

ANNUAL REPORT | 2018-19

CELEBRATING
65 YEARS OF
IMPRESSIONS





Primary clarifiers at Plant No. 1
in Fountain Valley

A MESSAGE FROM THE GENERAL MANAGER



For 65 years we have been protecting public health and the environment by providing effective wastewater collection, treatment, and recycling. More than ever, we recognize the importance of operating our utility in a way that benefits not only our existing customers, but future generations as well.

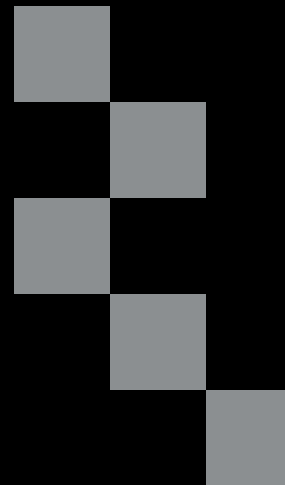
Since 1954, when the County Sanitation Districts of Orange County commenced operations, our agency has continually evolved, implementing new technologies, protecting the environment to meet more stringent standards, and recycling more of our wastewater to produce energy, soil amendments and drinking-quality water with our partner the Orange County Water District.

In our 65th year as an agency, we are continuing to grow and innovate. This year, we commissioned new solids handling centrifuges that will reduce our biosolids handling by 30 percent, and the largest behind the meter battery storage system in the United States.

I would like to thank our current and past Board Members for their vision and foresight. Through their guidance, we are ensuring that public health and the environment are protected, and that our water resources are enhanced. I would also like to thank the public for their ongoing support, and past and present OCSD staff for never losing site of our mission and the community we serve.

Sincerely,

James D. Herberg
General Manager



WHO WE ARE

The Orange County Sanitation District (OCSD) is a special district governed by a 25-member Board of Directors comprised of 20 cities, four special districts, and one representative from the Orange County Board of Supervisors. OCSD provides wastewater collection, treatment, and recycling for approximately 2.6 million people living within a 479-square-mile area of central and northwestern Orange County. Our wastewater collection facilities include 389 miles of sewer pipes and 15 pump stations, located throughout our service area.

Each day we treat approximately 185 million gallons of wastewater from residential, commercial, and industrial sources at our two plants: Reclamation Plant No. 1 in Fountain Valley and Treatment Plant No. 2 in Huntington Beach.



Newport Beach skyline

BOARD OF DIRECTORS

Cities

Anaheim
Brea
Buena Park
Cypress
Fountain Valley
Fullerton
Garden Grove
Huntington Beach
Irvine
La Habra
La Palma
Los Alamitos
Newport Beach
Orange
Placentia
Santa Ana
Seal Beach
Stanton
Tustin
Villa Park

Active Director

Lucille Kring
 Glenn Parker
 Fred Smith
 Mariellen Yarc
 Steve Nagel
 Jesus J. Silva
 Steve Jones
 Erik Peterson
 Christina Shea
 Tim Shaw
 Peter Kim
 Richard Murphy
 Brad Avery
 Mark Murphy
 Chad Wanke
 Cecilia Iglesias
 Sandra Massa-Lavitt
 David Shawver (*Chair*)
 Allan Bernstein
 Robert Collacott

Sanitary Districts

Costa Mesa Sanitary District
 James Ferryman
Midway City Sanitary District
 Andrew Nguyen

Water Districts

Irvine Ranch Water District
 John Withers (*Vice-Chair*)
Yorba Linda Water District
 Phil Hawkins

County Areas

Member of the Board of Supervisors
 Doug Chaffee



EXECUTIVE MANAGEMENT TEAM

James Herberg
General Manager

Robert Thompson
*Assistant General Manager and
 Director of Operations and Maintenance*

Lorenzo Tyner
*Assistant General Manager and
 Director of Finance and Administrative Services*

Kathleen Millea
Director of Engineering

Celia Chandler
Director of Human Resources

Lan Wiborg
Director of Environmental Services



Kathleen Millea; Lorenzo Tyner; James Herberg; Lan Wiborg;
 Robert Thompson and Celia Chandler



*Secondary clarifiers
at Plant No. 1*

OUR MISSION

“To protect public health and the environment by providing effective wastewater collection, treatment, and recycling.”

OUR VISION

ORANGE COUNTY SANITATION DISTRICT WILL BE A LEADER IN:

- Providing reliable, responsive and affordable services in line with customer needs and expectations.
- Protecting public health and the environment, utilizing all practical and effective means for wastewater, energy, and solids resource recovery.
- Continually seeking efficiencies to ensure that the public’s money is wisely spent.
- Communicating our mission and strategies with those we serve and all other stakeholders.
- Partnering with others to benefit our customers, this region, and our industry.
- Creating the best possible workforce in terms of safety, productivity, customer service, and training.

OC BEACHES GET HIGH MARKS

Drum roll please...according to the Heal the Bay Beach Report Card, beaches in OCSD's service area running from Seal Beach to Crystal Cove were rated the highest across Southern California. Orange County's coastal beaches were rated A or B during both the summer and winter (dry) seasons.

OCSD has continued with its commitment to collect and treat up to 10 million gallons per day of dry weather urban runoff to help protect local beaches from contamination. The rating demonstrates the effectiveness of OCSD's Urban Runoff Program in protecting our beaches.



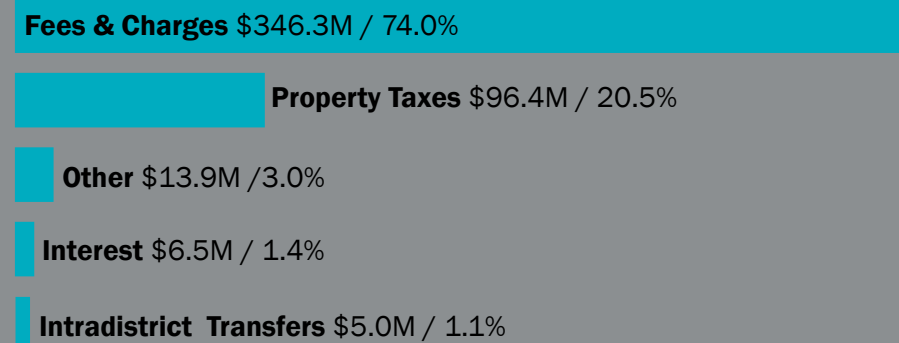
Huntington Beach Pier

FINANCIAL PLANNING

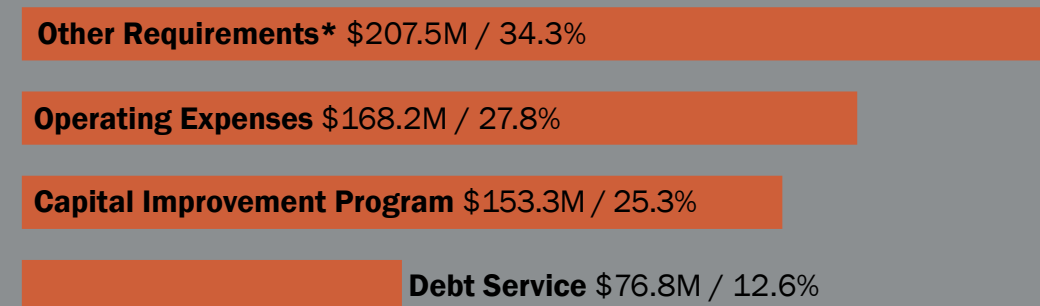
We strive to ensure we are financially stable, keeping our rates affordable for our ratepayers, while always meeting our mission to protect the public health and the environment. Recently, OCSD had its AAA credit rating reaffirmed based on its management practices and financial strength. This is the highest possible credit rating, which means that we have access to low-interest rate financing on infrastructure improvements, resulting in cost savings for OCSD's customers.

Many government agencies are faced with growing long-term liabilities, particularly in the area of employee pensions. Due to fluctuations in financial markets, OCSD had an Unfunded Actuarial Accrued Liability of close to \$8 million. Through the proactive stance of our Board of Directors, we paid down the unfunded liability, which will save our ratepayers nearly seven percent a year in premium payments.

WHERE THE MONEY COMES FROM



WHERE THE MONEY GOES



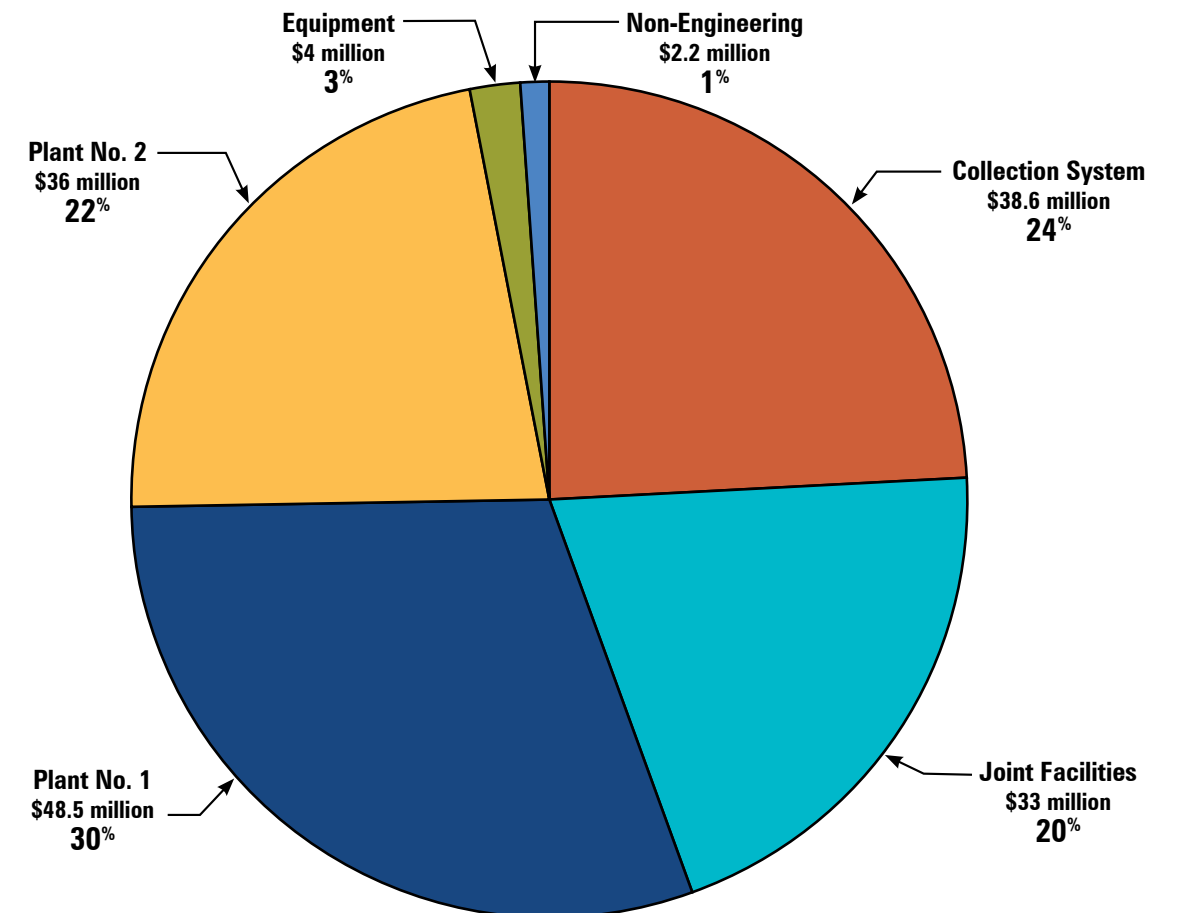
*Other requirements includes: rehabilitation and refurbishment, intradistrict transfers, self-insurance, and allocation for future replacement.

CAPITAL IMPROVEMENT PROGRAM

As we celebrate our 65 years of service, we reaffirm our commitment to provide cost-effective reliable service to our ratepayers. The Capital Improvement Program (CIP), is the foundation of ensuring that OCSD's infrastructure is reliable. Over the next 10 years, we plan on investing over \$2 billion in capital improvements to our infrastructure to maintain reliable service.

Throughout the past year, OCSD has worked on over 100 active projects, with 20 projects in design and 10 construction projects reaching completion.

Fiscal Year 2018-19 CIP Expenditures (Actuals)
Grand Total \$162.3 Million



*Primary clarifier at
Plant No. 2 in
Huntington Beach*



REALIGNING FOR THE FUTURE: ASSET MANAGEMENT PROGRAM

Providing long-term service reliability requires careful ongoing planning. Our planning process includes the Facilities Master Plan (FMP), most recently updated in 2017. The FMP lays out a 20-year Capital Improvement Program (CIP) allowing OCSD to operate effectively while accommodating future growth, future regulatory requirements, level of service goals and strategic initiatives.

The 2017 FMP defined a CIP consisting of over 80 future infrastructure projects. Together with current active projects and these future infrastructure projects, OCSD is projecting to spend over \$5 billion over the next 20 years on capital improvement projects.

To fulfill the commitment of maintaining this program, an annual Asset Management Plan is in development. The annual Asset Management Plan will update, modify, and manage the FMP providing a roadmap for implementation of the CIP.

The next annual Asset Management Plan will be produced at the end of 2019 and completed in early 2020.

*Corrosion assessment
taking place on the
primary effluent line
at Plant No. 1*





*Fountain Valley Headquarters,
circa 1964*

Our story begins in 1921, with formation of the Joint Outfall Sewer (JOS). Two of the earliest Orange County cities, Santa Ana and Anaheim, made an agreement to construct an outfall extending into the Pacific Ocean where the first sewage from these cities began to flow.

- In 1946, the Orange County Board of Supervisors commissioned the Orange County Sewerage Survey Report. This report became the basis for the formation of the original County Sanitation Districts of Orange County (CSDOC).
- The 50's were a busy time for us. In 1952, construction began on the new 7,000-foot, 78-inch diameter outfall. In 1954, CSDOC commenced official operations and took over the duties of the JOS.
- The CSDOC, originally located in Santa Ana, moved to Fountain Valley in 1964 and opened the Districts' Headquarters.
- The 1970's brought a lot of change. Construction was completed on the new laboratory building and the new 120 inch diameter, five-mile long Ocean Outfall No. 2. The Metering and Diversion structure was built diverting high-quality water to Plant No. 1 for reclamation and saline flows to Plant No. 2 for treatment and ocean disposal.
- As we grew, so did our odors and the need to contain them. In 1984, a foul air scrubbing system at Plant No. 2 was completed. In 1989, the Primary Clarifiers were covered and scrubbed to reduce offsite odors.
- In 1998, CSDOC consolidated into a single district to streamline its governance and was named the Orange County Sanitation District (OCSD).
- In 2004, OCSD entered into a voluntary consent decree to achieve full secondary treatment.
- The Groundwater Replenishment System (GWRS) was commissioned in 2008 operated by the Orange County Water District. The first phase of GWRS produced 70 million gallons per day (MGD) of recycled water. This reduced our discharge to the ocean.
- In 2012, OCSD completed construction of secondary treatment facilities, allowing us to reach full secondary treatment satisfying the 2004 voluntary consent decree.
- 2015 was a big year for us! The initial expansion of the GWRS took place. The project increased capacity from producing 70 MGD to 100 MGD of purified recycled water. Bringing us one step closer to our goal of 100 percent recycling.
- In 2017, we achieved another milestone by setting the Guinness World Records™ for the most recycled water production in a 24-hour period. We produced over 100 MGD with our partner the Orange County Water District.
- In 2017, OCSD became the first nationally accredited municipal laboratory in California. The accreditation is based on the National Environmental Laboratory Accreditation Council (TNI) standards.
- In 2019, the new Centrifuge facilities at Plant No. 1 and Plant No. 2 came online. The centrifuges replaced outdated equipment, improves efficiency and expands our solids capacity, eliminating the need to construct additional digesters.



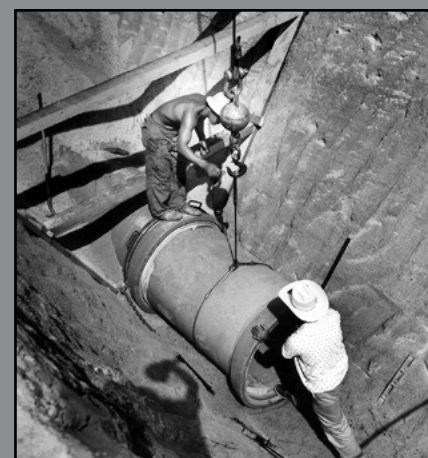
Sewer pipes, 1938



Aerial view of Plant No. 1, 1957



Ocean outfall pipes, circa 1970s



Trunk line construction, circa 1950s



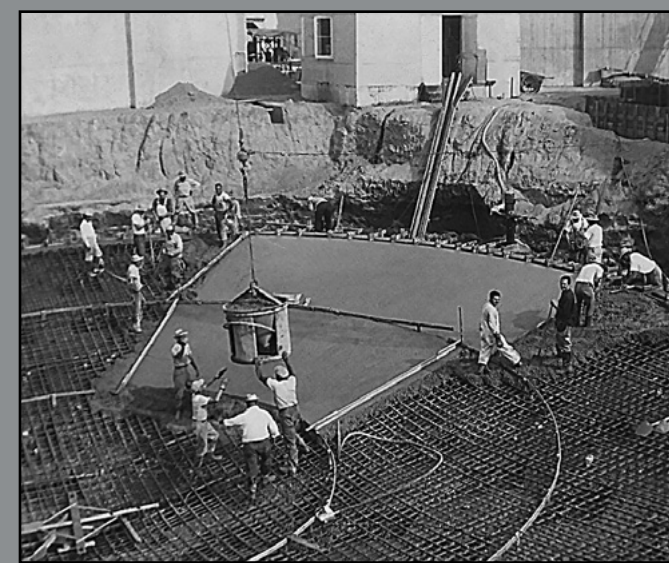
Construction of trickling filter at Plant No. 1, circa 1991



Steve Anderson Lift Station, circa 2009



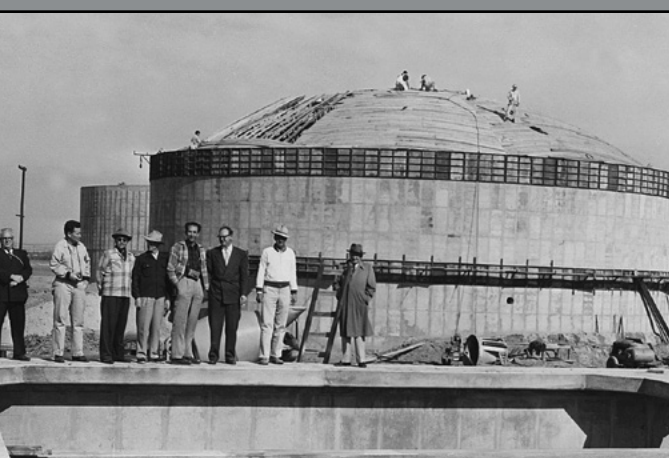
Full secondary treatment celebration, circa 2012



Construction of digester, 1938



Building of Ocean Outfall, circa 1950s



Digester under construction, 1954



Headquarters building at Plant No. 1, circa 1964



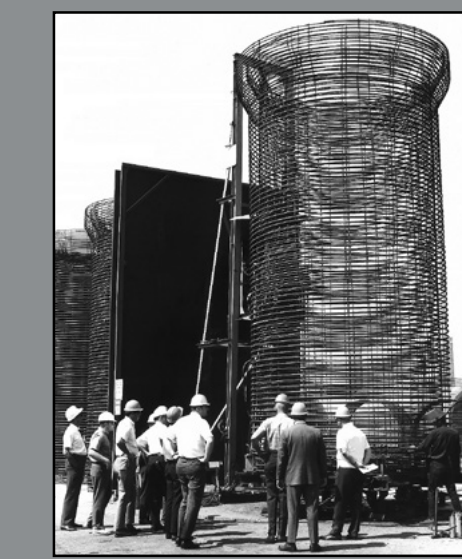
GWRS groundbreaking, circa 2004



Setting the Guinness World Records™, 2018



Shop buildings, 1942



Construction of surge tower at Plant No. 2, circa 1970s



Original Control Center and clarifier at Plant No. 1, circa 1957



Ocean outfall diver, circa 1960s



Central Generation facility at Plant No. 1, circa 1990s



Construction of Activated Sludge Facility at Plant No. 1, circa 1978



Centrifuge Ribbon Cutting celebration, 2019

CELEBRATING 65 YEARS OF IMPRESSIONS

CENTRIFUGE FACILITIES

One of the newest major upgrades to our plants are the new centrifuge facilities. The centrifuges replace aging equipment, improving efficiency and expanding our solids handling capacity. This eliminates the need to construct additional digesters, which would require additional space. Centrifuges have been around in the wastewater treatment industry since the 1930's, but today — with the latest technology, centrifuges offer higher performance than the old belt presses that we have replaced.

With the new centrifuge facilities at both Plant Nos. 1 and 2 online, the total daily volume of biosolids has been reduced by 200 tons. The centrifuges are essentially wringing out an additional 200 tons of water per day that will no longer be hauled over 120-280 miles. This is reducing truck hauling by 30 percent which equates to about 3,500 fewer trucks per year.



BATTERY STORAGE SYSTEM AT PLANT NO. 1

As we have made so many impressions in the past, we continue to strive to do better and become more efficient in all that we do. As part of this endeavor, we use repurposed methane gas from the digester facilities generating power to meet approximately 60 percent of OCSD's power requirements. The new Tesla energy storage system allows OCSD to offset the remaining power demand, reducing the energy consumption on Southern California Edison's grid during critical times.

The 4.9-megawatt, 31-megawatt hour lithium-ion energy storage system is the largest behind the meter battery storage system in the United States, with a capacity equivalent to almost 550 Tesla vehicles. That's enough energy to supply over 1,600 houses for a day!



HEADQUARTERS COMPLEX

As part of our ongoing efforts to plan for the future and increase efficiencies, we have purchased five properties across the street from our current administration building in Fountain Valley. The buildings on those properties will be demolished to make room for the 109,000-square foot building that will house the 350 plus staff that are currently located in various buildings and trailers spread out on the 100-acre facility.

It is anticipated that the new Headquarters Complex will be complete in 2023. Adding a Headquarters Complex will provide one centralized location and greater cohesiveness for staff, while allowing for future wastewater treatment infrastructure at the wastewater facility.



Rendering of lobby and Board Room

WATER RECLAMATION GWRS

Through our long standing and innovative partnership with the Orange County Water District (OCWD), OCSD provides 130 million gallons a day of treated wastewater to the Groundwater Replenishment System (GWRS), which produces up to 100 million gallons a day (MGD) of purified water for residents of Orange County. This is enough new water for nearly 850,000 residents in north and central Orange County.

OCSD and OCWD are working together to complete the GWRS Final Expansion. There are a total of five projects, three from OCSD and two from OCWD. The Final Expansion will require a total treated wastewater flow from OCSD of approximately 175 MGD in order to produce 130 MGD of purified recycled water. This will be enough water for 1 million residents in north and central Orange County when it is commissioned in 2023.



LEGISLATIVE AFFAIRS/ GRANTS IN FILE

- **92 bills tracked and analyzed**
- **10 State Positions**
- **3 Federal Positions**
- **Grants — \$42,000**



COMMUNITY OUTREACH

- **15 community events**
- **31 speaking engagements**
- **189 tours**
- **2,441 students reached through the Sewer Science Program**
- **Reached over 80,000 people through construction outreach**
Grand total reached = 88,000 (approx.)
- **935 social media posts reaching over 215,000**
- **49 website posts**
- **Published 12 news releases with over 23 articles mentioning OCSD**



OCSD employees out in the community



OUR WORKFORCE

- Authorized full-time employees: 636
- Average age: 46.9
- Average years of service: 11
- Number of retirements: 26
- Retirees years of service: 578
- Employees in positions that require bachelors degree: 253 = 42%
- Employees that possess bachelors degree: 318 = 52%
- Employees that possess masters degree and higher: 106 = 17%
- Employees in positions that require state license or certification: 503 = 79%
- New hires: 50 = 8%



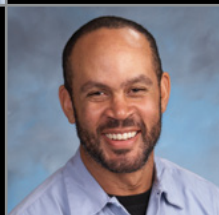
*Rhea De Guzman
Senior Accountant
5 years of service*



*Andrew Ortiz
Senior Mechanic
1 year of service*



*Thys DeVries
Principal Human
Resources Analyst
14 years of service*



*Anthony Aponte
Senior Plant Operator
4 years of service*



*Dale Henderson
Senior Construction Inspector
16 years of service*



*Sharon Yin
Senior Engineer
11 years of service*



Employee Onboarding program



LEADERS OF TODAY AND TOMORROW

Continuing the tradition of leaving a lasting impression isn't lost on our OCSD staff. Through the Building Leaders, Abilities, & Skills for Tomorrow (BLAST) program, employees have the opportunity to fine tune and build upon their leadership skills. BLAST is an employee designed leadership development program to ensure OCSD is adapting to the challenges of retaining and "growing" leadership talent by providing training opportunities to staff. The program focuses on building and strengthening people skills, enhancing morale and promoting productivity to develop successful leaders at all levels of the organization. Highlights from the year include:

- **Mentoring Program** reached a milestone by completing its 100th pairing since the program's inception.
- The **Onboarding Program** also saw great success with 49 new participants, bringing the total up to 107 overall participants.
- More than 100 participants at the **BLAST Organizational Awareness** presentation highlighting the work of the Maintenance Division including the mechanical, electrical and instrumentation areas.
- In June of 2019, administration of the **BLAST Program** was transitioned from the General Manager's Office to the Human Resources Department, which will provide an opportunity to create synergy with our agency's other training programs. The goal of the program is to continue providing quality leadership development training and presentations to the workforce to further enhance knowledge, skills and abilities.



BIOSOLIDS

This fiscal year, OCSD averaged 698 tons per day of biosolids, which is almost 28 trucks per day and totaling over 10,000 trucks per year.

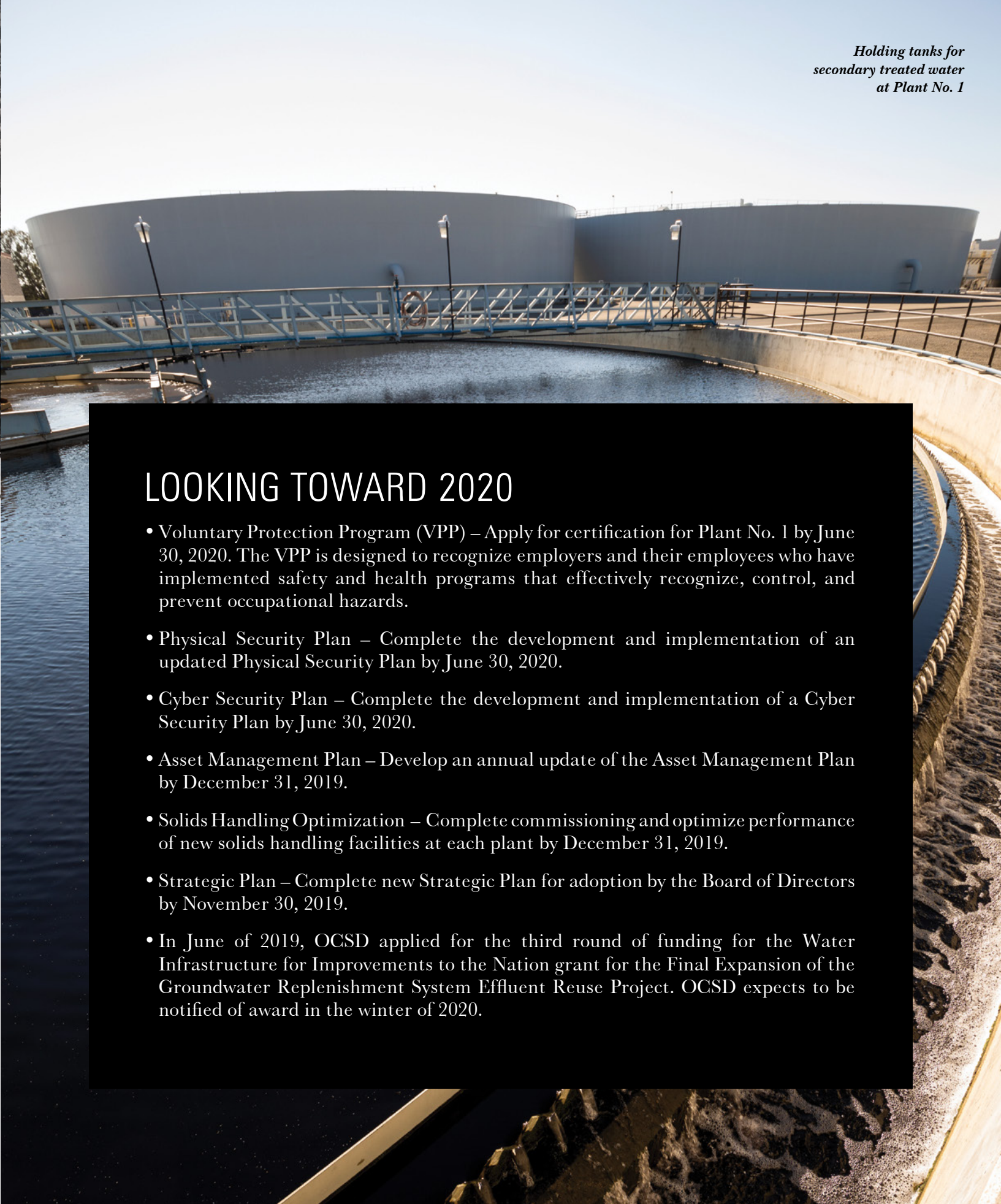
The cost for transportation and managing OCSD's biosolids at five offsite composting and land application sites in California and Arizona total \$14.66 million.

The total budget for the fiscal year was \$16.2 million, which equates to an average cost per ton for biosolids management of \$57.58.

Beginning in 2020 as part of the implementation of Senate Bill 1383, cities will be required to buy-back compost products. This requirement should help expand markets for compost made from OCSD's biosolids.

HIGHLIGHTS FROM THE YEAR

- Six digesters cleaned. Historically only 1-2 cleaned per year.
- 25,000 maintenance work orders completed.
- According to the 2017-2018 OCSD Ocean Monitoring Program Report: *Marine Life and Ocean Waters Near OCSD's Outfall are Healthy*. Measurements show that there aren't any negative environmental impacts due to OCSD discharge.
- Over the past year, monitoring data has demonstrated the excellent quality of OCSD's treatment processes with 100 percent ocean discharge permit compliance. Overall, OCSD's effluent quality is 82 percent better than our permit requires.
- The Engineering Department Capital Improvement Program underwent a peer review by the American Society of Civil Engineers (ASCE). OCSD's Engineering Department was identified as having highly competent staff. ASCE also provided feedback on areas of recommended improvement.
- With OCSD's advocacy work and support, Senate Bill 212 by Senator Jackson passed. The bill establishes a comprehensive statewide pharmaceutical and sharps waste stewardship program throughout the state.
- An interim food waste receiving facility was approved for design at Plant No. 2. The project provides regional support to fulfill the State of California regulations to reduce organics going to the landfill. Construction is scheduled to begin in 2020.



*Holding tanks for
secondary treated water
at Plant No. 1*

LOOKING TOWARD 2020

- Voluntary Protection Program (VPP) – Apply for certification for Plant No. 1 by June 30, 2020. The VPP is designed to recognize employers and their employees who have implemented safety and health programs that effectively recognize, control, and prevent occupational hazards.
- Physical Security Plan – Complete the development and implementation of an updated Physical Security Plan by June 30, 2020.
- Cyber Security Plan – Complete the development and implementation of a Cyber Security Plan by June 30, 2020.
- Asset Management Plan – Develop an annual update of the Asset Management Plan by December 31, 2019.
- Solids Handling Optimization – Complete commissioning and optimize performance of new solids handling facilities at each plant by December 31, 2019.
- Strategic Plan – Complete new Strategic Plan for adoption by the Board of Directors by November 30, 2019.
- In June of 2019, OCSD applied for the third round of funding for the Water Infrastructure for Improvements to the Nation grant for the Final Expansion of the Groundwater Replenishment System Effluent Reuse Project. OCSD expects to be notified of award in the winter of 2020.

AWARDS

- **Utility of the Future Award** – 2019 Water Environmental Research Foundation, National Association of Clean Water Agencies, Water Environment Federation and Environmental Protection Agency
- **Platinum Peak Performance Award** – 2019 National Association of Clean Water Agencies
- **Certificate of Achievement for Excellence in Financial Reporting** – 2019 Government Finance Officers Association
- **Honor Award** – 2019 Facilities Master Plan, American Academy of Environmental Engineers & Scientist
- **Superior Achievement Award** – 2019 Collections System Odor Control, American Academy of Environmental Engineers & Scientist
- **Silver Award** – 2019 GWRS Bottled Water Campaign, Mercury Excellence Awards
- **American Graphic Design Award** – Innovative, Resourceful, Reliable Annual Report, Graphic Design USA
- **SARBS/CWEA 2019**
 - **Quarter Century Award, Tony Lee**
 - **Community Engagement and Outreach Project of the Year**, Plant No. 2 Neighborhood Outreach Program (Project leads: *Tanya Chong* and *Daisy Covarrubias*)
 - **Supervisor of the Year 1st Place, Ted Gerber**
 - **Supervisor of the Year 2nd Place, Kevin Schuler**
 - **Mechanical Technician Person of the Year, Gilbert Barela**
 - **Operator of the Year, April Frost**
 - **SARBS Spotlight Award, Dindo Carrillo**
- **Project Achievement Award** – 2019 Interplant Effluent Pipeline Rehabilitation, Orange County Engineering Council
- **Engineering Merit Award** – 2019 Orange County Engineering Council
- **Distinguished Budget Presentation Award** – 2019 Accounting/Finance Department, Government Finance Officers Association
- **OC Wastewater Treatment Project of the Year** – 2019 Newhope-Placentia Trunk Sewer Project (State College Sewer Construction, American Society of Civil Engineers)
- **District Transparency Certificate of Excellence** – 2019 Special District Leadership Foundation
- **Award of Excellence** – 2018 GWRS Bottled Water Campaign, Orange County Chapter of Public Relations Society of America



Ocean outfall pipe at Plant No. 2

Reclamation Plant No. 1 (Administration Offices)
10844 Ellis Avenue, Fountain Valley, California 92708

Treatment Plant No. 2
22212 Brookhurst Street, Huntington Beach, California 92646

Phone: 714.962.2411
www.ocsd.com

Follow us on:

