



DESIGNING THE FUTURE

Capital Improvement Program
Fiscal Year 2017/18



FROM THE ASSISTANT GENERAL MANAGER

Thank you for taking the time to become more familiar with Orange County Sanitation District (OCSD) and its Capital Improvement Program (CIP). We have been busy this past year planning, designing, constructing, and commissioning systems to continue to collect wastewater from the communities we serve and do an even better job of transforming that wastewater into useful resources (water, power, and fertilizer).

OCSD recently completed a master planning effort for our facilities that created a clear 20-year plan to help guide operations, maintenance, capital investment, and user rates. This advanced asset management approach breaks down the collection system and treatment plants into process units and creates a plan for each area based on the condition of the assets, the needed capacity of each system, new technology opportunities, and new anticipated regulatory requirements.

OCSD is currently designing several significant projects for our plants and collection system that will drive our capital investments in the upcoming years. Having great technology standards and a clear asset management based plan allows OCSD to transform its facilities to be more reliable, improve reuse, create more energy, and modernize its technology in a coordinated way, one project at a time.

OCSD is also delivering projects to our Operations and Maintenance staff. We are nearing completion of construction of centrifuge facilities at each plant. These facilities introduce new technology to improve efficiency by replacing older equipment and systems nearing the end of their useful life. OCSD also delivered a new, larger sewer in State College Blvd. in Fullerton to improve resiliency and increase water recycling capacity.

On behalf of the Engineering Department, I would like to thank our Board of Directors and our rate payers for their continued support.



Rob Thompson, P.E.
Assistant General Manager and
Director of Engineering



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CIP by Design


122 million dollars
spent in
CIP projects


9 CIP
presentations


22 notifications to
the community


18 contracts awarded
(studies/design/
construction)


16 cities touched
by CIP projects


37 website
updates


96 active
projects


4 construction
contracts
completed



INTRODUCTION AND BACKGROUND

Agency Information

The Orange County Sanitation District is a resource recovery facility servicing central and northern Orange County. As the regional sewer provider for 20 cities, four special districts, and unincorporated areas of the County of Orange, OCSD maintains and operates 396 miles of sewer, 15 pump stations, a treatment plant, and a reclamation plant.

OCSD has a 24-hour operation that collects, treats, recycles, and disposes of approximately 185 million gallons of wastewater a day. A large portion of the flow is recycled and further processed by the Orange County Water District as part of the Groundwater Replenishment System to help provide a reliable water source for hundreds of thousands of people. The organics in the system are either converted to energy in the form of electricity, process heat, and building cooling; or are converted to biosolids and used to fertilize farmland and as compost for agriculture.

Capital Improvement Program Overview

The Capital Improvement Program is OCSD's continuous effort to keep our facilities operating at optimal levels. We plan, design, and prepare for the future by making sure that we meet our commitment of protecting public health and the environment. As our 65-year old plants age, we evaluate and determine how to prolong the life of those assets, or how best to replace them with improved technology and innovative solutions. Our recently completed Facilities and Biosolids Master Plans defined the roadmap for the next 20 years, encompassing dozens of projects that must be executed. Our collections system is equally analyzed and evaluated to determine where to focus our efforts.

As we approach an era of needed upgrades, we are designing more than just structures and facilities. We are redesigning our process and systems to be fully prepared for the increase in productivity.

We are clearing the way for the future, figuratively and literally. We are demolishing old structures to make room for future facilities and replacing old software systems with newer versions that have greater capability and functionality.

Overall, we are working towards being fully prepared to deliver on the commitments made to the public by achieving the goals identified in our master plans. We are focusing our efforts on executing those projects and ensuring we continue to protect the environment and public health.

For additional information on the Capital Improvement Program please visit our website at www.OCSD.com.



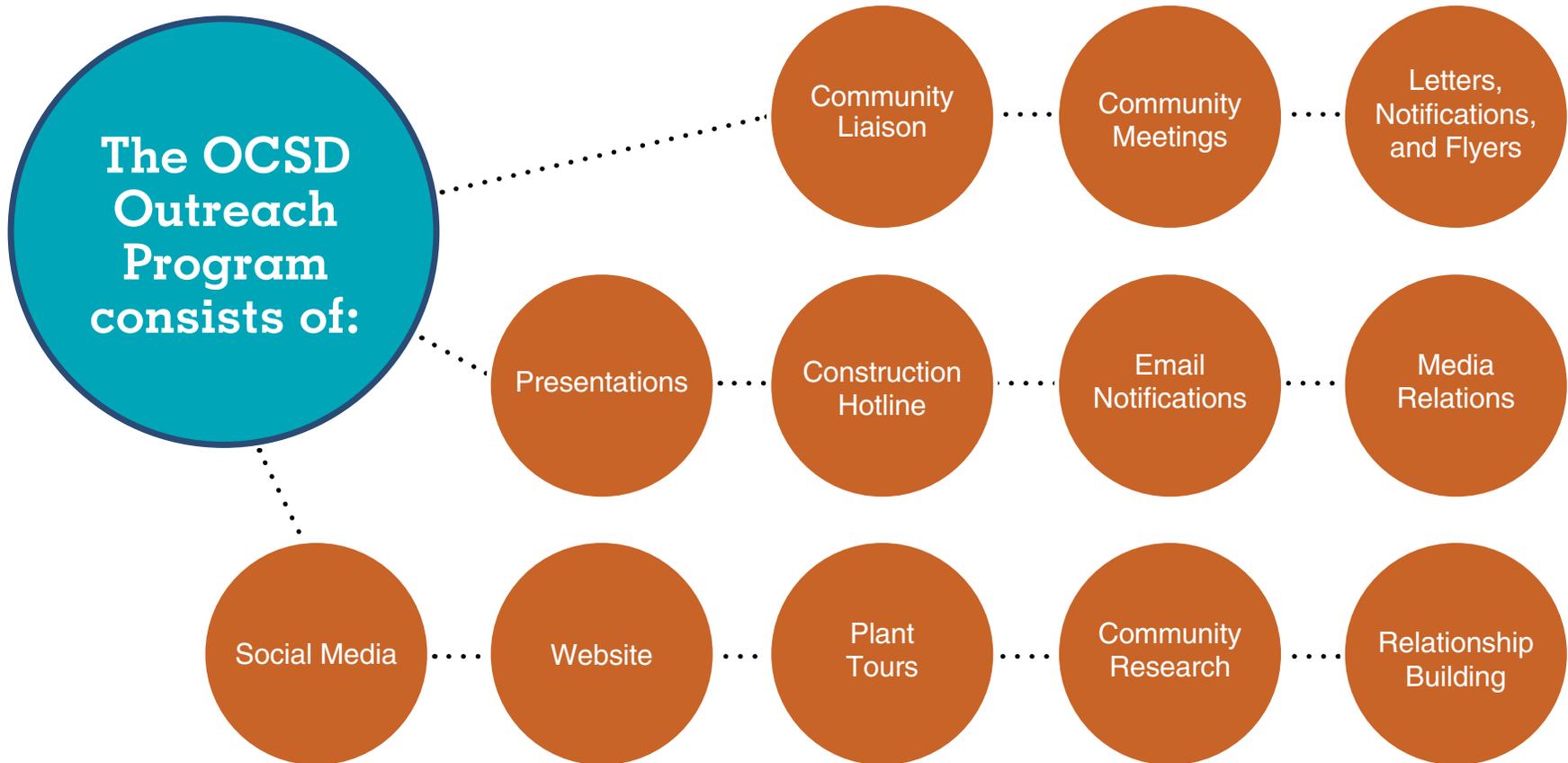
COMMUNITY OUTREACH PROGRAM

OCSD has always strived to be a good neighbor. We try to follow the typical neighborly etiquette; make every effort to keep the noise down, keep our properties clean, respect those around us, invite our neighbors over to tour our facilities, and in our case we work extremely hard so you don't have to smell us. When we leave our facilities, and enter the communities we serve to replace or repair our aging infrastructure, we apply the same etiquette.

As our Capital Improvement Program projects are designed, we focus on creating a safe and efficient sewer system while keeping our neighbors in mind. Our Community Liaisons are part of the

project team so they can be the voice of the community. They work with the engineers to make sure that noise is evaluated and considered, that odors are addressed, and that traffic control measures are taken into account.

The outreach team then communicates with the impacted communities prior to and during construction to keep them informed of the project activities. The overall goal is to make sure the public is informed about our infrastructure improvements and knows we had them in mind as we planned the project.



To learn more about our Capital Improvement Program and our Community Outreach Program, visit our website at www.ocsd.com/construction. You can also contact our **Construction Hotline** at 714.378.2965 or via email at ConstructionHotline@ocsd.com.

PLANNING

Our Capital Improvement Projects all derive from an improvement need, a new regulation, new technology, capacity need, or simply replacement due to age. Regardless of the reason, the Planning staff carefully vets all projects to determine exactly what needs to be done and when it needs to be done. A 20-year plan is maintained to ensure all of our assets are carefully evaluated and scheduled for repair or replacement at the appropriate time.

Below are some of the planning projects that took place during the fiscal year.

Seismic Evaluation of Structures at Plant Nos. 1 and 2

Our mission is to protect public health and the environment. That means that our treatment process facilities must be relied on to sustain a significant seismic event so we can maintain operation. Many of our facilities were designed to older building codes, which have continued to evolve as more information becomes available on the performance of structures during an earthquake event.

This study is assessing our critical process facilities at Plant Nos. 1 and 2 by evaluating their performance during a seismic event and making recommendations on improvements that will increase their resiliency. The recommendations will reference the current codes and design guidelines.

This study quantifies the vulnerability of these facilities to damages or failures following an earthquake, and identifies the retrofits necessary to improve their reliability and continued operation. In addition, the facilities will be ranked based on the urgency of retrofits, allowing for the ultimate integration with the 2017 Facilities Master Plan.

2017 Facilities Master Plan

Last year, we prepared a Facilities Master Plan providing a long-term roadmap for OCSD's capital spending and funding to maintain reliability, accommodate future growth, and meet future regulatory requirements, level of service goals, and strategic initiatives. The 20-year plan consists of over 80 infrastructure projects that total over \$5 billion in capital spending.

As a part of the master plan, a Wastewater Revenue Program Rate Study was also conducted. The purpose of the rate study was to update sewer service rates to support OCSD's regional rate structure over a five-year period from 2018 through 2023. In March 2018, following a Proposition 218 notice process, the OCSD Board of Directors approved a sewer rate increase of 1.2 percent per year for the next five years, which is less than the anticipated rate of inflation. The OCSD Board of Directors unanimously adopted the 2017 Facilities Master Plan in December 2017, solidifying OCSD's commitment to the proposed Capital Improvement Program.

Collection System Capacity Evaluation Study

Our collection system is impacted by various factors such as population, rainfall, and land use designation. To ascertain that our system is equipped to properly handle projected future flow, a capacity evaluation is conducted from time to time. We are currently amid a study that is updating the collection system's hydraulic model considering not only data from pipes and manholes, but also incorporating newly collected data from around the county regarding projected growth and so on. Once the model is updated, it will be used to identify capacity deficient pipes, plan condition assessments for hard to access confined spaces, develop spill contingency planning for pump stations, assist characterization of inflow and infiltration rates overtime, and optimize the odor control chemical dosing program.

Two and a half years of flow monitoring data will be collected as part of the effort. The data gathered will enable the model to be calibrated to reflect a present-day response to the decrease in wastewater generation during dry weather periods and possible spill risk during wet weather events. The study should be completed in 2019.



**DESIGN
AND
CONSTRUCTION**

RECLAMATION PLANT NO. 1

Plant No. 1 in Fountain Valley is our administrative hub as well as the only current source of water for the Groundwater Replenishment System. The 24-hour facility is bordered by Ellis Avenue, the Santa Ana River, and the Orange County Water District. Below are a few of the Plant No. 1 projects.

Sludge Dewatering and Odor Control

Cost savings is typically an incentive to make changes. When its paired with replacing aging equipment, the choice is an easy one. The solids handling and disposal system at Plant No. 1 is being replaced with a new thickening and dewatering facility that once fully operational, will result in significant hauling cost savings. The current belt presses are being replaced with centrifuges which dewater the biosolids more efficiently resulting in fewer truck trips needed to haul the product offsite. Additionally, the centrifuges 'pre-thicken' the sludge by removing water prior to going to the digesters allowing more solids to be processed with current digester capacity. The project is currently under construction with completion anticipated for fall 2019.

Digester Rehabilitation

One thousand, nine hundred and sixty-four days for construction, plus one thousand seven hundred and thirty-two days for commissioning, is the number of work days it took to rehabilitate twelve digesters and make them fully operational at Plant No. 1. This of course doesn't include the project development or design of the job, that would easily add another one thousand days to the count. The amount of time is an indicator to the complexity of the system, as well as the struggles encountered when rehabilitating an existing facility versus constructing something from the ground up. The twelve digesters were upgraded in phases to maintain operations, they were cleaned, grit was removed, and equipment like pumps, grinders, heat exchangers, and piping were replaced. With these improvements, the digesters are now able to handle thicker solids which results in greater efficiency and reduced costs. This large project was successfully completed last fall (pictured).



The digesters at Plant No. 1 are approximately 30 feet high, have a diameter of 110 feet, and a capacity of 2.2 million gallons.

Headworks Rehabilitation and Expansion at Plant No. 1

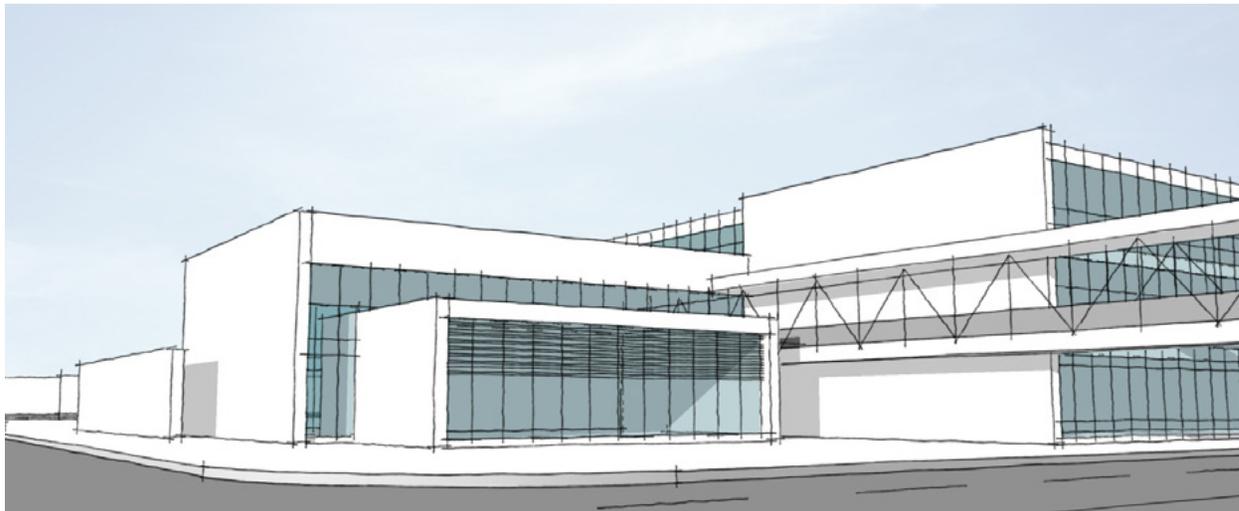
Rehabilitating the headworks system is the equivalent of performing surgical ventricular restoration. The surgical procedure calls for the patient to be put on bypass while the surgeon makes an incision into the heart leaving it wide open so it can be reconstructed. That's the same thing that occurs when rehabilitating the headworks system of a wastewater treatment plant. The facility must remain operational so the over 100 million gallons of water coming in every single day can still be received and processed all while trying to make much needed improvements.

The project is replacing and upgrading pumps, grit removal systems, odor control systems, and installing a more reliable power source, all integral elements. Configuring these moving parts requires a lot of attention to detail during design and construction which is why the preparation phase is so extensive. Design of the project will finalize in fall 2019 and construction will commence in 2020, with completion expected in 2026.

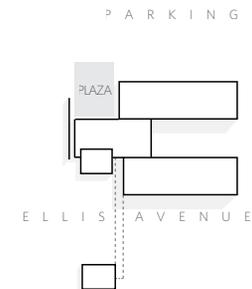
Headquarters Complex and Site Security

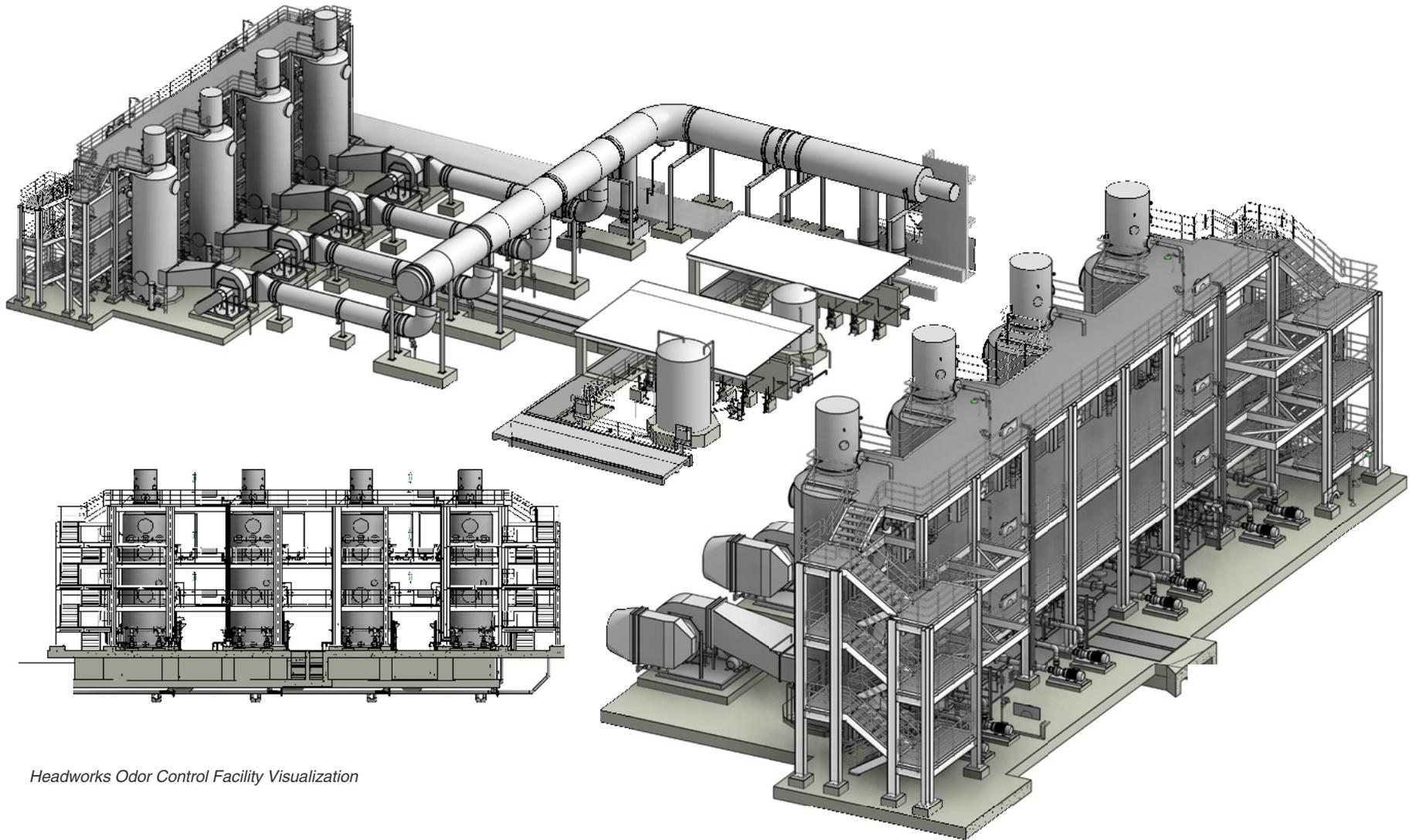
Eleven buildings or trailers spread across the 100-acre plant is how our 375 employees are laid out at Plant No. 1. To improve our current arrangement, as well as address deficiencies in each of those buildings, OCSD recently completed the purchase of three properties across the street from our Administration Building on Ellis Avenue. The buildings on those properties will be demolished to make room for the 109,000-square foot building that will house our staff. This will provide one centralized location and greater cohesiveness for staff.

Concepts for the building are currently being evaluated. It is anticipated that it will be a three-story building with an adjacent parking lot and a pedestrian/utility bridge over Ellis Avenue to Plant No. 1. With thousands of vehicles traveling along Ellis Avenue daily, a bridge would aid in providing a safe place for staff to get from the plant to the administration building. Once the new building is ready for staff to move in, the existing buildings at Plant No. 1 will be demolished providing room for future facilities. Design should conclude in 2020 and construction is expected to be finalized in 2023.



01- SOUTH-WEST CORNER - ELLIS AVENUE





Headworks Odor Control Facility Visualization



The beach side facility known as Treatment Plant No. 2 is currently in the midst of major construction and preparing for more in the next few years. The facility is surrounded by Brookhurst Street, the Santa Ana River, and the Huntington State Beach. Several projects at Plant No. 2 are tied to one another, which is why they are presented in a different format.

Infrastructural Renewal

Our Capital Improvement Program works on a cycle basis: a facility is constructed, 20-30 years later it is rehabilitated, and 20-30 years after that it is replaced. Extending the life of an asset is crucial to our operation and to our budgeting process. **The Interplant Effluent Pipeline Rehabilitation project** is doing just that. Two of the pipes connecting the two plants are the 120-inch and 84-inch pipes that run along the Santa Ana River trail. Those pipes were installed in 1991 and 1965, respectively, and as our main conveyance system from Plant No. 1 to Plant No. 2 they must operate in optimal condition. The pipes transport any secondary effluent not being used by the Orange County Water District for the Groundwater Replenishment System through the interplant pipelines down to Plant No. 2 and pumped to the ocean outfall. Both of these pipes are being rehabilitated and the joints reinforced to extend their service life. With this effort, the pipes should be able to sustain another 20 years of use. The Ocean Outfall Booster Station will also undergo repairs of the wet well and junction boxes. Construction is scheduled for completion in summer 2019.

Designing for the future also means making room for future structures and facilities that will help with future operations and improvements. The **Consolidated Demo and Utility Improvements project** is demolishing structures that are no longer in use because they have exceeded their useful lives. Two digesters, three clarifiers, an air compressor building, and the emergency power building have all been demolished and the space cleared for future development. Some components that are salvageable are being rehabilitated to

give them new life to continue operating as needed. The concrete from the demolished structures was crushed onsite and converted into an asphalt base to use in the same area where those structures once stood. Construction should be completed in early 2020.

Plant No. 2 has 14 circular primary clarifiers that are also on the list of renewals. Clarifiers are used to help solids sink to the bottom of the tanks and the scum to float to the top. Ten clarifiers constructed between 1967 and 1985 will be rehabilitated to extend their life. This is the second round of updates for a few of the clarifiers, so they are in good condition where a rehab is all that is needed to have them continue operating. **The B/C-Side Primary Clarifiers Interim Repair project** will make structural and mechanical repairs to the clarifiers and distribution centers. The project is scheduled for construction in early 2019 with an expected completion in 2021.

The four remaining clarifiers are beyond rehabilitation and need to be replaced as part of the **A-Side Primary Clarifiers Replacement project**; they will be constructed in the area recently cleared by the consolidated demo project. The clarifiers were originally built in 1967 and are being replaced with same size structures of 140 feet in diameter. As part of the project the existing clarifiers and the supporting facilities will be demolished. The project is currently in design with construction anticipated for 2021.

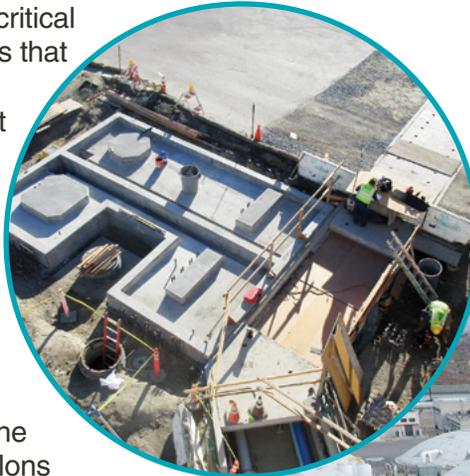
Groundwater Replenishment System (GWRS) Final Expansion Support

As the need for a reliable water source continues to be a critical issue in Southern California, we continue to support efforts that address the situation. **The Headworks Modifications at Plant No. 2 for GWRS Final Expansion** is a key element in water recycling. To make the expansion possible, the Headworks system needs to be reconfigured to separate reclaimable and non-reclaimable flows; only reclaimable flows can be processed through GWRS. A new 66-inch diameter flow diversion will be installed at the existing Headworks system. Existing gates will be upgraded, and there will be new piping to make the connection to the new facilities that will be constructed at Plant No. 2 by the Orange County Water District. With these modifications, the GWRS will be able to produce an additional 30 million gallons of water daily. The project is currently in design with construction scheduled to commence in 2020.

With the expansion of GWRS, Plant No. 2 will be receiving less flow, the **Outfall Low Flow Pump Station project** is replacing portions of the Ocean Outfall Booster Station pumping system with a more efficient pump that will be used during low flow. A new plant water pump station will also be constructed to help accommodate the expansion. The project also includes electrical and mechanical upgrades as well as replacement of the fiber optic network. Construction is scheduled from 2019 to 2024.

Biosolids Handling

The **Sludge Dewatering and Odor Control project** is Plant No. 1's sister project. Both projects are constructing facilities to reduce biosolids handling and disposal costs, replacing aging sludge dewatering facilities, and providing associated odor control facilities (pictured). The newer dewatering technology will be utilized to reduce the amount of water in the biosolids hauled offsite to reduce biosolids management disposal costs. The new centrifuges will reduce the number of haul trucks from 31 to 23 which is an estimated savings of \$3.7 million per year for both plants. Construction is scheduled for completion in fall 2020.



Biosolids are used as soil amendment for farms or compost facilities that create amendments for agriculture, nurseries, or home gardens.





Our service area consists of almost 500 square miles with 2.6 million people who live, work, and play in the area daily. To properly handle the 185 million gallons of wastewater that eventually reaches our two plants we need to make sure the 396 miles of sewer and 15 pump stations are properly functioning so we can continue providing reliable service.

The projects noted below are those that were active during the fiscal year. Extensive work goes into design and construction of these projects due to the complexity they pose being in highly traveled roads and amongst the public.

Fullerton/Anaheim Newhope-Placentia Trunk Sewer Project – Phase A and B

Replacing seven miles of sewer on a major Orange County road is no easy feat. The sewer pipe on State College Blvd. from Yorba Linda Blvd. in Fullerton to Orangewood Ave. in Anaheim is being upsized to allow for the recycling of an additional nine million gallons of water. The larger capacity sewer will allow for the abandonment of the Yorba Linda Pump Station which currently diverts flow from this line and combines it with non-reclaimable flow. The two-phased project is about 1/3 of the way complete. Phase A of the project took place from Yorba Linda Blvd. to SR-91 and was completed in late summer 2017. Phase B picks up at the 91 freeway and concludes at Orangewood Ave. in front of Angel Stadium; design wrapped up earlier in the year and construction began this summer. Due to the size and complexity of the project, the team has been working diligently over the last couple of years with city staff, as well as the various stakeholders impacted along the four-mile alignment. This second phase is scheduled to be completed in late 2020.

Anaheim/ Buena Park/ Cypress/ La Palma/ Los Alamitos/ Rossmoor/ Seal Beach/ Westminster Western Regional Sewers Program

The Western Regional Sewers Program encapsulates eight projects within seven cities and unincorporated area of the County of Orange known as Rossmoor. The project totals over 20 miles of sewers

that need to be rehabilitated or replaced, as well as a pump station that will be reconstructed and one that will be abandoned. The eight projects are being grouped together because of their close proximity to one another making it OCSD's largest collections effort to date. Staff has been working closely with the cities involved for the past two years sharing every step of the projects to ensure everyone's needs are being addressed well in advance of any physical work. As the multiple projects move into construction, coordination with the various cities will continue. Our intent in grouping these projects is to minimize impact to the local communities, as such, communication is key. The first project scheduled for construction will commence in early 2020 in the Seal Beach/Westminster area and is highlighted below.

Seal Beach/Westminster Seal Beach Pump Station and Force Main

The aging Seal Beach Pump Station, located at Seal Beach Blvd. and Westminster Blvd., will be replaced at the same location, along with its two force mains extending approximately three miles to the east along Westminster Blvd. The force main construction will start in early 2020 and be completed by summer 2022. Replacement of the pump station will start in early 2023 and be completed in 2026. Eventually, a new deep sewer will be constructed between the Westside Pump Station located in Rossmoor and the new Seal Beach Pump Station to allow the Westside Pump Station to be permanently taken out of service. This project is part of the Western Regional Sewers Program.

Tustin/Irvine/Santa Ana Red Hill System Improvements

Almost three miles of improvements to the Gisler-Red Hill System was completed along Red Hill Ave. in the City of Tustin, with minor portions of the project and traffic control set ups during construction occurring in the cities of Irvine and Santa Ana as well. The project installed one mile of larger diameter pipeline reaching depths of approximately 22 feet, rehabilitated remaining sections using the trenchless cured-in-place pipe method, constructed new diversion settings, and rehabilitated over 50 manholes along Red Hill Ave. between McGaw and Mitchell avenues. There were several projects by other entities occurring during or commencing immediately after our construction requiring close coordination with other contractors and the City of Tustin, including a jet fuel pipeline in the same alignment and the city's street widening improvement project. The project was completed in fall 2017.



(Left) 30-inch diameter pipe was installed along Red Hill Avenue, the Vitrified Clay Pipe was installed in segments each weighing approximately 2400 lbs. Pictured is the last piece of pipe installed which was smaller than the typical pipe segments used.

Newport Beach/Costa Mesa Newport Blvd District 6 Trunk Sewer Relief

During fall 2018, construction started on an undersized sewer in need of rehabilitation along Newport Blvd. from Pacific Coast Highway in Newport Beach to Pomona St. in Costa Mesa. This is the first project to feature pipe bursting, a trenchless construction method to install new larger piping while limiting the area of disturbance is ideal, as only entry and exit excavations are needed. Pipe bursting is not typically performed on pipes greater than 24-inches and we mostly own and operate piping greater than 27-inch, so this turned out to be a perfect opportunity for us to implement the method for the first time. We were able to replace a 15-inch pipeline with a 20-inch diameter pipeline using this method. The project also includes manhole access improvements for routine ongoing maintenance. Construction took a break during the summer to minimize impact to the traveling public heading to the beach. Activity resumed in September 2018 and is expected to be completed by winter 2019.

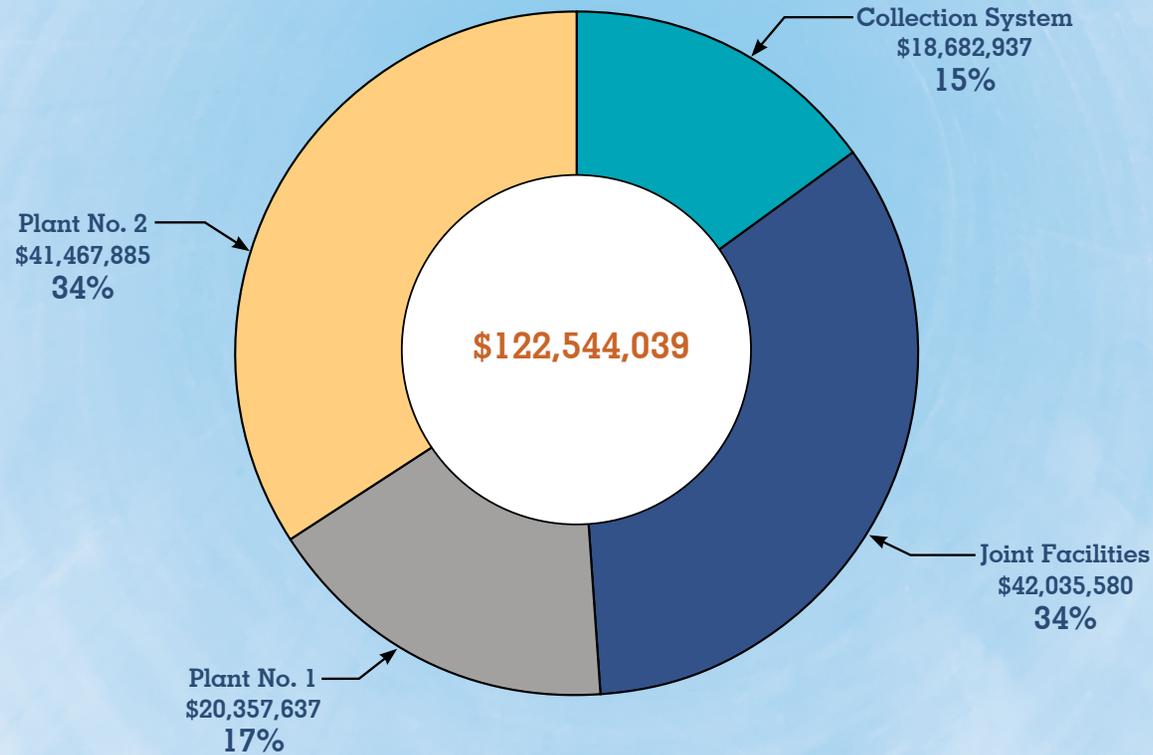




FINANCIAL DATA AND CONTRACT ACTIVITY

At the end of every year the actual expenditures for the program are tallied to assist with the planning of the following years budget allocation. The budget captures the individual project expenses through the various phases, which include project development, design, construction, and commissioning. This year's actual expenditures amount to \$123 million.

Fiscal Year 2017-18 CIP Expenditures (Actuals)

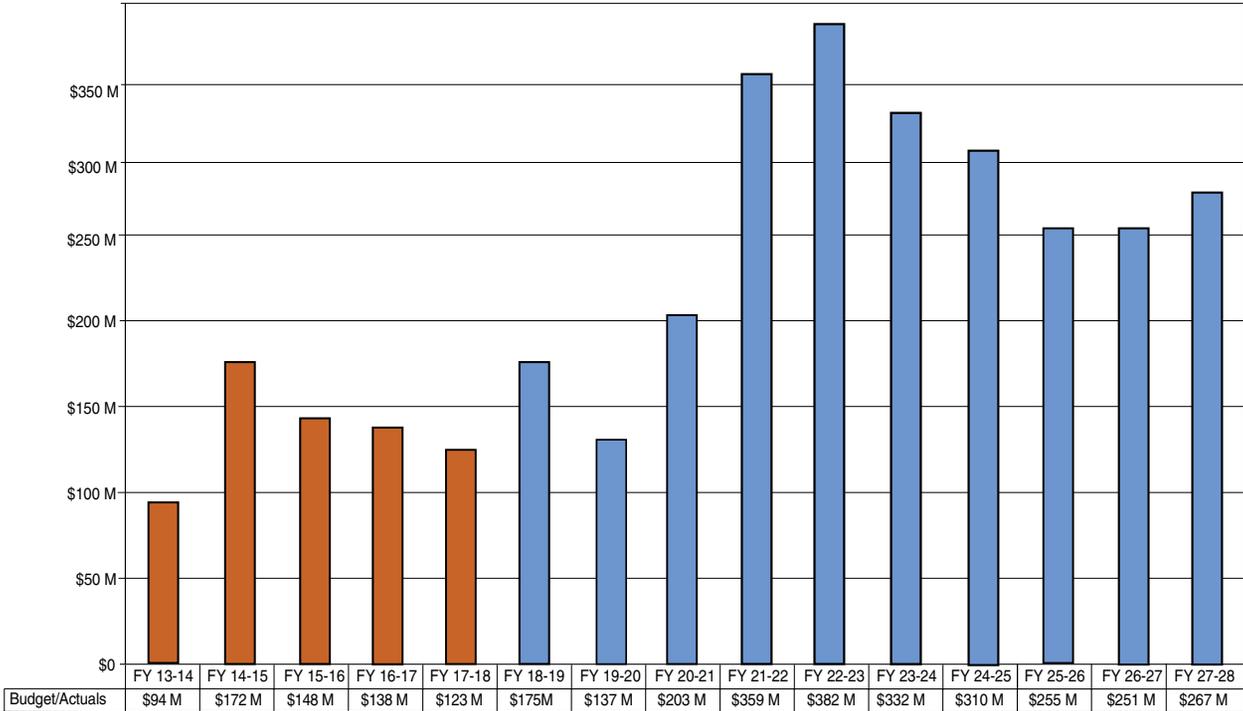


PROGRAM CASH FLOW

The ten-year Capital Improvement Program budget for Fiscal Year 2018-19 through 2027-28 is currently valued at \$2.67 billion. Projects are analyzed annually to verify scope, schedule, and overall cost which also helps determine priority of execution.

The table below shows the actual expenditures for the last five years and the projected budget for the next ten years. The chart illustrates the overall ten-year program budget breakdown.

Annual Net CIP Outlay

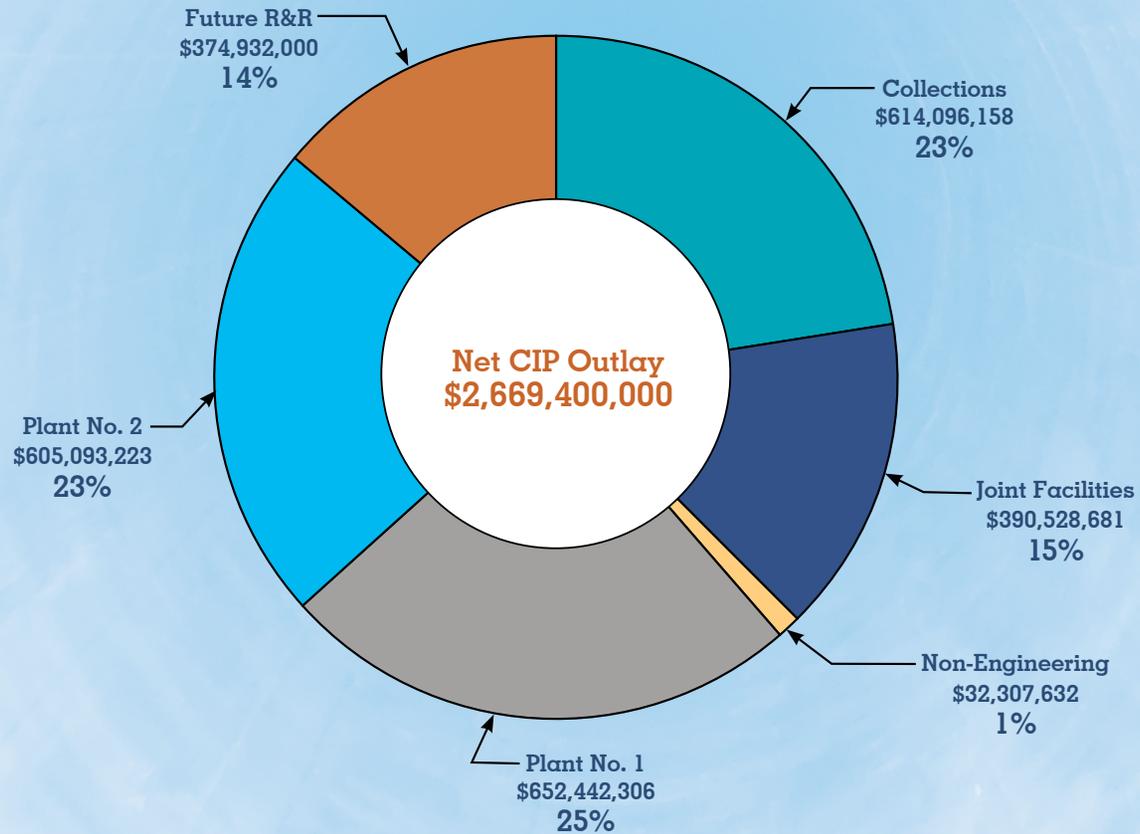


LEGEND
■ Actuals
■ Projected

This report only highlights the projects and efforts of the Engineering Department; however, the following chart includes OCSD's overall Capital Improvement Program which also includes projects by the Information Technology and Operations and Maintenance Departments.

Projects that are not fully scoped or identified are designated as Future Rehabilitation and Replacement.

TEN YEAR NET CIP OUTLAY (Fiscal Year 2018-19 through Fiscal Year 2027-28)



The Engineering Department had a very productive year. With support from the Contracts Administration Division, over \$66 million in construction contracts were awarded for nine projects. Almost \$21 million in design contracts, and \$1.5 million in studies were also awarded. In addition, four construction projects were completed totaling over \$70 million.

The tables below include the contract activity during this reporting period.

PLANNING STUDIES CONTRACTS AWARDED

Location(s)	Project No.	Project Name	Consultant	Amount of Award	Date of Award
Plant No. 1	PS16-04	Rectangular Primary Clarifier Reliability Study at Plant No. 1	Woodard and Curran	\$156,518	January 2017
Service Area	PS17-02	Guidelines for Development in the Area of OCSD Facilities	AECOM Technical Services, Inc.	\$ 93,187	September 2017
Plant No. 2	PS16-02	SCE Feed Reliability Improvements Study	Southern California Edison	\$150,000	September 2017
Huntington Beach	PS15-02	Edinger Pump Station Rehabilitation Study	Lockwood, Andrews & Newnam, Inc	\$505,042	December 2017
Plant Nos. 1 & 2	RE17-02	Biogas Scrubber Evaluation	Carollo Engineers	\$656,783	June 2018

DESIGN CONTRACTS AWARDED

Location(s)	Project No.	Project Name	Consultant	Amount of Award	Date of Award
Newport Beach	5-67	Bay Bridge Pump Station and Force Main Replacement	Arcadis	\$ 7,137,000	October 2017
Plant Nos. 1 & 2	J-124	Digester Gas Facilities Rehabilitation	Brown and Caldwell	\$11,770,000	November 2017
Plant No. 1	SP-196	Process Control System Upgrades Study	Stantec Consulting Services, Inc.	\$ 1,398,866	February 2018
Plant No. 2	P2-123	Return Activated Sludge Piping Replacement at Plant No. 2	Spec Services, Inc.	\$ 668,217	March 2018

CONSTRUCTION CONTRACTS AWARDED

Location(s)	Project No.	Project Name	Consultant	Amount of Award	Date of Award
Plant No. 1	P1-115B	Rehabilitation of Fleet Services Building, Building 8 and Paving Area	ODC Engineering and Technology	\$ 2,235,563	July 2017
Newport Beach	FE15-10	East Lido Force Main Rehabilitation	Charles King Company, Inc.	\$ 1,389,000	August 2017
Plant Nos. 1 & 2	J-126BFG	Safety Improvement at Plant Nos. 1 and 2	Amtek Construction	\$ 557,759	August 2017
Plant Nos. 1 & 2	J-126E	Roof Fall Protection and Skylights at Plant Nos. 1 and 2	Access Pacific	\$ 418,000	September 2017
Plant No. 2	P2-118	Activated Sludge Aeration Basin Deck Repair at Plant No. 2	Abhe & Svoboda, Inc.	\$ 906,975	September 2017
Plant No. 1	FE15-07	Secondary Treatment and Plant Water VFD Replacement, Plant No. 1	Helix Electric, Inc.	\$ 1,797,000	February 2018
Plant No. 1	FE16-10	East Basin Distribution Box Repair	Howard Ridley Co. Inc.	\$ 529,350	March 2018
Anaheim	2-72B	Newhope-Placentia Trunk Replacement, Segment B	OHL USA, Inc.	\$58,242,000	May 2018
OCSD Service Area	J-126L	Safety Improvements at Bitter Point, MacArthur, Seal Beach, Westside and Yorba Linda Pump Stations	IQA Construction	\$ 212,700	June 2018

CONSTRUCTION CONTRACTS COMPLETED

Location(s)	Project No.	Project Name	Consultant	Amount of Contract	Date of Award
Costa Mesa/Plant No.1	P1-123	Trunk Line Odor Control Improvements	Environmental Construction Inc.	\$ 5,580,675	August 2017
Plant No. 1	P1-100	Digester Rehabilitation at Plant No. 1	J.R. Filanc Construction Company, Inc.	\$43,129,424	October 2017
Fullerton	2-72A	Newhope-Placentia Trunk Replacement	Trautwein Construction	\$21,603,602	November 2017
Brea	FE16-08	Carbon Canyon Clay Pipe Repairs	SANCON Engineering	\$ 303,563	November 2017

ENGINEERING CIP PROJECTS

The following lists captures all the active projects during the 2017/2018 fiscal year.

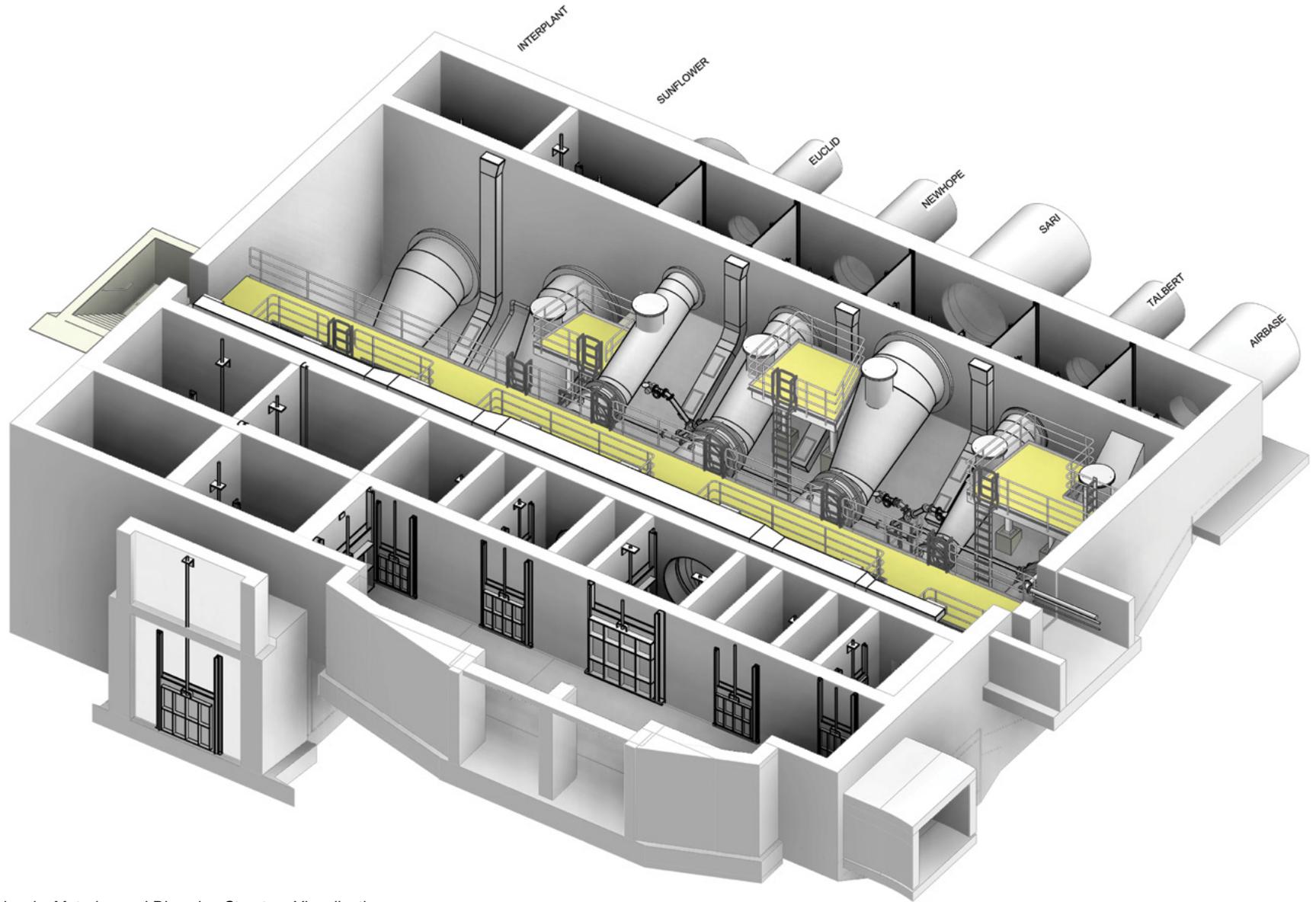
PLANNING STUDIES				
Location(s)	Project Number	Project Name	Phase	Budget
Plant Nos. 1 & 2	PS15-01	Biosolids Master Plan	Close Out	\$4,150,000
Huntington Beach	PS15-02	Edinger Pump Station Rehabilitation Study	Study Execution	\$ 971,000
Plant Nos. 1 & 2	PS15-06	Seismic Evaluation of Structures at Plant Nos. 1 and 2	Study Execution	\$3,860,000
Newport Beach	PS15-07	Pressurization and Odor Control Study at Newport Beach	Close Out	\$ 535,200
OCSD Service Area	PS15-08	Collections Capacity Evaluation Study	Study Execution	\$4,529,678
Plant Nos. 1 & 2, OCSD Service Area	PS15-10	2017 Facilities Master Plan	Study Execution	\$4,150,000
Plant Nos. 1 & 2, OCSD Service Area	PS16-01	Stormwater Master Plan	Study Execution	\$1,415,700
Plant No. 2	PS16-02	SCE Feed Reliability Improvements Study	Study Execution	\$ 293,000
Plant No. 1	PS16-04	Rectangular Primary Clarifier Reliability Study at Plant No. 1	Study Execution	\$ 420,000
Plant No. 1	PS17-01	Fire Flow Testing at Plant No. 1	Close Out	\$ 78,000
OCSD Service Area	PS17-02	Guidelines for Development in the Area of OCSD Facilities	Study Execution	\$ 176,000
Plant No. 2	PS17-03	Active Fault Location Study at Plant No. 2	Study Execution	\$1,121,000
Plant Nos. 1 & 2	PS17-04	Office Workspace Study for Plant No 1 and 2	Study Execution	\$ 77,000
Plant Nos. 1 & 2, OCSD Service Area	PS17-08	CEQA - Facilities Master Plan	Study Scoping	\$ 448,000
Plant Nos. 1 & 2	PS17-09	Calibration of Plant 1/Plant 2 InfoWorks Hydraulic Model	Study Execution	\$ 40,000
Plant No. 2	PS17-10	Emergency Overflow Weirs, Wing Wall Structural and Geotechnical Investigations	Study Scoping	\$ 357,000
Plant Nos. 1 & 2, OCSD Service Area	RE16-01	Operational Research Technical Support FY16-17	Close Out	\$ 66,773
Plant Nos. 1 & 2, OCSD Service Area	RE17-01	Operational Research Technical Support FY17-18	Close out	\$ 325,000
Plant Nos. 1 & 2	RE17-02	Biogas Scrubber Evaluation	Study Scoping	\$ 916,300
Newport Beach	RE17-03	Reliant Wet Well Wizard Test	Study Execution	\$ 74,000
OCSD Service Area	SP-125-15	SCCWRP Nutrient Cycling Sampling	Study Execution	\$ 95,000
Plant Nos. 1 & 2, OCSD Service Area	SP-152	Climate Change Impact Study	Study Scoping	\$ 590,000
Newport Beach	SP-178	Bay Bridge PS & FM Rehabilitation Study	Close Out	\$ 725,005
Plant Nos. 1 & 2	SP-195	Capital Improvement Program Management Services	Study Execution	\$ 300,000
Plant Nos. 1 & 2, OCSD Service Area	SP-196	Process Control System Upgrade Study	Study Execution	\$3,554,000

COLLECTION SYSTEM PROJECTS

Location(s)	Project Number	Project Name	Phase	Budget
Yorba Linda	2-41	SARI Re-Alignment	Close Out	\$ 11,404,000
Yorba Linda	2-41-8	SARI Rock Stabilizers Removal	Design	\$ 6,860,000
Fullerton	2-65	Newhope-Placentia Trunk Grade Separation Replacement	Close Out	\$ 4,300,000
Fullerton, Anaheim	2-72	Newhope-Placentia Trunk Replacement	Construction	\$112,000,000
Anaheim, Placentia	2-75	Lakeview Grade Separation Project	Close Out	\$ 330,000
Anaheim, Placentia	2-76	Tustin Rose OCTA Grade Separation	Close Out	\$ 586,000
Anaheim, Placentia	2-77	Orangethorpe OCTA Grade Separation	Close Out	\$ 1,505,000
Seal Beach, Westminster	3-62	Westminster Blvd Force Main Replacement	Design	\$ 54,000,000
Anaheim, Buena Park, Cypress, La Palma, Los Alamitos, Seal Beach, County of Orange	3-64	Rehabilitation of Western Regional Sewers	Preliminary Design	\$217,069,000
Fountain Valley	3-66	Interstate 405 Widening Project Impacts on OCSD Sewers	Design	\$ 528,000
Newport Beach	5-60	Newport Force Main Rehabilitation	Close Out	\$ 59,668,000
Newport Beach	5-67	Bay Bridge Pump Station Replacement	Preliminary Design	\$ 64,000,000
Costa Mesa, Newport Beach	6-17	District 6 Trunk Sewer Relief	Construction	\$ 7,965,000
Tustin, Irvine, Santa Ana	7-37	Gisler - Red Hill Trunk Improvements - Reach B	Construction	\$ 25,213,000

JOINT FACILITIES PROJECTS

Location(s)	Project Number	Project Name	Phase	Budget
Plant No. 2	J-110	Final Effluent Sampler and Building Area Upgrades	Close Out	\$ 16,411,000
Plant Nos. 1 & 2	J-111	CenGen Emissions Control Project	Close Out	\$ 23,820,000
Plant Nos. 1 & 2	J-117	Ocean Outfall System Rehabilitation	Design & Construction	\$166,000,000
Plant Nos. 1 & 2	J-124	Digester Gas Facilities Rehabilitation	Preliminary Design	\$ 96,500,000
Plant Nos. 1 & 2, OCSD Service Area	J-126	Safety Improvements Program	Design & Construction	\$ 19,000,000
Plant Nos. 1 & 2	J-127	Natural Gas Pipelines Replacement at Plant Nos. 1 and 2	Project Development	\$ 1,310,000
Plant Nos. 1 & 2	J-128	Project Management Information System	Design	\$ 4,000,000
Fountain Valley	J-131	18350 Mt. Langley St. Building Purchase and Improvement	Close Out	\$ 11,000,000
Plant Nos. 1 & 2	J-36-2	GWRS Final Expansion Coordination	Design	\$ 1,132,000
Plant Nos. 1 & 2	J-98	Electrical Power Distribution System Improvements	Project Development	\$ 34,608,000



Headworks Metering and Diversion Structure Visualization

RECLAMATION PLANT NO. 1

Location(s)	Project Number	Project Name	Phase	Budget
Plant No. 1	P1-100	Digester Rehabilitation at Plant No. 1	Close Out	\$ 67,150,000
Plant No. 1	P1-101	Sludge Dewatering and Odor Control at Plant No. 1	Construction	\$188,328,000
Plant No. 1	P1-105	Headworks Rehabilitation and Expansion at Plant No. 1	Design	\$436,000,000
Plant No. 1	P1-115	Title 24 Access Compliance and Building Rehabilitation Project	Construction	\$ 18,400,000
Plant No. 1	P1-123	Trunk Line Odor Control Improvements	Close Out	\$ 9,299,000
Plant No. 1	P1-128	Headquarters Complex and Site Security	Preliminary Design	\$179,067,000
Plant No. 1	P1-129	Return Activated Sludge Piping Replacement at Activated Sludge Plant No. 1	Design	\$ 3,979,000
Plant No. 1	P1-132	Uninterruptable Power Supply Improvements at Plant No. 1	Project Development	\$ 4,800,000

TREATMENT PLANT NO. 2

Location(s)	Project Number	Project Name	Phase	Budget
Plant No. 2	P2-107	SCADA System and Network Upgrades	Design	\$ 5,000,000
Plant No. 2	P2-110	Consolidated Demolition and Utility Improvements at Plant No. 2	Construction	\$ 30,300,000
Plant No. 2	P2-118	Activated Sludge Aeration Basin Deck Repair at Plant No. 2	Construction	\$ 2,800,000
Plant No. 2	P2-122	Headworks Modifications at Plant 2 for GWRS Final Expansion	Design	\$ 54,000,000
Plant No. 2	P2-123	Return Activated Sludge Piping Replacement at Plant No. 2	Design	\$ 15,000,000
Plant No. 2	P2-124	Interim Food Waste Receiving Facility	Project Development	\$ 5,400,000
Plant No. 2	P2-125	Perimeter Screening at Plant No. 2	Project Development	\$ 2,800,000
Plant No. 2	P2-89	Solids Thickening and Processing Upgrades	Close Out	\$ 48,150,000
Plant No. 2	P2-91-1	Plant No. 2 Digester Facilities Rehabilitation	Design & Construction	\$ 49,220,000
Plant No. 2	P2-92	Sludge Dewatering and Odor Control at Plant 2	Construction	\$ 90,477,000
Plant No. 2	P2-96	Site and Security Improvements at Plant No. 2	Close Out	\$ 252,000
Plant No. 2	P2-98	Primary Treatment Rehabilitation at Plant No. 2	Preliminary Design	\$491,000,000

SMALL CONSTRUCTION PROJECTS

Location(s)	Project Number	Project Name	Phase	Budget
Brea, Fullerton	FE10-21	Area 02 Craig Regional Park Manhole Improvements	Design	\$1,359,000
Plant No. 1	FE12-10	IT Server Room Cooling Improvements	Close Out	\$ 956,086
Plant No. 2	FE13-04	Plant No. 2 Trickling Filter Chemical Odor Control	Close Out	\$4,730,000
Plant No. 2	FE14-03	Rehabilitation of Digester Mixing Pumps at P2 Digesters E, H, R, S, and T	Construction	\$1,360,000
Plant No. 1	FE14-05	Plant No. 1 Fleet Services UST Leak Remediation	Design	\$7,032,000
Fullerton	FE15-01	Fullerton Creek Channel Crossing	Construction	\$ 260,000
Plant No. 2	FE15-06	Gas Compressor Building Piping Replacement at Plant No. 2	Close Out	\$3,924,000
Plant No. 1	FE15-07	Secondary Treatment and Plant Water VFD Replacement at Plant No. 1	Construction	\$3,315,000
Plant No. 1	FE15-09	CenGen Hot Water Pipe Bracing at Plant No. 1	Design	\$ 425,000
Newport Beach	FE15-10	East Lido Force Main Rehabilitation	Construction	\$2,628,000
Newport Beach	FE16-01	Big Canyon Nature Park Improvements	Close Out	\$ 533,000
Newport Beach	FE16-02	Jamboree Sewer Realignment at Big Canyon	Cancelled	\$ 894,110
Plant No. 2	FE16-05	Buried Water Valve Support Upgrades at Plant No. 2	Construction	\$ 500,000
Plant No. 1	FE16-06	Fuel Cell Facilities Demolition	Design	\$ 166,000
Brea	FE16-08	Carbon Canyon Clay Pipe Repairs	Close Out	\$1,131,000
Plant No. 1	FE16-10	East Basin Distribution Box Repair	Construction	\$ 907,035
Irvine	FE16-11	Lane Channel Crossing	Design	\$1,251,000
Plant No. 1	FE16-12	Garfield Road Perimeter Security Fence	Construction	\$ 121,000
Plant No. 2	FE16-13	Collections Infrastructure Relocation at Plant No. 2, Phase 1B	Close Out	\$ 216,000
Huntington Beach	FE16-14	Slater Pump Station Valve Replacements	Design	\$1,050,000
Brea	FE17-01	Carbon Canyon Pipeline Sag Repairs	Design	\$ 500,000
Plant No. 1	FE17-03	Battery Storage System at Plant No. 1	Design	\$ 250,000
OCSA Service Area	FE17-04	Storm Water Compliance Improvements at 3 Pump Stations	Project Development	\$ 570,000
Plant No. 1	FE17-05	Plant No. 1 ICS Network Extension	Design	\$ 813,000
Tustin	FE17-06	Tustin Ave Manhole and Pipe Repair	Project Development	\$ 273,000
Santa Ana	FE17-07	Fruit Street Trunk Sewer Relocation - OC Streetcar	Design	\$ 334,000
Newport Beach	FE17-08	Big Canyon Trunk Sewer Realignment - BCCC Maintenance Yard	Construction	\$ 72,000



INDUSTRIAL WATER

Agency/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

Denise Barnes
 Glenn Parker
 Fred Smith
 Mariellen Yarc
 Steve Nagel
 Greg Sebourn
 Steve Jones
 Erik Peterson
 Donald P. Wagner
 Tim Shaw
 Peter Kim
 Richard Murphy
 Scott Peotter
 Teresa Smith
 Chad Wanke
 Sal Tinajero
 Ellery Deaton
 David Shawver
 Allan Bernstein
 Robert Collacott

Sanitary Water Districts

Costa Mesa Sanitary District	James Ferryman
Midway City Sanitary District	Charlie Nguyen
Irvine Ranch Water District	John Withers
Yorba Linda Water District	Phil Hawkins

County Areas

Member of the Board of Supervisors	Michelle Steel
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Reclamation Plant No. 1 (Administration Offices)

10844 Ellis Avenue • Fountain Valley, California 92708 • 714.962.2411

Treatment Plant No. 2

22212 Brookhurst Street • Huntington Beach, California 92646

For more information

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