and planned rehabilitation and replacement are scheduled (Data Source: MVSD, Response to RFI, 2022d)

The MSR Authors consulted with MVSD staff about improvements that could be potentially made in the future to improve the efficiency and affordability of infrastructure and service delivery sharing of resources and facilities. MVSD staff indicates that several ideas are being considered for future long-term improvements to the system, including:

- MVSD is currently working with the County to transfer its Solid Waste Franchise to Contra Costa County to adapt to the regulatory burden of SB 1383.
- Board of Directors recently updated its Strategic Plan with various goals to improve compliance, develop customer service, expand cooperative programs, keep district policies updated, and pursue efficiency improvements through documenting procedures and expanding record keeping and staff training and development (MVSD, Response to RFI, 2022d).

Cooperative Programs

MVSD has several joint programs with CCCSD, including source control management and the Household Hazardous Waste Collection Facility. MVSD participates in educational programs with local colleges and schools on open space and habitat management. The education programs are coordinated with local schools to encourage environmental management and education. MVSD has minimal opportunities for shared facilities as it is essentially surrounded by the CCCSD service area (LAFCO, 2014).

Cost Avoidance Opportunities

MVSD has actively implemented several projects which serve to reduce long-term costs as follows:

- MVSD has a Solid Waste Franchise Agreement with Republic Services (formerly Allied Waste) to provide trash hauling, recycling, and disposal services for the unincorporated areas of the District. The District is currently working with the County to consolidate with County's agreement with Republic Services as soon as it can be accomplished (Corona, 2023). The garbage franchise does not serve the entire District, only the unincorporated areas. The rates are higher than the City of Martinez's service due to economy of scale. Recent discussion with the County resulted in the agreement to move forward with the consolidation now (Corona, 2023). This consolidation will serve to contain costs for resources both personnel and financial.

- Several cell phone site leases and billboard leases have been renegotiated to increase revenues (MVSD, Response to RFI, 2022d).
- Close cooperation with CCCSD helps to avoid costs. For example, MVSD contracts with CCCSD to share resources and increase cost-effectiveness on source control management, including inspection services for MVSD's commercial accounts, and the implementation of the Fats, Oils, and Grease control program. Additionally, CCCSD has assisted MVSD in preparing MVSD's Annual Pollution Prevention Report, but due to a reduction in their resources no longer provides that service since 2020.
- Administrative improvements that support cost avoidance have recently been made, including:
    - New Public Outreach Coordinator supports transparency and cultivates a Social Media presence on Facebook and Instagram and initiated a Community Advisory Group that advises the Board of Directors regarding rates,
    - Strategic Planning: New Strategic Plan was approved by Board on 4/18/21. The Strategic Plan includes goals to enhance customer service, expand cooperative programs, implement computerized maintenance management, update district-wide policies, and pursue district-wide improvements through staff training and development.
    - An Affordability Study was completed in 2023.

There are no other cost avoidance or facility-sharing opportunities apart from those found in the previous MSRs (Corona, 2023).

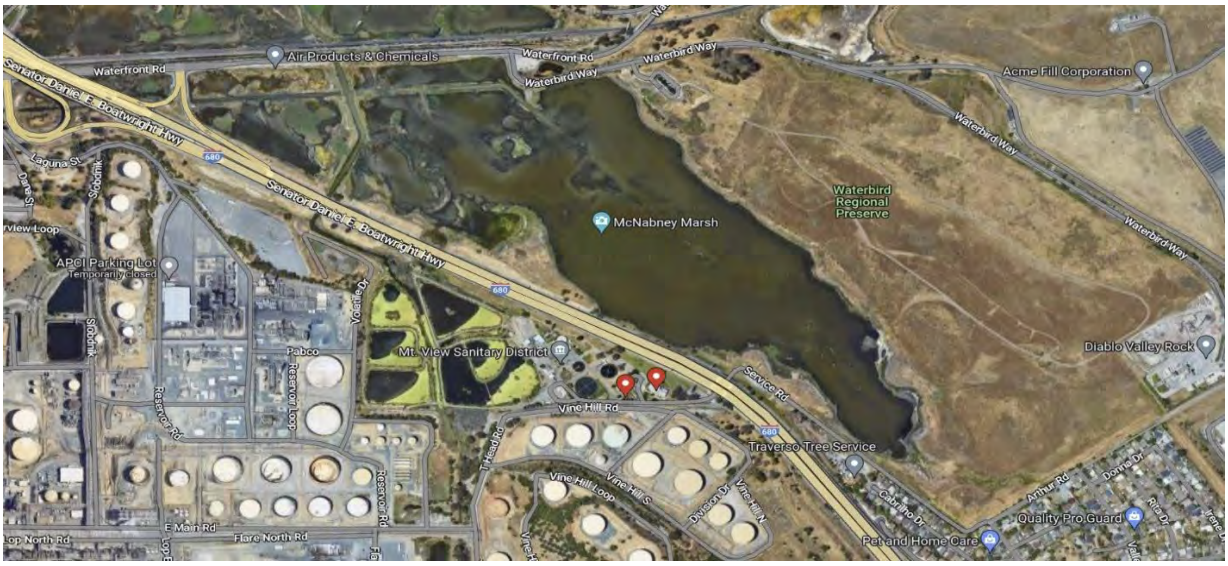


Figure 18-3: Mt View Sanitary District, 3800 Arthur Rd, Martinez, CA 94553, Aerial image courtesy of Google Maps

18.4: DISTRICT FINANCIAL OVERVIEW

MVSD is a public entity using an enterprise fund format to report its activities for financial statement purposes[2], with its primary revenue source being service charges and fees. MVSD develops annual financial statements, which are audited and posted on the District website. The Financial Statement for FY2022 includes the independent auditor's opinion, management's discussion and analysis, statements of net position, revenues, expenses, changes in net position, cash flows, notes to financial statements, and required supplementary information. For FY2022, the auditor issued an opinion that "the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities of the Mt. View Sanitary District, as of June 30, 2022, and the respective changes in financial position, and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America" (MVSD, 2022e).

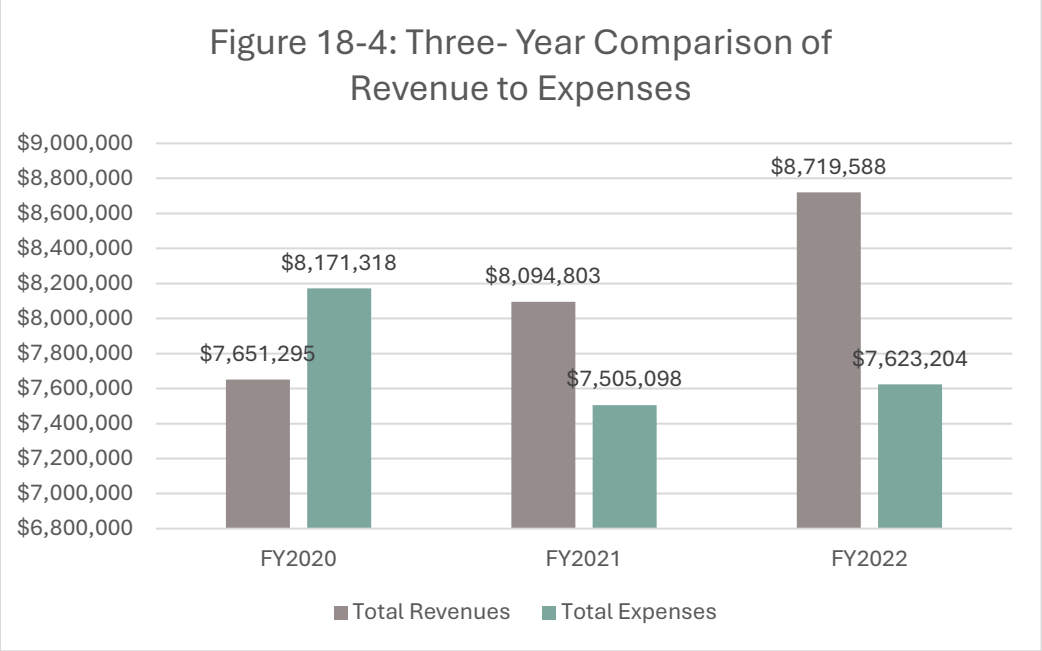
MVSD has taken specific actions to control costs, including freezing hiring for non-critical positions, cancelling the 100th Anniversary Celebration, and taking capital projects through a rigorous multistep vetting process to ensure that planned projects are essential. The projected 2022-2023 annual budget is $12 million, which decreased by 1.15% from the FY22 adopted budget (MVSD, 2022b). Additionally, the District's total capital assets, net of accumulated depreciation, increased by $976,586 or 3.7% in FY2022 (MVSD, personal communication, 2023). The District's total net position increased by $403,373 or 1.7% in FY2022 from the previous year. Five primary areas have been utilized to assess the present and future financial condition of MVSD's wastewater service operations, as discussed below:

3 Year Revenue/Expenditure Budget Trends

The Mt. View Sanitary District's operational revenues for the year ended June 30, 2022, increased by $641,305, or 8.8% from the previous year. These revenues are generated from providing services in connection with an enterprise fund's principal ongoing operations. The principal operating revenues of the District are charges to customers for services (MVSD, 2022e). Three new subdivisions are being built within the MVSD boundary, including Traditions at the Meadows, Civic Heritage View, and Bay's Edge. This subdivision activity has increased revenue from permit and inspection fees increased by $152,583 or 379% in FY2022 (MVSD, 2022e and personal communication, 2023).

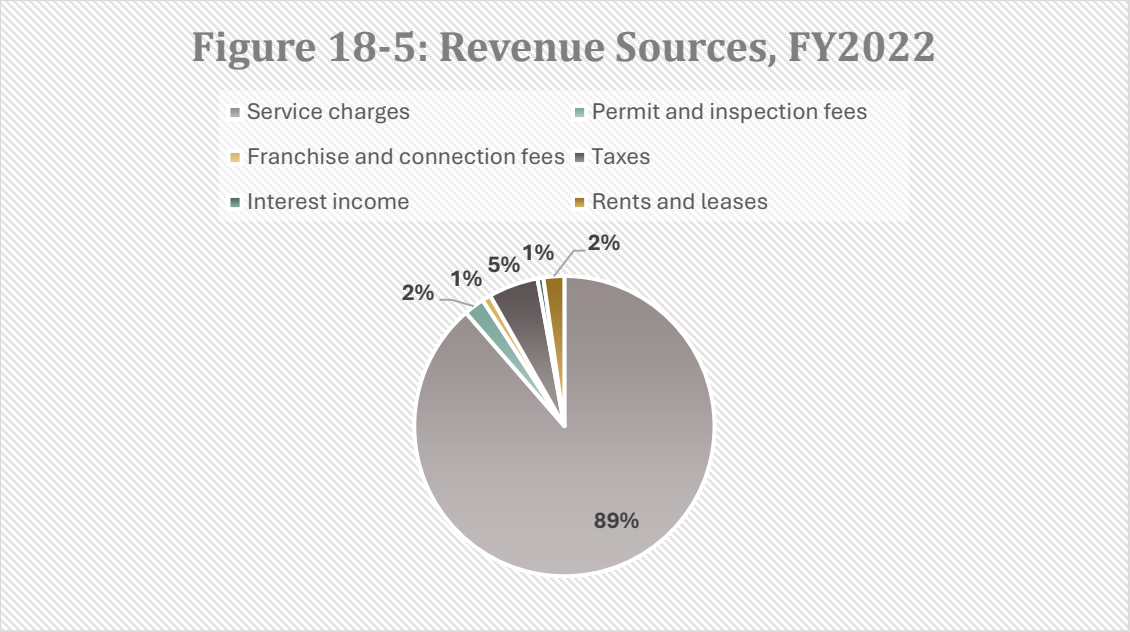
The Mt. View Sanitary District's expenditures for the year ended June 30, 2022, include operating expenses, capital outlay, and debt service. Operating expenses include salaries and benefits, professional services, materials and supplies, and other general and administrative expenses. Capital outlay includes the construction and acquisition of capital improvements by the District. Debt service includes principal and interest payments on the District's outstanding debt (MVSD, 2022e). In FY2022, the District's operating expenses increased by $363,981 or 4.7% from the previous year (MVSD, personal communication, 2023).

Figure 18-4 below shows that total revenue exceeded total expenditures in two of the three fiscal years studied. In FY2022, total revenue exceeded total expenditures by over $1 million. However, in FY2020, total expenditures exceeded total revenues. This pattern indicates some variability in the trends associated with revenues vs. expenditures.



Ratios of Revenue Sources

MVSD's operational and non-operational revenue sources for FY2022 are shown in Figure 18-5 below. The District receives approximately 89% of its wastewater fund revenues from charges and fees for services and 5% of revenue from property taxes. The remaining revenue sources vary from 1% to 2%, including permit and inspection fees, franchise and connection fees, interest income, rents, and leases. This ratio of sources is typical for an enterprise-type service, such as a wastewater district. LAFCO's 2014 MSR noted that any negative economic impact on MVSD's property tax could have some impact on MVSD's operational budget and spending plan for capital projects. LAFCO should continue to monitor property tax as a component of MVSD's revenue stream.



Ratio of Reserves or Fund Balance to Annual Expenditures

MVSD has reserve funds that include (not limited to) LAIF Investments of $12 million in FY2022, as shown in Table 18-3 below.

Table 18-3: Cash and Equivalents

ASSETS	General Fund	Facilities Rehabilitation	Capital Outlay	Debt Service	Total
Current Assets:					
Cash in County including Petty Cash	$ 261,811	$ 62,636	$ 284,730	$ 1,008	$ 610,185
Payroll - Direct Deposit	110,323	-	-	-	110,323
Petty Cash	160	-	-	-	160
Investment in L.A.I.F.	5,756,860	562,364	268,623	5,914,599	12,502,446
Total Cash and Equivalents	6,129,154	625,000	553,353	5,915,607	13,223,114

The total reserve fund balance for FY2022 was $ 15,281,958, per the Budget Book (cash was $13,223,114). An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures (LAFCO, 2014). The Ratio of Reserves or Fund Balance to Annual Expenditures is considered herein. Calculating a reserve fund balance of $ 15,281,958 divided by annual expenditures of $7,623,204 yields a ratio of 2.00 (or 200 percent)[3]. This is a positive ratio.

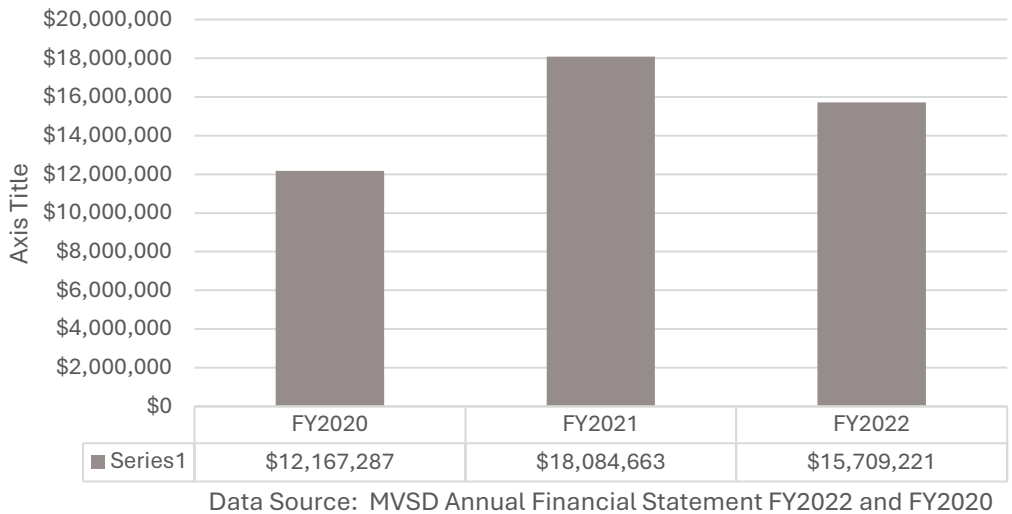
[3] District staff notes that FY22 audit FS shows reserve fund balance was $13,223,114 and total expenditures were $8,603,378, for a ratio of 1.54%. Without depreciation expense, total expenditures are $7,133,807, for a ratio of 1.85%.

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. One specific long-term debt item is the agreement with Municipal Finance Corporation (MFC), dated October 1, 2018, to finance the acquisition, construction, and installation of certain additions, betterments, extensions, or improvements to the District sewer system. The agreement is fully funded and matures in October 2038, with MFC providing an advance payment of $6,000,000.00 to the District in exchange for a series of twenty annual principal and interest installment payments. Interest accrues annually at a fixed rate of 4.2% on the unpaid principal. City staff has clarified that the agreement requires the District to irrevocably pledge Revenues in excess of Operation and Maintenance costs for any fiscal year. for any fiscal year ("net revenues") to the payment of the 2018 Project installment payments {MVSD, 2022e}. Another long-term debt agreement with MFC is dated June 1, 2021, with MFC providing an advance payment of $6,000,000 to the District in exchange for a series of twenty (40) semi-annual principal and interest installment payments, maturing in June 2041. Interest accrues annually at a fixed rate of 2.9% of the unpaid principal. The agreement requires the District to irrevocably pledge Revenues in excess of Operation and Maintenance costs for any fiscal year ("net revenues") to the payment of the 2021 Project installment payments.

Other long-term liabilities include accrued vacation, long-term debt, pension liability, and other post-employment benefits (OPEB). Through the California Employers' Retiree Benefits Fund (CERBT), the District pre-funds the District's OPEB obligation (MVSD, 2022e). The District's noncurrent liabilities decreased by $3,178,746 or 19.2% in FY2022 (MVSD, personal communication, 2023).

Figure 18.6 : MVSD Total Liabilities



Data Source: MVSD Annual Financial Statement FY2022 and FY2020

A ratio of the Annual Debt Service Expenditures to Total Annual Expenditures is considered herein. The ratio of annual debt service to total fund annual expenditures is an indicator of MVSD's ability to meet debt obligations in relation to service provision expenditures. Ideally, a ratio of 10% or less would reflect a very stable ratio (LAFCO, 2014). MVSD's annual debt service in FY2022 was calculated as shown below in Table 18-4.

Table 18-4: Annual Debt Service Calculation

	FY 2021	FY 2022
Principal paid	$205,633	$439,360
Interest payments	$243,712	$407,443
Total	***$449,345***	***$846,803***

Data Source: MVSD staff, personal communication, 2023

In FY 2022, the $846,803 is the annual principal and interest debt service payments (personal communication, MVSD staff [Corona], 2023).

Dividing the Annual Debt Service Expenditures ($846,803) by Total Annual Expenditures ($,603,378,) yields a ratio of approximately 9.8%[4], which represents a stable ratio. MVSD relies solely on service charges, fees, and property tax to fund capital improvements and operational expenditures. Debt financing is utilized to fund capital improvement projects.

In summary, MVSD staff indicates that FY22 reserve fund balance was $13,223,114 and total expenditures were $8,603,378, for a ratio of 1.54%. Without depreciation expense, total expenditures are $7,133,807 without depreciation expense for a ratio of 1.85%

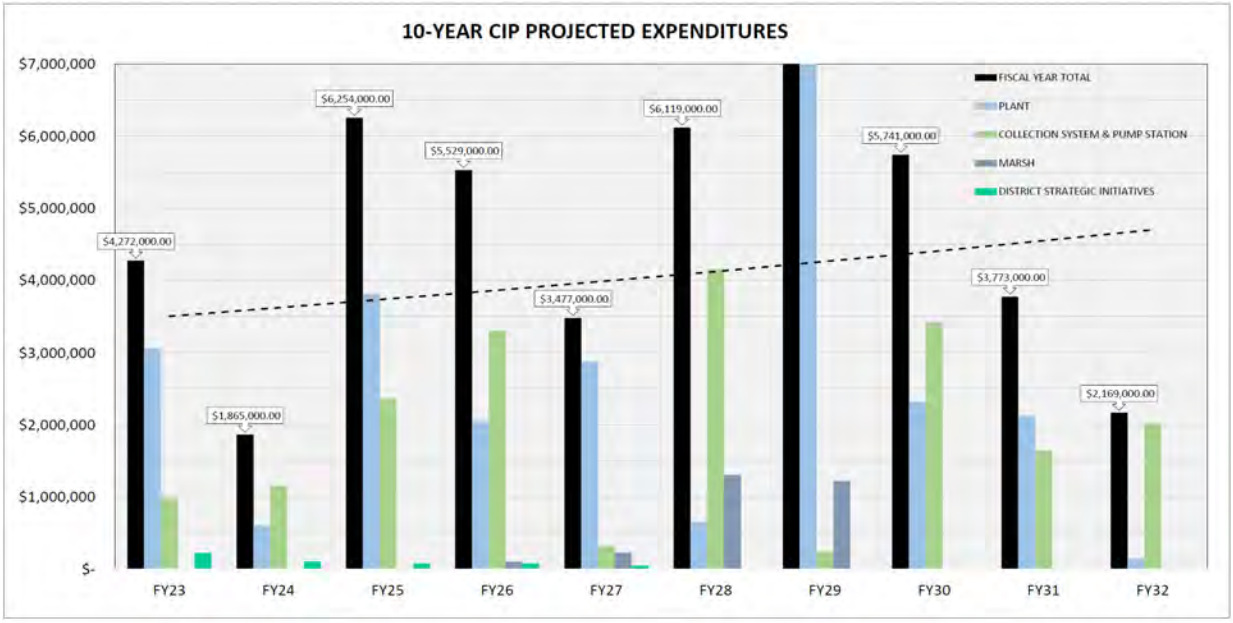
Capital Improvement Program

MVSD has a 10-Year Capital Improvement Program (CIP), FY 2022-23 Update adopted on June 9, 2022. This CIP provides an overview of the District's infrastructure needs, upcoming projects, and proposed capital expenditures. The CIP also includes a list of projects grouped by Treatment Plant, Collection System, Marsh, and Strategic Initiatives, along with a timeline and estimated project costs. The CIP also includes project summary sheets that provide further detail about each project, including its scope, justification, cost, and schedule. In addition to the project-specific information, the CIP update includes strategic initiatives related to emergency and cybersecurity resiliency, climate resiliency, and other operational improvements. Specific CIP projects include plant improvements, headworks improvements, automatic screening replacements, and collection system improvements (MVSD, 2022a). The document provides a comprehensive overview of the District's infrastructure needs and plans for the next 10 years.

[4] Debt Service Expenditures 846,803 / Annual Expenditures 8,603,378 (see FS p11) = 9.8% with depreciation expense included (MVSD staff, personal communication, 2023).

MVSD's projected annual CIP expenditures are shown in Figure 18-7 below. The 10-year CIP is renewed annually. The current year (2023) CIP budget is slightly over $4.3 million. This most recent CIP has a total project cost of $51.3 million (Corona and Elliott, 2023).

Figure 18-7: Ten-Year CIP Projected Expenditures



Rate Structure

MVSD is an enterprise district. Similar to many wastewater districts in California, rates and fees for service comprise a majority of the District's revenue. The District's service rate structure reflects fixed rates for residential connections and flow rates for commercial/industrial connections[5] (LAFCO, 2014). Connection and other permit fees are fixed or variable dependent on the permit. The FY22-23 Sewer Service Charge for MVSD customers is $814.20 for Residential units per household per year and Multi-Residential units (Apartments and Mobile Homes) is $652.20 per year. Other approved charges and fees can be found on the District Code page in its Chapter 7: Fees, Rates, and Charges. The District offers a Sewer Service Charge Assistance Program for low-income families, including a 20% discount. The discount may be received in the form of a rebate check after all property taxes for the subject parcel have been paid and after the customers have fulfilled other conditions as described on the MVSD website at: < *https://www.mvsd.org/sewer-service-charge-rebate-assistance-program* >.

[5] History about MVSD rates includes: The 2006 Proposition 218 rate increase was approximately 11% per year in 2006-07, 2007-08 and 2008-09. In 2009-10 and 2010-11, rates adjusted per the CPI (LAFCO, 2014). Rates were not increased in 2011-12 and 2012-13. Rates in FY 2013-14 were $42.06 per month (residential) and $6.03 per hundred cubic feet (general commercial) (LAFCO, 2014).

Rates were recently studied in the District's March 2023 Final Sewer Service Charges Study, prepared by consultants called Municipal Financial Services. This 2023 Service Charges Study provides a comprehensive analysis of the District's projected cash flow and customer wastewater discharge characteristics. The Service Charges Study includes detailed data for each fund, including beginning and ending fund balances, expenditures, and revenues for FY22-FY28. The report recommends sewer service charges based on the projected cash flow and customer wastewater discharge characteristics. The recommended charges are designed to ensure the District has sufficient funds to maintain and operate its wastewater management system while providing affordable rates for its customers. The report also provides an overview of the rate-setting process, regulatory requirements, and financial and parcel data.

In April 2023, MVSD approved an Affordability Assessment (MVSD, 2023b). The Affordability Assessment is posted to the District website. The Affordability Assessment considered several factors in its evaluation, including the percentage of median household income (MHI) spent annually on utility services (water and wastewater). Households paying an amount for water and wastewater services that exceeds the affordability threshold are considered to be paying an unaffordable cost. Specifically, a combined water-related bill greater than 5% of household income (or individually, 2.0% for water, 2.5% for sewer, and 0.5% for stormwater) is considered unaffordable. The Affordability Assessment reaches the following conclusions:

1. For the City of Martinez, the MHI at 80 percent of the State's MHI is approximately $64,400.
2. Monthly water utility bills for the City of Martinez are approximately 1.88% of $64,400 MHI which is lower than the 2% State of California affordability threshold;
3. Monthly wastewater utility bills for the Mt. View Sanitary District are approximately 1.37% of $64,400 MHI which is lower than the 2.5% Fitch Ratings affordability threshold; and
4. Combined monthly water and wastewater utility bills are approximately 3.25% of $64,400 MHI which is lower than the 5.0% Fitch Ratings affordability threshold.
5. Evaluations for the projected years are based on an estimated MHI value of $64,400, which is, for the City of Martinez, approximately 77 percent of the State MHI of $84,100 (rounded) (MVSD, 2023b).

LAFCO received a public comment letter on approximately April 11, 2023, from six MVSD customers available in LAFCO files. The letter expresses concern about existing and projected expenses, long-term debt from two $6M loans in recent years, and the salary rate for the General Manager. Additionally, the public comment letter indicates that several community members are struggling to make ends meet and are very concerned about rate increases.

18.5: POPULATION

The population within the MVSD boundaries is estimated to range from 20,770 to 25,620 residents, as shown in Table 18-5 below. MVSD updates its population estimate on an annual basis. In general, all properties located within the District boundaries receive wastewater services from MVSD, with few exceptions. Specifically, a location on Upton St. in the southwest boundary of the District may have a few properties on septic (Corona and Elliott, 2023). There are no out-of-agency boundary services.

The District is considered built out. Occasional small-scale infill development has increased the population by about 700 during the last few years. Additionally, there has been a steady stream of second dwellings added. Within the boundaries, a few vacant parcels could potentially be developed in the future and would add to the District population (Corona and Elliott, 2023). Occasionally there are properties added to the District through LAFCO annexations. Parcels located in the SOI may be annexed into the District in the future. Once properties are annexed into the District, they are required to tie into District sewer services (Corona and Elliott, 2023). Currently, properties located in the District's SOI utilize septic systems as their wastewater system. Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

Table 18-5: Existing Permanent Population, Mt View Sanitary District, 2021-2022

	Population in Boundary (1,2,3,4)	Number of Registered Voters in Boundary (5)	Population in SOI only (6)
Mt View Sanitary District – High Population Estimate (2022)	25,620 (1,4)	13,221 (as of June 12, 2019)	172
Mt View Sanitary District – SSMP Low Population Estimate (2022)	20,770 (2)	13,221 (as of June 12, 2019)	172

Sources:
(1) California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State: January 1, 2021, and 2022. Sacramento, California. https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/.

(2) (Corona, 2023) and see also Mt View Sanitary District. October 12, 2022d. Staff Response to LAFCO's Request for Information via ESRI's 123 Online Survey. 2-pages. Available in LAFCO's office upon request.

(3) U.S. Census Bureau. QuickFacts - Contra Costa County, California: Housing. Retrieved on December 5, 2022, from <https://www.census.gov/quickfacts/fact/table/contracostacountycalifornia/HSG010221#HSG010221>.
(4) Mt View Sanitary District. (2021). Sewer System Management Plan. 46-pages. Retrieved on December 3, 2022, from <https://www.mvsd.org/files/bc9311c12/2019+SSMP+%2B+2021+Audit+Changes.pdf>.
(5) Registered Voter data provided by Contra Costa County Elections Office, as shown in the LAFCO provider Directory of 2019.
(6) Calculated estimate based on an average of 3.02 people per parcel in Contra Costa County.

The "high" population estimation was calculated using a specific methodology. This calculation began with the number of people per household in the County of Contra Costa. According to the U.S. Census Bureau, the number of household units in 2021 was 426,356 in the County of Contra Costa. The Department of Finance E-1 estimate provided the 2022 population estimate for the County of Contra Costa, which was 1,156,555. The population estimate was divided by the number of households in the County of Contra Costa, resulting in approximately 2.7 people per household. The 2.7 people per household number was multiplied by the 9,489 sewer connections. The resulting approximation for the current population within the MVSD boundary is 25,620.

Projected Future Population: Projecting a district's future population is complicated due to varying annexation rates and census tracts that do not match district boundaries. Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County, as shown in Table 18-6 below. Anticipated future population growth within the District boundaries has the potential to influence the demand for the provision of wastewater services. The population projections are shown in Table 18-6 below. MVSD's annual population estimates indicate a progressive slow reduction in population. However, data from the CA The Department of Finance indicates population in Contra Costa County will continue to increase.

18.6: DISADVANTAGED COMMUNITIES

Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in some disadvantaged communities. Data from the 2020 U.S. Census was queried as part of this MSR Update process. Data query results showed no disadvantaged unincorporated communities (DUCs) within the District's boundary or its SOI[6]. However, two low-income areas are located north of the District and within the City of Martinez.

[6] LAFCO's previous 2014 MSR identified the Vine Hill Census Designated Place as a disadvantaged community. However, since then, socio-economic conditions have changed. Based on 2020 U.S. Census plus more recent American Community Survey data, the MHI for the Vine Hill CDP exceeds $124,000 annually. Therefore, this area is not a DUC.

Table 18-6: Total Estimated & Projected Population (2022 – 2045)									
	2022	2025	2030	2035	2040	2045	Percent Increase 2022 to 2045	Numeric Increase 2022to 2045	CAGR 2022 to 2045
County of Contra Costa[1]	1,156,555	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.1%	174,876	0.61%
Mt View Sanitary District[2]	25,620	26,581	27,621	28,498	29,138	29,558	15.4%	3,938	0.62%

Sources:
1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.
2: California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State: January 1, 2021, and 2022. Sacramento, California. https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/.
3: Mt View Sanitary District. October 12, 2022d. Staff Response to LAFCO's Request for Information via ESRI's 123 Online Survey. 2-pages. Available in LAFCO's office upon request.
4: U.S. Census Bureau. Contra Costa County, California: Housing. Retrieved on December 5, 2022, from <https://www.census.gov/quickfacts/fact/table/contracostacountycalifornia/HSG010221#HSG010221>.
5: Population projection for Mt View Sanitary District calculated as 2.22 percent of the County of Contra Costa population.

18.7: GOVERNMENT STRUCTURE ALTERNATIVES

Because MVSD is an "island" within CCCSD, alternative government structure options are limited. Two options were identified in the 2014 MSR: (1) maintain the status quo and (2) consolidate with the CCCSD (LAFCO, 2014).

Option #1 - Maintain the Status Quo: MVSD currently provides adequate wastewater services for residents and businesses within its boundaries. MVSD has invested considerable revenues in system-wide capital improvements and facilities. LAFCO's 2014 MSR noted that MVSD had-a healthy reserve and generally adheres to a "pay-as-you-go" policy in funding infrastructure upgrades. The 2014 MSR found that MVSD had reduced maintenance intervals, deferred selected capital projects, and consistently increased user rates over time to stabilize district finances. However, preventative maintenance, as indicated by the total number of work orders issued and the percentage completion, has significantly increased since 2016. In 2022 1932 work orders were issued and had an 87% completion rate, up from 932 work orders and 83% completion in 2016. MVSD will need to assess the ability of the community to absorb continuous annual increases, which will be systemic in order for MVSD to meet its long-term capital improvement needs (LAFCO, 2014). Since the 2014 MSR, MVSD has completed multiple engineering condition assessment studies and increased capital expenditures significantly to make identified repairs/replacements. The current CIP reflects identified projects and estimated expenditures for the next 10 years. Rate Studies and Affordability Studies will continue to be used as tools to ensure that rates are affordable. MVSD recently completed its Affordability Assessment which concludes that its rates are affordable for most of its customers (MVSD, 2023b). MVSD does offer a 20 percent discount for low-income customers, as previously described.

Option #2 - Consolidate with the Central Contra Costa Sanitary District: Both districts provide similar services within their boundaries. Both MVSD and CCCSD have indicated that differences in treatment and disposal operations, topography, and cost (real estate acquisition and capital improvements) make consolidation of the two districts fiscally infeasible. Further study should be pursued to determine if consolidation is a fiscally viable long-term option for both districts (LAFCO, 2014).

In the previous 2014 MSR, MVSD indicated that it did not support consolidation with CCCSD for several reasons (significant capital investment and real estate acquisition would be required to pump MVSD effluent to the CCCSD system; current service boundaries of MVSD and CCCSD largely defined by topography; consolidation would not provide any economic advantage to ratepayers.) However, since then, clean water regulatory requirements have increased. Also, MVSD's facilities have aged. It is possible that consolidation with CCCSD as a cost-saving measure may become more feasible in the future. At this time the MVSD Board and executive management are maintaining a wait and see approach pending the results of a feasibility study. MVSD's recent Rate Study (MVSD, 2023a) and Affordability Assessment (MVSD, 2023b) indicate that the District may have some level of fiscal

sustainability in the near term. MVSD staff indicate infrastructure is sufficient to maintain the provision of wastewater services to our citizens. Continued condition assessments will determine the need for renewal or replacement of infrastructure systems including renovation or modernization. CCCSD has stated that they are not interested in a hostile takeover (Corona, 2023). MVSD and CCCSD are enterprise districts, such that fees and rates are based upon actual costs.

The 2014 MSR indicated that the preparation of a fiscal/operational study evaluating the long-term impacts of consolidation with CCCSD should be considered. However, this recommendation was never implemented, and a fiscal/operational study was not produced or created. On April 13, 2023 at an MVSD Public Hearing for rate increases, CCCSD gave testimony and offered to fund a Consolidation Feasibility Study (Study) and both agencies are currently working on a Memorandum of Understanding for establishing how they will work together on the study.

18.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

TOPIC AND PERFORMANCE MEASURES	DETERMINATION
Growth and Population for the affected area. • Is the existing population estimated? • Is the projected future growth estimated?	Currently, the District serves 25,620 residents. Based on population trends for the whole County, it is calculated that the MVSD service area population could grow to 29,558 by 2045, an increase of approximately 15.4 percent. However, MVSD staff MVSD staff expects future growth to be minimal and suggests that the population may decline in the future.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.	Data from the 2020 U.S. Census was queried as part of this MSR Update process. Data query results showed no disadvantaged unincorporated communities (DUCs) within the District's boundary or its SOI. However, two low-income areas are located north of the District and within the City of Martinez.

	(continued) These disadvantaged areas should be considered when considering changes to a boundary or SOI. However, no health and safety issues have been identified.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. • Does the agency have a CIP? • Are SSOs identified? • Are local hazards identified?	• The Ten-Year CIP was updated in 2022 and is used to plan capital projects financially. Some capital projects in the CIP update include a plant master plan, a UV disinfection replacement, collection system improvements, a climate resiliency study, and various others. • SSOs were considered in this MSR. A 3.6-year term from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. The query identified 17 SSO events. • Mt View Sanitary District did not participate in the county-wide Hazard Mitigation Plan. It is recommended that MVSD consider participating in the LHMP when it is next updated. • MVSD operates as an enterprise-type activity, with its primary revenue source being service charges and fees. Rates were recently studied in the District's March 2023 Final Sewer Service Charges Study, prepared by consultants called Municipal Financial Services. This 2023 Service Charges Study provides a comprehensive analysis of the District's projected cash flow and customer wastewater discharge characteristics.

Financial ability of agencies to provide services. • Has the agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures 10% or less?	• Total revenues exceeded total expenditures in two of the three study years. MVSD has reserve funds that include (not limited to) Cash and Equivalents of $13 million in FY2022. • The Ratio of Reserves or Fund Balance to Annual Expenditures is 1.54 (or 154 percent). This is a positive ratio. • A ratio of the Annual Debt Service Expenditures to Total Annual Expenditures calculates to 9.8%, which is a stable ratio.
Status of, and opportunities for, shared facilities.	MVSD has a joint program with CCCSD, including source control management. MVSD participates in educational programs with local colleges and schools. The education programs are coordinated with local schools to encourage environmental management and education. MVSD has minimal opportunities for shared facilities as it is essentially surrounded by the CCCSD service area. Several cell phone site leases and billboard leases have been renegotiated to increase revenues.
Accountability for community service needs, including government structure and operational facilities. • Does the agency have a website? • Does the agency post a public outreach tool (such as a calendar or newsletter) on its website? • What is the recommendation for mergers, consolidations, or other changes to governance structure?	MVSD's website (*https://www.mvsd.org/*) provides the public with internet access to Board agendas and minutes, public notices, MVSD budgets, and audits. "The Mt. View Monitor" newsletter is published quarterly (also available online) and provides the public with updates on district activities and projects. Additionally, Mt. View Sanitary District has maintained the District Transparency Certificate of Excellence from the Special District Leadership Foundation (SDLF) since 2013 in recognition of its outstanding efforts to promote transparency and good governance. The Certificate was renewed in 2023.

	(continued) The 2014 MSR indicated that the preparation of a fiscal/operational study evaluating the long-term impacts of consolidation with CCCSD should be considered. On April 13, 2023 at an MVSD Public Hearing for rate increases, CCCSD gave testimony and offered to fund a Consolidation Feasibility Study and both agencies are currently working on a Memorandum of Understanding for establishing how we will work together on the study. LAFCO continues to recommend additional formal study to evaluate the long-term fiscal and other impacts of consolidation with CCCSD. Board members are elected to four-year terms. The Board of Directors holds regular meetings once per month. MVSD's elections for the Board of Directors are held on an "at-large" basis. It is recommended that MVSD Directors be elected by division. MVSD staff notes that there is a recent Supreme Court case pending that may influence their decisions about whether to have Directors be elected by division.
Any other matter related to effective or efficient service delivery, as required by commission policy.	No additional issues have been identified that directly relate to Commission policy. However, it should be noted that several local citizens met with LAFCO's Executive Officer on April 11, 2023, and expressed concern regarding MVSD's rates.

18-9: RECOMMENDED SPHERE OF INFLUENCE

Section 18.7 notes that Because MVSD is an "island" within CCCSD, alternative government structure options are limited. Two options were identified in the 2014 MSR: (1) maintain the status quo and (2) consolidate with the CCCSD (LAFCO, 2014). LAFCO's previous MSR recommended that in the near term, reconfirm current determinations and current MVSD SOI. MVSD and CCCSD are currently working together to begin a Consolidation Feasibility Study (Study). MVSD, CCCSD and LAFCO will then determine how to implement the Study conclusions and options pursuant to Contra Costa LAFCO Policy 3.11. It is further recommended that MVSD, CCCSD, and LAFCO work together

to publish a feasibility study regarding consolidation before January 1, 2027.

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Chapter 19: RODEO SANITARY DISTRICT – WASTEWATER SERVICES

Table of Contents

19.1: OVERVIEW

The Rodeo Sanitary District (RSD) was formed in 1914 and serves the unincorporated communities of Rodeo and Tormey. The RSD is located directly adjacent to San Pablo Bay and between the cities of Crockett and Hercules. RSD provides sewer service to 2,509 residential and commercial customers within its 1.6+ square mile boundary (RSD, 2022a). Adjacent wastewater service providers include the City of Hercules to the south and the Crockett Community Services District (CCSD) to the east. The area between RSD's north and south service areas is the Conoco Phillips Refinery, which operates its own private wastewater system (LAFCO, 2014). The City of Hercules' sphere of influence (SOI) lies to the southeast. The District lies within the San Francisco Bay / Sacramento Delta Estuary - San Pablo Bay watershed (HUC Code 18050002). Additional information about this watershed is provided in Appendix F. RSD's Agency Profile is included in Table 19-1 (next page). A map of RSD's current boundary and SOI is shown in Figure 19- 1.

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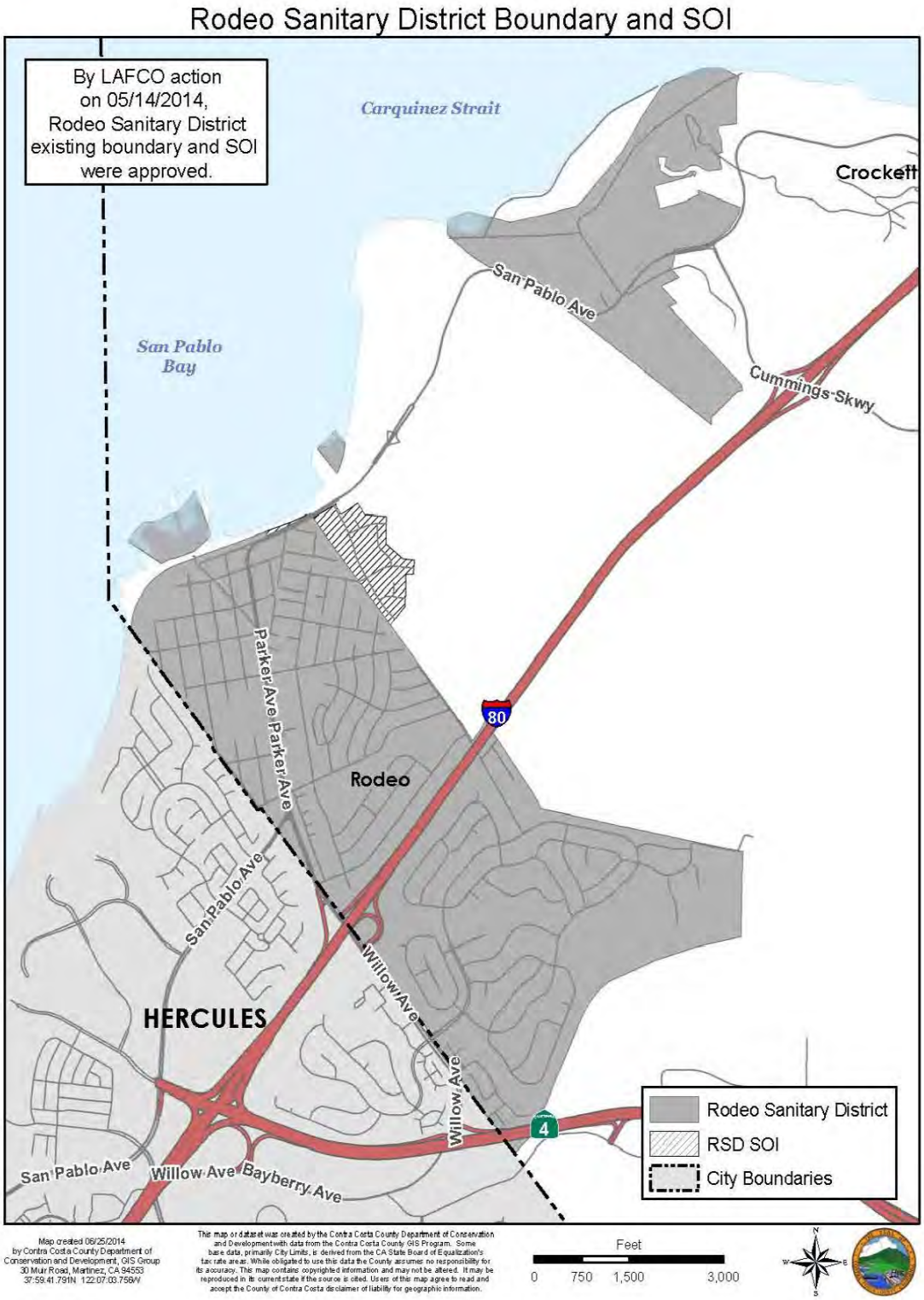
Table 19-1: Agency Profile – Rodeo Sanitary District

General Information			
Agency Type	Independent Special District		
Principal Act	Sanitary District Act of 1923		
Date Formed	1914		
Services	Wastewater collection, treatment, and disposal; contracts for solid waste services with Republic Services in Richmond, California.		
Service Area			
Location	Village of Tormey and unincorporated community of Rodeo;		
Sq. Miles/Acres	1.6 square miles/1055 acres		
Land Uses	Residential, light commercial, and public use		
Population Served	9,453 residents (2020)		
Last SOI Update	July 2013 and reaffirmed on May 14, 2014		
Infrastructure/Capacity			
Facilities	Water Pollution Control Plant, 25 miles of gravity sewers, 2 pump stations, two force mains (RSD, 2018)		
Connections	2,514 residential/commercial (RSD, 2022a)		
Treatment Plant Capacity	0.60 million gallons per day (MGD) (average daily dry weather flow); 1.14 MGD (design capacity) (RSD, 2018)		
Primary Disposal	RSD, the City of Pinole, and the City of Hercules share discharge facilities into San Pablo Bay.		
Budget Information- FY 2022-2023			
	Revenues	Expenditures	Net
Operating/General Fund	$ 3,381,146	$ -3,490,115	$ -108,969
Combined Other Funds	$ 721,662	$ -215,134	$ 506,528
All funds	$ 4,918,167	$ -3,705,249	$ 397,559
	FY 2022-	Long-Term Planned Expenditures	
Capital Expenditures	$ 2.2 Million allocated for FY 2023-24	Note: The Fiscal Year 2023-2024 Capital Budget was $2.2 Million (up from $645,000 in FY 2022-23). Actual capital expenditures for 2022-2023 were approximately $460,000. Detailed financial forecasts on Long-Term Planned Expenditures are not readily available. Long-term projects are described in the 2013 Comprehensive Wastewater Master Plan.	
Reserves	$ 2,284,252	June 30, 2023 Financial Statement- Board Designated Reserve. (Note: Total Assets in FY 2022-23 were $27,663,293 and included current assets, net pension assets, and capital assets)	
Governance			
Governing Body	Board of Directors (5 members)		
Agency Contact	Steven S. Beall, P.E. District Manager, bealls@rodeosan.org		
Notes: None			

Figure 19-1: Boundary/SOI Map – Rodeo Sanitary District



19.2: DISTRICT BOUNDARY & SOI

RSD is an independent district formed in 1914 pursuant to the Sanitary District Act of 1923 (Health & Safety Code §6400 et seq.). The District's boundary encompasses three non-contiguous service areas:

1) an area of medium-density single-family residential, north of Willow Avenue;
2) a small area designated for public use west of San Pablo Avenue; and
3) an area primarily designated for heavy industrial use west of Crockett.

RSD's boundary is 1.6 square miles in size. RSD's profile is shown in Table 19-1, and a map of the District's boundary and current SOI is shown in Figure 19.1.

Land-Use Within the RSD Boundary

Historically, the name "Rodeo" means "cattle roundup" in Spanish, and this area was originally part of the Spanish land grant called El Rancho de Pinole. In 1865, brothers John and Patrick Tormey purchased 7,000 acres of land from Don Ignacio Martinez Rancho El Pinole estate. The Tormey brothers became successful ranchers and businessmen who eventually graded streets and lots to prepare homesteads in what would become the town of Rodeo.

RSD is an independent special district and does not have land-use authority. Land use in the unincorporated community of Rodeo is governed by the Contra Costa County General Plan (2010). Contra Costa County has also approved specialized planning documents for the area, including the Rodeo Waterfront/Downtown Specific Plan (1997) and Rodeo Redevelopment Area Planned Unit Development Zoning Code and Design Guidelines (2005). The Rodeo Municipal Advisory Council (RMAC) has five Council members who solicit public input and advise the County Board of Supervisors regarding land use and other issues. The Rodeo MAC oversees a defined geographic area, and its boundary encompasses a larger area than RSD's. The Rodeo MAC meets on the 4th Thursday of each month at 7:00 p.m.; additional information is available at: <*https://www.contracosta.ca.gov/3276/Rodeo-MAC-Information*>.

Several public agencies provide public services to this unincorporated community, including the Contra Costa County Sheriff, Rodeo-Hercules Fire Protection District, and the John Swett Unified School District. East Bay Municipal Utility District[1] provides drinking water, and the water pipes are often located under streets near the RSD wastewater pipes. The Contra Costa Sheriff operates a substation at 1126 Mariposa Ave. near the Bayo Vista housing development. The Rodeo Library building was originally a schoolhouse built around 1911. Stormwater management is provided by the Contra Costa Flood Control and Water Conservation District (CCFCWCD). Stormwater management can sometimes affect the sewer collection system, especially in relation to inflows and infiltration

[1] RSD and EBMUD actively communicate regarding pipe maintenance etc. and their staffs have a stable relationship (personal communication, S. Beall, January 2024). There is a major EBMUD water trunk line that runs underground between the homes at Hawthorne and Elm Street. A walking path is located on the surface, above the pipeline. EBMUD owns this in fee.

issues. Therefore, it is important for CCFCWCD to conduct regular maintenance of storm drains in the Rodeo area.

One key community asset is the Rodeo Creek Trail, which runs two and one-half miles along Rodeo Creek[2] from Mariners Point to Investment Street. The Trail is located along a natural riparian corridor and includes benches and picnic tables. The Trail facilitates community access for pedestrians, bicyclists, and people with disabilities. Parker Avenue is the focus of the commercial downtown. Single-family residential properties comprise most of the land use within Rodeo. The community is somewhat walkable for local errands with a "Walk Score" of 61.

Future growth opportunities are limited because there is no available land area to expand the urban footprint as the San Francisco Bay and the City of Hercules border RSD. The District is built-out. Infill development or zoning changes to add higher density might result in a slight trend for increased density. The potential for new commercial development seems minimal. For example, a Safeway Grocery store recently moved into a neighboring community. The grocery store building remains vacant. Given the excess capacity in the wastewater treatment system, these minor trends in future population growth will not have a significant effect on District operations (personal communication, S. Beall, January 2024).

Sphere of Influence

RSD's current SOI is relatively small, containing a total of 0.05 square miles. The District's SOI was most recently reviewed and reconfirmed as part of LAFCO's 2014 2014 Municipal Service Review (MSR)/SOI Update for Wastewater Services. Previous LAFCO actions about RSD are listed in Table 19.2 below.

Table 19-2: Previous LAFCO Actions

Date	LAFCO Action	Description
May 14, 2014	Reconfirm RSD's boundary and SOI.	The boundary and SOI for RSD were affirmed as part of the 2014 MSR.
July 10, 2013	Approved a SOI amendment LAFCO Reso 13-02	CC LAFCO expanded RSD's SOI to add the Bayo Vista apartment complex, the Viewpoint Avenue homes, and the Rodeo Marina.
January 8, 2014	Annexation LAFCO 13-03	CC LAFCO approved the Rodeo Marina annexation to RSD.
November 12, 2014	Annexation LAFCO 13-04	CC LAFCO approved the annexation of the Bayo Vista property to RSD.
May 14, 2014	Reaffirmed SOI no Reso # for this one	Reconfirmed SOI as part of LAFCO's 2014 MSR/SOI Update for Wastewater Services.
Data Source: (LAFCO, 2014 and personal communication, Ms. Texeira, 2024)		

[2] Army Corps of Engineers manages Rodeo Creek. Rodeo Creek is located adjacent to and parallels Willow and Parker Ave all the way to the SF Bay. 3rd Street crosses the Creek.

As listed in Table 19-2, the Rodeo Marina was annexed in 2014, and this area is shown in Figure 19-1. The County funded a project for a sewer line to be built to the marina. The Rodeo WTTP, located at 800 San Pablo Avenue, is within the district boundary.

The Bay-O-Vista subdivision is affordable housing owned by Contra Costa County. Originally, this area was built to house armed forces during WWII. The subdivision currently serves as Section 8 housing. RSD provides wastewater service to this site. In 2014, RSD applied to annex this site. However, it is not clear whether this annexation application was approved.

Figure 19-1 shows the RSD boundary, including the unincorporated community of Tormey and an area to the north that was a mercury smelter many decades ago. This area has a total of 19 wastewater connections, a mix of residential and commercial. As each property rental agreement or lease expires for the residences on Old County Road, the leases are not renewed. The buildings are razed, and the property left as a vacant lot. This will continue for the remaining properties to provide a safety buffer for their operations. Therefore, the number of wastewater connections to this area is expected to decline in the future. In 2004, as part of an agreement between the CA State Lands Commission, Wickland Oil et al., a pump station, collection system, and force main were installed to collect and transport the sewage from this area. Discharge is to RSD's WPCP via an 8,000-foot force main. Existing commercial uses will likely continue. The pump station could handle future connections, which would require a capacity analysis and annexation if the proposed connections are out of the existing District service area.

The area to the north of Tormey and the NuStar Facility, located in proximity to the San Pablo Bay, Carquinez Strait confluence was a mercury smelter decades ago. This area is now designated as a Superfund site.

Adjacent Land Use

Phillips 66 Rodeo Marine Terminal

Phillips 66 operates a refinery adjacent to the RSD boundaries. The refinery is currently undertaking a process to transform into the Rodeo Renewed Project, which would convert renewable feedstocks into renewable diesel, renewable components of other transportation fuels, and renewable fuel gas through the use of existing refinery process units. The renewable feedstocks will be non-hazardous and non-regulated materials, as defined in 40 Code of Federal Regulations (CFR) Part 172. Renewable feedstocks will also be delivered to the Rodeo facility using the existing railcar infrastructure, modified to reflect the elimination of butane exports. Existing equipment will also be modified to enable the offloading of local renewable feedstocks by tanker trucks. Upon completion of the Project, the Rodeo facility will no longer process conventional or nonconventional crude oils, will operate fewer fired heaters, and will no longer export butanes across the existing rail rack. The Phillips 66 Rodeo Marine Terminal has its own independent wastewater disposal system. The County of Contra Costa provides additional information at:

<*https://www.contracosta.ca.gov/RodeoRenewed*>.

H-Cycle

A company called H-Cycle is looking to re-purpose the land from the Refinery Coke Plant located along Franklin Road. If H-Cycle were to develop the location, H-Cycle would use municipal solid waste and turn it into hydrogen gas. The potential project/facility would like to discharge wastewater to RSD. However, there are several hurdles. H-Cycle's site is not located within the RSD boundary or SOI. H-Cycle would potentially generate so much wastewater that it would trigger the need to expand RSDs WPCP. Given the volume and type of wastewater, this proposal might not be feasible. An alternative option is to direct wastewater to the Hercules/Pinole WPCP.

19.3: DISTRICT WASTEWATER OPERATIONS

The District's wastewater service includes collection, conveyance to the WPCP, and disposal services. RSD provides wastewater collection and conveyance services to approximately 2,509 sewer connections (RSD, 2022a). One RSD connection may serve many individual customers. RSD's customer base includes a limited number of commercial customers, including six restaurants, plus additional light commercial/retail customers. There is one commercial laundry mat (RSD, 2022a). RSD does not have any industrial customers or Environmental Protection Agency (EPA) categorical users (RSD, 2022a). RSD operates independently, and it has no physical interties with any other agency.

Staffing: RSD is a small operating agency with eight full-time employees, including three (3) professional staff and five (5) operations staff. Contracts with consultants occur on an "as-needed" basis. RSD sends lab samples to a contract lab. A contractor does Closed Circuit Television Video (CCTV) inspection and cleaning of the collection system.

The eight employees execute all of the functions needed for day-to-day operations with assistance from outside contractors and vendors. The inventory of skilled wastewater operators is very low. RSD has experienced some staff turnover concerns, especially within the entry-level operating positions. The Bay Area Consortium of Water and Wastewater Education started training and funding classes to assist with educational components in 2008. Although RSD is a small agency, it is an informative training site because it is an agency where the operations staff have an opportunity to practice a range of skills (operations, collections, maintenance, lab analysis, and special projects). Over the years, RSD has trained 15 operators to become successful operators at neighboring agencies. One staff position has historically been allocated specifically as a training position. This has been very successful. In order to address staff turnover concerns, RSD conducted a salary survey that was finalized in May 2023. The Labor Negotiation Committee used this to help complete Union MOU negotiations. The salary survey was included in a Report to the RSD Board as an informational item in May/June 2023. The Union contract was renewed in June 2023 for a term of five years. Subsequently, the RSD Board increased wages for operating staff from 15 to 40 percent. The District

feels it is now competitive with wages (personal communication, S. Beall, January 2024).

Comprehensive Wastewater Master Plan: RSD's "Comprehensive Wastewater Master Plan" (CWWMP), dated June 2013, provides an assessment and strategic planning of the District's wastewater treatment and collection system. The Plan's primary objectives are to ensure reliable wastewater treatment, comply with current and future regulations, and develop a prioritized 20-year Capital Improvement Program. The Plan examines existing system conditions, regulatory requirements, and potential improvement alternatives. It also includes financial analysis and implementation strategies for the proposed improvements, emphasizing cost-effectiveness and environmental compliance (RSD, 2013).

LAFCO's 2014 MSR noted several key points about the CWWMP. Specifically, as part of the CWWMP process, RSD performed several supporting tasks to identify worst condition areas with the highest inflow and infiltration, including: collection system flow monitoring during winter 2011-2012; hydraulic flow model of the collection system; and limited smoke testing. The adopted CWWMP identified District-wide treatment and collection needs for a 20-year time period. Issues identified in the 2008 MSR were addressed, including several projects at the WPCP. Improvements as part of the CWWMP assisted RSD in operating safely and more efficiently. The District borrowed $16.6 million through the State Water Resources Control Board State Revolving Fund Program. The SRF program provided low-interest loans for six major sewer projects, one major treatment plant project, and one major project at the RSD Main Pump Station.

Sanitary Sewer Management Plan: The RSD's "Sanitary Sewer Management Plan" (SSMP), updated in October 2023, outlines the comprehensive approach for managing, operating, and maintaining the sanitary sewer system. It is designed to comply with regulations from the State Water Resources Control Board (SWRCB) and focuses on preventing sanitary sewer overflows (SSOs) and effectively managing them if they occur. The SSMP covers several key areas: goals, organization, legal authority, operations, maintenance, and emergency response strategies. It also addresses fats, oils, and grease (FOG) control issues, system evaluation, capacity assurance, performance monitoring, and program modifications. The SSMP aims to ensure that the system operates effectively, meets regulatory requirements, and protects public health and the environment (RSD, 2023).

RSD's Supervisory Control and Data Acquisition (SCADA) system was upgraded as part of the CWWMP WPCP project. All of the process systems at the WPCP operate under Programmable Logic Controllers (PLCs). RSD's SCADA system in the operations building tracks process data, monitors keys system for anomaly alarming, and provides an interface between the operations staff and many of the process systems. The entire WPCP and both pump stations are monitored 24 hours per day with support from on-call staff. RSDs on-call staff are responsible for addressing emergency conditions after business hours. RSD utilizes asset management and Computer-based Maintenance Management System. RSD is in the process of upgrading the CMMS (Steven Beall, personal communication, February 2024).

Collection System

The District maintains the collection system and has a total gravity pipeline length of 25 linear miles, almost a quarter of which was completely replaced within the last nine years. The collection system conveys the sewage to two pump stations. The Main Pump Station, located about 2000 feet from the WPCP, is responsible for more than 99% of the total flow. The Tormey Pump Station, located about 1.5 miles from the WPCP, conveys less than 1 percent of the total flow. All of the sewer is pumped to the WPCP headworks for the start of treatment.

The collection system has geographic areas that contain a wide range of sewers by age. A significant portion of the collection system dates back approximately 100+ years or more to when the system was originally constructed and privately owned. Major subdivisions were constructed in the 1940s, 1960s, and 1970s. The collection system was originally designed to drain to Rodeo Creek. A trunk line at Rodeo Creek, the main influent pump station, and the primary treatment plant were constructed in the late 1950s. Many of the older sewers were not well-engineered or properly installed. For example, pipes were undersized (based on modern plumbing codes), and numerous lines had insufficient maintenance hole access. In recent years, RSD has implemented a multi-phased collection system rehabilitation program that has remedied most issues.

Additionally, RSD completes ongoing maintenance and improvements to address issues that contribute to public health risk and to reduce infiltration flows that occur during rainy weather. Since completing the CWWMP Sewer Projects, RSD's collection system performance has drastically improved. Prior to the Sewer Projects, the District would experience wet weather sewer overflows during severe wet weather. During the 2021-2022 winter, central California sustained severe historic atmospheric river weather conditions. RSD received record rainfall, resulting in record sewer flows. The District did not have a single weather-related sewer overflow (Steven Beall, personal communication, February 2024). RSD is in the planning process of several additional major collection system projects. These projects are intended to address high-risk areas of the collection system.

A list of the regulatory permits utilized by RSD in their collection, treatment, and disposal process is provided in Table 19-3. RSD's recent improvements to the system include completing several major sewer rehabilitation projects consisting of approximately five miles of sewers. RSD has also added a bar screen treatment step to the preliminary phase of the WPCP to remove flushable wipes (RSD, 2022a).

Water Pollution Control Plant

RSD's water pollution control plant (WPCP) is located at 800 San Pablo Avenue in Rodeo. The Primary Plant was constructed in 1957. Under new regulations from the 1972 Clean Water Act, the Secondary Plant, a significant plant expansion was performed in 1973. Today, the WPCP treats an average daily dry weather flow (ADDWF) of 525,000 gallons of wastewater. The average wet weather flow is approximately 750,000 gallons per day. The WPCP has a peak hour wet weather capacity of 3.4 million gallons per day (MGD). The WPCP has an ADDWF design capacity of 1.14 MGD. The WPCP is

a full secondary activated sludge plant with sodium hypochlorite disinfection and sodium bisulfite dichlorination. Over the last two decades, the WPCP has performed numerous upgrades to improve reliability, reduce energy use, address regulatory changes, and to address new waste streams. The items are too numerous to list. To highlight the major improvements, the WPCP has reduced energy use by about 30%, reduced potable water use by about 80%, installed a new analyzer building and chemical feed system to enhance chemical delivery, replaced the secondary clarifier sludge collection mechanisms, upgraded the anaerobic digester system, installed a new Bar Screen process to remove sanitary wipes, and rehabilitated several major structures and process electrical systems (Steven Beall, personal communication, February 2024).

The WPCP currently operates at approximately 50 percent of its design capacity (i.e., 0.525 MGD ADDWF divided by 1.14 MGD design capacity). Therefore, the treatment system is a good size in comparison to the population (S. Beall, personal communication, January 2024). The WPCP capacity could be increased to 1.5 MGD if minor physical modifications were implemented and if permits were to be approved (S. Beall, personal communication, January 2024).

Disposal

In 1977, RSD, the City of Hercules, and the City of Pinole entered into a joint powers agreement for the purpose of providing deep-water disposal facilities. Treated wastewater from the RSD WPCP and the Pinole-Hercules WPCP is discharged through a combined deep-water outfall into San Pablo Bay. There is a valve station where the RSD line "T's" into the cities' line. Infrastructure at the "shared" deep-water discharge is up to date. In 2019, the cathodic protection system was replaced. An inspection of the outfall is conducted regularly (every five years). A corrosion engineer inspects the facility. A dive inspection is done on the diffuser section of the outfall pipe (personal communication, S. Beall, January 2024). Based on recent inspections and the rehabilitation of the Cathodic Protection System, the shard facilities appear to have a long service life left (Steven Beall, personal communication, February 2024).

The San Pablo Bay has experienced historic and current anthropogenic activities and associated water pollution. The RWQCB will likely continue increasing stringent water quality standards for the San Pablo Bay. This may require that RSD and the two cities continue to implement improvements to their treatment processes and carry out preventive programs (LAFCO, 2008).

The WPCP utilizes Anaerobic digestion, a biological process used in municipal wastewater treatment to break down organic matter in the absence of oxygen. The WPCP process units produce byproducts (sludge) during the treatment of municipal sewage that are rich in organic materials, including bacteria, debris, and other organic matter.

Anaerobic bacteria break down the complex organic compounds in the sludge into simpler compounds in a series of steps. The breakdown results in the production of biogas, primarily

Table 19-3: List of Permits from State and Federal Agencies

Name of Agency/Permit	Identification Number	Date	Notes
NPDES –	CA0037826 by Order R2-2022-0037	Adopted December 14, 2022, effective February 1, 2023.	Permit Amendment – WDR for Mercury and PCBs – R2-2022-038 Permit Amendment – Chlorine Residual Monitoring Changes – R2-2023-023
State Water Resources Control Board Sanitary Sewer Systems	• General Order 2022-0103-DWQ • Rodeo SD CS (2SSO10171)		
Bay Are air Quality Management District	• Permit ID 5731 (WPCP) • Permit ID 14614 (Main Pump Station) • Permit ID 16561 (Tormey Pump Station)	Annual	
Contra Costa Hazardous Materials Program Certified Unified Program Agency -	• Permit 07-000-758197 (WPCP) • Permit 07-000-773883 (Main Pump Station) • Permit 07-000-773882 (Tormey Pump Station)	Annual	
EPA Department of Toxic Substance Control	• EPA ID CAD040003113 (WPCP) • CAL000432713 (Main Pump Station)		
Data Source: (personal communication, S. Beall, January 2024).			

composed of methane (CH_4) and carbon dioxide (CO_2). The remaining material after digestion, known as digestate, is stabilized and reduced in volume. All gas produced during this process is burned or flared in the presence of natural gas. This flaring process eliminates methane.

The remaining anaerobic sludge (digestate) is dewatered using a centrifuge and stored in the District's drying beds waiting for hauling to a landfill. The final dewatered sludge cake (aka biosolid) is then transported to the Potrero Hills Landfill in Fairfield, California, for disposal.

Due to increasing difficulties in the use or disposal of biosolids in California, with restrictions on land application by many counties and fewer landfills accepting biosolids, the District is considering alternative biosolids use and/or disposal scenarios. Upon the expiration of the existing biosolids landfill agreement or the landfill's closure, the District will be required to produce a Class A product for disposal. This might be achieved through on-site Class A biosolids production via capital projects or through participation in the Bay Area regional biosolids program.

Local Hazards

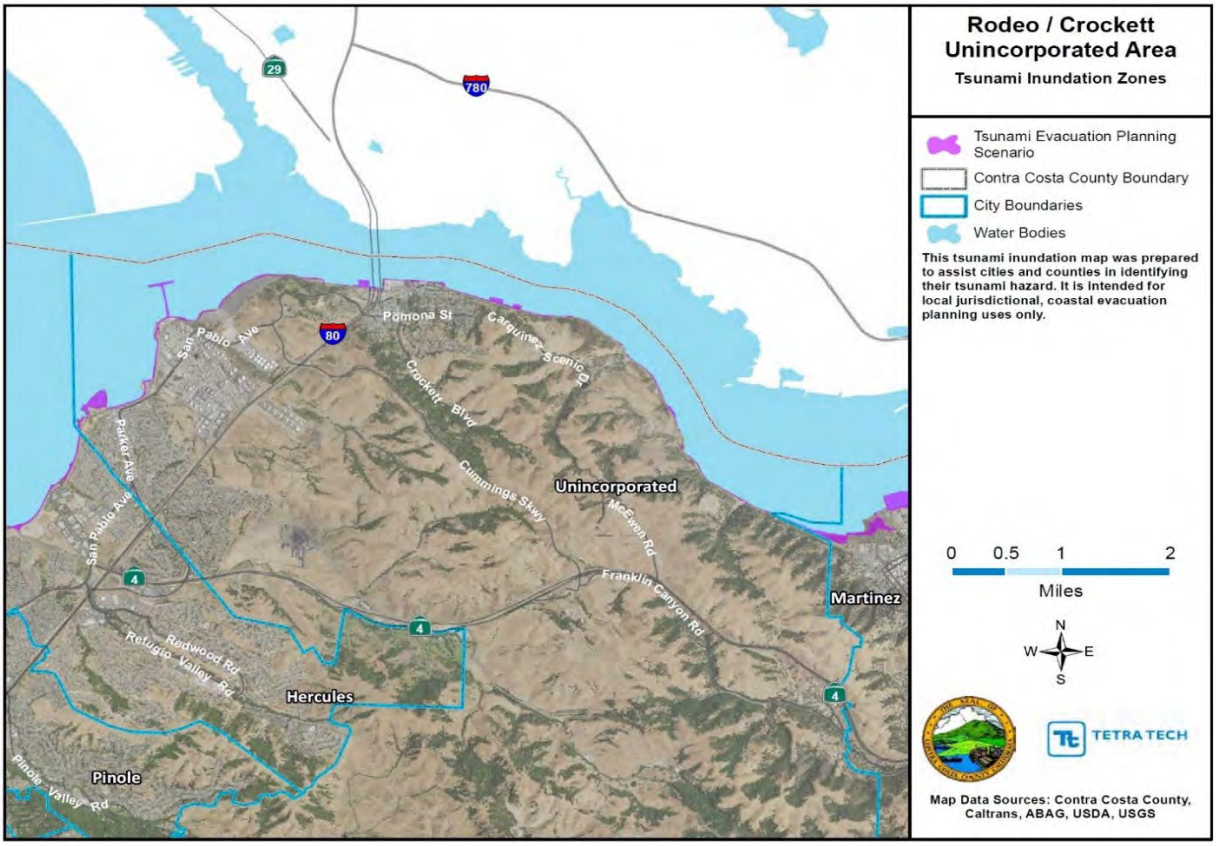
The Contra Costa County Hazard Mitigation Plan (HMP) Volume 2, dated January 2018, maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards (Contra Costa County, 2018). The Rodeo Sanitary District did not participate in the county-wide HMP. However, several other service providers in the Rodeo community participated, including Contra Costa County and the Contra Costa County Flood Control and Water Conservation District. Based on the information provided about the Rodeo area in Volume 2 of the HMP, there is public infrastructure located within or close proximity to areas subject to identified hazards. Hazards include low to moderate Liquefaction Susceptibility; moderate earthquake risk with Site Class / Soil Profile "D" with stiff soil; and potential flood hazard areas, as shown in Figures 19-2 and 19-3. (Contra Costa County, 2018). It should be noted that cost-burdened and low-income households are vulnerable to local hazards. The RSD's next Sanitary Sewer Management Plan update should include information about these hazards. Additionally, it is recommended that LAFCO and the RSD contact the County to request an invitation to participate in the next update to the HMP. It would be useful for LAFCO to have access to detailed spatial mapping of the RSD's wastewater infrastructure in relation to the hazards identified in the HMP prior to the next update of its Wastewater Services MSR/SOI.

Additionally, the 2018 HMP Volume 2 identifies several oil refineries in the general area that can pose hazard risks. Hazards can occur during production, storage, transportation, use, or disposal processes. Hazardous materials can sometimes result in situations associated with death, serious injury, long-lasting health effects, and damage to buildings, homes, and other property (Contra Costa County, 2018).

Contra Costa County identified Rodeo as an Impacted Community under Senate Bill (SB) 1000. This indicates that Rodeo residents may experience disproportionate pollution and health impacts from hazardous waste clean-up sites, impaired water bodies, and air pollution. State data from

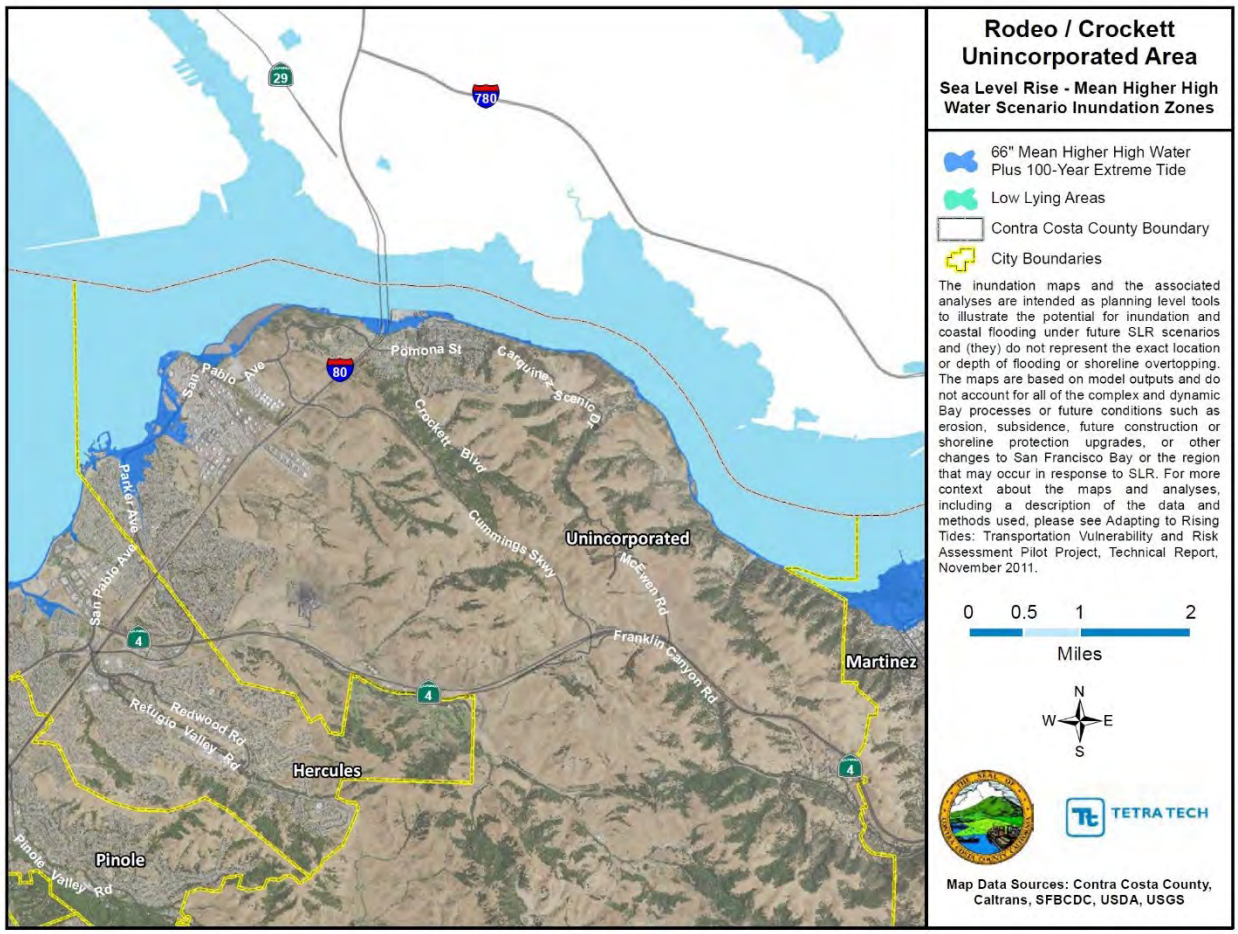
CalEnviroScreen is available online at <*https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40*>.

Figure 19-2: Tsunami Inundation Zone in Rodeo



(Figure 19-2 provided by Contra Costa County, 2018)

Figure 19-3: Projected Sea Level Rise in Rodeo



(Figure 19-3 provided by Contra Costa County, 2018)

Sanitary Sewer Overflow Database

The State Water Board maintains a SSO database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS) under Water Quality Order No. WQ 2022-0103-DWQ (SSS WDRs), on December 6, 2022. All public agencies that own or operate a SSS comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. A 3.6-year term from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. The results of the database queries regarding RSD are listed below in Table 19-4 (next page).

Table 19-4: Rodeo Sanitary District Sanitary Sewer Overflows

EVENT ID	Region	Responsible Agency	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
865844	2	RSD	Rodeo SD CS	Category 3	3/4/2020	25	25	0	Air Relief Valve (ARV)/Blow-Off Valve (BOV)	2SSO10171
881192	2	RSD	Rodeo SD CS	Category 3	5/9/2022	51	2	0	Maintenance hole	2SSO10171
Data Source: CIQWS SSO Database										

Figure 19-4. View of the Rodeo Sanitary District Facilities

During this 3.6-year timeframe, two SSO events occurred in the RSD. Both SSOs were relatively small; however, the most recent spill was not fully recovered. The first spill listed in the query results occurred on March 4, 2020, with a volume of 25 gallons. This spill was caused by an Air Relief Valve (ARV)/Blow-Off Valve (BOV) failure. The spill did not reach surface water, and the total spill volume was recovered. The second spill, within the query results, occurred on May 9, 2022, and had a volume of 51 gallons. The cause of the spill was a small rubber ball found in the downstream maintenance hole. This spill did not reach surface water, and only two gallons were recovered.

LAFCO's 2014 MSR noted that between the years 2009 to 2014, RSD had experienced approximately 45 SSOs. The majority were related to wet weather flow (LAFCO, 2014).

From July to October 2022, San Francisco Bay experienced a harmful algal bloom (HAB) known as a red tide, as described in Appendix F. The species associated with this bloom, *Heterosigma akashiwo*, can cause water to turn reddish-brown. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay, and into San Pablo Bay. Fish deaths linked to the red tide were reported to include sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San Francisco Bay Water Board is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other agencies to study the potential impacts of nutrients on San Francisco Bay. The RSD has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater districts and the Water Board.

Infrastructure Needs

Existing Infrastructure: The RSD currently maintains various equipment, vehicles[3], infrastructure, and associated assets to support its wastewater collection and conveyance system. The secondary level treatment facility is located in Rodeo. Disposal facilities are shared with the cities of Pinole and Hercules through a JPA. The District is working to rehabilitate its infrastructure and maintain regulatory compliance.

Identified Infrastructure Needs: The RSD's capital improvement plan is described in Section 19.4 (see page 19-18). Additionally, the District's 2013 CWWMP identified District-wide treatment and collection needs for the time period 2013 to 2033. Improvements as part of the CWWMP will assist the District in operating safely and more efficiently. Replacement projects for high-maintenance

[3] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the District, it is likely that sometime in the future, the District may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

sewer mains will continue as funds are received for capital projects. For example, in 2014, the Rodeo Creek Force Main Realignment Project was started (LAFCO, 2014).

Factors influencing the District's ability to collect, treat, and dispose of wastewater and provide public service to customers were considered. According to the District staff, the RSD operates at less than 50% of the permitted capacity (RSD, 2022a). Over the past ten years, the District completed collection system and WPCP projects that improved the District's ability to manage dry and wet weather flows (RSD, 2022a). Although the RSD is sufficiently staffed to perform maintenance, the District is seeking funding to continue the rehabilitation of the WPCP and collection system and to fund the addition of the photovoltaic systems (RSD, 2022a). The District hopes to generate energy by adding a photovoltaic system to reduce operating expenses (RSD, 2022a). Increases in costs of goods and services have made it more challenging to maintain a fiscal reserve in the operating fund and capital fund (RSD, 2022b).

Cooperative Programs

RSD actively cooperates with local and regional service providers, as described below.

- RSD is a member of the Bay Area Consortium of Water and Wastewater Education (BACWWE), which supports and funds a technical studies program with the Solano Community College to train and develop potential new candidates for the water and wastewater industry. The Program, specifically at RSD, provides on-the-job training through student internships.
- RSD participates in the annual Contra Costa County Science and Engineering Fair at Los Medanos College. Representatives from 11 water, wastewater, and recycled water agencies also participate in this annual event.
- RSD participates in the annual Northern Safety Day as sponsored by the California Water Environment Association. This annual safety training day makes safety the highest priority for wastewater professionals and allows engagement in hands-on equipment demonstrations.
- RSD is an affiliate of the Bay Area Clean Water Agencies (BACWA), a local government agency created by a JPA in 1984. The membership includes sanitary sewer service providers in the nine-county San Francisco Bay Area. BACWA was founded and continues to assist agencies in carrying out mutually beneficial projects, and to facilitate the development of scientific, economic, and other information about the San Francisco Bay environment and the agencies that work to protect it and public health.
- RSD is a member of CAL-WARN, a Water and Wastewater Agency Response Network that operates for the provision of mutual aid.
- RSD staff has an informal agreement with the City of Pinole staff, such that each party helps with minor maintenance needs, chemicals, and other miscellaneous items when needed.

Awards

RSD has received several awards and recognitions, notably from the California Water Environment Association - San Francisco Bay Section and the Water Environment Federation. They were awarded

the Small Plant of the Year for multiple years: 2010, 2011, 2012, 2013, 2015, and 2018. Additionally, in 2018, Senior Plant Operator James Petalio was named Operator of the Year, recognizing his outstanding contributions to wastewater treatment facility operations. The Water Environment Federation awarded Petalio the 2019 Operator Ingenuity Award for his innovative solution in reconfiguring the District's chlorine analyzers, which led to significant cost savings and operational improvements. For more detailed information, readers can visit RSD's Awards & Certificates web page.

Future challenges

The RSD may face challenges in the future[4], primarily due to its small size. In the past, California has updated waste discharge requirements. These water quality requirements add maintenance life cycle costs to the District. RSD has anticipated the new regulations and planned ahead. The age of infrastructure is another potential future challenge. For example, the WPCP is 50 to 70 years old and it is expensive to maintain.

It may be challenging for RSD to comply with CARB's 2022 new rule regarding zero-emission vehicles. Although RSD supports zero emissions conceptually, there is concern that requirements to purchase EVs will create economic impacts on small districts. RSD's vehicle fleet is older and relatively small. For example, RSD's vehicles (pick-up trucks) are 12 to 13 years old. The dump truck is a 2010 model. The hydro-flusher is a 2016 model. Ideally, CARB may allow an exemption of a phase-in program for this rule implementation.

The American Society of Civil Engineers, Region 9, has several recommended remedies for California's aging wastewater infrastructure, as outlined in Appendix J and summarized below:

1. Implement an education program at the state and local level about what a WPCP is, what kind of waste it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water reuse/recycling.
4. (Source: American Society of Civil Engineers, 2019)

19.4: DISTRICT FINANCIAL OVERVIEW

RSD prepares an Annual Financial Statement and an annual Budget, which presents a snapshot of the District's financial health. These documents are available on the RSD website at: <*https://rodeosan.org/about/financial-information/* >. These documents form the basis of the analysis provided in this section. This financial analysis represents a snapshot in time (i.e. a limited

[4] Although garbage collection is not the topic of this MSR, please note that RSD manages solid waste and recycling via a contract with Republic Services. A new law is the SB1383 Organic Reduction Act which is expected to influence RSD's garbage service. Although garbage collection is franchised, RSD does allocate staff time to management and coordination with the contractor.

time period). However, RSD regularly updates its financial data and readers may review the new data on RSD's website.

RSD's wastewater services function as an enterprise fund that separately accounts for self-supporting operations. RSD's primary revenue source is service charges and fees. Although RSD has faced challenges in maintaining financial sustainability amidst rising operational costs, its Board of Directors and staff continue to make improvements in efficiency. RSD will continue to have a need for effective resource management and financial planning for future stability.

RSD's Financial Statement for the fiscal year (FY) 2022-23 reveals a net position of $14,901,857. This net position represents an increase from FY 2021-22 by $397,559 or three %. The increase in current assets of $122,325, or four %, is a result of the operating cash balance. Capital assets decreased by $536,618 or two+ %; capital assets totaled $39,653,976, netted with total accumulated depreciation of $15,165,916. The decrease in non-current liabilities of $837,650 or six % results from decreasing outstanding loan balances (RSD, 2023).

Five primary areas of criteria are utilized to assess the present and future financial condition of RSD's wastewater service operations, as discussed in the following paragraphs.

Four Year Revenue/Expenditure Budget Trends

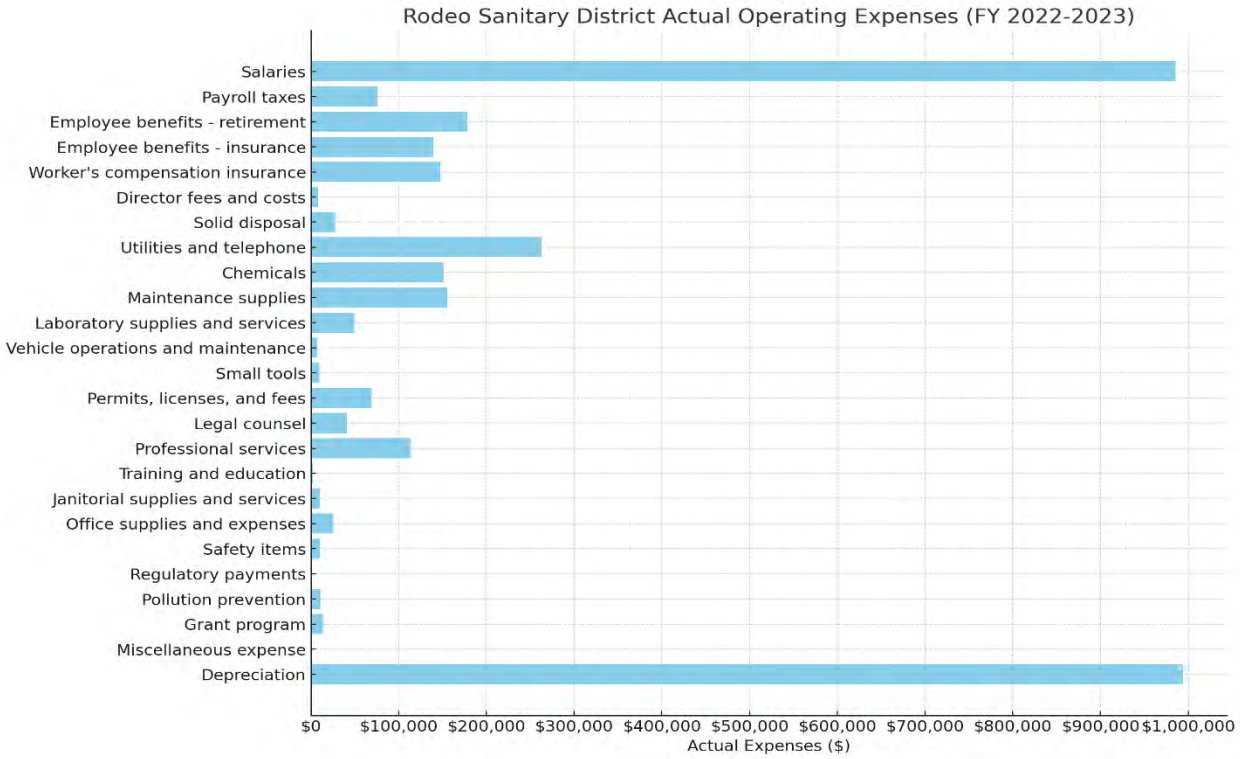
Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with the principal ongoing operations of the proprietary fund. The principal operating revenue is customer sewer service charges. Non-operating revenue includes property tax and miscellaneous fees. Operating expenses for enterprise funds include the cost of sales and services, administrative expenses, and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as non-operating revenues and expenses.

For FY 2022-23 (ended June 30, 2023), RSD had operating revenue comprised of sewer service charges totaling $3,381,146. Non-operating revenues included the ad valorem taxes of $ 485,220; franchise fees of $107,331; and miscellaneous income of $129,111. For FY 2022-23, RSD had total expenses in the amount of $3,705,249 The total operating loss was $108,969. The total net position at the beginning of the year was $14,504,298. The total net position at the end of the year was $14,901,857. This equates to a change in net position in the amount of $397,559.

Figure 19-5 is a bar graph showing all the actual operating expenses for the Rodeo Sanitary District for the FY 2022-23. The five largest expenses were:

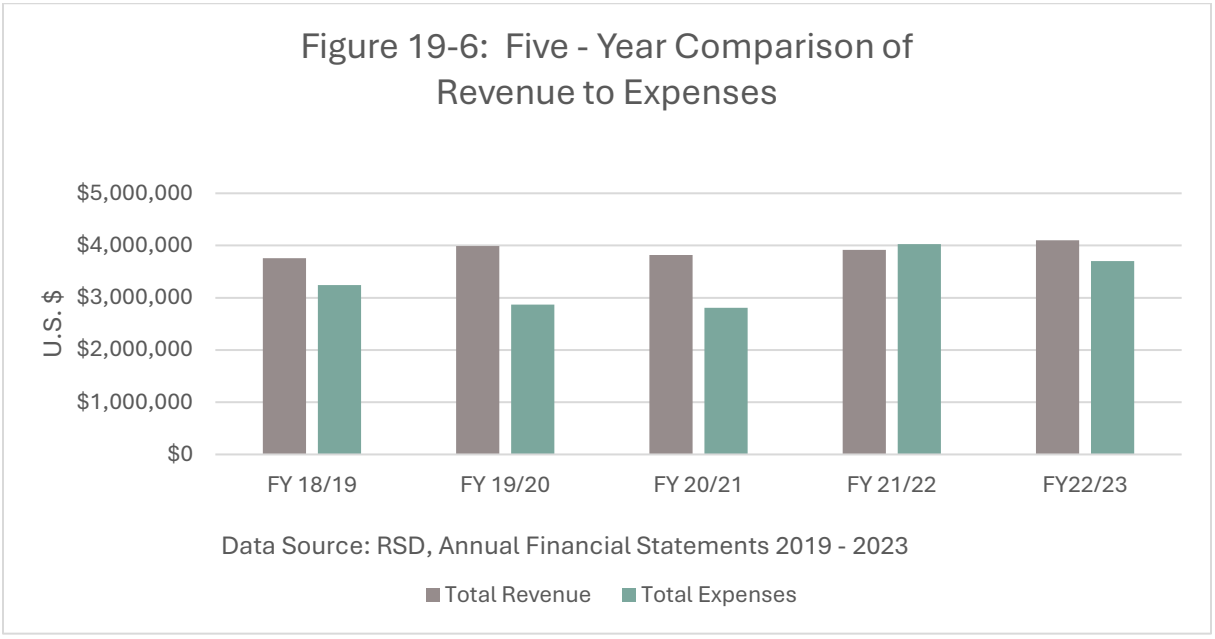
- Depreciation: $994,035
- Salaries: $985,526
- Employee Benefits - Retirement: $178,242
- Utilities and Telephone: $262,986
- Employee Benefits - Insurance: $139,203

Figure 19-5: Actual Operating Expenses FY 2022-23



Data Source for Figure 19-5: RSD, AFS, 2023.

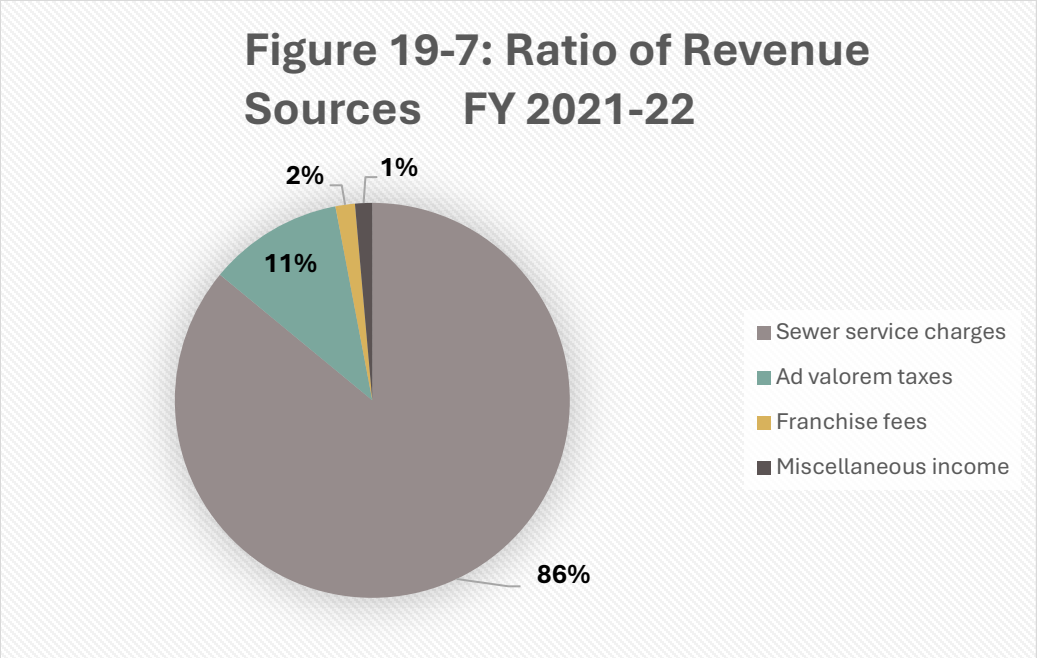
This revenue and expense data for the fiscal years 2019 to 2023 are depicted in Figure 19-6 below which contains a bar chart providing a clear comparison between the different types of revenues and the expenses for each fiscal year, allowing for a straightforward visual assessment of the financial health and performance of the Rodeo Sanitary District over these years.



In four of the five fiscal years studied in Figure 19-6, RSD experienced revenues that exceeded expenditures. This allowed RSD to contribute to its reserve funds. In most years, sufficient revenue is collected to support operational and maintenance expenditures. Rate increases have been implemented to ensure sufficient revenues meet operational and capital project expenditures.

Ratios of Revenue Sources

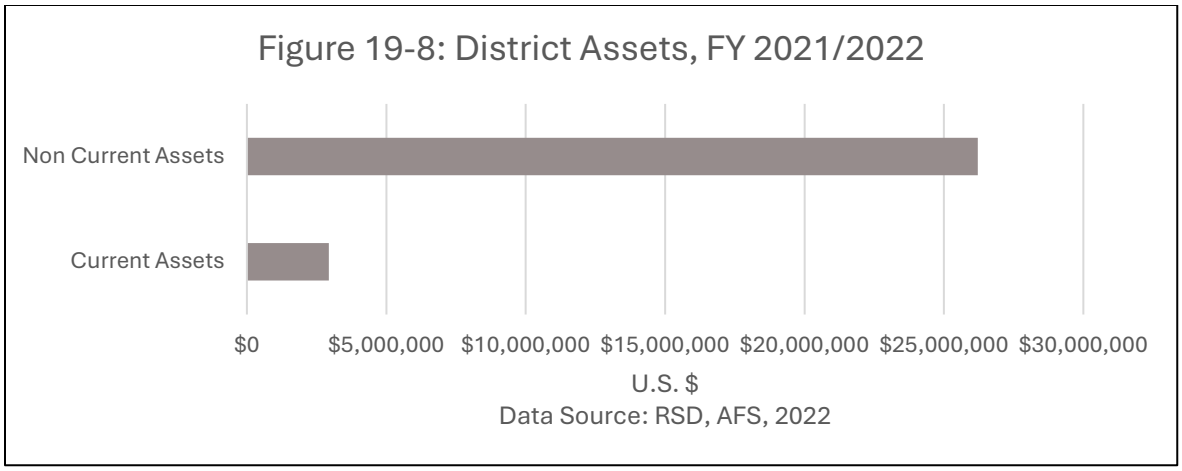
RSD received most (86 percent) of its revenues from service charges and fees, totaling $3,368,664 in FY 2021-22. Figure 19-7 below shows that the ad valorem taxes comprised 11 percent of revenue or $432,107. Franchise fees comprised two percent or $62,347. Miscellaneous income comprised one percent or $55,049 in FY 2021-22 (RSD, AFS, 2022b). This ratio reflects an appropriate balance for a typical enterprise-type service and minimizes negative economic factors' impact on more elastic revenues such as property tax. As RSD receives a small portion of its revenue from property tax, any impact on this revenue due to any future economic downturn would not significantly impact RSD.



Ratio of Reserves or Fund Balance to Annual Expenditures

An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures (LAFCO, 2014).

Figure 19-8 below shows the District's total assets, including current and non-current assets for FY 2021-22. Non-current assets include prepaid interest; deposit for sales agreement; and capital assets (net of accumulated depreciation).



The FY 2021-22 audited financial report does not provide information on an unrestricted net position. Therefore, data on the total net position of $14,504,298 is utilized as a substitute. Based on total expenses of $4,028,539 for this same fiscal year, the expenditures comprise 27.8 percent of the total net position. (RSD, AFS, 2022b).

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. RSD has several types of debt related to financing wastewater capital improvement projects totaling approximately $12.8 million (FY 2022-23), as shown in Table 19-5 and Figure 19-9, including:

- State Revolving Fund Sewer Year 1, 2, and 3 Loans
- State Revolving Fund IPS Loan
- State Revolving Fund Wastewater Treatment Plant Loan
- Compensated Absences
- (Data Source: RSD, AFS, 2022b)

The ratio of annual debt service to total fund annual expenditures is an indicator of RSD's ability to meet debt obligations in relation to service provision expenditures. Ideally, a 10% or less ratio would reflect a very stable ratio (LAFCO, 2014). RSD's annual debt service ratio to total expenditures is approximately 26 %[5], a mediocre ratio. However, as shown in Figure 19-9, total liabilities are decreasing every year.

[5] Note: The annual debt service ratio is calculated as total debt service due for FY 2022-23. Principal paid on capital debt was $733,729 and the interest paid on the capital debt was $221,888 in FY 2022-23. Therefore, $955,617 divided by total expenditures of $ 3,705,249 = 0.26.

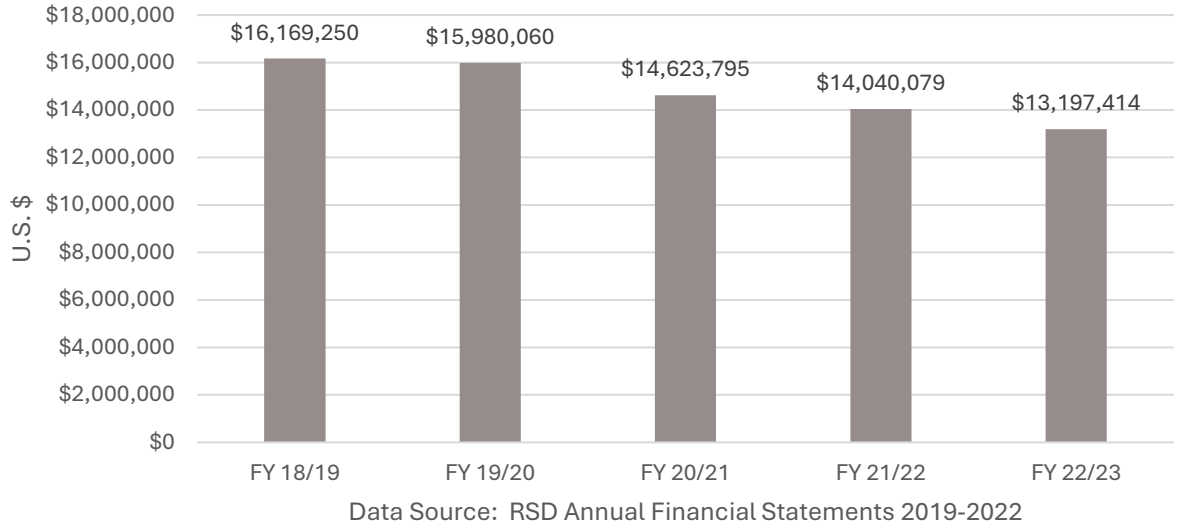
Table 19-5: RSD Liabilities FY 2022-23

NOTE 4: LONG-TERM LIABILITIES

The following is a summary of long-term liability activity for the year ended June 30, 2023:

	Balance July 1, 2022	Additions	Reductions	Balance June 30, 2023	Current Portion
Long-term liabilities:					
SRF Loan (Year 1) 14-822-550-0	$ 1,310,044	$ -	$ (92,018)	$ 1,218,026	$ 93,398
SRF Loan (Year 2) D15-01006-550-0	3,903,884	-	(216,031)	3,687,853	219,485
SRF Loan (Year 3) D15-01032-550-0	5,326,326	-	(255,427)	5,070,899	259,770
SRF Loan - IPS D15-01008-550-0	1,607,591	-	(88,958)	1,518,633	90,383
SRF Loan - WWTP D15-01020-550-0	1,469,103	-	(81,295)	1,387,808	82,596
Total long-term liabilities	$ 13,616,948	$ -	$ (733,729)	$ 12,883,219	$ 745,632
Other liabilities:					
Compensated absences	$ 48,964	$ 61,133	$ (60,177)	$ 49,920	$ 49,920

Figure 19-9: RSD LIabilities



Data Source: RSD Annual Financial Statements 2019-2022

Cost Avoidance Opportunities

RSD has successfully reduced operational costs through efficiency. For example, from July 2012 to June 2021, RSD's operating budget only increased by 4.6 percent. The Consumer Price Index over that same time period was 28%. RSD was able to optimize operations and energy efficiency. Income increased by 7% over past 5 years. RSD has done a good job at cost efficiency. For example, RSD staff implemented in-house projects to remove potable water use, which resulted in a reduction of

80% over five years. Energy efficiency was achieved by changing technologies to save on PGE bills. Negotiations with the lab contractor also achieved cost savings (personal communication, S. Beall, January 2024). RSD has a reserve of several million dollars.

RSD utilizes the State Revolving Fund Low-Interest Loan to partially fund WPCP and collection system upgrades. This will reduce long-term costs. As the WPCP is upgraded, it is expected to level off or reduce operating costs, including flow monitoring and after-hour call outs with overtime. In the 2008 MSR, cooperative treatment programs were proposed with the Cities of Hercules and Pinole, but those were not implemented due to resistance from the other agencies.

New cost avoidance activities include seeking grant funding to continue the WPCP and collection system rehabilitation and add photovoltaic systems[6]. It is hoped the energy generation will allow the District to reduce operating expenses to help offset the rising costs of goods and services. According to RSD staff, the District is also interested in further exploring the sharing of resources with the Pinole/Hercules wastewater systems and/or CCSD. (RSD, 2022a).

Capital Improvement Program

The District's current maintenance budget covers the maintenance of existing plant equipment and collection system infrastructure to maintain the level of treatment and collection the state requires. As items are replaced or rehabilitated, the expenditures on large-scale maintenance activities will be reduced, making way for lower-cost maintenance (RSD, AFS, 2022b). In addition to routine maintenance, RSD implements a portion of the capital improvement projects that are outlined in its Comprehensive Wastewater Master Plan (CWWMP), dated June 2013. The District's Annual Financial Statement (2022b) notes that fiscal year 2021-22 major capital projects included the following:

- District-Wide Electrical and Control Rehabilitation. The District continues a District-wide project to rehabilitate the electrical and control systems throughout the District's facilities. This project is needed due to the 40+ year old electrical infrastructure. Construction activities include replacing corroded conduits and wires and upgrading electrical infrastructure to the current code. Expenditures through June 30, 2022 were $60,414. Frequently, the projects are based on reactive discoveries and are not planned.
- Miscellaneous Collection System Rehabilitation. The District continues to complete Collection System Rehabilitation Projects on an as-discovered basis. The projects are generally initiated as the result of CCTV inspection or local sewer line failure. Expenditures through June 30, 2022 were $137,950.
- Bar Screen Project. The Bar Screen Project includes a minor component of the District-wide electrical and control rehabilitation and a major rehabilitation of the District's headworks structure. Project elements include but are not limited to new Motor Control Centers (MCCs)

[6] RSD does not yet have solar. Finding space to install solar facilities is a challenge due to land constraints. The RSD is communicating with EBRPD to inquire about installing a PV system. Ideally, the proposed solar would be used to power the entire facility and generate extra power for the grid.

and the ventilation system in the digester control building, concrete repair, new grating and new handrail for the headworks structure, and a new bar screen structure consisting of new bar screen, conveyance, and washing and compacting equipment. The bar screen project and complementary minor projects have an estimated capital cost of $4.17 million. Expenditures through June 30, 2022 were $346,120. District reserves funded this project. The project is complete.

- Priority Improvements. The District initiated the Priority Improvements Project to perform several minor sewer rehabilitations. Planning and design-level activities occurred prior to June 30, 2021. The project design continues with anticipated construction in the spring of 2023. Expenditures through June 30, 2022 were $117,470.
- Digester System Rehabilitation Project. RSD Implemented a digester cleaning and cover seal rehab project. Cleaning is typically completed on a 5-year cycle. However, the accumulation of rags in the digester created difficult operating conditions; therefore, the project was initiated a year early. The cleaning portion was completed in June 2022, and the cover seal rehab was completed in August 2022. The cleaning expense portion was $136,375.

Upcoming projects include primary and secondary clarifier repairs and coating, aeration basin panel rehab and instrumentation replacement, main administration building expansion and upgrades, and collection system pipeline repairs. (RSD, 2023). Capital improvement projects are financed by two mechanisms: District reserves and loans. During the 2013 to 2019 CWWMP process, the District Board chose to finance the initial CIP projects primarily through the use of Clean Water State Revolving Fund (CWSRF) low-interest loans in order to minimize the long-term cost of borrowing. The FY 2022-23 Capital Budget was $645,000 (up from $444,000 in FY 2021-22). Actual capital expenditures for FY2021-22 were approximately $950,000. The FY 2022-23 Capital Budget had a potential loss of approximately $5,000. This will potentially decrease the total capital reserve from $1,360,000 to $1,355,000. The District's Capital Reserve policy requires a $2 million reserve, thus resulting in an unmet goal of approximately $644,000 (RSD, Board Meeting Notes, 5/10/22).

In 2020, RSD began an Energy Infrastructure Upgrades Program in partnership with a private company called ENGIE with the aim to improve plant operations, and reduce energy costs and emissions. The potential infrastructure improvements at the Water Pollution Control Plant could have resulted in energy and operational savings, which could have covered the program's costs. Unfortunately, most of the project elements were eliminated due to the escalating costs of goods and services. The remaining improvement under consideration is the battery energy storage system (BESS).

Rate Structure

Rates for sewer service fees reflect the current operating budget and are charged at a fixed rate for residential customers. RSD reports that it had previously considered rate restructuring to a tiered system. However, the District does not anticipate the need to implement such a structure at this time (LAFCO, 2014).

The RSD Board sets the Sewer Service Fee rate for its users to cover the costs of OM&R and debt-financed capital improvements. Operating costs have remained at or below inflationary levels for the past several years. Rate increases are determined on an as-needed basis for the continuing operations of the District. The Board of Directors approved a phased-in rate increase schedule from the FY 2018-19 to the FY 2022-23. However, the Board of Directors chose to eliminate the Sewer Service Fee increase for the FY 2020–21 in response to the COVID-19 Pandemic. The Board of Directors continued with the plan phased rate increase for the 2022 and 2023 fiscal years. RSD implemented a 13% rate increase for the FY 2023-24. The current rate for sewer fees is $1,165.62 per year for a single-family home. Past sewer rates are summarized below in Table 19-6.

Table 19-6: Past Sewer Rates

Current Rate	Proposed 2018-2019 Rate (2.5% increase)	Proposed 2019-2020 Rate (1% increase)	Proposed 2020-2021 Rate (1% increase)	Proposed 2021-2022 Rate (2.5% increase)	Proposed 2022-2023 Rate (1% increase)
$962.44	$986.50	$996.38	$996.38	$1,021.30	$1,031.52

Data Source for Table 19-6: RSD, AFS, 2022b

RSD's sewer fee is collected on the County tax roll. RSD does not hand-bill residential customers. RSD does hand-bill a few commercial customers. RSD also has a fee breakdown for restaurants and commercial based on winter water use. Due to the small size of RSD, they do not have economies of scale.

19.5: POPULATION

The unincorporated community of Rodeo is a census-designated place (CDP). CDPs are a statistical geography representing closely settled, unincorporated communities that are locally recognized and identified by name. In 2020, Rodeo CDP had 9,653 people and 3,202 housing units as described by the U.S. Census here: <*https://data.census.gov/profile?g=1600000US0662490*>. However, RSD provides service to approximately two-thirds of the CDP because the CDP has a different geographic boundary. In this case, the population estimate is based on the number of wastewater connections. The RSD serves 2,450 wastewater connections (RSD, 2022a). There are approximately 9,453 residents within the District boundary as of 2020 (per Contra Costa County). Detailed information regarding population demographics in Contra Costa County is provided in Appendix A. RSD's boundary contained 5,241 registered voters as of January 2023.

Two population estimates are provided in Table 19-7 below. The medium estimate utilizes the California Department of Water Resources variable of 3.3 people per water connection. The 3.3 people per water connection variable was multiplied by the 2,450 connections. The low estimate uses the 2.71 variable based on the average number of people per household in Contra Costa County. The 2.71 average number of people per household variable was multiplied by the 2,450 connections. Since the unincorporated portion of the service area includes many small apartment

buildings, the District SSMP likely provides an accurate population estimate.

Table 19-7: Existing Permanent Population, Rodeo Sanitary District, 2018-2022		
Population Scenario	**Population in Boundary**	**Population in SOI only (1)**
Rodeo Sanitary District – Low Population Estimate (SSMP) (2018)	8,769	45
Rodeo Sanitary District – Medium Population Estimate (2020 from Contra Costa County Conservation Department	9,453	45
(1) Based on an average number of people per parcel.		

Projected Future Population: Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County, as shown in Table 19-8 below. The population within the RSD service area is expected to increase by 15.1 percent within the 23-year period. The District's 2045 population is projected to be 10,884.

The anticipated future population growth of the community can influence the demand for wastewater services. However, projecting a community's future population is complicated due to varying annexation rates and census tracts that do not match District boundaries.

19.6: DISADVANTAGED COMMUNITIES

Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in some disadvantaged communities. A disadvantaged community is defined as a community with a median household income (MHI) of 80% or less than the statewide MHI. A disadvantaged unincorporated community (DUC) is an inhabited community containing 12 or more registered voters that constitute all or a portion of a "disadvantaged community." This determination assesses the prospect of including a DUC(s) when an agency's SOI is updated or expanded. Additionally, in 2011 SB 244 began requiring cities and counties to address the infrastructure needs of disadvantaged communities in city and county general plans, MSRs, and annexation decisions. Therefore, this MSR Update identifies disadvantaged communities within relevant jurisdictions' SOI.

Table 19-8: Total Estimated & Projected Population (2022 – 2045)

	2022	2025	2030	2035	2040	2045	Percent Increase 2020 to 2045	Numeric Increase 2020 to 2045	CAGR 2020 to 2045
County of Contra Costa[1]	1,156,555	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.1%	174,876	0.61%
Rodeo Sanitary District[2]	9,453	9,788	10,171	10,494	10,730	10,884	15.13%	1,431	0.56%

Sources:
1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021. See also 2: California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State: January 1, 2021 and 2022. Sacramento, California.
https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/.
2: RSD population data based on Contra Costa County Dept. of Conservation information.
4: Population projection for Rodeo Sanitary District calculated as 0.8175 percent of the County of Contra Costa population.

The MHI for California in 2020 was $83,056 (ACS, 2021). 80 percent of the MHI ($66,445) is the income threshold used to identify DUC status. 2020 is the base year because data from the US 2020 Census is readily available. Table 19-9 and Figure 19- 9 below show that this MSR Update identifies disadvantaged communities within the unincorporated community of Rodeo, a Census Designated Place within the District. LAFCO is required to consider the need for sewer, municipal, and industrial water, or structural fire protection services within identified disadvantaged communities as part of a SOI update for cities and special districts that provide such services. These services have been recently reviewed under the *2nd Round EMS/Fire Services Municipal Service Review/Sphere of Influence Updates (2016), the Contra Costa City Services Municipal Service Review and Sphere of Influence Study (2nd Round) (2019), and the Contra Costa County-wide Water Service Municipal Service Review and Sphere of Influence Study (2nd Round) (2014)*. These services have remained relatively unchanged since the publication of these reports. Communities within the existing District boundary or SOI do not lack public services because they either receive services from a municipal provider or the properties are self-sufficient, relying upon groundwater wells and septic tanks. No health or safety issues have been identified.

Figure 19- 9: Disadvantaged Communities in Rodeo and Crockett

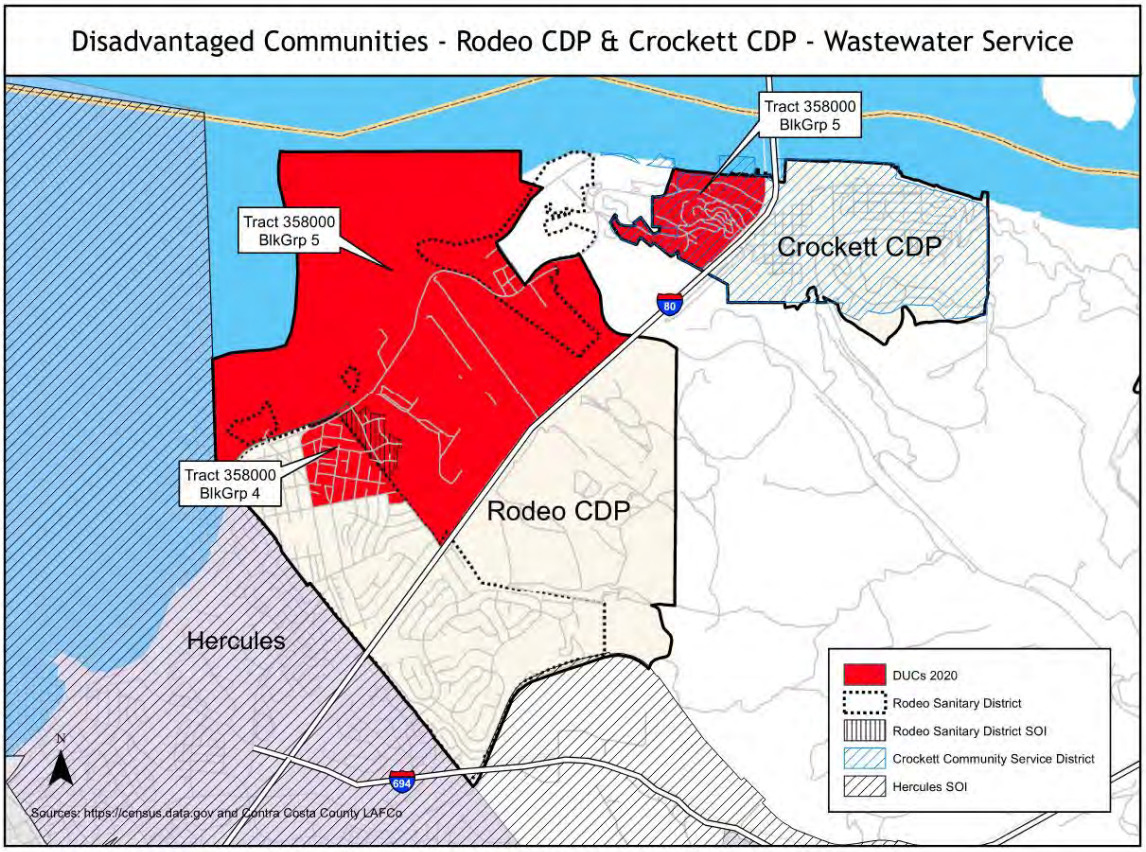


Table 19-9: Disadvantaged Unincorporated Communities in Rodeo Sanitary District			
Unincorporated Community	**Census Tract Geo ID**	**Census Block Group Number**	**Median Household Income in 2020**
Rodeo	060133580004	4	$46,324
Rodeo and Crockett	060133580005	5	$38,865
U.S. Census Bureau. November 2, 2021. 2020 American Community Survey 1-Year Experimental Estimates. Table ID: XK201902. Table Title: Median Household Income In The Past 12 Months (In 2020 Inflation-Adjusted Dollars). Retrieved July 7, 2021 from <*https://www.census.gov/programs-surveys/acs/data/experimental-data/1-year.html*>.			

19.7: GOVERNMENT STRUCTURE ALTERNATIVES

RSD currently provides wastewater collection, treatment, and disposal services for residences and businesses within its boundaries. RSD is providing adequate service and maintains its infrastructure. Over the past decade, RSD has conducted ongoing rehabilitation of its infrastructure and is implementing programs and practices that improve cost efficiency. Prior to and during 2014, several SOI amendments and annexations to RSD resolved the outstanding boundary issues.

LAFCO's 2014 MSR described the status of a proposed partnership with the cities of Hercules and Pinole to provide regional collection and treatment of sewage. The 2014 MSR noted that the proposal was met with resistance from both cities and has not been pursued or studied (LAFCO, 2014). Therefore, the 2014 MSR did not identify additional government structure options. RSD's annual financial statements indicate it is maintaining stable operations and building up reserve funds. However, since RSD is a relatively small wastewater service provider, it may experience difficulties meeting increasingly stringent regulatory requirements in the future. Therefore, this 2024 MSR suggests that two government structure alternatives be considered.

Maintain the Status Quo

RSD is currently providing adequate wastewater services within its boundaries. The RSD has developed and implemented a CIP to maintain and upgrade necessary infrastructure (LAFCO, 2014). RSD has partnered with the cities of Pinole and Hercules in a JPA for wastewater disposal. Through this JPA, RSD has demonstrated that it is a good partner and can effectively meet its contractual obligations. The MSR authors recommend this first option to maintain the status quo for RSD's existing governance structure and boundaries.

Expand SOI to Include "Tormey"

Figure 19-1 shows the RSD boundary, including the unincorporated community of Tormey and an area to the north that was a mercury smelter many decades ago. This area has a total of 19

wastewater connections, a mix of residential and commercial. As each property rental agreement or lease expires for the residences on Old County Road, the leases are not renewed. The buildings are razed, and the property left as a vacant lot. This will continue for the remaining properties to provide a safety buffer for their operations. Therefore, the number of wastewater connections to this area is expected to decline in the future. In 2004, as part of an agreement between the CA State Lands Commission, Wickland Oil, et al., a pump station, collection system, and force main were installed to collect and transport the sewage from this area. Discharge is to RSD's WPCP via an 8,000-foot force main. Existing commercial uses will likely continue. The pump station could handle future connections which would require a capacity analysis and annexation if the proposed connections are out of the existing District service area.

This alternative is not recommended to be included in the RSD SOI for several reasons. The area is a former mercury smelter and remains contaminated with toxic waste. It is a designated Superfund site. This area is located in close proximity to the San Francisco Bay and may be subject to sea level rise. Any expansion of the SOI or boundary in this area would require a detailed CEQA analysis and possibly also a NEPA analysis.

Consolidate Sanitary Sewer Service with nearby Service Provider

Through the JPA and shared outfall with the City of Pinole and Hercules, RSD has demonstrated that it functions as a good partner and meets its responsibilities consistent with contractual arrangements. However, due to its small size, RSD may face challenges in the future. Therefore, LAFCO and the RSD may wish to evaluate an alternative option to consolidate sanitary sewer service with a nearby service provider, such as the cities of Hercules, Pinole, and/or the CCSD. Although this new option was not evaluated in this MSR, LAFCO may wish to include an evaluation in the next update of the Wastewater MSR or at a time when any of the entities submit an application to LAFCO. Such an evaluation should assess the financial and technical feasibility of the proposal to ensure it is cost-effective before adoption or implementation.

Since the RSD boundaries contain DUCs, it is important to note that LAFCO has a special responsibility to ensure that present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection are provided in any disadvantaged, unincorporated communities within or contiguous to the SOI. Therefore, additional study is needed prior to implementing this option in the future.

RSD and its neighboring agencies (cities of Hercules and Pinole or the CCSD) have been operating as separate legal entities governed by different boards of directors. Merging or consolidating together could provide the following benefits:

- Better utilization of the excess capacity in the RSD's WPCP (RSD currently uses about half of the WPCP's design capacity).
- Economies of scale that can be achieved within a larger operation.

- Ability to optimize human resources since a larger dedicated staff could afford to allocate staff resources more efficiently.
- Resource sharing of specialized vehicles and equipment could be enhanced. For example, RSD may need a combo truck for only 10 percent of the year.
- Sewer maintenance cost efficiencies could be achieved within a larger system.
- Policy decisions could be made under one Board of Directors with a shared mission and vision, thereby streamlining and broadening policy and leadership decision-making.
- Create unity among workforce and organizational culture, as well as enhance the ability to recruit and retain the highest quality employees.
- Legally merging the service providers would allow the entities to provide customers with the most efficient and effective sewage collection, treatment, and resource recovery services.
- Ideally, such a merger would not change any of the sewage services provided—the agencies would simply become one single service provider for customers.

However, such a proposed merger or consolidation has several downsides. For example, any merger or consolidation would be complicated. Further study of the tradeoffs and conversations among key stakeholders would be necessary before moving forward with this concept.

19.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

Table 19-10: MSR Determinations for Rodeo San District

TOPIC AND PERFORMANCE MEASURES	DETERMINATION
Growth and Population for the affected area. • Is the existing population estimated? • Is the projected future growth estimated?	The current population within the RSD service area is 9,453 people as of 2020. Over the next 23 years, the population is expected to increase by 15.1 percent to a total of 10,884.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.	RSD's boundary contains DUCs. The Median Household Income in 2020 within Census Block Group Numbers 4 and 5 are $46,324 and $38,865, respectively, which falls below the income threshold for DUC status. LAFCO is required to consider the need for sewer, municipal, and industrial water, or structural fire protection services within identified

	(continued) disadvantaged communities as part of a SOI update for cities and special districts that provide such services. These services have been recently reviewed under the *2nd Round EMS/Fire Services Municipal Service Review/Sphere of Influence Updates (2016), the Contra Costa City Services Municipal Service Review and Sphere of Influence Study (2nd Round) (2019), and the Contra Costa County-wide Water Service Municipal Service Review and Sphere of Influence Study (2nd Round) (2014)*. These services have remained relatively unchanged since the publication of these reports. Communities within the existing District boundary or SOI do not lack public services because they either receive services from a municipal provider or the properties are self-sufficient, relying upon groundwater wells and septic tanks. No health or safety issues have been identified.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. • Does the agency have a CIP? • Are SSOs identified? • Are local hazards identified?	RSD completed a Comprehensive Wastewater Master Plan (CWWMP) (adopted in June 2013) that serves as a 20-year implementation plan for facilities and operations. Improvements as part of the CWWMP will assist RSD in operating safely and more efficiently. Replacement projects for high-maintenance sewer mains will continue as funds are received for capital projects. A 3.6-year term from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. During this 3.6-year timeframe, there were two SSO events in the Rodeo Sanitary District. A significant reduction from years past. Rodeo Sanitation District did not participate in the county-wide Local HMP. However, based on information provided about the Rodeo area in Volume 2 of the HMP, there is public infrastructure located within or close proximity to areas subject to identified hazards. Hazards include low to moderate Liquefaction Susceptibility; moderate earthquake risk with Site Class / Soil Profile “D” with stiff soil; and potential flood hazard areas. It should be noted that cost-burdened and low-income households are

	(continued) vulnerable to local hazards. The RSD's next Sanitary Sewer Management Plan update should include information about these hazards. Additionally, it is recommended that RSD participate in the next update to the HMP. It would be useful for LAFCO to have access to detailed spatial mapping of the RSD's wastewater infrastructure in relation to the hazards identified in the HMP prior to the next MSR/SOI.
Financial ability of agencies to provide services. • Has the agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures 10% or less?	Rates: The Board of Directors approved a phased-in rate increase schedule from the FY 2018-19 to the FY 2022-23. However, the Board of Directors chose to eliminate the Sewer Service Fee increase for the FY 2020–21 in response to the COVID-19 Pandemic. The Board of Directors later continued with the plan phased rate increase for the 2022 and 2023 Fiscal Years. The current (FY 2023-24) rate for sewer fees is $1,165.62 per year for a single-family home. Revenues: Revenues exceeded expenditures in four of the five study years, which is a good indicator of fiscal health. Ratio of annual debt service: RSD's annual debt service ratio to total expenditures is approximately 17 percent, a mediocre ratio. It is recommended that LAFCO re-evaluate this financial metric when it next considers an application from RSD or the next MSR/SOI update.
Status of, and opportunities for, shared facilities.	Disposal facilities are shared with the cities of Pinole and Hercules through a JPA. Additionally, RSD is a member of the Bay Area Consortium of Water and Wastewater Education, which supports and funds a technical studies program with the Solano Community College to train and develop potential new candidates for the industry. RSD also utilizes an intern program to bring in candidates to prepare for future position openings. RSD's food, oil, and grease (FOG) program is supported in the local community. The District is also interested in further exploring the sharing of additional resources with the Pinole/Hercules wastewater systems and/or CCSD in mutually beneficial ways.

Accountability for community service needs, including government structure and operational facilities. • Does the agency have a website? • Does the agency post a public outreach tool (such as a calendar or newsletter) on its website? • What is the recommendation for mergers, consolidations, or other changes to governance structure?	RSD has demonstrated accountability for community service needs, including operational facilities. For example: • RSD's website at <*https://rodeosan.org/*> provides the public with internet access to Board agendas and minutes, public notices, district budgets, and audits. • The RSD publishes the "Pipeline" newsletter to update the public on projects and provides helpful information. • RSD has a "NextDoor" page and developing a "FaceBook" page • RSD is a small operating agency with eight full-time employees. Due to RSD's small size, this MSR describes three potential options regarding future mergers, consolidations, or other changes to the governance structure. Based on the analysis, the MSR authors recommend that LAFCO maintain the status quo for the RSD governance structure.
Any other matter related to effective or efficient service delivery, as required by commission policy.	No additional issues have been identified.

19.9: RECOMMENDED SPHERE OF INFLUENCE:

Recommendation: It is recommended that LAFCO reconfirm current determinations and SOI for the RSD.

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 requires that LAFCO review and update the SOI for each of the special districts and cities within the county (State of California Government Code §56133 et seq.). Section 19.7, Government Structure Alternatives, describes various issues and options associated with changing the structure of this local government agency and studied three options:

- Maintain the Status Quo
- Expand SOI to Include "Tormey"
- Consolidate Sanitary Sewer Service with nearby Service Provider

LAFCO often accomplishes its government structure issues through changes to boundaries and/or SOIs. Based on the context provided in this Chapter, one option is recommended for RSD's SOI, as listed below.

- **Retain the existing SOI**: If LAFCO determines that the existing government structure is appropriate, then the existing SOI should be retained. This option would enable RSD to continue to include the areas within its SOI in its long-term facilities and capacity planning based on the adopted land use.

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Figure 19-10: Location of Administrative Offices for RSD

Environmental Protection Agency (EPA)

Data Source: USA Facility Registry at: https://frs-public.epa.gov/ords/frs_public2/fii_query_detail.disp_program_facility?p_registry_id=110002427384

Chapter 20: STEGE SANITARY DISTRICT – WASTEWATER SERVICES

Table of Contents

20.1: OVERVIEW

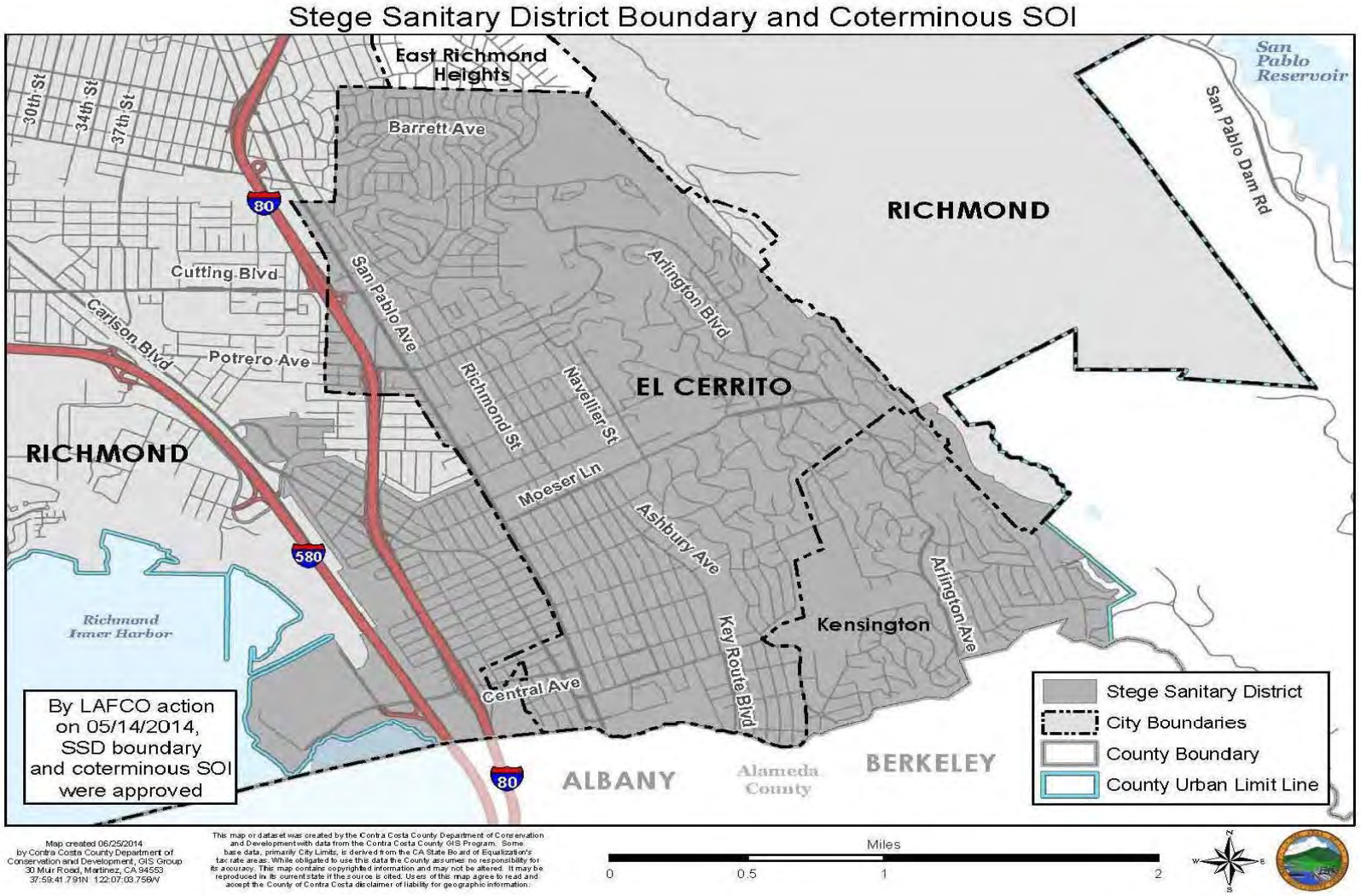
The Stege Sanitary District (SSD) was originally organized in 1913 and is one of the oldest special districts in the Bay Area. SSD directly provides collection of sanitary wastewater from homes and businesses in the developed area in the southwest portion of the County. Additionally, SSD cooperates with EBMUD for the treatment and disposal of wastewater. The geographic area remained relatively rural until significant residential growth occurred in the late 1920s and 1930s. Extensive development took place following the end of World War II. SSD provides a thorough history of the district in a 120-page e-book by David Weinstein and available for free as a download from <*https://www.stegesan.org/files/5afd3e669/Stege_100th_anniversary_book_color_full_web_-_NEW_pg_13.pdf*>. The original SSD boundaries were similar to those of today; however, service within the boundaries has expanded significantly (LAFCO, 2014).

The present service area of SSD comprises 5.3 square miles. It includes the communities of El Cerrito, Kensington, and the portion of the Richmond Annex west of El Cerrito and south of Potrero Avenue (SSD, 2022b). SSD's sphere of influence is coterminous with the district boundary, as shown in Figure 20-1. The district lies within the San Francisco Bay / Sacramento Delta Estuary watershed. Additional information about this watershed is provided in Appendix F. SSD's Agency Profile is shown in Table 20-1.

Table 20-1: Agency Profile – Stege Sanitary District

General Information			
Agency Type	Independent Special District		
Principal Act	Health and Safety Code Section 2200 et seq.		
Date Formed	1913		
Services	Wastewater collection		
Service Area			
Location	City of El Cerrito, unincorporated community of Kensington, a portion of the Richmond Annex community		
Sq. Miles/Acres	5.3 square miles/ 3,392 Acres		
Land Uses	Residential, commercial, industrial, open space		
Population Served	35,000 (SSD, 2022b)		
Last SOI Update	8/13/2008 and SOI updated 5/14/2014		
Infrastructure/Capacity			
Facilities	148 miles of collection lines, 2 pump stations (SSD, 2022b)		
Connections	13,123 (SSD, 2022)		
Treatment Plant Capacity (MGD)	EBMUD treatment plant – Oakland 320 MGD (maximum) (EBMUD, 2021)		
Primary Disposal Method	EBMUD treatment plant disposes of treated effluent through an outfall into San Francisco Bay.		
Budget Information- FY 2023-2024			
	Revenues	Expenditures	Net
Operating/General Fund	$4,890,00	$3,470,661	$1,419,339
Combined Other Funds	$3,529,00	$5,713,300	-$2,184,300
All Funds	$8,419,00	$9,183,961	-$764,961
	FY 2023-2024 (Budgeted)	Long-Term Planned Expenditures	
Capital Expenditures	$5,713,300	Determined annually based on the Sewer System Management Plan (SSMP) and Master Plan	
Total Assets	$64,305,950	June 30, 2023 Financial Statement	
Total Net Position	$60,320,090	June 30, 2023 Financial Statement- Restricted & Unrestricted	
Governance			
Governing Body	Board of Directors (5 members)		
Agency Contact	Rex Delizo, P.E., District Manager, (510) 524-4668		
Notes			

Figure 20-1: Boundary/SOI Map – Stege Sanitary District



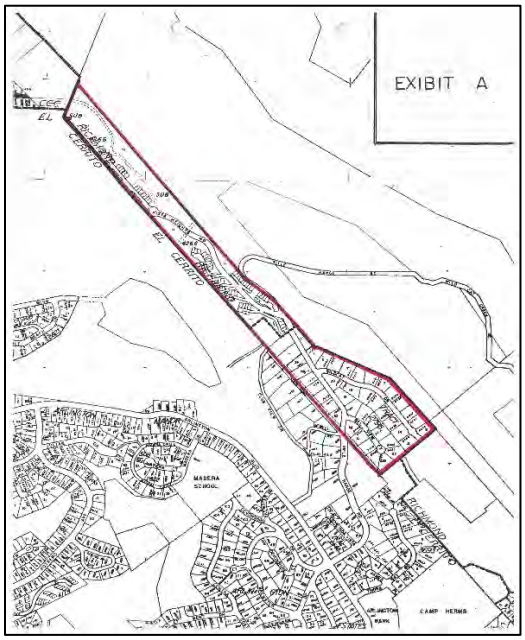
20.2: SSD BOUNDARY & SOI

SSD is an independent district formed in 1913 pursuant to the Sanitary District Act of 1923 (Health & Safety Code §6400 et seq.). The district's boundary area is 5.3 square miles and includes the communities of El Cerrito, Kensington, and the portion of the Richmond Annex west of El Cerrito and south of Potrero Avenue. SSD's profile is shown in Table 20-1. A map of SSD's current boundary and sphere of influence (SOI) is shown in Figure 20-1. Land use within the SSD boundary is described on Page 20-5, and a geographic summary is shown in Table 20-2 below.

Table 20-2: Geographic Summary of SSD Boundary Area	
Name of SSD Community	**Size**
City of El Cerrito	Approx 4.0 sq. mi.
Kensington (unincorporated community)	Approx. 0.9 sq. mi.
Portion of the Richmond Annex west of El Cerrito and south of Potrero Avenue.	Approx. 0.4 sq. mi.
TOTAL	5.3 sq. mi.

SSD also conveys sewage for approximately 101 homes outside SSD's boundaries by contract with the City of Richmond (personal communication, R. Delizo, March 19, 2024). SSD began service to this area in 1982 at the request of the City of Richmond. The sewer system in this area was badly damaged in a landslide, and it was determined that it was in the public interest that SSD serve the area (LAFCO, 2014). A map of this out-of-boundary service is shown in Figure 20-2 below.

Figure 20-2: Out-of-Boundary Service to the City of Richmond area



Sphere of Influence

The Sphere of Influence and the district boundary are coterminous. LAFCO action on 8/13/2008 affirmed the existing SSD boundary and coterminous SOI. LAFCO also reaffirmed the coterminous boundary and SOI as part of its May 14, 2014 MSR/SOI for water and wastewater services.

Land Use Within the SSD Boundary

SSD is an independent district and does not have land-use authority. Land use within the SSD boundary varies depending on City and/or County regulations for the specific community. The service area is comprised of three communities of El Cerrito, Kensington, and the portion of the Richmond Annex west of El Cerrito and south of Potrero Avenue, as shown in Table 20-3.

Table 20-3: Land Use in Three Communities

Name of SSD Community	Land-Use Summary
City of El Cerrito	The City of El Cerrito was incorporated in 1917. El Cerrito is a charter city with five publicly elected City Council members as described on their website at < *https://www.el-cerrito.org/*>. The City provides a full array of municipal services. El Cerrito's General Plan was adopted in 1999. The General Plan Housing Element for 2015-2023 was adopted and certified in 2015. Land uses in the City include a mix of residential, commercial, and open space. There are no agricultural land uses in the City of El Cerrito.
Portion of the Richmond Annex west of El Cerrito and south of Potrero Avenue.	The City of Richmond was incorporated in 1905. Richmond is a charter city with seven publicly elected City Council members as described on their website at < *https://ci.richmond.ca.us/*>. The City provides a wide array of municipal services. Richmond's General Plan 2030 was approved on April 25, 2012. The General Plan Housing Element (6th cycle) was certified by CA HCD on October 2, 2023. The City contains a variety of housing styles. Several retail districts provide commercial services to local residents, including the Hilltop Mall, Downtown Richmond, and the Macdonald 80 Shopping Center. Richmond contains several refineries. The City is known for its waterfront which contains the San Francisco Bay Trail. The City contains a total area of 52.5 square miles. However, SSD serves only a small portion of the City of Richmond (0.4 sq. mi.).
Kensington	The unincorporated community of Kensington is governed by the Contra Costa County General Plan (2010). Contra Costa County has also approved specialized planning documents for the area, including the Kensington Planning Ordinance and the Kensington Accessory Dwelling Units (ADU's) Ordinance. Kensington functions as a suburb comprised predominately of single-family homes. Two

	commercial corridors on Arlington Avenue (at Amherst) and Colusa Circle contain a mix of shops, restaurants, cocktail bars, and coffee shops. Kensington residents have access to several nearby parks. The Kensington Municipal Advisory Council (KMAC) has five Council members who solicit public input and advise the County Board of Supervisors regarding land use and other issues. The Kensington MAC oversees a defined geographic area described on their website at: <*https://www.contracosta.ca.gov/1641/Kensington-Municipal-Advisory-Council* >. Several public agencies provide public services to this unincorporated community, including the Kensington Police Protection and Community Services District, Kensington Fire Protection District, and the West Contra Costa Unified School District. East Bay Municipal Utility District (EBMUD) provides drinking water and wastewater treatment services.

Bay Area Regional Plans

The Bay Area Regional Collaborative includes the Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), San Francisco Bay Conservation and Development Commission (BCDC), and Bay Area Air Quality Management District. This collaborative multi-agency regional committee allows cross-jurisdictional work on projects such as Resilient Bay Area and Carbon Free Future. SSD's boundary/SOI is adjacent to or encompasses a portion of the San Francisco Bay, a sensitive environmental resource. The California state planning and regulatory agency, which has regional authority over San Francisco Bay, the Bay's shoreline band, and the Suisun Marsh, is called the San Francisco Bay Conservation and Development Commission (BCDC). Its mission is to protect and enhance San Francisco Bay and to encourage the Bay's responsible and productive use for this and future generations as described on its website at: <*https://bcdc.ca.gov/* >.

Future Growth

SSD's service area is mostly built out; however, growth may occur through infill and redevelopment. SSD expects future growth within the district to occur only through the San Pablo Avenue Specific Plan Area Development and on the few remaining vacant parcels (SSD, SSMP, 2023a). The San Pablo Avenue Specific Plan allows for new transit-orientated development around the two (2) City of El Cerrito's BART stations. SSD charges an impact fee on newly developed units to upgrade the San Pablo Avenue Specific Plan area sewers. SSD has a replacement plan based on the level of development anticipated by the City of El Cerrito. The priority of the sewer capacity improvements is based on the demand for sewer capacity and the timing of the proposed developments as they are approved and as funding allows (personal communication, R. Delizo, March 19, 2024). Future growth may result in increased demand for the wastewater collection system. However, SSD carefully plans its infrastructure to accommodate any future growth.

20.3: WASTEWATER OPERATIONS

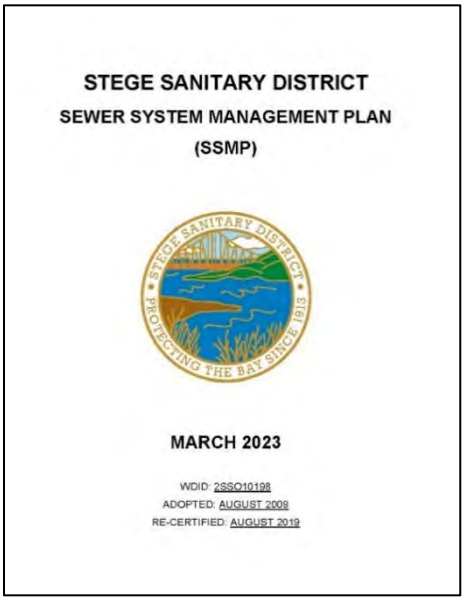
SSD provides wastewater collection services. SSD has approximately 13,123 sewer connections (SSD, 2022). One SSD connection may serve many individual customers. SSD collects sewage and conveys it through 148 miles of sewer main line and two pump stations for treatment. Wastewater is collected and then flows to the Special District #1 Interceptor sewer and the Point Isabel pump station where it is then conveyed to the EBMUD Wastewater Treatment Facility in Oakland for treatment (LAFCO, 2014).

SSD has an older wastewater collection system (LAFCO, 2008). Therefore, to ensure adequate service levels for existing and new customers, SSD has implemented an aggressive sewer main maintenance and replacement program since 2007 and replaced approximately 21 percent of its sewer main pipelines. As part of its responsibilities, SSD regularly accomplishes the following:

- Maintains collection system pipelines
- Issue permits for sewer connections and lateral repair
- Inspect new sewer connections and lateral repair
- Operate sewer pump stations
- Plan for improvements to the collection system
- Oversee cost of operation and capital improvements

SSD is located within the Regional Water Quality Control Board (RWQCB) Region 2 – San Francisco Bay and has Waste Discharger Identification (WDID) # 2SSO10198. The collection system has an Average Dry Weather Flow (ADWF) of 3.0 million gallons per day (MGD) and an Average Wet Weather Flow (AWWF) between 5-6 MGD (LAFCO, 2008). SSD's sewer mains range from 4 to 60 inches, with some segments estimated to be over 80 years old. The Canon lift station services 26 homes, and the Burlingame lift station serves 135 homes and a commercial bottling plant. (LAFCO, 2008).

Sanitary Sewer Management Plan


STEGE SANITARY DISTRICT
SEWER SYSTEM MANAGEMENT PLAN
(SSMP)
MARCH 2023
WDID: 2SSO10198
ADOPTED: AUGUST 2009
RE-CERTIFIED: AUGUST 2019

The Sanitary Sewer Management Plan (SSMP) for SSD, dated March 2023, describes key components and objectives, reflecting the district's commitment to efficient and responsible sewer system management. The SSMP includes several key elements:

- *Introduction and Goals*: It outlines the district's efforts to improve sewer system management, addressing regulatory requirements and setting goals for best practices, SSO reduction, capacity assurance, and compliance with state and federal regulations.
- *Organization*: The SSMP describes the structure and responsibilities of the district's management and staff,

including the District Manager, Senior Civil Engineer, and Maintenance Superintendent.

- *Operation and Maintenance Program*: It details the district's practices for maintaining the sewer system, including preventive operations, inspection activities, and emergency response.
- *Legal Authority*: The SSMP discusses the district's legal authority over the sewer system, covering aspects like ordinance codes, inflow and infiltration (I&I) control, and fats, oils, and grease (FOG) management.
- *Design and Performance Provisions*: The Plan outlines new construction and rehabilitation standards, ensuring compliance with regional and District standards.
- *Spill Emergency Response Plan (SERP)*: The SSMP includes policies and procedures for managing sewer overflows and emergencies, detailing the district's response strategy and reporting policies.

Sanitary Sewer Master Plan

The SSD's Sanitary Sewer Master Plan, dated April 2024, is an eight-page document that outlines a comprehensive approach to maintaining and improving the district's sewer system. It includes protocols for regular inspection of sewer mains using Closed Circuit Television to ensure timely repairs and rehabilitation. The plan prioritizes projects based on the severity of defects and the potential for sanitary sewer overflow (SSO), focusing on areas with the highest contribution to I&I. The Capital Improvement Plan (CIP) forecasts significant investments in system rehabilitation and equipment, complying with the US Environmental Protection Agency (EPA) Consent Decree requirements. Additionally, the Master Plan addresses specific needs for the San Pablo Avenue Specific Plan Area, including capacity improvements funded by impact fees to support anticipated development (SSD, 2024).

Figure 20-3. Google Maps Street View of the Stege Sanitary District

US EPA Consent Decree

The RWQCB made formal complaints regarding water quality problems created by EBMUD's wastewater treatment systems and satellite collection systems, including SSD. The complaint indicated that the wastewater facilities discharged pollutants in violation of their NPDES Permit(s). This complaint resulted in the Final Consent Decree in the matter of the *United States of America et al. v. East Bay Municipal Utility District*[1]*, et.al.* The Consent Decree outlines a series of activities and capital improvements required of EBMUD and the cities of Alameda, Albany, Berkeley, Emeryville, Oakland Piedmont, and SSD. The agencies are required to reduce wet weather sewage flows to the EBMUD Wastewater Treatment Facilities and to eventually eliminate the operation of, and associated discharges from, the EBMUD Wet Weather Treatment Facilities located at Point Isabel in Richmond, San Antonio Creek, and Oakport in Oakland. SSD's SSMP and its Master Plan include projects that allow SSD to remain compliant with the Consent Decree. The US EPA Consent Decree ends Dec 31, 2035.

In the past, there was not enough capacity at WWTP to accommodate heavy amounts of I&I. Rather than increasing the capacity of WWTP, stakeholders negotiated the EPA Consent Decree and began the program to replace pipelines and reduce peak flows. As part of this program, private sewer laterals owned and maintained by local homeowners are being replaced. In September 2005, the district implemented lateral testing requirements upon the sale of property. All laterals found to be defective were required to be repaired or rehabilitated. On October 17, 2011, the district transitioned from implementation of this program into participation in EBMUD's Regional Private Sewer Lateral (PSL) Program. The Regional PSL Program triggers include buying or selling a property, remodeling in excess of $100,000, or changing the size of the water meter. SSD staff currently works with EBMUD to coordinate efforts of the regional PSL program. This regional program was initiated partly due to the EPA Consent Decree and is coordinated on a regional basis by EBMUD in consultation with local wastewater collectors such as SSD (personal communication, R. Delizo, March 19, 2024).

In April 2024, the U.S. EPA issued a fine to SSD for $25,000 as a result of water quality violations under the Consent Decree.

Treatment and Disposal

From the EBMUD WWTP in Oakland, treated effluent is discharged to the San Francisco Bay. According to the EBMUD website, dried biosolids are disposed of through land application on farms, feedstock for compost, or serve as daily cover at landfills (EBMUD, n.d.).

Local Hazards

The Contra Costa County Hazard Mitigation Plan Volume 2, dated January 2018, maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards (Contra Costa

[1] The Consent Decree was issued on September 22, 2014, by the U.S. District Court, Northern District of California, approved for the Consolidated Case Nos. C09-00186-RS and C09-05684-RS, DOJ Case No. 90-5-1-1-09361/2.

County, 2018). SSD did not participate in the county-wide Hazard Mitigation Plan. It is recommended that SSD contact the Emergency Services Manager at the Contra Costa County Office of Emergency Services and formally request that SSD be invited to participate in the next update to the Hazard Mitigation Plan. Alternatively, SSD could prepare detailed spatial mapping of the district's wastewater infrastructure in relation to the identified hazards, and this should be conducted prior to LAFCO's next update to the Wastewater Services MSR/SOI.

In its 2023 SSMP, the SSD notes the following:

> A significant challenge for the District is ground movement caused by several active earthquake faults, including the Hayward Fault that essentially bisects the District. Frequent seismic movement and periodic earthquakes can crack pipes and loosen joints, particularly with clay pipe. In a severe earthquake, major pipelines can be sheared and/or severely offset. There is also a significant, well-known active slide area in the District known as the Blakemont Slide. There is continuous land movement in this region that impacts all utilities including District main sewer lines (SSD, SSMP, 2023a).

Sanitary Sewer Overflow Database

The State Water Board maintains a Sanitary Sewer Overflows (SSO) database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. WQ 2022-0103-DWQ (SSS WDRs), on December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. A 3.6-year term from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. The results of the database queries regarding SSD are listed below in Table 20-4 (next page).

During this 3.6-year timeframe, there were 31 SSO events in the SSD boundary area. All the SSOs had failure points at the gravity mainline. The majority of the overflows were relatively small. The largest spill in the query had a volume of 14,000 gallons and took place on October 24, 2021. This spill occurred due to a rainfall event exceeding design capacity, and none of the spill material was recovered. All the spill material reached surface water. Another significant spill occurred on January 16, 2019, with a volume of 4,250 gallons. This spill occurred due to heavy rains and grease blockage. None of the spill material was recovered, and all the material reached surface water. In the next MSR, LAFCO should re-assess this metric.

Sometimes, SSO events are related to stormwater events, which result in I&I issues. SSD coordinates with local storm drain providers to address this issue. For example, Contra Costa Flood Control and Water Conservation District (CCFCWCD) provides stormwater service to the

Table 20-4: Stege Sanitary District Sanitary Sewer Overflows

EVENT ID	Region	Responsible Agency	SSO Category	WDID	Start Date	SSO Vol	Vol of SSO Recovered	Vol SSO Reached Surface Water	SSO Failure Point
882782	2	SSD	Category 3	2SSO10198	8/8/2022	15	10	0	Gravity Mainline
881673	2	SSD	Category 3	2SSO10198	6/8/2022	80	80	0	Gravity Mainline
881345	2	SSD	Category 3	2SSO10198	5/7/2022	1	1	0	Gravity Mainline
880443	2	SSD	Category 2	2SSO10198	3/19/2022	3,433	0	0	Gravity Mainline
879429	2	SSD	Category 3	2SSO10198	2/3/2022	23	23	0	Gravity Mainline
879201	2	SSD	Category 3	2SSO10198	1/29/2022	15	0	0	Gravity Mainline
878899	2	SSD	Category 3	2SSO10198	1/17/2022	25	0	0	Gravity Mainline
878695	2	SSD	Category 3	2SSO10198	12/29/2021	205	140	0	Gravity Mainline
877335	2	SSD	Category 3	2SSO10198	10/20/2021	5	0	0	Gravity Mainline
877077	2	SSD	Category 3	2SSO10198	10/24/2021	5	0	0	Gravity Mainline
877076	2	SSD	Category 1	2SSO10198	10/24/2021	14,000	0	14,000	Gravity Mainline
876614	2	SSD	Category 3	2SSO10198	9/8/2021	10	0	0	Gravity Mainline
876448	2	SSD	Category 3	2SSO10198	9/11/2021	25	0	0	Gravity Mainline
876229	2	SSD	Category 3	2SSO10198	9/1/2021	52	52	0	Gravity Mainline
871389	2	SSD	Category 3	2SSO10198	12/22/2020	6	6	0	Gravity Mainline

870960	2	SSD	Category 3	2SSO10198	12/13/2020	36	36	0	Gravity Mainline
867951	2	SSD	Category 1	2SSO10198	6/25/2020	117	12	105	Gravity Mainline
866282	2	SSD	Category 3	2SSO10198	4/17/2020	151	26	0	Gravity Mainline
865842	2	SSD	Category 3	2SSO10198	3/23/2020	5	5	0	Gravity Mainline
864412	2	SSD	Category 3	2SSO10198	1/23/2020	10	10	0	Gravity Mainline
863960	2	SSD	Category 3	2SSO10198	12/27/2019	42	42	0	Gravity Mainline
863254	2	SSD	Category 2	2SSO10198	11/30/2019	1,512	0	0	Gravity Mainline
862940	2	SSD	Category 3	2SSO10198	11/9/2019	154	40	0	Gravity Mainline
861065	2	SSD	Category 3	2SSO10198	9/1/2019	1	1	0	Gravity Mainline
860587	2	SSD	Category 3	2SSO10198	8/2/2019	562	0	0	Gravity Mainline
860559	2	SSD	Category 3	2SSO10198	8/16/2019	10	10	0	Gravity Mainline
858035	2	SSD	Category 3	2SSO10198	4/30/2019	25	0	0	Gravity Mainline
856117	2	SSD	Category 1	2SSO10198	2/13/2019	2,600	0	2,600	Gravity Mainline
856113	2	SSD	Category 1	2SSO10198	2/13/2019	2,400	0	2,400	Gravity Mainline
855913	2	SSD	Category 2	2SSO10198	2/2/2019	1,000	0	0	Gravity Mainline
855410	2	SSD	Category 1	2SSO10198	1/16/2019	4,250	0	4,250	Gravity Mainline

Data Source: CA Environmental Protection Agency. State Water Resources Control Board. California Integrated Water Quality System (CIWQS) Sanitary Sewer Overflow Database. Retrieved January 2023 from <*https://ciwqs.waterboards.ca.gov/ciwqs/readOnly/PublicReportSSOServlet?reportAction=criteria&reportId=sso_main* >.

unincorporated areas such as Kensington. The City of El Cerrito has its own storm drain system, which City staff maintains. The City of Richmond also has its own storm drains. SSD's sewer lines are not connected to storm drains. However, private sewer laterals in the area may contribute to I&I issues. EBMUD coordinates a regional approach to address private sewer laterals, consistent with the US EPA Consent Decree previously described.

From July to October 2022, San Francisco Bay experienced a harmful algal bloom (HAB) known as a red tide, as described in Appendix F. The species associated with this bloom, Heterosigma akashiwo, can cause water to turn reddish-brown. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay and into San Pablo Bay. Fish deaths linked to the red tide were reported to include sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San Francisco Bay Water Board is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other agencies to study the potential impacts of nutrients on San Francisco Bay. SSD has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater districts and the Water Board.

Infrastructure Needs

Existing Infrastructure: The district maintains various equipment, vehicles[2], infrastructure, and associated assets. SSD has an aged sewer collection system (LAFCO, 2014). Prior to 2014, SSD implemented several key capital projects, including the construction of a new administration and operations building, the purchase of a new hydro-vactor, and design planning for a pump station rehabilitation project (LAFCO, 2014). SSD reports that as of July of 2013, it had replaced 165,000 feet of sewer main lines, which was 21 percent of the total system. More recently, the district's CIP totals approximately $35 million in expenditures for FY 2020 to FY 2029 (SSD, 2023a). The CIP is organized to fund system rehabilitation, capital equipment, and other capital (SSD,2023).–As a result of agreements with regional agencies and good operations practices, SSD began a sewer main replacement program resulting in many sewer main replacements. The Sewer System Master Plan was also updated and adopted in 2022.

Future Challenges

Factors influencing the district's ability to collect, treat, and dispose of wastewater and provide public service to customers were considered. District staff indicates that factors such as the economy, inflation, increasing construction costs, increasing health care costs, traffic, drought, sea

[2] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the district, it is likely that sometime in the future, the district may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

level rise, and many other factors affect their ability to serve customers (SSD, 2022).

Wastewater service providers in the Bay Area face several future challenges, including anticipated Nutrient Management Regulations. The RWQCB is expected to implement interim SF Bay-wide and individual WWTP effluent limits. To protect water quality and local fish, this may include aggressive, long-term SF Bay-wide nutrient limits based on current scientific information with a multi-year compliance schedule.

The American Society of Civil Engineers, Region 9 has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

1. Implement an education program at the state and local level about what a wastewater treatment plant is, what kind of waste it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water reuse/recycling (ASOCE, 2019)

Cooperative Programs

SSD works closely with EBMUD, which provides sewage treatment directly and is also the drinking water provider for the area. SSD and EBMUD share information. For example, EBMUD provides annual water data to SSD for use in calculating commercial charges, which have rates based on water usage (i.e., per gallon for commercial) (personal communication, R. Delizo, March 19, 2024).

SSD is also a member of the Collection System Technical Advisory Committee (CSTAC) Joint Powers Authority (JPA) to coordinate studies, reports and projects, jointly fund efforts related to the regional system for wastewater collection, transmission, and treatment, and facilitate the efficient flow of information among the agencies and the filing of joint reports to appropriate recipients. This JPA was formed in 2019 and includes six agencies within EBMUD's Special District #1 (Alameda, Albany, Berkeley, Emeryville, Piedmont, SSD, and EBMUD).

SSD currently provides conveyance service to 101 homes outside its current boundaries by contract with the City of Richmond 101 (personal communication, R. Delizo, March 19, 2024). LAFCO's 2014 MSR noted that due to various engineering and liability issues, SSD has no plans to pursue annexation of this area in the future (LAFCO, 2014).

SSD participates in several cooperative programs to operate effectively and educate customers on properly using the sewer system (LAFCO, 2014). Through these efforts, sewer spills are a relative minimum in number and volume (less than 15,000 gallons) (CIWQS, 2023). Additionally, SSD participates in an innovative program to increase efficiency and further reduce sewer spills known as the "Private Sewer Lateral (PSL) Replacement Loan Program." This program is designed to encourage property owners to protect and preserve the environment by offering a no-interest

deferred payment loan of up to $10,000 to replace PSLs. The program is available to all property owners within the SSD boundary that have not triggered EBMUD's concurrent Regional PSL Program requirements.

SSD has been recognized by its peers and associations for its excellence in service delivery. These awards demonstrate SSD's good governance practices and operations as follows:

- District of Distinction: The SSD is currently accredited as a *District of Distinction* through the Special District Leadership Foundation (SDLF). The *District of Distinction* accreditation is one of the most prestigious local government awards in the state of California and clearly validates the district's commitment to good governance, andto ethical and sound operating practices. SSD has been re-accredited as a *District of Distinction* since 2009.

- Transparency Certificate of Excellence: The SSD is a current holder of the SDLF *District Transparency Certificate of Excellence*. The certificate, covering three main subject areas, including basic transparency, website access, and outreach activities, highlights the core components necessary to engage and make information available to the public. The certificate demonstrates the district's commitment to engaging the public and creating greater awareness of District activities. The district has been a holder of this certificate since 2013.

- Recognition in Special District Governance: District Manager Rex Delizo is a recipient of the SDLF *Recognition in Special District Governance*. This recognition demonstrates to constituents and colleagues the extent of their commitment and dedication to providing the best possible service to the communities they serve by acknowledging that they have taken the time and made the effort to get core governance training and continuing education.

- California Sanitation Risk Management Authority (CSRMA) 2020/21 Workers' Compensation Excellence Award: The SSD has been awarded the California Sanitation Risk Management Authority (CSRMA) 2020/21 Workers' Compensation Excellence Award. This award recognizes Districts within the CSRMA Pooled Workers' Compensation Program that have successfully implemented soft tissue/ strain related injury prevention efforts, such as a job hazard analysis to evaluate the top ten tasks/equipment that have the highest risk of injury if operated/performed incorrectly. This is the third time the district has received this award.

- Collection System of the Year Award: The SSD has been honored with the California Water Environment Association (CWEA) San Francisco Bay Section 2020 Collection System of the Year Award, Small System Category (0-249 Miles). The CWEA award is designed to honor exceptional wastewater agencies based on excellent regulatory compliance, administrative procedures, maintenance programs, safety programs, training programs, emergency procedures, and significant accomplishments over the past year.

- National Environmental Achievement Award: The SSD is part of a collective that was honored with the National Association of Clean Water Agencies (NACWA) 2020 National Environmental Achievement Award (NEAA), Operations & Environmental Performance Category, for the "East Bay Wet Weather Collaboration to Significantly Reduce Infiltration and Inflow". The NACWA NEAA recognizes an innovative and effective project, system, or method relating to wastewater treatment plant or collection system operations developed and successfully implemented in a cost-effective manner while achieving environmental compliance objectives. EBMUD and the seven satellite collection system agencies of Albany, Alameda, Berkeley, Emeryville, Oakland, Piedmont, and the Stege Sanitary District, under a collaboratively negotiated Consent Decree with the U.S. Environmental Protection Agency, use an asset management based approach to reduce infiltration and inflow at the source, rather than designing, constructing, and operating costly new storage and/or treatment facilities. The approach includes identifying and eliminating major sources of Infiltration and Inflow, rehabilitating main sewer lines, and implementing a Regional Private Sewer Lateral (PSL) program that requires property owners to demonstrate that their PSLs are leak-free.

- Exceptional Public Outreach & Advocacy Award: At the 50th Anniversary Annual Conference of the California Special Districts Association (CSDA) held in September 2019, the district received the CSDA Exceptional Public Outreach & Advocacy Award (Small District Category) for its 10-year partnership with KIDS for the BAY inspiring new generations of environmentalists with an increased awareness of watershed stewardship.

Cost Avoidance Opportunities

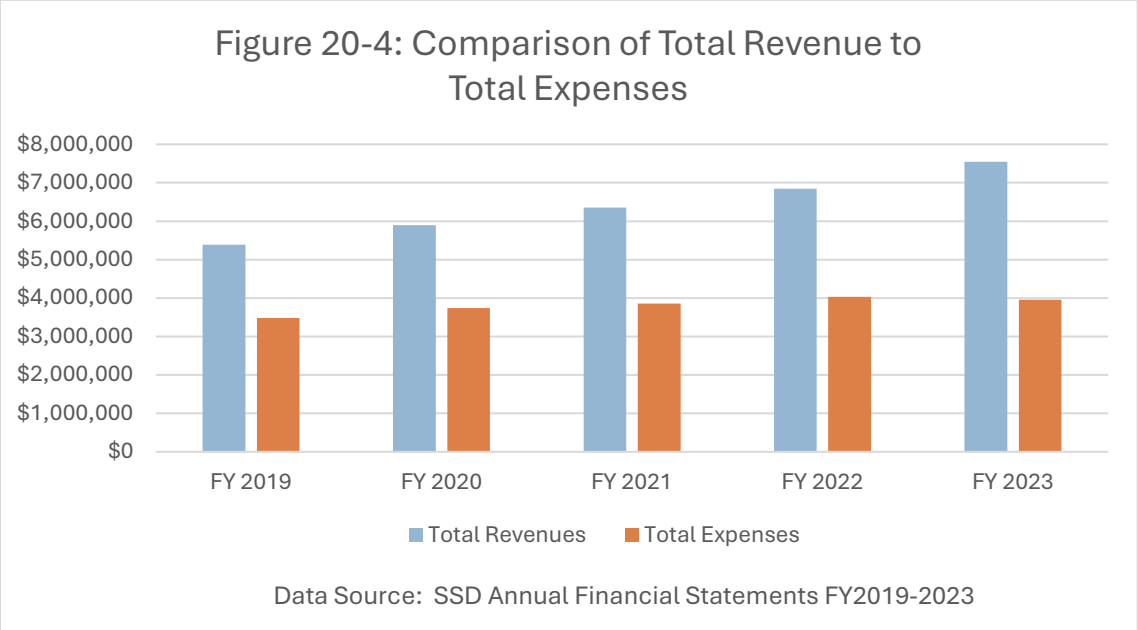
SSD participates in several regional programs including those with EBMUD and local cities that help to reduce costs. Joint maintenance programs and training reduce repair costs and liability claims (LAFCO, 2014).

20.4: FINANCIAL OVERVIEW

SSD's Annual Budget and Certified Annual Financial Reports are the primary information sources for this analysis. These reports are posted on the district's website at: <*https://www.stegesan.org/audits*>. The financial analysis below represents a snapshot of time. However, SSD regularly updates its financial data, and readers may review the new data on SSD's website. SSD operates as an enterprise-type activity, with its primary revenue source being service charges and fees. Overall, SSD's financial status is stable as operations expenditures are currently fully met by revenues received. Five primary areas of criteria were utilized to assess the present and future financial condition of SSD's wastewater service operations, as discussed below.

3 Year Revenue/Expenditure Trends

SSD reported *operating* revenues of $6,793,749 for FY 2023, with the majority coming from sewer service charges. *Non-operating* revenues, including property tax collections and investment income, amounted to $752,718. Overall, the district had total revenues of $7,546,467 for FY 2023, representing a 10.22% increase compared to the previous fiscal year (SSD, 2023b). Total revenues exceeded total expenses in each of the five study years, as shown in Figure 20-4 below.



Sufficient revenue was collected to support operational and maintenance expenditures. Rate increases have been implemented over the last several years to ensure revenues are sufficient to meet operational and capital projectexpenditures.

Annual Budget: Table 20-5 summarizes the 2023-2024 annual budget for the district, including revenue and expenses for the upcoming year. The budget includes details on fund balances, operating expenses, and future costs. The document shows increases in operating and capital expenses and specific categories such as salaries and wages, employee benefits, and contracted repairs. The budget projection for FY 2023/24 indicates that expenses may exceed revenues, as shown in Table 20-5 below. If the projected budget deficit materializes, the deficit will be covered by transfers from the Working Capital and Reserve Fund.

Table 20-5: Budget Projection for FY 2023/24

DRAFT Fiscal Year 2023-2024 Budget

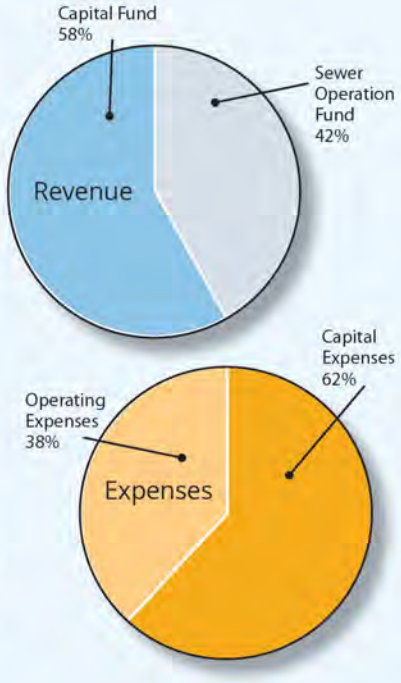
REVENUE

Sewer Operation Fund	
Non Operating Income:	
Interest	15,000
Miscellaneous	21,000
Operating Income:	
Permit & Inspection Fees	12,000
Sewer Service Charges	3,443,000
Contracted Services	33,000
Subtotal	**3,524,000**
Capital Fund	
Non-Operating Income:	
Interest	5,000
Operating Income:	
Property Tax	500,000
Capital Service Charges	4,290,000
Connection Fees	50,000
San Pablo Ave. Impact Fee	50,000
Subtotal	**4,895,000**
TOTAL REVENUE	**8,419,000**

The District adheres to an investment policy for reserve funds that complies with state statutes and stipulates safety, liquidity, and yields as the order of investment objectives. All currently invested funds are with the State Local Agency Investment Fund (LAIF).

EXPENSES

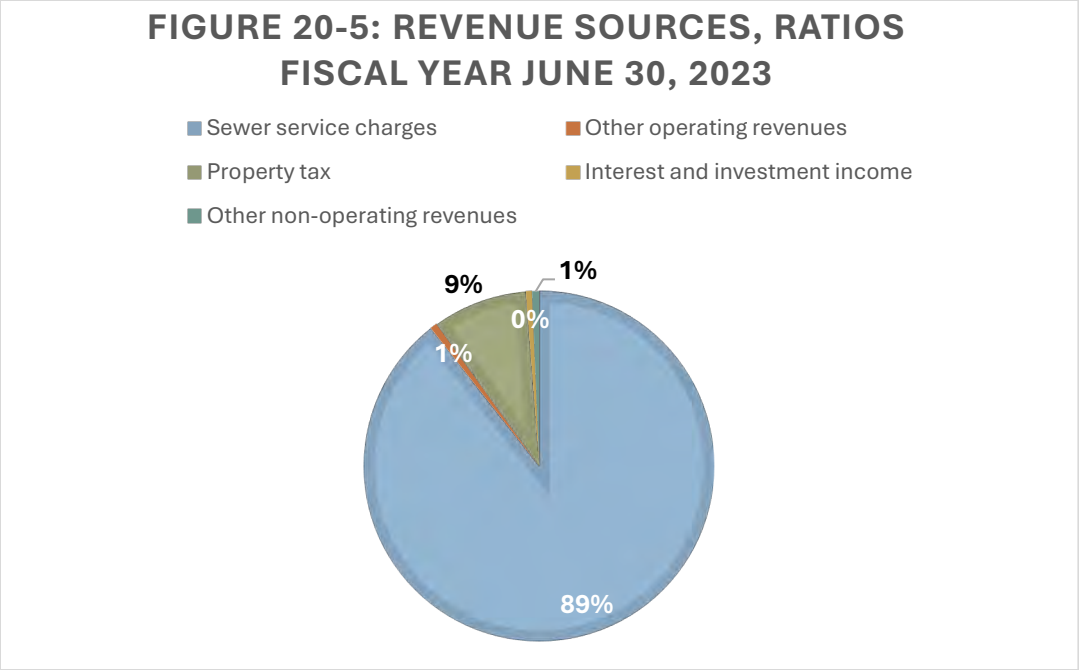
Operating Expenses:	
Maintenance/Engineering	2,300,897
Pump Stations	40,020
Contracted Repairs	72,000
General & Administration	1,057,744
Subtotal Operating Expenses	**3,470,661**
Capital Expenses	
Capital Equipment	785,000
Debt Repayment -SRF Loan	43,900
Sewer Rehabilitation	4,884,400
Subtotal Capital Expenses	**5,713,300**
Other Expenses	
Transfer from Capital Fund	-
Retiree Medical Fund	-
TOTAL EXPENSES	**9,183,961**
Transfer to/(from) Reserves	
Revenue	8,419,000
Expenses	9,183,961
Subtotal	**(764,961)**
TRANSFER TO/(FROM) RESERVES	**(764,961)**



Data Source for Table 20-5: SSD, Summer 2023 Newsletter, The Endeavor, Retrieved from <*https://www.stegesan.org/endeavor-newsletter* >.

Ratios of Revenue Sources

SSD receives most of its revenue from sewer service charges, which totaled $6,744,927 (89 percent) in FY 2022-23. The remaining revenue sources for FY 2022-23 include other operating revenues at $48,822 (one percent); property tax at $660,347 (nine percent); interest and investment income at $43,016 (zero percent); and other non-operating revenues at $49,355 (one percent) of the total (SSD, 2023b). The sources and ratio of total revenue are summarized in Figure 20-5 below. Since SSD receives a small portion of its revenue from property tax, any impact on this revenue due to future economic downturns would have an insignificant impact on SSD.



Data Source for Figure 20-5: SSD, 2023

Ratio of Reserves or Fund Balance to Annual Expenditures

In June 2010, SSD's reserve[3] policy was modified as part of its rate planning process, and targets were established for two funds: the Operating Fund and the Capital Fund (LAFCO, 2014). SSD's Working Capital and Reserve Fund Policy was most recently updated in June 2022 and is available on the district's website.

An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures. SSD's *Audited Financial Statement* defines cash and cash equivalents as including amounts in demand deposits as well as short-term investments with original maturities of three months or less. Included therein are cash on hand, demand deposits with financial institutions, and the State of California Local Agency Investment Fund (LAIF). For purposes of this MSR analysis, the cash and cash equivalents balance will be referred to as the "Fund Balance." The district's cash and cash equivalents are composed of deposits and short-term investments. Cash and investments totaled approximately $11,975,925 in June 2023, as shown in Table 20-6. The Ratio of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund

[3] LAFCO's 2014 MSR noted that "The reserve target for the Capital Fund is $1,500,000 which allows SSD to have $1,000,000 available for emergency capital costs and $500,000 for other capital costs. For the Operating Fund, SSD maintains a reserve target consisting of 60 percent of annual O&M costs. For FY 13/14, the reserve target for the Operating Fund was $1,437,319 and the total reserve target for both the Operating and the Capital Fund is $2,937,319. As of July 1, 2013, cash on hand was $2,837,092 which equates to 97 percent of the total reserve target" (LAFCO, 2014).

expenditures is approximately 3.0 for SSD as of June 30, 2023, which calculates to 300 percent. This represents a solid ratio for positive fiscal health.

Table 20-6: Cash, Cash Equivalents, and Investments as of June 30, 2023

Cash and Investments	Carrying Amount	Fair Value
Cash on hand and in banks	$ 621,388	$ 621,388
Investment in LAIF	10,854,537	10,854,537
Money Market Accounts	500,000	501,014
Total Cash and Investments	$ 11,975,925	$ 11,976,939

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. SSD has several types of debt related to wastewater services, as listed in Table 20-7. Long-term liabilities totaled 3,015,219 as of June 30, 2023. The annual debt service expenditure is $196,272.

Table 20-7: SSD Long-Term Liabilities as of June 30, 2023

Long-term Liabilities	Balance July 01, 2022	Additions	Deductions	Balance June 30, 2023	Due Within One Year
Direct Borrowings:					
SRF Loan C-06-4665-210	$ 165,695	$ -	$ 39,962	$ 125,733	$ 40,921
Net OPEB Liability	292,464	139,070	125,104	306,430	-
Net Pension Liability	989,167	1,602,897	475,062	2,117,002	-
Compensated Absences	440,089	166,836	140,871	466,054	155,351
Total Long-term Liabilities	**$ 1,887,415**	**$ 1,908,803**	**$ 780,999**	**$ 3,015,219**	**$ 196,272**

Data Source: SSD, Financial Statements And Independent Auditor's Report, June 30, 2023

Total expenditures in FY 2022/23 were $3,960,770 (SSD, 2023b). The ratio of annual debt service to total fund annual expenditures is an indicator of SSD's ability to meet debt obligations in relation to service provision expenditures. Ideally, a ratio of 10 percent or less would reflect a very stable ratio. SSD's annual debt service ratio ($196,272) to total expenditures ($3,960,770) is approximately five percent, a very good ratio.

Capital Improvement Program

Existing Infrastructure Improvements: SSD recently completed several capital improvement projects[4] , as listed below.

[4] LAFCO's 2014 MSR on Wastewater Services noted that a new administration building was built in 2010, and

- *Pipes in Canon Drive*: In 2021, the district replaced an 80-year-old pipe along Canon Drive with two pressurized sewer pipes. The project was completed ahead of schedule and under budget.
- *San Pablo Avenue Improvement Plan*: The first stage of sewer upgrades to San Pablo Avenue was recently completed in 2021. A special impact fee to pay for required sewer upgrades in the improvement area is assessed to the area developers. Existing District ratepayers did not see any increase in their sewer charges because of this work.
- *Standard Sewer Rehabilitation*: The district has an ongoing program to replace aging clay pipes (some of which are 100 years old) with High-Density Polyethylene (HDPE) pipes. The new HDPE pipes are better able to withstand earth movement and repel tree root intrusions. More than 12,000 feet of pipe is replaced each year.

Proposed Improvements:

- *CANON PUMP STATION REHABILITATION PROJECT*: The district is drawing up plans to rehabilitate the pump station on Canon Drive, which was built in 1962 and has undergone only minor updates since then. The pump station now needs significant upgrades to bring it up to modern safety and reliability standards. Construction is slated to begin in 2024. The project consists of converting the existing dry pit/wet well sanitary sewer pump station to a wet well pump station with new submersible pumps (provide spare 3rd pump), including a control panel, shade structure, and electrical work. The construction contractor will bypass sanitary sewer flows without interruption during construction. Existing redwood trees will be removed. Additionally, new underground conduits will be constructed. A PG&E power pole will be removed. The project site will transition power to a new electrical service. Site surfacing work includes new concrete paving work and fencing. The cost of this project may exceed $ 1 million.
- SSD's FY 2023/24 budget indicates that the FY 2023-24 Capital Expenses total $5,713,300. Construction costs total $4,884,400 (85.5%), which includes $3,473,000 for the annual sewer rehabilitation project, $324,400 for the Private Sewer Lateral Replacement Loan Program (funding limited to property tax revenue), $50,000 for interceptor cleaning, $25,000 for maintenance hole adjustments, and $10,000 for capital work on the administration building (funded by the Building Reserve Fund). The capital equipment expenses total $785,000 (13.7%).

The SSD's Sanitary Sewer Master Plan, dated March 2023, detailed on page 20-10, describes the CIP. The district's CIP totals ~$39 million in expenditures over the course of FY 2020 to FY 2029 (SSD, 2024). The plan is organized into three funding groups:

- System Rehabilitation: complies with the USEPA Consent Decree and includes the annual pipe-bursting project;

a new hydro-vactor was purchased in 2013. In FY 13/14, $220,000 was allocated to a pump station rehabilitation project which has since been completed (LAFCO, 2014).

- Capital Equipment: includes smaller value capital items, including flow meters, vehicle replacement, maintenance hole covers; and
- Other Capital: includes administration building repairs, pump station rehabilitation, and interceptor cleaning.

A summary of the ten-year financial plan for the Capital Improvements Plan and Contracted Repairs is listed in Table 20-8 below.

Table 20-8: Ten-Year CIP Budget

FISCAL YEAR	CAPITAL IMPROVEMENTS PLAN (CIP) BUDGET	CONTRACTED REPAIRS BUDGET
2019-20	$2,689,000	$64,000
2020-21	$2,867,000	$66,000
2021-22	$3,057,000	$68,000
2022-23	$3,259,000	$70,000
2023-24	$3,473,000	$72,000
2024-25	$3,593,000	$74,000
2025-26	$3,719,000	$76,000
2026-27	$3,850,000	$79,000
2027-28	$3,943,000	$81,000
2028-29	$4,122,000	$83,000

Data Source for Table 20-8: SSD Master Plan, 2024

Capital expenditures are generally determined annually and funded from revenues and reserve fund balance.

Rate Structure

LAFCO's 2014 MSR noted that SSD had a flat rate structure for residential single-family home customers. Since most of SSD's costs, including equipment, sewer repairs/replacements, and salaries/benefits, are fixed and not based on the amount of actual wastewater flow or water usage, SSD does not anticipate changing the flat rate structure for residential sewer service (LAFCO, 2014). Sewer Service Charges are established to cover the cost of the operation, maintenance, and capital improvements to the sanitary sewer system. SSD is only responsible for the collection of sanitary sewer flows, and the SSD Sewer Service Charge reflects this. SSD collects sanitary sewer flows from its service area and delivers it to EBMUD for wastewater treatment. EBMUD charges a separate fee for wastewater treatment, in addition to the SSD Sewer Service Charge.

SSD's service rate structure reflects fixed rate fees for its residential customers. The current residential rates are as follows:

- Single-Family Residence: FY 2023-2024: $429/year
- Multi-Family Residence: FY 2023-2024: $297/year

Commercial rates are a fixed rate fee applied to annual water consumption. The current (FY 2023-2024) annual commercial fee is $9.02 per each 1,000 gallons of water consumption. SSD raised fees each year for the last several years.

SSD's sewer service charges cover the cost of operating and maintaining the sanitary sewer collection system. SSD collects and delivers sanitary wastewater to EBMUD for treatment. EBMUD charges a separate fee for wastewater treatment. Sewer service charges are collected through the annual property tax bills issued by the County. The County's bill includes the line item "STEGE SEWER CHG" that are the fees assessed to a property by SSD.

Sewer Rate Study

A Sewer Rate Study was completed by Lechowicz & Tseng Municipal Consultants in 2019, and the SSD Board considered this study during a public meeting on June 27, 2019. Based on this Sewer Rate Study, the Board adopted Ordinance No. 2121-0619. This Sewer Rate Study was updated in 2024 and was considered during the Board's January 18, 2024 meeting. The rate updates are in progress.

20.5: POPULATION

There were approximately 38,270 residents within the district boundaries as of 2020 per the Contra Costa Conservation Department[5], as listed in Table 20-9 below. Of the 38,270 residents within the district boundaries, it is estimated that 100 percent receive wastewater services from SSD. Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

[5] In 2022, Stege Sanitary District estimated their population at 35,000 persons (SSD, 2022b).

Table 20-9: Existing Permanent Population, Stege Sanitary District, 2020			
Name of District	**Population in Boundary(1)**	**Number of Registered Voters in Boundary(2)**	**Population in SOI only(3)**
SSD	38,270	23,917 as of June 12, 2019	N/A
Sources: (1) Contra Costa Conservation Department. (2). Registered Voter data provided by Contra Costa LAFCO Directory through the County Elections Office. (3) The Sphere of Influence and the district boundary are coterminous and have the same population.			

This population is split among three geographic areas, as shown in Table 20-10 below.

Table 20-10: Population Summary of SSD Boundary Area	
Name of SSD Community	**Population Size (2020)**
City of El Cerrito [1]	25,484
Kensington (CDP)[2]	5,428
Portion of the Richmond Annex west of El Cerrito and south of Potrero Avenue.	7,358
TOTAL[3]	38,270
Data Source: [1]CA Dept of Finance, Demographic Research Unit, Report E-1 & E-1H, Population and Housing Estimates for Cities, Counties, and the State for January 1, 2022 and 2023 [2]U. S. Census Quick Facts at: *https://www.census.gov/quickfacts* [3]Contra Costa LAFCO based on data from Contra Costa County Department of Conservation.	

Land use is indirectly related to population. SSD's service area is largely built out, with growth limited to a few remaining vacant parcels and revitalization/intensification of existing commercial areas (LAFCO, 2014).

Projected Future Population: Projecting a district's future population is complicated due to varying annexation rates and census tracts that do not match District boundaries. Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County, as shown in Table 20-11 below. The anticipated future population growth of the district has the potential to influence the demand for the provision of wastewater services - see the projections in Table 20-11 below.

Table 20-11: Total Estimated & Projected Population (2022 – 2045)

	2020	2025	2030	2035	2040	2045	Percent Increase 2022 to 2045	Numeric Increase 2022 to 2045	CAGR 2022 to 2045
Contra Costa County[1]	1,156,555	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.1%	174,876	0.61%
Stege Sanitary District [2,3,4]	38,270	39,632	41,182	42,490	43,445	44070	15.15%	5,800	0.57%

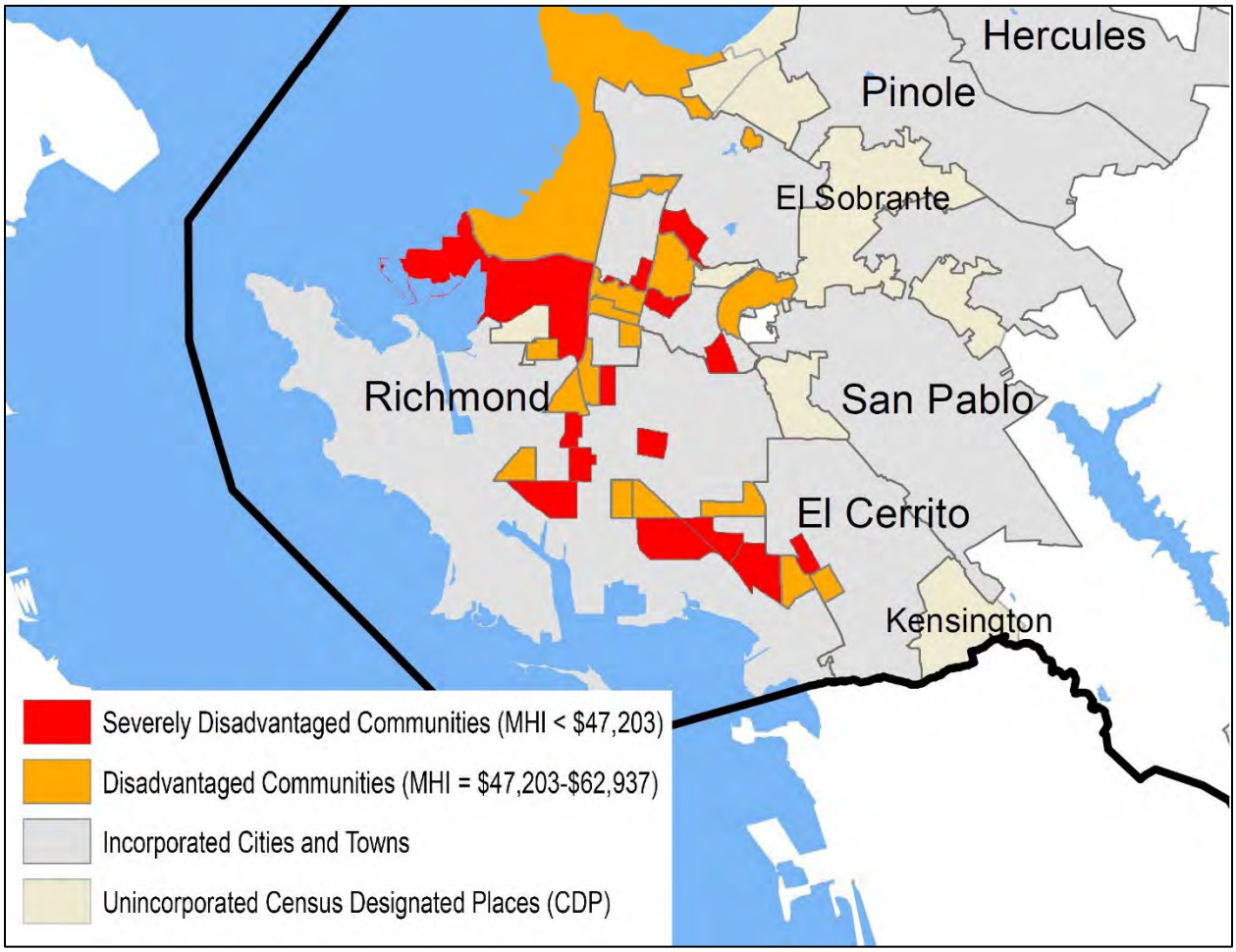
Sources:
1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.
2: California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State: January 1, 2021, and 2022. Sacramento, California. https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/.
3: SSD. (2023a). Sewer System Management Plan (SSMP). 38-pages. Retrieved on March 2024, from <https://www.stegesan.org/ >.
4: Population projection for SSD calculated as 3.31 percent of the County of Contra Costa population.

20.6: DISADVANTAGED COMMUNITIES

Identifying disadvantaged unincorporated communities (DUCs) allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in some disadvantaged communities. Data from the 2020 U.S. Census was queried as part of this MSR Update. Data query results showed no disadvantaged unincorporated communities (DUCs) within the district's boundary or SOI.

SSD's boundaries include the City of El Cerrito, a portion of the City of Richmond, and the unincorporated community of Kensington. El Cerrito and Richmond areas contain disadvantaged communities within their boundary, as shown in Figure 20-6 below.

Figure 20-6: Disadvantaged Communities within the SSD



Readers can learn more about disadvantaged communities within the SSD and Contra Costa County through the U.S. Department of Health and Human Services database of socioeconomic and health indicators in disadvantaged communities called the Environmental Justice Explorer Database. This database can be queried at <*https://onemap.cdc.gov/portal/apps/sites/#/eji-explorer*>. Query

results indicate that disadvantaged communities near the El Cerrito area may experience hardships, including:

- Potentially Hazardous & Toxic Sites such as National Priority List Sites, Toxic Release Inventory Sites, and Risk Management Plan Sites
- Housing Built Pre-1980
- Transportation infrastructure that emits air pollution, such as High-Volume Roads (I-80) and Railways
- Households where English is spoken "Less than Well"
- Air pollution from diesel particulate matter
- Low-income households that experience poverty, no high school diploma, unemployment, housing tenure, and housing (rent) burdened

20.7: GOVERNMENT STRUCTURE ALTERNATIVES

SSD provides wastewater collection services to an urban area. SSD employs a professional staff of ten employees (five employees in the office and five in the field). The average longevity of employees is over 15 years, allowing SSD to retain institutional knowledge of its service area. SSD publishes an annual performance report prepared by management for use by the district's Board of Directors to help evaluate the value of the service being delivered to SSD customers as posted on its website at: <*https://www.stegesan.org/performance-report#body_file-79e47002-fc7e-4929-9a45-d16416816d27*>.

SSD may face several future issues, including an aging wastewater collection system and increasingly stringent water quality standards. The district has planned for these service needs through its CIP and rate structure. However, there will be a continued need for cost-effective wastewater services within the SSD boundary area. LAFCO's 2014 MSR identified two government structure options for SSD, and LAFCO's 2008 MSR identified one government structure option. These three options are described in the following paragraphs.

Maintain the status quo

SSD is currently providing adequate wastewater collection services for residences and businesses within its boundaries (LAFCO, 2014). SSD is rehabilitating its collection system and has planned for future capital needs. Since 2008, funding for system rehabilitation projects has increased. In addition, SSD's financial situation is stable, with a healthy reserve fund balance that provides a good capability to absorb short-term impacts. It is recommended that LAFCO retain SSD's existing boundary and SOI.

Annex the area being served outside the SSD boundaries

SSD currently provides conveyance service to 101 homes outside its current boundaries by contract with the City of Richmond. Located along the base of the San Pablo Ridge, these parcels are located

along the northeast boundary of SSD and the City of El Cerrito and are accessed via Rifle Range Road. This area is prone to landslide activity. The City of Richmond constructed a costly conveyance system using three lift stations and approximately four miles of sewer mains to provide service to this area. In 1982, a landslide severed the service mains providing service to this area. At that time, it was determined that emergency service in the area could best be provided by SSD. Due to various engineering and liability issues associated with the annexation of these parcels to SSD (which are outside the scope of this MSR), SSD has stated that there are no plans to annex this area in the near future (LAFCO, 2014). MSR Authors queried SSD staff about whether there are any anticipated changes to the district SOI and/or service boundary in the next five years. District staff reported no anticipated changes to the district's SOI and/or service boundary in the next five years (SSD, 2022).

Merge or Consolidate with EBMUD or West County Wastewater District

Although EBMUD provides wastewater conveyance, treatment, and disposal services within the East Bay, it does not provide local wastewater collection services to the subject area. LAFCO's 2008 MSR noted that a reorganization between SSD and EBMUD was not considered as an option at that time. However, SSD may wish to study this option in the future to determine whether it would help solve any future challenges encountered.

SSD shares its northern boundary with the West County Wastewater District (WCWD); however, the two systems are designed to take advantage of gravity flow and use separate treatment and disposal facilities (LAFCO, 2008). Therefore, a reorganization of SSD and WCWD is not considered a feasible option at this time. However, SSD may wish to study this option in the future to determine whether it would help solve any future challenges encountered. For example, the SSD may voluntarily choose to pursue the preparation of a focused study evaluating the feasibility/cost-effectiveness of merging its wastewater operations with nearby wastewater service provider as a potential long-term governance alternative.

20.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

Table 20-12: MSR Determinations for SSD	
TOPIC AND PERFORMANCE MEASURES	**DETERMINATION**
Growth and Population for the affected area. • Is the existing population estimated? • Is the projected future growth estimated?	SSD provides wastewater collection services for approximately 38,270 people, with a total of about 13,123 sewer connections. The service area is largely built out, with growth limited to a few remaining vacant parcels and revitalization of existing commercial areas. The future population in the year 2045 is estimated to be approximately 40,342.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.	There are no DUCs located within, or contiguous to, the SSD SOI.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. • Does the agency have a CIP? • Are SSOs identified? • Are local hazards identified?	SSD has an aged sewer collection system. As a result of agreements with regional agencies and good operations practices, SSD has continued its sewer main replacement program, and trouble locations are being maintained more aggressively. The Sewer System Master Plan was also updated and adopted in 2022. There are no DUCs located within, or contiguous to, the SSD SOI. A 3.6-year term from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. During this 3.6-year timeframe, there were 31 SSO events in the SSD boundary area. The SSD did not participate in the county-wide Hazard Mitigation Plan. It is recommended that both SSD and LAFCO contact the Emergency Services Manager, Contra Costa County Office of Emergency Services, and formally request that SSD be invited to participate in the next update to the Hazard Mitigation Plan. Alternatively, SSD could prepare detailed spatial mapping of the district's wastewater infrastructure in relation to hazards identified and this should be conducted prior to LAFCO's next update to the Wastewater Services MSR/SOI.

Financial ability of agencies to provide services. • Has the agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures 10% or less?	SSD prepared a Sewer Rate Study Update in 2024, which was considered during the Board's January 18, 2024 meeting. The rate updates are in progress. The district had total revenues of $7,546,467 for FY 2023, representing a 10.22% increase compared to the previous fiscal year. Total revenues exceeded total expenses in each of the five study years from FY2019 to FY2023. The ratio of annual debt service to total fund annual expenditures is an indicator of SSD's ability to meet debt obligations in relation to service provision expenditures. Ideally, a 10 percent or less ratio would reflect a very stable ratio. SSD's annual debt service ratio ($196,272) to total expenditures ($3,960,770) is approximately five (5) percent, a very good ratio.
Status of, and opportunities for, shared facilities.	SSD is a member of the CSTAC JPA, which conducts studies and projects to control wet weather overflows and implements the East Bay Regional Fats, Oils and Grease control program with five other agencies. Another program identifying private sewer lateral deficiencies on a regional basis is being implemented through EBMUD's regional PSL program.
Accountability for community service needs, including government structure and operational facilities. • Does the agency have a website? • Does the agency post a public outreach tool (such as a calendar or newsletter) on its website? • What is the recommendation for mergers, consolidations, or other changes to governance structure?	SSD was formed in May 1913 and currently operates under the oversight and guidance of an elected Board of Directors. The district's Manual on Board Governance Policy is updated regularly. SSD's website is https://www.stegesan.org/ and provides the public with internet access to Board agendas and minutes, public notices, district budgets, and audits. "The Endeavor" newsletter is published biannually and provides the public with updates on SSD projects, events, and budgets.

	(continued) This MSR briefly considers three options for mergers, consolidations, or other changes to the governance structure. The MSR Authors recommend retention of the Status Quo. Additional study would be needed before other governance structure options are considered in the future.
Any other matter related to effective or efficient service delivery, as required by commission policy.	No additional issues have been identified.

20.9: RECOMMENDED SPHERE OF INFLUENCE

It is recommended that LAFCO reconfirm current determinations and coterminous SSD SOI.

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 requires that LAFCO review and update the sphere of influence (SOI) for each of the special districts and cities within the County (LAFCO, 2008). SSD provides wastewater collection services for the City of El Cerrito, the unincorporated community of Kensington, and the Richmond Annex community within the southeastern portion of Richmond. There will be an increased need for cost-effective wastewater services within the SSD service area, given current urban land uses, an aging wastewater collection system, and increasingly stringent water quality standards. The district has planned for service needs through its CIP and fee structure (LAFCO, 2008). SSD's SOI is coterminous with its boundaries.

Section 20.7, Government Structure Alternatives (see page 20-26), analyzes three different options to change the SSD governance structure. When LAFCO reviews or modifies an SOI for a district, it typically considers all of its options to change the governance structure. For SSD, three alternative options were considered as listed:

1) Maintain the status quo
2) Annex the area being served outside the SSD boundaries
3) Merge or Consolidate with EBMUD or West County Wastewater District

Option #2 notes that the district provides conveyance service to 101 homes outside the SSD boundaries by Agreement with the City of Richmond through Resolution #50-83 dated April 4, 1983. SSD accepts the wastewater generated in this area and conveys it through its system. SSD performs no maintenance or work in the area of 101 homes. Conveyance service for this area is by contract and has taken place only because of an emergency need as the result of a landslide. Bringing this area into SSD SOI would normally be required for extra territorial service provision. However, this service predates the statute requiring LAFCO approval (LAFCO, 2008). In conclusion, it is recommended that LAFCO maintain SSD's existing boundary and SOI.

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CHAPTER 21: TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT

Table of Contents

21.1: OVERVIEW

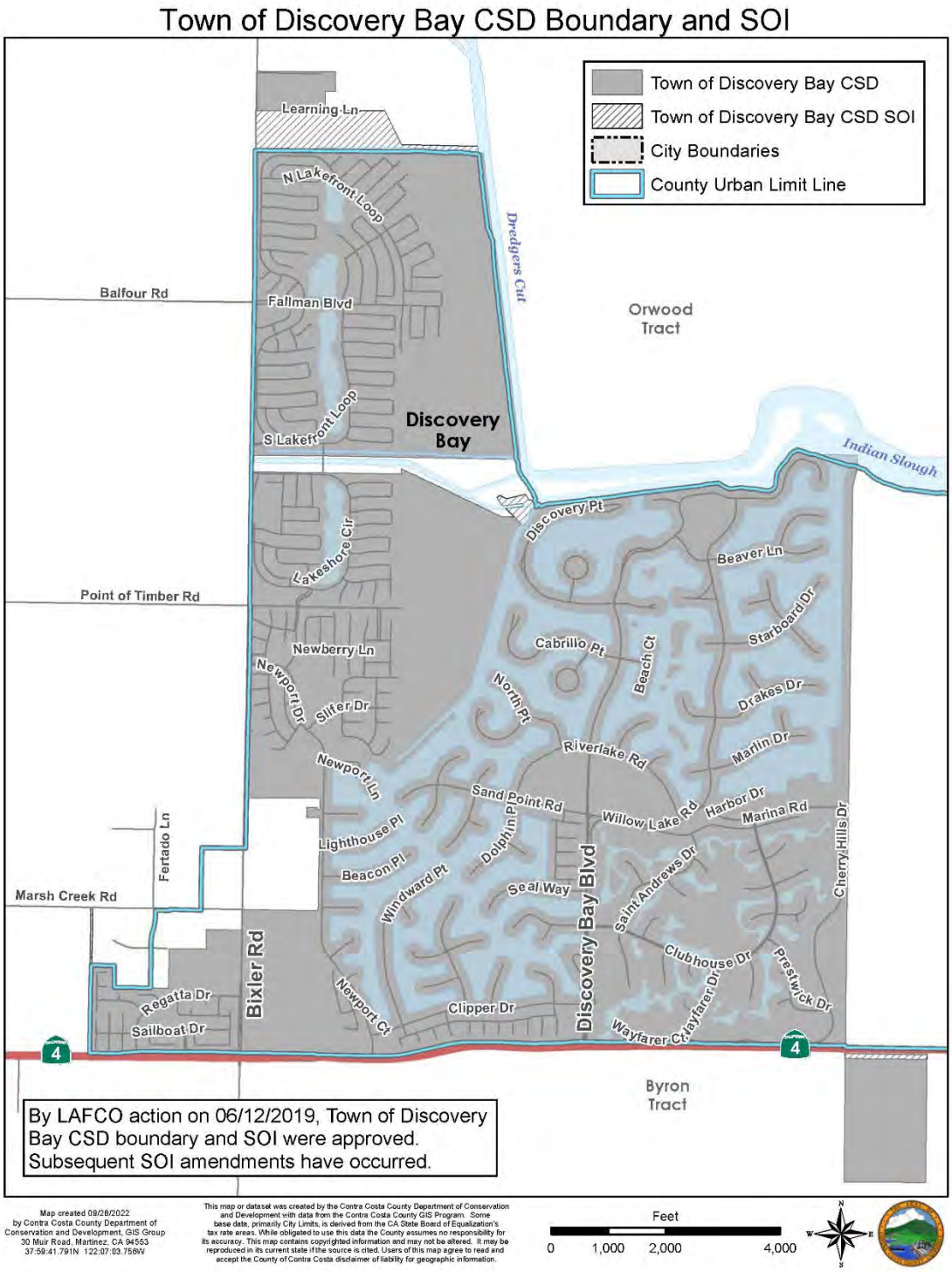
Discovery Bay was originally established in the 1970s as a weekend and summer resort community. Discovery Bay evolved into a year-round home for approximately 18,260 residents as of 2020. TODBCSD was formed in 1998 as an independent district pursuant to the Community Services District Act (Government Code Section 61000 et seq.). The Town of Discovery Bay Community Services District (TODBCSD) is located in the eastern portion of the County, north of Highway 4, approximately one mile east of the Byron Highway. The service area encompasses the developed and developing unincorporated community of Discovery Bay of approximately 2,844 acres (4.76 sq. miles).

TODBCSD is authorized to provide water and wastewater, parks and park maintenance, lighting, landscaping, and recreation services. This report focuses on TODBCSD's wastewater services, one of TODBCSD's primary functions. TODBCSD provides wastewater collection, conveyance, treatment, and discharge of treated effluent. A map of TODBCSD's current boundary and sphere of influence (SOI) is shown in Figure 21-1. The District does not anticipate changes to its SOI in the next 3-5 years (TODBCSD, 2022b). The District lies within the San Francisco Bay / Sacramento Delta Estuary watershed. Additional information about this watershed is provided in Appendix F. The TODBCSD's Agency Profile is included in Table 21- 1 (next page).

Table 21-1: Agency Profile – Town of Discovery Bay Community Services District			
General Information			
Agency Type	Community Services District		
Principal Act	Community Services District Laws, Government Code Section 61000 et seq. and SB 135, Community Services District Law		
Date Formed	1998		
Services	sewage collection, treatment, and disposal. Additionally, water, parks and park maintenance, landscaping, and recreation.		
Service Area			
Location	Unincorporated community of Discovery Bay		
Square Miles/Acres	4.76 square miles/2,844 acres		
Land Uses	Predominantly residential with some commercial and irrigation uses		
Water Connections	6,157 service connections (residential, commercial, irrigation), 126 commercial/industrial customers (TODBCSD, 2022b)		
Population Served	18,020 (Contra Costa County GIS Data)		
Last SOI Update	May 14, 2014 and also 2020 and 2022		
Sewer Infrastructure/Capacity			
Facilities	2 wastewater treatment plants, 15 lift stations (TODBCSD, 2022b)		
Treatment Plant Capacity (MGD)	• Permitted Flow – 2.35 MGD (CRWQCB, 2019) • Peak Day Flow – 1.48 MGD • Total Average Daily Flow - 1.8 MGD • Average Annual Flow – 1.2 MGD		
Primary Disposal Method	Secondary treatment, U.V. disinfection, and discharge into Old River		
Budget Information- Estimates for F.Y. 2023-2024– Wastewater Fund			
	Revenues (per FY 23 Budget)	Expenditures (per FY 23 Budget)	Net Surplus/(Deficit)
General/Operating Fund	$ 6,228,622.32	$ 6,037,664.67	$ 190,958
Combined Other Funds	$ 439,100	$ 0	$ 439,100
All Funds	$6,667,722.32	$6,037,664.67	$ 630,057.65
	Estimate F.Y. 2023-2024 (Wastewater Only)	Estimate F.Y. 2023-2024 (Total for all services in TODBCSD)	
Capital Expenditures	$ 6,569,560	$ 8,771,560	
Reserves	$1,830,600 (Sewer Fund per Budget Estimated Balance for FY23/24).	▪ Note: Reserve funds are typically 30% of the operating budget. ▪ Note: The Sewer Fund has cash and investment balance of $11,917, 400 per AFS, TODBBCSD, 2023	
Total Assets	$ 93,190,637	June 30, 2022 Financial Statement- All Funds Restricted & Unrestricted. with capital assets at $52,670,022 net of accumulated depreciation. Current, non-current and other assets were $40,520,615.	
Governance			
Governing Body	Board of Directors (five members)		
Agency Contact	Dina Breitstein, General Manager, dbreitstein@todb.ca.gov		
Notes: None			

Figure 21-1: Boundary/SOI Map – TODBCSD

Note: This map might not reflect the recent annexation of the Pantages project



21.2: EXISTING BOUNDARY & SOI

The District's SOI was reconfirmed as part of LAFCO's 2014 MSR/SOI Update as listed in Table 21-2 below. In 2020, LAFCO approved the corresponding SOI amendment and annexation (Newport Pointe) and in 2022, LAFCO approved the corresponding SOI amendment and annexation (Pantages).

Table 21-2: SOI Key Milestones	
Date	**Action**
5/10/2006	SOI approved by LAFCO action
11/14/2007	SOI amended
7/24/2008	Annexation recorded
2014	SOI reconfirmed
6/12/2019	LAFCO retained SOI as part of the "City Services" MSR
2020	LAFCO approved SOI amendment and corresponding annexation (Newport Pointe)
2022	LAFCO approved SOI amendment and corresponding annexation (Pantages)
Data Source: LAFCO, MSR, 2014 and Ms. Texeira 2024	

Recent Annexations into District Boundaries

Contra Costa LAFCO processed a SOI amendment and corresponding annexation in 2022 that included three separate projects as follows:

1) Pantages (Subdivision) - Annexation of approximately 205 acres at the eastern terminus of Point of Timber Road (east of Bixler Road), Discovery Bay, California. The Pantages Bay development included approximately 277 residential units (116 have boat docks), the creation of 47 acres of bays and covers, wetlands/emergent marsh preservation, trails and other project-related improvements, and a Sheriff's Marine Patrol Station.
2) The annexation also included annexation of the Newport Well Site located at the intersection of Newport Drive and Solinas Place, and
3) Wastewater Plant No. 2 located at 17501 Highway 4.

Both the Newport Pointe and Pantages Bay projects were approved by the Contra Costa Board of Supervisors.

The 2014 MSR noted that two parcels were once located outside of the district boundaries. One parcel is a 15.38± acre parcel located at 14021 Highway 4 in unincorporated Byron. The property houses a single-family residential unit and is located outside the Urban Limit Line. However, both of these parcels were recently annexed into the district boundary. The two homes used to have wells; however, the water quality for the wells degraded. The property owners asked to be added to the system. As part of the agreement, the properties had to abandon the wells. These properties are

annexed in and are currently receiving water and wastewater services. (Breitstein and Goldsworthy, personal communication, 2023).

There have been informal discussions with a project proponent who proposes the development of 2,500 new parcels and associated homes. Future development of this size would require substantial increases to wastewater and water treatment. The proposed project site is not currently located within the district boundary. The project proponent has been informed that an annexation application would be necessary (Breitstein and Goldsworthy, personal communication, 2023). This project would contribute to projected future population growth.

Sacramento/San Joaquin Delta: Portions of the District boundary and SOI are located within the Sacramento/San Joaquin Delta Estuary watershed (Delta), specifically within the "Secondary Zone". The Delta is a large inland river delta geographically connected to the San Francisco Bay Estuary and home to several rare and endangered fish species. The Delta is also designated a National Heritage Area. The Secondary Zone is within the "Legal Delta" and is described by various state laws and planning documents (DPC, 2010 and DSC, 2013). For local government planners and administrators, there are three key Delta planning documents listed below:

- The Delta Plan, by the Delta Stewardship Council (DSC). 2013 as updated through 2024.
- Land Use and Resource Management Plan for the Primary Zone of the Delta by the Delta Protection Commission (DPC). February 25, 2010.
- Socioeconomic Indicators Report: The Sacramento-San Joaquin Delta by Visser, M.A.; Brinkley, C.; Zlotnicki, J. in 2018.

DPC's Land Use and Resource Management Plan recognizes that urbanization and other development projects within the secondary zone have the potential to impact the Primary Zone of the Delta (DPC, 2010). These planning documents are important because the District's discharge of treated wastewater to the San Joaquin River has the potential to influence water quality and rare or endangered species within the Delta.

21.3: DISTRICT WASTEWATER OPERATIONS

TODBCSD provides various services[1], including wastewater, for the community of 4.76 square miles. The CSD's wastewater service includes collection, conveyance to two wastewater treatment plants, and disposal. The CSD provides wastewater collection and conveyance services to approximately 6,157 sewer connections, as shown in Table 21-1 (TODBCSD, 2022b). The District has 126 commercial and industrial customers (TODBCSD, 2022b). One TODBCSD connection may serve many individual customers.

[1] Please note that TODBCSD does not provide flood control services. Within the boundary area, there is a dry levee around the gated communities to the North West. The local HOA maintains the levees.

Wastewater operations functions include two relatively small but environmentally sensitive wastewater treatment plants (WWTPs) with a permitted capacity of 2.35 MGD (CRWQCB, 2019) and average daily demand of 2.5 MGD (TODBCSD, 2022b). A system of 15 lift stations takes collected effluent to the WWTP for treatment and disposal (TODBCSD, 2022b). TODBCSD continues to contract operation of the WWTP with Veolia Water. The contract was originally approved in 2009 and is set to be renewed in 2026.

The District's previously noted operational problems and environmental/ permit issues have improved over the past five years (Breitstein and Goldsworthy, personal communication, 2023). Additionally, in 2014, LAFCO's MSR noted that "significant progress was achieved in addressing major sewer issues since the 2006 MSR" (LAFCO, 2014). District staff indicates that the NPDES Permit Change requires that the district add denitrification to its wastewater process (TODBCSD, 2022b). The staff indicated that this project is underway and is due for completion by December 2023 (TODBCSD, 2022b).

Treated effluent is discharged to Old River, specifically at a location southeast of the second WWTP (TODBCSD, 2019). Biosolid handling facilities are located at the second wastewater treatment plant (TODBCSD, 2019). Dried biosolids are disposed of in a landfill, but other alternatives have been considered (TODBCSD, 2019).

Factors influencing the district's ability to collect, treat, and dispose of wastewater and provide public service to customers were considered. District staff indicates that capacity is a factor that would impact future population growth (TODBCSD, 2022b). The District is consistently looking for best practices and opportunities to improve efficiencies, affordability, and service delivery to their customers (TODBCSD, 2022b).

Local Hazards

The Contra Costa County Hazard Mitigation Plan Volume 2 (HMP), dated January 2018, maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards (Contra Costa County, 2018). TODBCSD did not participate in the 2018 county-wide Hazard Mitigation Plan. However, the County is currently updating the HMP and TODBCSD staff has indicated that they are involved in this recent update process.

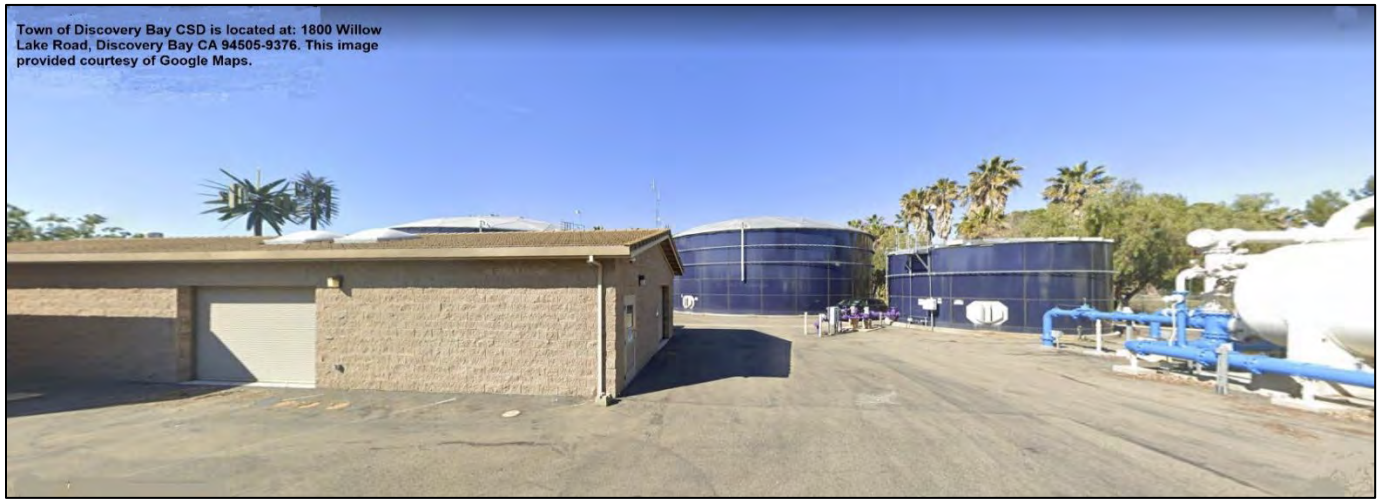
Sanitary Sewer Overflow Database

The State Water Board maintains a Sanitary Sewer Overflows (SSO) database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (SSS) under Water Quality Order No. 2006-0003 (SSS WDRs) on May 2, 2006. All public agencies that own or operate a SSS comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility

Table 21-3: Town of Discovery Bay Community Services District Sanitary Sewer Overflows

EVENT ID	Region	Responsible Agency	Collection System	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
858930	5S	TODBCSD	Discovery Bay C.S.	Category 1	6/12/2019	975	0	50	Air Relief Valve (ARV)/Blow-Off Valve (BOV)	5SSO10929
859756	5S	TODBCSD	Discovery Bay C.S.	Category 3	7/11/2019	150	150	0	Maintenance hole	5SSO10929
864351	5S	TODBCSD	Discovery Bay C.S.	Category 3	1/17/2020	700	650	0	Pump Station-Mechanical	5SSO10929
Data Source: CIQWS Sanitary Sewer Overflow Database										

Figure 21-2: Street View of TODBCSD Facilities



must be covered under the SSS Waste Discharge Requirements. A 3.6-year term from January 1, 2019, to August 9, 2022, was queried in the CIWQS-SSO database. The results of the database queries regarding TODBCSD are listed below in Table 21-3. During this 3.6-year timeframe, there were three SSO events in the TODBCSD jurisdiction. All three SSOs were relatively small and had a volume of less than 1,000 gallons. The June 16, 2022, spill had the greatest volume of 975 gallons. The failure was caused by Caltrans bush cutting the roadway on Highway 4, which led to the disruption of the air relief line and the force-main line. None of the spilled material was recovered. Instead, 925 gallons of the spilled material reached land, and 50 gallons reached surface water. The District has no outstanding fines or orders from the RWQCB or other State agencies. (Breitstein and Goldsworthy, personal communication, 2023). This can be compared to historical data. LAFCO's 2006 MSR noted that TODBCSD experienced several permit violations which were resolved in a timely manner[2].

The 2008 and 2014 NPDES permits aimed to reduce discharges exceeding Regional Water Quality Control Board (RWQCB) limits. TODBCSD appears to have addressed these issues through the change of contract operators and oversight by management and engineering support. While it is realistic to expect occasional problems with a wastewater system, the challenge is addressing and solving issues for future operations (LAFCO, 2014).

To address those past issues, the district has taken steps to prevent spills like the 2008 raw sewage spill (94,000 gallons) into the lake. For example, the district's asset management staff uses sonar to review sewer mains. Since the spill, the district has purchased video equipment to record sewer mains, conducts routine inspections, and provides services looking for buried metal pipes during construction. The new tech video equipment is regularly utilized as part of routine inspections. (Breitstein and Goldsworthy, personal communication, 2023).

Status of NPDES Permit

TODBCSD's NPDES permit was most recently renewed in 2019 (CRWQCB, 2019). The NPDES permits are on a five-year renewal cycle, and the next permit is scheduled for renewal in 2024 (Breitstein and Goldsworthy, personal communication, 2023).

[2] Past RWQCB (or other State) fines or orders: In the past (2006 to 2014) the RWQCB issued fines or orders for water quality violations, TODBCSD has resolved these past fines. The RWQCB issued a Notice of Violation (issued February 13, 2013) for minimum penalties concerning Coliform violations on January 25-26, 2011, February 2, 2011, June 16-17, 2011, June 21-22, 2011, June 24, 2011 and May 9, 2012. These fines were resolved through an agreement between the TODBCSD and the RWQCB. On July 3, 2013 the Town of Discovery Bay Board of Directors authorized a Supplemental Environmental Program (SEP) as proposed to the RWQCB. On August 7, 2013, the Central Valley Regional Water Quality Control Board authorized the SEP program as submitted by the TODBCSD. The SEP, as presented, provides a Grant to the University of California, to continue to fund the wetlands demonstration project (LAFCO, 2014).

INFRASTRUCTURE NEEDS

Existing Infrastructure: TODBCSD currently maintains various equipment, vehicles[3], infrastructure, and associated assets. The CSD's wastewater system includes 15 wastewater lift stations that transport/move the raw wastewater to the main wastewater treatment facility and 60 miles of sewer mains. Veolia Water Company operates and maintains wastewater facilities under a multi-year contract. The largest part of the wastewater infrastructure is the two wastewater treatment plants that treat an average of 1.8 MGD (Total Average Daily Flow). Both plants are regularly maintained and upgraded. Capital investments are made periodically to ensure function and to comply with California's Title 22 waste discharge requirements. The District's NPDES permit CA0078590 for the WWTP allows a capacity of 2.35 MGD (CRWQCB, 2019).

The Wastewater Treatment Plant Master Plan Update prepared by Stantec Consulting Services was approved in 2019 (TODCSD, 2019). The Wastewater Treatment Plant Master Plan includes detailed evaluations of all wastewater treatment system components and results in a prioritized list of recommended improvements. Amendment 2 Update investigates methods for meeting new and more stringent requirements for nitrogen removal. Amendment 3 was developed to investigate whether Plant 1 should be rehabilitated or replaced with new facilities at Plant 2. This Master Plan Update re-evaluates needed improvements under changed conditions, including substantial reductions in wastewater flows and the high cost of proposed improvements for nitrogen removal (TODBCSD, 2019). In summary, the 2019 Wastewater Master Plan identifies potential rehabilitation projects, and it is periodically updated. Recent capital improvement achievements include finishing Edgeview Pipeline Project, initiated the denitrification project, and ordered Vac-Truck.

The District has identified several infrastructure needs for the coming year in its Capital Improvement Program (CIP) as follows: continue construction of the denitrification project, start outfall diffuser project, receive delivery of new vac-truck, denitrification, lift station upgrades, solar dryer panel replacements at plant 2, outfall diffuser repair, and relocation of District office building (TPDBCSD, Budget, 2022a). The CIP is discussed in further detail is section 21.5 District Financial Overview (see page 21-15).

Future challenges: The District is considering whether to construct new administrative offices and board chambers. The cost of architectural design, materials, and new construction is estimated at approximately $13 million. However, less expensive options are also being considered. The amount of these costs that the Sewer Fund would bear is unclear. Collaboratively working through this issue with local residents will be an ongoing task for the district during the upcoming year.

[3] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the district, it is likely that sometime in the future, the district may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

The American Society of Civil Engineers, Region 9 (2019) has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

1. Implement an education program at the state and local level about what a wastewater treatment plant is, what kind of wastes it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water reuse/recycling.

Cost Avoidance Opportunities

The CSD implements several actions to reduce costs. TODBCSD's management has set cost containment or reduction as a major strategic goal for TODBCSD (LAFCO, 2014). District cost avoidance and/or resource sharing endeavors include outsourcing services (i.e., maintenance and operations of wastewater facilities). The CSD also participates in a Wastewater Response Network, a voluntary program of public utility agencies to share equipment and staff during emergencies (LAFCO, 2014). Major rehabilitation projects are phased in with the aim to reduce debt financing costs. For example, TODB sets aside funds into its revolving funds as a means to reduce the need to issue debt. Low-energy lighting was installed at facilities to reduce energy costs. No other cost avoidance or resource-sharing endeavors have been undertaken by the district as it relates to wastewater services apart from the Bay Area Chemical Consortium. The District's regional location and distance from neighboring partners make any opportunities requiring substantial infrastructure changes untenable (District staff, personal communication, April 2023). However, TODB is currently looking for energy-saving opportunities such as solar and battery backups.

Cooperative Programs

TODBCSD is a member of the Bay Area Chemical Consortium to purchase bulk chemicals for water and wastewater treatment. As part of this Consortium, cost savings for the district have been steady until the 2020 COVID-19 pandemic. Since the pandemic, costs for bulk purchasing of chemicals have risen 281% from approximately 0.67 cents a gallon in 2020 to the most recent bid of $2.55 a gallon for F.Y. 2024. Though costs have gone up, the district still finds that the program saves the district approximately $1.30 a gallon on average compared to competitor prices (District staff, personal communication, April 2023).

A Joint Powers Authority (JPA) agreement with the Byron Bethany Irrigation District (BBID) formed the Discovery Bay Financing Authority to finance bonds for long-term capital projects. TODBCSD is studying several possible cooperative programs for the operations of its recreation programs (LAFCO, 2014).

21.4: DISTRICT FINANCIAL OVERVIEW

Enterprise Funds are used to separately account for self-supporting operations. The main focus of this analysis is the Sewer Fund, which is an enterprise fund. The District's Budget and Certified Annual Financial Statements (which include an Independent Auditor's Report) are the primary information source for data related to the Sewer Fund, and these reports are posted on the TODBCSD's website at: <*https://todb.ca.gov/annual-audit-information*>. This financial analysis represents a snapshot in time (i.e. a limited time period). However, TODBCSD regularly updates its financial data and readers may review the new data on the district's website.

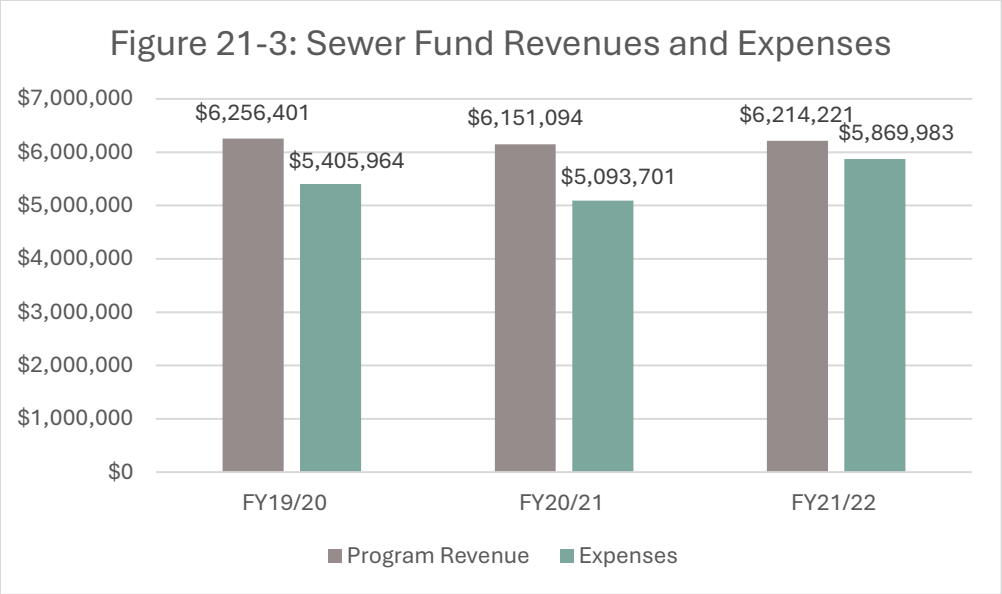
TODBCSD operates its wastewater services as an enterprise-type activity, with a significant portion of its overall revenue from charges for services. The CSD has a Standard and Poor's Financial Rating of A.A., and all of the audits are "Clean," meaning that the CSD continues to adhere to regulations set forth by the Government Accounting Standards Board (GASB)and follow best practices as set forth by the Government Financials Officer's Association (GFOA).

The TODBCSD Operating Budget is prepared annually, and it provides one additional year of financial forecasting so that it covers a two-year period in total. The Budget outlines the CSD's financial plan and services for the upcoming year. The Budget is divided into several sections, including an overview of the district's finances, a breakdown of departmental budgets, and a summary of goals and objectives for the year. The document also includes information about the district's revenue sources, expenditures, and reserves, as well as details about the services provided by each department.

Overall, TODBCSD approves budgets and financial statements annually, maintains a capital improvement program, and has a good reserve fund balance providing adequate capability to absorb short-term impacts. Five primary areas of criteria have been utilized to assess the present and future financial condition of TODBCSD's wastewater service operations, as discussed below:

3 Year Revenue/Expenditure Budget Trends

For the year ending June 30, 2022 (FY21/22), the Sewer Fund expenses were $5,869,983, which was less than Fund Program Revenue for the Fund at $6,214,221 (TODBCSD, 2023). For FY20/21, Sewer Fund Expenses were $5,093,701. Fund Program revenues were $6,151,094 (TODBCSD, 2023). For the year ending June 30, 2020 (FY19/20), the Sewer Fund expenses were $5,405,964, less than Total Revenue for the Fund at $6,256,401 (TODBCSD, 2023). Fund Revenue exceeded Fund Expenses in each of the three study years, as shown in Figure 21-3 below. This key performance measure indicates that the Sewer Fund is solvent and has the capacity to cover its costs.



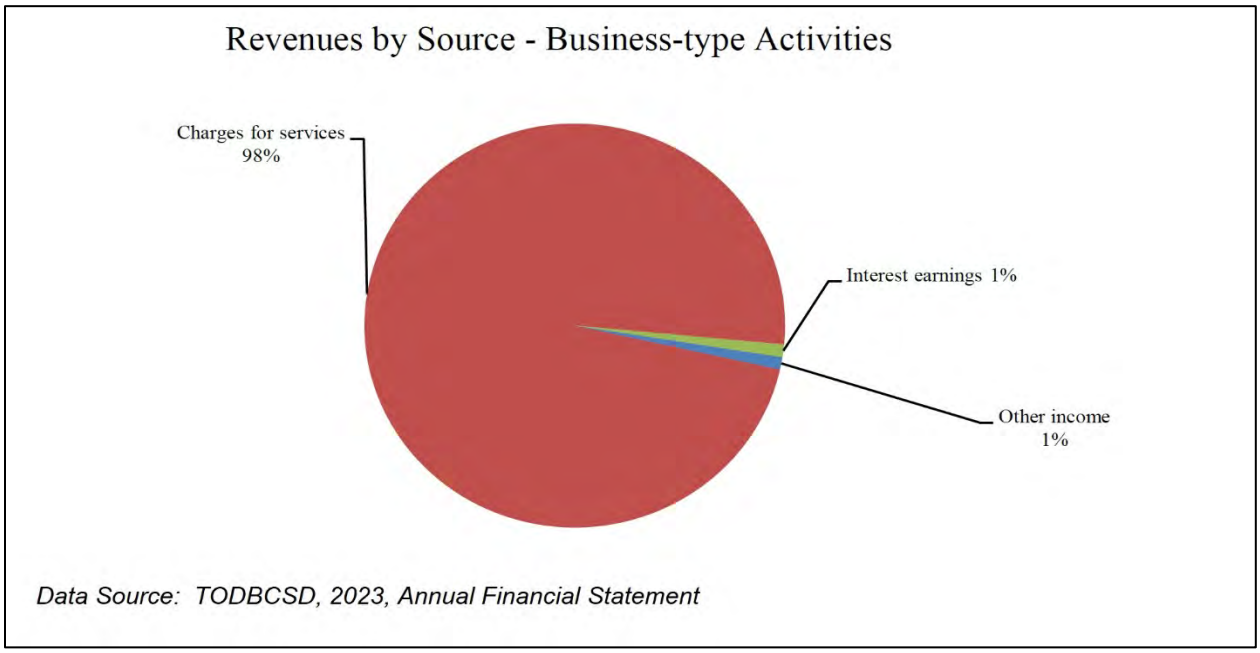
Source for Figure 21-3: TODBCSD, Annual Financial Statements for FY19/20, FY20/21, FY21/22

As shown in Figure 21-3 above, the Sewer Fund has experienced surpluses in the operating portions of the funds. However, the district indicates that capital improvement expenses will increase in the future, and rate increases may be needed to accommodate the expenditures. The District has taken several actions to ensure operating revenues/reserves are sufficient to fund and operate major capital projects. Specifically, the district develops timelines for the Capital Improvement Plan to ensure infrastructure is developed within the necessary timeframe. Both rate studies and the CIP consider estimated costs that include real-world bids. CIP studies are completed every 5-10 years. The District will likely begin a new rate study in July 2023. A new rate study is necessary because costs have increased during the pandemic. The District has experienced supply chain issues, and increased costs for energy, labor, supplies, and materials (Breitstein and Goldsworthy, personal communication, 2023).

Ratios of Revenue Sources

The Sewer Fund is an enterprise fund, and it receives approximately 98% of its revenues from charges and fees for services, one percent from interest earnings, and one percent from miscellaneous other income sources, as shown in Figure 21-4 below (TODBCSD, 2023).

Figure 21- 4: Revenues by Source



Ratio of Reserves or Fund Balance to Annual Expenditures

An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures. The Ratio of Reserves or Fund Balance to Annual Expenditures should be no less than 2 months of regular general fund operating expenditures which generally equates to no less than a 16.7% ratio. TODBCSD's Sewer Fund currently has a reserve fund of $1,830,600, as shown in Table 21-4 below (TODBCSD, 2022, Budget). In FY21/22, the Sewer Fund expenses were $6,214,221 (TODBCSD, 2023). Dividing the Reserve Fund Balance by the Annual Expenditure yields a ratio for the Sewer Fund of approximately 29%. This is above the minimum suggested ratio, which indicates TODBCSD is doing a good job maintaining a balance of reserve/fund balance to expenditure ratio.

Table 21-4: Wastewater Fund Summary from Annual Budget

Wastewater Fund Summary	Year End Fund Balance FY 20/21	Budgeted Revenues FY 21/22	Budgeted Expenses FY 21/22	Budgeted Fund Balance FY 21/22	Estimated Revenues FY 22/23	Estimate Expenses FY 22/23	Estimate Fund Balance FY 22/23	Estimated Revenues FY 23/24	Estimate Expenses FY 23/24	Estimate Fund Balance FY 23/24
Beginning Fund Balance(Carryover)		**16,227,107**			**4,416,671**			**9,509,784**		
O&M Funds	3,630,796	4,759,280	5,419,889	2,970,187	5,736,735	5,736,735	2,970,187	5,885,846	5,885,846	2,970,187
Bond Financing				0	13,000,000		13,000,000			13,000,000
Capital Improvement Funds	8,133,285	1,261,173	12,686,000	(3,291,542)	374,413	8,556,300	(11,473,429)	319,776	5,045,000	(16,198,653)
Revolving Funds	2,632,426	275,000	0	2,907,426	275,000		3,182,426	275,000	0	3,457,426
Reserve Funds	1,830,600	0	0	1,830,600	0	0	1,830,600	0	0	1,830,600
YE Fund Balance	**$16,227,107**	**$22,522,560**	**$18,105,889**	**$4,416,671**	**$23,802,819**	**$14,293,035**	**$9,509,784**	**$15,990,406**	**$10,930,846**	**$5,059,560**

Data Source for Table 21-4: (TODBCSD, 2022, Budget)

The District has several types of investments, including certificates of deposit and savings with the Contra Costa County Treasury (TODBCSD, 2022, Budget).

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. The CSD has issued three revenue bonds, one each in 2012, 2017, and 2022. The 2012 Bonds[4] (known as the 2022B Bonds) were refunded on December 1, 2022. The remaining balance on the bond issues are:

- 2017: Bond balance of $7,850,000
- 2022: Bond balance of $16,650,000
- 2022B: Bond balance of $11,156,000

As shown above, in 2022, TODBCSD incurred new debt of approximately $16.9 million via the Discovery Bay Public Financing Authority. This debt is in the form of enterprise revenue bonds designated for capital improvement projects identified in TODBCSD's Master Plans. The total bond balance as of December 2022 was $35,656,000. The CSD has a Standard and Poor's credit rating of "A.A." (Data source: *https://todb.ca.gov/todb-bond-balance*). However, these bonds also included funds for drinking water projects and cannot be solely attributed to wastewater projects.

The ratio of annual debt service to total fund annual expenditures is an indicator of TODBCSD's ability to meet debt obligations in relation to service provision expenditures. Ideally, a 10% or less ratio would reflect a stable ratio. In FY21/22, TODBCSD's Budget states that debt service for the Sewer Fund was $ 849,539 (TODBCSD, 2022, Budget). Its total Sewer Fund expenditures were $6,214,221 (TODBCSD, AFS, 2023). Calculating the division of Annual Debt Service Expenditures to Total Annual Expenditures yields a positive ratio of approximately 13.67%.

Overall, the Sewer Fund had a Net Position of Net position is $16,990,156. Table 21-5 below shows that the total liabilities and net position equates to $49,873,995 as of June 30, 2022.

[4] The previous MSR noted the status of long-term debt from the 2012 Bonds. In August 2012, TODBCSD issued $14.1 million in Discovery Bay Public Financing Authority 2012 Enterprise Revenue Bonds to provide the necessary long-term funding for a series of capital improvement projects that were recommended as part of the Master Plans (LAFCO, 2014). TODBCSD issued debt financing to fund capital improvement projects and had approximately $7.1 million budgeted in 2013-14 including, among other upgrades, a new well, WWTP upgrades, and pipeline replacement (LAFCO, 2014).

Table 21-5: Statement of Net Position – Sewer Fund, June 30, 2022

	Sewer Fund	Financing Authority Fund
Assets and Deferred Outflows of Resources		
Current assets		
Cash and investments	$ 11,768,698	-
Cash and investments - restricted	-	$16,491,975
Accounts receivable, net	$119,098	-
Interest receivable	-	$138,891
Prepaid expenses	220,881	-
Advances on taxes	499	-
Total current assets	12,109,176	16,630,866
Non-current assets		
Debt issuance cost - prepaid insurance	-	41,933
Debt service - installment receivable	-	36,240,000
Capital assets, net of accumulated depreciation	37,764,819	2,485,605
Total non-current assets	37,764,819	38,767,538
Deferred outflows of resources	-	-
Total assets and deferred outflows of resources	$ 49,873,995	$ 55,398,404

Liabilities, Deferred Inflows of Resources and Net Position		
Current liabilities		
Accounts payable	$ 457,993	$ 945,467
Accrued payroll	21,449	-
Interest payable	123,613	138,891
Bonds payable – current	-	770,000
Total current liabilities	603,055	1,854,358
Non-current liabilities		
Other accrued liabilities	-	-
Debt service - installment payable	32,253,600	-
Compensated absences	27,184	-
Bonds payable	-	35,470,000
Unamortized bond premium	-	1,862,500
Total non-current liabilities	32,280,784	37,332,500
Net Position		
Net investment in capital assets	5,511,219	(33,754,395)
Restricted for debt service	-	49,965,941
Unrestricted		

Board designated	1,800,600	-
Undesignated	9,678,337	-
Total net position	16,990,156	16,211,546
Total liabilities, deferred inflows of resources and net position	$ 49,873,995	$ 55,398,404
Data Source: TODBCSD, Annual Financial Statement, 2023		

Capital Improvement Program

Infrastructure needs are described on page 21-9. The CIP has been designed to address these needs. Capital Improvement Funds[5] are District revenues and expenses needed for the capital improvement program (CIP) for the wastewater system. CIP projects are necessary to properly service, maintain and support District operations' essential functions, including continued rehabilitation of the wastewater lift stations and wastewater pipeline maintenance and replacements. The CIP is described in the Annual Budget, which provides a list of CIP projects that address the long-term capital needs of the district. A robust capital replacement fund represents an ongoing structural element of long-term financial sustainability.

For FY 2022/2023, Wastewater Capital Improvements and Structures & Replacements include the state-mandated Denitrification[6] Project. The design was completed in FY20/21, and currently, the FY22/23 CIP for this project is estimated at $5.9 million. The total Denitrification Project cost is budgeted at $20 million. A new Vac Truck was ordered and is set to be delivered in FY 22/23, and the Outfall Diffuser design is near completion, with the bidding process to begin in the near future. CIP items such as lift station improvements and solar dryer panel replacements, and a Recycle Water Master Plan are budgeted as well (TODBCSD, Budget, 2022a).

[5] Prior to 2014, TODBCSD adopted 10-Year Master Plans for wastewater services along with long-term Capital Improvement Programs to meet Discovery Bay's future growth and capacity needs at build out (LAFCO, 2014).

[6] Denitrification is the process whereby nitrogen is removed from water. When employed in water quality improvement technologies, denitrification treats water to reduce its nitrate-nitrogen content to potable levels.

Table 21-6: TODBCSD Capital Improvement Plan

Capital Improvements

Capital Improvements	Actual	Budgeted	Actual YTD	Budgeted	Budgeted
	FY 2020-2021	FY 2021-2022	FY 2021-2022	FY 2022-2023	FY 2023-2024
Annual Wastewater Lift Station Improvements		200,000		550,000	500,000
Additional Capital Improvements - Wastewater System & Maintenance		80,000			
Denitrification Project		10,000,000		5,924,300	2,500,000
Wastewater Equipment and vehicle replacements (Vac Truck/V Truck Pumpstations/Solar Dryer Panels)		930,000		847,000	817,000
Wastewater Infrastructure Repair (Outfall Diffuser)		800,000		649,000	-
Master Plans		100,000		100,000	100,000
Relocation of District Office Building		240,000		450,000	750,000
Water/WW Combined Project Total (trucks, repairs, equipment)		576,000		36,000	37,000
Total	$979,616	$12,686,000	$6,272,691	$8,556,300	$5,045,000

Data Source: TODBCSD Budget, 2022a

Since the TODBCSD responsibilities also include water services, recreation services, and, Lighting & Landscaping Projects, the total CIPs for Fiscal Year (FY) 2022/2023 are valued at $14.6 million.

Rate Structure

TODBCSD took several actions in order to provide wastewater service to planned projects within the boundaries and SOI, thereby assuring the ability to accommodate future growth as follows:

- In 2012, DBCSD completed a 10-Year Wastewater Master Plan, which included a comprehensive review of TODBCSD's wastewater infrastructure, potential impacts of future development, and long-range CIP based upon build-out of future development.
- In 2020, the district completed a review of the its wastewater rate structure.
- The Discovery Bay Public Financing Authority, a JPA with Byron Bethany Financing Authority, was established. What year?

Current rates for wastewater services: As shown in Table 21-7 below, wastewater charges for residential connections for FY 2022/2023 are annual fixed charges at approximately $1,030 per unit for single-family homes and $816 per unit for multi-family developments. Commercial rates are consumption-based with monthly rates ranging from $6.73 to $18.48 per centum cubic feet depending on the type of commercial activity, as shown in Table 21-7 (TODB, 2020).

Table 21-7: Wastewater Rates from 2020 Rate Study

WASTEWATER	Current FY2019/20		Proposed FY2020/21		Proposed FY2021/22		Proposed FY2022/23		Proposed FY2023/24		Proposed FY2024/25	
Residential Unmetered	Monthly ($/month)	Yearly ($/year)	Monthly ($/month)	Yearly ($/year)	Monthly ($/month)	Yearly ($/year)	Monthly ($/month)	Yearly ($/year)	Monthly ($/month)	Yearly ($/year)	Monthly ($/month)	Yearly ($/year)
Single Family - Each DU	$82.55	$990.63	$83.34	$1,000.08	$84.59	$1,015.08	$85.86	$1,030.32	$87.15	$1,045.80	$88.46	$1,061.52
Multiple Family/Condos - Each DU	$61.92	$743.03	$63.89	$766.68	$65.92	$791.04	$68.01	$816.12	$70.17	$842.04	$72.40	$868.80
Vacant	$18.67	$224.00	$18.67	$224.00	$18.67	$224.00	$18.67	$224.00	$18.67	$224.00	$18.67	$224.00
Nonresidential Metered	Use ($/ccf)		Use ($/ccf)		Use ($/ccf)		Use ($/ccf)		Use ($/ccf)		Use ($/ccf)	
Business/Government/Clubs	$5.734		$6.050		$6.384		$6.737		$7.109		$7.501	
Restaurants/Bars/Dining Facilities	$16.793		$17.337		$17.899		$18.479		$19.078		$19.696	
Schools	$5.161		$5.462		$5.781		$6.118		$6.475		$6.853	
Other Domestic Strength Users	$5.734		$6.050		$6.384		$6.737		$7.109		$7.501	

DU = Dwelling Unit
ccf = 100 cubic feet = 748 gallons

(Data source for Table 21-7: TODB, 2020, Rate Study)

A Wastewater Rate Study was completed in 2020, and it studied future operational and capital requirements. The District anticipated starting a new rate study in July 2023, approximately one year earlier than scheduled, due to massive cost increases across all sectors since the COVID-19 pandemic. For example, District energy costs have increased 15%, and chemical costs have increased 281% since 2020. For the district to be sustainable, rate increases will be necessary a year sooner than anticipated (District staff, personal communication, April 2023).

21.5: POPULATION

There are approximately 18,020 residents within the district boundaries as of 2022. The population estimate is based on the County of Contra Costa GIS data showing that approximately 6,345 parcels (APNs) are within BSD's boundaries. The 6,345 parcels were multiplied by the 2.84 average number of people per household in Contra Costa County to calculate the total 18,020 residents. This is an increase in population of 17.3% from the 2020 population of 15,358. Of the 18,020 residents within the district boundaries, all receive wastewater services from the TODBCSD. Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

Table 21-8: Existing Permanent Population, TODBCSD, 2020 to 2022

Name of District	**Population in Boundary(1)**	**Number of Registered Voters in Boundary(2)**	**Population in SOI only(3)**
TODBCSD – High Population Estimate (2.84 people per household) (2022)	18,020	10,260 (Jan 2023)	76
TODBCSD – Low Population Estimate (U.S. Census Bureau 2020)	15,358	10,260 (Jan 2023)	76

Sources:

1) U.S. Census Bureau. *Explore Census Data – Decennial Census*. Retrieved on December 29, 2022, from <*https://data.census.gov/table?q=discovery+bay+&tid=DECENNIALPL2020.P1*>.
2) Registered Voter data provided by Contra Costa County Elections Office, [January 2023].
3) Calculated estimate based on an average of 3.02 persons per parcel in Contra Costa County and also using:
   - County of Contra Costa APN GIS Data
   - U.S. Census Bureau. *QuickFacts – Contra Costa County, California*. Retrieved on December 27, 2022, from <*https://www.census.gov/quickfacts/fact/table/contracostacountycalifornia/HSD310221#HSD310221*>.

Table 21-9: Total Estimated & Projected Population (2022 – 2045)

	2022	2025	2030	2035	2040	2045	Percent Increase 2022 to 2045	Numeric Increase 2022 to 2045	CAGR 2022 to 2045
County of Contra Costa[1]	1,156,555	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.1%	174,876	0.61%
Town of Discovery Bay CSD[2]	18,020	18,655	19,384	20,000	20,449	20,744	15.1%	2,724	0.61%

Sources:

1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.

2: California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State: January 1, 2021, and 2022. Sacramento, California. https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/.

3: County of Contra Costa APN GIS Data

4: U.S. Census Bureau. *QuickFacts – Contra Costa County, California*. Retrieved on December 27, 2022, from <https://www.census.gov/quickfacts/fact/table/contracostacountycalifornia/HSD310221#HSD310221>.

5: Population projection for the Town of Discovery Bay CSD calculated as 1.558% of the County of Contra Costa population.

Existing land uses within the district boundaries include four gated communities, *Clipper Estates*, *The Country Club*, *Lakeshore*, and *The Lakes*. The residential communities offer Country Club homes and waterfront homes. There is a full-service marina, three public schools, one private school, two shopping centers, and an 18-hole championship golf course. Projected future population is shown in Table 21-9 (previous page).

The district is located within the Legal Delta Secondary Zone, and a detailed population analysis of the Delta area has been prepared by state agencies (Visser et al., 2018). Readers are encouraged to review this information directly on the state website (updates are expected soon) as follows:

- Delta Stewardship Council (DSC). 2013 as updated through 2024. The Delta Plan. Available online at: <*https://www.deltacouncil.ca.gov/delta-plan/* >.
- Delta Protection Commission (DPC). February 25, 2010. Land Use and Resource Management Plan for the Primary Zone of the Delta. 42-pages. Retrieved on April 8, 2024 from <*https://delta.ca.gov/wp-content/uploads/2019/12/Land-Use-and-Resource-Management-Plan-2.25.10_-m508.pdf* >.
- Visser, M.A.; Brinkley, C.; Zlotnicki, J. (2018) *Socioeconomic Indicators Report: The Sacramento-San Joaquin Delta*. Sacramento, CA: The Delta Protection Commission. 46-pages. Available online at: <*https://delta.ca.gov/wp-content/uploads/2020/09/Delta-Socio-Economic-Indicators-Report-508.pdf*>.

Projected Future Population: Future growth is anticipated for TODBCSD (LAFCO, 2014). The anticipated future population growth of the district has the potential to influence the demand for the provision of wastewater services. However, projecting a district's future population is complex due to potential boundary changes, varying population sources, and census tracts that do not match District boundaries. For this MSR analysis, data from the California Department of Finance (DOF) was used to project population growth for the County of Contra Costa, as shown in Table 21-9. During the years 2022 to 2045, the County is expected to grow by a 15.1% increase. This same growth rate was assumed for the TODBCSD to project future growth and it is estimated that by 2045, the district will have a population of approximately 20,744 residents, as shown in Table 21-9 (previous page).

21.6: DISADVANTAGED COMMUNITIES

Identifying disadvantaged communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in disadvantaged communities. Data from the 2020 U.S. Census was queried as part of this MSR Update process. Data query results showed there are no disadvantaged unincorporated communities (DUCs) and no disadvantaged communities within the district's boundary or its SOI.

21.7: GOVERNMENT STRUCTURE ALTERNATIVES

Overlapping Boundaries

As shown in Figure 21-5 (next page), TODBCSD and BBID have overlapping boundaries. The overlap results in some residents of Discovery Bay having a portion of their one percent Ad Valorem property tax allocated to both BBID and TODBCSD. The 2014 MSR recommended that consideration be given to reducing BBID's SOI in the overlap area. San Joaquin LAFCO is the principal LAFCO for BBID and, therefore would be required to initiate any SOI revision (LAFCO, 2014). San Joaquin LAFCO approved an MSR/SOI for BBID on June 13, 2019. This MSR recommended that the overlap area between TODBCSD and BBID be detached from BBID. The TODBCSD and LAFCO should look up the Resolution from San Joaquin LAFCO and determine whether the MSR recommendation has been implemented. Resolving this issue of overlapping boundaries is a government structure alternative that warrants further consideration. It is recommended that this issue of overlapping boundaries be given more detailed consideration in future MSRs or SOIs for districts in the Byron and Discovery Bay Areas.

One government structure option has been identified for TODBCSD at this current time:

Maintain the Status Quo

TODBCSD currently provides adequate wastewater services for its residents and businesses in Discovery Bay. The 2014 MSR found that TODBCSD maintains its infrastructure, is planning for the future through appropriate infrastructure planning and investment and is financially sound. This finding remains valid.

21.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented in Table 21-10 for Commission consideration.

Figure 21—5: Overlapping Boundary – BBID & TODBCSD

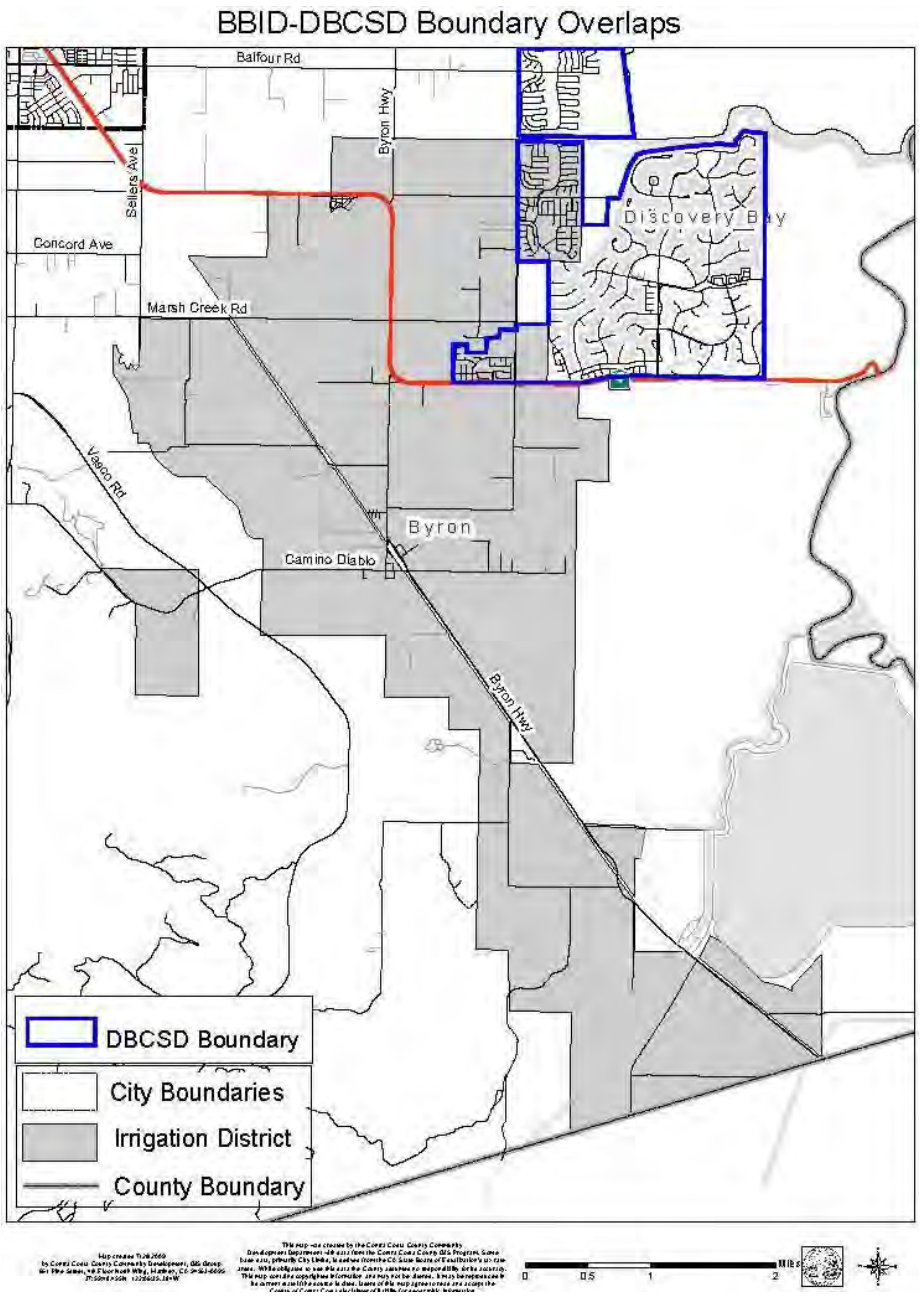


Table 21-10: MSR Determinations	
TOPIC AND PERFORMANCE MEASURES	**DETERMINATION**
Growth and population for the affected area. • Is the existing population estimated? • Is the projected future growth estimated?	The estimated population of Discovery Bay CSD is approximately 18,020 permanent residents. New residential projects are in various phases of the planning and construction process, including the Pantages Bay and Newport Pointe, which were approved by the Contra Costa County Board of Supervisors prior to 2014.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.	There are no DUCs located within or contiguous to the TODBCSD SOI.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. • Does the agency have a capital improvement plan? • Are sanitary sewer overflows identified? • Are local hazards identified?	TODBCSD contracts with a private company "Veolia Water" to operate the wastewater treatment plant(s). The contract is scheduled to end in 2026. District wastewater operations include two relatively small WWTP's with capacity to produce an average of 1.2 MGD and with an average daily demand of 2.5 MGD. A system of 15 lift stations takes collected effluent to the WWTP for treatment and disposal. TODBCSD adopted a Wastewater Master Plan in 2019. TODBCSD NPDES permit from the RWQCB allows a WWTP capacity of 2.35 MGD. This permit was issued in 2014. The CIWQS-Sanitary Sewer Overflow database was queried for a 3.6-year term from January 1, 2019, to August 9, 2022. Query results show three SSO events during this time period. TODBCSD did not participate in the county-wide Hazard Mitigation Plan. It is recommended that TODBCSD complete one of the following options:

	(continued) • Participate in the next update of the Contra Costa County Hazard Mitigation Plan, OR • Provide detailed spatial mapping of the district's wastewater infrastructure in relation to hazards identified to LAFCO when it next updates its Wastewater Services MSR/SOI.
Financial ability of agencies to provide services. • Has the agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures 10% or less?	TODBCSD operates its wastewater services as an enterprise-type activity, with a significant portion of its overall revenue from charges for services. The CSD has a Standard and Poor's Financial Rating of A.A., and all of the audits are "Clean," TODBCSD approves budgets and financial statements annually, maintains a capital improvement program, and has a good reserve fund balance providing adequate capability to absorb short-term impacts. For the year ending June 30, 2022 (FY21/22), the Sewer Fund expenses were $5,869,983, which was less than Fund Program Revenue for the Fund at $6,214,221. Fund Revenue exceeded Fund Expenses in each of the three study years. This key performance measure indicates that the Sewer Fund is solvent and has the capacity to cover its costs. The District anticipated starting a new rate study in July 2023.
Status of, and opportunities for, shared facilities.	TODBCSD is a member of the Bay Area Chemical Consortium to purchase bulk chemicals for water and wastewater treatment. The Consortium saves the district, on average $1.30per gallon for chemicals when compared to competitors. A Joint Powers Authority agreement with the BBID formed the Discovery Bay Financing Authority to finance bonds for long-term capital projects. TODBCSD and BBID have overlapping boundaries. The overlap results in some residents of Discovery Bay having a portion of their one percent Ad Valorem property tax allocated to both BBID and TODBCSD.

Accountability for community service needs, including government structure and operational facilities. • Does the agency have a website? • Does the agency post a public outreach tool (such as a calendar or newsletter) on its website? • What is the recommendation for mergers, consolidations, or other changes to governance structure?	TODBCSD is an independent special district governed by a five-member Board of Directors elected at large. TODBCSD meetings are open to the public, and Board agendas and meeting minutes are available on its website. TODBCSD's website also includes district financial information, master planning documents, rate studies, and employee compensation. The District provides a community calendar on its website that lists important meetings. The CSD participates in the Special District Leadership Foundation and has been awarded the district of Distinction "Platinum Level." Other awards the district has received include the Transparency Certificate of Excellence and the 2020 SDRMA Safety Award. Also, the Board of Directors and the General Manager of the Town of Discovery Bay have each achieved individual recognition in SDLF Special District Governance. TODBCSD and BBID have one area with overlapping boundaries which is described in San Joaquin LAFCO's 2019 MSR. This issue of overlapping boundaries should be given more detailed consideration in future MSRs or SOIs for districts in the Byron and Discovery Bay Areas. One government structure option was identified: (1) maintain the status quo.
Any other matter related to effective or efficient service delivery, as required by Commission policy.	No additional issues have been identified.

21.9: SPHERE OF INFLUENCE

Section 21.7, Government Structure Alternatives, describes various issues and options associated with changing the structure of this local government agency. LAFCO often accomplishes its government structure issues through changes to boundaries and/or SOIs. Additionally, LAFCO's 2014 MSR described a conceptual idea to have a regional approach to wastewater services in East Contra Costa County. However, for wastewater services, this idea has not gained traction with local residents or the district Board (Breitstein and Goldsworthy, personal communication, 2023). The 2014 MSR noted that the TODBCSD has not been a party to any further discussions on the regionalization of services since August 2006 (LAFCO, 2014). District staff verified that there has

been no further discussion of this regional approach, and no interest has been expressed by District staff (Breitstein and Goldsworthy, personal communication, 2023). One barrier to a regional approach to wastewater services in East Contra Costa County is that the district is not located in geographic proximity to another service providers or any other treatment plant. Byron Sanitary District (BSD) is the closest, but merger/consolidation or infrastructure sharing would be financially infeasible due to the direction of gravitational flow (Breitstein and Goldsworthy, personal communication, 2023). It is noted that the BSD continues to be managed by the BBID. There have been no discussions between the CSD and BSD about any potential for a future service agreement to treat and dispose of sewage. TODBCSD staff feel this approach would not benefit the district due to the topography and geographic distance (Breitstein and Goldsworthy, personal communication, 2023). The TODBCSD indicates that it is not necessary to further the discussion at this time (LAFCO, 2014, Breitstein and Goldsworthy, personal communication, 2023).

The MSR authors queried District staff about the level of interest in forming a Municipal Advisory Council (MAC) for this area in the future. District staff indicated there is not much interest in a TODBCSD MAC regarding wastewater issues. However, for drinking water issues, there may be a higher level of interest in the community (Breitstein and Goldsworthy, personal communication, 2023). Contra Costa County has a County Service Area P-6 Citizen Advisory Committee which creates reports and recommendations to the Board of Supervisors on extended police protection services including, but not limited to, enforcement of the State Vehicle Code where authorized by law, crime prevention, and litter control.

TODBCSD staff indicates there are no other future or near-term SOI/boundary changes to TODBCSD under consideration (Breitstein and Goldsworthy, personal communication, 2023).

However, over the long term, LAFCO's concept for a regional approach to wastewater services in East Contra Costa County will continue to have merit. It is noted that both TODBCSD and BBID /BSD have experience providing both water and wastewater services. Regulations concerning wastewater service will likely increase in future years. Managing public drinking water and irrigation water supplies will become more complex in the future due to changing climatic conditions. Given this dynamic situation, it is possible that a regional approach may become feasible in the future.

Recommended Sphere of Influence: Reaffirm TODBCSD's existing SOI determinations and reaffirm TODBCSD's current SOI.

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Chapter 22: WEST COUNTY WASTEWATER DISTRICT

TABLE OF CONTENTS

22.1: OVERVIEW

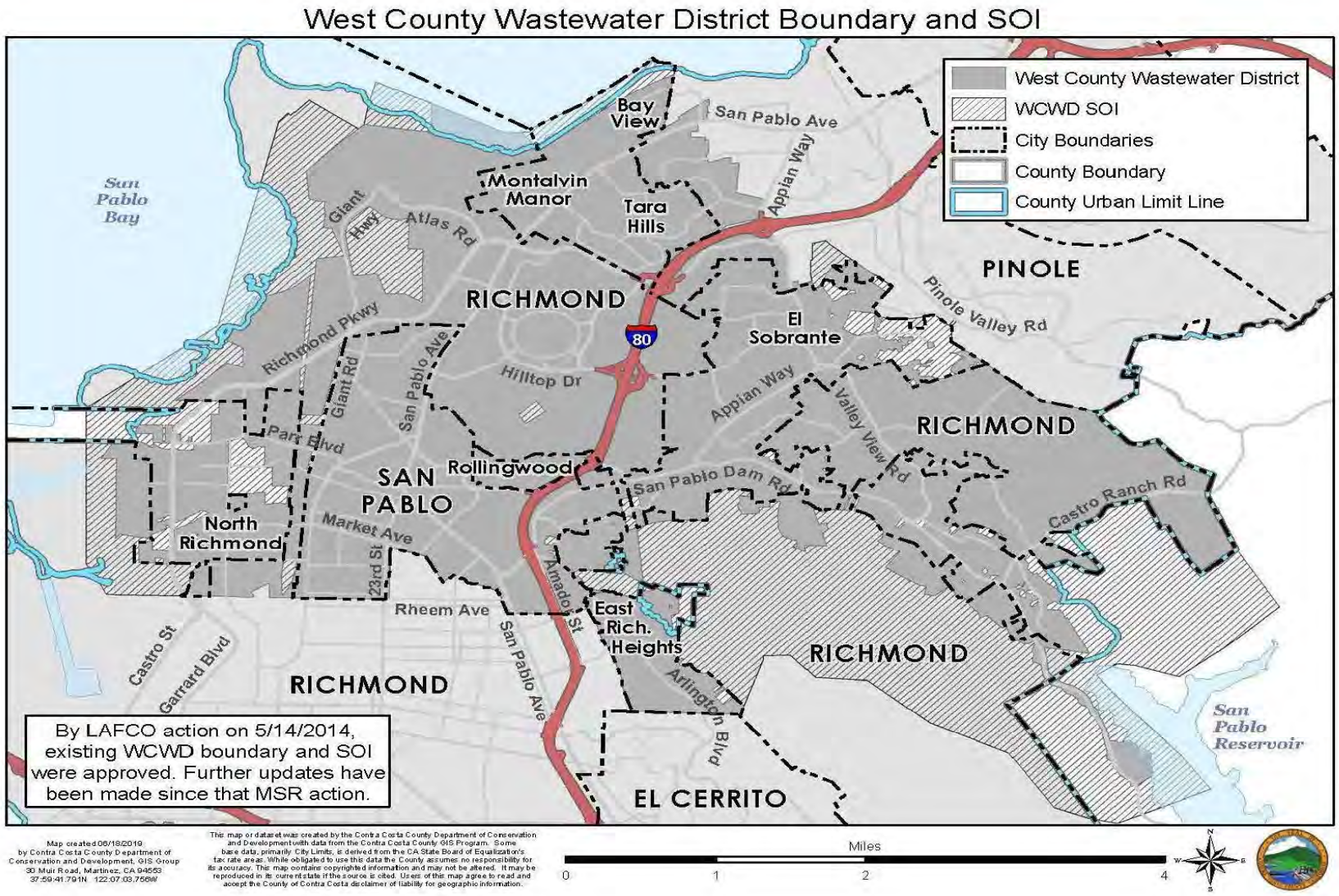
West County Wastewater (WCW) is an independent district, formed in 1921 as the San Pablo Sanitary District and reorganized in 1923 pursuant to the Sanitary District Act of 1923 (Health & Safety Code §6400 et seq.). In 1978, WCW changed its name to the West Contra Costa Sanitary District, and in 1992, it changed its name to the West County Wastewater District [now referred to as West County Wastewater (WCW)] (WCW, 2022c).

WCW provides wastewater collection, treatment, and disposal services for a 16.9 square mile area that includes the City of San Pablo; the northern portion of the City of Richmond; the Crestview portion of the City of Pinole; the unincorporated communities of El Sobrante, Tara Hills, Rollingwood, and Bayview; and other unincorporated areas within Contra Costa County. WCW provides contract services to the Crockett Community Services District (CCSD) for lift station and sanitary sewer maintenance, as well as limited emergency response support. WCW also maintains a large Contra Costa (CC) County-owned stormwater pump station and the West County Justice Center wastewater pump station by contract with CC County (WCW, 2022c). The WCW's Agency Profile is included in Table 22-1. A map of WCW's current boundary and sphere of influence (SOI) is shown in Figure 22-1. In December 2022, WCW staff provided LAFCO with a rough draft MSR that included updated data, and this rough draft was utilized as the basis for this Chapter 22 (WCW, 2022c).

Table 22-1: Agency Profile – West County Wastewater District

General Information			
Agency Type	Independent Special District		
Principal Act	Sanitation District Act of 1923, Health & Safety Code Section 6400 et seq.		
Date Formed	1921		
Services	Wastewater collection, treatment, and disposal		
Service Area			
Location	City of San Pablo, City of Richmond (portion), City of Pinole (portion), other unincorporated areas within Contra Costa County		
Sq. Miles/Acres	16.9 square miles/10,816 acres		
Land Uses	Residential, commercial, industrial, public use		
Population Served	102,000 (Year 2022) / 123,000 (Year 2050)		
Last SOI Update	SOI retained on May 14, 2014		
Infrastructure/Capacity			
Facilities	Water Pollution Control Plant (WPCP), 249 linear miles of sewer pipeline, 17 pump stations		
Treatment Plant Capacity (MGD)	12.5 million gallons per day (MGD) (dry weather) 21 MGD (wet weather)		
Primary Disposal Method	Approximately 6.5 MGD of secondary effluent is conveyed to two EBMUD reclaim/recycle plants: 1) North Richmond Water Reclamation Plant (NRWRP) and 2) Richmond Advanced Recycled Expansion (RARE) facility at Chevron refinery for use as boiler feed water. The remaining secondary effluent is conveyed to the Richmond WPCP, dechlorinated, and discharged into San Francisco Bay through a deep-water outfall.		
Operating Budget (FY 2021-2022):			
	Revenues	Expenditures	Net
Operating/General Fund	$28,530,542	$24,296,309	$4,234,233
Combined Other Funds	Included Above	Included Above	N/A
All Funds	N/A	N/A	N/A
	FY 2023	Long-Term Planned Expenditures	
Capital Expenditures	$34.9 million budgeted for FY 2023.	Projected future spending on the Comprehensive Energy and Sustainability Upgrades program is estimated to be up to $90 million.	
Net Assets (Reserves)	$107,552,885	Net Assets on June 30, 2022	
Governance			
Governing Body	Board of Directors (5 members)		
Agency Contact	Michael Savannah, Director of Infrastructure & Planning (510) 222-6700		
Notes			
• Net Assets do not include Capital Assets			

Figure 22-1: Boundary/SOI Map – West County Wastewater District



22.2: BOUNDARY & SOI

WCW's boundary encompasses a 16.9 square mile service area, including the following communities:

- City of San Pablo (2.7 square miles)
- Portion of the City of Richmond (7.9 square miles)
- Portion of the City of Pinole (0.4 square miles within the Crestview portion), and
- unincorporated areas of Contra Costa County (5.9 square miles, including the communities of El Sobrante, Tara Hills, Rollingwood, and Bayview)
- (Data Source: WCW, 2022c)

The District's sphere of influence (SOI) is not coterminous with the District's boundary. There are numerous islands (many of which are single parcels) that are within the District's boundary but are within the SOI. The SOI is 7.76 sq. mi. in area. WCW provides service to an estimated 45 parcels outside the District boundary and SOI. These parcels are located in East Richmond Heights, with service extended to the area in 1958 under an agreement with the City of Richmond. This service agreement was renewed in 1967. Effective January 1, 2002, Government Code §56133 requires the District to obtain from LAFCO approval for out-of-agency service. This statute allows the Commission to authorize a city or district to provide new or extended services outside its jurisdictional boundary but within its SOI in anticipation of a future change of organization (LAFCO, 2008).

To date, LAFCO has approved 36 boundary changes (i.e., annexations/reorganizations) and four out-of-agency service agreements. LAFCO is currently processing a new boundary reorganization (i.e., annexations to WCW and EBMUD) located on Castro Ranch Road. A brief summary of a few annexations is listed in Table 22-2 below.

Table 22-2: Proposed and/or Past Annexations into WCW

APN	Location	Description
APN 432-040-004-9	Castro Ranch Road - El Sobrante	Potential annexation to EBMUD and WCW in July 2023. The subject parcel is 97.6 acres. The applicant proposes to build one single family home, small-scale farming (e.g., bees, chickens, goats), and land preservation. The County's General Plan designation is Agricultural Land, and the zoning is A-2 (5-acre minimum). The parcel is outside the voter-approved Urban Limit Line.
APN 418-150-007. 418-170-002 and 8 other parcels (a total of 10 parcels)	Park Avenue – Richmond	Annexation into WCW in January 2016. The applicant proposed to build ten single-family homes.
APN 432-040-004	6200 Hillside Drive – El Sobrante	Annexation into WCW in May 2016. The subject parcel was 1.0 acres. The applicant proposed to build one single-family home. The County's General Plan designation was single-

		family residential – medium density. The parcel was located within the voter-approved Urban Limit Line.
APNs 408-090-049 & 408-090-050	Adjacent to 2601 Goodrick Avenue – Richmond	Annexation into WCW in December 2017. The subject parcel was 13.9 acres. The applicant proposed to build two industrial warehouses. The County's General Plan designation was special heavy industrial. The parcel was located within the voter-approved Urban Limit Line.
APN 408-204-002. 408-204-003 and 16 other parcels (a total of 18 parcels)	Northeast of the Fred Jackson Way / D"Avila Way intersection – Richmond	Annexation into WCW in June 2013. The subject parcel was 34.0 acres. The applicant proposed to build three industrial buildings. The County's General Plan designation was high industrial and light industrial. The parcels were located within the voter-approved Urban Limit Line.
APN 408-201-017	323 Brookside Drive – Richmond	Annexation into WCW in March 2020. The subject parcel was 3.1 acres. The applicant proposed to build an urban farm and agricultural education center. The County's General Plan designation was heavy industrial and open space. The parcel was located within the voter-approved Urban Limit Line.

Land uses within WCW's boundary include single and multi-family residential, commercial, industrial, open space, and watershed. Except for a small area along San Pablo Dam Road adjacent to San Pablo Reservoir, WCW's boundary is within the County Urban Limit Line (ULL) approved by the voters in 2006. In 2006, County voters passed Measure L, which extended the term of the ULL through 2026 and required a 2016 review to determine whether enough capacity existed inside the ULL to accommodate jobs and housing growth through 2036 (WCW, 2022c).

The County's 2020 General Plan created policies to preserve the semi-rural, suburban character, emphasizing single-family homes in El Sobrante. These policies also discourage strip mall development and advocate preserving areas outside of EBMUD and WCW as open space. The City of San Pablo's General Plan discusses the need for additional housing for seniors, multi-family housing, and additional commercial opportunities. To address these needs, the Plan sets forth policies for infill housing and additional commercial development (WCW, 2022c). The City of Richmond (see Chapter 9) and the City of Pinole (see Chapter 7) also have General Plans that guide growth within their respective cities.

Growth within WCW's service area will likely occur through infill and redevelopment. In the three-year period of FY 2020-2022, 30 permits were completed for new construction, of which 90% were for single and multi-family residential properties. WCW will need to continue to implement its capital improvement program, including pipeline replacements and treatment plant improvements, to ensure adequate service levels for existing and new customers (WCW, 2022c).

Adjacent wastewater service providers include the City of Richmond Municipal Sewer District, the

Stege Sanitary District (SSD) to the south, and the City of Pinole to the northeast. The Wildcat Canyon Regional Park and the San Pablo Reservoir lie to the southeast (LAFCO, 2014).

SF Bay Land Use

The Bay Area Regional Collaborative includes the Metropolitan Transportation Commission (MTC), Association of Bay Area Governments (ABAG), San Francisco Bay Conservation and Development Commission (BCDC), and Bay Area Air Quality Management District. This collaborative multi-agency regional committee allows for cross-jurisdictional work on projects such as Resilient Bay Area and Carbon Free Future. WCW's boundary/SOI is adjacent to a portion of the San Francisco Bay, a sensitive environmental resource. The California state planning and regulatory agency, which has regional authority over San Francisco Bay, the Bay's shoreline band, and the Suisun Marsh, is called the San Francisco Bay Conservation and Development Commission (BCDC). Its mission is to protect and enhance San Francisco Bay and to encourage the Bay's responsible and productive use for this and future generations. BCDC works to ensure projects are compatible with the conservation of Bay resources as described on its website at: <*https://bcdc.ca.gov/* >.

22.3: DISTRICT OPERATIONS

The District's wastewater service includes wastewater collection, treatment, and disposal. The District provides wastewater services to approximately 25,838 residential and business sewer connections, as shown in Table 22-3 below (WCW, 2022c). Although service to a multi-unit residential site is counted as one sewer account, it may serve several households.

Table 22-3: WCW Sewer Service Accounts

Type of Account	**# of Customers**
Residential	24,905
Commercial	929
Industrial	4
TOTAL	**25,838**

Data Source: WCW, 2022c

Contact the WCW Office
2910 Hilltop Drive
Richmond, CA 94806
(510) 222-6700
www.wcwd.org

WEST COUNTY WASTEWATER

WCW's infrastructure consists of a wastewater collection and conveyance system and treatment facilities. The wastewater collection system consists of 249.0 miles of gravity pipeline, 6.3 miles of pressurized pipeline, and 17 pump stations, as listed below in Table 22-4. WCW's Water Quality & Resource Recovery Plant (WQRRP) has a design capacity of 12.5 million gallons per day (MGD) and an average dry weather flow of 7.1 MGD. WCW provides approximately 6.5 MGD of secondary

effluent to the two EBMUD reclaim/recycle plants: 1) North Richmond Water Reclamation Plant (NRWRP) and 2) the Richmond Advanced Recycled Expansion (RARE plant). The effluent is further treated at these facilities, and tertiary-treated recycled water is produced for use in Chevron Refinery's cooling towers. It is also used for boiler feed or make-up water. Recycled water replaces potable water that would otherwise be consumed at the refinery. For the past several years, between 90% and 95% of WCW's effluent has been recycled during the dry season (WCW, 2022c). A lateral replacement grant program has been underway since 2008. This is intended to reduce infiltration and system overflows.

WCW's infrastructure includes a wastewater collection and conveyance system and WQRRP. Wastewater from WCW's service area is treated at WCW's WQRRP in North Richmond. The secondary effluent is either conveyed to EBMUD for further treatment and use at Chevron's Richmond Refinery or to the City of Richmond WPCP, where it is dechlorinated before discharge in San Francisco Bay. WCW is within the jurisdictional boundaries of the San Francisco Bay Regional Water Quality Control Board (RWQCB) (Region 2) (WCW, 2022c). Permits and Orders issued by the RWQCB are listed in Table 22-4 below.

Table 22-4: Summary of District Infrastructure and Permits

Miles of Sewer Gravity Pipeline / Force Mains	249.0 miles / 6.3 miles force mains
Number of Pump Stations	17 pump stations
Average Age of Collection System:	Approx. 50 years
Avg. Dry Weather Flow / Avg. Wet Weather Flow	7.1 MGD / 14.0 MGD
Wastewater Treatment / Design Capacity	WCW WQRRP – 12.5 MGD dry weather, 21 MGD wet weather
Water Reclamation & Effluent Disposal	Up to 6.5 MGD to EBMUD or discharged to San Francisco Bay
RWQCB Region	Region 2 – San Francisco Bay
NPDES	Permit No. CA0038539
RWQCB Orders:	• Order No. R2-2019-0003 – Waste Discharge Requirements • Order No. R2-2019-0017 – Nutrient discharges • Order No. R2-2017-0042 – Amendment of Waste Discharge Requirements • Order No. R2-2017-0041 – Waste Discharge Requirements for mercury (Hg) and polychlorinated biphenyl (PCB) discharges to SF Bay • Order No. R2-2016-0008 – Alternate Monitoring and Reporting Requirements

Data Source: WCW, 2022

Through its Capital Improvement Plan (CIP), WCW is addressing the need to renovate or replace aging infrastructure. WCW carries out a preventive maintenance program for the collection system, using its maintenance records, video inspections, and a multi-year CIP to plan for and prioritize infrastructure needs. WCW maintains and upgrades the WQRRP as necessary. WCW also works with EBMUD and the City of Richmond to ensure water quality meets the required objectives (WCW, 2022c).

The disposal facilities are owned by the West County Agency (WCA), a joint powers authority (JPA) between WCW, the City of Richmond, and the Richmond Municipal Sewer District. However, in June 2023, the WCA Board approved pursuing the dissolution of the WCA and instructed staff to proceed with negotiating a series of operating agreements for joint operation of shared assets.

Collection and Conveyance System

WCW serves approximately 26,000 accounts, of which 96.4% are residential, 3.6% are commercial, and 0.01% are industrial. WCW operates and maintains pipelines, force mains, and pumping stations that convey wastewater to WCW-owned WQRRP in North Richmond. WCW's service area is characterized by hilly terrain; the collection system operates with 17 pump stations and gravity flow. In addition to its own pump stations, WCW operates three additional stations (2 sewer and 1 storm water) under agreements with Contra Costa County and CCSD. WCW cleans approximately 1.5 million feet of pipeline per year on computer-scheduled work orders (this number includes cleaning sections of pipe multiple times per year). WCW has in-house capabilities for power rodding, hydro-flushing, and pipeline video inspection (WCW, 2022c). WCW staff actively maintain the collection system, as shown in Table 22-5 below.

WCW's collection system includes over 100 miles of 6-inch clay pipe, much of which was constructed prior to 1970. The concrete used to seal the old joints has gradually decomposed, leading to increased infiltration and inflow. To avoid plugging with smaller diameter pipes, WCW is replacing 6-inch pipelines with 8-inch minimum diameter pipes and using a longer lasting joint material. This reduces the potential for SSO and infiltration and inflow. (WCW, 2022c)

In 2012, WCW implemented a flow monitoring program and collected pertinent data to determine which areas were associated with the highest rate of inflow and infiltration (I/I). From 2015 to 2019, WCW utilized CCTV sewer inspections, field reconnaissance, micro-basin flow monitoring, and smoke testing to determine which pipelines in those areas should be replaced. WCW is addressing these and other collection system issues through its Capital Improvement Program, which uses a ten-year planning horizon (WCW, 2022c). Within the past three years, WCW constructed or replaced approximately 50,000 feet of pipeline.

Table 22-5: Collection System Activity

Collection System Activity

Fiscal Year	Pipeline Cleaning (1,000 Feet)	Video Inspections (1,000 Feet)	Number of Service Calls	Number of Main Stoppages	Total
2012	2,077	295.9	122	13	2,508
2013	2,101	326.4	136	11	2,574
2014	2,030	372.4	163	15	2,580
2015	2,175	345.5	154	15	2,690
2016	1,861	158.3	131	14	2,164
2017	1,588	154.0	131	11	1,884
2018	1,809	104.9	122	9	2,045
2019	1,638	123.3	133	13	1,907
2020	1,363	86.7	121	12	1,583
2021	1,789	217.3	57	10	2,073

Treatment Plant

WCW's Water Quality and Resource Recovery Plant (WQRRP) is located at 2377 Garden Tract Road in Richmond. The plant has a permitted dry weather capacity of 12.5 MGD and 21 MGD wet weather capacity; the current average dry weather flows are approximately 7.1 MGD. The plant has three flow equalization basins for managing wet weather flows. The wastewater receives advanced secondary treatment and is either directed to EBMUD's reclamation facilities or to the City of Richmond's WPCP. The wastewater receives tertiary treatment at one of the EBMUD facilities before being used at Chevron's refinery (WCW, 2022c).

The treatment plant site also contains an existing solar electricity generating facility that supplies approximately 1/3 of the electricity used at the treatment plant (LAFCO, 2014).

In the past six years, WCW has completed several critical projects at the WQRRP, including, but not limited to, the following: upgrading the electrical infrastructure, replacing valves at the Headworks and effluent pump stations, replacing five effluent pumps, upgrading the secondary process, and fully rebuilding the 3-water pumps. As noted, the project kicked off in early 2022 and has an expected completion date around October of 2024. This is the largest capital project in the history of WCW, and it will reduce the carbon footprint by approximately 90%. It includes but is not limited to, the following components: installing various energy efficiency lighting and equipment, installing a new

solids treatment system (anaerobic digesters and associated equipment), expanding storm water equalization (storage) capacity by approximately 25%, installing new centrifuge sludge/biosolids dewatering equipment, installing a biosolids dryer [to produce Class A biosolids which can be beneficially reused (eliminates future use of sludge lagoons which are a large source of greenhouse gas (GHG) emissions], installing approx. 0.8 megawatts MW of solar power-generating equipment at the WQRRP, installing approximately 0.06 MW of solar power-generating equipment at the WQRRP, installing 0.2 MW of solar power-generating equipment at three lift stations, installing 450 MW digester gas-powered electrical cogeneration engines (with redundancy) as well as installing a carbon redirection system for enhanced process control and digester gas production). This project will be paid for in part by energy and operational savings over its estimated 20-year life cycle (WCW, 2022c).

Secondary effluent not reused by EBMUD is conveyed to the Richmond WPCP, where effluent from both plants is dechlorinated and discharged to San Francisco Bay through a deep-water outfall.

Disposal Facilities

In 1977, WCW, the City of Richmond, and the Richmond Municipal Sewer District entered into a JPA, WCA[1], to construct and maintain effluent and sludge disposal facilities, including a 5-mile pipeline, dechlorination processing, and the San Francisco Bay outfall. Treated wastewater from WCW's WQRRP that is conveyed to the Richmond WPCP is combined with the effluent from the Richmond plant, dechlorinated, and discharged through a combined 72-inch diameter deep-water outfall into central San Francisco Bay. Increasingly stringent water quality standards will require WCW and Richmond to continue to implement improvements to their treatment processes and manage programs implemented to avoid wastewater loading that requires additional treatment (WCW, 2022c). Water quality regulations will become increasingly stringent, and compliance will be costly. WCW's ability to avoid discharge by directing secondary effluent to the EBMUD reclamation plants provides significant short-term and long-term benefits to the environment as well as to the ratepayers (WCW, 2022c).

Water Recycling

The Richmond Advance Recycled Expansion (RARE) Water Project was completed in March 2011. On average, the RARE facility has been able to reuse 4 MGD of the WCW effluent that previously would have been discharged within the City of Richmond's effluent to a shared outfall in San Francisco Bay. WCW's Pretreatment Program is officially functioning under the San Francisco Bay Regional Water Board oversight, with biennial inspections by their contractors. WCW's Lateral Replacement Grant Program has provided over $1 million over the last five fiscal years (LAFCO, 2014 and WCW, 2022c).

[1] The JPA was formed for the purpose of constructing and maintaining effluent and sludge disposal facilities, including the Bay outfall, 5-mile conveyance pipeline, dechlorination facilities, biosolids drying beds, and laboratory facilities (WCW, 2022c). However, in June 2023 the WCA Board approved pursuing the dissolution of the WCA and instructed staff to proceed with negotiating a series of operating agreements for joint operation of shared assets.

Sanitary Sewer Management Plan

In 2021, WCW prepared its Sewer System Management Plan (SSMP) in accordance with the requirements of the SWRCB's General Waste Discharge Requirements for Sanitary Sewer Systems (Order No. R2-2017-0041 – Waste Discharge Requirements for Hg and PCB discharges to SF Bay) (WCW, 2022c). The SSMP included a Fats, Oils, and Grease Control Program, which is expected to reduce the number of blockages and retain capacity within the sewer system. WCW has an Overflow Emergency Response Plan that includes an on-call response team (WCW, 2022c). In 2023, WCW conducted an audit its SSMP (WCW, 2022c).

Local Hazards

The Contra Costa County Hazard Mitigation Plan (HMP) Volume 2 maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards. However, WCW did not participate in the 2018 HMP (Contra Costa County, 2018). An equivalent analysis of local hazards in relation to WCW's infrastructure is not available on the WCW website. It is important for wastewater agencies to participate in the Hazard Mitigation planning process as the American Society of Civil Engineers, Region 9, has recommended that agencies make risk-based decisions on capital improvements, maintenance, and operations. For purposes of this analysis, it is noted that WCW has infrastructure located within the City of Richmond and the City of San Pablo[2]. Both of these Cities participated in the 2018 HMP. This MSR's Chapter 9 describes the local hazards that the City of Richmond described in the Contra Costa County HMP, and these are expected to be similar to the general types of hazards that WCW could potentially experience. WCW's Facebook page notes it will participate in the forthcoming update to the Contra Costa County HMP. It is recommended that WCW incorporate information about local hazards into the District's next Sanitary Sewer Management Plan update. Additionally, it is recommended that when LAFCO next updates this Wastewater Services MSR for WCW (anticipated in five to ten years), it should specifically address local hazards and the steps WCW has taken towards resiliency.

Sanitary Sewer Overflow Database

The State Water Board maintains a Sanitary Sewer Overflows (SSO) database from public/permitted systems and private lateral sewage discharges. This database is a specific module in the California Integrated Water Quality System (CIWQS). The State Water Board formalized the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems under Water Quality Order No. WQ 2022-0103-DWQ (SSS WDRs), on December 6, 2022. All public agencies that own or operate a sanitary sewer system comprised of more than one mile of sewer pipes that convey wastewater to a publicly owned treatment facility must be covered under the SSS Waste Discharge Requirements. A 3.6-year term from January 1, 2019 to August 9, 2022, was queried in the CIWQS-SSO database. The results of the database queries regarding WCW are listed in Table 22-6.

[2] Note: The City of Pinole also did not participate in the 2018 Contra Costa County Hazard Mitigation Plan.

Table 22-6: West County Wastewater District Sanitary Sewer Overflows

EVENT ID	Region	Responsible Agency	SSO Category	Start Date	SSO Vol	Vol of SSO Recovered	Vol of SSO Reached Surface Water	SSO Failure Point	WDID
856206	2	WCW	Category 2	2/13/2019	2,400	0	0	Gravity Mainline	2SSO10216
856207	2	WCW	Category 1	2/13/2019	156,000	0	156,000	Gravity Mainline	2SSO10216
856210	2	WCW	Category 3	2/13/2019	220	0	0	Gravity Mainline	2SSO10216
856211	2	WCW	Category 3	2/13/2019	720	0	0	Gravity Mainline	2SSO10216
857448	2	WCW	Category 1	3/30/2019	900	300	40	Gravity Mainline	2SSO10216
857842	2	WCW	Category 2	4/17/2019	1,230	1,230	0	Gravity Mainline	2SSO10216
858242	2	WCW	Category 1	5/7/2019	1,500	300	1,200	Gravity Mainline	2SSO10216
858265	2	WCW	Category 1	5/8/2019	2,750	500	2,250	Gravity Mainline	2SSO10216
858439	2	WCW	Category 3	5/21/2019	100	100	0	Maintenance hole	2SSO10216
859501	2	WCW	Category 3	6/28/2019	50	50	0	Gravity Mainline	2SSO10216
861716	2	WCW	Category 3	9/11/2019	5	0	0	Gravity Mainline	2SSO10216
861908	2	WCW	Category 3	8/27/2019	750	0	0	Gravity	2SSO10216

								Mainline	
861909	2	WCW	Category 3	9/23/2019	50	0	0	Pump Station-Mechanical	2SSO10216
862109	2	WCW	Category 3	8/22/2019	250	0	0	Gravity Mainline	2SSO10216
862110	2	WCW	Category 1	10/7/2019	590	570	590	Gravity Mainline	2SSO10216
862662	2	WCW	Category 1	10/28/2019	60,500	55,000	60,500	Force Main	2SSO10216
862928	2	WCW	Category 1	11/14/2019	14,400	10,360	14,400	Force Main	2SSO10216
864669	2	WCW	Category 2	2/5/2020	1,250	0	0	Air Relief Valve (ARV)/Blow-Off Valve (BOV)	2SSO10216
865959	2	WCW	Category 1	3/30/2020	193,380	0	193,380	Force Main	2SSO10216
866663	2	WCW	Category 3	4/22/2020	100	100	0	Gravity Mainline	2SSO10216
866665	2	WCW	Category 3	3/23/2020	5	0	0	Gravity Mainline	2SSO10216
868427	2	WCW	Category 3	7/10/2020	750	0	0	Gravity Mainline	2SSO10216
870579	2	WCW	Category 3	11/9/2020	675	675	0	Gravity Mainline	2SSO10216
870790	2	WCW	Category 1	11/24/2020	43,816	42,000	1,816	Gravity Mainline	2SSO10216
872100	2	WCW	Category 1	1/30/2021	229	100	229	Gravity Mainline	2SSO10216
873444	2	WCW	Category 1	4/6/2021	718	700	18	Gravity Mainline	2SSO10216
874055	2	WCW	Category 3	5/4/2021	200	0	0	Gravity Mainline	2SSO10216

876346	2	WCW	Category 1	9/11/2021	1,850	100	1,750	Gravity Mainline	2SSO10216
877257	2	WCW	Category 1	10/24/2021	111,376	0	111,376	Gravity Mainline	2SSO10216
877293	2	WCW	Category 3	9/30/2021	20	0	0	Gravity Mainline	2SSO10216
877374	2	WCW	Category 3	10/24/2021	450	0	0	Gravity Mainline	2SSO10216
877418	2	WCW	Category 2	11/3/2021	18,900	0	0	Pump Station-Controls	2SSO10216
877838	2	WCW	Category 3	10/24/2021	350	350	0	Gravity Mainline	2SSO10216
878240	2	WCW	Category 1	12/17/2021	12,625	0	12,625	Gravity Mainline	2SSO10216
878913	2	WCW	Category 1	1/19/2022	13,200	0	13,200	Maintenance hole	2SSO10216
879737	2	WCW	Category 1	2/26/2022	400	0	400	Gravity Mainline	2SSO10216
880690	2	WCW	Category 1	4/15/2022	2,280	180	2,100	Gravity Mainline	2SSO10216
Data Source: CIQWS Sanitary Sewer Overflow Database									

During this 3.6-year timeframe, 37 SSO events occurred in the WCW District[3]. In most cases, the SSO had failure points at the gravity mainline. Some of the overflows had significant spill volumes. The spill that took place on March 30, 2020, had the greatest spill volume of 193,380 gallons. None of the spilled material was recovered. Instead, the entire spill volume reached surface water. A structural failure of the pipe caused the spill. Another significant spill occurred on October 24, 2021, with a volume of 111,376 gallons. None of the spilled material was recovered. Instead, the entire spill volume reached surface water. The spill was caused by root intrusion. Overall, many of the SSOs within the query were not recovered.

WCW is reducing the risk of future SSOs through its Sewer Ordinance update, which requires testing of building sewers and sewer laterals under specific circumstances. Sewers and laterals that do not pass the prescribed tests must be repaired or replaced per WCW's policies (WCW, 2022c). The last column in Table 22-6 lists the Waste Discharger Identification (WDID) used by the RWQCB in their databases.

From July to October 2022, San Francisco Bay experienced a harmful algal bloom (HAB) known as a red tide, as described in Appendix F. The species associated with this bloom, *Heterosigma akashiwo*, can cause water to take on a reddish-brown color. The HAB extended throughout the open-bay regions of the South Bay, the Central Bay and into San Pablo Bay. Fish deaths linked to the red tide included sturgeon, striped bass, sharks, bat rays, smelt, and anchovy. The San Francisco Bay Water Board is working to manage nutrient inputs to the Bay through the Nutrient Management Strategy, which includes collaboration with researchers, dischargers, and other agencies to study the potential impacts of nutrients on San Francisco Bay. The District has an opportunity to assist with this effort by continuing to reduce the number of SSO events and by discussing the nutrient problem with other wastewater districts and the Water Board.

In addition to the SSOs listed in Table 22-6, WCW filed a Hazardous Material Spill notice with the CA Office of Emergency Services on January 11, 2023, and provided an update on January 15, 2023. Due to heavy rains, the WCW facility pumped sewage directly into the San Francisco Bay. The total amount was estimated at 11 million gallons. The Contra Costa Health Services Department was notified.

Another Hazardous Material Spill notice was filed with the CA Office of Emergency Services in June 2023. Approximately 500,000 gallons of sewage spilled from a maintenance hole in El Sobrante,

[3] Note: WCW experienced 60 SSOs between the years 2008 to 2014. LAFCO's 2014 MSR noted that the number of SSOs experienced tended to decline because WCW has a computer-generated schedule for cleaning and closed-circuit televising (CCTVing) the collection system. Deficiencies discovered during CCTVing are scheduled for repair or replacement by WCW construction crews or local contractors (LAFCO, 2014). Through is cooperative efforts with local partners and through its infrastructure improvements, sewer spills were reduced in number and volume from 19 in 2009 to 12 in 2012 (LAFCO, 2014).

which also entered San Pablo Creek. The maintenance hole was blocked by grease and disposable wipes. As a result, WCW put this sewer line at San Pablo Creek on an increased cleaning schedule.

Future Challenges

This section considers factors that influence an agency's ability to collect, treat, and dispose of wastewater and provide public service to customers. Wastewater service providers in the Bay Area face several future challenges, including anticipated Nutrient Management Regulations. The RWQCB is expected to implement interim SF Bay-wide and individual WWTP effluent limits. This may include aggressive, long-term SF Bay-wide nutrient limits based on current scientific information with a multi-year compliance schedule. Therefore, water quality regulations will become increasingly stringent, and compliance will be costly. WCW's ability to avoid discharge by directing secondary effluent to EBMUD provides significant short-term and long-term benefits to the environment as well as to the ratepayers (WCW, 2022c). Another challenge faced by WCW is the aging infrastructure.

The American Society of Civil Engineers, Region 9 has several recommended remedies for California's aging wastewater infrastructure as outlined in Appendix J and as summarized below:

1. Implement an education program at the state and local level about what a wastewater treatment plant is, what kind of waste it can treat, and what impact wastes have on the sewer pipes. Continue educational programs about identifying a sewer overflow and whom to call if such an event occurs.
2. Make risk-based decisions on capital improvements, maintenance, and operations.
3. Continue advancements in water reuse/recycling (ASOCE, 2019)

Cooperative Programs & Shared Facilities

LAFCO is required by the CKH Act to make a determination regarding the status of and opportunities for, shared facilities. WCW currently shares facilities and resources with other agencies[4] by providing contract services and delivering secondary effluent to EBMUD for recycled water use. (WCW, 2022c).

Since 1995, WCW has provided secondary effluent to EBMUD. The effluent is further treated at the plant to produce tertiary-treated recycled water for use in the Chevron refinery cooling towers. EBMUD implemented the RARE Water Project in 2011 to provide up to 4 MGD of high-quality recycled water for boiler feedwater at the refinery. It provides multiple benefits, including reducing the quantity of treated wastewater effluent discharged to San Francisco Bay and advancing the use of a reliable and sustainable water supply. The Chevron Refinery has an average daily demand of 12 MGD, so WCW's effluent supplies over half of the refinery's total water needs (WCW, 2022c).

[4] Many of these agreements are outdated and either in the process of being updated or planned to be in the coming one to two years (WCW, 2022c).

WCW provides contract services to the CCSD for lift station and sanitary sewer maintenance for their wastewater collection system. WCW also maintains the Contra Costa County North Richmond Stormwater Pump Station and the West County Detention Center wastewater pump station. Finally, WCW has an emergency response agreement with the SSD and the Richmond Municipal Sewer District (WCW, 2022c).

Since 2000, WCW, the City of Richmond, and Republic Services (RS), operator of the West County Landfill just next door to the WQRRP, have been involved in an exchange of services agreement. As part of RS's CA Department of Toxic Substance Control landfill post-closure permit, they needed a long-term alternative for disposing of landfill leachate (liquid composed of various, sometimes nasty constituents that is collected as it drains from the bottom of the landfill). The parties entered into an agreement whereby RS disposes of all solid waste generated by the City of Richmond and WCW in exchange for the two agencies treating leachate (under well-defined permit requirements) through their respective treatment plants (WCW, 2022c).

Two leachate streams are generated from the landfill, Class I and Class II. Class I Leachate is a relatively small volume of liquid generated from the former hazardous waste section of the landfill. It is fully treated at the site and then pumped to WCW's WQRRP, where it is mixed with influent (sewage) entering the plant and then fully treated again with other materials being processed. The Class II Leachate is a larger volume that is sent to the City of Richmond WPCP for treatment through that facility. This is a less noxious waste stream collected from the domestic section of the landfill, whose main contaminant of concern is Ammonia (WCW, 2022c).

In the past, WCW studied the possibility of a joint treatment agreement with the Cities of Hercules or Pinole, but those agencies decided to upgrade their own WWTP (LAFCO, 2014). In the long term, consolidation with an adjacent sewer service provider may be feasible, resulting in more sharing of staff expertise, equipment, and regulatory compliance (LAFCO, 2014). In the past, opportunities were evaluated for WCW to share its treatment and disposal facilities with the cities. Those efforts have been dormant for many years, and Hercules and Pinole ultimately chose to operate a joint WPCP in Pinole (WCW, 2022c).

From February 1977 through 2024, WCW participated in the West County Agency (WCA), a joint power authority (JPA), with the City of Richmond's Municipal Sanitary Sewer District to construct and maintain effluent and sludge disposal facilities. Specifically, WCA maintains the San Francisco Bay outfall (a 5-mile pipeline that runs between the two plants), a large diffuser on the SF Bay seabed, two Aton marker buoys, and effluent dechlorination processes (WCW, 2022c). However, a WCA staff report presented at the March 21, 2024, JPA meeting indicates that the parties are in the process of dissolving the JPA. In June 2023, the WCA Board approved pursuing the dissolution of the WCA and instructed staff to proceed with negotiating a series of operating agreements for the joint operation of shared assets. The parties are now in the process of negotiating a Dissolution Agreement and

establishing the terms of operating agreements for assets historically owned by the WCA. The impact of this dissolution on the City of Richmond was not described in the March 2024 staff report.

A final note on shared facilities: biosolids processing and handling facilities constructed under WCW's C&GP are sized to handle the City of Richmond's biosolids and those generated by WCW. WCW is discontinuing the use of its sludge storage lagoons for various environmental and other reasons. This change in operations will directly impact the City of Richmond. WCW has offered a potential solution by allowing an opportunity for the City to continue sending biosolids under a cost-sharing agreement, which would still need to be developed. WCW suggests there are multiple benefits to this potential arrangement, which include, but are not limited to, avoiding costs for the City of Richmond (they would forego an estimated $20M in capital costs, as well as O&M costs associated with constructing their own biosolids processing and treatment facilities), eliminating future truck traffic caused by transporting dried biosolids out of Point Richmond and eliminating the potential for odors that could accompany biosolids treatment (WCW, 2022c).

Awards

WCW has received several awards and recognitions, as listed below:

- Certificate of Achievement for Excellence in Financial Reporting from the Government Finance Officers Association of the United States and Canada (GFOA) for the WCW annual comprehensive financial report (ACFR) for the fiscal year ending June 30, 2020. This was the 22nd consecutive year WCW was recognized for its financial reporting. In order to be awarded, a government must publish an easily readable and efficiently organized ACFR. This report must satisfy both generally accepted accounting principles (GAAP) and applicable legal requirements.
- District Transparency Certificate of Excellence from the Special District Leadership Foundation in 2017.
- The Water Quality and Resource Recovery Plant has achieved the National Association of Clean Water Agencies Peak Performance Award for 21 years in a row.
- Platinum and Gold awards from the National Association of Clean Water Agencies (NACWA) for 17 consecutive years in recognition of compliance with its National Pollutant Discharge Elimination System (NPDES) permit (WCW ACFR, 2022a).
- The Project of the Year Award for projects under (5) million dollars in 2016 awarded by APWA – Northern California Chapter.

Cost Avoidance Opportunities

WCW is leveraging several opportunities that will result in cost savings, some of which represent significant green strategies to support sustainability (WCW, 2022c). For example, in December 2007, WCW entered into a purchase power agreement (PPA) for a 1.0 MW solar electricity generating system at the WQRRP. The system was designed to offset approximately 30% of the power previously purchased through Pacific Gas & Electric (PG&E) to operate the WQRRP. The project was

implemented through PG&E's Self Generation Incentive Program, which resulted in a rebate toward the project cost. The system became operational in 2008, and some components are now nearing the end of their useful life. WCW is in discussions with the system's owner to evaluate options to rehabilitate as necessary or otherwise decide on its future (WCW, 2022c).

As previously noted in this report, WCW worked with EBMUD to implement the RARE Water Project (advanced recycled water treatment facilities) to provide recycled water to the Chevron Richmond Refinery and reduce potable water consumption. The Project became operational in 2011. Nearly all of WCW's effluent in the summer and most during the wet season is recycled by EBMUD, supplying over half of the refinery's total water needs. This reduces the cost of conveying secondary effluent to the Richmond WPCP and reduces costs for dechlorination and discharge (WCW, 2022c).

WCW implements a Pretreatment Program to inspect, monitor, and enforce regulations related to discharge from industrial users. WCW's Pollution Prevention Program targets and educates commercial and residential users. The two programs aim to prevent harmful discharge from entering the wastewater system, which would require greater effort and expense by WCW to treat the waste prior to discharge (WCW, 2022c).

WCW previously amended its Sewer Ordinance to reduce sources of infiltration and inflow and reduce or eliminate sewage overflows. Effective January 2, 2008, Ordinance 1-02-08 required all new building sewers and sewer laterals to pass specified tests. Defective building sewers and sewer laterals are prohibited. Existing building sewers and sewer laterals must be tested when there is no record of compliance found by WCW, an event such as a sewer overflow has occurred, a potential sewer overflow could occur, or a remodel, home sale, or transfer is proposed. Sewer laterals that fail the required testing and analysis process must be repaired or replaced at the expense of the property owner(s). To assist in defraying some of the costs of addressing sewer lateral defects via construction, WCW offers a partial reimbursement program that provides up to 50% or up to a maximum of $3,000 for laterals that are less than 100 feet in length and less than 10 feet in depth, or up to a maximum of $4,500 for longer or deeper laterals, towards the construction cost (WCW, 2022c).

22.4: DISTRICT FINANCIAL OVERVIEW

WCW operates as an enterprise-type activity, with its primary revenue source being service charges and fees. It is self-supporting. The District's Biennial Operating Budget and Annual Comprehensive Financial Reports (ACFR) are the primary information source for data related to the WCW Enterprise Fund, and these reports are posted on the District's website at: <*https://www.wcwd.org/about-us/plans-documents/*>. This financial analysis represents a snapshot in time (i.e., a limited time period). However, WCW regularly updates its financial data, and readers may review the new data on the WCW website.

WCW's enterprise fund is further segmented into four internal sub-funds;

- Operating Fund,
- Capital Improvement Fund,
- Restricted Capital Fund, and
- Equipment Replacement Fund.

All departments charge their operating and maintenance expenses to the Operating Fund.

Budgeting: The WCW Biennial Operating Budget for fiscal years 2022 and 2023 was adopted by the Board of Directors on June 16, 2021. WCW budgets on a fiscal year basis that begins July 1 and ends June 30. Every two years, WCW prepares a Biennial Budget. The Biennial Budget is intended to inform elected officials, WCW staff, and the public. The Budget includes a 5.5% increase in Sewer Use Charges and a Capital Improvement Plan (CIP). WCW follows financial policies and procedures and has a Gann Appropriations Limit in place (WCW Budget, 2021).

Annual Comprehensive Financial Report (ACFR): The ACFR was prepared by the Administrative Services Department of the WCW District (WCW ACFR, 2022a). The most recent ACFR available as of April 4, 2024, is for fiscal year (FY) 2020- 2021. The auditor (Cropper Accountancy Corporation) provided an opinion that the financial statements referred to above present fairly, in all material respects, the respective financial position of the business-type activities of the WCW District as of June 30, 2021 and 2020 and the respective changes in financial position, and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America (WCW, ACFR, 2022a).

The Auditors noted that although there were no noncompliance instances, they found an internal financial reporting item that indicated a material weakness. Specifically, during the year ended June 30, 2021, there was continuity of personnel issues related to key employees, particularly within the finance department. This was partly due to COVID-19 related staffing issues combined with unclear written procedures for accounting staff. This situation resulted in delays for the audit. The Auditors recommended that WCW implement additional accounting/financial policies and procedures to shore up the control environment (WCW, ACFR, 2022a). Given that local agencies are recovering from COVID-19 and given that WCW has hired new staff, it is likely that this situation is being resolved.

Five primary areas of criteria were utilized to assess the present and future financial condition of WCW's wastewater service operations, as discussed below:

3 Year Revenue/Expenditure Budget Trends

WCW's primary source of operating revenue is sewer service charges. Revenue is also derived from interest income on investments, connection fees, and service contracts. Additionally, WCW receives a portion of local property tax. Additionally, in 2021, WCW issued $79.6 million in wastewater revenue bonds. This bond funding will be used to complete various capital improvement

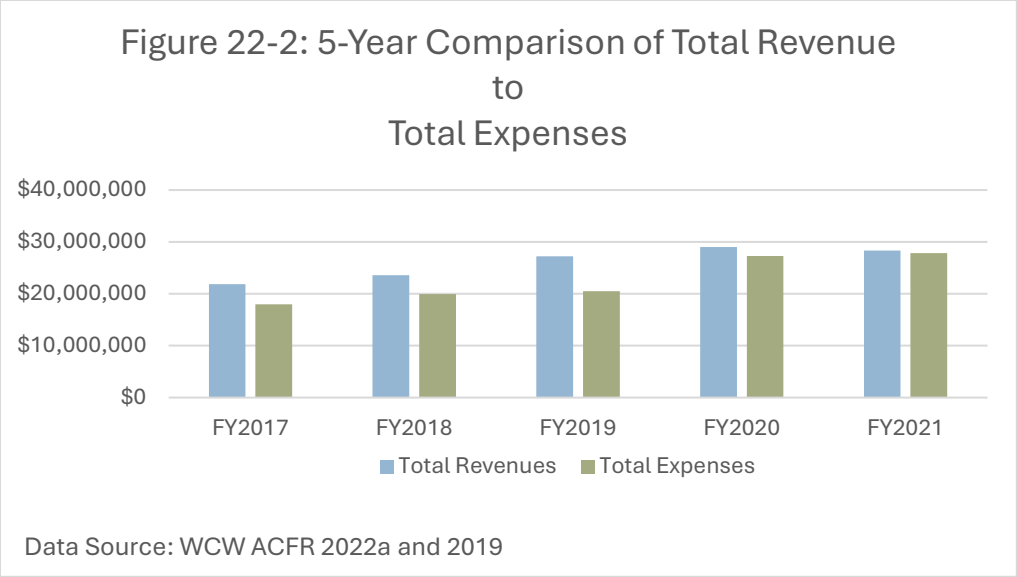
projects, including the C&GP. WCW provides contract operations and maintenance services to several outside agencies, which increases revenue opportunities for WCW (WCW, 2022c). Table 22-7 below summarizes the recent financial trends of WCW.

Table 22-7: WCW Financial Summary

	FY 2019/2020 Actual	FY 2020/2021 Actual	FY 2021/2022 Est. Final	FY 2022/2023 Budgeted
Operating Revenues	$29,010,581	$28,530,542	$30,862,940	$31,210,468
Operating Expenses	$20,331,286	$24,296,309	$22,780,071	$25,070,507
Net Operating Revenues / (Expenses)	$8,679,295	$4,234,233	$8,082,869	$6,139,961
Non-Operating Revenues	$582,000	$1,176,339	$83,529,700	$485,000
Non-Operating Expenses	$8,730,312	$14,559,054	$83,424,857	$10,327,636
Net Assets, Beg. of Year	$103,975,949	$106,284,654	$108,094,778	$116,282,490
Net Assets, End of Year	$106,284,654	$108,094,778	$116,282,490	$112,579,815
Change in Net Assets	$2,308,705	$1,810,124	$8,187,712	$(3,702,675)

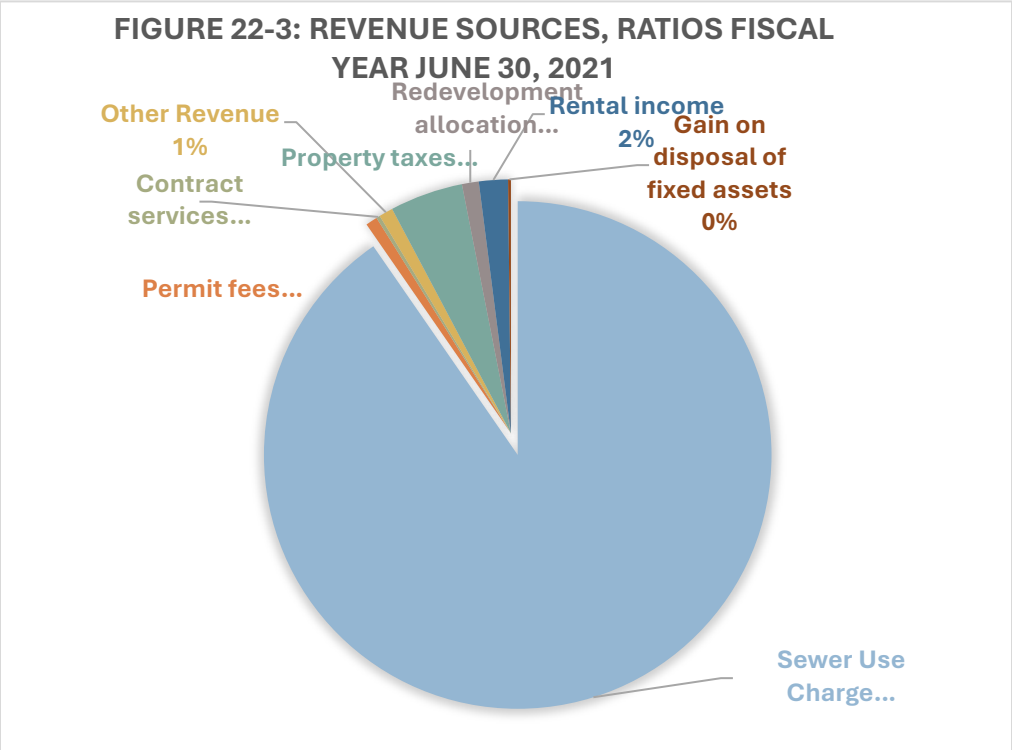
Data Source: (WCW, 2022c)

Operating revenues for fiscal year 2021 were $26.1 million, and total **operating** expenses were $27 million, resulting in an operating loss of $1.3 million. This compares to fiscal year 2020 operating revenues of $26.0 million and total operating expenses of $26.8 million, resulting in an operating loss of $0.8 million. Sewer Use Charge (Environmental Quality Charge) revenue decreased by $11,151 from fiscal year 2020 to 2021. It increased by $1.8 million from fiscal year 2019 to 2020, primarily due to decreased water use by commercial customers (WCW ACFR, 2022a). However, total revenue exceeded total expenses for each of the five study years presented in Figure 22-2. Figure 22-2 below demonstrates that WCW's Board of Directors maintains sound fiscal policies and closely monitors expenses (WCW ACFR, 2022a).



Ratios of Revenue Sources

WCW receives approximately 90 percent of its revenues from service charges and fees. Property taxes comprise approximately five percent, and Rental Income comprises two percent. Figure 22-3 shows that the remaining revenue sources are one percent or less, including permit fees, contract services, other revenue, redevelopment allocation, and gain on disposal of fixed assets. This ratio of revenue reflects an appropriate balance for a typical enterprise-type service and minimizes the impact that negative economic factors will have on more elastic revenues such as property tax.



Ratio of Reserves or Fund Balance to Annual Expenditures

WCW maintains seven reserve funds: 1) Debt Service, 2) Insurance, 3) Connection Fees, 4) Operating Reserve, 5) Capital Reserve, 6) Equipment and Vehicle and 7) Emergency. On June 30, 2021, WCW had a reserve fund balance as listed below in Table 22-8.

Table 22-8: WCW Defined Reserves for June 30, 2021,	
Type of Fund	**Amount**
Debt Service	$ 2,286,206
Insurance	$ 200,000
Connection Fees	$ 485,000
Operating Reserve	$12,678,205
Capital Reserve	$ 5,351,123
Equipment and Vehicle	$ 2,356,981
Emergency	$ 1,594,605
Total	**$ 24,952,120**
Data Source: (WCW, 2022c)	

The Reserves listed in Table 22-8 above result from budgetary policy describing available liquid resources, such as cash and investments outside the Budget, to be used if appropriated funds are insufficient. These funds may be used for contingencies, emergencies, or other unplanned events. WCW's Board of Directors reviews reserve levels annually as part of the budget process to determine whether the levels established provide for the financial security required of a fiscally responsible local government (WCW ACFR, 2022a). WCW increased service rates to support a hybrid pay-as-you-go, grant or bond-funded approach to implementing capital projects. Operating revenues that may be used for capital projects are expected to be consistent at $485,000 per year (unless the State shifts property revenue from the special districts). Capital expenditures of $216,777,650 are planned over the 10-year period, based on the FY 2022-23 Operating and Capital Budget (WCW, 2022c). WCW maintains cash and investments totaling $40,255,886, including funds in the Local Agency Investment Fund (WCW ACFR, 2022a).

An indicator of the ability to absorb an unexpected loss of revenue in a given fiscal year is exhibited by the amount of unrestricted cash reserve or fund balance the service fund maintains in relation to the annual fund expenditures. The Government Finance Officers Association generally recommends maintaining an unassigned fund balance of no less than two months (16.67%) [a "floor"] compared to annual expenditures. A larger percentage (ratio) is encouraged to allow local agencies to adapt to risks such as uncertainty and volatility in the world, particularly related to economic disruptions and severe weather, and to adjust to future resource constraints.

WCW currently has an overall reserve fund balance of $24,952,120, as noted in Table 22-8 above. However, many of these funds are restricted to a specific use. Therefore, the unrestricted Net

Position of $ 17,107,879 for FY 2020-21 was utilized for this calculation. The unrestricted net position is approximately 61.45% of total expenditures ($27,840,253), and this represents an acceptable ratio.

Annual Debt Service Expenditures to Total Annual Expenditures

For local government agencies, liabilities typically include current liabilities such as accounts payable, salaries payable, bond interest payable, and long-term liabilities such as serial bonds payable, installments payable, and contracts payable. Specifically, the District obtained four California State Water Resources Control Board 20-year State Revolving Fund (SRF) loans during fiscal year 2015. Each of the four SRF loans (payable) were utilized for the Wastewater Facility and Collection System Rehabilitation Project and are listed below:

A. **Phase I, Segment 1**: loan in an amount not-to-exceed $1,654,505 with an interest rate of 1.90% per annum for capital projects.
B. **Phase I, Segment 2**: loan in an amount not-to-exceed $2,881,758 with an interest rate of 1.90% per annum for capital projects. In 2016, Amendment 3 was issued, and the amendment was executed in February 2021, increasing the total loan amount to $8,918,272. As of June 30, 2021, this loan is outstanding in the amount of $2,253,766.
C. **Phase I, Segment 3**: loan in an amount not-to-exceed $14,593,521 with an interest rate of 1.90% per annum for capital projects.
D. **Recycled Water Reliability Upgrades**: loan in an amount not-to-exceed $30,457,093 with an interest rate of 1.00% per annum for capital projects.

For each of these loans, the timeframes and interest rates are summarized in Table 22-9 below.

Table 22-9 SRF Loans

Loan Agreement #	Repayment Dates Start	End	Interest Rate	Loan Offered	Loan Amount	Loan Available
7876-110	5/6/2017	5/6/2036	1.90%	1,654,505	1,228,650	
7876-120	5/31/2020	5/31/2039	1.90%	2,881,758	2,271,368	2,614,624
7876-130	8/30/2018	8/30/2037	1.90%	14,593,521	13,290,164	180,826
8043-110 (1)	6/3/2018	6/3/2037	1.00%	30,457,093	18,337,739	
Total as of 6/30/20				49,586,877	35,127,921	2,795,450

These SRF loans have an established repayment scheduled, as detailed in Table 22-10 below.

Table 22-10: Repayment Schedule for SRF Loans

Repayment Schedule (2):	Principal	Interest	Total
FYE 6/30/21	1,782,859	501,484	2,284,343
FYE 6/30/22	1,806,872	477,471	2,284,343
FYE 6/30/23	1,832,158	452,185	2,284,343
FYE 6/30/24	1,857,834	426,508	2,284,342
FYE 6/30/25	1,883,907	400,436	2,284,343
FYE 6/30/26	1,910,383	373,960	2,284,343
FYE 6/30/27	1,937,269	347,074	2,284,343
FYE 6/30/28	1,964,571	319,772	2,284,343
FYE 6/30/29	1,992,297	292,046	2,284,343
FYE 6/30/30	2,020,454	263,889	2,284,343
Thereafter	16,139,317	1,052,673	17,191,990
Total	35,127,920	4,907,498	40,035,418

The ratio of annual debt service to total fund annual expenditures is an indicator of the ability to meet debt obligations in relation to service provision expenditures. Ideally, a ratio of 10 percent or less would reflect a very stable ratio. WCW's annual debt service for FY 2021 was $2,284,343, as listed in Table 22-10 above. The ratio of annual debt service to total fund annual expenditures ($27,840,253 in FY 2021) calculates to approximately 21 percent for FY 2021. This ratio falls within the suggested guideline of 10 percent or less, indicating that WCW will likely be able to continue to meet its debt service obligations. However, this calculation relies upon the most recent ACFR available which is for FY 2021. In 2022, new $90 million bonds were issued to fund the Comprehensive Energy and Sustainability Upgrades. Since this new debt is not included in the above paragraphs, it is recommended that when LAFCO next updates a MSR for WCW (anticipated within five to ten years), this metric should be reanalyzed.

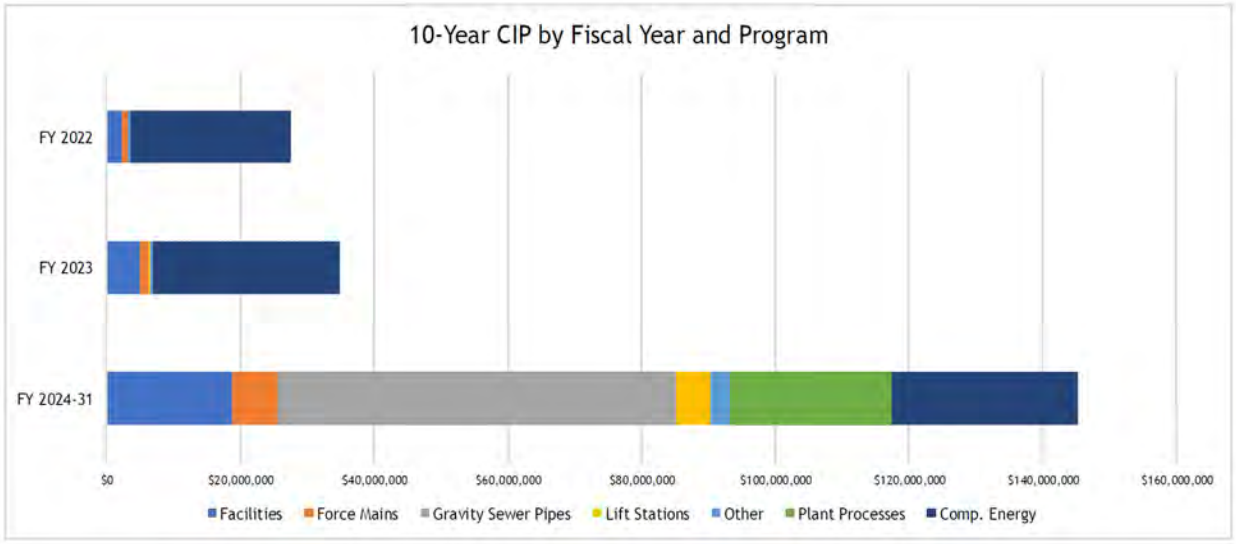
Capital Improvement Program

WCW's Board of Directors approved the Ten-year Capital Improvement Plan (CIP) at the June 2, 2021 Board meeting. This ten-year CIP covers the time period FY 2021/2022 through 2030/2031. The FY 2022 CIP expenditure budget was $27.5 million and $34.9 million in FY 2023. A significant portion of the Budget is dedicated to the planned Comprehensive Energy and Sustainability Upgrades program estimated to cost $79 million over the next three years. The Board authorized the issuance of bonds in FY 2022 to fund the Comprehensive Energy and Sustainability Upgrades program and other miscellaneous capital projects. The total dollar amount of the bond issuance is estimated to be up to $90 million (WCW Budget, 2021).

The CIP also includes approximately $63,000,000 in projects for the gravity portion of the collection and conveyance system and includes approximately $9,000,000 in projects for the force main portion of the collection and conveyance system (WCW, 2022c). Approximately $100,000,000 in

projects for the WQRRP, including process improvements and a standby generator is also included (WCW, 2022c). Please note that the CIP budget is treated differently than the operating budget because any unspent funding from one fiscal is rolled over into the next fiscal year. The CIP includes all current capital improvement projects in progress as well as all identified proposed future CIP. The Plan both prioritizes and schedules CIP spending for the next 10 years, allowing WCW to effectively and transparently manage its fiscal and staffing resources (WCW Budget, 2021).

Figure 22-4: Ten-Year Capital Improvements



Data Source for Figure 22-4: (WCW Budget, 2021)

Infrastructure Needs

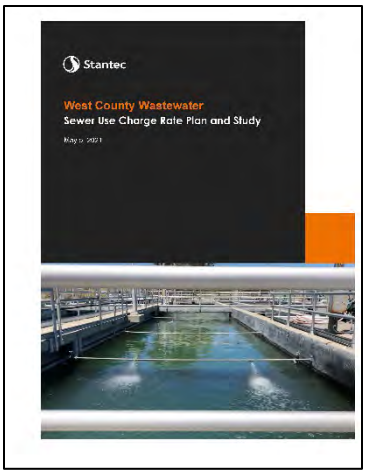
Existing Infrastructure: WCW currently maintains various equipment, vehicles[5], infrastructure, and associated assets. As noted above, WCW has an aged sewer collection system (LAFCO, 2014). WCW provides wastewater collection, treatment, and disposal services for residential, commercial, and industrial customers. The infrastructure consists of approximately 249.0 miles of sewer gravity pipeline, 6.3 miles of pressurized pipeline, and 17 pump stations. The wastewater receives secondary treatment and is either directed to EBMUD for reclamation or the City of Richmond's WPCP to be dechlorinated prior to discharge to SF Bay. WCW has had a collection system preventive maintenance program for over 40 years and is implementing a lateral testing program on the sale of property to minimize infiltration and inflow and avoid costly blockages. WCW has increased service rates to support a hybrid pay-as-you-go, grant or

[5] The California Air Resources Board (CARB) approved a new rule on Aug 25, 2022 which requires new car sales in California to be zero-emission vehicles (ZEVs) by 2035. While it is not yet clear whether new electric vehicle laws will apply to the type of trucks utilized by the District, it is likely that sometime in the future, the District may be asked to consider purchasing or retrofitting vehicles reliant upon an alternative energy source such as electricity, biogas, hydrogen, or other source. The price per gallon of gasoline has risen; therefore, alternative fuel/energy for vehicles can sometimes be cheaper.

bond-funded approach to implementing capital projects (WCW, 2022c). The CIP described in the preceding paragraphs was designed to address the identified infrastructure needs.

Rate Structure

WCW uses a flat rate structure for residential properties; non-residential properties pay rates based on water use. WCW has increased service rates to support a hybrid pay-as-you-go, grant or bond-funded approach to implementing capital projects (WCW, 2022c). WCW adopts sewer service charge rate plans every five years and reviews its service charges and connection fees annually. For example, in 2021, Stantec Consulting Services, Inc. (Stantec) completed a Sewer Use Charge Rate Plan and Study for WCW. The study analyzed revenue, expenses, reserve policies, and other financial data. Based on this study, WCW updated its fees for the annual service charge for residential customers. The 2022-23 rate of $711 per year reflects a $37 increase over 2021-22 rates; the previous rate increase was in July 2021. The annual sewer service charge is collected through the property tax roll. A flat rate structure for residential sewer service is common in comparison to other sanitary districts in the area (WCW, 2022c).



Commercial customers pay a service charge based on water use. The rate varies depending on wastewater loading; the top rate is $12.82 per 1,000 gallons of water delivered for food service accounts. Rates for industrial users are based on actual flow, chemical oxygen demand, and suspended solids (WCW, 2022c). The current wastewater service rates are summarized in Table 22-11 below. A portion of the 1% property tax collected on property within WCW's sanitary sewer service area accrues to WCW (WCW, 2022c). In addition, properties within Richmond's city limits are assessed by the City for $32 per Sewer Service Unit for the City's Stormwater Management Program. Industrial users are charged $3.32 per Industrial Waste Unit (WCW, 2022c).

Table 22-11: WCW Service Area 2022-23 Wastewater Service Charge

Type	**Rate**
Single-Family Residential	$59/month ($711/yr.)
Commercial	($7.62 - $12.82/1,000 gal)
Data Source: (WCW, 2022c)	

22.5: POPULATION

There are approximately 103,214 residents within the District boundary as of 2020 (Contra Costa Dept of Conservation, 2022). Detailed information regarding population demographics in Contra Costa County is provided in Appendix A.

Table 22-12: Existing Permanent Population, WCW, 2020 to 2023			
Name of District	**Population in Boundary 2020 (1)**	**Number of Registered Voters in Boundary (2)**	**Population in SOI only (3)**
WCW	103,214	44,064 as of June 12, 2019	1,685
Sources: (1) California Department of Finance. E-1 Population Estimates for Cities, Counties, and the State: January 1, 2021 and 2022. Sacramento, California. https://www.dof.ca.gov/Forecasting/Demographics/Estimates/E-1/. (2) Registered Voter data for January 2023 provided by LAFCO's Agency Directory, based on Contra Costa County Elections Office data. (3): Calculated estimate based on an average of 3.02 persons per parcel in the County of Contra Costa.			

Projected Future Population: Projecting a district's future population is complicated due to varying annexation rates and census tracts that do not match the district's boundary. Data from the California Department of Finance (DOF) was used to project population growth for Contra Costa County, as shown in Table 22-13 below. Since the anticipated future population growth of the District has the potential to influence the demand for the provision of wastewater services, the projections are shown in Table 22-13 below.

WCW's staff provided their own population data. They estimate the current population within WCW's boundary is 102,000 residents (slightly lower than LAFCO's estimate). Based on the Association of Bay Area Government's (ABAG) 2050 Growth Pattern document, WCW staff estimates the population may reach 123,000 by 2050 with an average annual growth rate of 0.7%. (WCW, 2022c). In Table 22-13, population projections are provided using both LAFCO's population data (high scenario) and WCW's estimate (low scenario). Although using LAFCO's population data provides a higher/larger starting point, by the year 2045, both scenarios will be somewhat equivalent.

Table 22-13: Total Estimated & Projected Population (2020 – 2045)

	2020	2025	2030	2035	2040	2045	Percent Increase 2020 to 2045	Numeric Increase 2020 to 2045	CAGR 2020 to 2045
County of Contra Costa[1]	1,149,800	1,197,341	1,244,173	1,283,681	1,312,536	1,331,431	15.80%	181,631	0.59%
WCW (high scenario) [2]	103,214	107,481	111,685	115,232	117,822	119,518	15.80%	16,304	0.59%
WCW (low scenario) [3]	102,000	105,500	109,000	112,500	116,000	119,500	17.16%	17,500	0.64%

Sources:

1: California Department of Finance. Demographic Research Unit. Report P-2A: Total Population Projections, California Counties, 2010-2060 (Baseline 2019 Population Projections; Vintage 2020 Release). Sacramento: California. July 2021.

2: Population projection for WCW calculated as 8.98 percent of the Contra Costa County's population.

3. Data provided by WCW staff (WCW, 2022c)

22.6: DISADVANTAGED COMMUNITIES

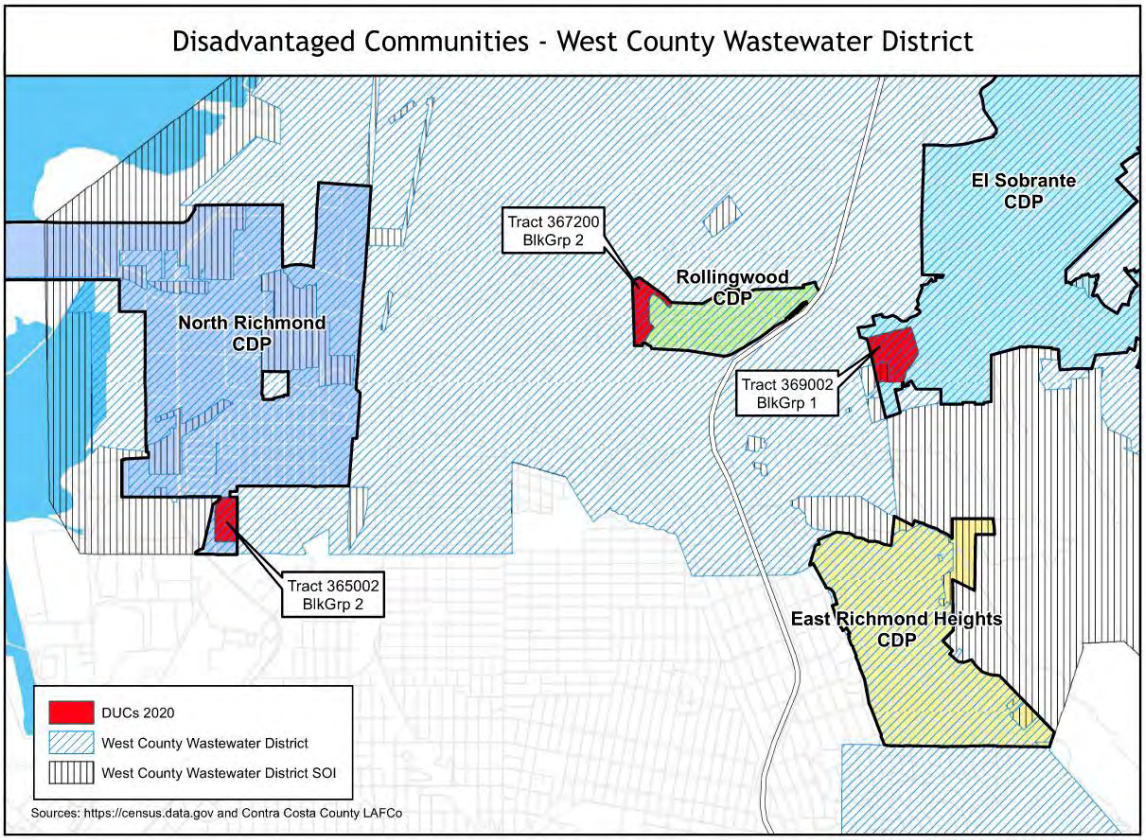
Identifying disadvantaged unincorporated communities allows public agencies, cities, and counties to address municipal service and infrastructure deficiencies that may exist in some disadvantaged communities. DUCs are inhabited communities containing 12 or more registered voters that constitutes all or a portion of a "disadvantaged community." A disadvantaged community is defined as a community with a median household income of 80% or less than the statewide median household income. This determination assesses the prospect of including a DUC(s) when an agency's SOI is updated or expanded. In 2011, SB 244 began requiring cities and counties to address the infrastructure needs of unincorporated disadvantaged communities in city and county general plans, MSRs, and annexation decisions. Therefore, this MSR Update identified disadvantaged communities within relevant jurisdictions' SOI. Figure 22-5 shows the location of all disadvantaged unincorporated communities in Contra Costa County.

The MHI for California in the year 2020 was $83,056 (ACS, 2021). 80 percent of the MHI ($66,445) is the income threshold used to identify DUC status. 2020 is used as the base year because data from the US 2020 Census is readily available. Table 22-14 and Figure 22- 5 below show that this MSR Update identified disadvantaged communities within the unincorporated communities of North Richmond, Rollingwood, and El Sobrante, which are all Census Designated Places located within the District. LAFCO is required to consider the need for sewer, municipal, and industrial water, or structural fire protection services within identified disadvantaged communities as part of a SOI update for cities and special districts that provide such services. These services have been recently reviewed under the *2nd Round EMS/Fire Services Municipal Service Review/Sphere of Influence Updates (2016), the Contra Costa City Services Municipal Service Review and Sphere of Influence Study (2nd Round) (2019), and the Contra Costa County-wide Water Service Municipal Service Review and Sphere of Influence Study (2nd Round) (2014)*. These services have remained relatively unchanged since publication. Communities within the existing District boundary or SOI do not lack public services because they either receive services from a municipal provider or the properties are self-sufficient, relying upon groundwater wells and septic tanks. No health or safety issues have been identified.

Table 22-14: Disadvantaged Unincorporated Communities West County Wastewater District

Unincorporated Community	**Census Tract Geo ID**	**Census Block Group Number**	**Median Household Income in 2020**
El Sobrante CDP	060133690021	1	$55,625
Rollingwood CDP	060133672002	2	$53,571
North Richmond CDP	060133650022	2	$52,083
Data Source: U.S. Census Bureau. November 2, 2021			

Figure 22-5: Disadvantaged Unincorporated Communities

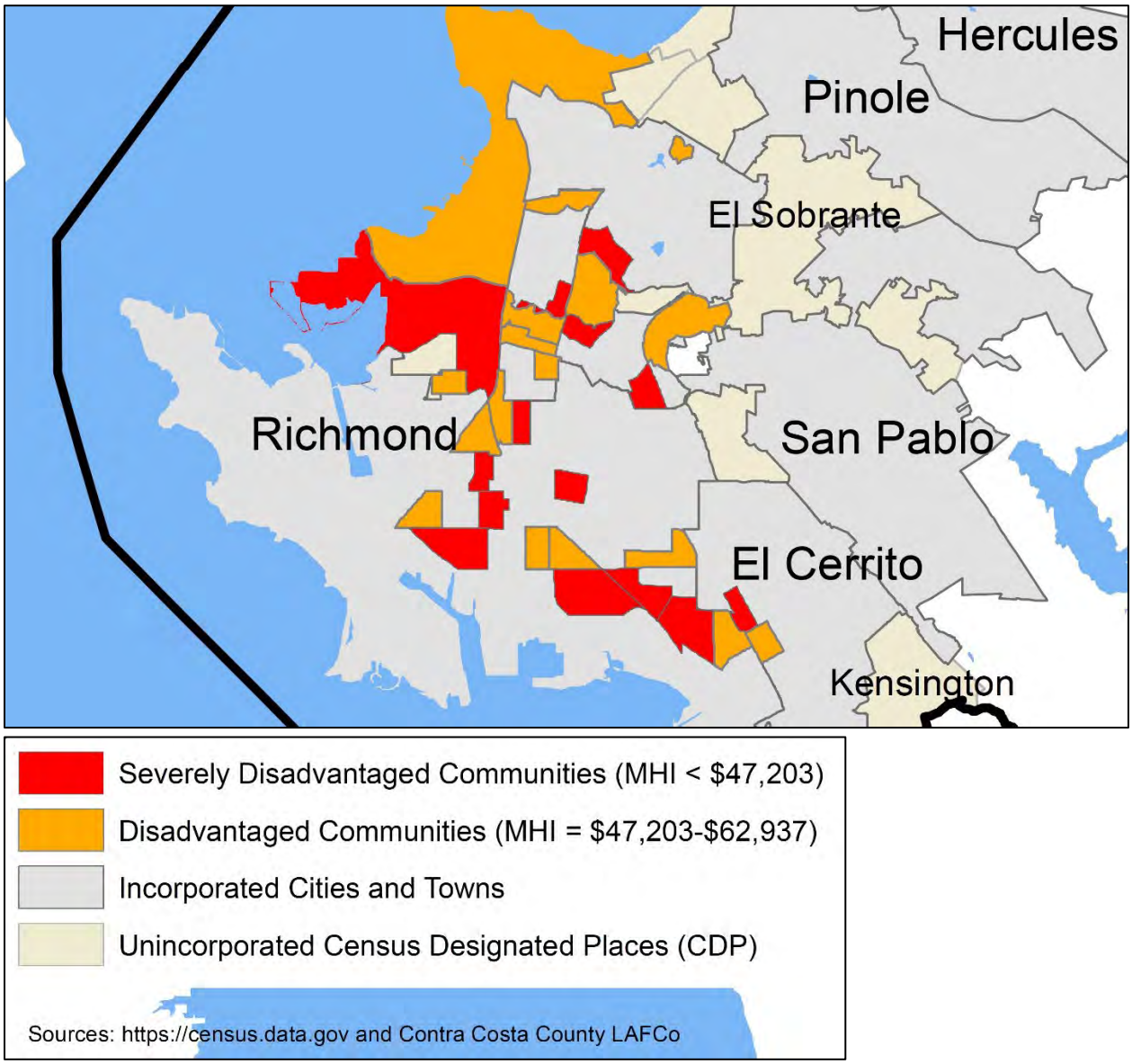


Readers can learn more about disadvantaged communities within the WCW and Contra Costa County through the U.S. Department of Health and Human Services database of socioeconomic and health indicators in disadvantaged communities called the Environmental Justice Explorer Database. This database can be queried at <*https://onemap.cdc.gov/portal/apps/sites/#/eji-explorer*>. For example, the DUC within the El Sobrante CDP (census tract 060133690021) was queried, and results indicate that this area may experience hardships, including:

- High-Volume Roads
- Minority Status
- Speaks English "Less than Well"
- No High School Diploma
- Lack of Health Insurance
- High Estimated Prevalence of Asthma

In addition to DUCs, there are also disadvantaged communities located within city boundaries, as shown in Figure 22-6 below.

Figure 22-6: Disadvantaged Communities (2021)



22.7: GOVERNMENT STRUCTURE AND ALTERNATIVES

Existing Government Structure

WCW provides wastewater collection, treatment, and disposal services for the City of San Pablo; portions of the cities of Richmond and Pinole; the unincorporated communities of El Sobrante, Tara Hills, Rollingwood, and Bayview; and other unincorporated areas within Contra Costa County. WCW operates under the direction of the General Manager and oversight of a five-member elected Board of Directors. The Board of Directors are elected by voters within their division of the service area. Each Board member represents the geographic area in which they live. WCW's governance is summarized in Table 22-15 below.

Table 22-15: WCW Governance			
Board Meetings:	WCW Office (2910 Hilltop Drive) and Zoom (Remote), 1st and 3rd Wednesday of each month at 06:30 PM		
Member	**Title**	**Term Expires**	**Compensation***
Cheryl Sudduth	President / Director, Division 5	2026	*$265.35/each date of attendance
David Alvarado	Vice-President / Director, Division 3	2026	
Annie M. King-Meredith	Director, Division 2	2024	
Arto Rinteela	Director, Division 1	2026	
Harry Wiener	Director, Division 4	2024	
Data Source: (WCW, 2022c)			

Election divisions can be viewed at: <*https://www.wcwd.org/wp-content/uploads/2022/06/District-2-Map.pdf*>. Directors are also eligible to receive the following benefits:

- Medical through CalPERS: WCW pays premiums up to $2,228.36 for active employees/Directors and eligible retirees (2022c). This number will increase to $2,375.72 in 2023
- Dental: 90% paid for Directors and dependents
- Vision: Fully paid for Directors and dependents
- Life Insurance: $85,000 (at age 70 and older, a benefit reduction schedule applies)
- Employee Assistance Program: Fully paid for Directors and dependents (Data Source: (WCW, 2022c)

Meeting notices and agendas are posted at least 72 hours in advance at WCW's office and on WCW's website (*www.wcwd.org*). WCW Board and Committee meetings are open and accessible to the

public. WCW provides public information through its website, including agendas, meeting minutes, the Ordinance code, and other service information. Excerpts from the current Comprehensive Operating and Capital Budget are available on-line. WCW should consider making more detailed financial information available, such as the complete operating and capital budget and financial statements (WCW, 2022c). The Board has two standing committees that meet twice monthly to address WCW issues and provide guidance to the Board and WCW management: Finance & Administration and Infrastructure, Operations & Environment. WCW uses its multi-year CIP, strategic planning, and two-year capital and operations budget to guide WCW operations (WCW, 2022c).

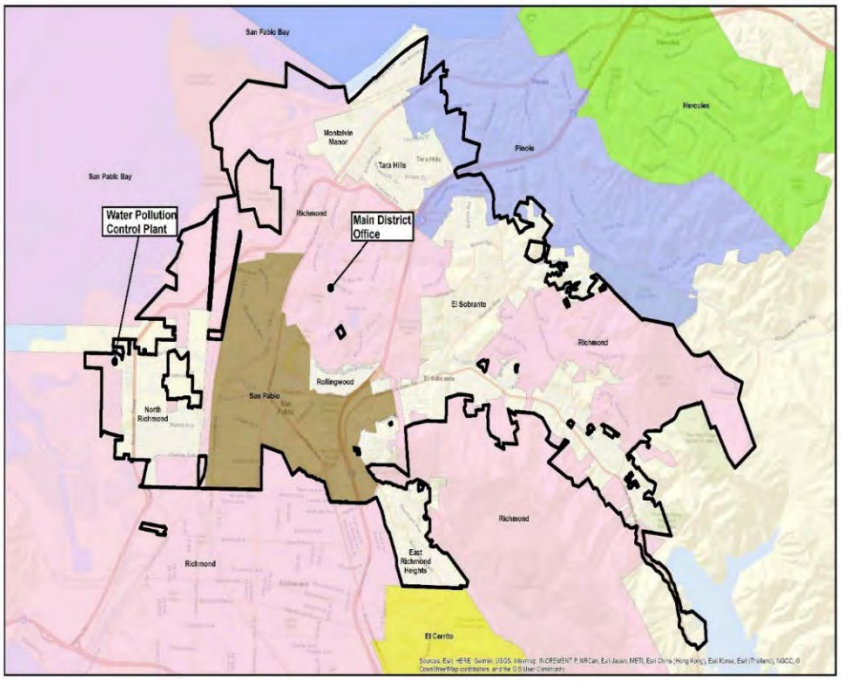
Grand Jury: In November 2021, WCW was the subject of a grand jury report. The West County Wastewater Grand Jury Report consists of three sub-documents as listed below in chronologic order.

1) Superior Court of California in Contra Costa County, Civil Grand Jury. November 22, 2021. A Report By The 2020-2021 Contra Costa County Civil Grand Jury, Report 2103, on the West County Wastewater District, Recommendations for the WCWD Board. Martinez, California 94553. 22-pages. Retrieved February 17, 2024 from <*https://www.cc-courts.org/civil/grand-jury-reports.aspx* >.
2) West County Wastewater. February 17, 2022. Response to the 2020-2021 Contra Costa County Civil Grand Jury Report No. 2103 Titled: "West County Wastewater District". 44-pages. Retrieved February 17, 2024 from <*https://www.cc-courts.org/civil/grand-jury-reports.aspx* >.
3) Superior Court of California in Contra Costa County, 2022 – 2023 Civil Grand Jury. April 21, 2023. Compliance and Continuity Report, Report #2301. Martinez, California 94553. 33-pages. Retrieved February 17, 2024 from <*https://www.cc-courts.org/civil/grand-jury-reports.aspx* >.

The Grand Jury investigation focused on the Board of Directors processes and governance, finding areas where governance could be improved by implementing specific written procedures and clarifications (Contra Costa County, 2021). WCW responded to the Grand Jury as described on their website at: <*https://www.wcwd.org/board-confirms-commitment-to-public-accountability-best-practices-in-reply-to-grand-jury/*>. Since 2021, WCW's executive staff and several Board seats have changed, resulting in newer approaches and dynamics, and which has likely resolved the issues described in the grand jury report.

Public Outreach: WCW has a Public Outreach Program that includes community events, school classroom presentations, class tours of the WQRRP, an electronic version of a community newsletter (*The Lateral*), engagement on social media, and distribution of information via WCW's website (*http://www.wcwd.org*). On average, over 300 students participate in the program, over 500 members of the public attend community events, and over 1,000 people are engaged on social media each year (WCW, 2022c). WCW conducts a User Feedback Survey that has been used for over 26 years (WCW, 2022c).

Figure 22-7: Map from WCW Shows Island Areas Within the Boundary



Data Source for Figure 22-7: WCW, ACFR for FY2019

Alternative Government Structure Options

LAFCO's 2008 MSR for WCW identified three governance structure options including:

- Maintain the Status Quo
- Annex Islands
- Annex Areas receiving WCW services that are Outside the District's Boundary

These options remain valid and are reevaluated herein. Additionally, a fourth governance structure option is identified for purposes of discussion and tracking as follows:

- Merge or Consolidate with Nearby Wastewater Service Providers

Maintain the Status Quo

WCW provides adequate wastewater collection, treatment, and disposal services for the City of San Pablo, the northern portion of the City of Richmond, the Crestview portion of the City of Pinole, and other unincorporated communities (El Sobrante, Tara Hills, Rollingwood, and Bayview) and areas within Contra Costa County. WCW maintains its infrastructure and is financially sound. WCW is rehabilitating its collection system and implementing programs and practices that improve cost efficiency, including providing secondary effluent for recycled water treatment and use (LAFCO 2014). WCW has planned for service needs through its CIP and rate structure. Furthermore, the District provides secondary effluent to EBMUD for use at the Chevron Refinery. WCW's RARE yields high-quality recycled water produced from WCW's secondary effluent, which is utilized to offset significant potable water demand.

There is a continuing need for cost-effective wastewater services within western Contra Costa County, given current urban land use, aging wastewater infrastructure, and increasingly stringent water quality standards (WCW, 2022c). The benefits of this option are the continuation of service and fiscal efficiencies that benefit ratepayers for wastewater services. WCW's preference is to

maintain the status quo. The MSR authors recommend maintaining the status quo for the short-term along with further study of other options for the long-term.

Annex Islands

There are several islands within WCW's boundary, surrounded by WCW's boundary, and within its SOI. It is anticipated that these islands will be annexed into WCW when a requirement for sewer service arises. In the meantime, it is recommended that prior to preparation of the next MSR for WCW (anticipated in the next five to ten years) that LAFCO and WCW work to develop a detailed GIS map of these islands in relation to WCW's boundary and SOI.

Annex Areas Outside District Boundary Receiving Service

WCW is providing wastewater services to approximately 45 parcels located outside of its current boundary and SOI. These parcels are located in East Richmond Heights, with service extended into the area in 1958 under an agreement with the City of Richmond. However, there may also be other parcels receiving out-of-area services.

WCW could request that LAFCO approve annexation of these parcels into the District. The benefits of this option are that it will clean up boundary issues associated with service areas and give the residents full participation in WCW's affairs and elections. The parcels need to be evaluated to determine their location with respect to current boundaries and the local agency adopted Urban Limit Lines. The out-of-agency service areas must be included in WCW's SOI prior to annexation. When annexation is applied for, the application to LAFCO should include an SOI amendment to coincide with the annexation. This would allow the lead agency, WCW, to prepare an adequate CEQA review to support the annexation and SOI amendment (WCW, 2022c).

In the meantime, it is recommended that prior to the preparation of the next MSR for WCW (anticipated in the next five to ten years) that WCW develop and provide to LAFCO a detailed GIS map of all parcels located outside the District's boundary receiving service. The map should also show the local agency adopted Urban Limit Line. WCW is encouraged to review for potential annexation all properties receiving services outside WCW's boundary and SOI.

Merge or Consolidate with Nearby Wastewater Service Providers

There are several wastewater collection and treatment service providers located in close proximity to WCW, including:

- City of Hercules (Chapter 6)
- City of Pinole (Chapter 7)
- Richmond Municipal Sewer District (Chapter 9)
- EBMUD (Chapter16)
- SSD (Chapter 20)

Under this option, WCW could consider operational and governance relationships with these service providers. This includes the potential for future merger or consolidation of services.

For example, WCW could consider accepting wastewater from the cities of Hercules, Pinole, and/or Richmond Municipal Sewer District for treatment at WCW's treatment plant. Other arrangements may also be possible. However, infrastructure is separate and is designed to meet local conditions and use gravity flow where possible. In the past, opportunities were evaluated for WCW to share its treatment and disposal facilities with the cities of Pinole and Hercules. Those efforts have been dormant for many years, and those cities chose to operate a joint WPCP in Pinole. Additional future studies would be needed to determine whether operational efficiencies, cost savings, and other benefits would be achieved through consolidating with other wastewater service providers (WCW, 2022c).

EBMUD provides wastewater treatment and disposal services within the East Bay. EBMUD has approximately 13,530 wastewater accounts in Contra Costa County. See Chapter 16 for details regarding EBMUD wastewater services in Contra Costa County. WCW and EBMUD coordinate on several key programs, including WCW's provision of secondary effluent to EBMUD for further treatment and use at the Chevron Refinery. WCW notes that a reorganization between these two districts is not feasible at this time (WCW, 2022c).

WCW shares its southeastern boundary with the SSD; however, the two systems are designed to use gravity flow and separate treatment and disposal facilities. As a result of these topographic challenges, WCW staff believes that a reorganization of SSD and WCW is not feasible at this time (WCW, 2022c).

22.8: RECOMMENDED MUNICIPAL SERVICE REVIEW DETERMINATIONS

Based on the information, issues, and analysis presented in this report, proposed MSR determinations pursuant to Section 56430 are presented below for Commission consideration:

Table 22-16: MSR Determinations for West County Wastewater

PERFORMANCE MEASURES	DETERMINATIONS
Growth and Population for the affected area. • What is the existing population estimate? • What is the projected future growth estimate?	The current estimated population within WCW's boundary is approximately 103,214 residents. This is expected to reach approximately 119,518 by 2045, with a compound average annual growth rate of 0.59 percent. Growth within WCW's service area is likely to occur through infill and redevelopment. WCW will need to

	(continued) continue to implement its capital improvement program, including pipeline and treatment plant improvements, to ensure adequate service levels for existing and new customers.
Location and characteristics of any disadvantaged unincorporated communities within or contiguous to the sphere of influence.	Several DUCs are located in WCW's SOI. Consideration of future changes to WCW's SOI or service boundary would first require a detailed analysis of WCW's ability to serve these areas. However, the DUCs receive adequate water and fire protection services. No public health and safety issues were identified.
Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies, including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged, unincorporated communities within or contiguous to the sphere of influence. • Does the agency have a CIP? • Are SSOs identified? • Are local hazards identified?	WCW has an aged sewer collection system. WCW's Board of Directors approved the 10-year CIP at the June 2, 2021 Board meeting. This 10-year CIP covers the time period FY 2021-22 through 2030-31. The FY 2022 CIP expenditure budget was $27.5 million and $34.9 million in FY 2023. Several DUCs are located in WCW's SOI. Consideration of future changes to WCW's SOI or service boundary would first require a detailed analysis of WCW's ability to serve these areas. The SSO database is a specific module in the California Integrated Water Quality System. The SSO database was queried for a 3.6-year term from January 1, 2019 to August 9, 2022. The database query shows that during this 3.6-year timeframe, WCW experienced 37 SSO events. This is a relatively large number of SSOs compared to other wastewater service providers analyzed in this MSR. Also, the California Office of Emergency Services has two significant Hazardous Material Spill notices for WCW, including a January 2023 spill of approximately 11 million gallons and a June 2023 spill of approximately 500,000 gallons. The Contra Costa County HMP Volume 2 maps critical infrastructure, such as wastewater infrastructure, in relation to local hazards. However, WCW did not participate in the 2018 HMP. An equivalent analysis of local hazards in relation to WCW's infrastructure is not available on the WCW website. However, WCW's Facebook page

	(continued) indicates that it is currently participating in the forthcoming update to the Contra Costa County HMP. It is recommended that WCW incorporate information about local hazards into the District's next Sanitary Sewer Management Plan update. Additionally, it is recommended that when LAFCO next updates this Wastewater Services MSR/SOI for WCW (anticipated in five to ten years), it should specifically address local hazards and the steps WCW has taken towards resiliency.
Financial ability of agencies to provide services. • Has the agency prepared a rate study? • Do revenues exceed expenditures? • Is the ratio of annual debt service to total fund annual expenditures 10% or less?	WCW adopts sewer service charge rate plans every five years and reviews its service charges and connection fees annually. In 2021, Stantec Consulting Services, Inc. (Stantec) completed a Sewer Use Charge Rate Plan and Study for WCW. The Study analyzed revenue, expenses, reserve policies, and other financial data. Based on this Study, WCW updated its fees for the annual service charge for residential customers. WCW's primary source of revenue is sewer service charges. WCW also receives some property tax revenue as well as interest income on investments. This MSR compared revenues to expenses for five fiscal years (FY2017 to FY2021). For each of the five study years studied, <u>total</u> revenue exceeded <u>total</u> expenses. Specifically, in FY 2021, total revenues were 28,342,038, and total expenses were 27,840,253. This indicates that WCW's Board of Directors maintains sound fiscal policies and closely monitors expenses). WCW's annual debt service for FY2021 was $2,284,343. The ratio of annual debt service to total fund annual expenditures ($27,840,253 in FY 2021) was approximately 8.21 percent for FYE 2021. This ratio falls within the suggested guideline of 10 percent or less, indicating that WCW will likely be able to continue to meet its debt service obligations. However, this calculation relies upon the most recent ACFR available which is for FY2021. In 2022, new $90 million bonds were issued to fund the Comprehensive Energy and Sustainability Upgrades. Since this new debt is not included in the above calculation, it is recommended that when LAFCO next updates an MSR for WCW (anticipated within five to ten years), this metric should be reanalyzed.

Status of, and opportunities for, shared facilities.	• WCW shares facilities with other local sanitary sewer service providers, including shared dechlorination facilities and deep-water outfall, as well as by providing contract services and emergency response. WCW provides secondary effluent to the EBMUD NRWRP for use in the Chevron Richmond Refinery. • The West County Agency, a JPA between WCW, the City of Richmond, and the Richmond Municipal Sewer District, which constructed and maintained effluent disposal and sludge disposal facilities is currently being dissolved. • In June 2023, the WCA Board approved pursuing the dissolution of the WCA and instructed staff to proceed with negotiating a series of operating agreements for joint operation of shared assets. The parties are now in the process of negotiating a Dissolution Agreement and establishing the terms of operating agreements for assets historically owned by the WCA. • Prior to 2014, WCW studied the possibility of a joint treatment agreement with the cities of Hercules or Pinole, but these agencies decided to upgrade their own WWTP.
Accountability for community service needs, including government structure and operational facilities. • Does the agency have a website? • Does the agency post a public outreach tool (such as a calendar or newsletter) on its website? • Does LAFCO recommend any mergers, consolidations, or other changes to governance structure?	WCW is governed by a five-member Board of Directors elected by voters in five Divisions within WCW. Each Board member represents the geographic area in which they live. District meetings are open to the public, and information on WCW is available on its website at *https://www.wcwd.org*. The website also includes WCW financial information and strategic planning documents. WCW provides extensive public education programs that focus on student outreach, community events, and other communication opportunities. WCW effectively utilizes social media as a public outreach tool and actively updates its Facebook page at: <*https://www.facebook.com/WestCountyWD*>. This MSR analyzes four governance structure options, including: ▪ Maintain the Status Quo ▪ Annex Islands

	(continued) ▪ Annex Areas Outside the district Boundary Receiving Service ▪ Merge or Consolidate with Nearby Wastewater Service Providers The option to "Maintain the status quo" is recommended for the short-term. In the long-term, LAFCO and WCW should further evaluate each of the remaining three options.
Any other matter related to effective or efficient service delivery, as required by commission policy.	No additional issues have been identified.

22.9: SPHERE OF INFLUENCE RECOMMENDATION

Recommendation: Reconfirm WCW's existing determinations and reconfirm WCW's existing SOI.

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 requires that LAFCO review and update the sphere of influence (SOI) for each of the special districts and cities within the county (State of California Government Code §56133 et seq.). Section 22.7, Government Structure Alternatives, describes various issues and options associated with changing the structure of this local government agency. LAFCO often accomplishes its government structure issues through changes to boundaries and/or SOIs. Based on the context provided in this Chapter, four options are identified for WCW's SOI:

- **Retain the existing SOI**: If LAFCO determines that the existing government structure is appropriate, then the existing SOI should be retained. This option would enable WCW to continue to include the areas within its SOI in its long-term facilities and capacity planning based on the adopted land use (WCW, 2022c)
- **Reduce the SOI**: If LAFCO determines an area or community should be served by an agency other than WCW (such as the City of Pinole, the Richmond Municipal Sewer District, or the SSD), then reducing WCW's SOI (and expanding the SOI of the other agency) would be appropriate. This would not change current service to those areas but would result in the affected agencies adjusting capital and long-term operational planning (WCW, 2022c).
- **Expand the SOI due to service provider change**: If LAFCO determines that an area or community should be served by WCW rather than the current service provider, then expanding WCW's SOI (and reducing the SOI of the other agency, such as the SSD) would be appropriate. If WCW were authorized to serve additional areas in Richmond, Pinole, or Hercules, it would not require a change in the SOI of the affected City (WCW, 2022c).

- **Expand the SOI to encompass existing out-of-agency service areas**: WCW serves 45 parcels outside of WCW's boundary and SOI. If LAFCO determines that these parcels should be annexed to WCW, then WCW's sphere will need to be updated prior to annexation. Annexations must be consistent with an organization's adopted SOI (WCW, 2022c).

Table 22-17: WCW – Preliminary SOI Issue Analysis

Issue	Comments
Existing and Planned Land Uses and Policies	WCW has no land use authority for the area where it provides wastewater services. County and City plans include land uses and population growth that will need increased wastewater services. County and city policies support the provision of adequate wastewater service for residents and businesses.
Potential effects on agricultural and open space lands	Although there is some open space land within WCW's SOI and boundaries, wastewater services do not by themselves induce growth on open space lands. No Williamson Act contracts would be affected.
Opportunity for Infill Development rather than SOI expansion	WCW has no land use authority and has no control over the location of infill development.
Projected Growth in the Affected Area	The current estimated population within WCW's boundary is approximately 103,214 residents. This is expected to reach approximately 119,518 by 2045, with a compound average annual growth rate of 0.59 percent. Growth within WCW's service area is likely to occur through infill and redevelopment. WCW will need to continue to implement its capital improvement program, including pipeline and treatment plant improvements, to ensure adequate service levels for existing and new customers.
Services to be provided to any areas added to the SOI	WCW provides the following services: wastewater collection, treatment, and disposal.
Service Capacity and Adequacy	WCW provides adequate service, is financially stable, and has the capacity to continue to provide services within its boundary. WCW has planned for capital needs based on the condition of the infrastructure and is implementing projects to extend the life of existing infrastructure.
Location of Facilities, Infrastructure, and Natural Features like rivers and ridgelines	WCW provides services within the City of San Pablo; portions of the cities of Richmond and Pinole; the unincorporated communities of El Sobrante, Tara Hills, Rollingwood, and Bayview; and other unincorporated areas within Contra Costa County. WCW's offices and treatment plant are in Richmond. WCW discharges treated wastewater into the San Francisco Bay.

Effects on Other Agencies	WCW coordinates with Richmond, Pinole, and Hercules on service issues in western Contra Costa County. WCW also coordinates with EBMUD on secondary effluent directed to EBMUD's NRWRP. Maintaining the existing SOI would have no effect on other agencies.
Potential for Consolidations or other Reorganizations when Boundaries Divide communities	WCW's current boundaries include portions of Richmond and Pinole. In the past, opportunities were evaluated for WCW to share its treatment and disposal facilities with the cities of Pinole and Hercules. Those efforts have been dormant for many years, and those Cities ultimately chose to operate a joint WPCP in Pinole.
Social or economic communities of interest in the area	WCW was formed in 1921. WCW collects service charges from existing users and fees for new developments. WCW receives a portion of the 1% property tax. Property owners and ratepayers within the area have an economic interest in receiving services from this investment. Please refer to the discussion of disadvantaged communities in Section 22.6 and environmental justice in Chapter 2.
Willingness to serve	WCW wishes to continue to provide services within its existing boundary.
Data Source: WCW, 2022	

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Figure 22-8: WCW's Administrative Office

Location: 2910 Hilltop Drive, Richmond, CA 94806 Image provided courtesy of Google Maps Streetview

CHAPTER 23: PUBLIC COMMENTS RECEIVED

The Commission held a public meeting on this MSR/SOI Update on June 12, 2024. Although public comments were solicited, no public comments were received.

CHAPTER 24: SOI RESOLUTIONS

LAFCO conducted public meeting on June 12, 2024 to consider this MSR/SOI Update for wastewater services in Contra Costa County. The Commission formally accepted the report. Several districts had SOIs that were reconfirmed via LAFCO resolution as shown on the following pages.

RESOLUTION OF THE CONTRA COSTA
LOCAL AGENCY FORMATION COMMISSION

APPROVING A SPHERE OF INFLUENCE UPDATE FOR
BYRON SANITARY DISTRICT

WHEREAS, Government Code §56425 requires the Local Agency Formation Commission (LAFCO) to develop and determine the sphere of influence (SOI) of each local governmental agency within the County; and

WHEREAS, Government Code §56425(f) requires that LAFCO review and update the SOI boundaries every five years, or as necessary; and

WHEREAS, Government Code §56430 requires that a municipal service review (MSR) be conducted prior to or in conjunction with an SOI update; and

WHEREAS, LAFCO conducted a 3rd round, countywide review of wastewater service providers, which includes the Byron Sanitary District (BSD), and adopted written determinations as required by Government Code §56430 on June 12, 2024; and

WHEREAS, BSD was originally formed in 1948 and operational in 1958 and provides sewage collection, treatment and disposal services and solid waste by contact to the Byron community; and

WHEREAS, BSD serves a population of approximately 700 with approximately 278 connections in a service area of approximately 0.53± square miles; and

WHEREAS, no change in regulation, land use, or development will occur as a result of updating the District's SOI; and

WHEREAS, in the form and manner prescribed by law, the Executive Officer has given notice of a public hearing by this Commission regarding the SOI action; and

WHEREAS, the SOI update was duly considered at a public hearing held on June 12, 2024; and

NOW, THEREFORE, BE IT RESOLVED, DETERMINED, AND ORDERED that the Contra Costa LAFCO does hereby**:**

1. Determine, as lead agency for the purposes of the California Environmental Quality Act (CEQA), that the SOI update is categorically exempt under §15061(b)(3) of the CEQA Guidelines.
2. Expand the SOI to include the Orrin Allen Youth Rehabilitation Facility to allow for future annexation of this area. BSD currently provides service to this area.
3. Determine that the Commission has considered the criteria set forth in Government Code §56425 as follows:
    a. *Present and planned land uses in the area, including agricultural and open-space lands* – The major portion of BSD's service area is comprised of the Byron community and an area along Camino Diablo. BSD lies within the San Francisco Bay/Sacramento Delta Estuary watershed. The Byron community contains single-family residential development, commercial and industrial development, schools, churches, and wineries. No land use changes will result from this SOI update.
    b. *Present and probable need for public facilities and services in the area* – There are approximately 234 dwelling units within BSD. Current population is 676. Growth within BSD is expected to be limited over the next 10 to 20 years. Some limited residential development may occur. Growth within BSD is expected to reach a population of 712 by the year 2045.
    c. *Present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide* – BSD's average daily dry weather limit is 96,000 gallons per day

(GPD) (April through October) and average daily flow (ADF) limit is 100,800 (November through March). Facilities include a wastewater treatment plant; 12,174 linear feet of sewer collection pipeline; and 278 connections.

d. *Existence of any social or economic communities of interest in the area if the Commission determines that they are relevant to the agency* – BSD provides services within the Byron community and an adjacent area along Camino Diablo. Primary revenue sources include sewer charges; property taxes; and interest income. Property owners and ratepayers within the area have an economic interest in receiving services from this investment. The SOI update will not affect the existence of any social or economic communities of interest in the area that are relevant to BSD.

e. *Present and probable need for those public facilities and services of any disadvantaged unincorporated communities (DUCs) within the existing SOI* - There are no DUCs located within or adjacent to BSD's SOI.

f. *Nature, location, extent, functions & classes of services to be provided* – BSD provides sewage collection, treatment, disposal and solid waste by contract to the Byron community and an area along Camino Diablo.

* *

PASSED AND ADOPTED THIS 12th day of June 2024, by the following vote:

AYES:
NOES:
ABSTENTIONS:
ABSENT:

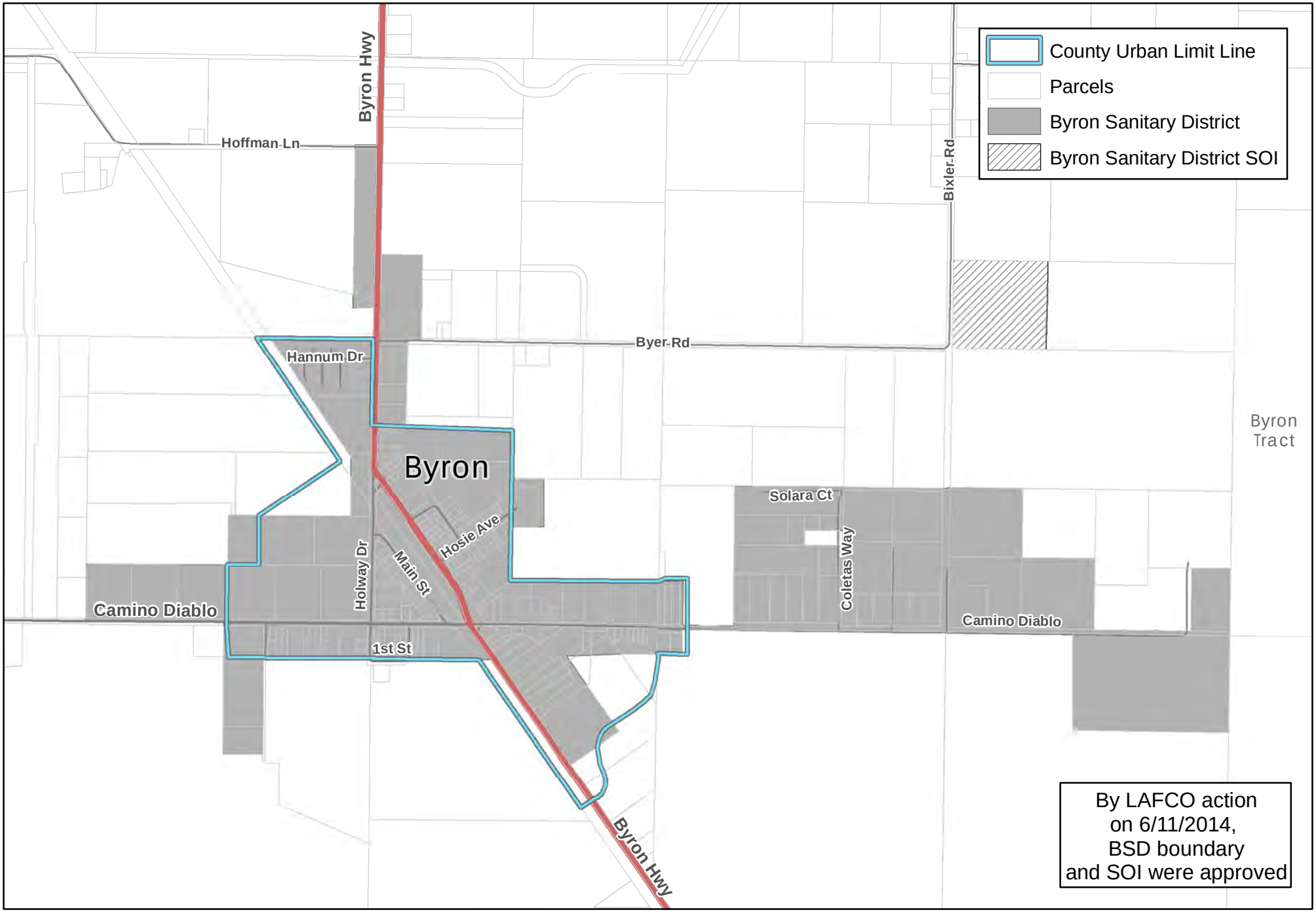
_____
CHAIR, CONTRA COSTA LAFCO

I hereby certify that this is a correct copy of a resolution passed and adopted by this Commission on the date stated above.

Dated: June 12, 2024

_____
Lou Ann Texeira, Executive Officer

Byron Sanitary District Boundary and SOI



Map created 06/23/2014
by Contra Costa County Department of Conservation and Development, GIS Group
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RESOLUTION OF THE CONTRA COSTA LOCAL AGENCY FORMATION COMMISSION APPROVING A SPHERE OF INFLUENCE UPDATE FOR COUNTY SANITATION DISTRICT NO. 6

WHEREAS, Government Code §56425 requires the Local Agency Formation Commission (LAFCO) to develop and determine the sphere of influence (SOI) of each local governmental agency within the County; and

WHEREAS, Government Code §56425(f) requires that LAFCO review and update the SOI boundaries every five years, as necessary; and

WHEREAS, Government Code §56430 requires that a municipal service review (MSR) be conducted prior to or in conjunction with an SOI update; and

WHEREAS, LAFCO conducted a 3rd round, countywide review of wastewater service providers, which includes County Sanitation District No. 6 (SD No. 6), and adopted written determinations as required by Government Code §56430 on June 12, 2024; and

WHEREAS, SD No. 6 was 1992 to provide wastewater service to the Stonehurst Subdivision (Alhambra Valley), located in the City of Martinez; and

WHEREAS, the District serves 0.36 square miles, 47 developed parcels, and approximately 134 residents, and uses septic tank systems; community disposal system with sand filter; UV disinfection; and leach field disposal; and

WHEREAS, the current collection and treatment system provides minimum service per the approved operating permit from the State; and

WHEREAS, since its inception, the SD No. 6 wastewater collection facilities and treatment plant were considered a temporary system and were not intended to operate in perpetuity. This system has not been maintained to the same standard as a permanent system; and

WHEREAS, the City of Martinez City Council District is the governing body of SD No. 6; and

WHEREAS, the 2024 MSR identified two SOI option for SD No. 6 including 1) retain the zero SOI, and 2) consolidate with Central Contra Costa Sanitary District (CCCSD); and

WHEREAS, retaining a zero SOI is recommended for SD No. 6. This will allow SD No. 6 to continue to exist and allow the two districts to pursue a reorganization with CCCSD; and

WHEREAS, no change in regulation, land use or development will occur as a result of updating the District's SOI; and

WHEREAS, in the form and manner prescribed by law, the Executive Officer has given notice of a public hearing by this Commission regarding the SOI action; and

WHEREAS, the SOI update was duly considered at a public hearing held on June 12, 2024; and

NOW, THEREFORE, BE IT RESOLVED, DETERMINED AND ORDERED that the Contra Costa LAFCO does hereby**:**

1. Determine, as lead agency for the purposes of the California Environmental Quality Act (CEQA), that the SOI update is categorically exempt under §15061(b)(3) of the CEQA Guidelines.

2. Update and retain a zero SOI for SD No. 6 as described above and generally depicted on Exhibit A attached hereto.

3. Determine that the Commission has considered the criteria set forth in Government Code §56425 as follows:

a. *The present and planned land uses in the area, including agricultural and open-space lands* – The District has no land use authority for the area within its boundary. SD No. 6's boundary encompasses the 47-parcel Stonehurst subdivision plus one non-contiguous parcel, all of which will continue to need wastewater services. The area is mostly developed. The SOI update will not adversely affect present or planned land uses.

b. *The present and probable need for public facilities and services in the area* – Approximately 100 residents live within the District; little or no growth is anticipated. There will be a continued need for wastewater services. No changes in public facilities or services will result from the SOI update.

c. *The present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide* – The current collection and treatment system provides minimum service per the approved operating permit from the State. The State's order mandates connection of the subdivision to a municipal sewer service, and closure of the SD No. 6 onsite wastewater treatment and disposal system as soon as feasible. The County will continue to provide service until such time as services are available from CCCSD. No changes in public facilities or services provided by SD No. 6 will result from this SOI update.

d. *Existence of any social or economic communities of interest in the area if the Commission determines that they are relevant to the agency* – SD No. 6 was formed in 1992, and the property owners funded the construction of the treatment and disposal facilities. The property owners pay an annual service charge for the system to be operated and maintained; and therefore, have an economic interest in receiving services from this investment. The SOI update will not affect the existence of any social or economic communities of interest in the area that are relevant to SD No. 6.

e. *Present and probable need for those public facilities and services of any disadvantaged unincorporated communities (DUCs) within the existing SOI* - There are no DUCs within or contiguous to the SD No. 6 SOI.

f. *Nature, location, extent, functions & classes of services to be provided* – SD No. 6 provides wastewater service to the Stonehurst subdivision within the City of Martinez. The SD No. 6 boundary is 237+ acres with 48 parcels, most of which are developed. Each parcel within the District has an individual septic system; the effluent receives secondary treatment at a community wastewater treatment plant owned by SD No. 6 and is discharged through a leach field at the top of an adjacent ridge. The system is managed by the County through an outside contractor.

* *

PASSED AND ADOPTED THIS 12th day of June 2024, by the following vote:

AYES:
NOES:
ABSTENTIONS:
ABSENT:

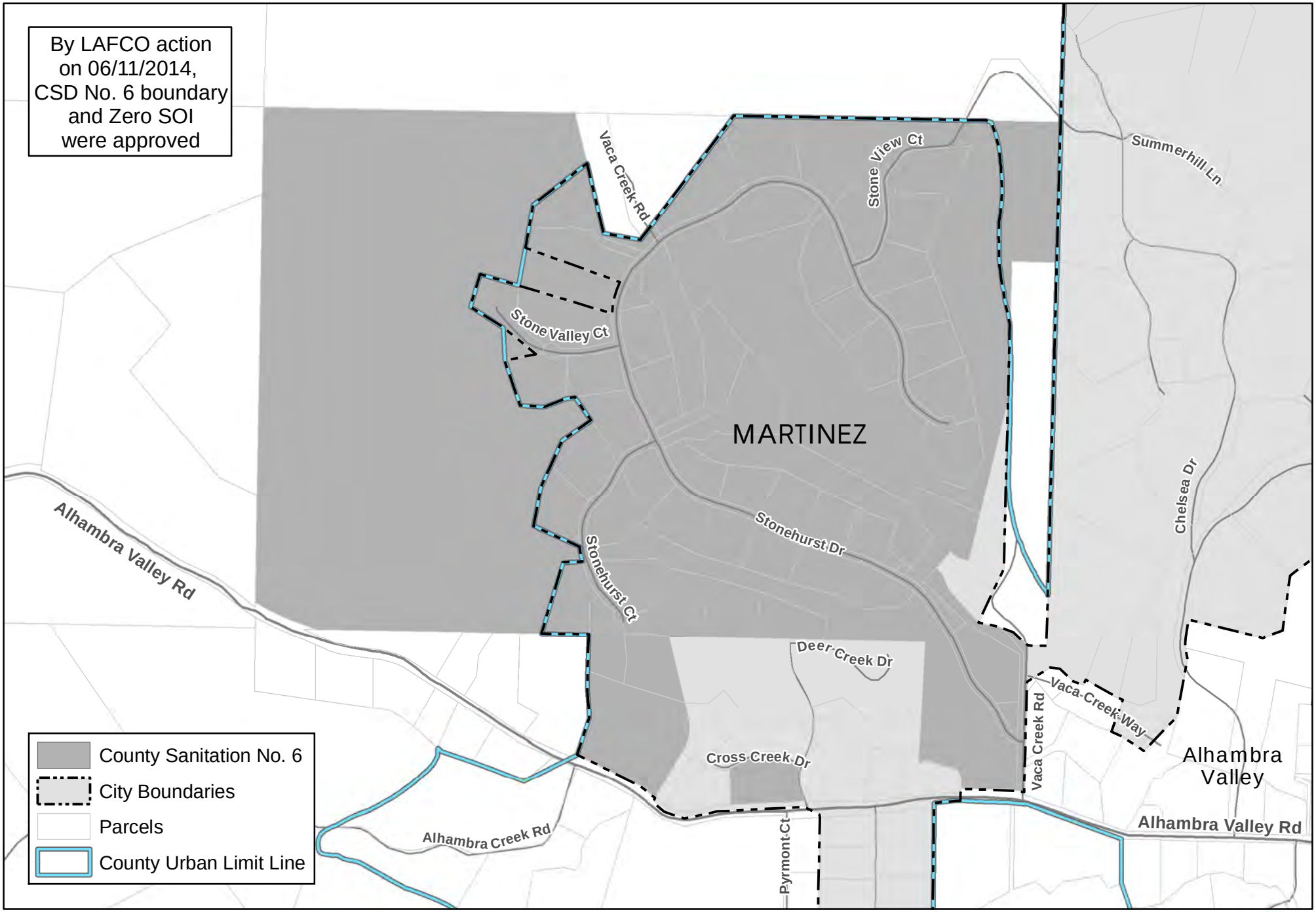
_____
CHAIR, CONTRA COSTA LAFCO

I hereby certify that this is a correct copy of a resolution passed and adopted by this Commission on the date stated above.

Dated: June 12, 2024 _____

Lou Ann Texeira, Executive Officer

County Sanitation District No. 6 (Alhambra Valley) and Zero SOI



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RESOLUTION OF THE CONTRA COSTA LOCAL AGENCY FORMATION COMMISSION

APPROVING A SPHERE OF INFLUENCE UPDATE FOR DELTA DIABLO

WHEREAS, Government Code §56425 requires the Local Agency Formation Commission (LAFCO) to develop and determine the sphere of influence (SOI) of each local governmental agency within the County; and

WHEREAS, Government Code §56425(f) requires that LAFCO review and update the SOI boundaries every five years, or as necessary; and

WHEREAS, Government Code §56430 requires that a municipal service review (MSR) be conducted prior to or in conjunction with an SOI update; and

WHEREAS, LAFCO conducted a 3rd round, countywide review of wastewater service providers, which includes Delta Diablo (DD), and adopted written determinations as required by Government Code §56430 on June 12, 2024; and

WHEREAS, DD was formed in 1955 (originally County Sanitation District No. 75) and provides wastewater collection and conveyance, treatment and disposal, recycled treatment ,household hazardous waste collection and reuse/disposal, street sweeping; and

WHEREAS, DD serves a population of approximately 201,000 with approximately 12,778 connections in a service area of approximately 54± square miles; and

WHEREAS, no change in regulation, land use, or development will occur as a result of updating the District's SOI; and

WHEREAS, in the form and manner prescribed by law, the Executive Officer has given notice of a public hearing by this Commission regarding the SOI action; and

WHEREAS, the SOI update was duly considered at a public hearing held on June 12, 2024; and

NOW, THEREFORE, BE IT RESOLVED, DETERMINED AND ORDERED that the Contra Costa LAFCO does hereby**:**

1. Determine, as lead agency for the purposes of the California Environmental Quality Act (CEQA), that the SOI update is categorically exempt under §15061(b)(3) of the CEQA Guidelines.
2. Retain the existing SOI for DD.
3. Determine that the Commission has considered the criteria set forth in Government Code §56425 as follows:
    a. *Present and planned land uses in the area, including agricultural and open-space lands* – DD serves the cities of Antioch and Pittsburg and the unincorporated Bay Point community comprising 54± square miles. Land uses include residential, commercial, industrial, and open space. No land use changes will result from this SOI update.
    b. *Present and probable need for public facilities and services in the area* - DD's service area is expected to experience steady growth over the next 20 to 25 years. The Association of Bay Area Governments (ABAG) projects the cities of Antioch and Pittsburg to grow from a total of 176,650 (2020) to a total of 222,340 (2040). The Bay Point community has a population of 23,436 (2024).
    c. *Present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide* – DD has 72,066 connections; and recycled water is sent to 29 sites. DD's facilities include a wastewater treatment plant and recycled water facility; 75.5 linear miles of sanitary sewer pipeline; five wastewater pump stations; and 16.2 miles of recycled pipeline. DD treats 19.5 million gallons of wastewater per day (average dry weather flow); and generates 12.8 million gallons of recycled water. On an average annual basis, 50% of the

influent flow is further treated for reuse; the remaining 50% is discharged through a deep-water outfall.

d. *Existence of any social or economic communities of interest in the area if the Commission determines that they are relevant to the agency* – DD provides services to the cities of Antioch and Pittsburg and the unincorporated Bay Point community cities of Antioch and Pittsburg and the unincorporated Bay Point community. Primary revenue sources include service charges and permits. The District also receives a portion of the 1% property tax. Property owners and ratepayers within the area have an economic interest in receiving services from this investment. The SOI update will not affect the existence of any social or economic communities of interest in the area that are relevant to DD.

e. *Present and probable need for those public facilities and services of any disadvantaged unincorporated communities (DUCs) within the existing SOI* - There are DUCs located within DD's SOI.

f. *Nature, location, extent, functions & classes of services to be provided* – DD provides wastewater collection and conveyance, treatment and disposal, recycled treatment, household hazardous waste collection and reuse/disposal, and street sweeping services to the cities of Antioch and Pittsburg and to the Bay Point community.

* *

PASSED AND ADOPTED THIS 12th day of June 2024, by the following vote:

AYES:
NOES:
ABSTENTIONS:
ABSENT:

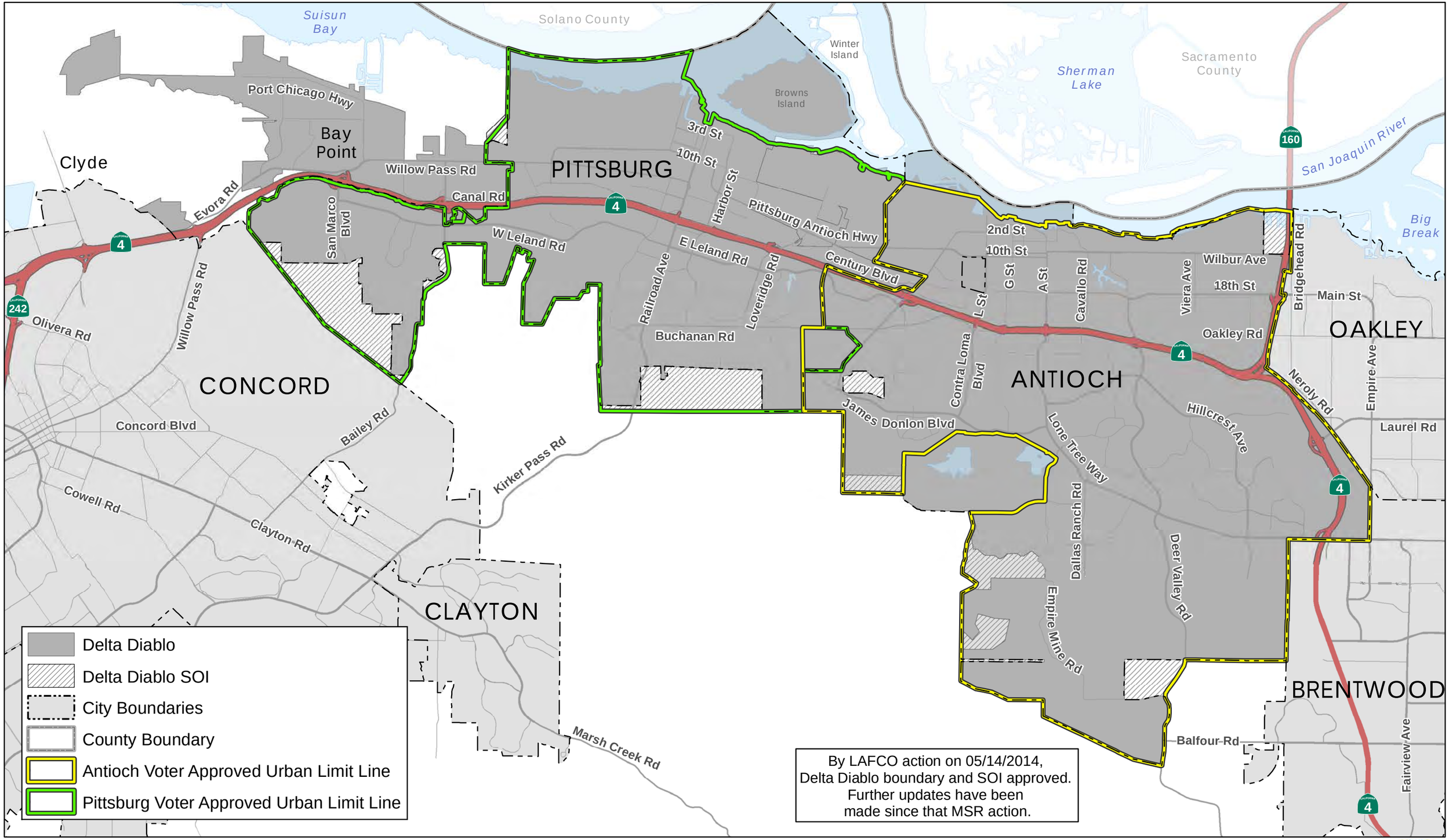
_____
CHAIR, CONTRA COSTA LAFCO

I hereby certify that this is a correct copy of a resolution passed and adopted by this Commission on the date stated above.

Dated: June 12, 2024

_____
Lou Ann Texeira, Executive Officer

Delta Diablo Boundary and SOI



By LAFCO action on 05/14/2014,
Delta Diablo boundary and SOI approved.
Further updates have been
made since that MSR action.

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RESOLUTION OF THE CONTRA COSTA LOCAL AGENCY FORMATION COMMISSION

APPROVING A SPHERE OF INFLUENCE UPDATE FOR IRONHOUSE SANITARY DISTRICT

WHEREAS, Government Code §56425 requires the Local Agency Formation Commission (LAFCO) to develop and determine the sphere of influence (SOI) of each local governmental agency within the County; and

WHEREAS, Government Code §56425(f) requires that LAFCO review and update the SOI boundaries every five years, or as necessary; and

WHEREAS, Government Code §56430 requires that a municipal service review (MSR) be conducted prior to or in conjunction with an SOI update; and

WHEREAS, LAFCO conducted a 3rd round, countywide review of wastewater service providers, which includes the Ironhouse Sanitary District (ISD), and adopted written determinations as required by Government Code §56430 on June 12, 2024; and

WHEREAS, ISD was originally formed in 1945 under the Oakley Sanitary District and provides sewage collection, treatment and disposal services to the City of Oakley, Bethel Island, Jersey Island and Holland Tract; and

WHEREAS, ISD serves a population of approximately 46,391 with approximately 12,778 connections in a service area of approximately 37± square miles; and

WHEREAS, no change in regulation, land use, or development will occur as a result of updating the District's SOI; and

WHEREAS, in the form and manner prescribed by law, the Executive Officer has given notice of a public hearing by this Commission regarding the SOI action; and

WHEREAS, the SOI update was duly considered at a public hearing held on June 12, 2024; and

NOW, THEREFORE, BE IT RESOLVED, DETERMINED, AND ORDERED that the Contra Costa LAFCO does hereby**:**

1. Determine, as lead agency for the purposes of the California Environmental Quality Act (CEQA), that the SOI update is categorically exempt under §15061(b)(3) of the CEQA Guidelines.
2. Retain the existing SOI for ISD.
3. Determine that the Commission has considered the criteria set forth in Government Code §56425 as follows:
    a. *Present and planned land uses in the area, including agricultural and open-space lands* – The major portion of ISD's service area is comprised of the City of Oakley and the unincorporated community of Bethel Island. The City of Oakley's General Plan includes a broad mix of land uses, including residential, commercial, industrial, recreational and public land uses. The vast majority of Oakley is, as it will be in the future, developed as residential communities of varying densities. Bethel Island, a residential/vacation area, is expected to remain largely residential in nature. No land use changes will result from this SOI update.
    b. *Present and probable need for public facilities and services in the area* - ISD's service area is expected to experience steady growth over the next 20 to 25 years. The Association of Bay Area Governments (ABAG) projects the City of Oakley to grow from 31,950 in 2010 to a population of 42,950 in 2035. Bethel Island, with a 2010 Census population of 2,137, is also expected to grow with a projected population of 9,706 by 2025.

c. *Present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide* – ISD's facility design capacity is 4.3 million gallons per day (MGD) average daily flow (ADF). The water recycling facility has 8.6 MGD maximum wet weather flow. The current ADF is 2.52 MGD. The water recycling has 125 miles of gravity sewer main; 15.9 miles of force main (pressure pipe)l and 32 lift stations. ISD has approximately 12,778 wastewater service connections (equivalent service units) and provides service to approximately 46,391 community residents.

d. *Existence of any social or economic communities of interest in the area if the Commission determines that they are relevant to the agency* – ISD provides services within the City of Oakley, Bethel Island, Jersey Island and Holland Tract. ISD collects service charges from existing users and fees for new development; the District also receives a portion of the 1% property tax. Property owners and ratepayers within the area have an economic interest in receiving services from this investment. The SOI update will not affect the existence of any social or economic communities of interest in the area that are relevant to ISD.

e. *Present and probable need for those public facilities and services of any disadvantaged unincorporated communities (DUCs) within the existing SOI* - There are DUCs located within ISD's SOI.

f. *Nature, location, extent, functions & classes of services to be provided* – ISD provides sewage collection, treatment and disposal services to the City of Oakley, the unincorporated community of Bethel Island, and other unincorporated areas in east Contra Costa County.

* *

PASSED AND ADOPTED THIS 12th day of June 2024, by the following vote:

AYES:
NOES:
ABSTENTIONS:
ABSENT:

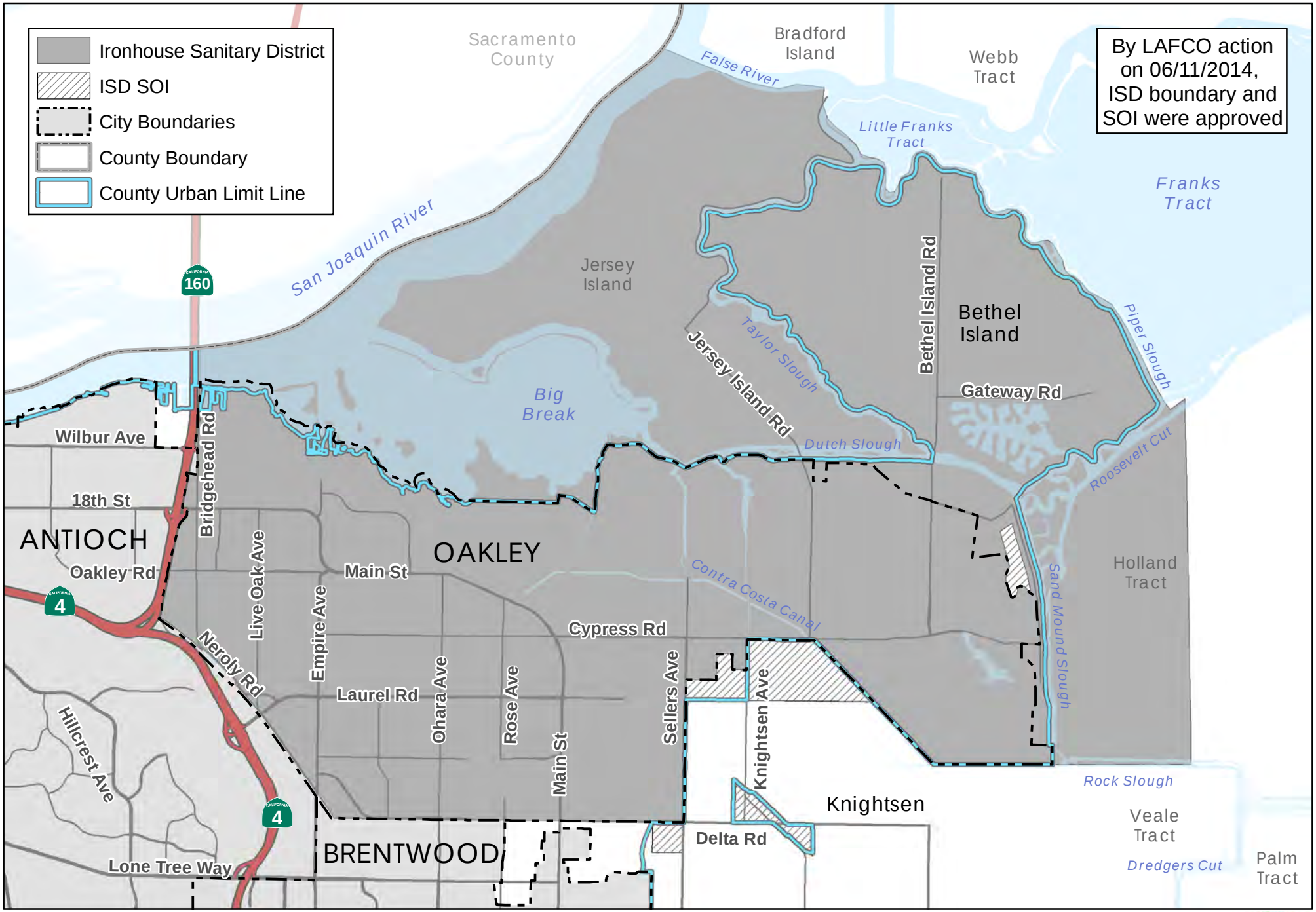
_____
CHAIR, CONTRA COSTA LAFCO

I hereby certify that this is a correct copy of a resolution passed and adopted by this Commission on the date stated above.

Dated: June 12, 2024

_____
Lou Ann Texeira, Executive Officer

Ironhouse Sanitary District Boundary and SOI



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RESOLUTION OF THE CONTRA COSTA
LOCAL AGENCY FORMATION COMMISSION

APPROVING A SPHERE OF INFLUENCE UPDATE FOR
RODEO SANITARY DISTRICT

WHEREAS, Government Code §56425 requires the Local Agency Formation Commission (LAFCO) to develop and determine the sphere of influence (SOI) of each local governmental agency within the County; and

WHEREAS, Government Code §56425(f) requires that LAFCO review and update the SOI boundaries every five years, or as necessary; and

WHEREAS, Government Code §56430 requires that a municipal service review (MSR) be conducted prior to or in conjunction with an SOI update; and

WHEREAS, LAFCO conducted a 3rd round, countywide review of wastewater service providers, which includes Rodeo Sanitary District (RSD), and adopted written determinations as required by Government Code §56430 on June 12, 2024; and

WHEREAS, RSD was formed in 1914 and provides wastewater collection, treatment and disposal; and contracts with Republic Services in Richmond for solid waste services; and

WHEREAS, RSD serves a population of approximately 9,453 residents with approximately 2,514 connections in a service area of approximately 1.6± square miles; and

WHEREAS, no change in regulation, land use, or development will occur as a result of updating the District's SOI; and

WHEREAS, in the form and manner prescribed by law, the Executive Officer has given notice of a public hearing by this Commission regarding the SOI action; and

WHEREAS, the SOI update was duly considered at a public hearing held on June 12, 2024; and

NOW, THEREFORE, BE IT RESOLVED, DETERMINED AND ORDERED that the Contra Costa LAFCO does hereby**:**

1. Determine, as lead agency for the purposes of the California Environmental Quality Act (CEQA), that the SOI update is categorically exempt under §15061(b)(3) of the CEQA Guidelines.
2. Retain the existing SOI for DD.
3. Determine that the Commission has considered the criteria set forth in Government Code §56425 as follows:
    a. *Present and planned land uses in the area, including agricultural and open-space lands* – RSD serves the unincorporated areas of Rodeo and Tormey comprising 1.6± square miles. Land uses include residential, light commercial, and public uses. No land use changes will result from this SOI update.
    b. *Present and probable need for public facilities and services in the area* - RSD's service area is expected to increase by 15.1 percent within the 23-year period.
    c. *Present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide* – RSD facilities include a water pollution control plant, 25 miles of gravity sewers, two pump stations, and two force mains. RSD treats 0.60 million gallons per day (MGD) average daily dry weather flow. Plant capacity is 1.14 MGD. RSD and the cities of Hercules and Pinole share discharge facilities into San Pablo Bay.
    d. *Existence of any social or economic communities of interest in the area if the Commission determines that they are relevant to the agency* – RSD provides services to the unincorporated communities of Rodeo and Tormey. Primary revenue sources include service charges and permits. The District also receives a portion of the 1% property tax. Property owners and

ratepayers within the area have an economic interest in receiving services from this investment. The SOI update will not affect the existence of any social or economic communities of interest in the area that are relevant to RSD.

e. *Present and probable need for those public facilities and services of any disadvantaged unincorporated communities (DUCs) within the existing SOI* - There are DUCs located within RSD's SOI.

f. *Nature, location, extent, functions & classes of services to be provided* – RSD provides wastewater collection, treatment and disposal; and contracts for solid waste services with Republic Services in Richmond..

* *

PASSED AND ADOPTED THIS 12th day of June 2024, by the following vote:

AYES:
NOES:
ABSTENTIONS:
ABSENT:

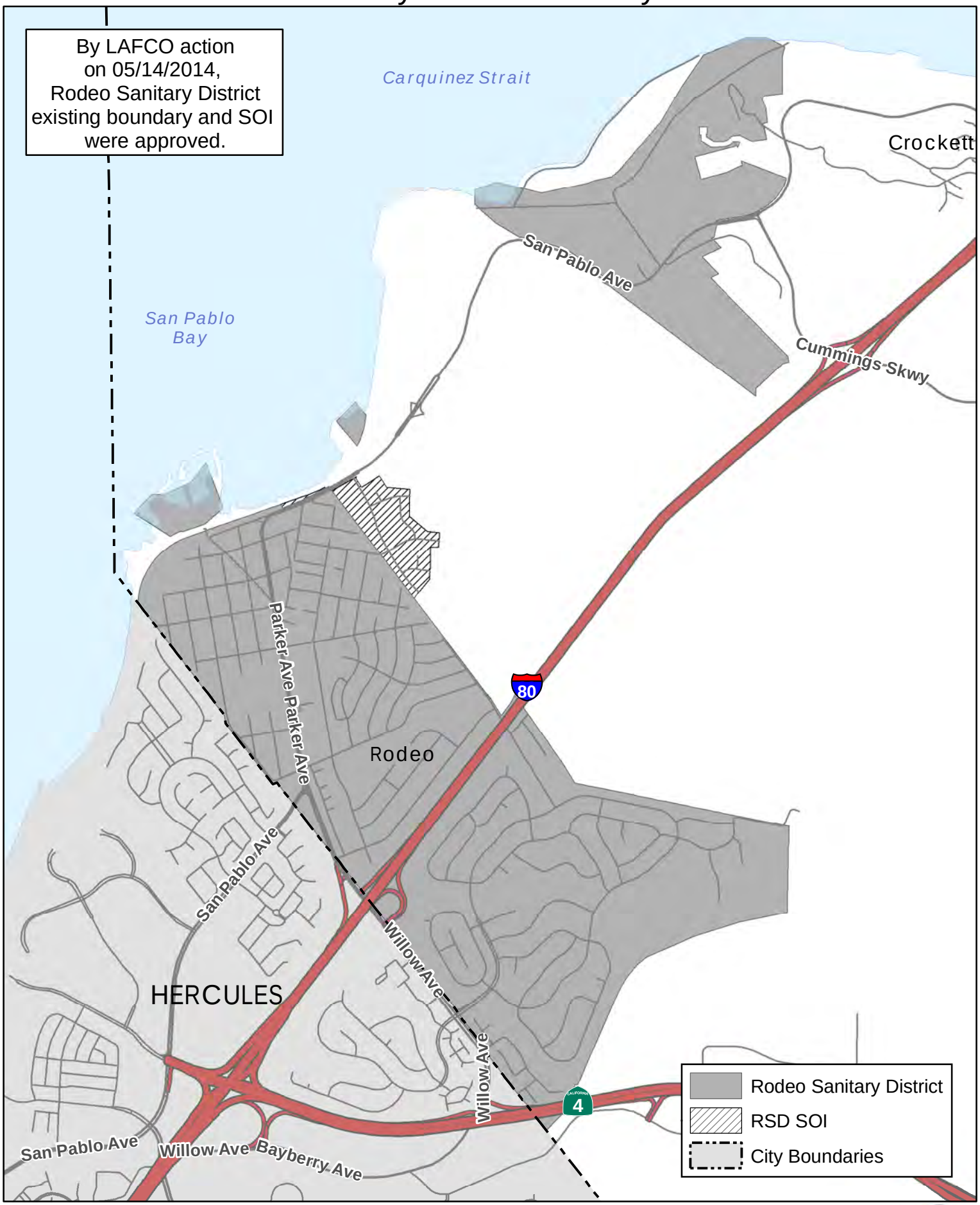
CHAIR, CONTRA COSTA LAFCO

I hereby certify that this is a correct copy of a resolution passed and adopted by this Commission on the date stated above.

Dated: June 12, 2024

Lou Ann Texeira, Executive Officer

Rodeo Sanitary District Boundary and SOI



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RESOLUTION OF THE CONTRA COSTA LOCAL AGENCY FORMATION COMMISSION

APPROVING A SPHERE OF INFLUENCE UPDATE FOR STEGE SANITARY DISTRICT

WHEREAS, Government Code §56425 requires the Local Agency Formation Commission (LAFCO) to develop and determine the sphere of influence (SOI) of each local governmental agency within the County; and

WHEREAS, Government Code §56425(f) requires that LAFCO review and update the SOI boundaries every five years, or as necessary; and

WHEREAS, Government Code §56430 requires that a municipal service review (MSR) be conducted prior to or in conjunction with an SOI update; and

WHEREAS, LAFCO conducted a 3rd round, countywide review of wastewater service providers, which includes Stege Sanitary District (SSD), and adopted written determinations as required by Government Code §56430 on June 12, 2024; and

WHEREAS, SSD was formed in 1913 and provides wastewater collection services to the City of El Cerrito, the unincorporated Kensington community, and of portion of the Richmond Annex area; and

WHEREAS, SSD serves a population of approximately 35,000 residents with approximately 13,123 connections in a service area of approximately 5.3± square miles; and

WHEREAS, no change in regulation, land use, or development will occur as a result of updating the District's SOI; and

WHEREAS, in the form and manner prescribed by law, the Executive Officer has given notice of a public hearing by this Commission regarding the SOI action; and

WHEREAS, the SOI update was duly considered at a public hearing held on June 12, 2024; and

NOW, THEREFORE, BE IT RESOLVED, DETERMINED AND ORDERED that the Contra Costa LAFCO does hereby**:**

1. Determine, as lead agency for the purposes of the California Environmental Quality Act (CEQA), that the SOI update is categorically exempt under §15061(b)(3) of the CEQA Guidelines.
2. Retain the existing SOI for SSD.
3. Determine that the Commission has considered the criteria set forth in Government Code §56425 as follows:
    a. *Present and planned land uses in the area, including agricultural and open-space lands* – SSD serves the City of El Cerrito, the unincorporated community of Kensington, and of portion of the Richmond Annex area comprising 5.3± square miles. Land uses include residential, commercial, industrial, and open space. No land use changes will result from this SOI update.
    b. *Present and probable need for public facilities and services in the area* - SSD's service area is expected to increase by 15.1 percent within the 23-year period.
    c. *Present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide* – SSD facilities include 148 miles of collection lines and two pump stations. The collection system has an Average Dry Weather Flow of 3.0 million gallons per day (MGD) and an Average Wet Weather Flow between 5-6 MGD. SSD treats 0.60 million MGD average daily dry weather flow. The East Bay Municipal Utility District (EBMUD) treatment plant disposes of treated effluent through an outfall into San Francisco Bay. SSD currently provides wastewater conveyance service to 101 homes outside its current boundaries by contract with the City of Richmond. Annexation of this area is an option; however, this area is subject to landslide activity which makes underground sewer lines costly to maintain.

d. *Existence of any social or economic communities of interest in the area if the Commission determines that they are relevant to the agency* – SSD provides services to the City of El Cerrito, unincorporated communities of Kensington, and a portion of the Richmond Annex area. Primary revenue sources include sewer service charges and a portion of the 1% property tax. Property owners and ratepayers within the area have an economic interest in receiving services from this investment. The SOI update will not affect the existence of any social or economic communities of interest in the area that are relevant to SSD.

e. *Present and probable need for those public facilities and services of any disadvantaged unincorporated communities (DUCs) within the existing SOI* - There is a DUC located within SSD's SOI.

f. *Nature, location, extent, functions & classes of services to be provided* – SSD provides wastewater services to the City of El Cerrito, unincorporated community of Kensington, and a portion of the Richmond Annex area in Richmond.

* *

PASSED AND ADOPTED THIS 12th day of June 2024, by the following vote:

AYES:
NOES:
ABSTENTIONS:
ABSENT:

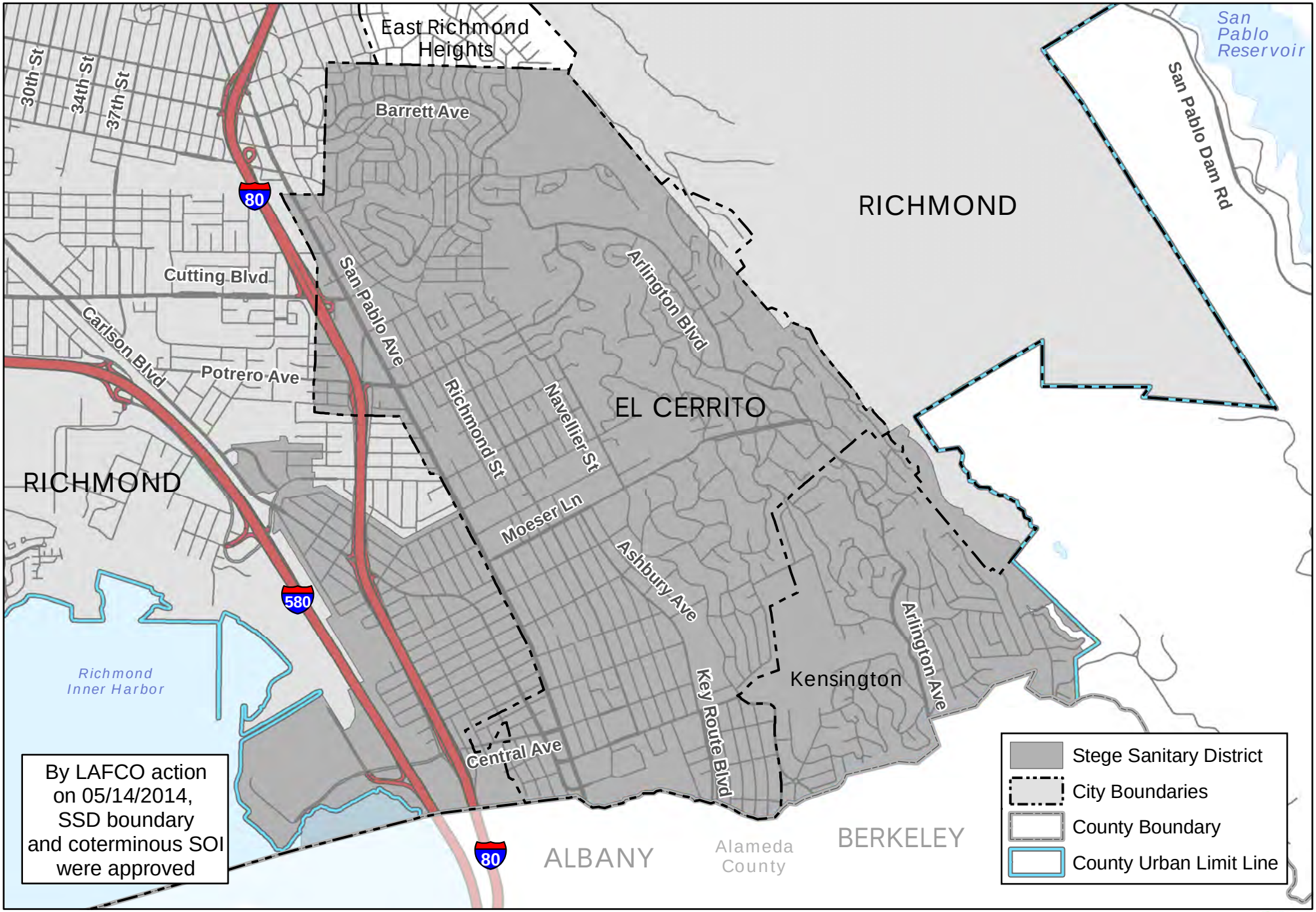
_____
CHAIR, CONTRA COSTA LAFCO

I hereby certify that this is a correct copy of a resolution passed and adopted by this Commission on the date stated above.

Dated: June 12, 2024

_____
Lou Ann Texeira, Executive Officer

Stege Sanitary District Boundary and Coterminous SOI



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RESOLUTION OF THE CONTRA COSTA
LOCAL AGENCY FORMATION COMMISSION

APPROVING A SPHERE OF INFLUENCE UPDATE FOR
WEST COUNTY WASTEWATER DISTRICT

WHEREAS, Government Code §56425 requires the Local Agency Formation Commission (LAFCO) to develop and determine the sphere of influence (SOI) of each local governmental agency within the County; and

WHEREAS, Government Code §56425(f) requires that LAFCO review and update the SOI boundaries every five years, or as necessary; and

WHEREAS, Government Code §56430 requires that a municipal service review (MSR) be conducted prior to or in conjunction with an SOI update; and

WHEREAS, LAFCO conducted a 3rd round, countywide review of wastewater service providers, which includes West County Wastewater District (WCWD), and adopted written determinations as required by Government Code §56430 on June 12, 2024; and

WHEREAS, WCWD was formed in 1921 and provides wastewater collection, treatment and disposal services to the City of San Pablo, City of Richmond (portion), City of Pinole (portion), and unincorporated areas in West County including East Richmond Heights, El Sobrante, Montalvin Manor, North Richmond, and Tara Hills; and

WHEREAS, WCWD serves a population of approximately 102,000 residents with approximately 25,838 residential and business sewer connections in a service area of approximately 16.9± square miles; and

WHEREAS, no change in regulation, land use, or development will occur as a result of updating the District's SOI; and

WHEREAS, in the form and manner prescribed by law, the Executive Officer has given notice of a public hearing by this Commission regarding the SOI action; and

WHEREAS, the SOI update was duly considered at a public hearing held on June 12, 2024; and

NOW, THEREFORE, BE IT RESOLVED, DETERMINED AND ORDERED that the Contra Costa LAFCO does hereby**:**

1. Determine, as lead agency for the purposes of the California Environmental Quality Act (CEQA), that the SOI update is categorically exempt under §15061(b)(3) of the CEQA Guidelines.
2. Retain the existing SOI for WCWD.
3. Determine that the Commission has considered the criteria set forth in Government Code §56425 as follows:
    a. *Present and planned land uses in the area, including agricultural and open-space lands* – WCWD comprises 16.9± square miles, and serves the City of San Pablo, a portion of the City of Richmond, and unincorporated areas including East Richmond Heights, El Sobrante, Montalvin Manor, North Richmond, and Rollingwood. Land uses include residential, commercial, industrial, and public use. No land use changes will result from this SOI update.
    b. *Present and probable need for public facilities and services in the area* - WCWD's service area is expected to increase by approximately 17% by 2045.
    c. *Present capacity of public facilities and adequacy of public services that the agency provides or is authorized to provide* – WCWD facilities include 249 linear miles of sewer pipeline, a water pollution control plant, and 17 pump stations. The treatment plant capacity processes 12.5 million gallons per day (MGD) (dry weather), and 21 MGD (wet weather).

d. *Existence of any social or economic communities of interest in the area if the Commission determines that they are relevant to the agency* – WCWD provides services to the City of San Pablo, portions of the cities on Pinole and Richmond, and other unincorporated areas within Contra Costa County. Primary revenue sources include sewer service charges and a portion of the 1% property tax. Property owners and ratepayers within the area have an economic interest in receiving services from this investment. The SOI update will not affect the existence of any social or economic communities of interest in the area that are relevant to WCWD.

e. *Present and probable need for those public facilities and services of any disadvantaged unincorporated communities (DUCs) within the existing SOI* - There are disadvantaged communities with WCWD including the City of San Pablo, portions of the cities of El Cerrito and Richmond, and unincorporated North Richmond.

f. *Nature, location, extent, functions & classes of services to be provided* – WCWD provides wastewater services to the City of San Pablo, portions of the cities of Pinole and Richmond, and unincorporated communities of Bayview, El Sobrante, Rollingwood, and Tara Hills.

* *

PASSED AND ADOPTED THIS 12th day of June 2024, by the following vote:

AYES:
NOES:
ABSTENTIONS:
ABSENT:

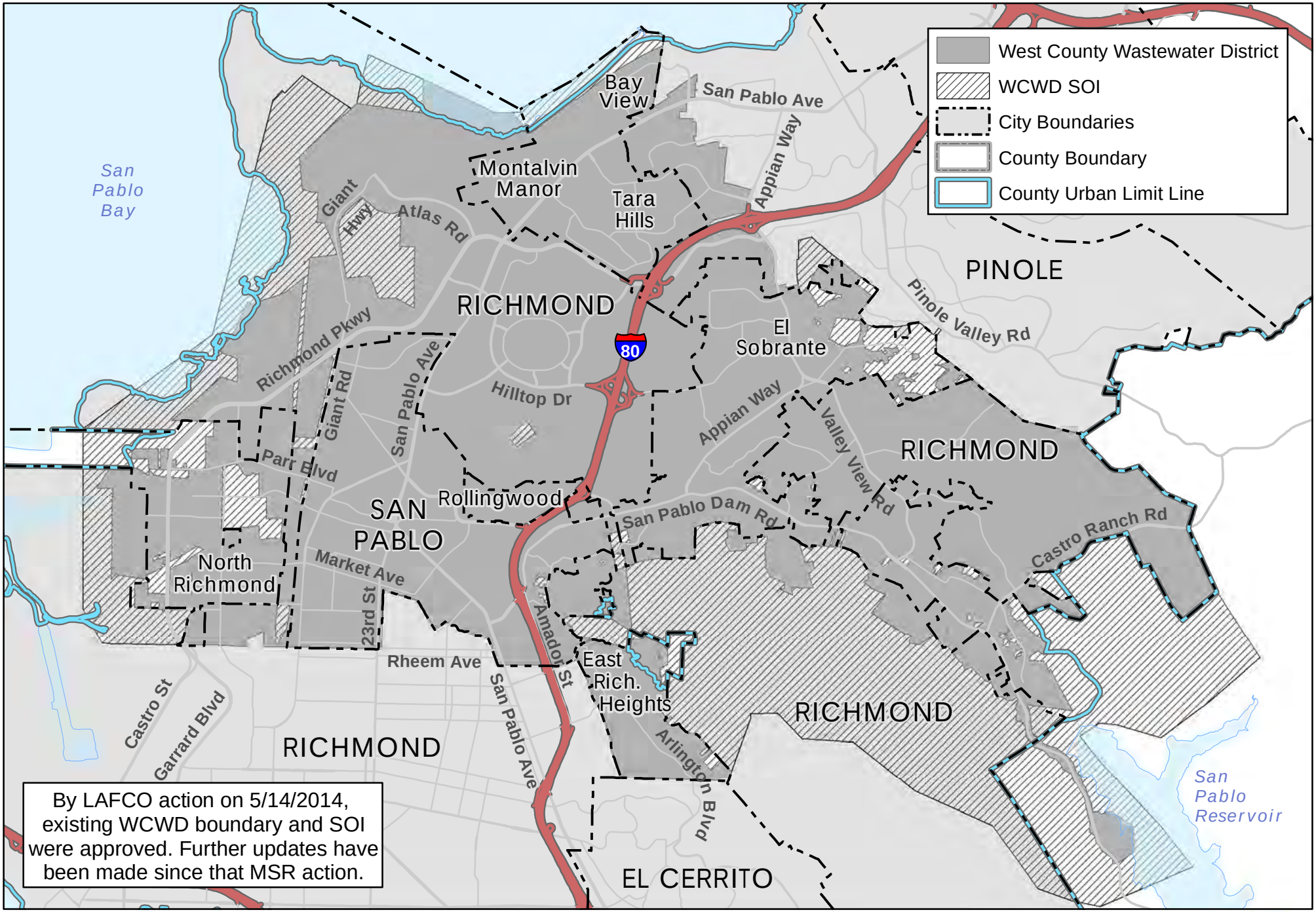
_____
CHAIR, CONTRA COSTA LAFCO

I hereby certify that this is a correct copy of a resolution passed and adopted by this Commission on the date stated above.

Dated: June 12, 2024

_____
Lou Ann Texeira, Executive Officer

West County Wastewater District Boundary and SOI



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CHAPTER 25: GLOSSARY

Aquifer: A below-ground geologic formation that bears water, stores water, and/or transmits water, such as to wells and springs.

American Society of Engineers: A professional organization that represents and supports engineers in various disciplines and promotes the advancement of engineering knowledge and practices

Annexation: The annexation, inclusion, attachment, or addition of territory to a city or district.

Average base flow (ABF): Flow in the sanitary sewer during dry-weather months, measured when no appreciable rain is falling. Base flow consists of sanitary flow plus groundwater infiltration.

Average dry-weather flow (ADWF): The 30-day rolling average wastewater flow from May through October.

Average wet-weather flow (AWWF): The 30-day rolling average wastewater flow from November through April.

Best Management Practices: Best management practices are defined as methods or techniques found to be the most effective and practical means in achieving an objective (such as minimizing pollution) while making the optimum use of the District's resources.

Board of Directors: The legislative body or governing board of a district.

Board of Supervisors: The elected board of supervisors of a county.

Bond: An interest-bearing promise to pay a stipulated sum of money, with the principal amount due on a specific date. Funds raised through the sale of bonds can be used for various public purposes.

Buildout: The maximum development potential when all lands within an area have been converted to the maximum density allowed under the General Plan.

CFS: Abbreviation for cubic feet per second. Used to describe a rate of the flow in streams and rivers. One "cfs" is equivalent to 7.48 gallons of water flowing each second. Also, equal to a volume of water one foot high and one foot wide flowing a distance of one foot in one second.

City: Any charter or general law city.

Community Services District (CSD): A geographic subarea of a county used for planning and delivery of parks, recreation, and other human services based on an assessment of the service needs of the population in that subarea. A CSD is a taxation district with independent administration.

Consolidation: The uniting or joining of two or more districts into a single new successor district. In the case of consolidation of special districts, all of those districts shall have been formed pursuant to the same principal act.

Contiguous: In the case of annexation, territory adjacent to an agency to which annexation is proposed. Territory is not contiguous if the only contiguity is based upon a strip of land more than 300 feet long and less than 200 feet wide.

Cost avoidance: Actions to eliminate unnecessary costs derived from, but not limited to, duplication of service efforts, higher than necessary administration/operation cost ratios, use of outdated or deteriorating infrastructure and equipment, underutilized equipment or buildings or facilities, overlapping/inefficient service boundaries, inefficient purchasing or budgeting practices, and lack of economies of scale.

Crown (of the sewer): The upper portion of the sewer pipes.

Databases: Structured collections of data that are organized and stored for easy retrieval and analysis. This MSR utilizes databases stored online and created by state or federal agencies.

Demographic Data: Statistical information about the characteristics of a population, such as age, race, income, and education.

Design flow: The selected flow condition for wastewater collection system design, determined by adding corresponding peak sanitary flow and peak groundwater infiltration. This is also referred to as peak dry-weather flow.

Design storm: An abstraction based on historical data that determines the amount of stormwater inflow and rainfall-dependent infiltration.

Detachment: The detachment, deannexation, exclusion, deletion, or removal from a city or district of any portion of the territory of that city or district.

Determination: The act of making a decision or reaching a conclusion based on evidence or information. In MSRs, determinations are required by the CKH Act.

Development Fee: A fee charged to the developer of a project by a county, or other public agency as compensation for otherwise-unmitigated impacts the project will produce. California Government Code Section 66000, et seq., specifies that development fees shall not exceed the estimated reasonable cost of providing the service for which the fee is charged. To lawfully impose a development fee, the public agency must verify its method of calculation and document proper restrictions on use of the fund.

Disadvantaged Communities: Areas or neighborhoods that face social, economic, or environmental challenges and have limited access to resources and opportunities. Defined by the CKH Act.

Discharge: The volume of water that passes a given location within a given period of time. Usually measured in cfs.

Drainage basin: A watershed (land area) where precipitation runs off into streams, rivers, lakes, and reservoirs. A drainage basin may be identified by tracing a line along the highest elevations between two areas on a map, often along a ridgeline.

Dissolution: The dissolution, disincorporation, extinguishment, and termination of the existence of a district and the cessation of all its corporate powers, except for the purpose of winding up the affairs of the district.

District or special District: An agency of the state, formed pursuant to general law or special act, for the local performance of governmental or proprietary functions within limited boundaries. "District" or "special district" includes a county service area.

District of limited Powers: An airport district, community services district, municipal utility district, public utilities district, fire protection district, harbor district, port district, recreational harbor district, small craft harbor district, resort improvement district, library district, local hospital district, local health district, municipal improvement district formed pursuant to any special act, municipal water district, police protection district, recreation and park district, garbage disposal district, garbage and refuse disposal district, sanitary district, or county sanitation district.

Dry-weather flow: Wastewater flow monitored during the dry season, occurring May through October. Consists of sanitary flow and groundwater infiltration.

Excessive infiltration and inflow: The quantities of infiltration/ inflow that can be economically eliminated from a wastewater collection system by rehabilitation, as determined by a cost-effective analysis.

Emissions: The release or discharge of substances, such as gases or pollutants, into the atmosphere.

Evaporation: A physical process such that liquid water transforms to water vapor, including vaporization from water surfaces, land surfaces, and fields.

Evapotranspiration: Combination of evaporation from free water surfaces and transpiration of water from plant surfaces to the atmosphere.

Formation: The formation, incorporation, organization, or creation of a district.

Function: Any power granted by law to a local agency or a county to provide designated governmental or proprietary services or facilities for the use, benefit, or protection of all persons or property.

Functional revenues: Revenues generated from direct services or associated with specific services, such as a grant or statute, and expenditures.

FY: Fiscal year.

General plan: A document containing a statement of development policies including a diagram and text setting forth the objectives of the plan. In California, the general plan for a city or a county must include certain state mandated elements related to land use, circulation, housing, conservation, open-space, noise, and safety.

General revenues: Revenues not associated with specific services or retained in an enterprise fund.

Incorporation: The incorporation, formation, creation, and establishment of a city with corporate powers. Any area proposed for incorporation as a new city must have at least 500 registered voters residing within the affected area at the time commission proceedings are initiated.

Independent Special District: Any special district having a legislative body all of whose members are elected by registered voters or landowners within the district, or whose members are appointed to fixed terms, and excludes any special district having a legislative body consisting, in whole or in part, of ex officio members who are officers of a county or another local agency or who are appointees of those officers other than those who are appointed to fixed terms. "Independent special district" does not include any district excluded from the definition of district contained in §56036.

Infiltration and inflow (I&I): The collective term used to describe the extraneous flow in a wastewater collection system from both rainfall-dependent infiltration and inflow or groundwater infiltration.

Infrastructure: Public services and facilities, such as pipes, canals, levees, water-supply systems, other utility, systems, and roads.

LAFCO: Local Agency Formation Commission.

Local Accountability And Governance: A style of public agency decision making, operation and management that includes an accessible staff, elected or appointed decision-making body and decision making process, advertisement of, and public participation in, elections, publicly disclosed budgets, programs, and plans, solicited public participation in the consideration of work and infrastructure plans; and regularly evaluated or measured outcomes of plans, programs or operations and disclosure of results to the public.

Local Agency: A city, county, or special district or other public entity, which provides public services.

Management Efficiency: The organized provision of the highest quality public services with the lowest necessary expenditure of public funds. An efficiently managed entity (1) promotes and demonstrates implementation of continuous improvement plans and strategies for budgeting, managing costs, training and utilizing personnel, and customer service and involvement, (2) has the ability to provide service over the short and long term, (3) has the resources (fiscal, manpower, equipment, adopted service or work plans) to provide adequate service, (4) meets or exceeds environmental and industry service standards, as feasible considering local conditions or circumstances, (5) and maintains adequate contingency reserves.

Methane Emissions: The release of methane gas into the atmosphere, often associated with human activities such as fossil fuel extraction, agriculture, and waste management.

Methane: A colorless and odorless gas that is the primary component of natural gas and a potent greenhouse gas. Wastewater treatment plants typically emit methane gas.

Municipal Services: The full range of services that a public agency provides, or is authorized to provide, except general county government functions such as courts, special services and tax collection. As understood under the CKH Act, this includes all services provided by Special Districts under California law.

Municipal Service Review (MSR): A study designed to determine the adequacy of governmental services being provided in the region or sub-region. Performing service reviews for each city and special district within the county may be used by LAFCO, other governmental agencies, and the public to better understand and improve service conditions.

Ordinance: A law or regulation set forth and adopted by a governmental authority.

Peak flow: Maximum measured daily flow. Commonly measured in cubic feet per second (cfs). Typically occurs during wet-weather events and can also be referred to as peak wet-weather flow.

Peak dry-weather flow (PDWF): Peak daily sanitary flow plus groundwater infiltration.

Peak wet-weather flow (PWWF): Peak daily wet-weather flow plus peak rainfall-dependent infiltration and inflow from rainfall events.

Peaking Factor: The ratio of peak hourly wet-weather flow to base flow

Per Capita Water Use: The water produced by or introduced into the system of a water supplier divided by the total residential population; normally expressed in gallons per capita per day (gpcd).

pH: A measure of the relative acidity or alkalinity of water. Water with a pH of 7 is neutral; lower pH levels indicate increasing acidity, while pH levels higher than 7 indicate increasingly basic solutions.

Plan of reorganization: A plan or program for effecting reorganization and which contains a description of all changes of organization included in the reorganization and setting forth all terms, conditions, and matters necessary or incidental to the effectuation of that reorganization.

Potable Water: Water of a quality suitable for drinking.

Principal act: In the case of a district, the law under which the district was formed and, in the case of a city, the general laws or a charter, as the case may be.

Principal LAFCO for municipal service review: The LAFCO with the lead responsibility for a municipal service review. Lead responsibility can be determined pursuant to the CKH Act definition of a Principal LAFCO as it applies to government organization or reorganization actions, by negotiation, or by agreement among two or more LAFCOs.

Proceeding: A course of action. Procedures.

Public agency: The state or any state agency, board, or commission, any city, county, city and county, special district, or other political subdivision, or any agency, board, or commission of the city, county, city and county, special district, or other political subdivision.

Rainfall-dependent infiltration and inflow (RDI/I): Rainfall runoff from both infiltration and inflow sources that enter the wastewater collection system during and shortly after a rain event. RDI/I consists of stormwater inflow and rainfall-dependent infiltration.

Rate restructuring: Rate restructuring does not refer to the setting or development of specific rates or rate structures. During a municipal service review, LAFCO may compile and review certain rate related data, and other information that may affect rates, as that data applies to the intent of the CKH Act (§56000, §56001, §56301), factors to be considered (§56668), SOI determinations (§56425) and all required municipal service review determinations (§56430). The objective is to identify opportunities to positively impact rates without adversely affecting service quality or other factors to be considered.

Recycled Water: Treated wastewater reused for various purposes, such as irrigation, industrial processes, or groundwater recharge.

Reorganization: Two or more changes of organization initiated in a single proposal.

Reserve: (1) For governmental type funds, an account used to earmark a portion of fund balance, which is legally or contractually restricted for a specific use or not appropriable for expenditure. (2) For proprietary type/enterprise funds, the portion of retained earnings set aside for specific purposes. Unnecessary reserves are those set aside for purposes that are not well defined or adopted or retained earnings that are not reasonably proportional to annual gross revenues.

Responsible LAFCO: The LAFCO of a county other than the Principal County that may be impacted by recommendations, determinations or subsequent proposals elicited during a municipal service review being initiated or considered by the Lead LAFCO.

Retained earnings: The accumulated earnings of an enterprise or intragovernmental service fund which have been retained in the fund and are not reserved for any specific purpose (debts, planned improvements, and contingency/emergency).

RWQCB: Regional Water Quality Control Board.

SCADA: Acronym for Supervisory Control and Data Acquisition; a software application program used for process control and to gather real time data from remote locations. The SCADA System consists of hardware and software components. The hardware collects and feeds data into a computer with SCADA software installed. The function of SCADA is recording and logging all events in a file that is stored in a hard disk or sending them to a printer. If conditions become hazardous, SCADA sounds warning alarm.

Service lateral: A sewer connecting a building or house to the mainline sewer.

Service review: A study and evaluation of municipal service(s) by specific area, subregion or region culminating in written determinations regarding seven specific evaluation categories.

Sewage: The wastewater released by residences, businesses and industries in a community is commonly referred to as sewage. It is 99.94 percent water, with only 0.06 percent of the wastewater dissolved and suspended solid material. The cloudiness of sewage is caused by suspended particles, which in untreated sewage ranges from 100 to 350 mg/l.

Sewer Information Maintenance and Management System (SIMMS): A computer program that provides a means of tracking and organizing sewer maintenance schedules.

Special Reorganization: A reorganization that includes the detachment of territory from a city or city and county and the incorporation of that entire detached territory as a city.

Specific plan: A policy statement and implementation tool that is used to address a single project or planning problem. Specific plans contain concrete standards and development criteria that supplement those of the general plan.

Sphere of influence (SOI): A plan for the probable physical boundaries and service area of a local agency, as determined by the LAFCO.

Sphere of influence determinations: In establishing a sphere of influence, the Commission must consider and prepare written determinations related to present and planned land uses, need and capacity of public facilities, and existence of social and economic communities of interest.

Stormwater runoff: Rainwater which does not infiltrate into the soil and runs off the land.

SWRCB: State Water Resources Control Board.

Total Dissolved Solids (TDS): A quantitative measure of the residual minerals dissolved in water that remains after evaporation of a solution. Usually expressed in milligrams per liter.

Treated water: Raw water which has been treated for human consumption through secondary or tertiary processes at a water treatment plan (WTP).

Watershed: An area of land that drains water, sediment and dissolved materials to a common receiving body or outlet. The term is not restricted to surface water runoff and includes interactions with subsurface water. Watersheds vary from the largest river basins to just acres or less in size. In urban watershed management, a watershed is seen as all the land which contributes runoff to a particular water body.

Wastewater Regulations: Rules and guidelines established by regulatory agencies to control the treatment, discharge, and management of wastewater to protect public health and the environment.

Zoning: The primary instrument for implementing the general plan. Zoning divides a community into districts or "zones" that specify the permitted/prohibited land uses.

CHAPTER 26: ACKNOWLEDGEMENTS

Many people contributed information that was utilized in this Municipal Service Review and Sphere of Influence Update.

Contra Costa LAFCo Staff	Lou Ann Texeira, Executive Officer Anna Seithel, Clerk Analyst
Wastewater Service Providers	Many people at each of the 20 wastewater service providers contributed time and information to improve this MSR. Their effort is greatly appreciated.

REPORT PREPARERS

A team of consultants authored this MSR/SOI and provided an independent analysis.

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Yuba Planning Group, LLC	Jessica Hankins, Technical Writer & Editor
South Fork	Amanda Ross, Financial Analysis
Baracco and Associates	Bruce Baracco, Reviewer

SOFTWARE UTILIZED IN PREPARATION OF MSR/SOI

Several types of computer software were utilized to assist the consultants in preparation of this report as listed in the table below.

ESRI Arc GIS (Maps)	Adobe Acrobat regular + AI (convert Microsoft to pdf format. Summarize pdf reports)
Microsoft Word & Excel (typing text and tables)	Chat GPT (AI used to summarize reports from the agencies, describe images, reformat tables)
Grammarly.com (corrects typos and grammatical errors using AI)	Google maps (used images of public buildings, measured distances)

APPENDICES

For the

Municipal Service Review and

Sphere of Influence Update

WASTEWATER SERVICES

Prepared by:

SWALE inc

Prepared for:

Contra Costa LAFCO

https://www.contracostalafco.org/

May 22, 2024

List of Appendices

A. Demographic Data, Contra Costa County
B. Map Disadvantaged Communities (DAC) Determination, American Community Survey 5-year Estimates
C. Economic Data - County Costa County U.S. Census
D. California's New Housing Laws
E. Housing and Land Use Resources and Databases
F. Description of Watersheds
G. Wastewater Regulations
H. Methane Emissions
I. Recycled Water
J. American Society of Engineers

Appendix A

Demographic Data, Contra Costa County

United States Census Bureau

QuickFacts

Contra Costa County, California; United States

QuickFacts provides statistics for all states and counties. Also for cities and towns with a ***population of 5,000 or more***.

All Topics	Contra Costa County, California	United States
Population estimates, July 1, 2023, (V2023)	**1,155,025**	**334,914,895**
PEOPLE		
Population		
Population estimates, July 1, 2023, (V2023)	**1,155,025**	**334,914,895**
Population estimates base, April 1, 2020, (V2023)	1,165,930	331,464,948
Population, percent change - April 1, 2020 (estimates base) to July 1, 2023, (V2023)	-0.9%	1.0%
Population, Census, April 1, 2020	1,165,927	331,449,281
Population, Census, April 1, 2010	1,049,025	308,745,538
Age and Sex		
Persons under 5 years, percent	5.3%	5.6%
Persons under 18 years, percent	21.7%	21.7%
Persons 65 years and over, percent	17.4%	17.3%
Female persons, percent	50.7%	50.4%
Race and Hispanic Origin		
White alone, percent	62.8%	75.5%
Black or African American alone, percent (a)	9.5%	13.6%
American Indian and Alaska Native alone, percent (a)	1.1%	1.3%
Asian alone, percent (a)	20.2%	6.3%
Native Hawaiian and Other Pacific Islander alone, percent (a)	0.6%	0.3%
Two or More Races, percent	5.8%	3.0%
Hispanic or Latino, percent (b)	27.0%	19.1%
White alone, not Hispanic or Latino, percent	39.8%	58.9%
Population Characteristics		
Veterans, 2018-2022	41,949	17,038,807
Foreign born persons, percent, 2018-2022	25.4%	13.7%
Housing		
Housing Units, July 1, 2023, (V2023)	432,059	145,344,636
Owner-occupied housing unit rate, 2018-2022	67.2%	64.8%
Median value of owner-occupied housing units, 2018-2022	$787,300	$281,900
Median selected monthly owner costs -with a mortgage, 2018-2022	$3,216	$1,828
Median selected monthly owner costs -without a mortgage, 2018-2022	$886	$584
Median gross rent, 2018-2022	$2,234	$1,268
Building Permits, 2023	2,033	1,511,102
Families & Living Arrangements		
Households, 2018-2022	408,537	125,736,353
Persons per household, 2018-2022	2.82	2.57
Living in same house 1 year ago, percent of persons age 1 year+, 2018-2022	88.8%	86.9%
Language other than English spoken at home, percent of persons age 5 years+, 2018-2022	36.3%	21.7%
Computer and Internet Use		
Households with a computer, percent, 2018-2022	97.1%	94.0%
Households with a broadband Internet subscription, percent, 2018-2022	94.7%	88.3%
Education		
High school graduate or higher, percent of persons age 25 years+, 2018-2022	89.7%	89.1%
Bachelor's degree or higher, percent of persons age 25 years+, 2018-2022	44.5%	34.3%
Health		
With a disability, under age 65 years, percent, 2018-2022	7.4%	8.9%
Persons without health insurance, under age 65 years, percent	5.2%	9.3%

Economy		
In civilian labor force, total, percent of population age 16 years+, 2018-2022	65.0%	63.0%
In civilian labor force, female, percent of population age 16 years+, 2018-2022	59.7%	58.5%
Total accommodation and food services sales, 2017 ($1,000) (c)	2,448,612	938,237,077
Total health care and social assistance receipts/revenue, 2017 ($1,000) (c)	10,075,376	2,527,903,275
Total transportation and warehousing receipts/revenue, 2017 ($1,000) (c)	1,288,141	895,225,411
Total retail sales, 2017 ($1,000) (c)	14,986,369	4,949,601,481
Total retail sales per capita, 2017 (c)	$13,081	$15,224
Transportation		
Mean travel time to work (minutes), workers age 16 years+, 2018-2022	36.8	26.7
Income & Poverty		
Median household income (in 2022 dollars), 2018-2022	$120,020	$75,149
Per capita income in past 12 months (in 2022 dollars), 2018-2022	$59,083	$41,261
Persons in poverty, percent	⚠ 8.7%	⚠ 11.5%

BUSINESSES

Businesses		
Total employer establishments, 2021	25,202	8,148,606
Total employment, 2021	324,805	128,346,299
Total annual payroll, 2021 ($1,000)	25,756,896	8,278,573,947
Total employment, percent change, 2020-2021	-6.2%	-4.3%
Total nonemployer establishments, 2021	99,203	28,477,518
All employer firms, Reference year 2017	20,054	5,744,643
Men-owned employer firms, Reference year 2017	11,026	3,480,438
Women-owned employer firms, Reference year 2017	3,796	1,134,549
Minority-owned employer firms, Reference year 2017	5,345	1,014,958
Nonminority-owned employer firms, Reference year 2017	12,331	4,371,152
Veteran-owned employer firms, Reference year 2017	976	351,237
Nonveteran-owned employer firms, Reference year 2017	16,746	4,968,606

GEOGRAPHY

Geography		
Population per square mile, 2020	1,626.3	93.8
Population per square mile, 2010	1,465.2	87.4
Land area in square miles, 2020	716.93	3,533,038.28
Land area in square miles, 2010	715.94	3,531,905.43
FIPS Code	06013	1

About datasets used in this table

Value Notes

⚠ Methodology differences may exist between data sources, and so estimates from different sources are not comparable.

Some estimates presented here come from sample data, and thus have sampling errors that may render some apparent differences between geographies statistically indistinguishable. Click the Quick Info ⓘ icon to the left of each row in TAI learn about sampling error.

The vintage year (e.g., V2023) refers to the final year of the series (2020 thru 2023). Different vintage years of estimates are not comparable.

Users should exercise caution when comparing 2018-2022 ACS 5-year estimates to other ACS estimates. For more information, please visit the 2022 5-year ACS Comparison Guidance page.

Fact Notes

(a)	Includes persons reporting only one race
(b)	Hispanics may be of any race, so also are included in applicable race categories
(c)	Economic Census - Puerto Rico data are not comparable to U.S. Economic Census data

Value Flags

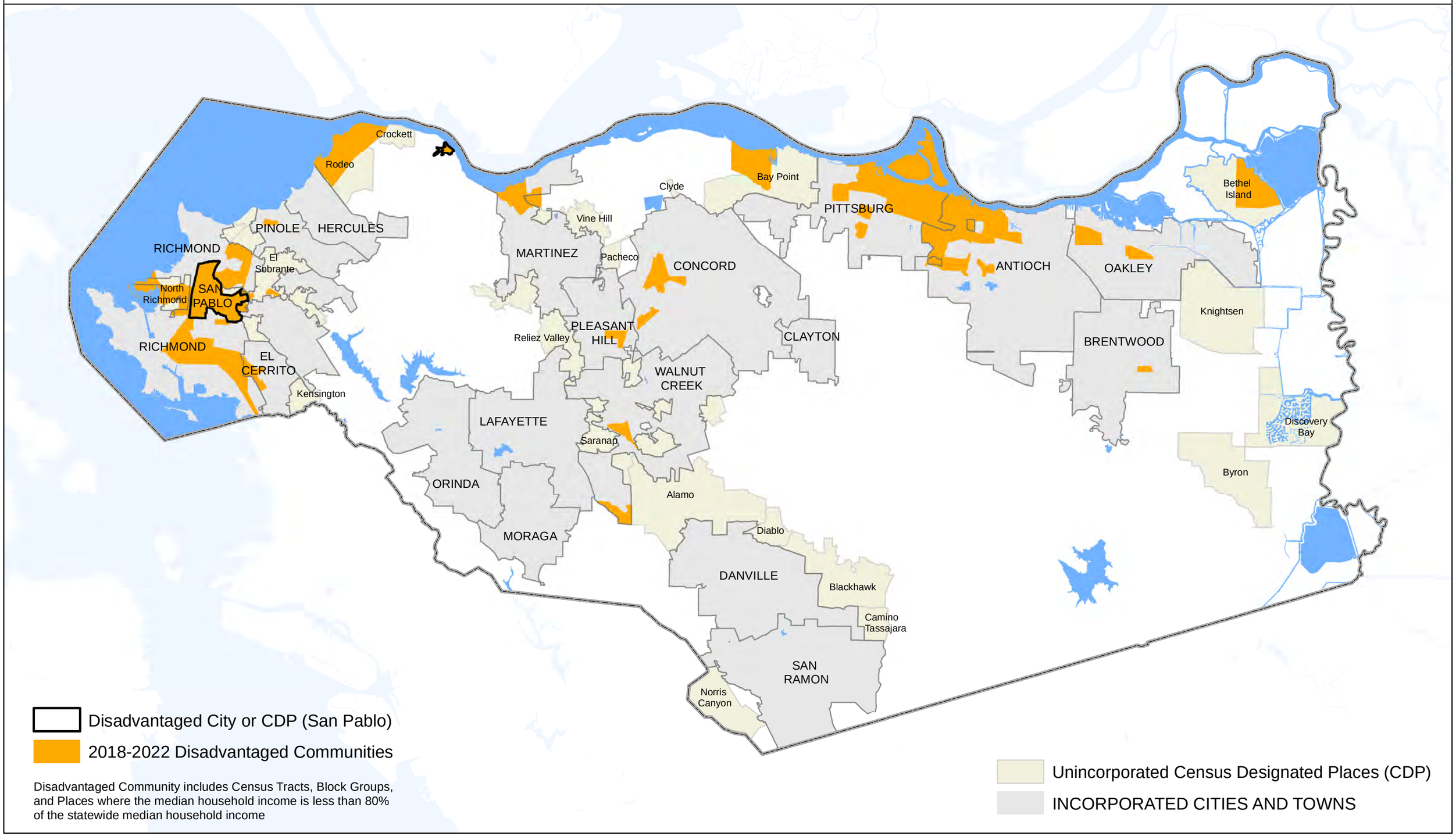
D	Suppressed to avoid disclosure of confidential information
F	Fewer than 25 firms
FN	Footnote on this item in place of data
NA	Not available
S	Suppressed; does not meet publication standards
X	Not applicable
Z	Value greater than zero but less than half unit of measure shown
-	Either no or too few sample observations were available to compute an estimate, or a ratio of medians cannot be calculated because one or both of the median estimates falls in the lowest or upper interval of an open ende
N	Data for this geographic area cannot be displayed because the number of sample cases is too small.

QuickFacts data are derived from: Population Estimates, American Community Survey, Census of Population and Housing, Current Population Survey, Small Area Health Insurance Estimates, Small Area Income and Poverty Estimates, Stat Housing Unit Estimates, County Business Patterns, Nonemployer Statistics, Economic Census, Survey of Business Owners, Building Permits.

Appendix B

Map Disadvantaged Communities (DAC) Determination, American Community Survey 5-year Estimates

Disadvantaged Communities (DAC) Determination
American Community Survey 5-year Estimates (2018 - 2022)

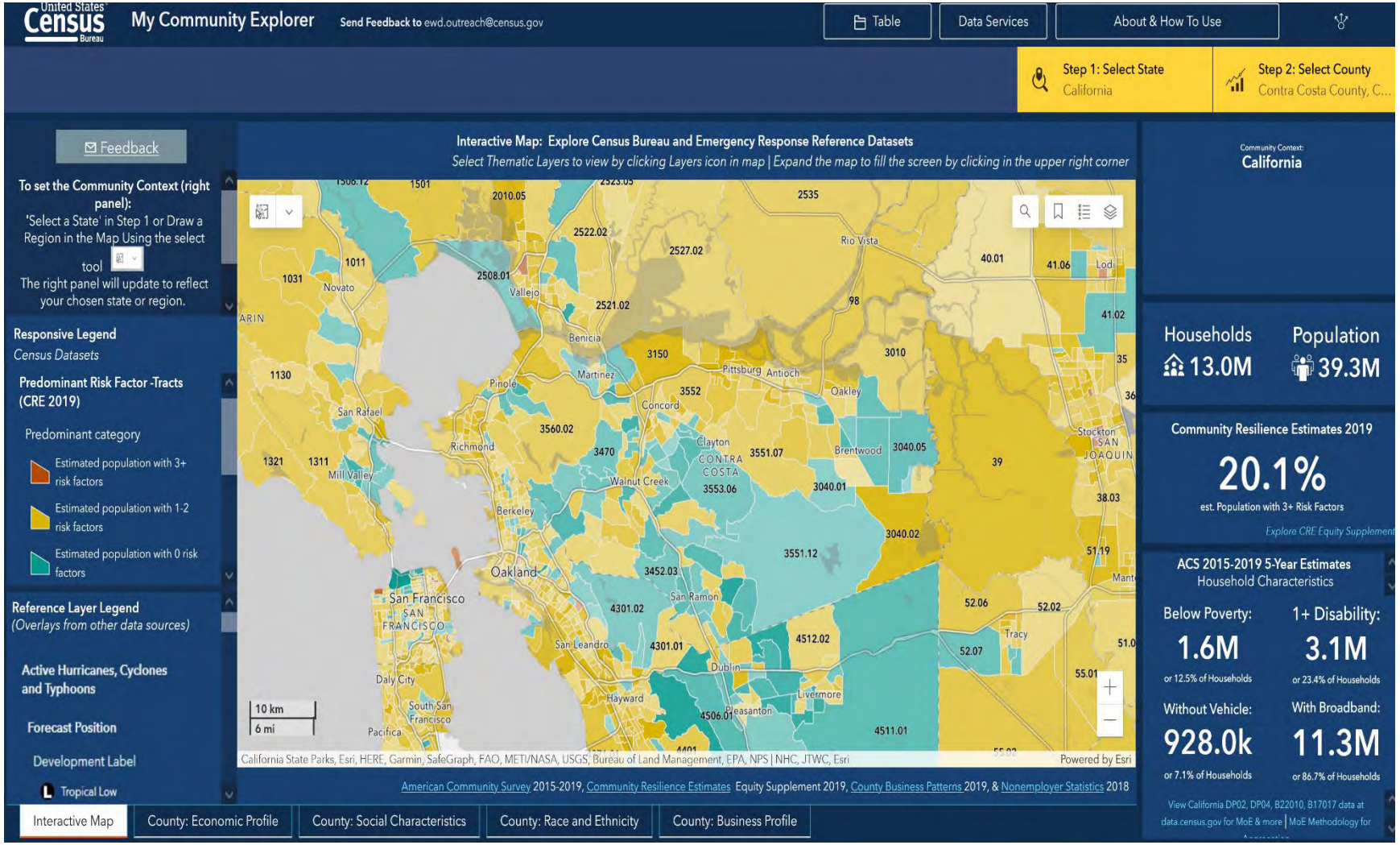


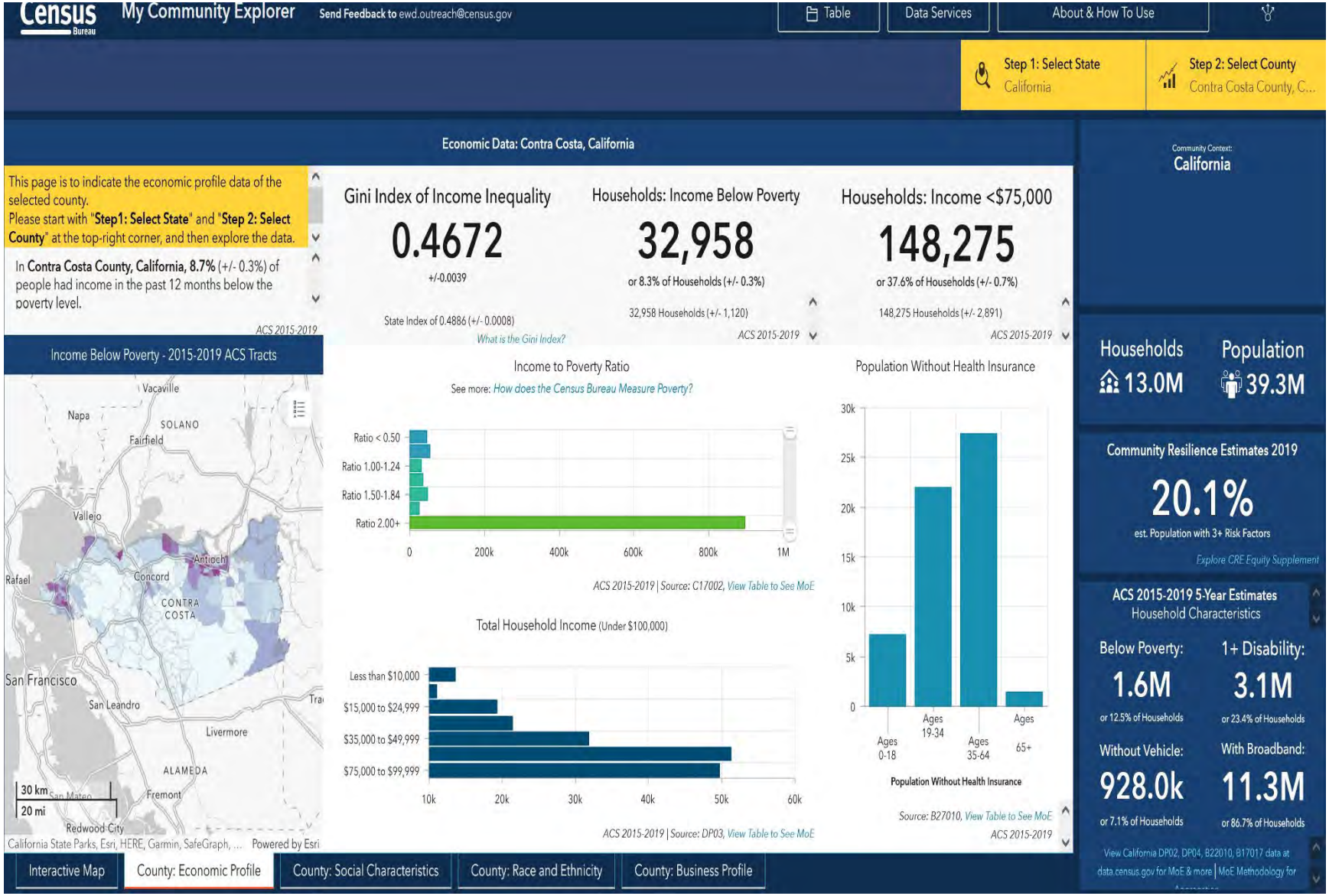
Appendix C

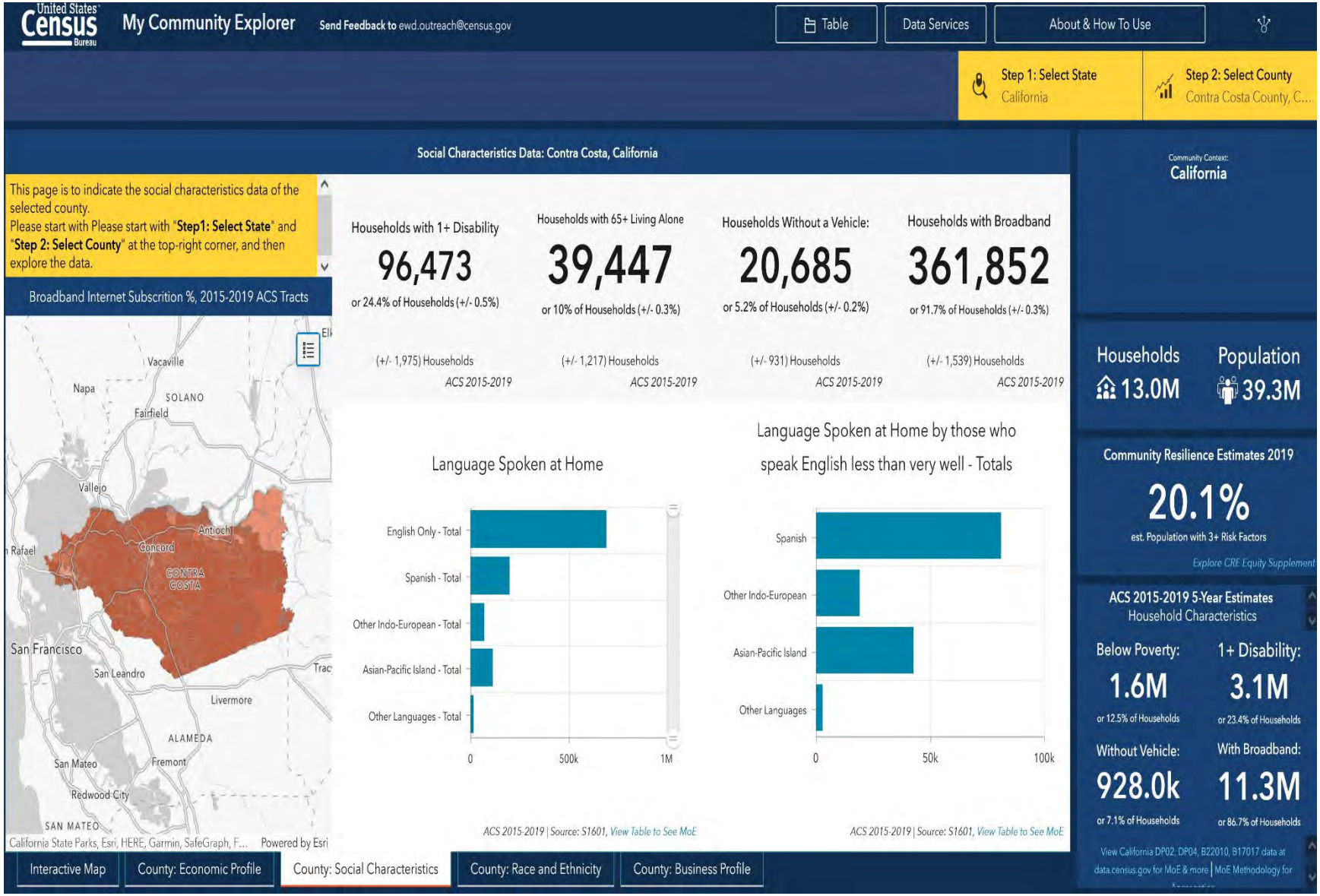
Economic Data - County Costa County U.S. Census

Appendix C: Economic Data - County Costa County U.S. Census

Data Dashboard Retrieved on August 8, 2022 from https://experience.arcgis.com/experience/13a111e06ad242fba0fb62f25199c7dd/page/Page-1/




Census Bureau
My Community Explorer
Send Feedback to ewd.outreach@census.gov
Table
Data Services
About & How To Use
Step 1: Select State
California
Step 2: Select County
Contra Costa County, C...
Economic Data: Contra Costa, California
This page is to indicate the economic profile data of the selected county.
Please start with "Step1: Select State" and "Step 2: Select County" at the top-right corner, and then explore the data.
In Contra Costa County, California, 8.7% (+/- 0.3%) of people had income in the past 12 months below the poverty level.
ACS 2015-2019
Gini Index of Income Inequality
0.4672
+/-0.0039
State Index of 0.4886 (+/- 0.0008)
What is the Gini Index?
Households: Income Below Poverty
32,958
or 8.3% of Households (+/- 0.3%)
32,958 Households (+/- 1,120)
ACS 2015-2019
Households: Income <$75,000
148,275
or 37.6% of Households (+/- 0.7%)
148,275 Households (+/- 2,891)
ACS 2015-2019
Community Context:
California
Households
13.0M
Population
39.3M
Income Below Poverty - 2015-2019 ACS Tracts
Vacaville
Napa
SOLANO
Fairfield
Vallejo
Antioch
Concord
Rafael
CONTRA COSTA
San Francisco
San Leandro
Livermore
ALAMEDA
Fremont
Redwood City
30 km
20 mi
California State Parks, Esri, HERE, Garmin, SafeGraph, ... Powered by Esri
Income to Poverty Ratio
See more: How does the Census Bureau Measure Poverty?
Ratio < 0.50
Ratio 1.00-1.24
Ratio 1.50-1.84
Ratio 2.00+
0
200k
400k
600k
800k
1M
ACS 2015-2019 | Source: C17002, View Table to See MoE
Total Household Income (Under $100,000)
Less than $10,000
$15,000 to $24,999
$35,000 to $49,999
$75,000 to $99,999
10k
20k
30k
40k
50k
60k
ACS 2015-2019 | Source: DP03, View Table to See MoE
Population Without Health Insurance
30k
25k
20k
15k
10k
5k
0
Ages 0-18
Ages 19-34
Ages 35-64
Ages 65+
Population Without Health Insurance
Source: B27010, View Table to See MoE
ACS 2015-2019
Community Resilience Estimates 2019
20.1%
est. Population with 3+ Risk Factors
Explore CRE Equity Supplement
ACS 2015-2019 5-Year Estimates
Household Characteristics
Below Poverty:
1.6M
or 12.5% of Households
1+ Disability:
3.1M
or 23.4% of Households
Without Vehicle:
928.0k
or 7.1% of Households
With Broadband:
11.3M
or 86.7% of Households
View California DP02, DP04, B22010, B17017 data at data.census.gov for MoE & more | MoE Methodology for
Interactive Map
County: Economic Profile
County: Social Characteristics
County: Race and Ethnicity
County: Business Profile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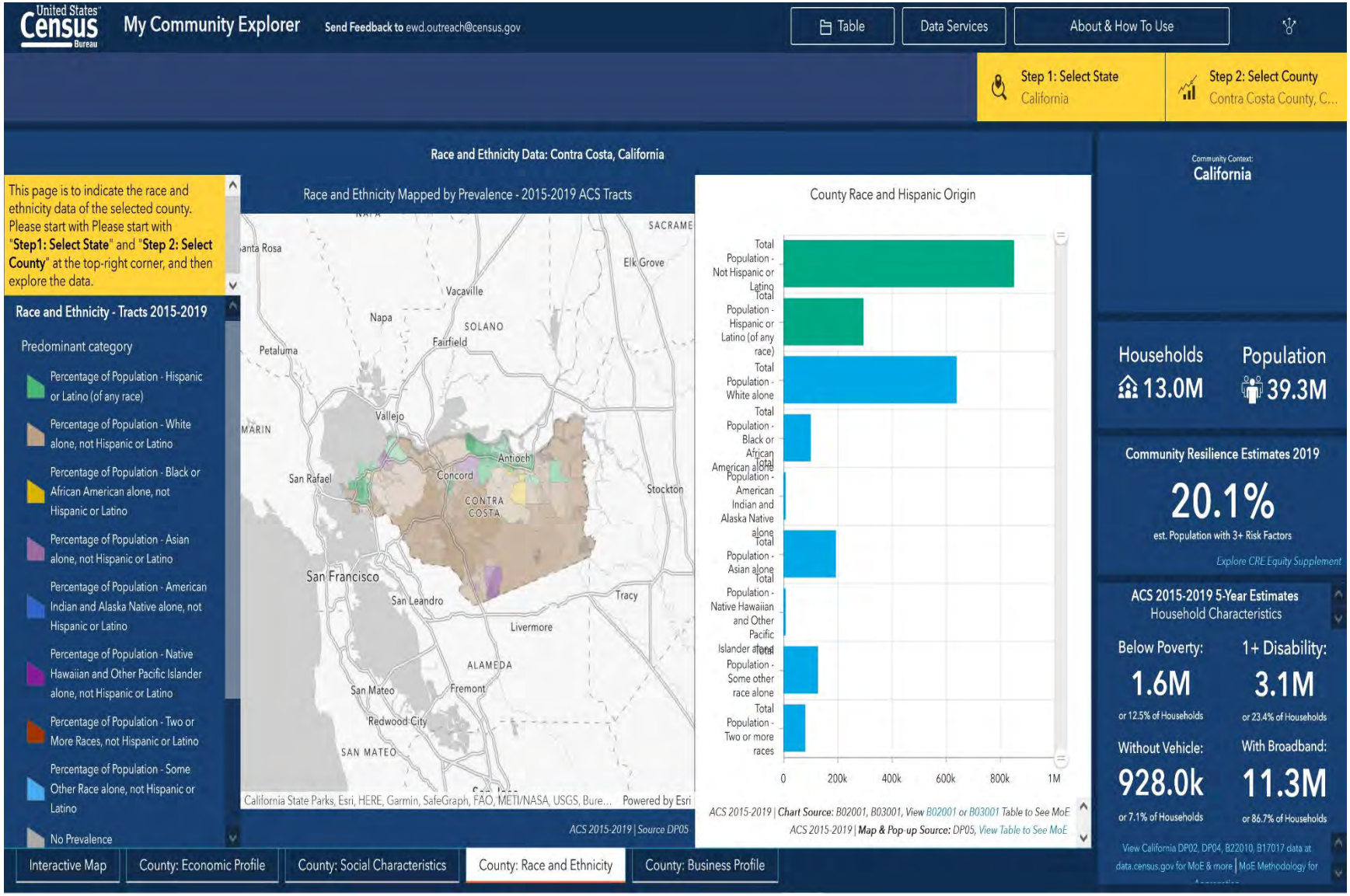
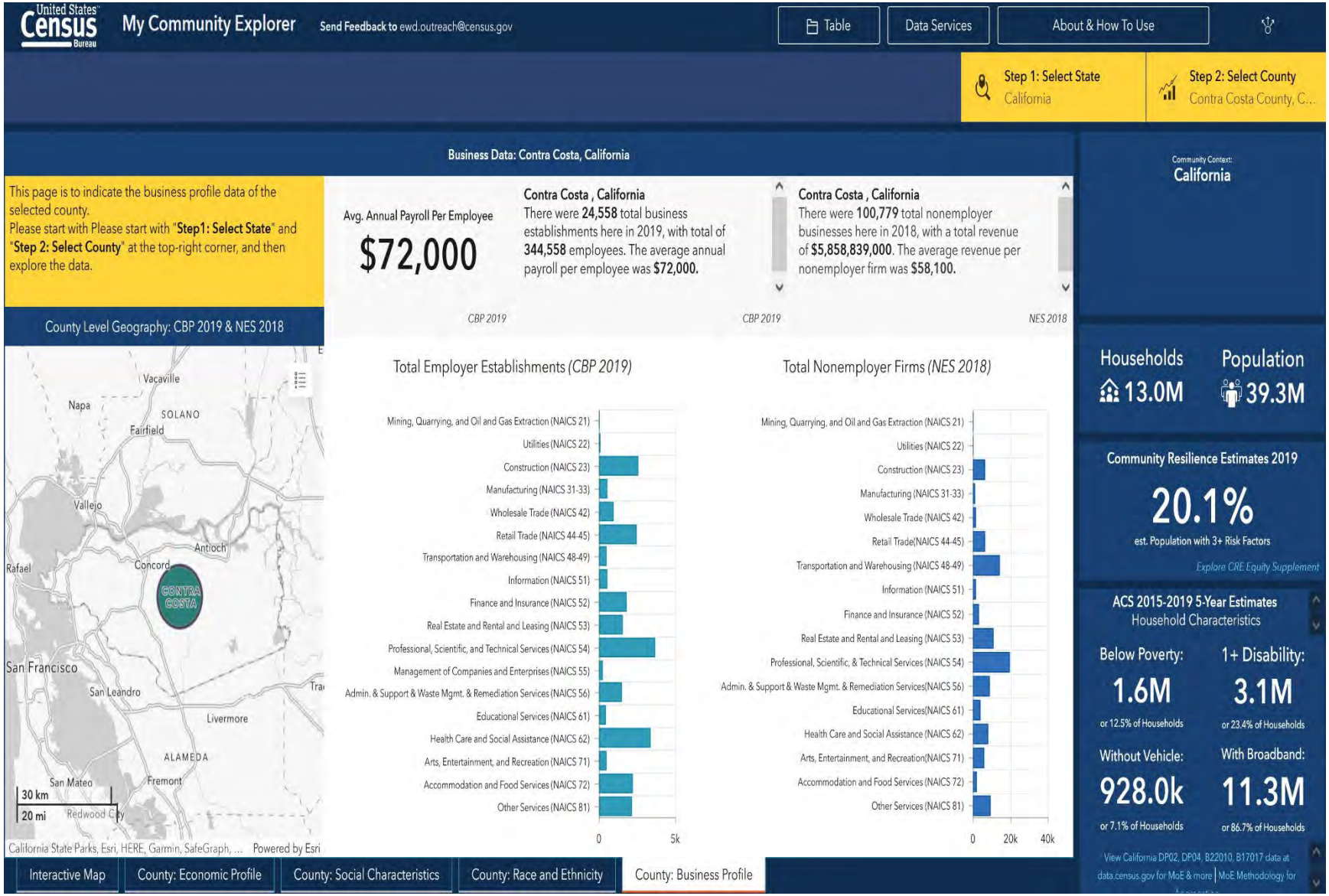
About & How To Use
Step 1: Select State
California
Step 2: Select County
Contra Costa County, C...
Social Characteristics Data: Contra Costa, California
This page is to indicate the social characteristics data of the selected county.
Please start with Please start with "Step1: Select State" and "Step 2: Select County" at the top-right corner, and then explore the data.
Broadband Internet Subscrition %, 2015-2019 ACS Tracts
Vacaville
Napa
SOLANO
Fairfield
Vallejo
Antioch
Concord
Rafael
CONTRA COSTA
San Francisco
San Leandro
Livermore
ALAMEDA
San Mateo
Fremont
Redwood City
SAN MATEO
California State Parks, Esri, HERE, Garmin, SafeGraph, F...
Powered by Esri
Households with 1+ Disability
96,473
or 24.4% of Households (+/- 0.5%)
(+/- 1,975) Households
ACS 2015-2019
Households with 65+ Living Alone
39,447
or 10% of Households (+/- 0.3%)
(+/- 1,217) Households
ACS 2015-2019
Households Without a Vehicle:
20,685
or 5.2% of Households (+/- 0.2%)
(+/- 931) Households
ACS 2015-2019
Households with Broadband
361,852
or 91.7% of Households (+/- 0.3%)
(+/- 1,539) Households
ACS 2015-2019
Language Spoken at Home
English Only - Total
Spanish - Total
Other Indo-European - Total
Asian-Pacific Island - Total
Other Languages - Total
0
500k
1M
ACS 2015-2019 | Source: S1601, View Table to See MoE
Language Spoken at Home by those who speak English less than very well - Totals
Spanish
Other Indo-European
Asian-Pacific Island
Other Languages
0
50k
100k
ACS 2015-2019 | Source: S1601, View Table to See MoE
Community Context:
California
Households
13.0M
Population
39.3M
Community Resilience Estimates 2019
20.1%
est. Population with 3+ Risk Factors
Explore CRE Equity Supplement
ACS 2015-2019 5-Year Estimates
Household Characteristics
Below Poverty:
1.6M
or 12.5% of Households
1+ Disability:
3.1M
or 23.4% of Households
Without Vehicle:
928.0k
or 7.1% of Households
With Broadband:
11.3M
or 86.7% of Households
View California DP02, DP04, B22010, B17017 data at data.census.gov for MoE & more | MoE Methodology for
Interactive Map
County: Economic Profile
County: Social Characteristics
County: Race and Ethnicity
County: Business Profile


United States Census Bureau
My Community Explorer
Send Feedback to ewd.outreach@census.gov
Table
Data Services
About & How To Use
Step 1: Select State
California
Step 2: Select County
Contra Costa County, C...
Race and Ethnicity Data: Contra Costa, California
This page is to indicate the race and ethnicity data of the selected county. Please start with Please start with "Step1: Select State" and "Step 2: Select County" at the top-right corner, and then explore the data.
Race and Ethnicity - Tracts 2015-2019
Predominant category
Percentage of Population - Hispanic or Latino (of any race)
Percentage of Population - White alone, not Hispanic or Latino
Percentage of Population - Black or African American alone, not Hispanic or Latino
Percentage of Population - Asian alone, not Hispanic or Latino
Percentage of Population - American Indian and Alaska Native alone, not Hispanic or Latino
Percentage of Population - Native Hawaiian and Other Pacific Islander alone, not Hispanic or Latino
Percentage of Population - Two or More Races, not Hispanic or Latino
Percentage of Population - Some Other Race alone, not Hispanic or Latino
No Prevalence
Race and Ethnicity Mapped by Prevalence - 2015-2019 ACS Tracts
Vacaville
Napa
SOLANO
Fairfield
Petaluma
Vallejo
MARIN
Antioch
Concord
San Rafael
CONTRA COSTA
Stockton
San Francisco
San Leandro
Tracy
Livermore
ALAMEDA
San Mateo
Fremont
Redwood City
SAN MATEO
Elk Grove
California State Parks, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bure...
Powered by Esri
ACS 2015-2019 | Source DP05
County Race and Hispanic Origin
Total Population - Not Hispanic or Latino
Total Population - Hispanic or Latino (of any race)
Total Population - White alone
Total Population - Black or African American alone
Total Population - American Indian and Alaska Native alone
Total Population - Asian alone
Total Population - Native Hawaiian and Other Pacific Islander alone
Total Population - Some other race alone
Total Population - Two or more races
0
200k
400k
600k
800k
1M
ACS 2015-2019 | Chart Source: B02001, B03001, View B02001 or B03001 Table to See MoE
ACS 2015-2019 | Map & Pop-up Source: DP05, View Table to See MoE
Community Context:
California
Households
13.0M
Population
39.3M
Community Resilience Estimates 2019
20.1%
est. Population with 3+ Risk Factors
Explore CRE Equity Supplement
ACS 2015-2019 5-Year Estimates
Household Characteristics
Below Poverty:
1.6M
or 12.5% of Households
1+ Disability:
3.1M
or 23.4% of Households
Without Vehicle:
928.0k
or 7.1% of Households
With Broadband:
11.3M
or 86.7% of Households
View California DP02, DP04, B22010, B17017 data at data.census.gov for MoE & more | MoE Methodology for
Interactive Map
County: Economic Profile
County: Social Characteristics
County: Race and Ethnicity
County: Business Profile


United States Census Bureau
My Community Explorer
Send Feedback to ewd.outreach@census.gov
Table
Data Services
About & How To Use
Step 1: Select State
California
Step 2: Select County
Contra Costa County, C...
Business Data: Contra Costa, California
This page is to indicate the business profile data of the selected county.
Please start with Please start with "Step1: Select State" and "Step 2: Select County" at the top-right corner, and then explore the data.
Avg. Annual Payroll Per Employee
$72,000
CBP 2019
Contra Costa , California
There were 24,558 total business establishments here in 2019, with total of 344,558 employees. The average annual payroll per employee was $72,000.
CBP 2019
Contra Costa , California
There were 100,779 total nonemployer businesses here in 2018, with a total revenue of $5,858,839,000. The average revenue per nonemployer firm was $58,100.
NES 2018
Community Context:
California
County Level Geography: CBP 2019 & NES 2018
Vacaville
Napa
SOLANO
Fairfield
Vallejo
Antioch
Rafael
Concord
CONTRA COSTA
San Francisco
San Leandro
Livermore
ALAMEDA
San Mateo
Fremont
30 km
20 mi
Redwood City
California State Parks, Esri, HERE, Garmin, SafeGraph, ... Powered by Esri
Total Employer Establishments (CBP 2019)
Mining, Quarrying, and Oil and Gas Extraction (NAICS 21)
Utilities (NAICS 22)
Construction (NAICS 23)
Manufacturing (NAICS 31-33)
Wholesale Trade (NAICS 42)
Retail Trade (NAICS 44-45)
Transportation and Warehousing (NAICS 48-49)
Information (NAICS 51)
Finance and Insurance (NAICS 52)
Real Estate and Rental and Leasing (NAICS 53)
Professional, Scientific, and Technical Services (NAICS 54)
Management of Companies and Enterprises (NAICS 55)
Admin. & Support & Waste Mgmt. & Remediation Services (NAICS 56)
Educational Services (NAICS 61)
Health Care and Social Assistance (NAICS 62)
Arts, Entertainment, and Recreation (NAICS 71)
Accommodation and Food Services (NAICS 72)
Other Services (NAICS 81)
0
5k
Total Nonemployer Firms (NES 2018)
Mining, Quarrying, and Oil and Gas Extraction (NAICS 21)
Utilities (NAICS 22)
Construction (NAICS 23)
Manufacturing (NAICS 31-33)
Wholesale Trade (NAICS 42)
Retail Trade(NAICS 44-45)
Transportation and Warehousing (NAICS 48-49)
Information (NAICS 51)
Finance and Insurance (NAICS 52)
Real Estate and Rental and Leasing (NAICS 53)
Professional, Scientific, & Technical Services (NAICS 54)
Admin. & Support & Waste Mgmt. & Remediation Services(NAICS 56)
Educational Services(NAICS 61)
Health Care and Social Assistance (NAICS 62)
Arts, Entertainment, and Recreation(NAICS 71)
Accommodation and Food Services (NAICS 72)
Other Services (NAICS 81)
0
20k
40k
Households
13.0M
Population
39.3M
Community Resilience Estimates 2019
20.1%
est. Population with 3+ Risk Factors
Explore CRE Equity Supplement
ACS 2015-2019 5-Year Estimates
Household Characteristics
Below Poverty:
1.6M
or 12.5% of Households
1+ Disability:
3.1M
or 23.4% of Households
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928.0k
or 7.1% of Households
With Broadband:
11.3M
or 86.7% of Households
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Interactive Map
County: Economic Profile
County: Social Characteristics
County: Race and Ethnicity
County: Business Profile

Appendix D

California's New Housing Laws

APPENDIX D: CALIFORNIA'S NEW HOUSING LAWS

Housing Affordability And Revitalization

The State Legislature has indicated that California needs to build more housing to address current housing problems like the housing shortage and skyrocketing prices. California's legislators have been actively passing bills intended to spur new housing development, specifically affordable housing and housing located near transit. California's legislators have been actively passing bills and during the years 2017 to 2023, they passed approximately 150 new housing laws. These laws are aimed at encouraging local municipalities and the private construction sector to meet housing goals and are generally summarized by the following four bullet points:

- allows institutions like colleges and religious organizations to use portions of their property to build housing,
- continues a state statute used to hold local communities accountable for their fair share of housing.
- CEQA reform
- the Housing Accountability Unit at the California Department of Housing and Community Development was created to make sure cities and counties fulfill their legal responsibilities to plan and permit their fair share of housing.

Regardless of the new housing laws, the practicalities of getting housing built require that local utilizes and municipalities have sufficient existing capacity in their water, electrical, and wastewater systems. This MSR/SOI Update addresses wastewater systems by asking: "*Does the local wastewater service provider have sufficient capacity to accommodate future growth?*" To some extent, this MSR/SOI Update addresses this question based on past levels of growth and based on feedback from the service provider. However, the new housing laws passed by the State Legislature introduce some uncertainty about future growth projections because we do not yet know how local communities will implement these new laws. Will future growth in California continue to be relatively slow (as in the past), or will growth significantly increase?

To answer these questions, Contra Costa County and the incorporated cities therein have recently adopted or are currently working on their 6th Cycle Housing Element Updates and sharing them with the California Dept of Housing and Community Development (https://www.hcd.ca.gov/). The data in this MSR/SOI Update has been designed to provide baseline information to the municipalities that are developing their Housing Element Updates. Therefore, it is recommended that LAFCO continue to review and provide comments on Housing Element Updates to ensure that this new MSR/SOI Update is considered.

Given the uncertainty introduced by these new housing laws, it is premature for this MSR/SOI Update to attempt to answer these big-picture issues that affect the entire state. Additional study is needed

to adequately answer the questions about future growth rates and wastewater infrastructure capacity.

LAFCO has produced this MSR/SOI Update as a resource that can guide future conversations about these important issues. As future housing is planned and built, it is critical that local cities and Contra Costa County closely coordinate with LAFCO and wastewater service providers to assess capacity of the collection systems, wastewater treatment plants, and permitting. Wastewater service providers face significant financial, water quality, and regulatory constraints, which may create a barrier that precludes infrastructure expansion unless significant financial resources are dedicated.

Table A-C-1 below provides a partial list of the new housing laws passed by the CA Legislature in recent years. A more complete list of the new housing laws is available from the University of Berkeley Terner Center for Housing Innovation's "Database Of California Housing And Land Use Laws", as provided at this website: <https://ternercenter.berkeley.edu/california-land-use-housing/ >.

Table A-C-1: Partial List of New Housing Laws in California (2017 to 2023)	
Informal Name	***Description***
Senate Bill 9	May allow up to four units of housing on a single-family lot. SB 9 does not apply in historic districts or environmentally sensitive areas, like wetlands and certain high fire-risk areas.
Senate Bill 10	Creates a voluntary program that makes it easier for cities to upzone any urban or transit-adjacent parcel of land, including a single-family lot, to allow a building of 10 units or fewer. (2021)
Assembly Bill 2011 (Wicks)	Creates a pathway for residential development on sites otherwise exclusively locally zoned for commercial use (passed in 2022).
Senate Bill 423 – (Wiener)	Extends and expands existing law, requiring local governments that fail to meet state housing planning goals to streamline affordable housing projects. This will increase affordable housing throughout the state in uncooperative cities. (2023)
Senate Bill 4 - (Wiener)	Allows housing to be developed on property owned by religious or independent higher education institutions. These groups are given this authority "by right," which requires no discretionary local governance intervention. (2023)
AB2011 - The Affordable Housing and High Road Jobs Act (Wicks). Chapter 647, Statutes of 2022 for Section	Identifies areas zoned for parking, retail, or office buildings where land could be used for housing. It also allows for housing on that land and exempts such projects from local approval processes and the California Environmental Quality Act.

65400 of the Government Code	
Senate Bill 6. (Caballero)	Allows more housing to be built in commercial corridors zoned for retail and office buildings. They also guarantee high union wages for construction workers and promise an expedited building process near city centers to avoid sprawl.
AB 12 by Assemblymember Matt Haney (D-San Francisco)	Tenancy: security deposits.
AB 84 by Assemblymember Christopher Ward (D-San Diego)	Property tax: welfare exemption: affordable housing.
AB 12 by Assemblymember Matt Haney (D-San Francisco)	Tenancy: security deposits.
AB 84 by Assemblymember Christopher Ward (D-San Diego)	Property tax: welfare exemption: affordable housing.
AB 281 by Assemblymember Tim Grayson (D-Contra Costa)	Planning and zoning: housing: post entitlement phase permits.
AB 318 by Assemblymember Dawn Addis (D-Morro Bay) –	Mobile Home Residency Law Protection Act.
AB 319 by Assemblymember Damon Connolly (D-San Rafael)	Mobile Home Parks Act: inspectors: conflict of interest: enforcement actions: sunset.
AB 323 by Assemblymember Chris Holden (D-Pasadena)	Density Bonus Law: purchase of density bonus units by nonprofit housing organizations: civil actions.
AB 346 by Assemblymember Sharon Quirk-Silva (D-Fullerton)	Income tax credits: low-income housing: California Debt Limit Allocation Committee rulemaking.
AB 434 by Assemblymember Tim Grayson (D-Contra Costa)	Housing element: notice of violation.
AB 480 by Assemblymember Philip Ting (D-San Francisco)	Surplus land.
AB 516 by Assemblymember James Ramos (D-San Bernardino)	Mitigation Fee Act: fees for improvements: reports and audits.
AB 519 by Assemblymember Pilar Schiavo (D-Los Angeles)	Affordable Housing Finance Workgroup: affordable housing: consolidated application and coordinated review process.
AB 529 by Assemblymembers Jesse Gabriel (D-Encino)-	Adaptive reuse projects.
AB 548 by Assemblymember Tasha Boerner (D-San Diego)	State Housing Law: inspection.
AB 572 by Assemblymember Matt Haney (D-San Francisco)	Common interest developments: the imposition of assessments.
AB 671 by Assemblymember Christopher Ward (D-San Diego)	CalHome Program: accessory dwelling units.

AB 812 by Assemblymember Tasha Boerner (D-San Diego)	Housing development approvals: reserving affordable units in or near a cultural district for artists.
AB 821 by Assemblymember Tim Grayson (D-Contra Costa)	Planning and zoning: general plan: zoning ordinance: conflicts.
AB 894 (Friedman)	Parking requirements: shared parking.
AB 911 (Schiavo)	Unlawfully restrictive covenants: affordable housing.
AB 976 (Ting)	Accessory dwelling units: owner-occupancy requirements.
AB 1033 (Ting)	Accessory dwelling units: local ordinances: separate sale or conveyance.
AB 1114 (Haney)	Planning and zoning: housing development projects: post entitlement phase permits.
AB 1218 (Lowenthal)	Development projects: demolition of residential dwelling units.
AB 1287 (Alvarez)	Density Bonus Law: maximum allowable residential density: additional density bonus and incentives or concessions.
AB 1308 (Quirk-Silva)	Planning and Zoning Law: single-family residences: parking requirements.
AB 1317 (Carrillo)	Unbundled parking.
AB 1319 (Wicks)	Bay Area Housing Finance Authority: housing revenue.
AB 1332 (Carrillo)	Accessory dwelling units: pre-approved plans.
AB 1386 (Gabriel)	Veterans housing: tenant referrals.
AB 1449 (Alvarez)	Affordable housing: California Environmental Quality Act: exemption.
AB 1474 (Gómez Reyes)	California Statewide Housing Plan.
AB 1485 (Haney)	Housing element: enforcement: Attorney General.
AB 1490 (Lee)	Affordable housing development projects: adaptive reuse.
AB 1508 (Ramos)	Department of Housing and Community Development: California Statewide Housing Plan.
AB 1528 (Gipson)	Housing authorities: property taxation.
AB 1620 (Chavez Zbur) –	Costa-Hawkins Rental Housing Act: permanent disabilities: comparable or smaller units.
AB 1633 (Ting)	Housing Accountability Act: disapprovals: California Environmental Quality Act.
AB 1734 (Byron Jones-Sawyer Sr.)	Local Government: Surplus Land Act: exemptions.
AB 1764	By the Committee on Housing and Community Development – Housing omnibus.
SB 4(Wiener)	Planning and zoning: housing development: higher education institutions and religious institutions.
SB 34 (Umberg)	Surplus land disposal: violations: County of Orange.
SB 82 (Seyarto)	Property taxation: disabled veterans' exemption: eligibility letters.
SB 229 (Umberg)	Surplus land: disposal of property: violations: public meeting.
SB 240 (Ochoa Bogh)	Surplus state real property: affordable housing and housing for formerly incarcerated individuals.
SB 267 (Talamantes Eggman)	Credit history of persons receiving government rent subsidies.
SB 341 (Becker)	Housing development.

SB 423 (Wiener)	Land use: streamlined housing approvals: multifamily housing developments.
SB 439 (Skinner)	Special motions to strike: priority housing development projects.
SB 482 (Blakespear)	Multifamily Housing Program: supportive housing: capitalized operating reserves.
SB 520 (Seyarto)	Property taxation: homeowners' exemption.
SB 593 (Wiener)	Redevelopment: successor agency debt: City and County of San Francisco.
SB 684 (Caballero)	Land use: streamlined approval processes: development projects of 10 or fewer residential units on urban lots under 5 acres.
SB 713 (Padilla)	Planning and zoning: density bonuses: development standard.
SB 734 (Rubio)	Property tax: possessory interests.
SB 747 (Caballero)	Land use: surplus land.
SB 789 (Allen)	Elections: Senate Constitutional Amendment 2 of the 2021–22 Regular Session and Assembly Constitutional Amendment 5 of the 2023–24 Regular Session.
Data Source: California Press Release, Published: Oct 11, 2023. See *https://www.gov.ca.gov/2023/10/11/governor-newsom-signs-package-to-streamline-housing-and-expand-tenant-protections-in-california/*	

Reference List

- *https://www.latimes.com/opinion/story/2023-10-13/california-housing-crisis-2023-bills*
- *https://www.latimes.com/opinion/story/2021-09-17/newsom-housing-sb9*
- *https://ternercenter.berkeley.edu/wp-content/uploads/2022/07/ADU-Paper-FINAL-July-7th.pdf*
- *https://ternercenter.berkeley.edu/research-and-policy/state-law-local-interpretation-senate-bill-9/*
- *https://ternercenter.berkeley.edu/wp-content/uploads/2023/04/New-Pathways-to-Encourage-Housing-Production-Evaluating-Californias-Recent-Housing-Legislation-April-2023-Final-1.pdf*
- *https://ternercenter.berkeley.edu/research-and-policy/ab-2011-commercial-zones/*

Appendix E

Housing and Land Use Resources and Databases

Appendix E: Housing and Land Use Resources and Databases

Table of Contents

Contra Costa County, like all counties in the California, is facing a housing shortage and high housing prices. This appendix provides a brief summary of a few on-line databases that provide information about housing in Contra Costa County (including its cities).

To study and summarize some of the details associated with housing and land-use in Contra Costa County, this appendix queried several federal and state on-line databases developed by agencies that collect geographic data. These agencies routinely collect new data and update their databases accordingly. Therefore, in order to obtain the most recent data, LAFCO's planners and the general public are encouraged to view the databases directly on-line and the URL's are provided in the following paragraphs below the discussion of each database. These on-line databases describe detailed information about a variety of metrics including infrastructure vulnerability, population demographics, and the built environment. LAFCO is particularly interested in data regarding disadvantaged communities.

E-1: Housing Density in Contra Costa County

Contra Costa County contains a unique mix of urban, suburban, and open space areas. Local governments and LAFCO have worked together to protect agriculture and open space in the County. However, in the cities, urban design and the development process can be a bit tricky to implement successfully. Some cities have general plans that seek to add more density to promote economic revitalization and affordable housing. However, in other cities and communities housing density is viewed as a negative trend because if facilities more and bigger buildings, more asphalt and concrete, fewer trees and green space, less sunlight, and encroachment on privacy. Local governments resolve these tradeoffs through zoning ordinances that regulate housing density. For

example, single-family districts typically include lot size minimums. Multifamily zoning districts may suggest a minimum or maximum number of dwelling units allowed per acre.

Land in Contra Costa County is finite and limited. Approval of new sprawling development will likely be limited in the future. Trends toward transit-oriented housing will likely continue. Increased housing density can save land and energy use, and may cost less for infrastructure development and maintenance. For example, infrastructure costs per capita may be lower in high-density areas. As the County and local cities continue to study the opportunities and constraints associated with housing density, they will gain insight into the economic reality of urban development.

To consider housing density in Contra Costa County, this appendix studies the number of Housing Units Per Acre as described in the U.S. EPA Smart Locations Database[1]. The Smart Location Database summarizes several demographic, employment, and built environment variables for every census block group (CBG) in the United States. The database includes indicators regarding residential and employment density, land use diversity, design of the built environment, access to destinations, and distance to transit. Figure A4-1, below, shows the most recent geographic boundaries (2019 Census Block Groups) and new and expanded sources of data used to calculate variables from this database (EPA, 2013 as updated in 2022). Figure A4-x shows housing density as a function of the number of units per acre. As shown in the map legend, housing density is color-ramped such that lower density areas have a light-yellow color and higher density areas are shown in dark brown. For example, Census Block Group 060133100001 in the City of Pittsburg near the railroad tracts is colored dark brown in the map, indicating a relatively higher housing density. Antioch's Census Block Groups 060133050005 and 060133072021 also have higher housing density (EPA, 2013 as updated in 2022).

Readers are encouraged to look up the most recent data directly through the online databases as provided on the following websites:

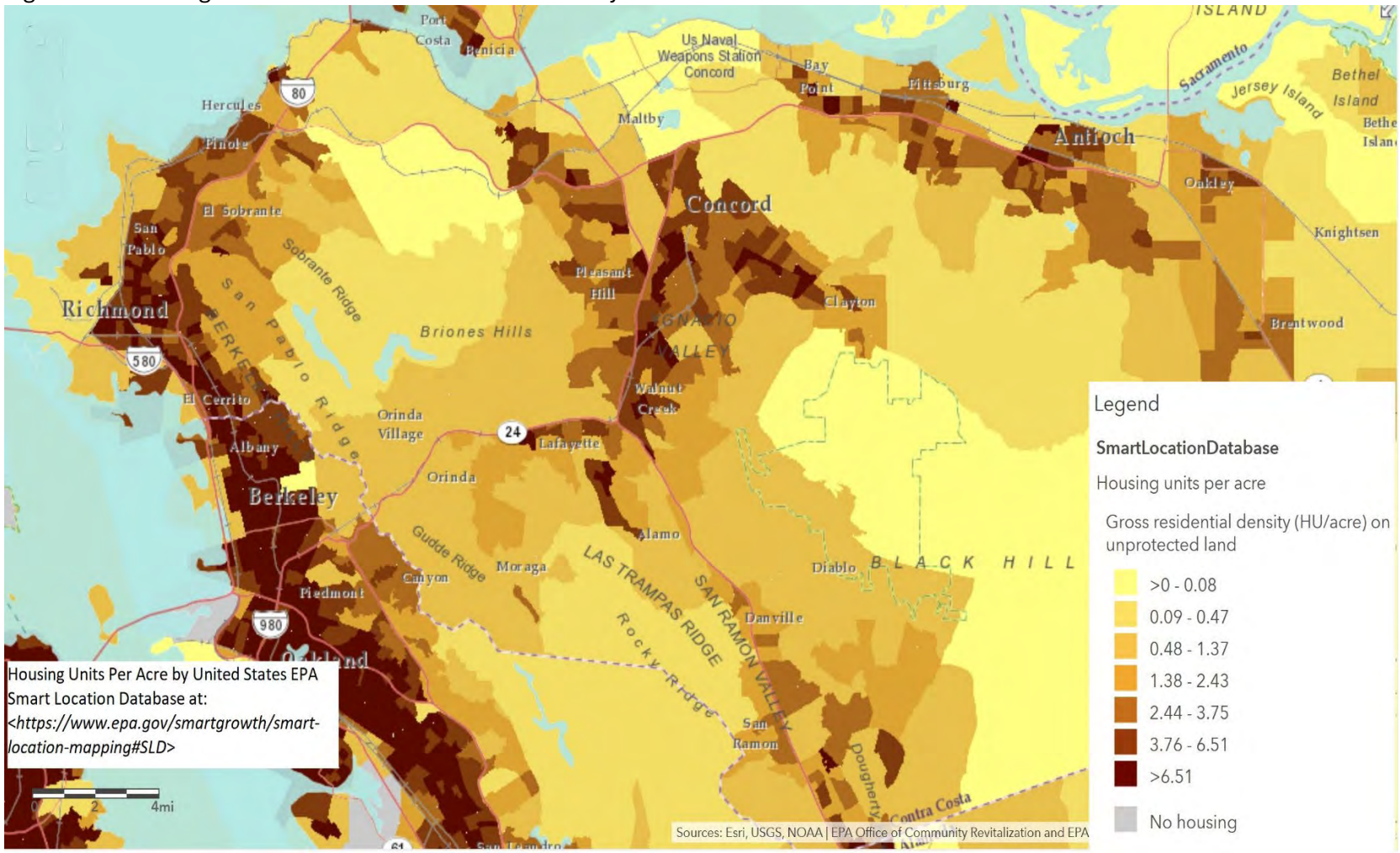
- *https://www.epa.gov/smartgrowth/smart-location-mapping#SLD*

or

- *https://epa.maps.arcgis.com/home/webmap/viewer.html?webmap=137d4e512249480c980e00807562da10*

[1] The U.S. EPA Smart Locations Database can show several variables related to the built environment, including land use, public transit service, and accessibility to destinations summarized for all census block groups in the U.S. See *https://www.epa.gov/smartgrowth/smart-location-mapping* for more information.

Figure E-1: Housing Units Per Acre in Contra Costa County

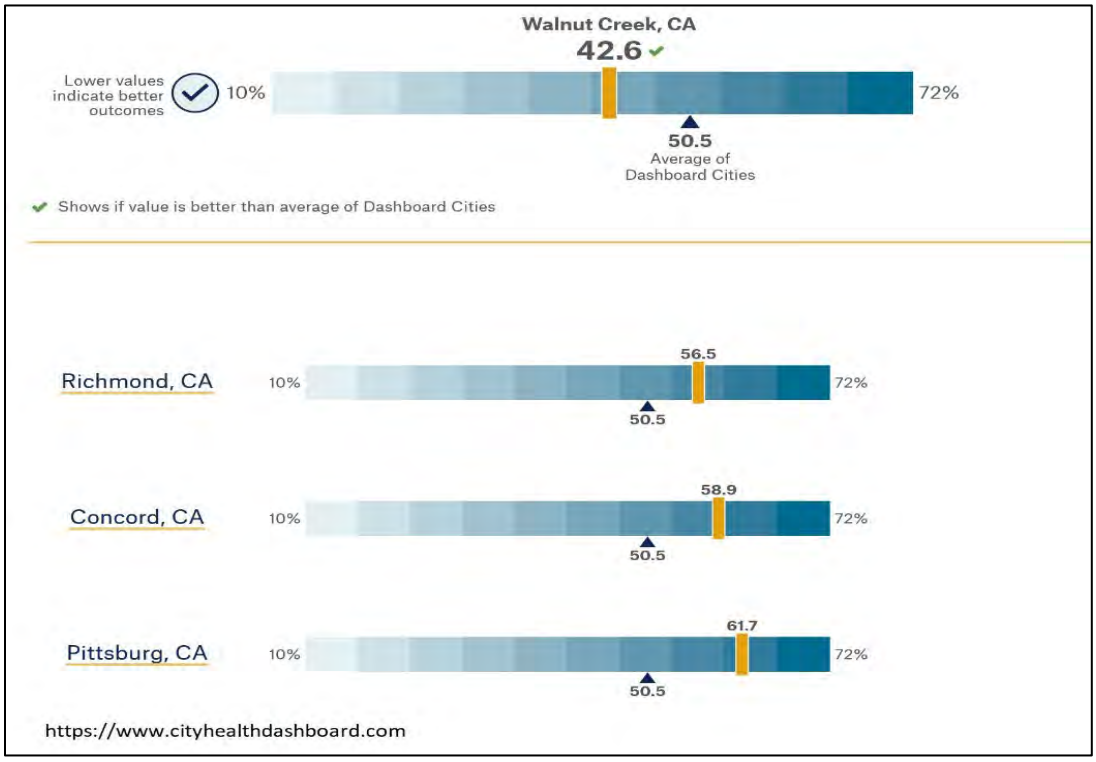


Data Source: United States EPA Smart Location Database at: <*https://www.epa.gov/smartgrowth/smart-location-mapping#SLD*>

E-2: Rent Burden

LAFCO considers disadvantaged communities and environmental justice issues as part of its responsibility under the CKH Act. Members of these communities may experience a heavy financial burden associated with paying rent. To study this issue, an online database was queried called "The City Health Dashboard". This Dashboard utilizes over 40 measures of health and drivers of health in larger-sized cities to help community leaders and residents pinpoint and take action on gaps in health and opportunity. The City Health Dashboard was compiled by the Department of Population Health at New York University (NYU) Langone Health and the Robert F. Wagner School of Public Service at NYU as a health improvement planning resource. The Dashboard allows one to view and compare data from multiple sources on health and the factors that shape health to guide local solutions. A wide range of factors influence how long and how well we live from education and income to the quality of our housing and the safety of our neighborhoods. In this section, the query results from two topics are shown below: 1) Rent burden

As shown in Figure x below, the City of Concord had an estimated 58.9% of households experiencing high rent burden in 2021, compared to an average of 50.5% across the Dashboard's cities. Walnut Creek had the lowest percent of households experiencing a rent burden at only 42.6 percent.



E-3: National Walkability Index

EPA's National Walkability Index provides walkability scores based on a simple formula that ranks selected indicators that affect the propensity of walk trips. Walkability depends upon characteristics of the built environment that influence the likelihood of walking being used as a mode of travel.

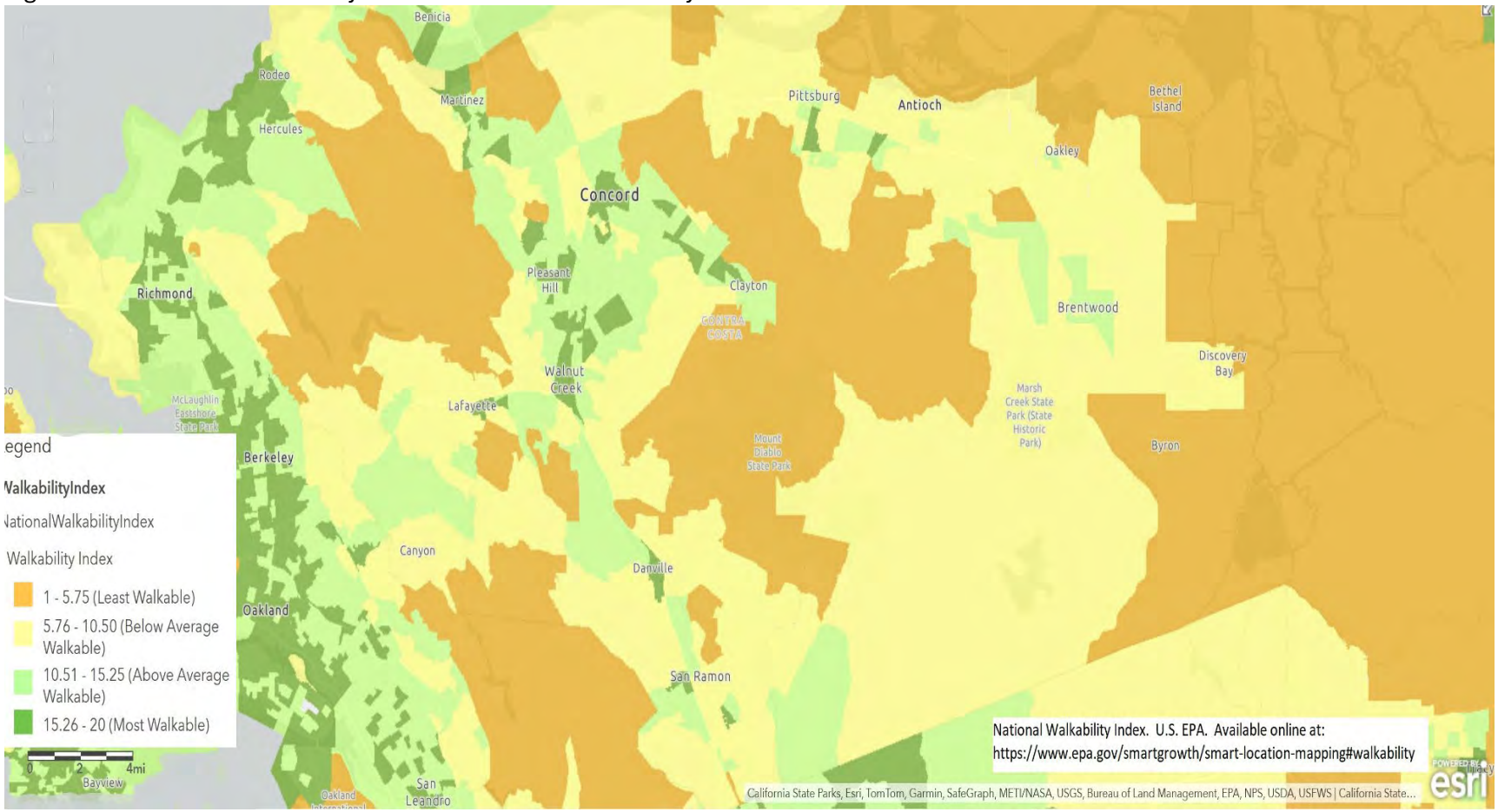
Or
The dataset covers every Census 2019 block group in the nation, providing a basis for comparing walkability from community to community. The National Walkability Index dataset ranks each block group relative to all other block groups in the United States, but individuals can use downloadable data to construct an index for a smaller universe of block groups, like a state, metropolitan area, or city. In Figure 2-x below, the dark green areas show those portions of Contra Costa County that are most walkable including areas of Richmond, Hercules, Martinez, Walnut Creek, and Concord. The orange-colored areas depict geographic locations that are the least walkable and these include specific neighborhoods in Martinez, Byron, and Discovery Bay. The City of Martinez contains neighborhoods that are ranked most walkable and other neighborhoods that are ranked least walkable. Neighborhood walkability data will be more useful to LAFCO when used in the context of understanding the total package of infrastructure available to disadvantaged communities. Readers are invited to learn more about the walkability index on these websites:

- https://www.epa.gov/smartgrowth/smart-location-mapping#walkability
- https://epa.maps.arcgis.com/home/webmap/viewer.html?webmap=f16f5e2f84884b93b380cfd4be9f0bba

Reference

U.S. Environmental Protection Agency (EPA). Office of Sustainable Communities. May 13, 2021 (publication). National Walkability Index. On-line Database. Retrieved January 20, 2024 from: <*https://www.epa.gov/smartgrowth/smart-location-mapping#walkability*>.

Figure E-2- National Walkability Index for Contra Costa County

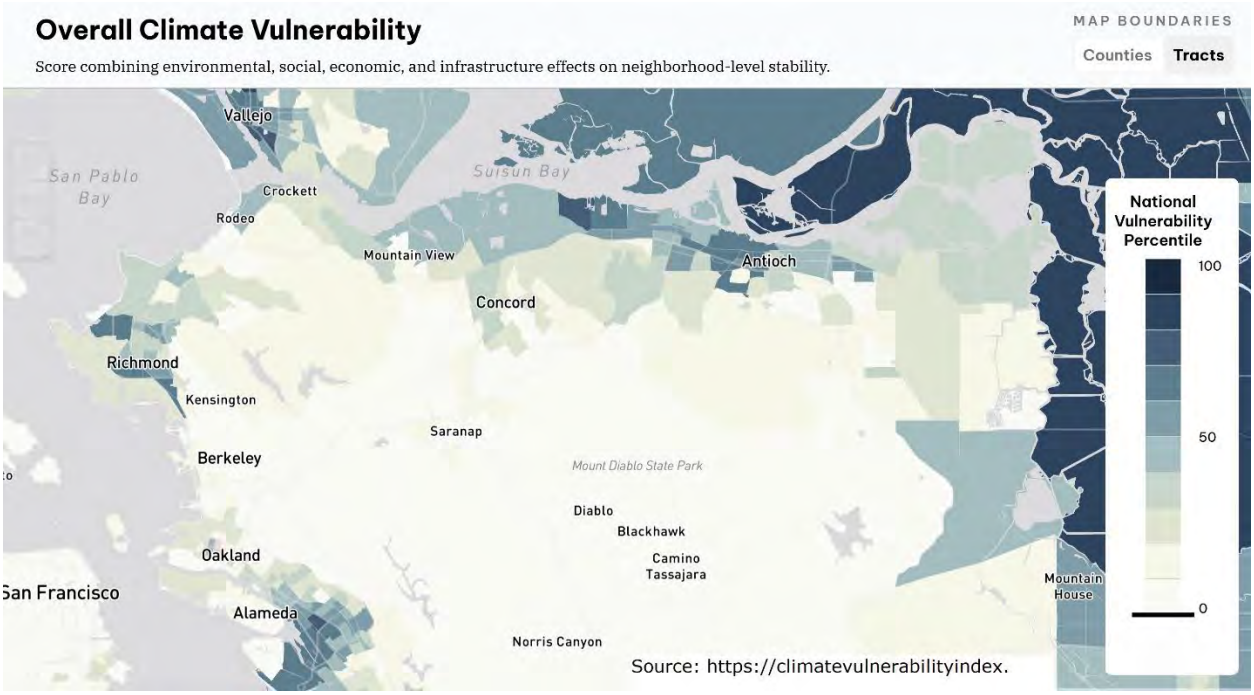


E-4: Climate Vulnerability Index

The CKH Act requires LAFCO to evaluate environmental justice issues when considering a proposal. The ramifications from climate change are a threat to everyone's financial situation, health, air, water, food, and shelter. However, communities that are socially or economically disadvantaged may face the greatest risks. Due to their location, income, health, language barriers, and limited access to resources their risk of exposure to disasters caused by or inflated by climate change is higher. In the U.S., these more vulnerable communities are largely the communities of color, immigrants, low-income communities, and people for whom English is not their native language. As time goes on, they will likely suffer the worst impacts of climate change and associated sea level rise. Therefore, it is important to recognize that environmental justice and climate change are linked.

The Climate Vulnerability Index was developed by Texas A&M University in collaboration with numerous other partners. This index provides a robust, data-driven approach to understanding locally relevant determinants at a neighborhood scale. The index pulls in 184 datasets to rank more than 70,000 U.S. Census tracts and this mapping tool integrates cumulative impacts. The index compiles climate impacts at the census tract level, both historical and projected, direct, and indirect – integrating climate change impacts with environmental, health, and socioeconomic metrics. Additional details about the methodology used to create the Climate Vulnerability Index can be found on its website at: <*https://climatevulnerabilityindex.org/*>. Figure 2-x below shows the spatial distribution of areas that may be vulnerable to climate change impacts. Darker colors represent higher vulnerability.

Figure E-3: Climate Vulnerability Index



Most of the areas within Contra Costa County that may be vulnerable to climate change impacts are

located near the shoreline. In particular, the Bay Point neighborhood (Census Tract 06013314200) scores in the 73rd percentile, indicating a high level of vulnerability. Additionally, a neighborhood in Richmond (Census Tract 06013365002) scored in the 68th percentile, indicating a moderate to high level of vulnerability

Reference

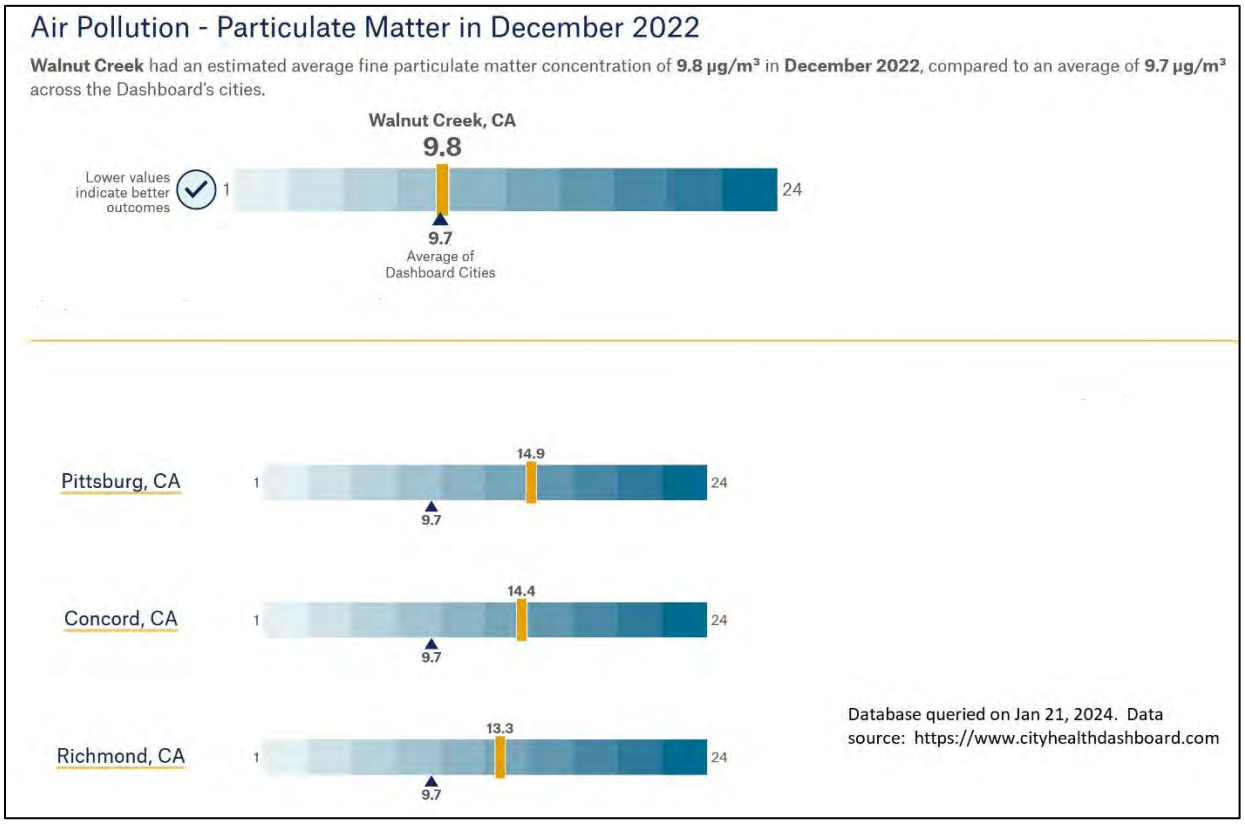
Texas A&M University, Environmental Defense Fund, and Darkhorse Analytics. 2023. The U.S. Climate Vulnerability Index. Retrieved on November 20, 2023 from <*https://climatevulnerabilityindex.org* >.

E-5: Air Pollution Comparison

NYU's City Health Dashboard was queried for an air pollutant called particulate matter. Of the four cities studied, the City of Pittsburg had the highest level with an estimated fine particulate matter concentration of 14.9 *u*g/m^3 in December 2022. Query results for the four studied cities are shown in Figure x below.

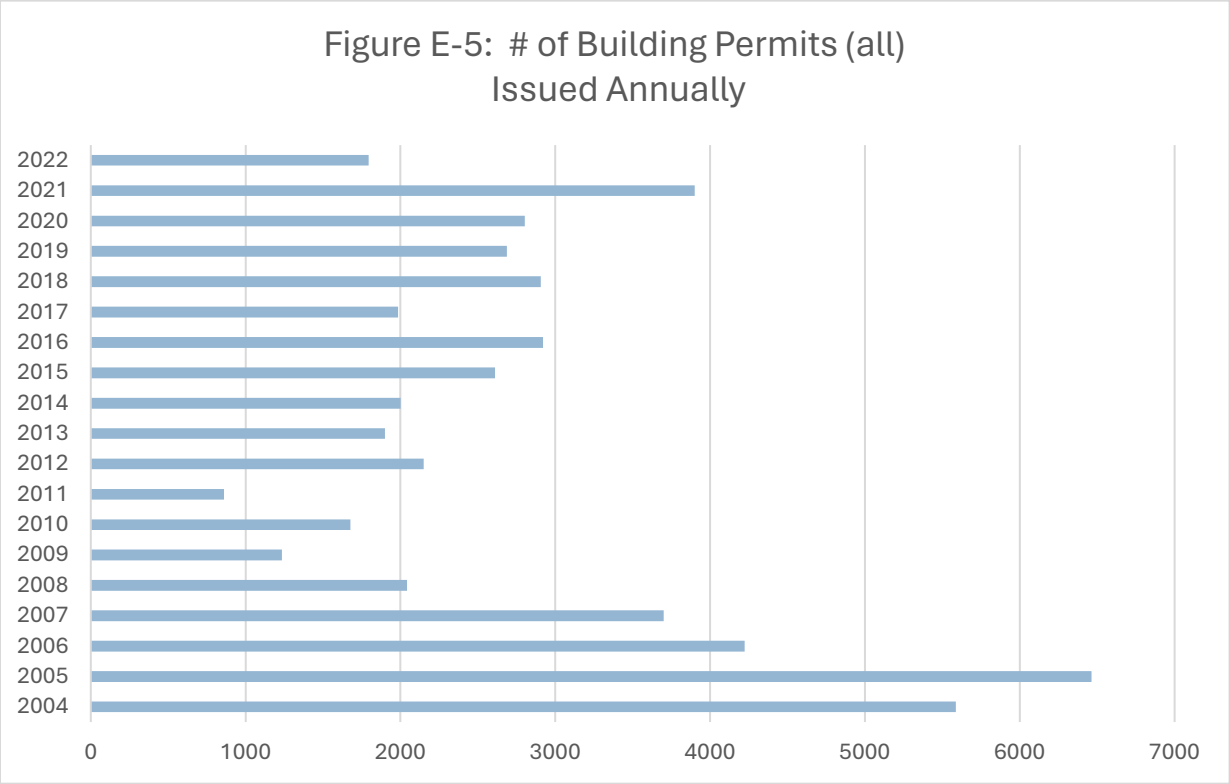
Reference

New York University (NYU) Department of Population Health at Langone Health and the Robert F. Wagner School of Public Service. December 2022. City Health Dashboard. Retrieved on January 21, 2024 from: < https://www.cityhealthdashboard.com>.



E-6: Number of Building Permits

When considering future growth of an area, it is helpful to understand the number of building permits issued. The United States Department of Housing and Urban Development, HUD Office of Policy Development and Research compiles a dataset of Residential Construction Permits by County. This dataset contains data on permits for residential construction collected in the Census Bureau's Building Permits Survey. Data is aggregated to the county level. An eighteen-year time period is shown in Figure x below. In the year 2021, officials within Contra Costa County issued 3,901 building permits. The fewest building permits were issued in 2022 at only 1,794 building permits.



Data Source for Figure x, above is United States Department of Housing and Urban Development

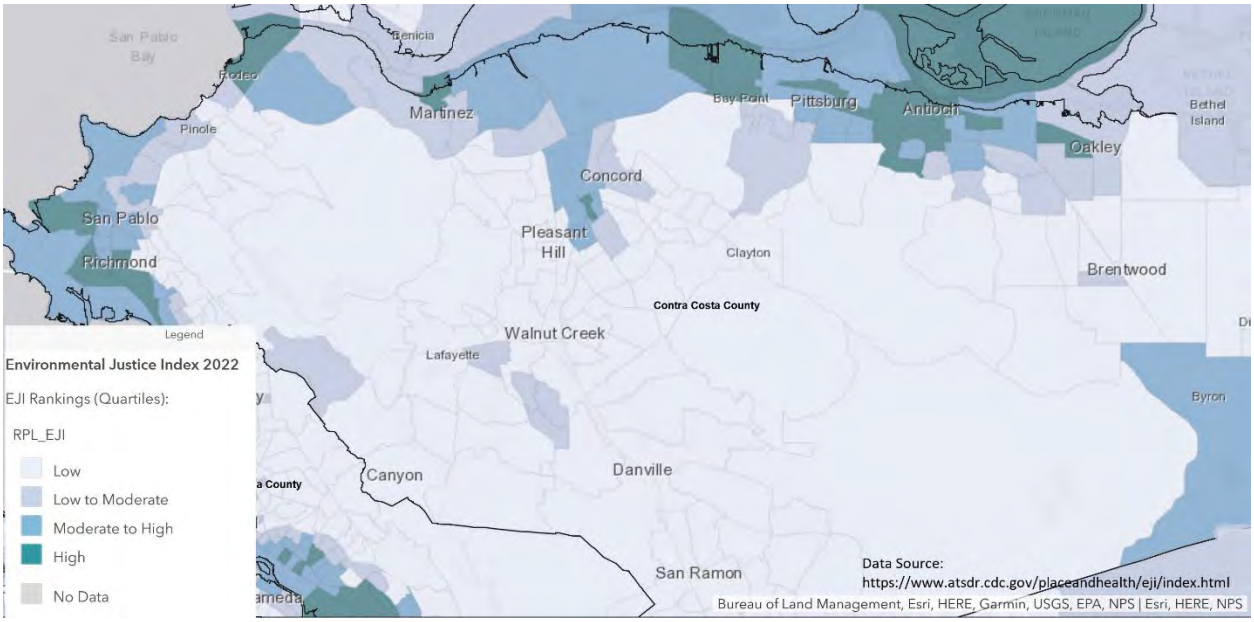
A statistical analyisis was not done on the data shown in Figure x above. However, it seems that more building permits were issued during the years 2004 to 2007, prior to the recession of 2008.

Reference

United States Department of Housing and Urban Development, HUD Office of Policy Development and Research. Date created: 11/18/2020. Date updated: 11/16/2023. Dataset of Residential Construction Permits by County from Geospatial Data Storefront. Retrieved on January 21, 2024 from: <*https://hudgis-hud.opendata.arcgis.com/*>.

E-7: Disadvantaged Communities

The U.S. Department of Health and Human Services (HHS) manages a database of socioeconomic and health indicators in disadvantaged communities called the Environmental Justice Explorer Database. This database was queried for the Contra Costa County. Query results indicate that disadvantaged communities in the Contra Costa area may experience hardships. Readers are invited to query this database for specific areas at: <https://www.atsdr.cdc.gov/placeandhealth/eji/index.html >.



This database provides details regarding the census tracts rated in the Env Justice Index. For example, a small census tract located within the City of Martinez (Census Tract 3160) has an area rated as "high". Details are provided in Table x below.

Location	Census Tract 3160, Contra Costa County, California (City of Martinez)
Total Population in Census Tract	1,055
EJI Rank	⚠0.79
Environmental Burden Rank	⚠0.80
Potentially Hazardous & Toxic Sites	**⚠0.95**
Toxic Release Inventory Sites	⚠0.84
Treatment, Storage, and Disposal Sites	⚠0.93
Risk Management Plan Sites	⚠0.82
Built Environment	**0.19**
Housing Built Pre-1980	⚠0.81
Transportation Infrastructure	**0.55**
Railways	⚠0.79

Socioeconomic Status	**0.66**
Poverty	⚠0.92
No High School Diploma	⚠0.79
Housing Tenure	⚠0.96
Housing Burdened, Lower-Income Households	⚠0.97
Household Characteristics	**⚠0.76**
Civilian with a Disability	⚠0.99
Speaks English "Less than Well"	⚠0.83
Housing Type	**0.62**
Group Quarters	⚠0.95
High Pre-existing Chronic Disease Prevalence Sum	2 out of 5
High Estimated Prevalence of Asthma	Yes⚠
High Estimated Prevalence of Poor Mental Health	Yes⚠

In this census tract, a proportion of the area is within 1-mi buffer of a railway. This is why Table lists 0.79 (i.e. 79 percent) and gives it a red flag. Like roads, railways can also present a significant source of noise pollution to nearby communities. This noise pollution can constitute a major annoyance and source of community stress, especially when combined with noise pollution from traffic (Öhrström et al., 2007). Among all transportation-associated sources of noise pollution, railway noise is associated with the most significant levels of sleep disruption and associated increases in stress and diastolic blood pressure (Elmenhorst et al., 2019; Petri et al., 2021).

References

U.S. Department of Health and Human Services Office of Environmental Justice. 2023. Environmental Justice Index (EJI) Explorer. Retrieved on September 25, 2023 from <*https://onemap.cdc.gov/portal/apps/sites/#/eji-explorer*>.

U.S. EPA Office of Community Revitalization/Smart Growth Program. Item created: Sep 6, 2013 Item updated: Feb 16, 2022. Smart Locations Database, Housing Units Per Acre (variable). Retrieved on January 20, 2024 from < https://www.epa.gov/smartgrowth/smart-location-mapping#SLD>.

List of Appendix F

Description of Watersheds

Appendix F

Description of Watersheds
Contra Costa County, CA

Table of Contents

Introduction – Watersheds Basics

Watershed management plans are noted as an important part of the regional context for a MSR in the 2003 OPR LAFCO Municipal Service Review Guidelines. Drainage basins[1] are mentioned in the CKH Act [GC §56668 (a)]. A watershed is the area of land that drains into a body of water such as a river, lake, stream, or bay. In Contra Costa, all water eventually drains into the San Francisco Bay/Sacramento Delta Estuary. The watershed includes surface water in streams, rivers, lakes, ponds, and the groundwater in local aquifers. The drinking water that comes out of our taps comes from all these sources. Watersheds are shaped by the natural contours of the land: hills and valleys. Think of a watershed as a basin, formed by the highest ridges surrounding a network of streams. Every raindrop falling inside these high points drains into the watershed.

Natural ecological processes support the production of clean water within local watersheds. For example, intact forests create airborne particles which support raindrop formation. Forests also retain soil moisture, which reduces fire intensity and extent. Oak woodlands, riparian forests, and other vegetated habitats maintain hydrological processes that recharge subsurface aquifers and surface water flows. Protection of the natural habitat within watersheds will sustain yields of clean water, agricultural and forestry products, and provide more opportunities for nature-based recreation, reduced pollution treatment costs, and other economic returns. Agriculture also plays an important role within local watersheds. Farmers, ranchers, and other private landowners have deep knowledge about the land and rivers. Farmers are some of the best protectors of biodiversity in California.

Forest, meadows, and wetland ecosystems in a watershed naturally filter and replenish water. What we do on the land and in our homes, yards, businesses, schools, parks, and communities has the potential to affect the health of our watershed and the quality of our drinking water. Watersheds are a key component of the natural hydrologic cycle. Each watershed has specific and unique geomorphic, hydrologic, and ecological characteristics. Watershed systems are best viewed as holistic natural systems. Watersheds are important not merely for the creeks and rivers that flow within them, but also for the ecosystem services provided by the flora (including forests), fauna, and soils. To have a dependable and quality water supply, it is critical that local communities be good stewards of local watersheds.

Water Cycle

Water is part of the natural hydrologic cycle, which is part of Earth's ancient operating system. The hydrologic cycle involves Earth's land, oceans, and atmosphere. The cycling of water involves processes known as precipitation, evaporation, evapotranspiration, and condensation. Ultimately, the ocean is a vital part of the water cycle, considering that it holds approximately 97% of the total water on Earth (NASA, n.d.). Evaporation occurs when a heat source causes water, found on a body of water, to alter from a liquid to a gas state and results in water vapor that undergoes condensation. Evaporation occurs on various water sources on Earth, but mainly on the ocean. Condensation is the process by which molecules of water vapor in the air become liquid (NASA, n.d.). Then, precipitation, which is the product of condensation, falls out of an atmospheric cloud. Precipitation takes the form as rain, snow, sleet, and other forms. On land, the precipitation of water allows for the development of runoff or the infiltration of water into the soil to form groundwater. Additionally, the water that reaches land undergoes evapotranspiration which is the process that involves water transfer from

[1] Factors to be considered in the review of a proposal shall include, but not be limited to, all of the following: (a) Population and population density; land area and land use; assessed valuation; topography, natural boundaries, and drainage basins; proximity to other populated areas; and the likelihood of significant growth in the area, and in adjacent incorporated and unincorporated areas, during the next 10 years (CKH Act, GC §56668 (a).

land to the atmosphere. The water cycle is a system that is energized by the sun and involves the continuous exchange of moisture between the ocean, the atmosphere, and the land (NASA, n.d.).

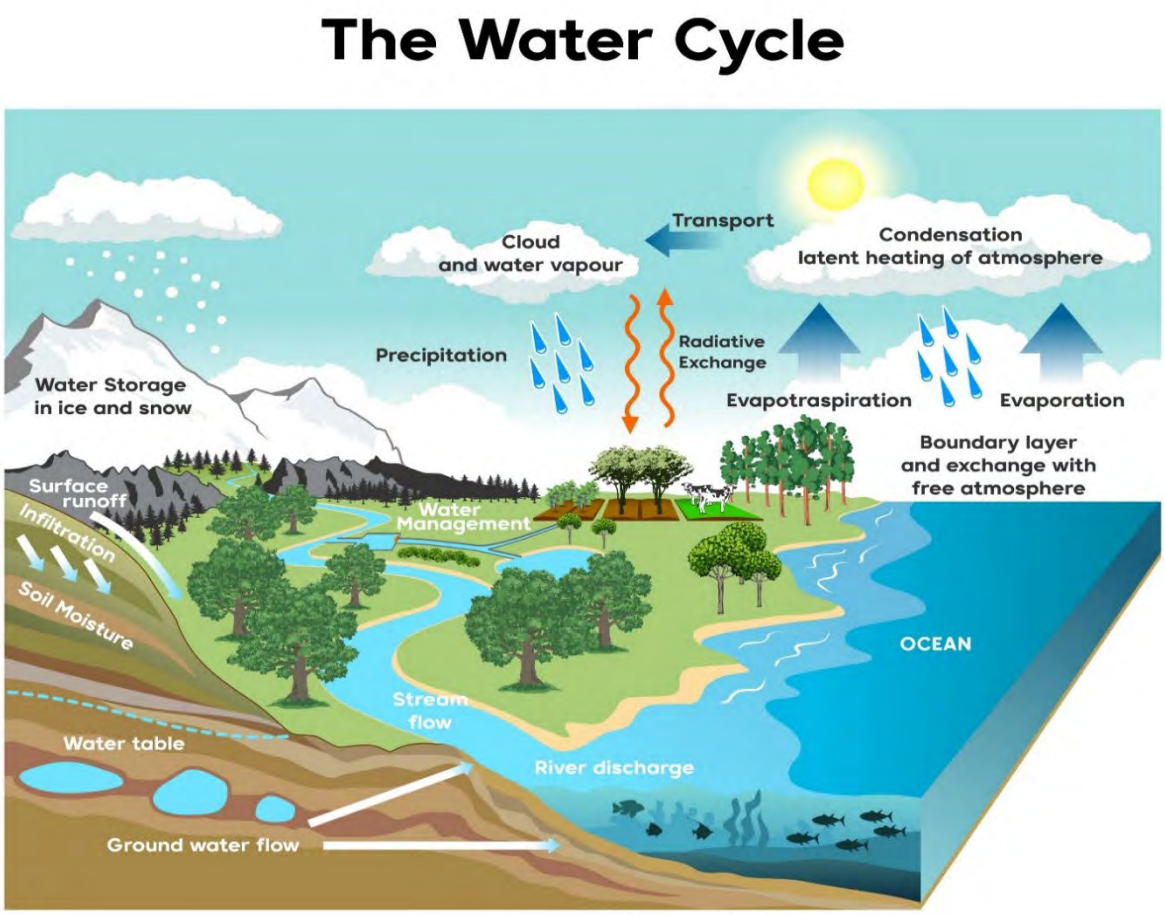


Figure F-1: The Water Cycle

The greater San Franciso Bay and Sacramento/San Joaquin Estuary watershed is comprised of water that drains from the entire western slope of the Sierra, the eastern slope of the Coast Ranges and the south- and west-facing drainages of Mount Shasta and Lassen Peak. Water in the Sacramento/San Joaquin rivers flows through the Delta, into San Francisco Bay, and out through the Golden Gate. This natural system is massive and geographically diverse, including some of the highest mountains and the largest agricultural valleys on the continent.

Watershed Management

Wastewater districts, drinking water districts, private property owners, public land management agencies, stormwater management experts, environmental specialists, land-use planning regulators, and communities all play an integral part in watershed management. Land managers and property owners within the watershed often collaborate to protect watershed health and water quality. Non-profits conservation groups recognize that watershed health is important to their mission. Ideally watershed management would be aimed at creating and implementing plans, programs and projects to sustain and enhance watershed functions that affect the plants, animals, and human communities within the watershed boundary. Features of a

watershed that agencies seek to manage include water supply, water quality, drainage, stormwater runoff, water rights and the overall planning and utilization of watersheds.

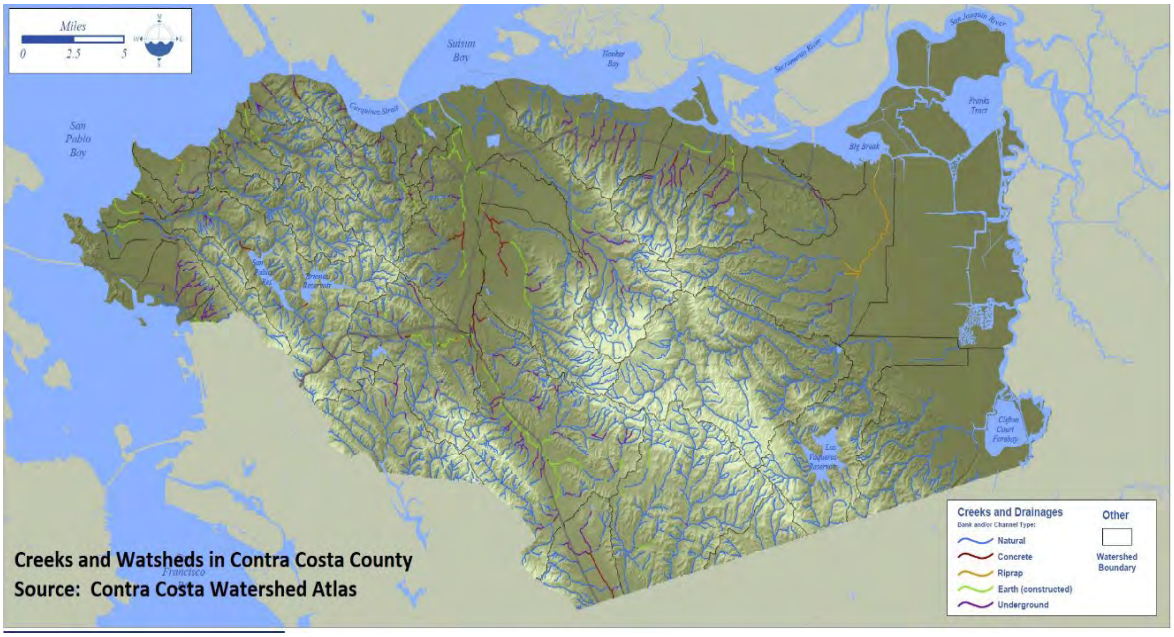
Contra Costa Watersheds

Contra Costa County has 31 major watersheds and sub-watersheds that drain to the Bay or Delta as listed below and as shown in Figure F-2.

Contra Costa County Watersheds

- Baxter, Cerrito, and West Richmond Watersheds
- Wildcat Creek Watershed
- San Pablo Creek Watershed
- Rheem and Garrity Creek Watersheds
- Pinole Creek Watershed
- Refugio, Rodeo, and Carquinez Area Watersheds
- Alhambra Creek and Peyton Slough Watersheds
- Walnut Creek Watershed
- Mount Diablo Creek Watershed
- Willow and Kirker Creek Watersheds
- East and West Antioch Creek Watersheds
- Marsh Creek Watershed
- East County Delta Drainages
- Kellogg and Brushy Creek Watersheds
- Upper Alameda Creek Watershed
- Upper San Leandro and Moraga Creek Watershed

Figure F-2: Watersheds in Contra Costa County



The watersheds in Contra Costa County contain more than 1,300 miles of creeks and drainages. All but eight of these watersheds are entirely within Contra Costa County. The largest watersheds in Contra Costa County are Walnut Creek (93,556 acres), San Ramon Creek (tributary to Walnut Creek, 32,915 acres), and San Pablo Creek (27,640 acres). The County also includes the upper portion of the Alameda Creek watershed, which is one of the most important watersheds in the Bay Area for both public drinking water supply and wildlife habitat.

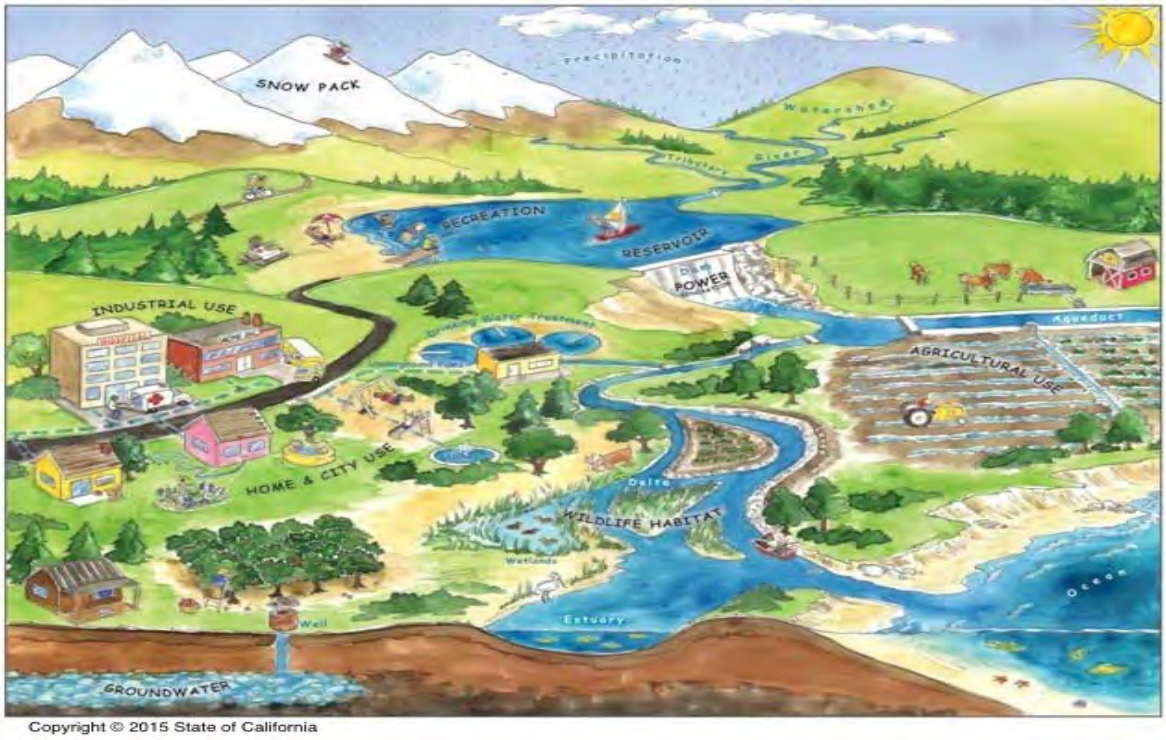


Figure F-3: Typical Community Near State Water Project Infrastructure

The CA Department of Water Resources prepared Figure F-3, to depict a typical northern California community that supplies water to the State Water Project.

Watershed Management Organizations

Integrated water management plans and activities are often sponsored by local non-profit organizations. A collaborative effort across agencies, government, and NGOs is essential for proper stewardship on a watershed-wide basis.

Contra Costa Clean Water Program

The Contra Costa Clean Water Program (CCCWP) is a county agency, and they maintain a website at: *https://www.cccleanwater.org/*. This agency also publishes a watershed atlas that is available as a pdf file to download from their website. The CCCWP has 21 member agencies that receive support on the implementation of local stormwater pollution prevention activities (CCCWP, n.d.). CCCWP funds and directs regional and statewide stormwater-related programs and groups (CCCWP, n.d.). Additionally, CCCWP assists permittees to maintain compliance with the MRP (CCCWP, n.d.).

Contra Costa County Watershed Program

The Contra Costa County Watershed Program is a county agency, and they maintain a website at: *https://www.contracosta.ca.gov/344/Contra-Costa-County-Watershed-Program.* The County Watershed Program (CWP) ensures that the County of Contra Costa complies with its municipal stormwater National Pollutant Discharge Elimination System (NPDES) permits (Contra Costa County, n.d.). The CWP currently has the Municipal Regional Permit (MRP) and the East Contra Costa County Permit (Contra Costa County, n.d.).

Contra Costa Watershed Forum

The Contra Costa Watershed Forum (CCWF) is an open committee, and it maintains a website at: *https://www.ccwatershedforum.org/*. The committee includes around fifty organizations, and it is based on the idea that broad cooperation is needed to impact change (CCWF, n.d.). The organizations collaborate to ensure that water resources are healthy, functional, and safe (CCWF, n.d.).

Watershed Project

The Watershed Project is a nonprofit, and it maintains a website at: *https://app.thewatershedproject.org/*. The Watershed Project is an organization of community groups and volunteers that monitor the health within the creeks of the County of Contra Costa. The nonprofit follows the California Waterboards Surface Water Ambient Monitoring Program monitoring and assessment (The Watershed Project, n.d.). The nonprofit encourages that volunteers help collect monthly data for monitoring purposes (The Watershed Project, n.d.).

Contra Costa Resource Conservation District

The Contra Costa Resource Conservation District (CCRCD) is a non-regulatory special district, and it maintains a website at: *https://www.ccrcd.org/watersheds*. The Contra Costa RCD is governed by a Board of Directors that are appointed by the County Board of Supervisors (CCRCD, n.d.). The CCRCD is an active agent that helps support natural systems to maintain clean water, clean air, and healthy soils (CCRCD, n.d.). The Contra Costa RCD does cleanups, environmentally focused discussions, webinars, and contributes to watershed restoration.

San Francisco Estuary Partnership

The San Francisco Estuary Partnership is a collaboration amongst local, state, and federal agencies, NGOs, academic leaders, and business leaders (SFEP, n.d.). The Partnership maintains a website at: *https://www.sfestuary.org/about-us/*. The Partnership's work is guided by the implementation of the Estuary Blueprint (SFEP, n.d.). The Partnership manages various multi-beneficial projects that improve the health of the Estuary (SFEP, n.d.).

San Francisco Estuary Institute

The San Francisco Estuary Institute (SFEI) is an aquatic and ecosystem science institute and they maintain a website at: *https://www.sfei.org/*. The SFEI provides scientific support and tools to improve the health of the waters, wetlands, wildlife, and landscapes of the San Francisco Bay and other areas (SFEI, n.d.). The experts and scientists in the SFEI provide data, technology, and tools that inspire government, civic, and business leaders to create solutions for complex environmental issues (SFEI, n.d.).

San Francisco Baykeeper

The San Francisco Bay Keeper is an environmental advocacy nonprofit, and it maintains a website at: *https://baykeeper.org/*. Since 1989, the San Francisco Baykeeper has taken action to defend the Bay and its watershed (San Francisco Baykeeper, n.d.). The San Francisco Baykeeper patrols on the water, investigates pollution, and helps strengthen laws that protect the Bay (San Francisco Baykeeper, n.d.).

Algal Blooms

During July 2022, there was a report of an algal bloom within the Oakland Estuary that eventually spread to the South Bay and became expansive (SFEI, 2022). As time passed, fish mortality events were observed as

researchers and residents studied the bloom (SFEI, 2022). Algae is a simple organism that can live in water and can grow uncontrollably into patches (Bartlett et al., 2022). The harmful algae, *Heterosigma akashiwo*, experienced unprecedented bloom in the San Francisco Bay estuary during 2022. The *Heterosigma akashiwo* is an invasive species that has toxic impacts on fish (SFEI, 2022). This algae bloom resulted in individual deaths of the southern distinct population segment of Green Sturgeon, which spawns in the Sacramento River and rears in the Delta, and White Sturgeon which is a state species of special concern. Individuals in both species experienced high rates of mortality in 2022 following this algae bloom.

During the algae bloom event, the San Francisco Bay became a reddish-brown color (Ocean Protection Council, n.d.). The overgrowth of algae can produce cyanotoxins than can affect the aquatic ecosystem health (Ocean Protection Council, n.d.). In the Delta, one common bloom-forming cyanobacteria is the genus *Microcystis*. Algae blooms can result in lower dissolved oxygen levels which leads to fish mortality (Ocean Protection Council, n.d.). Algae blooms can potentially become much more frequent in the future due to warming waters, decreasing flows from inland waters, and increasing concentrations of nutrients from land-based pollutants (Ocean Protection Council, n.d.). Excess nitrogen dissolved in water may be a contributing factor to harmful algal blooms in the San Francisco Bay that threaten human health and safety. The 2022 algal bloom resulted in the death of thousands of fish including leopard sharks, bat rays, striped bass, and others (Ocean Protection Council, n.d.).

When local planners evaluate projects, it will become increasingly important to evaluate the effects of climate change (which will increase water temperatures and the formation of harmful algal blooms). For example, expansion of a wastewater treatment plant capacity may facilitate new residential or commercial development on green space, thereby exacerbating local carbon emissions and contributing to climate change.

Atmospheric River & Spill Reports

Atmospheric rivers are long and narrow parts of the atmosphere that transport water from the tropics to other parts of the world (NOAA, 2015). When the atmospheric river reaches land, it tends to release water vapor in the form of rainfall or snow (NOAA, 2015). With large amounts of water vapor and strong winds, the atmospheric river's rainfall can result in extreme flooding when stalling over a watershed that is vulnerable to flooding (NOAA, 2015). A key example is the "Pineapple Express," which is a strong atmospheric river that transports moisture from the tropics surrounding Hawaii to the U.S. West Coast (NOAA, 2015). Atmospheric rivers can be beneficial as they can provide necessary rain or snow to an area (NOAA, 2015). The frequency and/or intensity of atmospheric rivers may be exacerbated by climate change.

During December 2022 and January 2023, a series of atmospheric rivers arrived in California and caused heavy rains. This storm water encountered sewer pipes and local wastewater treatment plants and then created sewage spills. Local agencies are required to report sewage spills to the CA Office of Emergency Services. The OES database was queried, and the results of this database query are shown in Table A6-6 below. These results show that between 07/26/2022 and 01/14/2023 there were 48 spill reports listed in the database.

Table F-1
CA Office of Emergency Services
Spill Report

Control # Document Title	Creation Date	City	Agency	Spill Site	Water Type
Spill Report	01/14/2023 at 09:25 AM	Bethel Island	Private Citizen	Residence	Sewage
Spill Report	01/11/2023 at 06:33 PM	Richmond	West County Wastewater	Treatment/ Sewage	Sewage
Cal OES-Update	01/12/2023 at 04:53 PM				Sewage
Cal OES-	01/13/2023				Sewage
CAL OES-Update	01/15/2023 at 05:56 PM				Sewage
Spill Report	01/10/2023 at 03:23 PM	Crockett	Crocket Community	Other	Sewage
Spill Report	01/09/2023 at 08:07 AM	Richmond	City of Richmond	Merchant/ Business	Sewage
Spill Report	01/09/2023 at 08:05 AM	Richmond	City of Richmond	Residence	Sewage
Spill Report	01/09/2023 at 08:03 AM	Richmond	City of Richmond	Residence	Sewage
Spill Report	01/09/2023 at 08:01 AM	Richmond	City of Richmond	Residence	Sewage
Spill Report	01/09/2023 at 07:59 AM	Richmond	City of Richmond	Residence	Sewage
Spill Report	01/09/2023	Richmond	City of Richmond	Merchant/ Business	Sewage
Spill Report	01/04/2023 at 10:46 PM	Martinez	Martinez Refining Company	Refinery	Sewage
Spill Report	12/31/2022 at 08:49 PM	Antioch	Delta Diablo	Utilities/ Substation	Sewage
Spill Report	12/31/2022 at 08:46 PM	Antioch	Delta Diablo	Utilities/ Substation	Sewage
Spill Report	12/31/2022 at 04:18 PM	Antioch	Delta Diablo	Treatment/ Sewage	Sewage
Cal OES-Update	12/31/2022 at 08:52 PM				Sewage
Spill Report	12/31/2022 at 04:18 PM	Pittsburg	Delta Diablo	Treatment/ Sewage	Sewage
Spill Report	12/31/2022 at 04:18 PM	Bay Point	Delta Diablo	Treatment/ Sewage	Sewage
Spill Report	12/31/2022 at 02:28 PM	Pittsburg	City of Pittsburg	Road	Sewage
Spill Report	12/31/2022 at 01:53 PM	Martinez	Mountview Sanitary	Waterways	Sewage
Spill Report	12/31/2022 at 01:52 PM	Martinez	Mountview Sanitary District	Treatment/Sewage	Sewage
Spill Report	12/31/2022 at 12:46 PM	Richmond	City of Richmond	Road	Sewage
Spill Report	12/31/2022 at 12:39 PM	Richmond	City of Richmond	Road	Sewage
Spill Report	12/31/2022 at 12:39 PM	Richmond	City of Richmond	Road	Sewage

Spill Report	12/31/2022 at 12:39 PM	Richmond	City of Richmond	Road	Sewage
Spill Report	12/31/2022 at 12:39 PM	Richmond	City of Richmond	Road	Sewage
Spill Report	12/31/2022 at 12:39 PM	Richmond	City of Richmond	Road	Sewage
Spill Report	12/31/2022 at 12:09 PM	Bethel Island	Ironhouse Sanitary District	Road	Sewage
Spill Report	12/31/2022 at 10:33 AM	Richmond	City of Richmond	Road	Sewage
Spill Report	12/29/2022 at 02:31 PM	Crockett	Crockett Community	Residence	Sewage
Spill Report	12/28/2022 at 03:59 PM	Richmond	City of Richmond	Refinery	Sewage
Spill Report	12/19/2022 at 01:58 PM	Crockett	Crockett Comm Services	Residence	Sewage
Spill Report	12/11/2022 at 02:13 PM	Brentwood	City of Brentwood	Residence	Sewage
Spill Report	12/14/2022	Richmond	West County Waste	Refinery	Sewage
Spill Report	12/11/2022 at 02:13 PM	Brentwood	City of Brentwood	Residence	Sewage
Spill Report	11/20/2022 at 02:09 PM	Rodeo	Private Citizen	Residence	Sewage
Spill Report	11/14/2022 at 11:20 PM	San Pablo	West Co Wastewater	Utilities/Substation	Sewage
Spill Report	10/21/2022 at 09:55 AM	Clayton	City of Concord	Residence	Sewage
Cal OES-Update	10/21/2022 at 03:22 PM				Sewage
Spill Report	10/03/2022 at 02:42 PM	Walnut Creek	Private Citizen	Waterway	Sewage
Spill Report	09/30/2022 at 02:03 AM	Crockett	Crocket CSD	Residence	Sewage
Spill Report	09/26/2022 at 12:05 PM	Concord	City of Concord	Road	Sewage
Spill Report	09/14/2022	Discovery Bay	Veolia	Waterways	Sewage
Spill Report	09/14/2022	Discovery Bay	Private Citizen	Waterways	Sewage
Spill Report	09/06/2022 at 02:09 PM	San Ramon	SanRamonResident	Waterways	Sewage
Spill Report	09/05/2022 at 10:31 AM	Concord	City of Concord	Waterways	Sewage
Cal OES-Update	09/06/2022 at 08:55 AM				Sewage
Spill Report	08/29/2022 at 06:47 AM	Richmond	Chevron Products	Refinery	Sewage
Cal OES-Update	08/29/2022 at 07:12 AM				Sewage
Spill Report	08/27/2022 at 05:02 PM	Walnut Creek	Central Contra Costa	Road	Sewage
Cal OES-Update	08/30/2022 at 09:15 AM				Sewage
Spill Report	08/22/2022 at 01:21 PM	San Pablo	West County Waste	Road, Waterways	Sewage
Spill Report	08/20/2022 at 03:17 PM	Richmond	Private Citizen	Waterways	Unspecified
Spill Report	08/18/2022	San Pablo	West County Waste	Utilities/	Sewage

				Substation	
Spill Report	08/10/2022 at 01:22 PM	Concord	City of Concord	Other	Sewage
Cal OES-Update Spill	07/26/2022	Antioch	City of Antioch	Road	Sewage

Data Source:
https://w3.calema.ca.gov/operational/malhaz.nsf/f1841a103c102734882563e200760c4a?SearchView
search results for "Contra Costa"

Water Quality

Water quality is heavily regulated in the San Francisco Bay Area as described in detail in Appendix X. In addition to the previously described excess nutrient concern, there are some emerging concerns about potential water pollutants that may be at risk of passing through water treatment plants and into discharge points. There has been growing concern that bays, deltas, and oceans are seeing elevated levels of water pollution including:

- Micro-plastics, and
- per-and polyfluoroalkyl substances (PFAS),

The Regional Water Quality Control Board and their partners are researching and monitoring these pollutants. Due to a lack of information, these potential pollutants are not described in any detail in this MSR. However, a brief introduction to these pollutants is provided herein because LAFCO's next MSR on wastewater service providers may need to address these items.

Microplastics are a diverse class of persistent contaminants that have been observed in water, sediment, and wildlife worldwide. Microplastics and other microparticles have been characterized in San Francisco Bay to determine abundance, sources, pathways, and loadings of these contaminants in a densely populated urban environment. Microplastics can be found in stormwater runoff, wastewater effluent, open bay and sanctuary surface waters, bay sediment, as well as two species of prey fish and bivalves. Studies have been conducted in the Bay to validate a process-based particle transport model for the Bay and Sanctuaries that can be used to predict the transport and fate of microplastics in the region. Microplastics may enter the wastewater treatment system from residential washing machines that wash polyester clothes or from industrial customers. Additionally, sanitary sewer overflows are a probable source of microplastics (Coffin, 2022; Sutton, 2016; Sutton, 2020;). However, under normal circumstances, the contributions of wastewater effluent to microplastic pollution is probably relatively small as stormwater is a larger contributor.

PFAS are commonly called 'forever chemicals.' PFAS are a category of chemicals used since the 1940s to repel oil and water and resist heat, which makes them useful in everyday products such as nonstick cookware, stain resistant clothing, and firefighting foam. The science is clear that exposure to certain PFAS over a long period of time can cause cancer and other illnesses. In addition, PFAS exposure during critical life stages such as pregnancy or early childhood can also result in adverse health impacts. Exposure to PFAS has been linked to

deadly cancers, impacts to the liver and heart, and immune and developmental damage to infants and children. For example, manufacturing facilities may sometimes discharge PFAS[2] into the wastewater treatment system.

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Appendix G

Wastewater Regulations

Appendix G: Wastewater Regulations

Table of Contents

REGULATIONS FOR WASTEWATER SYSTEMS

Both state and federal regulatory authority exists for the control of water quality in surface waters of California. Under the Clean Water Act (CWA), the Environmental Protection Agency (EPA) regulates municipal and industrial effluent discharges to navigable waters through the issuance of National Pollutant Discharge Elimination System (NPDES) permits. The basic approach used in both state and federal processes is 1) to designate beneficial uses to be protected, 2) to set water quality objectives that are protective of the most sensitive uses, and 3) to control municipal, industrial, and other sources to meet these objectives.

Federal Wastewater Treatment Regulations

Clean Water Act

The Clean Water Act (33 U.S.C. § 1251 et seq.) is the federal law that governs and authorizes water quality control activities by the EPA. Pursuant to federal law, the EPA has published water quality regulations under Volume 40 of the Code of Federal Regulations (40 CFR). The CWA regulates water pollution through two different and supplementary approaches:

- Water quality and technology-based standards; and
- Section 303 of the CWA requires states to adopt water quality standards for all surface waters of the United States.

The two approaches to regulating water pollution are implemented through discharge permits, which contain mass or concentration-based effluent limits for the pollutants in the permittee's wastewater. These approaches are applied to pollutant dischargers through the implementation of the national wastewater discharge permitting program set up under the CWA. The CWA established national goals to eliminate pollutant discharges to navigable waters and to assure that all navigable waters would be fishable and swimmable.

National Pollutant Discharge Elimination System (NPDES)

The NPDES permit system was established under section 402 of the CWA to regulate municipal and industrial discharges to surface waters of the United States. The discharge of wastewater to surface waters is prohibited unless an NPDES permit has been issued, which allows that discharge. Each NPDES permit contains limits on allowable concentrations and/or mass emissions of pollutants contained in the discharge. Under the NPDES program, dischargers are required to monitor and provide reports on compliance with their permit limits. These reports, formally titled Discharge Monitoring Reports (DMRs), are submitted to the appropriate regulatory agency, and they describe water quality data and analysis. The regulatory agency or any interested citizen can review this data to determine whether or not the discharger has complied with its NPDES permit requirements and, if appropriate, pursue action to enforce compliance.

Stormwater: Areas within Contra Costa County are subject to the NPDES stormwater permit regulations and are subject to the Municipal Regional Stormwater NPDES Permit, Phase II Small Municipal Separate Storm Sewer System (MS4) General Permit (Order No. 2013-0001-DWQ). This Permit regulates the discharge of stormwater runoff from the municipal separate storm sewer systems ("MS4s") and other designated stormwater discharges from municipalities and flood management agencies throughout Contra Costa County. The purpose of the stormwater permitting program is to prevent pollution in local waterways. Stormwater can adversely impact avian, aquatic, and plant life in receiving waters and can cause serious human health impacts.

For example, high mercury levels can make regular consumption of fish unsafe. Urban stormwater runoff is one of the largest sources of pollution in the USA.

Enforcement of NPDES guidelines and permits in Contra Costa County falls within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (SFB RWQCB) and is subject to review by the EPA Regional Administrator [EPA Pacific Southwest (Region 9)]. In addition, the RWQCB regulates activities involving discharges to land or groundwater from diffused sources. A Report of Waste Discharge must be filed with the SFB RWQCB to obtain a Waste Discharge Requirement (WDR) for these types of non-surface water discharge.

Congress amended the CWA in 1987 to include non-point source pollutants. Non-point source pollutants are often chemicals from lawns or gardens, automobile residues, urban runoff, or household cleaning agents or compounds. Non-point source pollution can also include runoff from agricultural uses. Most non-point source pollutants enter the wastewater stream and the water supply in large quantities and sudden surges, largely due to storm events. Although the EPA has established NPDES requirements for stormwater, control of this type of pollution has proven to be difficult and could require upgrades to existing wastewater treatment plants. In November 2020, the State Water Resources Control Board submitted its 2020-2025 Nonpoint Source Implementation Plan, which was subsequently approved by the EPA. The Implementation Plan identifies a set of targeted performance measures and describes NPS Program activities from 2020 through 2025. The Regional Water Quality Control Boards is working with local agencies to implement the Nonpoint Source Program. These regulations may further affect the wastewater agencies in Contra Costa County, especially those with high storm water infiltration rates.[1]

Section 303(d) Impaired Waters List and TMDLs

Under Section 303(d) of the CWA, states are required to develop lists of water bodies which will not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries) (40 C.F.R. §130.7(b)(4)). For example, the EPA and RWQCB have placed a few water bodies located in Contra Costa County on the 303(d) list.

National Toxics Rule

The EPA established the National Toxics Rules (NTR) to create numeric criteria for priority toxic pollutants for California and 13 other states and territories that were not in complete compliance with the CWA. For California, the NTR established water quality standards for protection of

[1] State Water Resources Control Board. Nonpoint Source Pollution (NPS) Control Program. www.waterboards.ca.gov/water_issues/programs/nps.

aquatic life and/or human health for 36 pollutants for which water quality criteria exist, but which were not covered under California's statewide water quality regulations.

California Toxics Rule

The Clean Water Act (33 U.S.C. § 1251 et seq.) is the federal law that governs and authorizes water quality control activities by the EPA. Pursuant to federal law, the EPA has the NTR. There are 126 constituents listed in the California Toxics Rule (CTR) criteria, which include the previously issued NTR criteria for California. Some of the key elements of the CTR include:

- Amended numeric standards for 30 toxic pollutants and added new criteria for 8 toxic pollutants to protect aquatic life and human health uses for water bodies.
- Dissolved-based standards for most trace metals and endorsement of the use of translator mechanisms for determination of local metals objectives.
- Provisions for compliance schedules to provide time for permittees to meet the new toxics standards.
- Provisions for mixing zones when calculating toxic constituent effluent limitations.
- Use of interim effluent limits to provide time for dischargers to take actions to meet final limits.

The EPA promulgated numeric water quality criteria for priority toxic pollutants and other water quality standards for waters in the State of California pursuant to section 303(c)(2)(B) of the CWA if those pollutants could be reasonably expected to interfere with the designated uses of states' waters. Although California had adopted numeric criteria for priority toxic pollutants in 1992, the courts ordered California to rescind these water quality control plans in 1994 and the new water quality criteria rule, known as the California Toxics Rule (CTR), temporarily replaced the standards adopted in 1991. The CTR established:

- Ambient aquatic life criteria for 23 priority toxics;
- Ambient human health criteria for 57 priority toxics; and
- Compliance schedule provision.

Under the CTR, various regional water quality control boards will issue compliance schedules for new or revised NPDES permit limits based on the federal criteria when certain conditions are met. Currently, each basin plan, as prepared by the regional water quality control board, contains a water quality criterion that all waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This has been contested by local jurisdictions all over California since it is expected to add significantly to the cost of wastewater treatment.

EPA contends that since California is implementing EPA's current regulations, the CTR will not impose any incremental costs and that the water quality criterion does not directly create

economic impacts. EPA staff notes that California has some discretion to develop mechanisms that could result in more flexibility for local areas (e.g., site-specific criteria, phased TMDL program).

For Contra Costa County, the SFB RWQCB does not require a separate and specific CTR permit. RWQCB determined that three years of CTR monitoring data did not measure CTR pollutants in concentrations that resulted in receiving water violations, thus Board eliminated the CTR priority pollutant monitoring requirement. The wastewater agencies that discharge to surface waters were required to complete a number (depending on whether discharger is major or minor, municipal or industrial) of rounds of sampling under the CTR.

California Wastewater Treatment Regulations

CA Water Code

The California Water Code is the principal state regulation governing the use of water resources within the State of California. This law controls, among other issues, water quality protection and management and management of water-oriented agencies. Division 7 of the California Water Code, commonly referred to as the Porter-Cologne Act, is the principal mechanism for the regulation of water quality and pollution issues within California. This act established a regulatory program to protect the water quality and beneficial uses of all state waters. The Porter-Cologne Act also established the State Water Resources Control Board and California Regional Water Quality Control Boards (RWQCB) as principal state agencies responsible for water quality control. The SWRCB has divided California into nine regions, with Contra Costa County located in the San Francisco Bay RWQCB, Region 2.

The Porter-Cologne Act grants the SWRCB and regional offices broad powers to protect water quality and is the primary vehicle for implementation of California's responsibilities under the federal CWA. These broad powers include the authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites, and to require cleanup of hazardous materials and other pollutants. The Porter-Cologne Act also includes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil/petroleum product.

The San Francisco Bay RWQCB, as with all other regional boards, must formulate and adopt a water quality plan for its region, which must conform to the Porter-Cologne Act. The Porter-Cologne Act also provides that a regional office, such as the San Francisco Bay RWQCB, may include within its regional plan water discharge prohibitions applicable to local conditions, areas,

and types of waste. The regional offices are also authorized to enforce discharge limitations, take actions to prevent violations, and conduct investigations about the quality of any of the waters of the State. Civil and criminal penalties are applicable to persons who violate the requirements of the Porter-Cologne Act or SWRCB/RWQCB orders.

The Porter-Cologne Act also requires dischargers of fill and dredged material to all waters of the State be regulated. Additional protections are provided for wetlands, special aquatic sites, and headwaters because these waterbodies have high resource value, are vulnerable to filling, and are not protected by other programs. The San Francisco Bay RWQCB CWA Section 401 program is involved with the protection of special-status species and the regulation of hydromodification impacts. The RWQCB encourages watershed-level analysis and protection because some functions of wetlands, riparian areas, and headwater streams–including pollutant removal, flood water retention, and habitat connectivity–are expressed at the watershed or landscape level.

Other state agencies with jurisdiction or involvement in water quality regulation in California include the Department of Public Health (DPH) for drinking water regulations and water reclamation criteria, the Department of Pesticide Regulation, the Department of Fish and Game, and the Office of Environmental Health and Hazard Assessment.

Assembly Bill 885

Legislation (AB 885 by Hannah-Beth Jackson) passed in 2000 requires SWRCB to adopt regulations for the permitting and operation of septic systems. The law establishes a process for developing statewide performance standards for on-site wastewater treatment systems (OWTS) (aka septic tanks). Furthermore, the bill directs the SWRCB to adopt regulations or standards for on-site septic systems by 2004 to consider minimum operating requirements, including construction, siting, and performance requirements. The SWRCB also has specific requirements for OWTS adjacent to impaired waters. These standards apply to newly constructed systems, replaced, pooling to the surface, or can impair public health and safety.

In 2018, the SWRCB adopted Resolution No. 2018–0019, which amends the Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS). This resolution amends resolution 2012–0032, adopted in 2012, authorizes subsurface disposal of domestic wastewater, and establishes minimum requirements for the permitting, monitoring, and operation of OWTS for protecting beneficial uses of waters of the State. Contra Costa County Environmental Health is the local permitting authority that ensures compliance with all applicable State and local regulatory requirements for the installation and repair of OWTS.

Statewide General Waste Discharge Requirements

A consistent, statewide regulatory approach to address sanitary sewer overflows (SSOs) is provided by the SWRCB's adopted Statewide General Waste Discharge Requirements (WDRs) for Sanitary Sewer Systems (SSS), Water Quality Order No. 2022-0103-DWQ (Sanitary Sewer Systems WDR) in 2022. The Sanitary Sewer Systems WDR requires public agencies that own or operate sanitary sewer systems to develop and implement Sewer System Management Plans and report all SSOs to the State Water Board's online SSO database. The SSO database was queried for each wastewater service provider studied in this MSR. Most Contra Costa area wastewater service providers have completed their Sewer System Management Plans as described in this MSR.

California Storm Drainage & Flood Control Regulations

Section 10561 of the Water Code addresses runoff recapture and requires that State and local agencies regulating stormwater diversion systems to identify opportunities for capturing that runoff -- including summer season runoff -- for some form of reuse.

Local Wastewater Regulations

Contra Costa County has policies and procedures consistent with the San Francisco Bay RWQCB recommendation for connection to a public wastewater system in urbanized areas.

Septic System Permitting

Septic systems are also referred to as on-site wastewater treatment systems (OWTSs). OWTS are regulated by the Contra Costa County Municipal Code, Chapter 420-6, Sewage Collection and Disposal. Improperly designed or poorly constructed or maintained OWTSs can contaminate groundwater. The Environmental Health Program reviews OWTS design plans and inspects the construction of OWTSs to prevent threats to groundwater and public health. The permits are intended to enforce applicable septic system siting, sizing, and design guidelines to protect water quality and comply with Basin Plan provisions. Environmental Health Program staff investigate complaints of improperly functioning OWTSs, and review applications for building permits on lots served by OWTSs.

Contra Costa County General Plan

The County General Plan Growth Management Element, under the subheading "Sanitary Sewer," states the following (Contra Costa County 2005b): The County, pursuant to its police power and as the proper governmental entity responsible for directly regulating land use density or intensity, property development and the subdivision of property within the unincorporated areas of the County, shall require new development to demonstrate that adequate sanitary sewer

quantity and quality can be provided. At the project approval stage, (subdivision map, land use permit, etc.), the County may consult with the appropriate sewer agency. The County, based on information furnished or available from consultations with the appropriate sewer agency, the proponent, or other sources, should determine whether (1) capacity exists within the sewer system if the development project is built within a set period of time, or (2) capacity will be provided by a funded program or other mechanism. Project approvals conditioned on (1) or (2) above, will lapse according to their terms if not satisfied by verification that capacity exists to serve the specific project ("will serve letters"), actual hook-ups or comparable evidence of adequate sewage collection and wastewater treatment capacity availability.

The County's General Plan also establishes goals and policies for public services. The General Plan contains the following policies in Chapter 7, Public Facilities/Services Element that apply to wastewater (Contra Costa County 2005a):

Policy 7-29 Sewer treatment facilities shall be required to operate in compliance with waste discharge requirements established by the California Regional Water Quality Control Board. Development that would result in the violation of waste discharge requirements shall not be approved.

Policy 7-30 Sewer service agencies shall be encouraged to establish service boundaries and develop treatment facilities to meet future service needs based on the growth policies contained in the County and cities' General Plans.

Policy 7-31 Expansion into new areas within the Urban Limit Line but beyond the Spheres of Influence should be restricted to those areas where urban development can meet growth management standards included in this General Plan.

Policy 7-32 Development of rural residences, or other uses, that will be served by septic tank and leachfields, shall be discouraged in areas with high groundwater levels or soils with poor percolation characteristics.

Policy 7-33 At the project approval stage, the County shall require new development to demonstrate that wastewater treatment capacity can be provided. The County shall determine whether (1) capacity exists within the wastewater treatment system if a development project is built within a set period of time, or (2) capacity will be provided by a funded program or other mechanism. This finding will be

based on information furnished or made available to the County from consultations with the appropriate water agency, the applicant, or other sources.

Policy 7-37 The need for sewer system improvements shall be reduced by requiring new development to incorporate water conservation measures which reduce flows into the sanitary sewer system.

Contra Costa County Sewage Ordinance

Title 4, Division 420, of the County Municipal Code addresses sewage and collection. The Municipal Code identifies requirements for the installation of sewer lines and the construction of sewage processing plants. Construction of wastewater facilities is subject to review and approval of the Director of Public Works and the County Health Officer.

As described in this MSR, wastewater service providers have requirements related to the provision of sewer service. Specifically, parcels must be within District boundaries to be eligible for service. Any parcel that is currently outside District boundaries may apply for annexation, provided that the parcel is contiguous with current District boundaries.

Wastewater Solids Regulations

Solids generated at a wastewater treatment facility comprise screenings, grit, primary or raw sludge (PS), and secondary or waste-activated sludge (WAS). The screenings and grit are typically dewatered and disposed of in a landfill. Sludge generated by a wastewater treatment facility is defined as biosolids once beneficial use criteria, as determined by compliance with EPA regulations, have been achieved through stabilization processes. Stabilization processes are described as those that help reduce pathogens and reduce vector attraction.

Several federal, State and local regulations are in place that influence whether biosolids from municipal wastewater treatment plants can be reused or disposed of. Increased concerns and debate over biosolids disposal and its associated environmental impacts have led to more stringent revisions and amendments for many of these regulations. Continuing changes in regulations affecting biosolids management make a flexible management program essential.

Federal, State, and local agencies are responsible for regulating biosolids beneficial reuse/disposal. The authority of each agency varies based on the beneficial reuse/disposal methods employed. However, overall guidelines are established by the EPA. These guidelines are, in turn, implemented by state and local governments. Many state and local agencies in California have developed additional rules, guidelines, and criteria for biosolids management.

In order to implement the long-term biosolids permitting program required by the Water Quality Act of 1987, the EPA initiated two rule makings. The first rulemaking established requirements and procedures for including biosolids management in NPDES permits, procedures for granting state biosolids management programs primacy over federal programs, or for federal programs to implement biosolids permits if a state so chooses.

The second rulemaking proposed to regulate and control biosolids permitting was 40 CFR Part 503, Standards for the Use and Disposal of Sewage Sludge. This rule addresses three general categories of beneficial reuse/disposal of biosolids, including:

- Land application of sewage sludge for beneficial use of organic content;
- Surface disposal of biosolids in a monofill, surface impoundment, or other dedicated site; and
- Incineration of sewage sludge with or without, auxiliary fuel.

Future Regulatory Considerations

This section provides insight into the future regulatory considerations that may affect Contra Costa County sewer systems' effluent discharges. Identifying future regulatory trends is critical for the following reasons:

- Developing treatment scenarios and alternatives;
- Planning for process and layout requirements for future regulatory compliance; and
- Making budget considerations for major design and construction projects.

Identifying future pollutants of concern (POCs), such as metals, nutrients, and/or pathogens, will help to develop alternatives that are flexible and can be easily expanded or upgraded to treat future POCs. For example, planning may include reserving space in the site layout for nutrient reduction, tertiary filtration, advanced oxidation, or an alternative disinfection method that would provide treatment for future POCs.

Nutrients, including nitrogen and phosphorus, are the leading cause of impairments to the nation's surface waters and, as a result, are receiving greater regulatory scrutiny regarding their contribution to the overall quality of the nation's receiving waters. Although appropriate amounts of nutrients are vital for the health and proper functioning of water bodies, excessive nutrient concentrations can cause water quality degradation.

Nationwide Nutrient Criteria

In November 2007, the National Resources Defense Council (NRDC) filed a petition with the EPA to require that nutrient removal be included in the definition of secondary treatment. The petition stated that "there are many [biological processes] which can achieve total phosphorus levels of

1.0 milligrams per liter (mg/L) as a monthly average, and a total nitrogen of 6 to 8 mg/L as an annual average" (NRDC et al, 2007).

In response to the petition by NRDC, the National Association of Clean Water Agencies (NACWA) wrote to the EPA in February 2008, September 2009, and June 2010, urging the EPA to deny the petition to modify the secondary treatment regulations for several legal, technical, and political reasons including but not limited to the potentially exorbitant cost to publicly owned treatment works and the inappropriateness of establishing national limits for local and regional water quality issues (NACWA, 2008; NACWA, 2009). In October 2009, the EPA stated they were actively analyzing the data and information to prepare a report and preliminary response to the NRDC petition. They stated they would consider NACWA, other stakeholders, and all information carefully before taking action on the NRDC petition (U.S. EPA, 2009a).

Due to the scientific uncertainties associated with the development of numeric nutrient criteria and the magnitude of the expected costs of compliance, nutrient water quality policies are very controversial and have sparked several legal actions across the country. The State of Florida has become the initial focus of environmental groups' efforts to push the EPA to develop federal numeric nutrient criteria to be imposed on the states. The EPA has agreed to a consent decree in the environmental suit and has made a determination that numeric nutrient standards are necessary for Florida. Proposed criteria for total nitrogen and total phosphorus were released in January 2010. The EPA withdrew federal water quality standards (WQS) applicable to waters of the State of Florida in 2014 because Florida adopted— and EPA approved— relevant numeric nutrient criteria (NNC).

State of California Nutrient Numeric Endpoints

In addition to the increasingly stringent regulation of nutrients, there is a trend towards increasing regulation of emerging microconstituents and bioaccumulative pollutants in treated effluent discharges.

Microconstituents and Bioaccumulative Constituents

Microconstituent, also referred to as "contaminants of emerging concern" (CECs) by the EPA Office of Water, are substances that have been detected in surface waters and the environment and may potentially cause deleterious effects on aquatic life and the environment at relevant concentrations. Microconstituents include:

- Persistent organic pollutants (POPs) such as polybrominated diphenyl ethers (PBDEs; used in flame retardants, furniture foam, plastics, etc.) and other organic contaminants.

- Pharmaceuticals and personal care products (PPCPs), including a wide suite of human prescribed drugs, over-the-counter medications, bactericides, sunscreens, and synthetic musks.
- Veterinary medicines such as antimicrobials, antibiotics, anti-fungals, growth promoters, and hormones.
- Endocrine-disrupting chemicals (EDCs), including synthetic estrogens and androgens, naturally occurring estrogens, as well as many other compounds capable of modulating normal hormonal functions and steroidal synthesis in aquatic organisms.
- Nanomaterials such as carbon nanotubes or nano-scale particulate titanium dioxide.

Bioaccumulative constituents are substances taken up by organisms at faster rates than the organisms can remove them. As a result, these constituents accumulate in the organism and the food chain and can remain in the environment for long periods of time. Mercury, polychlorinated biphenyls (PCBs), and dioxins are some bioaccumulative constituents that are being increasingly regulated.

Monitoring requirements for these trace pollutants are increasing, including requirements to analyze constituents at lower detection limits. It is likely that water quality criteria followed by new effluent limits will be added to permits. Implementation of CEC standards is not expected to be imminent as the EPA is currently focused on assessing the potential impact CECs have on the environment and human health.

The State Water Resources Control Board (SWRCB) is in the process of developing statewide policies for nutrients. The SWRCB held a scoping meeting in October 2011 to seek input on content for a proposed Nutrient Numeric Endpoint (NNE) framework and policy for inland surface waters.

Biostimulatory Substances Objective and Implementation of Biological Integrity

The existing statutes and regulations are in various forms, such as regional narrative or numeric nutrient objectives, an objective in the State Ocean Plan, water quality orders, and TMDLs, which were adopted or are under development by various Regional Water Boards. Currently, there are approximately 32 TMDLs statewide which list nutrients as toxicants or eutrophication-related effects on beneficial uses.

The State Water Resources Control Board (State Water Board) is proposing to adopt a statewide water quality objective for biostimulatory substances along with a program of implementation as an amendment (Biostimulatory Substances Amendment or project) to the Water Quality Control

Plan for Inland Surface Water, Enclosed Bays and Estuaries of California (ISWEBE Plan). The Biostimulatory Substances Amendment could include a statewide numeric objective or a statewide narrative objective (with a numeric translator) and various regulatory control options for point and non-point sources.

It is anticipated that a comprehensive program to implement the water quality objective for biostimulatory substances will be established in three phases as three amendments to the ISWEBE Plan. Each phase would reflect implementation unique to three different water body types. If the Biostimulatory Substances Amendment establishes a numeric water quality objective, rather than a narrative water quality objective, then potentially each subsequent phase would also establish a new numeric water quality objective. The latter depends on whether the numeric water quality objective is developed from factors unique to the different types of waterbodies. The Biostimulatory Amendment would be the first phase, applicable to wadeable streams. The second phase will focus on lakes, and the third phase will focus on estuaries, enclosed bays, and non-wadeable rivers.

This project will also now include a water quality control policy to establish and implement biological condition assessment methods, scoring tools, and targets aimed at protecting the biological integrity in wadeable streams (SWRCB, 2017).

California State Recycled Water Policy

The SWRCB adopted a Recycled Water Policy (RW Policy) in 2009 and updated it in 2018 to establish more uniform requirements for water recycling throughout the State and to streamline the permit application process in most instances[2]. The RW Policy includes a goal for the State to increase the use of recycled water from 714,000 acre-feet per year (afy) in 2015 to 1.5 million afy by 2020 and to 2.5 million afy by 2030. It also includes goals for stormwater reuse and conservation and potable water offsets by recycled water. The onus for achieving these mandates and goals is placed on both recycled water purveyors and potential users. Since the recycled water project permit process is streamlined, projects will not be required to include a monitoring component. If any regulations arise from new knowledge of risks associated with CECs, then projects will be given compliance schedules. New regulations are not expected to arise in the imminent future (SWRCB, 2018).

[2] Details are at the State Water Board website at www.swrcb.ca.gov/water_issues/programs/water_recycling_policy/.

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List of Appendix H

Methane Emissions

Appendix H
Methane Emissions from Wastewater Collection and Treatment

Municipal wastewater collection and treatment systems, such as those studied in this MSR, have been found to emit methane gas. Methane is an odorless gas that is composed of carbon and hydrogen (Britannica, 2018). Methane is considered a greenhouse gas that contributes to climate change, since anthropogenic methane production can cause concentrations to increase more quickly than can be offset by sinks (Britannica, 2018).

Professors Daniel Moore and Cuihong Song from the Department of Civil and Environmental Engineering at Princeton University published two studies in 2023 in the journal Environmental Science & Technology on this important issue.

- The first study performed on-the-ground methane emissions measurements at 63 wastewater treatment plants in the United States (Moore et al., 2023).
- The second study used machine learning methods to analyze published literature data from methane monitoring studies of various wastewater collection and treatment processes around the globe (Song et al., 2023).

These studies found that municipal wastewater treatment plants emit nearly double the amount of methane into the atmosphere than scientists previously believed, according to new research from Princeton University (Moore et al., 2023 & Song et al., 2023). Waste and wastewater are large contributors to airborne methane. As our local cities urbanize the waste collects. However, cities and special districts are also investing in climate-friendly net-zero plans and these plans can help address methane from the liquid wastewater treatment sector.

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Appendix I

Recycled Water

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Recycled Water

Introduction to Recycled Water

Due to on-going droughts and aridification, water resource managers and planners across California, are encouraging water reclamation, recycling, and reuse.

What is Recycled Water?

Recycled water is mainly municipal sewage that gets treated in a wastewater facility and then complies with the recycled water regulations for a beneficial use (State Water Resources Control Board, n.d.). Recycled water is utilized to supplement scarce resources and to provide alternatives to effluent disposal into surface waters. Recycled water is now considered an important water resource which helps communities cope with periods of severe drought and a growing demand for water supply due to increasing population[1]. Water reuse (both non-potable and potable) can enable communities to maximize and extend the use of limited freshwater resources.

How is Water Recycled?

Sewage treatment plants now have advanced processes that can treat water to tertiary conditions and allow recycled water to be produced. Disinfected secondary-2.2 recycled water undergoes oxidation and disinfection so the median concentration of the total coliform bacteria in the processed effluent does not exceed a most probable number (MPN) of 2.2 per 100 milliliters, within the last seven days of analyses (State Water Resources Control Board, 2018). Disinfected secondary-23 recycled water undergoes oxidation and disinfection so the median concentration of the total coliform bacteria in the processed effluent does not exceed a MPN of 23 per 100 milliliters, within the last seven days of analyses (State Water Resources Control Board, 2018). Disinfected tertiary recycled water goes through either a chlorine disinfection or a disinfection process that combines with a filtration process to remove 99.999 percent of plaque units of bacteria (State Water Resources Control Board, 2018). Disinfected tertiary water's measured concentration of total coliform bacteria does not exceed a MPN of 2.2 per 100 milliliters, within the last seven days of analyses (State Water Resources Control Board, 2018).

[1] For example, in the Central Coast of California the City of Morro Bay has initiated a new program called "Our Water". The program strives to build water and wastewater infrastructure to support a sustainable environment, economy, and community (Morro Bay, n.d.). The recently developed Morro Bay Water Reclamation Facility is part of the "Our Water" program and involves the replacement of the existing wastewater treatment plant with an advanced treatment facility (Morro Bay, n.d.). The program seeks to provide a drought buffer and provide up to 80 percent of the City's water needs in the future (Morro Bay, n.d.).

What are the Rules for Recycled Water?

California has several regulations for water reuse. Indirect potable reuse rules were adopted in 2014, by California to provide detailed criteria for treatment processes, contaminants to test for, and how long treated water must remain underground. The State finalized the Reservoir Augmentation statewide regulations in 2018, to allow highly purified potable reuse water to be placed into drinking water reservoirs. The State does not currently have direct potable reuse regulations but is currently working on a DPR regulatory framework and research. AB 574 was signed into law in October 2017. The law sets a 2023 deadline for the development of Raw Water Augmentation regulations.

Recycled water can be safely used for irrigation, industrial applications, groundwater recharge, and some commercial activities. California has regulations and guidelines that allows wastewater effluent, treated at secondary levels, to be used for irrigation of restricted-access golf courses, cemeteries, freeway landscaping, and nurseries. When wastewater effluent is treated to a tertiary level, it is allowed to be utilized on food crops, school yards, parks, playgrounds, and golf courses (State Water Resources Control Board, 2018).

How is Recycled Water Used Locally?

The Western Recycled Water Coalition (WRWC), formerly the Bay Area Recycled Water Coalition (BARWC), is an independent group of cities and public agencies in the Western United States working together to advocate federal funding for water reuse projects. There are currently 19 member agencies in the WRWC, which include several nearby agencies such as Cal Water, Hayward, Pleasanton, Dublin San Ramon Services District, and Zone 7 (Western Recycled Water Coalition, 2017). Current WRWC projects will provide 100,000 acre-feet per year of reliable, sustainable, drought-tolerant water supply. This volume of water is equivalent to meeting the household water needs for 875,000 people (Western Recycled Water Coalition, 2017). The Western Recycled Water Coalition website can be accessed at: http://westernrecycledwatercoalition.org/.

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Appendix J

Wastewater Recommendations from American Society of Civil Engineers

Appendix J: Wastewater Recommendations from American Society of Civil Engineers

Introduction

The American Society of Civil Engineers (ASCE) was founded in 1852 and is the nation's oldest engineering society. ASCE represents more than 150,000 members of the civil engineering profession in 177 countries. In the California, the chapter of ASCE published a report entitled "Report Card for California's Infrastructure". An excerpt from this report is provided in the following pages. Readers are invited to view the full-report on the ASCE website as listed in the bibliography provided on the next page.

Wastewater: Recommendations To Raise The Grade

- Make risk-based decisions on capital improvements, maintenance, and operations (i.e. – implement asset management programs).
- The State of California should continue to provide loans and grant funding for the repair and rehabilitation of wastewater collection and treatment systems, as well as reuse projects.
- The State of California should continue to implement indirect and direct potable reuse regulations.
- Implement an education program at the state and local level about what a wastewater treatment plant is, what kind of wastes it can treat, as well as what impact wastes have on the sewer pipes such as grease and flushable wipes, etc. Continue educational programs on how to identify a sewer overflow and who to call if such an event occurs.
- Continue advancements in water reuse/recycling. Expand recommendation on re-use/recycling

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