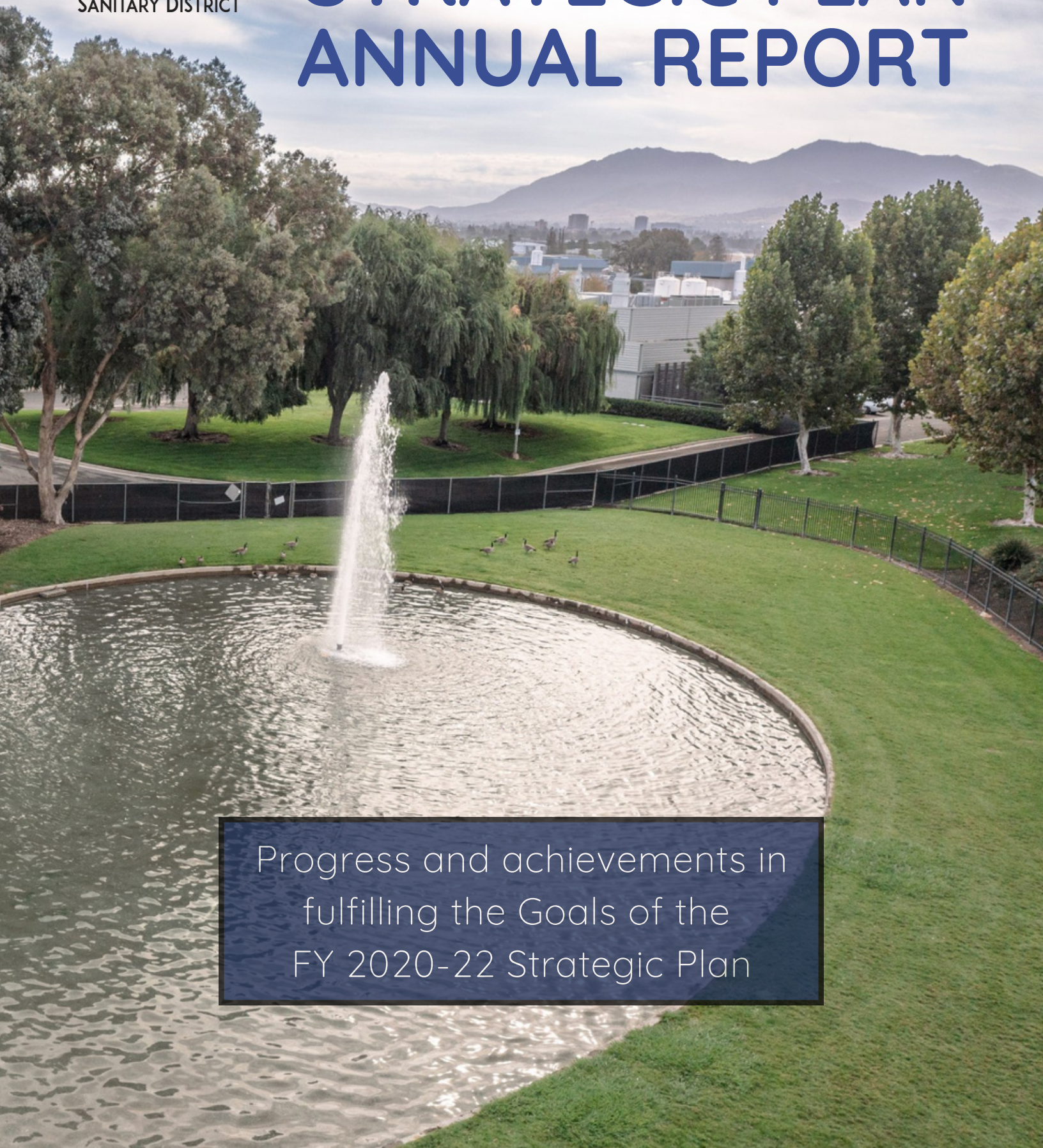




FY 2021-22

**CENTRAL SAN**  
CENTRAL CONTRA COSTA  
SANITARY DISTRICT

# STRATEGIC PLAN ANNUAL REPORT



Progress and achievements in  
fulfilling the Goals of the  
FY 2020-22 Strategic Plan

# MESSAGE FROM THE GENERAL MANAGER



In Fiscal Year (FY) 2021-22, we came to the close of our FY 2020-22 Strategic Plan, which set forth seven Goals to guide Central San in fulfilling its Mission, Vision, and Values. I am pleased to report that we have honored these values and have achieved successes in executing the Strategic Plan. We continued to provide the highest level of customer service, while keeping the safety of our customers and employees at the forefront.

Today's uncertainties require us to be resilient, adaptable, and sensitive to our customers' needs. Each challenge has amplified our call to innovate our operations and be a positive force in our industry and community through leadership, partnership, and action.

As we look toward our FY 2022-24 Strategic Plan, Central San seeks the best ways to serve and engage our customers and stakeholders; promote environmentalism and sustainability; maintain financial stability and transparency; maintain and replace aging infrastructure; optimize our operations; and respond quickly and decisively to changes.

This is not done in a vacuum. Our skilled employees are dedicated to making us the industry leader and world-class organization we are today. They have continually risen to the call to think of the most optimal ways to utilize our resources. We, in turn, are committed to being a preferred employer so we can continue to attract, develop, and retain the best talent, and it is our goal to continue to foster a diverse, inclusive, and equitable working environment where they can thrive.

In addition to our staff, I would like to recognize our Board of Directors for providing the vision, resources, and support necessary to achieve our goals and respond to challenges. We are excited to take on the next two years, will carefully continue to uphold our high standards of exceptional customer service, responsible rates, and reliability.

**Roger S. Bailey**

GENERAL MANAGER

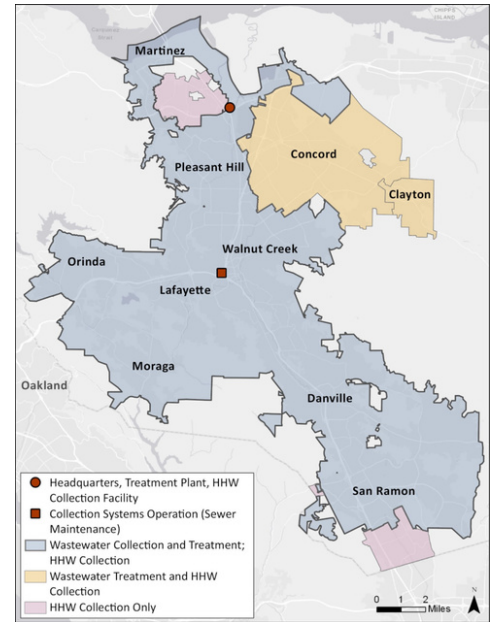
# MAJOR ACCOMPLISHMENTS



- Continued to provide essential wastewater treatment and collection services **without interruption** during the pandemic.
- Resumed in-person **walk-in service at the Permit Counter** after having provided drop-off and non-contact service by phone and e-mail since March 2020.
- Oversaw over **74,734** visits to the Household Hazardous Waste Collection Facility (HHWCF) and Residential Recycled Water Fill Station.
- Collected **2,187,630** pounds of household hazardous waste (HHW).
- Served **19,802 students** through virtual and in-person education programs.
- Celebrated Central San's 75th Anniversary by launching a **Customer Experience website**.
- Began participating in a State **Low-Income Household Water Assistance Program**.
- Received the National Association of Clean Water Agencies (NACWA) Peak Performance Platinum Award, marking **24 consecutive years of 100% compliance** with Central San's National Pollutant Discharge Elimination System (NPDES) Permit.
- Negotiated successful **5-year renewal** of the NPDES Treatment Plant Permit.
- Maintained one of the highest **service reliability ratings** in the state.
- Distributed **225 million** gallons of recycled water to customers.
- Continued to pursue partnerships to expand the recycled water program, including a potential **Water Exchange** and a **potable reuse study**.
- Saved about **\$2 million** in interest costs stemming from the payoff of the unfunded actuarially accrued liability (UAAL) in June 2021.
- Received **\$996,177** in State funding to help reimburse pandemic-related costs.
- Received the **Government Finance Officers Association (GFOA) Certificate of Achievement for Excellence in Financial Reporting** for the **21st** consecutive year.
- Launched the **Diversity, Equity, and Inclusion (DEI)** initiative.
- Developed and launched the **Career Development Program** and **Clarifier Speaker Series** to promote employee development and engagement.
- Continued construction on improvements to the **Filter Plant and Clearwell, Influent Pump Electrical, Electric Blowers, and Pumping Stations in Orinda and Moraga**.
- Replaced **4.6 miles** of aging neighborhood sewer pipes.
- Completed review and inventory of all **sewer structures in public right-of-way**.
- Conducted **pilot tests** on tertiary membrane and reverse osmosis filtration, remote recycled water meter reading, and remote manhole monitoring.
- Implemented and enforced the **COVID-19 Exposure Prevention Plan** to maintain a safe and healthful workplace.
- Participated in SARS-CoV-2 **wastewater surveillance efforts** with various universities, laboratories, and health organizations.

# ABOUT CENTRAL SAN

Central San is a special district which was established in 1946. It is headquartered in Martinez, California, and is proud to serve its communities (service area map pictured) with wastewater collection and treatment, household hazardous waste collection, and recycled water distribution services. Central San has 294 budgeted full-time employees led by a General Manager, 3 Department Directors, 13 Division Managers, and 1 Internal Auditor.



## MISSION, VISION, VALUES, AND GOALS

as included in the FY 2020-22 Strategic Plan

### MISSION

To protect public health and the environment

### VISION

To be a high-performance organization that provides exceptional customer service and regulatory compliance at responsible rates

### VALUES

#### PEOPLE

- Value customers and employees
- Respect each other
- Work as a team
- Work effectively and efficiently
- Celebrate our successes and learn from our challenges

#### PRINCIPLES

- Be truthful and honest
- Be fair, kind, and friendly
- Take ownership and responsibility

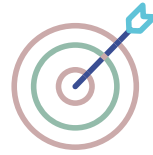
### COMMUNITY

- Value water sector partners
- Foster excellent community relationships
- Be open, transparent, and accessible
- Understand service level expectations
- Build partnerships

### LEADERSHIP AND COMMITMENT

- Promote a passionate and empowered workforce
- Encourage continuous growth and development
- Inspire dedication and top-quality results
- Provide a safe and healthful environment

# STRATEGIC PLAN



## GOALS

are the foundation of the Strategic Plan. They are set by the Board to identify Central San's priorities.



## STRATEGIES

outline Central San's approach to achieve its Goals, overcome its challenges, accomplish its mission, and meet the community's needs in the best possible ways.



## INITIATIVES

describe the actions to enact the Strategies.



## KEY SUCCESS MEASURES

provide examples of tasks that further the Initiatives.



## KEY METRICS

set targets, track progress, and evaluate performance.

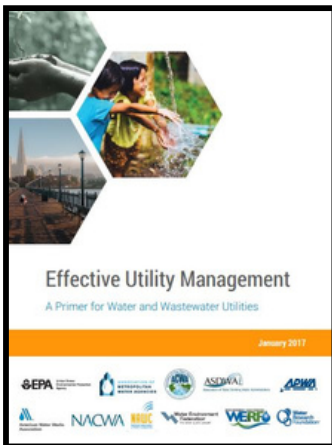
## STRATEGIC PLANNING

The Strategic Plans establish policy direction, outline core commitments, focus initiatives, and track performance with key performance metrics.

Central San develops its Strategic Plans on a two-year cycle, while **tracking progress quarterly** and **producing reports annually**.



FY 2021-22 represents the **second half of the FY 2020-22 Strategic Plan**. Central San has adopted a **FY 2022-24 Plan** with updated Mission, Vision, Values, and Goals.



## EFFECTIVE UTILITY MANAGEMENT

Since the development of the FYs 2016-18 Strategic Plan, staff has used the Effective Utility Management (EUM) model as a tool to identify practices and procedures to improve operations and move toward continued sustainability. The EUM framework was originally developed in 2007 by the American Water Works Association, U.S. Environmental Protection Agency, and nine other association partners representing the U.S. water and wastewater sector. It consists of 10 attributes that provide succinct focus areas for effectively managed utilities and what they should strive to achieve.



## CUSTOMER AND COMMUNITY

Provide Exceptional Customer Service and Maintain an Excellent Reputation

*Strategic Accomplishments*

### Deliver High-Quality Customer Service

- ◆ Provided wastewater treatment service with **no interruptions** during the COVID-19 pandemic.
- ◆ Ensured **essential services** remained intact while following state and local health orders to provide a safe and healthful working environment.
- ◆ Resumed in-person **walk-in service at the Permit Counter** after having provided drop-off and non-contact service by phone and e-mail since March 2020, and implemented a **scheduling system** on the website for customers to book appointments with staff.
- ◆ Responded to **273** collection system service requests.
- ◆ Received and cleared **31,993** USA locating requests on time.
- ◆ Oversaw **74,734** visits to the HHWCF and Residential Recycled Water Fill Station by residents, small businesses, reuse customers, retail partners, and fill station users.
- ◆ Collected **2,187,630** pounds of HHW.
- ◆ Gave away **244,978** pounds of reusable products.
- ◆ Collected **5,397** pounds of pharmaceuticals. In addition to Central San’s collection program, there are now an increasing number of retail pharmacy collection sites through the County’s Safe Medication Disposal Program (40 as of May 2022).
- ◆ Responded to **53** Public Records Act requests.
- ◆ Launched and promoted an interactive **75th Anniversary Customer Experience website** (pictured).
- ◆ Designed and mailed a special **75th anniversary edition** of the *Pipeline* customer newsletter.
- ◆ Produced the “Adventures with Toot: Disappearing Act” **student education film**, a **tour video** for the Advanced Recycled Water Pilot Project, and an **Overflow Simulator video** for Collection System Operations (CSO).
- ◆ Filmed individual **Board Member interviews** to raise public awareness of Central San’s services.
- ◆ Created a virtual **Pollution Prevention awards presentation** for Sustainable Contra Costa.
- ◆ Served over 19,800 students with education programming.
  - ◇ Presented the **Pipe Protectors** program, a hands-on, science-based curriculum for elementary schools, both virtually and in-person.
  - ◇ Partnered with Contra Costa Water District on “**Go with the Flow**” classroom assembly, an interactive show with a one water message.
  - ◇ Co-sponsored the **Delta Discovery Voyage**, a floating laboratory that educates on the source of water.
- ◆ **Communicated with residents** affected by upcoming construction, to help minimize impacts.
  - ◇ Mailed notices.
  - ◇ Posted a video discussing methods and impacts on [centralsan.org](http://centralsan.org), along with project-specific maps.
  - ◇ Held onsite meetings with residents in high-impacted areas.





- ◆ Managed Central San's **drone program** to capture photographs and videos of facilities for education, outreach, and operational assessments.
- ◆ Implemented the first year of the two-year pilot **Septic to Sewer Financing Program** to encourage single-family houses to connect to nearby sewer mains.
- ◆ Continued to administer the **Non-Residential Capacity Fee Installment Payment Program** to provide broader financing for businesses struggling in the current economic climate.
- ◆ Began participating in a State **Low-Income Household Water Assistance Program** to assist low-income customers who did not pay their sewer service charge (SSC) bills during the pandemic for the period of March 2020 through June 2021. Central San has coordinated with the State and the County regarding how the funds will be received from the State and appropriately credited to the customer.
- ◆ Implemented an online recycled water customer quarterly **self-monitoring reporting program**.
- ◆ Created the "**Applicant's Guide to Building Permit Review & Encroachment Verification**," which was distributed to customers and posted on the website.
- ◆ Held **virtual Board meetings** to help facilitate public participation and open government.
- ◆ Conducted three **California Voting Rights Act Public Hearings** to update the by-area elections data with the 2020 Census data for Central San.
- ◆ Facilitated voting through a secure, public **ballot drop box** installed on campus.
- ◆ Completed **outreach** on redistricting efforts in line with Senate Bill (SB) 594 and proper wipes labeling legislation, Assembly Bill (AB) 818 in the *Pipeline*, on social media and centralsan.org, and in local newspapers.
- ◆ Held **Ethics and Brown Act** trainings for staff to operate and govern with integrity and transparency.

### Maintain a Positive Reputation

- ◆ Met with **elected officials, city and town officials, and other stakeholders** to ensure open lines of communication and interagency relations.
- ◆ Continued to **coordinate construction projects** with local jurisdictions and other agencies to lessen construction impacts to the community.
- ◆ Continued to increase **social media** followers and impressions on YouTube, Facebook, Twitter, Instagram, and LinkedIn.
- ◆ Designed new **maintenance access cover** (pictured) as part of a beautification and outreach project to coincide with 75th anniversary and help customers better connect with Central San, make it easier to identify the agency responsible for sewer service, and be a good civic neighbor.
- ◆ Began planning the next Central San Academy; **80** applications have been received for the next session.
- ◆ General Manager served on the boards of **National Association of Clean Water Agencies (NACWA)**, **California Association of Sanitation Agencies (CASA)**, **WaterReuse**, **John Muir Health**, and the **California African American Water Education Foundation** to strengthen ties to the water sector and the community Central San serves.





## CUSTOMER AND COMMUNITY

Provide Exceptional Customer Service and Maintain an Excellent Reputation

*Strategic Accomplishments and Objectives*

- ◆ Completed **urgent sewer replacements**, including near and at the new Pleasant Hill Library project, to lessen impacts to the public and nearby residents.
- ◆ Received an average **90%** customer satisfaction rating for the Martinez Sewer Renovations, Phase 6 construction project.
- ◆ Received an average **90%** customer satisfaction rating for the Permit Counter.

### RECOGNITION AND AWARDS

Central San is proud and grateful to be recognized in industry and professional organizations for the work performed by its staff. Each award represents a commitment to continuous improvement, distinction in leadership, and dedication toward bringing value to the customers and community that Central San serves.

- ◆ NACWA **Platinum Excellence in Management Recognition Award**
- ◆ NACWA Peak Performance Award – **Platinum 24**
- ◆ Government Finance Officers Association (GFOA) **Certificate of Achievement for Excellence in Financial Reporting** (21st consecutive year)
- ◆ GFOA **Distinguished Budget Presentation Award** (4th consecutive year)
- ◆ 2021 Water Environmental Federation **Public Communication and Outreach Program Award** for Central San's Pipe Protectors Student Education Program
- ◆ **Resolution** from Contra Costa County Board of Supervisors honoring Central San's 75th Anniversary (presented by Supervisor Karen Mitchoff)
- ◆ 2021 Municipal Information Systems Association of California **Innovation Award** for the 75th Anniversary Experience website
- ◆ 2021 California Water Environment Association (CWEA) **Statewide First Place Award for Community Engagement and Outreach Program of the Year** (virtual treatment plant tour)

### Objectives for FY 2022-23

- ◆ Continue to **expand outreach** to residential and commercial customers, legislators, elected officials, and sister agencies to grow and maintain relationships and advocate for the interests of customers.
- ◆ Renew California Special Districts Leadership Foundation **Transparency Certificate of Excellence**.
- ◆ Invest in programs such as **student education programs, tours, and Central San Academy** to inform the public of the need to fund necessary infrastructure improvements to maintain Central San's level of service and protect public health and the environment.





Metric	Target	Performance
Average onsite response time for collection system emergency calls, during working hours	≤30 minutes	21.20 minutes*
Average onsite response time for collection system emergency calls, after hours	≤40 minutes	32.18 minutes*
Average customer service rating for emergency calls	≥3.8 out of 4.0	3.93 out of 4.0
Average customer satisfaction rating on construction projects	≥95%	82.6%
Average customer satisfaction rating on permit counter interactions	≥95%	90%**
Students served by education programs	≥6,000	19,802
Participants in Plant/HHWCF tours and District presentations	≥500	652
Participants in Central San Academy	≥35	80 applications received for next session
Awards or recognitions achieved	10	11

\* Performance may have been affected by modified working schedules due to COVID-19.

\*\* Comments related to turn-around time and adding electronic plan review.

Legend (applies to all Key Metrics tables in the report)	
Target met	Performance met or exceeded the target
Work in progress/ Stretch goal	Performance fell short of the target, which is a stretch goal because: <ul style="list-style-type: none"> <li>• Current and past performance is not within reach of the target, and/or</li> <li>• Performance is affected by circumstances beyond Central San’s control</li> </ul>
Work in progress	Performance fell short, but within reach, of the target



## ENVIRONMENTAL STEWARDSHIP

Strive to Meet Regulatory Requirements and Promote Sustainability

Strategic Accomplishments

### Achieve 100% Compliance in All Regulations

- ◆ Achieved **24<sup>th</sup>** year of continuous 100% compliance with all National Pollutant Discharge Elimination System (NPDES) permit requirements governing wastewater discharge, marking the **longest successful streak of any wastewater utility in California** and **tying for 9th in the nation**.
- ◆ Negotiated **successful renewal** of the NPDES Treatment Plant Permit, via 1,780-page application which included maps, data, screening information, various analyses, and other technical content. The new permit was **adopted unanimously** by the San Francisco Bay Regional Water Board and sets pollutant limits as well as monitoring and reporting requirements. It went into effect on August 1, 2022, and will expire on July 31, 2027. The adoption of the new permit caps more than a year of diligent work by Central San staff and consultants, in coordination with the Regional Board.
- ◆ Continued to **clean and inspect sewers optimally** to reduce sanitary sewer overflows (SSOs).
  - ◇ Responded to **25 SSOs**.
  - ◇ Cleaned **787 miles** of sewers.
  - ◇ Completed **17,808 work orders** on schedule **98.86%** of the time.
  - ◇ Performed **17%** of all cleaning work on “hotspots.”
  - ◇ Closed circuit televised **119 miles** of sewers.
  - ◇ Continued the ongoing effort of **reviewing frequency cleaning schedules** for optimization.
- ◆ Prepared internal monthly **greenhouse gas (GHG) emission inventory updates**, annual inventory summary, and verification report and submitted 2021 inventory to California Air Resources Board as required.
- ◆ Completed **annual recycled water reports** and other **recycled water quality reporting** to the San Francisco Regional Water Quality Control Board, State Water Resources Control Board, and Division of Drinking Water.





- ◆ Made progress on infrastructure improvements needed to meet current and future regulations.
  - ◇ Received bids for and revised the scope of the **Solids Handling Facility Improvements Project** (Solids Project), which includes replacement of the centrifuge and cake pumps and air pollution equipment needed to meet regulatory requirements. The Phase 1A design and repackage effort has begun and is expected to bid in December 2022.
  - ◇ Completed preliminary design for the **Aeration Basin Diffuser Replacement**, which is critical to meeting the NPDES permit.
- ◆ Obtained regulatory permits for **Outfall Monitoring Improvements Project**.
- ◆ Obtained **Bay Area Air Quality Management District (BAAQMD) Authority-to-Construct permits** for pumping stations improvements and coordinated start-up emissions testing.
- ◆ Coordinated with Contra Costa County Flood Control on the **Lower Walnut Creek Restoration Project**.
- ◆ Updated **Pretreatment Program outreach** materials.
- ◆ Raised awareness for recycling cooking oil at the HHWCF by broadcasting a public service announcement (PSA) with Comcast, reaching customers in the service area over **150,000 times**.
- ◆ Broadcasted **PSAs** pertaining to spring cleaning and Wipes Clog Pipes on Contra Costa Television.
- ◆ Applied for a competitive small project grant through CalRecycle's HHW Grant Program.
  - ◇ If granted, the funding will be used in conjunction with a regional outreach and education campaign that focuses on **proper disposal and safer alternatives for marine flares**, which are considered explosive and for which there are no safe disposal options currently available.
  - ◇ Central San is contracting with the California Product Stewardship Council (CPSC) to advertise and provide an off-site **collection site** supported by the HHWCF. Through this contract, the CPSC will take the lead on all grant activities, reporting, and reimbursement requests annually until 2025.
- ◆ Held a **Board Self-Evaluation Workshop**, **Financial Planning Workshop**, and **annual review of Board Member compensation and benefits**.
- ◆ Board Members attended workshops on **Ethics Compliance and Harassment Prevention**.
- ◆ Coordinated biennial review of **21** existing Board policies, amendments to **13** policies, and retirement of **1** policy.
- ◆ Facilitated adoption of the following **new Board Policies**: Board Liaison and Representatives; Board Compensation, Benefits, and Expense Reimbursement; Regulatory Accounting; and Deferred Compensation Plan.
- ◆ Indexed **over 76 new records boxes** and transferred them to storage, created and printed over **700 new file folder labels**, and delivered **over 143 boxes** requested from storage.
- ◆ Developed new policy and converted **board compensation** resolution to a new Board Policy to generate regular review.



## ENVIRONMENTAL STEWARDSHIP

Strive to Meet Regulatory Requirements and Promote Sustainability

*Strategic Accomplishments*

### Anticipate and Prepare for Potential Regulatory Changes

- ◆ Incorporated **nutrient removal and regulatory requirements** in the proposed FY 2022-23 Capital Improvement Plan.
- ◆ Environmental and Regulatory Compliance Division Manager served as a **Bay Area Clean Water Agencies (BACWA) Executive Board Member**, as the **Co-Chair of CASA's Water Regulatory Workgroup**, and **BACWA liaison** to CASA's State Legislative Committee.
- ◆ Participated in **BACWA Nutrient Strategy Team**, **Nature-Based Solutions Steering Committee**, and **Nutrient Data Analysis Steering Committee**.
- ◆ Communication Services and Government Relations Manager was reappointed to **California Special Districts Association (CSDA) legislative committee**, which helps develop CSDA's legislative agenda and reviews, directs, and assists with legislative and public policy issues affecting California special districts.
- ◆ Pursued **policy efforts** at the state and national levels that promoted pollution prevention, producer responsibility, and proper wipes labeling.
- ◆ Provided **outreach** on proper wipes labeling legislation, AB 818, in the *Pipeline*, on social media and central-san.org, through the employee newsletter, and in local newspapers.
- ◆ Presented ongoing state and federal **legislative updates** at Board meetings.
- ◆ Served as a member of the **Bay Area Pollution Prevention Group**, helping to identify and track regulatory actions at the federal and state levels.
  - ◇ Worked with **National Stewardship Action Council** on AB 707 on Mercury Thermostats Extended Producer Responsibility, and on AB 818 on Truth in "Flushable" Wipes Labeling.
  - ◇ Communicated with the **Environmental Protection Agency (EPA)** and **Department of Pesticide Regulation (DPR)** to represent wastewater issues.
  - ◇ Supported preparation of **BACWA letters** to EPA and DPR on pesticides.
- ◆ Started coordinating **advocacy for 2022 session** with CSDA, CASA, and regional industry advocacy leads.

### Support Regional Development of Local Water Supply

- ◆ Distributed approximately **215.5 million gallons** of recycled water to Zone 1 customers.
- ◆ Distributed approximately **3.6 million gallons** of recycled water through the Commercial Truck Fill Program.
- ◆ Distributed approximately **5.9 million gallons** of recycled water through the Residential Fill Station.
- ◆ Conducted **tertiary membrane filter plant pilot** to test ways to effectively produce Title 22 recycled water.
- ◆ Continued efforts toward the proposed **Refinery Recycled Water Exchange**.
  - ◇ Completed draft of Preliminary Feasibility Report for partner agencies' review.
  - ◇ Began talks with San Francisco Public Utilities Commission as a potential partner.
- ◆ Collaborated on the development of an Memorandum of Understanding (MOU) with East Bay Municipal Utility District (EBMUD) to complete a **potable reuse study**.



- ◆ Completed **first raw wastewater diversion** from June to September 2021 and begun coordinating with Dublin San Ramon Services District (DSRSD) on a **possible 2022 diversion**, as part of three-year term for a **Temporary Wastewater Diversion** to support a collaboration request from DSRSD – EBMUD Recycled Water Authority (DERWA), a recycled water joint powers authority, to divert raw wastewater from the San Ramon Pumping Station to DSRSD for the production of recycled water to meet DERWA’s peak summer irrigation demand.
- ◆ In response to interest by several cities in Central San’s service area, completed an **evaluation** to determine the most cost-effective way to provide recycled water to portions of Walnut Creek, Lafayette, Orinda, and Moraga.
- ◆ Continued to support the City of Concord’s **Community Reuse** Project. Currently, the new Master Developer and the City of Concord have begun holding community outreach meetings and finalizing term sheets.
- ◆ Per the request of the Real Estate, Environmental, and Planning Board Committee, a Board-level **policy discussion** was held to provide guidance on how Central San will prioritize recycled water projects.
- ◆ Developed **Guiding Principles for Satellite Water Recycling Facility (SWRF) Projects**.
- ◆ Continued discussions with **Diablo Country Club**, including General Manager support of conversations with the Town of Danville to help secure their support of the SWRF project.
- ◆ Worked with a consultant to complete a reevaluation of the **Lamorinda Project**, including assessing the viability of SWRF projects to serve the golf courses at Rossmoor, Moraga Country Club, and Orinda Country Club. Rossmoor also continues to evaluate the feasibility of a SWRF project.

## Reduce Reliance on Non-Renewable Energy

- ◆ Continued work towards construction of a **new 1.75-megawatt solar array** near the treatment plant.
  - ◇ Board adopted California Environmental Quality Act mitigated negative declaration and approved the project, Amendment 1 to the Power Purchase Agreement, and a new capital project to fund the Pacific Gas and Electric (PG&E) grid interconnection.
  - ◇ The project is on track to start construction in the first quarter of FY 2022-23 and to be fully operational by the end of FY 2022-23.
- ◆ Began development of a **net zero policy**.
- ◆ Continued using alternative **renewable diesel fuel** on the fleet at CSO, which reduces GHG emissions and increases reliability, with less downtime due to maintenance.
- ◆ Continued to **track energy** on a monthly basis.
- ◆ Continued work with PG&E on **RAPIDS Wastewater Treatment Optimization Program** for energy efficiency.
- ◆ Continued to **replace lights** with newer, more efficient fixtures and equipment.
- ◆ Completed a visioning effort to evaluate the benefits of the Institute for Sustainable Infrastructure’s **Envision sustainable infrastructure framework**, which helps agencies plan, design, and build more sustainable, resilient, and equitable infrastructure.



## ENVIRONMENTAL STEWARDSHIP

Strive to Meet Regulatory Requirements and Promote Sustainability

*Strategic Accomplishments and Objectives*

### Objectives for FY 2022-23

- ◆ Bid Phase 1A of the **Solids Project** and continue work on Phase 2, which will analyze the future of solids handling, treatment, and disposal, and how to extract energy from that process.
- ◆ Complete the construction of the **Filter Plant and Clearwell Improvements - Phase 1A Project**, which will include replacing critical electrical gear and increase reliability at recycled water storage facilities.
- ◆ Continue **working with project partners** on recycled water expansion projects, including collaborating with EBMUD to complete a **potable reuse study**.
- ◆ Continue to pursue a **net zero policy**.
- ◆ Complete construction of a cost-effective 1.75 MW **solar energy project** and begin purchasing solar energy under its power purchase agreement.
- ◆ Pilot the **Envision** verification process on the Aeration Basins Diffuser Replacement and Seismic Upgrades Project, and pilot **sustainability enhancement workshops** for future projects.

### CENTRAL SAN HELPS PILOT MICROPLASTICS SAMPLING METHOD

Microplastics are pervasive and troubling pollutants that result from commercial product development and the manufacturing and use of plastic-based products that decompose over time. When washed down the drain or flushed down the toilet, they can make their way into Central San's treatment plant. Although the treatment processes remove most larger plastics from wastewater, tiny microplastics can pass through the plant and end up in Suisun Bay.

This year, Central San participated in a pilot study headed by Southern California Coastal Water Research Project to help develop standardized sampling methods for microplastics and understand how much of them are in the water. **This research is part of a statewide effort to develop effective strategies for managing microplastics in California's coastal waters.**

For the study, staff collected samples from different points in the treatment process over 24-hour periods. The team filtered the water through stacks of sieves with varying meshes designed to capture microparticles of different sizes. The samples were then sent to a specialized lab for analysis. **Central San was the first agency in California to test the sampling protocols and equipment in a real-world treatment plant.** Through repeated testing, staff made adjustments to the sampling apparatus to improve its reliability. Central San also produced a training video to document the process for other wastewater utilities to follow.

Finding reliable means of measuring microplastics in wastewater is an essential step to understanding how best to manage them. **The next phase of the study will look at the effectiveness of different wastewater treatment methods in removing these troublesome pollutants.**





## UNDERSTANDING PFAS AT A REGIONAL LEVEL

Per- and poly-fluoroalkyl substances (PFAS) are man-made, “forever” chemicals that can harm the environment and human health. PFAS have been in commercial use since the 1940s and can be found in many common household products like nonstick cookware, furniture, clothing, carpets, cosmetics, and food packaging.

**Although the U.S. has banned some types of PFAS, there are still over 5,000 types in use.**

PFAS contain some of the strongest chemical bonds known to science. **They can travel long distances and persist in the environment for decades, polluting water, air, and soil, without a way to eliminate them.**

In compliance with the State Investigative Order for PFAS, Central San participated in the **Region 2 PFAS Study** coordinated through BACWA and managed by the San Francisco Estuary Institute (SFEI). These research efforts will inform the state and regional water boards as they develop strategies for managing PFAS in California’s waters.

In **Phase 1** of the study, staff collected samples from the influent, effluent, and biosolids to better understand how PFAS move through the treatment process, as well as how to best measure and monitor these troublesome pollutants. Phase 1, which included 15 Bay Area treatment facilities, found that PFAS concentrations did not correlate to the percentage of industry within a service area, suggesting that residential and commercial sources are the primary contributors of PFAS.

**Phase 2** was designed to gather more information on these sources. Staff collected samples at six locations in the collection system, including two single-family residential neighborhoods, a multifamily residential neighborhood, two hospitals, and an industrial laundry. They used an autosampler to collect samples every 15 minutes over 24 hours. The samples have been sent to a specialized lab for analysis, and SFEI will compile and share the data.

The best solution to PFAS pollution is at the source, by keeping it out of the environment to begin with. That is why **Central San has advocated for state legislation** to better inform consumers about these pollutants and limit the use of PFAS where safer alternatives are available. Recently, California has taken some positive steps and phased out PFAS-containing firefighting foams and enacted new bans on PFAS in paper food packaging and children’s toys and products. More legislation is in the works, and Central San will continue to support those efforts.





Metric	Target	Performance
National Pollutant Discharge Elimination System (NPDES) compliance	Zero (0) violations	Zero (0) violations
Title V compliance	Zero (0) violations	1 notice of violation (NOV)*
Recycled Water Title 22 compliance	Zero (0) violations	**
Anthropogenic GHG emissions	<25,000 metric tons (MT) CO <sub>2</sub> e	23,837 MT CO <sub>2</sub> e in calendar year 2021. On track to meet 2022 target.
Sanitary sewer overflows	<2.0 spills per 100 miles of pipeline	1.63 spills per 100 miles of pipeline
Spills to public water	≤3	4
Percent of spills <500 gallons	≥95%	72%
Pipeline cleaning schedules completed on time	≥98%	98.86%***
Pipeline cleaning quality assurance / quality control (QA/QC)	On ≥4% of pipelines cleaned on an annual basis	3.24%***
Pipeline cleaning QA/QC passing rate	≥98%	95.85%***
Annual Environmental Compliance Inspections and permitting completed on time	100%	100%
HHW management compliance	Zero (0) violations	Zero (0) violations
Gallons of recycled water distributed to external customers	≥240 million gallons	227.5 million gallons
kWh of electricity produced by co-generation using natural gas	≥18 million kWh (reported as a rolling average)	22.8 million kWh
kWh of solar power produced at Collection System Operations and HHW Facility	≥220,000 kWh (reported as a rolling average)	274,000 kWh
kWh of solar power produced by a new solar array near the treatment plant campus	≥2.5 million kWh (reported as a rolling average)	Project on track to start construction in FY 2022-23

\* 1 Reportable Compliance Activity (RCA), 1 NOV for 3/17/22 Furnace 2 bypass, and 2 RCAs for 4/16/22 Cogen NO<sub>x</sub> monitor annual service and 5/25/22 Furnace 2 event related to power supply failure that caused a false bypass opening status (BAAQMD determined that it was not a violation).

\*\* 3 days with recycled water 24-hour rolling average turbidity exceeding Title 22 requirements of 2 nephelometric turbidity units (NTU).

\*\*\* Performance may have been affected by modified working schedules due to COVID-19.



## Maintain Financial Stability and Sustainability

- ◆ Continued to see savings from the innovative **refinancing of the pension plan's unfunded actuarial accrued liability (UAAL) debt**, achieving a true interest cost of approximately 0.38% versus the 7.0% discount rate assumed by the pension plan administrator.
  - ◇ Savings to Central San are projected to be approximately **\$2 million** annually or \$15 million in total over the remaining seven-year term of the debt, but will be affected by pension asset returns over this period.
- ◆ Executed State Revolving Fund (SRF) loan agreement in the amount of **\$173.1 million** for the Solids Project. Staff has begun plans to finance the new project scope and is monitoring the interest rate environment.
- ◆ Began preparing **SRF loan applications** for the Ultraviolet (UV) Disinfection Replacement and Hydraulic Improvements Projects.
- ◆ Completed paperwork and addressed questions from Federal Emergency Management Agency (FEMA) for a **\$3.3 million grant** for the Walnut Creek/Grayson Creek Levee Project (a joint project with the Contra Costa County Flood Control) through the Building Resilient Infrastructures and Communities program.
- ◆ Contributed an additional **\$2.7 million in budgetary savings** to the Rate Stabilization Fund reserve account in the Running Expense fund to help hedge against volatility of the SSC due to cost pressures or revenue shortfalls.
- ◆ **Fully funded the Other Post-Employment Benefits actuarially determined contribution** of \$3.3 million, with an estimated \$1.3 million of that going towards the paying down of the UAAL.
- ◆ Presented financial **alternatives for Board input** consistent with debt management policy, fiscal reserve policy, CIP, and general ratemaking principles at a Financial Workshop and a Public Hearing.
- ◆ Continued to **assess the need for debt**, consistent with Board direction and the debt management policy, and monitoring external factors.
- ◆ Reduced the number of **Annual Contracts and Blanket Purchase Orders** older than five years and with an annual spend greater than \$25,000 from 11 (two years ago) to 1 (this year).
- ◆ Issued **76** non-construction contracts totaling **\$17.4 million**.
- ◆ Issued **1,042** non-construction Purchase Orders totaling **\$17.3 million**.
- ◆ Collaborated internally to identify and **remove obsolete spares and equipment** from the Warehouse in a continuous effort to decrease inventory-carrying costs.
- ◆ Updated **insurance requirements** for goods and services contracts and made full use of external **insurance tracking application**.
- ◆ Presented semi-annual reports on the **Enterprise Risk Management** program and strategic risk inventory to the Board.

## Ensure Integrity and Transparency in Financial Management

- ◆ Received the Government Finance Officers Association (GFOA) **Certificate of Achievement for Excellence in Financial Reporting** award for the **21<sup>st</sup>** consecutive year (pictured).





- ◆ Received the GFOA **Distinguished Budget Presentation** award for the 4<sup>th</sup> consecutive year following Central San's first-ever submission four years ago.
- ◆ Received an **unmodified ("clean") external audit opinion** and **zero reported material weaknesses or significant deficiencies** in internal controls as part of the annual financial audit.
- ◆ Conducted **annual reviews** of the following:
  - ◇ Rates and fees, for reasonableness and consistency.
  - ◇ Capacity fees, to ensure appropriate fees are assessed and collected.
  - ◇ Businesses, to ensure consistent use with existing permits and payment of capacity fees.
- ◆ Board adopted FY 2021-22 **Internal Audit Plan** to focus on the operational effectiveness of internal controls, in accordance with established policies and procedures and relevant regulatory expectations, and to address processes identified by evaluation of the audit process universe, risk assessments, surveys, or requests from Management.
- ◆ Completed **internal audits** on IT Identity and Access Management, Accounts Payable, Payroll (design-only review and operational audit using a risk-based approach), and Miscellaneous Assets.

## STATE FUNDING SECURED TO HELP COVER PANDEMIC COSTS

Thanks to Central San staff's diligent tracking of COVID-19-related expenses and submitting a claim to the California Department of Finance, Central San has received \$996,177 in State funding to help reimburse some of the costs of its response to the COVID-19 pandemic.

The funding is from a \$100 million **Independent Special District Relief Fund** allocated by the State Legislature and Governor Gavin Newsom in the 2021-22 State Budget.

Many special districts, including Central San, have faced unexpected expenses and reduced revenues due to the ongoing public health emergency. Throughout 2020 and 2021, California's special districts provided essential services to the local communities, maintained a large portion of the state's critical infrastructure, and employed thousands of front-line workers, but initially received none of the COVID relief funding available to cities and counties.

**The state funding will help cover some of Central San's in-house labor costs as well as contracted services, materials, and supplies necessitated by the pandemic.** Central San also plans to submit a claim for additional COVID-related costs to FEMA once the disaster declaration ends.



- ◆ Issued **accurate and timely interim monthly financial reports**, allowing for diligent monitoring of the budget and accountability.
- ◆ Rolled out a user-friendly **online budget monitoring tool** through Oracle for managers and budgeteers to monitor their divisional detail budgets.
- ◆ Developed FY 2022-23 Budget with the new **Enterprise Performance Management Budget and Planning software**, used for both staff planning calculations as well as paperless gathering of budget information from Division Managers and their delegate budgeteers.
- ◆ Managed claims aggressively to reduce costs and facilitate resolution, resulting in an average cost per overflow claim of **\$14,148**.
- ◆ Pursued opportunities for **cost control** through optimizations, efficiencies, and new technology.
- ◆ Worked on the annual **Benchmarking Study** based on the American Water Works Association (AWWA) Utility Benchmarking framework.
  - ◇ Provided data as part of **AWWA Utility Benchmarking Survey**.
  - ◇ Assisted **Global Water Intelligence** on presentation of data from their initial benchmarking effort at the Global Water Summit.
  - ◇ Published the **FY 2019-20 Benchmarking Study**, which compares Central San's performance from FYs 2017-18, 2018-19, and 2019-20 to statewide and nationwide water/wastewater agencies.
  - ◇ Shared results of the FY 2019-20 statewide survey coordinated by Central San with **34 agencies**.
  - ◇ Conducted a FY 2020-21 statewide survey, soliciting involvement from **58 agencies**.
  - ◇ Prepared the **FY 2020-21 study** to be presented in fall 2022, which compares Central San's performance from FYs 2018-19, 2019-20, and 2020-21 to statewide and nationwide water/wastewater agencies.
- ◆ Continued to use the **Uniform Public Construction Cost Accounting Act** for savings on administrative costs of bidding and streamlining the bidding process for smaller capital projects.
- ◆ Continued to evaluate, design, and manage construction sewer renovation projects **in-house** at costs below the industry standards or compared to outside services.
- ◆ **Tracked all COVID-19-related costs** so all eligible expenses can be included with the reimbursement claim that will be submitted for federal assistance programs.

### Objectives for FY 2022-23

- ◆ Continue to pursue **SRF loan funding** for future project needs anticipated around 2024 and 2026.
- ◆ Continue to conduct **internal audits** with workplans presented annually and internal audit reports presented to the Board.
- ◆ Seek **feedback** from staff on improvement on long-standing accounting and administrative protocols to align with new streamlined paperless processes and enterprise resource planning (ERP) capabilities.
- ◆ Complete the FY 2020-21 **Benchmarking Study**.



Metric	Target	Performance
Maintain service affordability	SSC less than average of Bay Area agencies  SSC plus Ad Valorem tax less than average of Bay Area agencies ≤0.78% of median household income	Target Met  FY 2020-21 residential rates unchanged from FY 2020-21 and are still below average of Bay Area Agencies and below ≤0.78% of median household income
Standard and Poor's (S&P) and Moody's Credit Ratings	AAA/Aa1	AAA/Aa1
Debt service coverage ratio	≥2.0x	5.88 (using pre-audited figures)
Actual reserves as a percentage of target	100%	150.4% (O&M) 342.8% (Capital) (using pre-audited figures)
Operating expenditures as a percentage of operating budget	≥95%	94.8% (using pre-audited figures)
Reported material weaknesses or significant deficiencies in internal controls as part of annual financial audit	Zero (0)	Zero (0)
Difference in inventory value in Purchasing database vs. value submitted to Accounting	≤1%	Metric no longer needed*
Accuracy of physical inventory count vs. book value	≥95%	98%

\* This metric is no longer needed since all the data now resides in one database in Oracle, as opposed to the two databases in the previous system, which required a monthly reconciliation.

## Proactively Plan for Future Operational Staffing Needs

- ◆ Developed and launched the **Career Development Program**, to offer employees career coaching and job shadowing to assist them in reaching their professional goals. Currently, **2** employees are participating.
- ◆ Managed the fourth cycle of the **BOOST Mentorship Program** with **4** mentees with mentors paired across divisions to gain mentorship and advice, learn about other divisions, make connections, complete a project, and present on that project to Central San leadership.
- ◆ Kicked off the third Supervisory Academy with **26 participants**.
- ◆ Resumed quarterly **Human Resources (HR) @ Your Service trainings** with an average audience of **132** attendees per session, with topics on Cybersecurity Awareness (presented by Information Technology (IT) staff), Explaining Your Pension Benefits, and Deferred Compensation.
- ◆ Held **virtual trainings and Q&As** on Central San wide policies and procedures such as the updated performance appraisal forms, Teleworking Policy, and COVID-19 Exposure Prevention Plan.
- ◆ Developed draft procedures for an **enhanced performance appraisal process**, which is initiated by employee self-assessment and focuses on career coaching and development.
- ◆ Offered **financial webinars** on topics related to managing money and preparing for retirement.
- ◆ Offered **wellness seminars** on topics related to physical and mental health.
- ◆ Continued **online therapy benefit** to support employees' mental health and overall well-being through Talkspace, which conveniently connects employees to a dedicated therapist from a secure platform and is compliant with the Health Insurance Portability and Accountability Act of 1996.
- ◆ Continued the biannual **Supervisors' Summit** to discuss items of interest and receive brief refreshers on safety directives, HR procedures, workers' comp practices, and other policies, including workers' compensation practices and employee/labor relations.
- ◆ Offered periodic training for supervisors via the **NorCal Employment Relations Consortium**.

## CWEA SPOTLIGHT ON CENTRAL SAN STAFF

This year's CWEA Annual Conference and Expo featured a special Agency Deep Dive dedicated to Central San's innovations. Members of Central San's team shared lessons learned and preparation activities for the future, including long-term planning, new technology, recycled water, solar energy, and more.

Central San encourages staff to attend conferences such as these to highlight their achievements, develop their skills and knowledge, elevate their professional profiles, and represent Central San.





## WORKFORCE DEVELOPMENT

Recruit, empower, and engage a highly trained and safe workforce

*Strategic Accomplishments*

- ◆ Plant Maintenance continued to encourage staff to obtain **technical certifications**, resulting in staff obtaining Certified Manager of Maintenance, CWEA Mechanical Technician III, Electrical/Instrumentation Technician II, Thermo I, and Ultrasound I certifications.
- ◆ Continued to offer **Trainee Program** for various classifications; since 2020, Central San has hired **6** employees as Plant Operators-in-Training, to provide preparation and training for promotion and advancement opportunities for regular employees interested in Operator positions.
- ◆ **Communicated with other agencies** on best practices through the HR Forum and BAYWORK.
- ◆ Engaged the **next generation** of wastewater workers.
  - ◇ Continued the **Summer Student and Internship Programs**, offering positions across the organization.
  - ◇ Hosted **22** externs from across the globe in the second Virtual Externship Program.
  - ◇ Continued to support and participate in BAYWORK's **Next Gen Water Workforce events** and **Technical Trades Internship Program** to host BAYWORK pre-apprentices and help them explore skilled trades jobs.
  - ◇ Continued the successful **Mechanical Intern Program** and hired one of the first interns from the program as a full-time employee.
  - ◇ Engaged with **community and technical colleges** to assist their recruitment and program development.
  - ◇ Continued coordinating with other agencies to support **development of the regional workforce**.



Central San's Externship Program hosted 22 externs virtually, representing 5 states and 3 countries.

### Foster Relationships across All Levels of Central San

- ◆ Completed negotiations for **successor MOUs** for all bargaining groups.
- ◆ Completed **preparation activities** to assist in the timely adoption of successor MOUs, including analysis, development of a tracking Gantt chart, and benchmarking studies.
- ◆ Held ongoing **HR and union representative/employee meetings**.
- ◆ General Manager held **State of the District meetings** and conducted an informal **survey** to obtain feedback from staff.
- ◆ General Manager resumed hosting **lunches with division workgroups**.
- ◆ Continued to track status of the resolution of issues arising from the Local One and Management Support / Confidential Group **Labor Management Committees**.

## Inspire Employee Engagement

- ◆ Launched Central San's **Diversity, Equity, and Inclusion (DEI) initiative**.
  - ◇ Board Ad Hoc DEI Committee and full Board received presentations from Central San's consultant.
  - ◇ **Leadership Team** held learning sessions and workshops with the consultant to provide feedback and begin their learning journey, in advance of the launch to all staff in July 2022.
- ◆ Launched a voluntary monthly internal **Clarifier Speaker Series** to bring employees together to learn about staff's activities and achievements, and to support each other in those goals and achievements, with an average of **70** employees attending each session.
- ◆ Continued to publish Flash updates, communicate COVID-19 updates via emails, and publish the *Lateral Connection* monthly employee newsletters to **keep employees informed** about initiatives, activities, and information.
- ◆ Executive Team hosted a **Strategic Plan Roadshow** to each department to roll out the FY 2022-24 Strategic Plan and its District-wide and department-specific initiatives.
- ◆ Continued **Employee Recognition Events** program to assist managers in acknowledging their teams' extraordinary achievements.
- ◆ Began planning the second **Innovations Fair**, which will showcase and celebrate innovative employees going above and beyond to improve and optimize their work at the 2022 Employee Appreciation Picnic.
- ◆ Continued to hold **cross-divisional committee meetings** to coordinate activities and build relationships.





## WORKFORCE DEVELOPMENT

Recruit, empower, and engage a highly trained and safe workforce

*Strategic Accomplishments*

### Meet or Exceed Industry Safety Standards

- ◆ Administration and Engineering Departments had **zero** lost workdays.
- ◆ CSO Division has worked **342** continuous days without a lost-time injury, Plant Operations Division has worked **728** continuous days without a lost-time injury, and Administration and Engineering Departments have worked **2,331** continuous days without a lost-time injury.
- ◆ Had **zero Cal/OSHA violations**.
- ◆ District Safety Committee implemented Safety Suggestions in **less than 60 days**.
- ◆ Adopted and kept updated a **COVID-19 Exposure Prevention Plan** to serve as the guiding document for preventive measures, hazard assessment and controls, and safe return-to-work protocols, based on Centers for Disease Control (CDC) and Cal/OSHA guidelines.
- ◆ **Closed facilities** to the public as needed and pivoted to services **online** where possible.
- ◆ Permitted the portion of the workforce who could do their work from home to **telework on an interim basis** to reduce community spread during the pandemic.

### Objectives for FY 2022-23

- ◆ Continue to gauge ways and means to make Central San a **preferred employer**.
- ◆ Conduct **succession planning for District Counsel**.
- ◆ Continue to administer the **Supervisory Academy** and Cycle 4 of the **BOOST Mentorship Program**.
- ◆ Launch the **Goals & Performance** and **Safety** ERP modules.
- ◆ Roll out new **performance evaluation process** with a coaching and career development approach, pending launch of the Oracle Goals and Performance module and testing of the draft procedures.
- ◆ Implement a **learning management system**.
- ◆ Hold an **Innovations Fair** to recognize employees' ingenuity.
- ◆ Continue to **work collaboratively** and keep open lines of **communication** with bargaining units to resolve workplace issues in their early stages and prevent grievances.
- ◆ Expand the **DEI initiative** District wide and convene a Task Force to help guide the effort.
- ◆ Continue to **modify working schedules and conditions** and implement **administrative and engineering controls** as needed to respond to the pandemic.
- ◆ Continue to update and implement the **COVID-19 Exposure Prevention Plan** to mirror changing local, state, and federal guidelines.
- ◆ Update the **public address system** in the Treatment Plant and CSO for effective communication during emergencies.



Metric	Target	Performance
Average time to fill vacancy (from request to hire)	≤60 days	47.25 Days
Turnover rate at or below American Water Works Association industry median	≤7.8%	6.5% (including retirees) 5.1% (excluding retirees)
Average annual training hours (external and internal training)	≥15 hours per full-time equivalent employee (FTE)	16.21 hours per FTE*
Completion of annual performance evaluations	100%	80%
Participation in annual Wellness Expo	Increase by 10% each year	47 participants**
Workers' Compensation experience modifier	≤1.0	1.10***
Temporary modified duty provided (Return to Work Program)	≥95% of recordable injuries	100% (not during COVID-19 surges)
Internal promotions (excludes entry-level positions)	≥25%	47.1%
Formal grievances filed	Zero (0)	Zero (0)
Employee injury and illness lost time incident rate	≤4.0	2.6

\* Performance may have been affected by travel restrictions and event postponements due to COVID-19. Hours reported may not reflect all training hours. A centralized learning management system will improve reporting capability in the future.

\*\* Performance may have been affected by employees still teleworking or on COVID-19 schedules. All employees can engage in Wellness events throughout the year.

\*\*\* FYs 2019-20, 2020-21, and 2021-22 will have higher figure due to a rolling three-year calculation which includes one year with a higher than normal loss.



## INFRASTRUCTURE RELIABILITY

Maintain facilities and equipment to be dependable, resilient, and long lasting  
*Strategic Accomplishments*

### Manage Assets Optimally to Prolong Their Useful Life

- ◆ Completed condition assessments and preliminary design for the **Steam and Aeration Blower Systems Renovation Project**.
- ◆ Completed **Preventative Maintenance Optimizations** on the cogeneration system, auxiliary boiler, boiler feed water pump and influent pump.
- ◆ Completed **13** Don't Just Fix It; Improve It (DJFI) initiatives to increase maintenance effectiveness, lower costs, and increase equipment reliability.
- ◆ Completed **106** QA/QC Maintenance Planner updates to incorporate Maintenance staff's suggestions to Preventive Maintenance work orders (e.g., updated asset information, improved standard operating procedures, and improvements to task effectiveness or efficiency).
- ◆ Completed **924** services on vehicles and equipment.
- ◆ Continuously reviewed maintenance procedures and identified opportunities for improvement as part of the overall Maintenance strategy, including **failure reporting** and **corrective action processes**.
- ◆ Continued developing **Asset Health Indicator** templates so eventual health scores may be configured based on testing and analysis and factored into each Asset Health Score.
- ◆ Developed **inspection templates** for each asset-condition monitoring technology (e.g., infrared, vibration, and ultrasound testing).
- ◆ Continued to develop and implement procedures through the **Asset Condition Monitoring Team** for thermography, ultrasound, vibration, laser alignment, high speed camera motion amplification, fluid analysis, and motor winding analysis.
- ◆ Began work on closed-circuit television (CCTV) software (ITPipes) multi-sensor inspection portal, so **Phase 1 large diameter pipeline inspections** may begin to help optimize pipeline replacement schedules.
- ◆ Executed **ITPipes upgrades** for the server and trucks, set up Contractor Portal services/syncing and data migration from ITPipes' existing dataset, and upgraded to ITPipes Mobile in three CCTV units.
- ◆ Plant Maintenance and Engineering **collaborated** on pre-design, design, and construction to ensure procurement and correct installment of the latest, safest, most reliable equipment and maintainable technology.
- ◆ Continued the **breaker overload testing** and **winding analyzer** programs, which play a significant role in lowering equipment downtime costs, increasing reliability of equipment, increasing effectiveness of the motor management program, and enhancing acceptance testing of new or overhauled equipment.
- ◆ Increased **accessibility of Asset Management and Reliability Engineering information**, including tracking DJFI initiatives, improving spares management, creating new workflows to the Cityworks maintenance system, adding job plans to GeoPortal, and creating links in GeoPortal to reliability analysis information and preventive and predictive maintenance program tasks based on asset identification.
- ◆ Made additions to the **Asset-Centered Maintenance (ACM) program**, including initiating a **dashboard for trending information** from bearing temperature and sound inspections to better monitor, analyze, and act on exceptions.



## STRATEGY, PRODUCTIVITY, AND EFFECTIVENESS IN RELIABILITY

Central San's Plant Maintenance group is constantly developing and improving their robust reliability-centered maintenance program, which focuses on maximizing asset's useful life.

Recently, the group formalized Defect Elimination, Planned Maintenance Optimization, and Root Cause Analysis initiatives; improved asset handoff workflows; and built an Asset Condition Monitoring program. Planners are always optimizing maintenance productivity and effectiveness by coordinating labor, materials, tools, and access to equipment.

The combination of these efforts have helped meet the group's target of **<10% reactive work orders** per year, while maintaining a **flat operations and maintenance (O&M) budget** for the past 8 years.

The backbone of this program is a **strategic framework** for improving maintenance efficiency and functional reliability of assets, a **systematic and comprehensive program** based on asset criticality and consequence of failure, and identification of the **most effective preventative maintenance tasks** for treatment plant equipment and systems.

Moving into the next fiscal year, staff will focus on expanding the **reliability culture**, advancing **asset management**, shaping **future leaders**, **empowering staff**, and **celebrating successes**.





## INFRASTRUCTURE RELIABILITY

Maintain facilities and equipment to be dependable, resilient, and long lasting  
*Strategic Accomplishments*

### Execute Long-Term Capital Renewal and Replacement Program

- ◆ Replaced or rehabilitated approximately **4.6 miles** of public sewers in Alamo, Walnut Creek, Lafayette, Pleasant Hill, Orinda, and other nearby communities.
- ◆ Worked on **over 80 capital projects** to address infrastructure, regulatory, equipment, and safety needs.
- ◆ Continued to design infrastructure **repair, replacements, and improvements** to the collection system, treatment plant, and other facilities.
- ◆ Completed **construction at pumping stations in Orinda and Moraga and at the treatment plant**, including the Contractor Staging Improvements Project.
- ◆ Completed the **Treatment Plant Safety Enhancements, Phase 5**, which added emergency exit stairs to the Solids Conditioning Building for employee safety.
- ◆ Completed annual **Basin A South soil cap seep repairs**.
- ◆ Held internal **joint-division assessment workshop** with staff and stakeholders of the Capital Improvement Program (CIP).
  - ◇ The workshop's **goals** were to gauge the CIP's strengths and weaknesses, share lessons learned, audit whether goals were being met, and develop broader measurements for the success of the program.
  - ◇ This will become a **semi-annual/annual review** moving forward to ensure satisfaction of the CIP stakeholders and ensure funds are being spent wisely.
- ◆ Began developing **matrices** for scoring the success of the CIP, regulatory compliance, operator satisfaction, and compliance with identified objectives.
- ◆ Continued construction of the **Filter Plant and Clearwell Improvements, Phase 1A**, for reliable recycled water storage and electrical improvements.
- ◆ Continued construction of the **Influent Pump Electrical Improvements and Electric Blower Improvements**.
- ◆ Initiated **major renovations of electrical equipment** at Headworks and the Pump and Blower Building to address reliability for pumping process flows and aeration air systems.
- ◆ Started several new projects, including the **condition assessments for the UV Disinfection Replacement Project and UV Hydraulic Improvement Project**.
- ◆ Completed preliminary design for the **Aeration Basin Diffuser Replacement** to replace diffusers in order to meet requirements of the NPDES permit.
- ◆ Completed preliminary design for the **Seismic Upgrades Project** to rehabilitate high-value assets such as aeration tanks to prolong their remaining useful life.
- ◆ Began re-design and bid documents for the **Solids Project, Phase 1A**, which includes new air pollution control equipment and other needed improvements.
- ◆ Started the **Solids Project, Phase 2** to reevaluate the selection and phasing of biosolids facilities upgrades based on information, circumstances, policies, and goals that have changed since the completion of the Comprehensive Wastewater Master Plan in 2017.



- ◆ Developed **Recycled Water Inspection mobile application** to conduct inventory of meter, valve, hydrant, and sampling station locations with photos.
- ◆ Expanded InfoWorks' **integrated catchment modeling dynamic model** to include Headworks structures and piping and conducted scenario modeling.
- ◆ Completed a draft of the **Asset Management Plan**, which includes **identification of vulnerable assets** related to climate change and developing mitigation measures.
- ◆ Completed review of all structures in public right-of-way for the **Sewer Structure Inventory Project**, which collected maintenance access hole and cleanout conditions, locations in bike lanes, road types, and whether there are any structural issues needing immediate attention by CSO.
- ◆ Continued ongoing development of a detailed **control system design document**, resulting in standard wiring, documentation, and supervisory control and data acquisition screens across all capital projects. Historical lack of standards has resulted in disparate installations which have made maintenance and troubleshooting significantly more challenging.
- ◆ Completed **migration of the pipeline risk and renovation model** from InfoMaster into Innovyze's new InfoAsset Planner software platform. InfoAsset is being piloted as it can be used to develop a prioritization model for vertical assets, and it will put a freeze on an annual software subscription which will save an estimated **\$64,000**. Staff will be evaluating software solutions as a part of the IT Strategic Plan in FY 2022-23.
- ◆ Completed **Treatment Plant Flood Vulnerability Study** with the help of a consultant.
- ◆ Initiated **5-Year Collection System Master Plan Update**.
- ◆ Kicked off preliminary design for the **Recycled Water Distribution System Renovation Project** and conducted field inspections of valves and flow meters.
- ◆ Worked collaboratively with Contra Costa Flood Control District to complete 35% and 65% final design packages for the **Walnut/Grayson Creeks Levee Improvements Project**.



## INFRASTRUCTURE RELIABILITY

Maintain facilities and equipment to be dependable, resilient, and long lasting  
*Strategic Accomplishments*

### MAKING CRITICAL ELECTRIC BLOWERS MORE EFFICIENT

The Steam and Aeration Blower Systems Renovations is a critical project that has been split into multiple parts, one of which is the Electric Blower Improvements, whose construction is currently underway.

Blowers are critical to the treatment process. They supply air to the secondary aeration tanks, which support the growth of aerobic bacteria that break down waste in the water. The new, more efficient blowers will each be capable of moving **35,000 cubic feet of air per minute** and can be powered by the existing cogeneration system or standby generators. They will provide **full backup** if the plant loses the ability to produce steam - for example, during upgrades to the Solids Handling Facilities.

In addition to the new blowers, the project will install new **filter houses, chillers, and electrical and control equipment**. The first blower was delivered in April 2022, and assuming no supply chain challenges impact the delivery of support equipment, the new blowers could be online by November 2022.



### Protect Personnel and Assets from Threats and Emergencies

- ◆ Selected a vendor for the **Security Action Plan** and scoped high-priority items into a capital project.
- ◆ Implemented **Everbridge**, an emergency notification system.
- ◆ Installed additional **access control devices**.
- ◆ Increased **security guard presence** on main campus.
- ◆ Made significant improvements in **perimeter control** and provided notices to staff due to increased activity.
- ◆ Gave presentation on **security reminders** to Central San's supervisors.
- ◆ Replaced and upgraded **major data storage systems** in data centers.
- ◆ Improved cybersecurity with **advanced threat protection tools**.
- ◆ Conducted **phishing prevention** training exercises and **Cybersecurity Awareness** training for all staff.
- ◆ Implemented **new video security software** used throughout Central San facilities.
- ◆ Continued **Asset Bar Code Tags pilot project** to identify and track equipment.
- ◆ Executed all **contract renewals on time**, ensuring uninterrupted service and reducing risk.
- ◆ Participated in the **Operational Area Council** to contribute to creating an effective and multi-jurisdictional approach to disaster preparedness and planning.
- ◆ Worked on a comprehensive set of **physical security standards** as a risk tool, to allow Capital Projects to perform an updated risk assessment (i.e., identify the purpose of a structure, use, reuse, and minimum perimeter security, and provide consistency for new construction and retrofit).

**Objectives for FY 2022-23**

- ◆ Continue to utilize a **repeatable and comprehensive approach to maintenance** that optimizes asset lifecycle based on reliability, cost, and criticality, including continuing to perform additional Reliability Centered Maintenance, Root Cause Analysis, PM Optimization analysis, and Defect Elimination initiatives on critical equipment and systems.
- ◆ Continue to drive the **development of the Asset Centered Maintenance Program** and integrate with analytics for earliest warning of equipment degradation.
- ◆ Complete the 5-Year update for the **Collection System Wastewater Master Plan**, including addressing collection system resiliency, vulnerability, and mitigations for climate change.
- ◆ **Develop a prioritization model** for vertical assets.
- ◆ Renovate **collection systems** in Walnut Creek, North and South Orinda, Lafayette, Danville, and Martinez.
- ◆ Bid the re-scoped **Solids Project, Phase 1A** and continue scoping **Phase 2**.
- ◆ Complete the construction of the **Influent Pump Electrical Improvements Project**, which will replace the variable frequency drives at the Headworks Facility at the treatment plant.
- ◆ Construct the **Electric Blower Improvements; Steam Renovations, Phase 1; and Aeration Basins Diffuser Replacement and Seismic Upgrades**.
- ◆ Continue construction and electrical design of the **Filter Plant and Clearwell Improvements - Phase 1A and Phase 1B Projects**, which will include replacing critical electrical gear and increase reliability at recycled water storage facilities.
- ◆ Upgrade the **electrical system** at the San Ramon Pumping Station.
- ◆ Construct the **Pumping Station Upgrades, Phase 2**, at the Martinez, Fairview, and Maltby stations.
- ◆ Design the **UV Disinfection Replacement and Hydraulic Improvements**.
- ◆ Finalize **security system design criteria** for use in upcoming capital projects.
- ◆ Review and update the **Emergency Operations and Continuity of Operations Plans**.
- ◆ Continue developing the **IT Strategic Plan**, including creating **technology roadmaps** to coordinate technology use throughout the organization.





## INFRASTRUCTURE RELIABILITY

Maintain facilities and equipment to be dependable, resilient, and long lasting  
*Performance in Key Metrics*

Metric	Target	Performance
Safety-prioritized work orders completed on time	100%	100%*
Regulatory Title V work orders completed on time	100%	97%*
Planned treatment plant preventative maintenance completed on time	≥90%	96%*
Recycled water distribution system maintenance schedules completed on time	≥98%	100%*
Uptime for vehicles	100%	100%
Miles of sewers replaced or rehabilitated (focused on deteriorated small diameter pipelines)	≥6.0	4.6**
Large diameter and force main condition assessment	≥3 miles per year for the next five years starting in FY 2020-21	NA - Phase 1 inspections will begin August 2022
Average time to execute Engineering agreements from complete package submittal or Board approval	≤2 weeks	8 working days
Capital expenditures as a percentage of capital budgeted cash flow including carry forward	≥90%	65.1% of adjusted target from re-forecast given Solids Project re-bidding  50.6% of original budget (using pre-audited figures)
Information system outages affecting normal business operations	100% uptime	99.9% uptime****
Data backup and recovery	Zero lost data	Zero lost data

\* Performance may have been affected by modified working schedules due to COVID-19.

\*\* 8.7 miles were replaced or rehabilitated in FY 2020-21, for an average of 6.65 miles over FY 2020-22.

\*\*\* Lower spending was caused by delayed spending in the treatment plant program due to shortages of materials and equipment delays.

\*\*\*\* About 2 hours of virtual private network (VPN) outage due to fiber issue at Martinez campus. About 2 hours of main phone line downtime during the cutover to the new phone system.





## Implement the Central San Smart Initiative

- ◆ **Smart Steering Committee meetings** are currently on hold, pending progress on IT Strategic Plan.
- ◆ Potential projects in the **Implementation Plan** include Development of Dashboard for Treatment Plant Maintenance Decision-Making; Smart Manhole Cover Pilot, Development of Computer Aided Drafting and Building Information Modeling Standards, Development of Dashboard for CSO Field Operations, Treatment Plant Asset Handover Optimization, and Development of an Asset Health Indicator Tool.

## Improve and Modernize Operations through Technology and Efficiency Measures

- ◆ Continued ongoing optimization and improvement of the recently implemented, fully integrated cloud-based **ERP system**. This system has been useful during the pandemic, with the conversion of several business workflows into streamlined paperless processes (i.e., approvals for invoices, purchasing card reports, journal entries, timecards, etc.).
- ◆ Configured, tested, and troubleshooted the new **Goals and Performance module**.
- ◆ Rolled out paperless ERP-integrated pathway for employees to **submit for computer loans requests**.
- ◆ Continued to work with consultant on various **outstanding ERP issues**, including contract management, integrations with DocuSign and Laserfiche, inventory management, system access for users, and reporting.
- ◆ Continued to work toward launching the **Community Development and Permitting module** (targeted to go-live in 2023), after which new SSC billing software will be selected.
- ◆ Completed the **O&M budget process** utilizing new Oracle Enterprise Performance Management (EPM) software. Use for the Capital budget process is planned for FY 2022-23.
- ◆ Utilized Oracle integrated **Smart-View reporting technology** to develop ACFR financials for first time.
- ◆ Implemented the **Oracle Warehouse Management System**, which also included updating the Warehouse labels with the latest barcode symbology QR codes.
  - ◇ The **barcode inventory** program fully automates all issues, receipts, and inventory cycle counts and streamlines the process of work order creation in the computerized maintenance management system (CMMS) to easily look up asset information and its maintenance history.
- ◆ Transitioned to presenting detailed **financial reports on a quarterly basis** and **monthly O&M and Capital budgets-to-actual summary reports** via the ERP system, saving staff time while preserving transparency and oversight, replacing labor-intensive monthly reports.
- ◆ Implemented **online access to budget-to-actual results** for managers and budgeteers, to reduce manual effort in preparing, reviewing, and distributing detail-level budget reports for each cost center to staff.
- ◆ Continued using **ProCore construction management software**.
- ◆ Kicked off **Phase 1 of the IT Strategic Plan**; initial results are scheduled for FY 2022-23. Completed **department and director workshops** in preparation for developing a Technology Roadmap to encompass all technology implementation across the organization.



## INNOVATION AND OPTIMIZATION

Explore new technologies for continuous improvement

*Strategic Accomplishments*

- ◆ Initiated development of the **Strategic Optimization and Innovation Initiative** in the Operations Department.
- ◆ Maintained **Optimizations Program** to commit to efficiency, effectiveness, and continuous improvement by tracking and reporting progress, and presented **Optimizations Program Annual Report** to the Board.
- ◆ Methodically increased dissolved oxygen levels in the aeration tank, which has resulted in potential **improvement and stabilization of effluent turbidity**, which could lower costs and improve downstream UV and recycled water process performance.
- ◆ **Repurposed an existing field truck** to accommodate rodder hoses for easement maintenance.
- ◆ Began developing **in-house demonstrators** to show how cleaning tools work inside a clear pipe, and a maintenance access hole that shows the proper methods of turning cleaning tools in manholes.
- ◆ Purchased an inflatable **dam for use with Category 1 SSOs**. In the past, staff would use plastic and sandbags to create a pool for bypass pumping, which was labor intensive and had a higher potential for slips, trips, and falls. The dam can be carried with just two people in one trip and can stop flow into a creek in minutes.
- ◆ Designed a sewage **grit trap** for installation before a siphon, where settlement gets trapped in low flow.
- ◆ Created a **device to catch debris** created when breaking through concrete to adjust maintenance access hole castings and covers. The device catches debris just below the frame and cover, so it can be reached and removed easily, saving staff from having to perform a confined space entry into the manhole and/or use of a vac truck.
- ◆ Set up **automatic notifications of Category One Overflows** to the Lab and created a link between Cityworks and Geoportal.
- ◆ Piloted **handheld data scanners** to improve efficiency at the HHWCF and Recycled Water Fill Station.
- ◆ Standardized **daily construction inspection reports** used by outside consultants, internal engineers, and inspectors for a more efficient, consistent, and mobile process.
- ◆ Upgraded Secondary Process, Pump & Blower, UV, Heat Recovery Steam Generator, and Service Air **programmable logic control programs** from 1980s-era software to modern software.
- ◆ Optimized **access to Asset Management Documents** from Cityworks CMMS by programmatically placing a hyperlink in Cityworks' work order comments which links directly to a page where staff can review and open asset management documents.
- ◆ Began developing a **UV resource planning dashboard** which will facilitate the use of near real-time data to help plan staffing and equipment resources needed to perform re-lamp tasks.
- ◆ Continued work on **digitizing Operator routes** from paper into a template on mobile devices.
- ◆ Installed arc-rated, **quick electrical disconnects** on washer compactor motors in the Headworks to save time and reduce callouts for Electrical Shop support on motor maintenance.
- ◆ Developed an **administrative procedure and consistent response** to the encampments of people without housing on Central San's buffer properties.
- ◆ Worked toward moving some of the **Environmental Compliance permitting** online, with the help of a database consultant to ensure regulatory requirements are fulfilled.



- ◆ Replaced the outdated, legacy phone system with **Microsoft Teams**, upgrading the internal telephone system and integrating it with the Teams system which has been widely used by staff.
- ◆ Modernized the **Board Meeting Room** with the addition of multiple video cameras to improve transparency, upgrades to the electronic systems to accommodate mobile devices, and replacement of projector screens with monitors.
- ◆ Held **bid openings remotely and live** online.
- ◆ Began migrating **contract documents into Laserfiche**, providing a secure electronic storage location while also giving staff the ability to search and access contract documentation.
- ◆ Implemented EBIX, a **certificate management platform** to increase compliance and reduce cost.
- ◆ Made adjustments to optimize and maintain **customer service levels during significant increase in Development Services activity**.
  - ◇ Hired temporary **staff** to perform precursory reviews.
  - ◇ Set up a dedicated **email address** to acknowledge electronic receipt of plans and advise when plans are ready for pickup.
  - ◇ Began developing an **Accessory Dwelling Units frequently asked questions** sheet to clarify the process and requirements.
- ◆ Coordinated strategically on **outreach with two sister agencies** to increase customer engagement through communication opportunities.
  - ◇ Partnered with Contra Costa Water District on a “Go with the Flow” one water student education program which served over **13,000** students.
  - ◇ Partnered with EBMUD on advertising Central San’s virtual plant tours and the 75th Anniversary Customer Experience website. EBMUD sent emails to **75,000** of their water customers and Central San’s wastewater customers promoting the sites, and will send 14 total between November 2021 and December 2022. Central San has already seen an impact in responses from customers as a result.

## REMOTE RECYCLED WATER METER READING PILOT

Staff recently completed a two-year pilot to test new technology to remotely read Zone 1 recycled water meters. Two generations of Water Pigeons were installed inside meter boxes at **10 piloted sites**, sending water consumption data and analytics to a web portal. This could facilitate remote meter readings and be used to assist in identifying usage trends and potential customer leaks. CSO staff currently conduct these readings manually, which can take up to eight hours to read all 47 meters in the recycled water distribution system.

Unfortunately, due to battery and device failures, site condition limitations, reading inaccuracies and inefficiencies, and a high staff cost despite the low cost of the technology, **full-scale implementation was not recommended**, but the pilot served its purpose in allowing Central San to test this new technology for potential savings.





## INNOVATION AND OPTIMIZATION

Explore new technologies for continuous improvement

*Strategic Accomplishments and Objectives*

### REMOTE MANHOLE MONITORING PILOT

Staff recently tested two remote manhole monitoring vendors over 12 months. The technology applications of these units include real-time level monitoring, hydraulic surcharge evaluation, cleaning frequency validation, and smart systems.

Following the pilot, after weighing the pros and cons of each unit, staff selected the one that provides real-time understanding of levels, level and machine learning alerts, and easy-to-access data. **Staff is moving forward with developing a scale-up phasing strategy to employ monitors in the collection system.**



- ◆ Continued to support the **HYPOWERS pilot project** to test an emerging hydrothermal resource recovery process for solids handling. Funding for Phase 2 is currently to be determined.
- ◆ Co-authored a **wastewater-based epidemiology journal article** with the University of California (UC), Berkeley, titled “Tools for interpretation of wastewater SARS-CoV-2 temporal and spatial trends demonstrated with data collected in the San Francisco Bay Area,” published in *Water Research X* in August 2021.
- ◆ Co-authored a **wastewater-based epidemiology manuscript** for the American Chemical Society with Stanford University, titled “Diurnal variability of SARS-CoV-2 RNA concentrations in hourly grab samples of wastewater influent during low COVID-19 incidence”.
- ◆ Participated in **ISLE applied research meetings**.
- ◆ Began **re-strategizing** the optimal way to coordinate across divisions on applied research.
- ◆ Presented on innovations, optimizations, and best practices at conferences:
  - ◇ Presented paper on “**Painting the Full Picture: Condition Assessments upgraded to Comprehensive Asset Evaluations**” at the 2021 WEFTEC conference for a seminar focused on Asset Management.
  - ◇ Presented “**Membrane filtration – Potential solution for Title 22 water reuse in low SRT applications?**” and “**Rate and Fee Structure to Support A Large CIP**” at the CWEA conference.
  - ◇ Presented on “**How do you get 30K photo attachments out of ArcGIS Enterprise (or ArcGIS Online)?**” and “**Get Hooked on Webhooks with FME Server Automation Tools for Your Enterprise**” at FME World Tour.

### Objectives for FY 2022-23

- ◆ Launch the **Community Development and Permitting module**.
- ◆ Present alternatives and recommendation for **Treasury Function Optimization** for Board evaluation.
- ◆ Implement the **IT Strategic Plan** to improve efficiencies through technology.
- ◆ Conduct **staff training** to improve efficiency and usefulness of accounting, budgeting, and financial reporting function through the ERP and EPM systems.
- ◆ Continue development of the **Strategic Optimization and Innovation Initiative** in Operations.
- ◆ Undertake **pilots** including high-definition CCTV 2-D or 3-D laser profiling sonar, if possible; manhole-specific inspections using 3-D imagery; a 3-D mapping probe; and acoustic leak detection.



## CENTRAL SAN HELPS PILOT COVID-19 MONITORING AT DETENTION FACILITY

In collaboration with Contra Costa Health Services (CCHS) and UC Berkeley, Central San launched a pilot project to monitor wastewater from the Martinez Detention Facility (MDF) to look for SARS-CoV-2, the virus that causes COVID-19.

Wastewater monitoring has proved to be a valuable tool during the pandemic to help health officials track trends over time and spot early warning signs of rising infection rates within a population.

The MDF pilot could serve as a **model for future monitoring projects** for other high-density residential locations within the community, such as jails, dorms, and assisted-living facilities.

During the **two-week pilot**, staff developed a sampling plan and worked out several logistical challenges. The sewer design for MDF includes two separate collection areas that enter the collection system in different places. Thus, the team had to collect samples at two different maintenance access holes to capture data for the entire facility. Deploying the autosamplers was also challenging, requiring traffic control and a two-person team to lower the equipment into position.

Samples were collected **three times per week** and sent to UC Berkeley for analysis.

Initial results found little evidence of the virus, and Central San staff plans to train CCHS staff to continue the sampling going forward.





## TERTIARY MEMBRANE AND REVERSE OSMOSIS FILTRATION PILOT

Staff recently completed a six-month pilot to help determine what filtration method will best meet Title 22 recycled water regulations and facilitate future advanced recycled water opportunities for Central San.

The project, housed in a tent in the treatment plant, tested **three membrane manufacturers** in parallel, helped determine **optimal operating parameters** and how those might translate in full-scale costs, and operated a **dual-stage reverse osmosis skid**. The pilot ran concurrently with Phase 1A of the Filter Plant Improvements Project, where staff changed the media in one of the four filter cells. Staff will compare the performance and operating costs of that media with the membranes in the pilot project.

The pilot required 24/7 operation, with staff performing operator checklists, water quality tests, and membrane chemical cleans; observing performance trends; and completing maintenance and repairs. The pilot was decommissioned in July 2022, and once the data is fully analyzed, a **business case evaluation** will be updated to determine best steps for the Filter Plant improvements to further Central San's mission of protecting the environment, while being fiscally responsible.





Metric	Target	Performance
Projects initiated under Central San Smart	≥3	4
Reviews or pilot tests of new and promising technology	≥3	7*
Research papers and findings presented	≥3	3
Don't Just Fix It; Improve It (DJFI) work orders completed	≥35	13**
Completed optimizations	≥20	23

\* Figure represents the number of pilots worked on, not the number of new pilots.

\*\* Performance may have been affected by modified working schedules due to COVID-19.





## AGILITY AND ADAPTABILITY

Preserve business continuity during pandemic events or major natural disasters

*Strategic Accomplishments*

### Maintain a Safe Working Environment for Employees and the Public During the COVID-19 Pandemic

- ◆ **Communicated** regularly with staff to provide updates on new guidelines and health orders.
- ◆ Implemented and enforced the **COVID-19 Exposure Prevention Plan**, and held virtual Q&As to explain and answer questions on updates to the plan.
- ◆ Allowed employees to **telework** where possible based on their job duties and ability to work effectively from home, to help reduce community spread.
- ◆ Continued to provide **virtual** treatment plant tours, speakers bureau, and student education programs, maintaining Central San's levels of outreach and education during COVID-19 restrictions.
- ◆ Produced monthly **Lateral Connection employee newsletter** in digital magazine format to keep employees informed and engaged, even while working remotely.
- ◆ Ensured adequate and sufficient stock levels for required **personal protective equipment (PPE)** supplies to accommodate all Central San staff despite the shortages and sourcing challenges during the pandemic.
- ◆ Began developing a **Teleworking Policy** to initiate a return to office for employees still teleworking.
- ◆ Provided **updates** on the pandemic at every Board meeting.
- ◆ Secured COVID-19 **testing resources** for employees and conducted **contact tracing** for all positive cases.
- ◆ Procured on-site "**peace of mind**" **COVID-19 testing** for employees.
- ◆ Implemented Central San's **vaccine mandate**.
- ◆ Maintained regular and ongoing **communication** with bargaining unit representatives and employees on changes, updates, and general information related to COVID-19.
- ◆ Employed temporary staff to perform **additional daily cleaning** in accordance with the Cleaning and Disinfection Schedule Matrix.
- ◆ Implemented recommendations of **Engineering Controls Plan**, such as installing signage, dividers, and permanent automatic faucets and soap dispensers.
- ◆ Put additional controls in place for the **reopening of the Lobby and Permit Counter** to customers.
- ◆ Compared best practices with **sister agencies**.
- ◆ Required contractors to update their company **Illness and Injury Prevention Plan** to address COVID-19, have daily **safety logs** and **sign-in sheets**, and wear **PPE** and provide **handwashing and sanitizing stations**.
- ◆ Updated the **Pandemic Response Plan** and presented it to the Board.

### Plan Ahead for Scenarios of Direct Adverse Impacts

- ◆ Monitored and quantified COVID-19-related **impacts to revenues, costs, and the Cost of Service model**.
- ◆ Provided **various rate options** in light of external economic circumstances.
- ◆ Continued tracking COVID-19 related costs for potential **FEMA reimbursement**.





## WATER BOARD RECOGNIZES CENTRAL SAN'S COVID-19 MONITORING WORK

The State Water Resources Control Board recognized Central San and other California wastewater utilities for contributions to wastewater-based epidemiology in response to the COVID-19 pandemic.

Since summer 2020, Central San has participated in several research projects looking at SARS-CoV-2 virus concentrations in wastewater. Wastewater monitoring is effective because not everyone with COVID-19 will have symptoms or access to clinical testing, but everyone goes to the bathroom. Around the world, wastewater monitoring has proved a valuable tool to help track population-level trends during the pandemic and provide early warning signals of rising infection rates.

Central San was among the agencies recognized as “early trendsetters in implementing wastewater-based epidemiology” in the resolution adopted by the Water Board. The Water Board also acknowledged Central San for maintaining its sampling programs for more than a year. So far, sampling has been completed for the following efforts with whom Central San is proud to partner:

- ◆ **Stanford Research Project**, which looked at how concentrations of the virus RNA vary throughout the day and the treatment process, and evaluated different sampling methods.
- ◆ **COVID-WEB**, a regional wastewater monitoring project led by UC Berkeley. At [data.covid-web.org](http://data.covid-web.org), anyone can view data from each county and agency, including Central San.
- ◆ **National Wastewater Surveillance System (NWSS)**, a pilot study led by the U.S. Department of Health and Human Services and the CDC to develop a national wastewater monitoring database.
  - ◇ In a related effort, Central San is participating in a one-year, CDC-led project in collaboration with the California Department of Public Health that will include **500 sampling sites** across the country.
- ◆ **Verily**, which analyzes solids as part of the NWSS.
- ◆ **Biobot Analytics**, a new wastewater-based epidemiology effort.

Central San will continue to participate in and provide samples for wastewater monitoring efforts to help keep the community safe and healthy.



## Objectives for FY 2021-22

- ◆ Remain **flexible and adaptable** as the pandemic and other emergency events may impact operations.
- ◆ Enact the **Return to Office Plan** to bring remaining remote-based employees back to the office.
- ◆ Submit the **FEMA Public Assistance application** for reimbursement of COVID-19-related costs.



## AGILITY AND ADAPTABILITY

Preserve business continuity during pandemic events or major natural disasters

Performance in Key Metrics

	Metric	Target	Performance
Operational	Number of sanitary sewer overflows (vs. during the last five years for the same time period)	≤1 standard deviation	1.74*
	Permit compliance	100%	99.99% (Air) 100% (Liquid) 97.5% (Collection System)
	Productivity	95%	>95%
Financial	Increase in costs to the O&M budget beyond what is approved	0%	0%
	Revenue projections met	100%	100%
	Additional increase in unfunded liabilities	≤5%	Pension funding at 100%. No increase in UAAL noted.
	Funds granted from available state and federal reimbursement programs	100% of requested funds	Expense recovery term extended. Application in progress.
Customers	Customer satisfaction levels	≥90%	90.3%
Safety	Requested PPE provided	100%	100%
	Requested safety improvements to the workplace fulfilled	100%	100%
	Employees trained on COVID-19 prevention	100%	100%
	Twice-daily cleaning of all restroom facilities	100%	100%
Execution of CIP	Capital expenditures as a percentage of capital budgeted cash flow including carry forward	≥85%**	65.1% of adjusted target from re-forecast given Solids Project re-bidding  50.6% of original budget (using pre-audited figures)

\* The intent of this metric is to measure whether overflows have increased during pandemic events or natural disasters. If increased, the goal is to have a standard deviation of ≤1. Because overflows have reduced in FY 2020-21 when compared to the past five years, the target was met and exceeded.

\*\* Performance on the Goal 7 metrics will only be tracked in the event of a pandemic or natural disaster, in which case the target for this metric will supersede the ≥90% target of the same metric in Goal 5.

\*\*\* Lower spending was caused by delayed spending in the treatment plant program due to shortages of materials and equipment delays.

AB	Assembly Bill
ACFR	Annual Comprehensive Financial Report
ACM	Asset-Centered Maintenance
AWWA	American Water Works Association
BAAQMD	Bay Area Air Quality Management District
BACWA	Bay Area Clean Water Agencies
CASA	California Association of Sanitation Agencies
CCHS	Contra Costa Health Services
CCTV	Closed-Circuit Television
CCWD	Contra Costa Water District
CDC	Centers for Disease Control
CIP	Capital Improvement Program
CMMS	Computerized Maintenance Management System
CPSC	California Product Stewardship Council
CSDA	California Special Districts Association
CSO	Collection System Operations
CWEA	California Water Environment Association
DEI	Diversity, Equity, and Inclusion
DERWA	Dublin San Ramon Services District – East Bay Municipal Utility District Recycled Water Authority
DJFI	Don't Just Fix It; Improve It
DPR	Department of Pesticide Regulation
DSRSD	Dublin San Ramon Services District
EBMUD	East Bay Municipal Utility District
EPA	Environmental Protection Agency
EPM	Enterprise Performance Management
ERP	Enterprise Resource Planning
EUM	Effective Utility Management
FEMA	Federal Emergency Management Agency
FTE	Full-Time Equivalent

FY	Fiscal Year
GFOA	Government Finance Officers Association
GHG	Greenhouse Gas
HHW	Household Hazardous Waste
HHWCF	Household Hazardous Waste Collection Facility
HR	Human Resources
IT	Information Technology
M	Million
MDF	Martinez Detention Facility
MGD	Million Gallons per Day
MOU	Memorandum of Understanding
NACWA	National Association of Clean Water Agencies
NOV	Notice of Violation
NPDES	National Pollutant Discharge Elimination System
NWSS	National Wastewater Surveillance System
O&M	Operations and Maintenance
PFAS	Per- and Polyfluoroalkyl Substances
PG&E	Pacific Gas & Electric
PPE	Personal Protective Equipment
PSA	Public Service Announcement
QA/QC	Quality Assurance/Quality Control
RCA	Reportable Compliance Activity
SB	Senate Bill
SFEI	San Francisco Estuary Institute
SRF	State Revolving Fund
SSC	Sewer Service Charge
SSOs	Sanitary Sewer Overflows
SWRF	Satellite Water Recycling Facility
UAAL	Unfunded Actuarial Accrued Liabilities
UC	University of California
UV	Ultraviolet

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