

Napa Sanitation District Overview

Mission

It is the mission of the Napa Sanitation District (NapaSan) to collect, treat, beneficially reuse, and dispose of wastewater in an effective and economical manner that respects the environment, maintains the public's health and meets or exceeds all local, state and federal regulations.

History

NapaSan, located in the Napa Valley in Northern California, has been serving the public since it was organized under the California Health and Safety Code in November 1945.



Soscol Water Recycling Facility

NapaSan provides wastewater collection, treatment and disposal services to the residents and businesses in the City of Napa and surrounding unincorporated areas of Napa County. As a special district, the NapaSan is an independent local agency governed by a Board of Directors made up of three elected officials from the City and County and two public appointees.

Until 1998, wastewater was processed at both the Imola Treatment Plant located north of Imola Avenue and west of Soscol Avenue, and the Soscol Water Recycling Facility (SWRF) near Napa County Airport. In 1998, all wastewater treatment activities were shifted to the SWRF. The Imola Avenue treatment facility was demolished in 2002 after completion of the Napa County Flood Control District Project relocating the railroad tracks onto the District's Imola property. NapaSan's Administration, Engineering and Collection System offices were relocated to the SWRF in 2013.

Public Services

There are approximately 37,400 connections within NapaSan's approximately 21 square miles of service area. Through a network of approximately 270 miles of underground sewer mains, assisted by a system of three lift stations, the sewage makes its way to the SWRF for treatment. (Additional demographics are available in Appendix B – Statistics and Economic Data.)

The SWRF is a secondary and tertiary biological physical-chemical treatment facility that treats a mixture of domestic and industrial wastewater. NapaSan wastewater processes include primary treatment, activated sludge facilities, oxidation ponds, clarifiers, sludge digestion and solids de-watering facilities.

The SWRF has a dry weather treatment design capacity of 15.4 million gallons per day (MGD). The wastewater is treated and discharged in various manners, depending on the source of the wastewater and the time of year.

NapaSan's regulating body, the Regional Water Quality Control Board, permits discharge to the Napa River in accordance with a National Pollutant Discharge Elimination System (NPDES) permit. NapaSan provides full secondary treatment and disinfection at its wastewater facility whenever discharging to the Napa River.



Soscol Water Recycling Facility at sunrise

During the summer months, discharge to the Napa River is prohibited and wastewater is either stored in stabilization ponds or treated and beneficially reused for landscape irrigation in industrial parks, golf courses, parks, pasturelands and vineyards. This high quality "Title 22 Unrestricted Use" recycled water is provided to all recycled water users.

The average dry weather flow (May-October) of wastewater into the SWRF was approximately 6.6 MGD, while the average wastewater flow for the entire year was approximately 10.6 MGD in calendar year 2017.

Performance Measurement

NapaSan created and issued its Performance Measurement Report for Calendar Year 2017 in April 2018. The report identifies 63 performance measures that, when taken as a whole, should give the reader a sense of how well the utility is performing and being managed.

The report uses the Effective Utility Management (EUM) framework for presenting the performance information. EUM was developed in 2009 by six major water and wastewater associations and the United States Environmental Protection Agency to help utility managers make practical, systematic changes to achieve excellence in utility performance.

This framework is specific to water and wastewater utilities and provides for the possibility of comparing NapaSan to other wastewater utilities once more providers begin using EUM for measuring and reporting on performance.

The performance measures are organized into EUM's Ten Attributes of Effectively Managed Water Sector Utilities:

1. Product Quality
2. Customer Service
3. Employee and Leadership Development
4. Operational Optimization
5. Financial Viability
6. Infrastructure Stability
7. Operational Resiliency
8. Community Sustainability
9. Water Resource Adequacy
10. Stakeholder Understanding & Support

NapaSan rates “**satisfactory**” in 54 measures (86%). These measures include, among many others, meeting NPDES discharge limits for BOD and total suspended solids, electricity self-generation, no loss time accidents, operational efficiencies, and proactive practices on preventive maintenance.

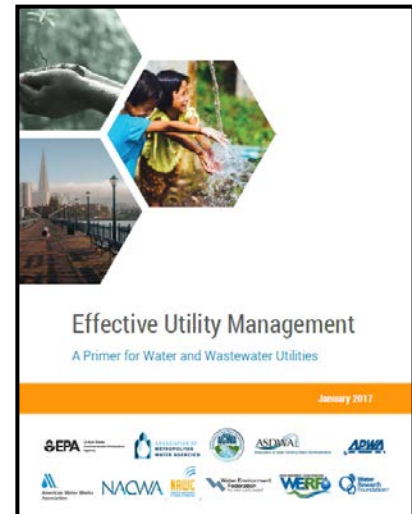
NapaSan rates “**watch**” on five measures (8%). A “watch” designation signifies that NapaSan is in danger of not meeting its goals, that the trend is indeterminate, or that there is insufficient data to make an assessment. Measures in this category include asset inventory, sewer main condition assessment, total recordable incident rate, vehicle accident rate, and insurance claims.

NapaSan rates “**unsatisfactory**” on three measures (5%). “Unsatisfactory” signifies that NapaSan has not met its goals or that the trend is negative. This rating was for the quantity and volume of sanitary sewer overflows and for the experience modification (XMOD) rate.

Several of the performance measures have been identified as “Key Performance Indicators” (KPIs) for determining whether NapaSan is meeting its Strategic Goals. Those KPIs have been identified below in the Strategic Planning Goals and Objectives section.

Most of the performance measures in the Performance Measure Report have also been included in the narratives of the “Expenditure by Department” section of this budget document.

A complete copy of the Performance Measurement Report for Calendar Year 2017 can be found in Appendix E of this budget.



Strategic Planning Goals and Objectives

In April 2017, the Board of Directors updated its Strategic Plan, articulating the long-term goals, objectives and priorities of NapaSan. The following are excerpts from the Strategic Plan.

The Strategic Plan provides detail on these goals and specific objectives, a copy of which can be found in Appendix C of this document. On a quarterly basis, progress on these goals and objectives is reported to the Board of Directors and posted on NapaSan's website.



Mission

The mission of NapaSan is to collect, treat, beneficially reuse and dispose of wastewater in an effective and fiscally responsible manner that respects the environment, maintains the public's health and meets or exceeds all local, state and federal regulations.

Goal 1 - Infrastructure Reliability

The goal is to build, maintain and operate a cost-effective and reliable wastewater treatment system for NapaSan's service area. Systematic replacement of aging infrastructure is priority number one. A long term capital facilities plan is needed, drawing on accurate information about current facility conditions and projects of future service area needs: five, ten or more years from now. NapaSan must ensure that treatment capacity will be in place to address current and projected future needs.

Key Performance Indicators

Indicator	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Target 2018	Target 2019
Renewal & Replacement of Assets	8.8%	10.2%	4.5%	3.8%	2% - 4%	2% - 4%
Sewer Main Renewal & Replacement	1.8%	2.6%	1.1%	2.2%	1.3%	1.3%
Collection System Failures	1	0	1	0	0	0
Treatment Plant Capacity Used	42%	38%	42%	43%	<75%	<75%
Uptime for Cogeneration Engine	96%	98%	79%	81%	> 85%	> 95%

Strategic Objectives:

Completion:

1A:	Strive to replace and rehabilitate at least 2% of sewers annually	Ongoing
1B:	Continue to implement an asset management program	Ongoing
1C:	Design and construct the Browns Valley Road Interceptor	Dec. 2019
1D:	Update the Collection System Master Plan	June 2020
1E:	Study whether to implement a Private Lateral Program	Dec. 2020

Related Department Objectives:

- Rehabilitate 60 public laterals annually (Collection System)
- Work to eliminate higher maintenance sewer mains by replacing or repairing them (Collection System)
- Enhance and organize inventory system to reduce down time (Plant Maintenance)
- Continue design of the Browns Valley Road Sewer Trunk and West Napa Pump Station project (Engineering)
- Continue implementation of a formal asset management plan (Engineering)
- Plan for and complete renewal & replacement capital projects that impact approximately 4% of NapaSan's total assets (Engineering)
- Rehabilitate or replace at least 1.3% of the Collection System sewer mains (Engineering)
- Design and construct I&I sewer rehabilitation projects annually (Capital Improvement Plan)
- Construct the 2018 Treatment Plant Rehabilitation Project (Capital Improvement Plan)

Goal 2: Financial Stability

The goal is to ensure adequate fiscal resources to fulfill NapaSan's mission. The NapaSan Board has a fiduciary responsibility to ensure that adequate financial resources are in place to operate NapaSan and carry out its mission.

Key Performance Indicators

Indicator	Actual FY 13/14	Actual FY 14/15	Actual FY 15/16	Actual FY 16/17	Estimate FY 17/18	Target FY 18/19
Bond Rating	AA-	AA-	AA-	AA	AA	AA
Debt Service Coverage Ratio	276%	226%	284%	344%	381%	400%
Operating Ratio	0.88	0.90	1.02	1.07	1.08	> 1
Sewer Bill Affordability	0.68%	0.66%	0.68%	0.74%	0.84%	< 1%

Strategic Objectives:

Completion:

2A:	Conduct study of sewer service charge and capacity charge methodologies for residential customers	Dec. 2018
2B:	Evaluate long-term liabilities, including pension and OPEB liabilities	Complete
2C:	Conduct comprehensive review of strategies for developing non-rate/non-fee revenues, including land leases	Ongoing

Related Department Objectives:

- Engage with wine industry representatives regarding the study of winery waste treatment options (General Manager's Office)
- Under the direction of the Lands Committee and Board, work to develop options for lease revenue on District-owned property (General Manager's Office)
- Continue a study of NapaSan's sewer service charge and capacity charge methodologies (Administrative Services)
- Review cash flow and emergency reserves for adequacy (Administrative Services)
- Maintain and adjust ten-year plan for fleet sustainment, acquisition, rehabilitation and attrition (Safety, Training and Fleet Maintenance)
- Continue to implement an effective life cycle equipment replacement schedule for better budgetary expense projections (Plant Maintenance)
- Develop and utilize capital program management system to monitor and report progress of active capital projects (Engineering)



Stationary storage batteries used to store energy during the night for use during the day, decreasing energy demand charges

Goal 3: Operational Optimization

The goal is to implement and maintain effective operational practices. The Board wants to operate NapaSan at or above best practices, utilizing proven technology. Customers, ratepayers and internal staff all deserve high quality service.

Key Performance Indicators

Indicator	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Target 2018	Target 2019
Compliance with NPDES Permit	100%	100%	100%	100%	100%	100%
Sanitary Sewer Overflows (Cat. 1) per 100 miles of main	4.81	0.0	1.11	13.64	0.0	0.0
Self-Generated Electricity	32.6%	38.4%	31.5%	40.8%	> 40%	> 45%
Chemical Consumption (gallons hypochlorite per MG treated-summer)	204	211	211	199	< 225	< 225
Plant Planned Maintenance Ratio (Hours)	66%	45.2%	40.5%	61.3%	> 60%	> 60%
Collections Planned Maintenance Ratio (Hours)	87.5%	86.7%	87.1%	88.5%	> 80%	> 80%

Strategic Objectives:

Completion:

3A:	Reengage with winery industry to understand and evaluate options for mutually beneficial alternatives for managing winery waste	Dec. 2018
3B:	Continue to evaluate opportunities for shared services	Ongoing
3C:	Develop Business Continuity Plan as part of disaster mitigation	Dec. 2018
3D:	Evaluate and recommend ways to reduce energy and chemistry consumption in treatment process and collection system (coordinated with Objective 6D)	Complete

Related Department Objectives:

- Continue to respond to the needs of the community in a timely and professional manner within 30 minutes, while trying to reduce the number of emergency service calls (Collection System)
- Continue to maintain efficiency of preventive maintenance operations, cleaning at least 40% of NapaSan sewer mains per year (Collection System)
- Video inspect 10% of the sewer mains in NapaSan's system (Collection System)
- Root foam four miles of sewer main, including related laterals and manholes, to reduce the root intrusion into these facilities (Collection System)
- Continual process optimization of the plant control systems to achieve a reduction in chemical and energy costs (Plant Operations)
- Continue producing an effluent that meets the NPDES permit requirements (Plant Operations)
- Implement the new Environmental Laboratory Accreditation Program (ELAP) certification requirements (Regulatory Compliance)
- Review and update operational data sampling and analysis management for an efficient process control operational strategy (Regulatory Compliance)
- Review and return development plans within 30 days of submittal to NapaSan (Engineering)
- Facilitate additional recycled water conversions in the MST and Los Carneros Water District areas (Water & Biosolids Reclamation)



Sewer repair on Silverado Trail

Goal 4: Employee Development

The goal is to maintain a dynamic and skilled workforce through employee engagement, professional development and opportunities for advancement. The NapaSan Board wants to create a positive and respectful working environment that encourages all employees to do the best job possible for the NapaSan ratepayers.

Key Performance Indicators

Indicator	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Target 2018	Target 2019
Safety Training Completed On-Time	99%	84%	97%	93%	> 90%	> 90%
Employee Survey: "I feel valued by my work unit."	85.7%	na	70.5%	86.8%	> 70%	> 70%
Employee Survey: "I tell others that NapaSan is a great place to work."	73.8%	na	91.0%	77.8%	> 70%	> 70%
Employee Survey: "I will look for work outside NapaSan this next year."	47.6%	na	34.0%	42.1%	< 35%	<35%
Employee Survey: "Efforts are being made to capture critical institutional knowledge..."	3.56	na	3.45	3.68	> 3.5	> 3.5

Strategic Objectives:

Completion:

4A:	Promote NapaSan as a progressive, professional workplace through engagement and the development and promotion of internships and "in training" programs	Ongoing
4B:	Conduct Employee Survey in Fall 2017	Complete
4C:	Explore a total compensation study	Complete
4D:	Prepare for and begin MOU negotiations	June 2020
4E:	Address succession planning through supervisory/management training and an internal mentorship program	Ongoing

Related Department Objectives:

- Continue to provide direction to all departments, aligning efforts to promote and be consistent with NapaSan's goals and policy directives (General Manager's Office)
- Oversee changes derived from the Fall 2017 Employee Survey (General Manager's Office)
- Provide support to departments through recruitments and internship programs (Administrative Services)
- Continue efforts in succession planning, including training and mentorship programs (Administrative Services)
- Develop a Business Continuity Plan for operations during disasters, and integrate NapaSan in the city and county's emergency response systems (Safety, Training and Fleet Maintenance)
- Gather, store and disseminate asset and work information in an economical way with completeness and accuracy, including sharing with other departments in the District and others as needed (Collection System)
- Continue to develop and implement an analyst educational outreach training program (Regulatory Compliance)



Lab analyst conducting bioassay test

Goal 5: Community Outreach and Communication

The goal is to provide ratepayers with the information they need to understand NapaSan's mission, operations, finances and rate structures. The Board wants to ensure that NapaSan operates in a transparent manner and serves as a resource to all ratepayers of the service area.

Key Performance Indicators

Indicator	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Target 2018	Target 2019
Media Coverage Quantity	31	33	44	21	> 20	> 20
Media Coverage Accuracy	97%	100%	86%	95%	> 85%	> 85%
Customer Satisfaction-Plug Ups (percent "good" or "excellent")	99.5%	99.1%	96.5%	99.1%	> 95%	> 95%
Customer Satisfaction-Cleanouts (percent "good" or "excellent")	100%	98.2%	100%	95.9%	> 95%	> 95%

Strategic Objectives:

Completion:

5A:	Be proactive in communicating with the public, stakeholders and the press for all aspects of NapaSan's activities	Ongoing
5B:	Complete the deliverables identified in the 2016 Communications Plan	June 2019

Related Department Objectives:

- Implement the Communications Plan and meet the identified annual goals (Community Outreach & Pollution Prevention)
- Complete NapaSan's ninth Performance Measurement Report (Administrative Services)
- Respond to requests for information from the general public and other local agencies within three working days of request (Engineering)
- Partner with local agencies for collection of unwanted medications from drop-off sites (Community Outreach & Pollution Prevention)
- Conduct plant tours and make public presentations (Community Outreach & Pollution Prevention)
- Promote and deliver classroom presentations targeting elementary school students (Community Outreach & Pollution Prevention)
- Continue public outreach on proper disposal of fats, oil and grease (FOG) (Community Outreach & Pollution Prevention)
- Develop and disseminate to stakeholders pollution prevention BMPs as necessary (Community Outreach & Pollution Prevention)
- Continue Spanish language outreach for pollution prevention messages (Community Outreach & Pollution Prevention)

Goal 6: Resource Recovery

The goal is to implement policies and technologies to recover resources from wastewater for beneficial reuse. The NapaSan Board wants to recover resources for reuse when economically viable and a market exists for their beneficial reuse. NapaSan must also use the resources available to ensure a reliable energy supply during emergency conditions as well as during normal times.

Key Performance Indicators

Indicator	Actual 2014	Actual 2015	Actual 2016	Actual 2017	Target 2018	Target 2019
Recycled Water Reused on Non-District Property	75%	78%	81%	83%	> 85%	> 85%
Biosolids Beneficially Reused	100%	100%	100%	100%	> 95%	> 95%
Digester Gas Beneficial Reuse	95%	96%	78%	84%	> 80%	> 90%

Strategic Objectives:**Completion:**

6A:	Implement capital projects in partnership with local agencies for the distribution of recycled water	Dec. 2018
6B:	Participate with local partners on long-term opportunities for water reuse	June 2018
6C:	Evaluate current recycled water allocation policy	Complete
6D:	Evaluate energy self-generation with the primary goal of decreasing overall energy costs	Complete
6E:	Improve recycled water quality to increase appeal and acceptability	Ongoing
6F:	Renew or extend the recycled water agreement with City of Napa that permits NapaSan to sell recycled water within the city's water service area	June 2018

Related Department Objectives:

- Represent NapaSan at the North Bay Water Reuse Authority, specifically working to bring federal money to the region for recycled water projects (General Manager's Office)
- Continue to receive fats, oil and grease (FOG) collected from siphon to the FOG receiving station at SWRF (Plant Operations)
- Optimize production of biogas in digester resulting from FOG receiving program (Plant Operations)
- With the City of Napa, promote the Recycle More Program that provides curbside collection of used cooking oil for use as biofuel (Community Outreach & Pollution Prevention)
- Distribute 814 million gallons (2,500 acre feet) of recycled water, with 85% sold to customers (Water & Biosolids Reclamation)
- Put 100% of the biosolids applied to NapaSan land to beneficial reuse, through active agricultural practices on the land (growing crops, grazing sheep, etc.) (Water & Biosolids Reclamation)
- Continue planning efforts within the North Bay Water Reuse Project for future development of recycled water programs and EIR/EIS documentation (Capital Improvement Program)
- Complete construction of the Recycled Water Truck Fill Station (Capital Improvement Program)

Financial Policies Summary

NapaSan maintains, and regularly reviews and revises, a comprehensive set of Financial Policies to govern the overall financial management and health of the District.

Policy areas include:

- Reserves
- Revenue
- Budgeting and Capital Asset Management
- Debt Issuance and Management
- Investments
- Financial Reporting
- Accounting

Several of the Financial Policies have direct impact on the construction of the budget:

- **Balanced Budget** – NapaSan maintains a balanced budget and does not use long-term debt to fund short-term or operational expenses.
- **Operating Reserves** – NapaSan maintains an operating reserve at least equal to 15% of budgeted annual operating expenses, excluding debt service and transfers.
- **Liquidity** – NapaSan maintains a liquidity reserve to ensure adequate cash is on hand to cover expenses in those months where expenses outpace revenues. The majority of NapaSan's revenues are received in December and in April through property assessments.
- **Revenues** – NapaSan estimates revenues conservatively and does not use one-time or unpredictable revenues to fund ongoing expenses.
- **Maintenance** – NapaSan protects its investment in its capital assets by budgeting for their adequate maintenance as a priority.
- **Debt** – NapaSan will not issue debt unless it can pay the debt service and still meet its other obligations from current revenues.

A complete copy of the Financial Policies can be found in Appendix D of this document.

Compliance with Financial Policies

NapaSan is in full compliance with the Financial Policies updated and adopted in February 2017, as described above and provided in their entirety in Appendix D.

Specifically, NapaSan has taken the following actions to ensure compliance with the Financial Policies:

- The annual operational expenditures for NapaSan, including debt service, are less than the annual operating revenue forecasted to be received, meeting the requirement for a balanced budget.
- NapaSan has designated an Operating Reserve of at least 15% of budgeted operating revenues and a Cash Flow/Liquidity Reserve of \$12,500,000. These reserves meet the minimum requirements established in the Financial Policies.
- NapaSan has estimated revenues conservatively for the current fiscal year. Additionally, one-time revenue sources have not been used to balance the operating budget, and there are no “unpredictable” revenues forecast in the budget or used to balance the budget.
- NapaSan has adequately budgeted to meet all of its debt service requirements, and has maintained its debt service coverage ratio at a level higher than is required by bond covenants.
- There are adequate revenues available to transfer to the Capital Projects Fund to meet the near-term needs in the Capital Improvement Plan.

Financial Policy Compliance		
NSD Policy	Target	FY 18/19
Balanced Budget	Operating revenues minus operating expenditures & debt service \geq \$0	\$13,692,000
Operating Reserve	\geq 15% of Operating Budget	29.1%
Cash Flow Reserve	As necessary	\$12,500,000
Debt Coverage Ratio	\geq 1.25x coverage	4.21x

Organization

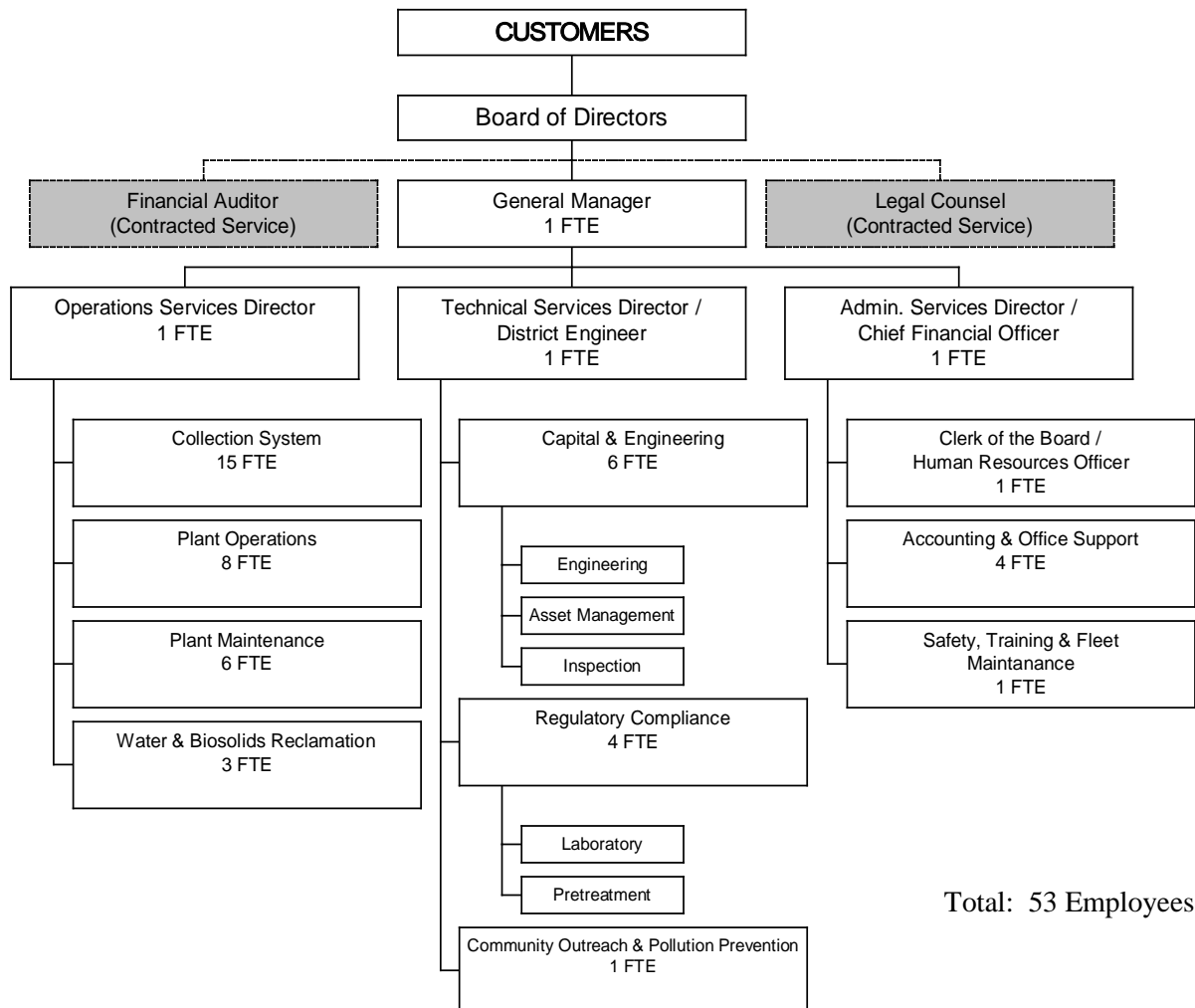
The Napa Sanitation District is governed by a Board of Directors. Two directors are members of the Napa City Council. One director is a member of the Napa County Board of Supervisors. Two directors are citizen appointees, one appointed by the City and one by the County. NapaSan is managed by a General Manager.

The Financial Auditor and the Legal Counsel for NapaSan are contracted services. These functions report directly to the Board. All other functions report to the General Manager. NapaSan is organized into three departments, Operations Services, Technical Services and Administrative Services, each headed by a Director. Under each Director, there are several departments, as described below.

- **Operations Services** includes those divisions associated with operations and maintenance. They include the following functions:
 - **Collection System Maintenance:** includes preventive and corrective maintenance and operation of the sewer system. This Division includes “Collection System Maintenance” in the Expenditure Budgets by Division section of this budget document.
 - **Wastewater Treatment Plant Operations:** includes operation of the wastewater treatment plant and lift stations. This Division includes “Treatment Plant Operations,” in the Expenditure Budgets by Division section of this budget document.
 - **Wastewater Treatment Plant Maintenance:** includes mechanical and electrical maintenance of the wastewater treatment plant and lift stations. This Division includes “Treatment Plant Maintenance” in the Expenditure Budgets by Division section of this budget document.
 - **Water and Biosolids Reclamation:** includes recycled water system management and disposal of biosolids through land application. This Division includes “Water & Biosolids Reclamation” in the Expenditure Budgets by Division section of this budget document.

- Technical Services** includes those divisions associated with planning and implementing capital projects and asset management, construction inspection and overseeing regulatory compliance functions. They include the following functions:
 - Capital & Engineering:** includes development review, capital project management, project design/engineering and inspection. This Division includes “Engineering” in the Expenditure Budgets by Division section of this budget document.
 - Regulatory Compliance:** includes all regulatory compliance and reporting functions, including the laboratory, pretreatment, and regulatory reporting. This Division includes “Treatment Plant Laboratory” and “Pollution Prevention” in the Expenditure Budgets by Division section of this budget document.
 - Community Outreach and Pollution Prevention:** includes media relations, ratepayer communications, stakeholder engagement and educational programming. This Division includes “Community Outreach & Pollution Prevention” in the Expenditure Budgets by Division section of this budget document.
- Administrative Services:** includes finance and accounting services, human resources, risk management, safety and training, fleet management, and general administrative services. This Department includes “Board of Directors,” “General Manager’s Office,” “Administrative Services,” “Safety, Training & Fleet Maintenance,” and “Non-Departmental Expenses” in the Expenditure Budgets by Division section of this budget document.

Organization Chart



Total: 53 Employees