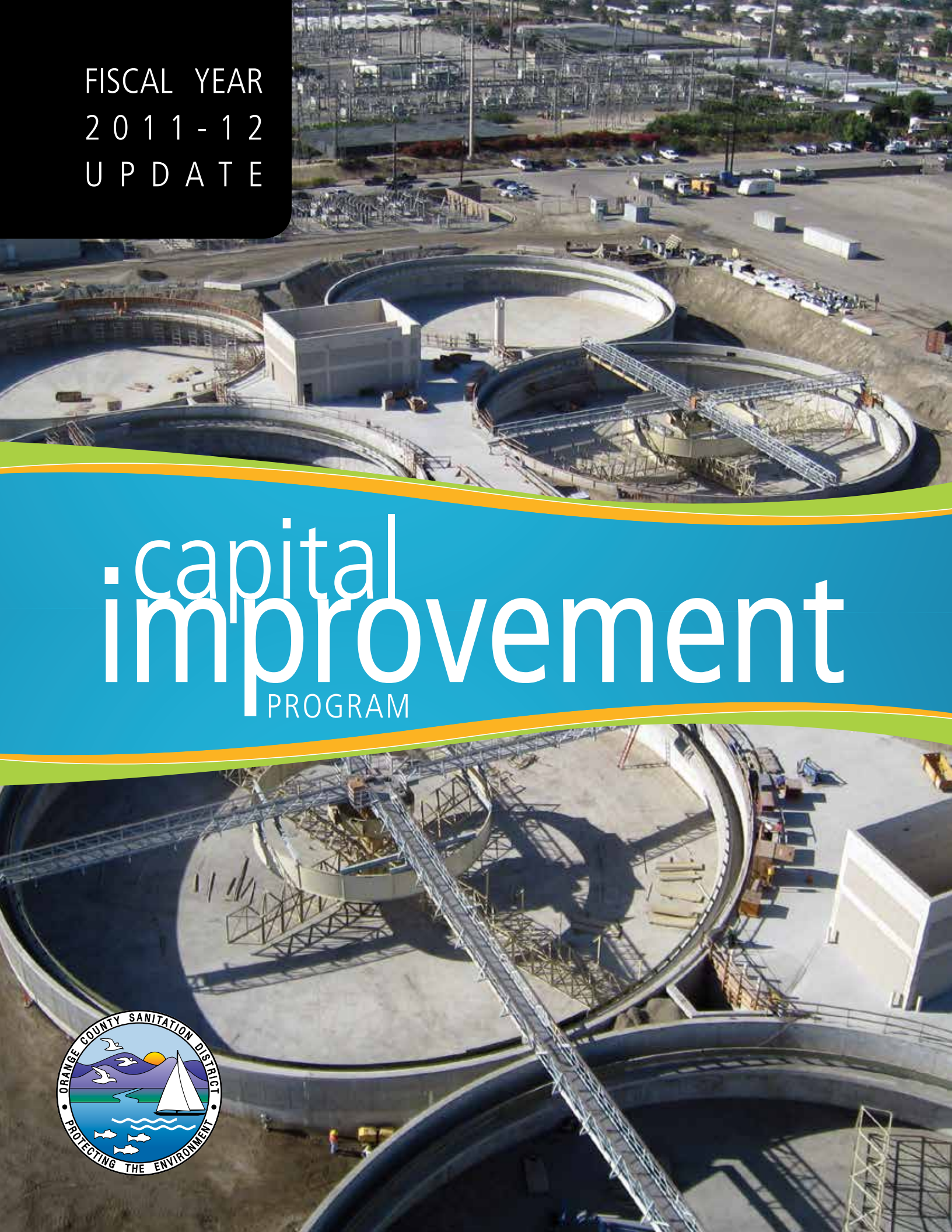


FISCAL YEAR  
2011-12  
UPDATE



# capital improvement

PROGRAM



# FROM THE ASSISTANT GENERAL MANAGER

**F**or the past ten years, one of our major efforts has been upgrading our treatment plants to meet full secondary treatment standards. The four projects that encompass the voluntary secondary Consent Decree that was signed in 2004 are now constructed and in full operation – as promised, producing clean secondary effluent to protect the ocean environment and to provide increased flows for recycling to enhance our water supplies.

Our Capital Improvement Program is now shifting emphasis toward rehabilitation and modernization of older facilities to ensure that our rate payers receive reliable, environmentally responsible service. These projects and our progress toward implementation are described in the CIP Annual Report.

We thank our Board of Directors for their vision and support in planning and implementing the Capital Improvement Program.

Respectfully submitted,



James D. Herberg, P.E., BCEE  
Assistant General Manager / Director of Engineering  
Orange County Sanitation District

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# INTRODUCTION AND BACKGROUND



New secondary treatment facilities are in the final stages of construction as the Orange County Sanitation District nears the completion of the Consent Decree to take these facilities online.

## Agency information

The Orange County Sanitation District (OCSD) is the fifth largest wastewater agency in the country. With our recent upgrades and improvements, all of our wastewater is treated to secondary treatment standards. More than one-third of our secondary treated water is recycled by Orange County Water District, with the remainder disposed through our ocean outfall.

Our agency collects, and treats, wastewater for the 2.5 million residents in central and northern Orange County. We have two treatment plants, 15 pump stations, and close to 600 miles of sewers throughout the 21 cities, 3 special districts, and unincorporated parts of the county that we service. We have personnel working day and night to ensure our system is working efficiently and effectively. We strive to provide exceptional service to our rate payers by monitoring our process and making improvements where needed. We are continuously exploring ways to be better environmental stewards and continue protecting the public health and the environment.

## Capital improvement program overview

As the expansion portion of the Capital Improvement Program (CIP) winds down, we see the commitment we made to the public years ago come to life. We have completed dozens of projects that have made significant improvements to the way we treat wastewater, the way we handle biosolids, the reduction in air emissions, the odor control systems, and our overall reliability. We have come a long way from the 1950s when our agency was first created. While our focus has always been on protecting public health and the environment, we took a closer look in 2002 and decided to enhance our efforts. OCSD voluntarily entered into a Consent Decree with the Regional Water Quality Control Board and the Environmental Protection Agency to reach full secondary treatment standards by 2013. We took on a major endeavor as we focused on constructing large projects that would expand our capacity; all while maintaining the facilities running and remaining in compliance with our regulatory permits.

In the past ten years, the CIP has focused on projects required to reach full secondary standards. Now, as we've reached that milestone, our focus shifts to rehabilitation. Our 2009 Facilities Master Plan has evaluated the needs of the plants and identified areas that will need to be rehabilitated or replaced through 2030. All projects in our CIP have, and will continue to go through an intense planning process to confirm

that they are scheduled, budgeted, and staffed properly. OCSD must plan for sustainable cash-flow projections and ensure the right projects are being constructed at the right time.

The Capital Improvement Program also has a Community Outreach Program aimed at working with the neighborhoods we come into contact with during construction. We focus our efforts on reaching out to residents, business owners, schools, and any other group that may be impacted during construction prior to any activity taking place. We review the projects during the early stages of design to identify potential issues and attempt to mitigate potential problems as much as possible. Our project teams conduct meetings with the neighbors, send out informational material, work with the schools, and coordinate extensively with the cities to ensure we are addressing the concerns of the community.

It is our goal to establish and maintain a positive relationship with the public; we make every effort to keep our rate payers informed of our activities and provide answers to any question they may have. We always strive to be good neighbors.

For information regarding our CIP and outreach program, please visit our website at [www.ocsewers.com](http://www.ocsewers.com). We can also be reached via email at [constructionhotline@ocsd.com](mailto:constructionhotline@ocsd.com) or at 714-378-2965.

## Engineering accomplishments 2011-12

### Capital Projects

The largest projects in the CIP envisioned ten years ago are reaching the finishing line. The Engineering CIP for 2011-12 included 62 active projects. These projects were projected to expend \$104 million during the fiscal year and closed the year with an actual expense of \$74 million. This year, three new projects were initiated and eight projects started design with new design contracts awarded. These projects will move through the execution process from design into construction in the coming years. Three projects completed construction, including some very difficult rehabilitation projects, totaling \$26 million in contracts. Construction contract change orders for those completed projects were less than the program goal of 5%. Non-construction costs for the program remained below the goal threshold of 35% of the constructed value.

### Secondary Treatment Expansion Milestones

Ten years ago OCSD committed to building Secondary Treatment facilities that will be completed and online by the end of 2012. We have continued to be on or ahead of schedule for completion of the



Aerial view of the 80 mgd activated sludge secondary treatment plant at Plant No. 1.

interim milestones of these facilities and this year is no exception. The new Plant No. 2 facility is completed and online treating wastewater to levels that exceed design expectations. The Plant No. 1 facility was completed in August 2012. These milestones ensure that OCSD is well on track to meeting the EPA Consent Decree date at the end of 2012. The EPA recently toured the OCSD secondary treatment facilities to determine our readiness to meet the final milestone.

### **Design-Build Project**

OCSD's first project to be contracted under the design-build project delivery method reached completion over the last year. The project completed on time and within budget. OCSD will consider this method for future projects; however, a significant portion of the legislation allowing this delivery method will be expiring at the end of 2012.

### **SARI Line Relocation Status**

The Santa Ana River Interceptor (SARI) replacement is a critical pipeline within the Santa Ana River that is being relocated by the County of Orange in cooperation with OCSD and the Santa Ana Watershed Protection Authority (SAWPA). The project was split into two separate contracts, the Main Line and the Yorba Linda Spur. Construction work is progressing on the Yorba Linda Spur Line contract with all of the pipeline installation along La Palma Avenue completed, including the micro tunneling of the pipe below the Santa Ana River. Ongoing work includes installation of the pipeline at SAVI Ranch. The spur line is approximately 85 percent complete and scheduled for total completion by October 2012. Work on the Main Line, the larger of the two construction contracts, is proceeding with several construction headings occurring simultaneously. The contractor has completed installation of 4,000 feet of pipeline from SAVI Ranch to Canyon RV Park. On-going work includes pipeline installation at Canyon RV Park (West) and Coal Canyon and the metering station at Canyon RV Park (East). The Main Line construction is approximately 20 percent complete with total completion scheduled for November 2013.

### **Safety Program**

Projects covered by OCSD's Owner Controlled Insurance Program (OCIP) continued to demonstrate a high level of safety. The majority of projects active during the year experienced no losses. Through June 30, 2012, OCIP jobs accounted for 44,000 work hours with nearly \$19 million in worker payroll. Only three claims

incurred during the lifetime of the OCIP since 2008 have involved payments larger than \$10,000. The OCIP has enrolled 18 prime contractors and 166 subcontractors. OCSD's OCIP continues to operate successfully and staff continues to promote a safety culture that helps ensure all work is done in a safe manner.

### **Headworks at Plant 2 Online**

This year marks a significant milestone for the Treatment Plant in Huntington Beach. Over the last several years, the new Headworks facility has been in construction. This facility receives all of the wastewater from the collections pipelines. This year the new facility was tested and put into service, paving the way for the connection of all of the large trunk sewers and the demolition of the existing Headworks facilities. It's an understatement to say that there were significant planning challenges in keeping the plant operating while the major arteries of the plant were reconnected to the new facility, but it was done successfully.

### **New Discharge Permit and Ocean Outfall Repair Projects**

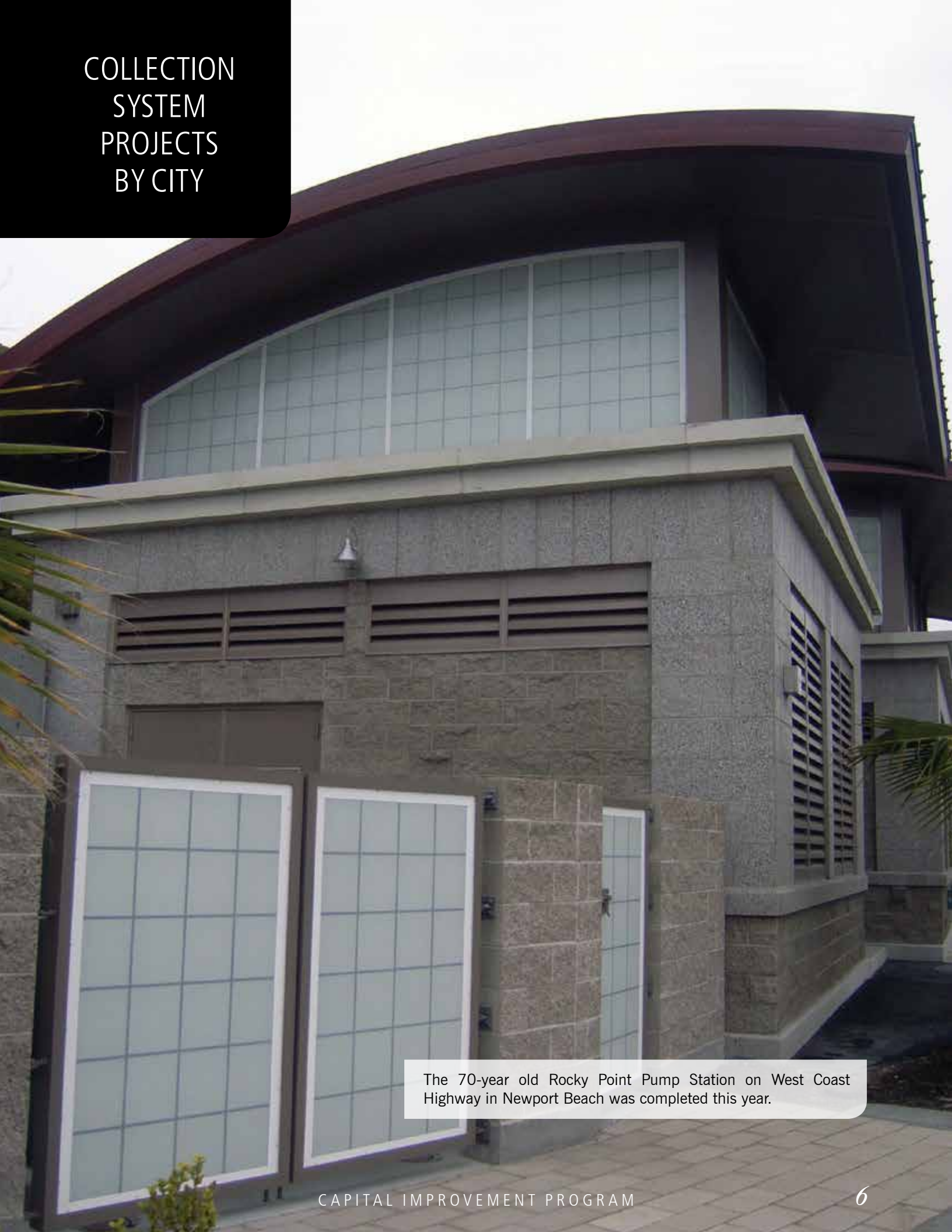
The approval of the new National Pollutant Discharge Elimination System Permit (NPDES) by the Environmental Protection Agency was a long standing effort that came to fruition this year through a great deal of work by OCSD's Environmental Compliance Division. One of the many benefits of this new permit will be the ability to use the standby outfall in order to perform some much needed maintenance on the primary outfall pipeline to the ocean. Over the last year, a critical project was initiated, designed, and is now in construction to perform this maintenance work on one of our most critical facilities.

### **Engineering Staffing Support Contract**

Over the last ten years, Integrated Program Management Consultants (IPMC) a joint venture between CH2MHill and Parsons provided technical support, integrated staffing, and specialized expertise to assist OCSD in planning and implementing our CIP.

This year marks the closing of this contract and coinciding with the delivery of our expanded facilities and the completion on our secondary treatment Consent Decree. A plan was developed to ensure a smooth transition from our integrated consultant and OCSD staffing team. The transition was completed at the end of the fiscal year and the knowledge and tools shared by IPMC with OCSD staff will continue to benefit our program going forward.

COLLECTION  
SYSTEM  
PROJECTS  
BY CITY



The 70-year old Rocky Point Pump Station on West Coast Highway in Newport Beach was completed this year.



**A**s one of the largest wastewater agencies in the country, we have hundreds of miles of sewers and several pump stations in our service area that need and will continue to need repairs, upgrades, and replacements. Since the inception of the Capital Improvement Program, we've had dozens of projects throughout our collections system that have been planned, designed, and constructed to keep our system running efficiently and effectively. To continue with the level of service and commitment to our ratepayers, we will continue to have projects that will focus on maintaining our system effectively.

Infrastructure projects are necessary to ensure our safety and to continue providing our service to you. However, we understand that no one likes the associated impacts such as traffic delays, road closures, dust, odor, and noise. OCSD understands this very well. Several years ago a Community Outreach Program was developed to allow us the opportunity to work with the impacted communities to try to minimize those much dreaded construction issues.

The program focuses on reaching out to the residents, businesses, schools, commuters, cyclists, and any other group we can reach to inform them of the project and help find ways to reduce the effects of the construction. Whether it's providing detour routes, informing them about work hours, street closures, or simply letting them know in advance of what to expect, we work with our rate payers to demonstrate our concern and good faith. We strive to showcase that their opinions do matter to us and that we make a great effort to mitigate the impacts as much as possible. Because of our outreach efforts, we've been able to build lasting relationships with many communities in our service area and showcase how our projects are benefiting the entire service area.

Information regarding our Capital Improvement Program is available on our website at [www.ocsewers.com](http://www.ocsewers.com). You may also reach us at [constructionhotline@ocsd.com](mailto:constructionhotline@ocsd.com) or at 714-378-2965.

Below are highlights from our collection system projects.

## Newport Beach Bitter Point Pump Station Replacement (Project No.5-49)

The newly constructed Bitter Point Pump Station is one of our largest pump stations with a daily capacity of 40

million gallons. The station is the final stop for Newport Beach wastewater before reaching the treatment plant. The former station was constructed over 70 years ago and as such, was outdated and unable to handle the current and future wastewater flows. The new station houses the pumps 35-feet below ground and the electrical equipment above ground. By separating the two, it reduces the odor, corrosion and noise, enhances safety and provides greater efficiency.

During the design process, the local homeowner associations were involved in determining the look of the facility. It was important for OCSD to involve the community who would be viewing the pump station on a regular basis. The station construction is now fully completed with minor site restoration work pending.

## Rocky Point Pump Station Replacement (Project No. 5-50)

Replacing a pump station is not an easy task. Replacing a pump station in-between businesses and along an extremely busy highway is even more difficult. That was the case with the Rocky Point Pump Station on West

Coast Highway in Newport Beach. The old facility was underground in the Balboa Bay Club parking lot which created access problems in addition to the station no longer meeting electrical and safety codes. A new, larger pump station was constructed across the street to allow greater pumping capacity

and to meet all the new code requirements. The pumps are underground to minimize noise and odor. There are two above-ground structures for the electrical equipment and the standby emergency generator.

The new and old systems needed to be connected which required construction across the highway. To minimize the impact on commuters, portions of the work were done by tunneling underneath the road; however, this wasn't an option for every connection that was needed. We had to set up traffic control and reduce travel lanes to accommodate equipment to perform the work. We worked closely with City and Caltrans' staff to adjust work hours to help expedite the work. We sincerely appreciate all the support and patience we received from the neighbors, businesses, commuters, cyclists, the Balboa Bay Club, the City of Newport Beach, and Caltrans to complete this necessary work.

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## INFRASTRUCTURE PROJECTS ARE NECESSARY TO ENSURE OUR SAFETY

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## Newport Force Main Rehabilitation (Project No. 5-60)

The Newport Force Main is a critical component of our collections system; it carries the flow from various pump stations to our treatment plant in Huntington Beach. The force main is located on West Coast Highway stretching from Dover Drive to 61st Street which is a heavily travelled thoroughfare. There are two force mains, one on the north side of the street and one on the south side which makes the rehabilitation more complex.

The project is currently in the preliminary design phase where various alternatives are being analyzed to determine the best option for construction. In such a busy area, it's extremely important we analyze not only the technical feasibility but the impacts to the community and commuters as well. The project team is working diligently on finding the best alternative to accomplish the project objective including minimizing impacts as much as possible.

Construction is scheduled for fall 2014.

## Dover Drive Trunk Sewer Relief (Project No. 5-63)

The Dover Drive sewer that runs between Irvine Blvd. and Pacific Coast Highway needs to be replaced. The sewer doesn't have the hydraulic capacity to handle the wastewater flow and must therefore be replaced with a larger pipeline. OCSD will also relocate a city waterline to reduce the level of impact for the community by eliminating the need for a secondary project in the area. Several other elements have been incorporated into the project to ease the impact on the neighbors and commuters alike. As an example, work around the school will be done during the summer months when the children are on summer break. There will also be partial street closures in the northern portion of Dover to accelerate the schedule. OCSD is working diligently on this project to ensure every possible measure is taken to minimize public impacts.

Construction is scheduled to commence in spring 2013.

## MULTI-CITY PROJECTS: Anaheim/Yorba Linda Santa Ana River Interceptor Realignment (Project No. 2-41)

As a joint effort between OCSD, the County of Orange, and the Santa Ana Watershed Project Authority

(SAWPA), a four-mile segment of the Santa Ana River Interceptor (SARI) pipeline currently located within the floodplain of the Santa Ana River is being relocated. The pipe is in risk of failure due to the high stormwater releases from Prado Dam during major flood events. This project will relocate and replace the SARI Mainline with a new 54-inch-diameter pipeline on the south side of the river just north of the Riverside (91) Freeway. The Yorba Linda Spur is a new 15-inch-diameter gravity sewer will be constructed along La Palma Avenue and the Santa Ana River trail to capture flows from the north side of the river. These new locations will protect the pipeline from stormwater flows in the river thus increasing reliability.

The project is currently under construction and approximately 20 percent complete. Final completion is scheduled for fall 2013.

## Costa Mesa/Newport Beach Southwest Costa Mesa Trunk (Project No. 6-19)

In an effort to improve efficiency in our service area, OCSD is investigating the feasibility of installing a new trunk line in Costa Mesa. The sewer may extend westerly along W. 19th Street, across a wetland marsh area east of the Santa Ana River and connect to our Huntington Beach facility. The proposed project would allow the abandonment of several Costa Mesa and Newport Beach pump stations to provide more reliable service to the community.

The project is currently in the development phase where various alignment alternatives are being analyzed. Current work includes a biological survey, constructability study, operability study, and a permit requirement investigation. The environmental impacts associated with the proposed work are also being examined during this process.

Construction is anticipated for 2016.

## Irvine/Tustin Gisler-Red Hill System Improvements (Project No. 7-37)

Last year over three miles of sewer on Red Hill Avenue were assessed to analyze the condition. It was determined that approximately two miles of sewer must be rehabilitated to improve capacity and flow.

To minimize disturbance to commuters along this busy portion of road, the pipe will be relined which will reduce the construction time. However, there are portions that will require an open-cut construction

method to connect two existing sewers and to correct sewers with a negative slope.

The final design is scheduled for completion in fall 2012 with construction anticipated for summer 2013.

## Fountain Valley/Westminster Magnolia Trunk Sewer Rehabilitation (Project No. 3-58)

As the first design-build project for OCSD, the Magnolia Trunk Sewer Rehab job successfully relined five miles of sewer in ten months, several months ahead of schedule. The project required 13 access pits to be dug along three streets in two cities. The pits

allowed the pipe to be inserted without having to do the traditional open-cut method of construction which would have extended the length of work in the heavily travelled streets of Fountain Valley and Westminster.

A Community Liaison was assigned to the project and was dedicated to working with residents, businesses, and schools to address construction related issues. Construction alerts and newsletters were distributed in the community to keep people abreast of construction impacts in their neighborhood. We also provided project updates through our website and e-mail blasts.

Every effort was made by the project team to minimize impacts and complete the work as quickly as possible. The project was completed in October 2011.



OCSD inspectors review the construction of the Bitter Point Pump Station in Newport Beach. The new pump station replaces very old facilities that could not be rehabilitated.

# SECONDARY TREATMENT EXPANSION PROJECTS



Man, machines, and materials are all at work to build new treatment facilities. This shows the construction at Plant No. 2 in Huntington Beach moving at a rapid pace to meet the scheduled milestones.

Today we have been anticipating for 10 years is fast approaching. December 31, 2012 is our deadline to be in full compliance with the Consent Decree that was entered into with the Environmental Protection Agency and the Regional Water Quality Control Board. The goal to treat 100 percent of our wastewater to full secondary treatment standards was decided by our Board of Directors in an effort to produce higher-quality water.

Four projects were developed to reach our goal. Today, all four are fully constructed and operational. OCSD is very proud of the project teams that have helped us complete six out of the seven milestones. The remaining milestone will be met by our December 31 deadline.

Consent Decree milestone dates and current status for each project are as follows:

Project	Consent Decree Milestone	Due Date	Status
P1-76	Complete Construction	03/15/2006	Completed
P1-102	Advertise for Construction	11/15/2006	Completed
P2-90	Advertise for Construction	01/15/2007	Completed
P2-74	Complete Construction	01/15/2009	Completed
P2-90	Complete Construction	02/15/2011	Completed
P1-102	Complete Construction	11/15/2012	Completed
	Full Compliance with Consent Decree	12/31/2012	On schedule

## Trickling Filter Rehabilitation and New Clarifiers (Project No. P1-76) – completed

The first project on the Consent Decree milestone list was the rehabilitation of the trickling filters and new clarifiers at Plant No. 1. The project was successfully completed in 2006, 15 days ahead of schedule.

The project consisted of removing four trickling filters and replacing them with two new trickling filters and two new clarifiers. Also included were the construction of a new power building to support the increased electrical demand, as well as two effluent lines including one to the Groundwater Replenishment System inlet structure and one to the 66-inch interplant line. Several junction structures were also installed to allow flexibility of flow distribution.

## Rehabilitation of Activated Sludge Plant (Project No. P2-74) – completed

In 2008, the Activated Sludge Plant Rehabilitation was completed allowing us to successfully check off another

milestone requirement. The goal was met 200 days ahead of schedule.

The rehabilitation project consisted of replacing major mechanical equipment such as gates, valves, impeller blades, and piping that had begun to fail or was at the end of its useful life. Large diameter pipes were relined, odor control was added to the aeration basin splitter box, bleach pipelines and injection points were installed and instrumentation and controls were updated.

## Trickling Filters at Plant No. 2 (Project No. P2-90) – completed

Construction of the trickling filters project was accomplished in December 2010, two full months ahead of the Consent Decree milestone. A few short months later it was treating wastewater to a higher degree, thus improving the quality of the water we release into the ocean.

The project included construction of three trickling filters, a solids contact basin, six clarifiers, odor control scrubbers, and a pump station for additional secondary treatment capacity of 60 mgd at Plant No. 2. The trickling filter/solids contact process was selected for OCSD's facility because it produces higher quality effluent, at lower capital cost, lower energy consumption, provided space on the site for future expansion, and reduced visual impact for the neighborhood. The facilities are the second largest in the world, and are in fact the largest in the United States.

## New Secondary Treatment System (Project No. P1-102) – completed

The final project in the Consent Decree is the new Secondary Treatment System at Plant No. 1. The facility was fully constructed and completed in August 2012, three months ahead of the deadline. The project increases secondary treatment capacity at Plant No. 1 by 60 million gallons per day. It also puts OCSD in full compliance with our Consent Decree.

The four-year project constructed six aeration basins, six clarifiers, a blower building, and return sludge and waste pumping stations on 12 acres of land making this the largest project constructed at OCSD's Fountain Valley facility.

# RECLAMATION PLANT NO. 1 PROJECTS



A new activated sludge secondary treatment facility is starting to treat wastewater as part of the P1-102 project. This is the final project to meet the EPA Secondary Treatment Consent Decree, and making OCSD a full secondary treatment facility.

Our Fountain Valley facility encompasses 100 acres of land where we treat almost 100 million gallons of wastewater a day. To keep our plant operating smoothly, we have multiple construction projects focusing on rehabilitating and upgrading the facilities. Some of the projects are listed below:

## Sludge Digester Rehabilitation at Plant No. 1 (Project No. P1-100)

As we move into full secondary treatment standards and make more flow available to GWRS, we are faced with more solids to handle and process. The P1-100 project will aid in that by rehabilitating 12 digesters that have a capacity of more than 2 million gallons each. The digesters will undergo cleaning and grit removal to help extend their lifecycles. Aging equipment will be replaced; such as pumps, sludge grinders, heat exchangers, and piping, as well as the domes' liners and insulation. The rehabilitated digesters will be able to handle the thicker solids produced by the new centrifuge facilities. Thicker solids result in better digester efficiency, reduced handling costs, and increased capacity,

Two digesters will be completely rehabilitated by the fall and the remaining 10 are scheduled for completion by spring 2015.

## Sludge Dewatering and Odor Control at Plant No. 1 (Project No. P1-101)

Another project supporting the upgrades to full secondary treatment standards is P1-101. This job enhances the use of the existing digesters and

replaces the current sludge handling facilities. A new dewatering/thickening building will be constructed as well as chemical storage and feed facilities. The new dewatering equipment will remove more water from the biosolids than existing facilities, which in turn will reduce the hauling cost to remote sites. There will also be improvements made to the odor control measures and the existing sludge loading facility.

Construction is estimated to begin in the fall and be completed in 2016.

## Title 24 Access Compliance and Building Rehabilitation Project (Project No. P1-115)

The preliminary design for this project began last year. Part of this project was to assess the various buildings at Plant No. 1 to determine what upgrades were needed to comply with the Americans with Disabilities Act. In addition, several buildings would be modified to meet building codes such as lighting, heating, air conditioning, and roofing. The initial step of this project is to assess the buildings for code compliance and repair needs. As a result of the assessment, it was decided to perform an Administrative Facilities Master Plan Study to explore other alternatives to rehabilitate the administration buildings in an effort to define a cost-effective, long-term strategy for the buildings.

The large size and complexity of the project required it to be split up into five packages to sequence the work and minimize the construction impacts. The first package to be designed and constructed will be the maintenance buildings and shops. The other four packages will follow suit in subsequent years with a final project completion anticipated for 2018.



Old digester domes at Plant No. 1 in Fountain Valley getting a makeover. This rehabilitation will extend the life of these facilities and defer replacement.

TREATMENT  
PLANT NO. 2  
PROJECTS



Recently completed sludge blending facilities provide added flexibility with improved treatment.



The Huntington Beach facility is bordered by Pacific Coast Highway, the Santa Ana River and Brookhurst Street. The plant is directly across from the Huntington State Beach which gives us a clear picture of what we strive to protect on a daily basis.

Plant No. 2 currently treats just over 100 million gallons of wastewater daily to full secondary treatment standards.

Some of the projects currently taking place or scheduled for this facility are listed below:

## Headworks Improvements at Plant No. 2 (Project No. P2-66)

Replacing our 50-year old Headworks facility has been like performing open-heart surgery. It's taken many long hours preparing every intricate detail of the work and dealing with unexpected situations, but nothing less would be expected. Headworks is after all, the heart of our operation.

Headworks receives untreated wastewater from five major trunk sewers. It combines and measures the influent, removes debris and grit, and pumps the wastewater flow to a suitable elevation to allow gravity flow through the rest of the treatment plant. In addition, chemicals are added to remove and suspend solids in the downstream process. Many improvements are included in the new construction that will enable the Headworks facility, which consists of 13 buildings, to perform at optimal level.

The old Headworks has been demolished. New pipelines will be completely installed connecting the new Headworks to the primary clarifiers by the fall.

The project will be completed by early 2013.

## Solids Thickening and Processing Upgrades (Project No. P2-89)

Reaching full secondary treatment standards means upgrades are also needed in other areas of the treatment facilities. Plant No. 2 will undergo upgrades to provide sludge thickening treatment to treat the increased amount of solids from the new Secondary Treatment facilities.

As part of the effort, the Dissolved Air Flotation Thickeners (DAFT) will be upgraded and the odor control system will be replaced. Digesters that are currently used as holding tanks will be converted to working digesters.

Construction is expected to begin this summer with final completion scheduled for summer 2015.

## Sludge Dewatering and Odor Control at Plant No. 2 (Project No. P2-92)

The completion of the Trickling Filters project has generated an increased amount of solids. This project is required to improve the solids handling capacity and replace additional aging facilities.

As part of the new project, sludge dewatering facilities and the odor control facilities will be replaced. These efforts will help support the Long Range Biosolids Master Plan of lowering hauling and disposal cost of biosolids by removing as much water as possible from them prior to leaving the plant.

The project is currently in design with construction scheduled to commence in 2013.

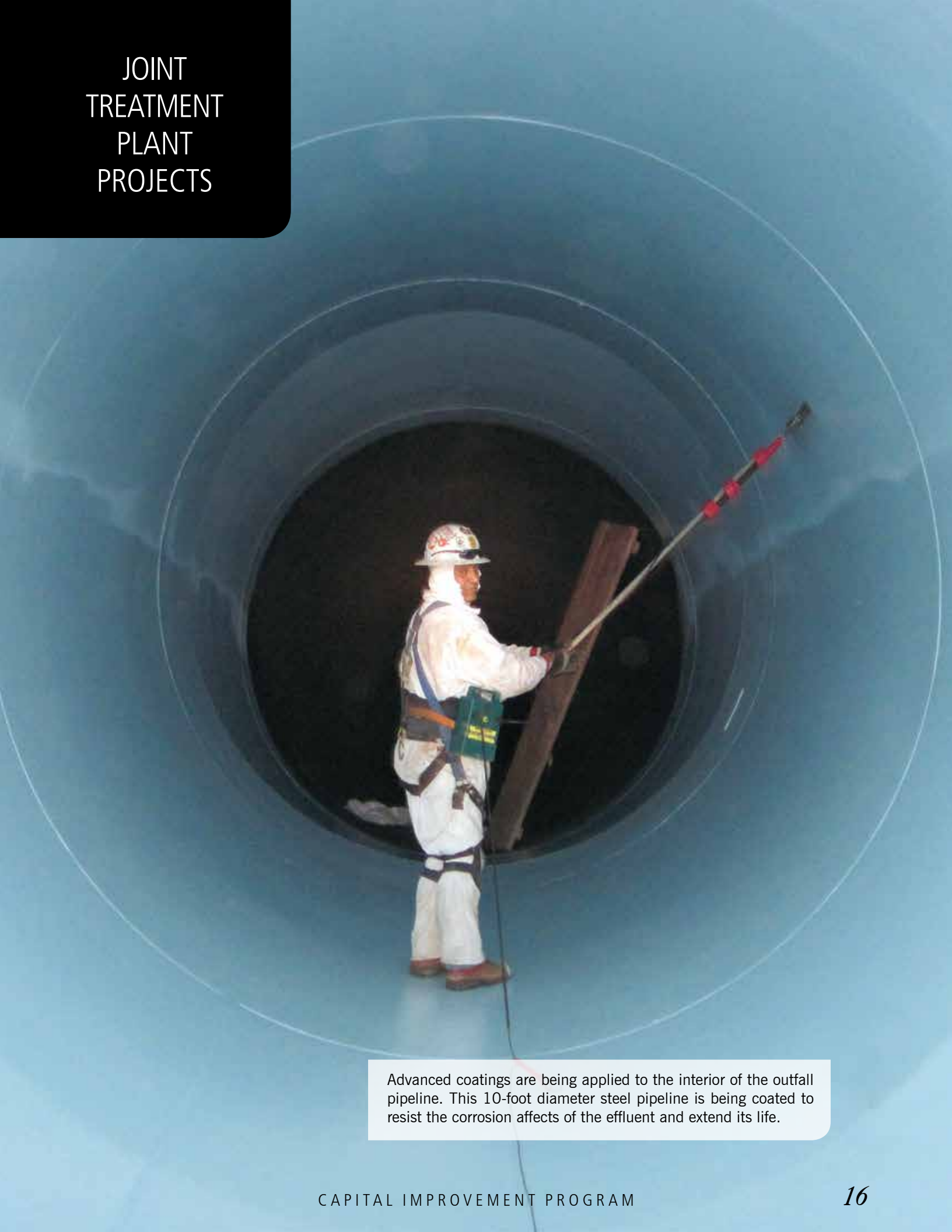
## Digester Chloride System Rehabilitation (Project No. P2-105)

The ferric chloride facility at Plant No. 2 uses corrosive chemicals that inevitably affect the lifespan of the equipment. After 20 years in service, the equipment has reached the end of its useful life. The facility will be demolished and a new facility will be constructed in its existing location. The demolishing will include the concrete pads, piping, and electrical and flow monitoring systems.

The new construction will also upgrade the instrumentation and control systems that are currently manually operated to increase efficiency. Additional changes to the system will be done that will reduce costs for OCSD. The recent upgrades to the chemical dosing system have demonstrated that savings are obtained when the hydrogen sulfides are controlled in the digester as opposed to increasing the dosage in the primary influent which carries over to the digesters.

The project will bid this summer and is anticipated to start construction near the end of 2012.

JOINT  
TREATMENT  
PLANT  
PROJECTS



Advanced coatings are being applied to the interior of the outfall pipeline. This 10-foot diameter steel pipeline is being coated to resist the corrosion affects of the effluent and extend its life.

Our Fountain Valley and Huntington Beach facilities work jointly to maximize efficiency and reliability. Projects are often needed to maintain and enhance the mechanical and electrical links between the plants.

Below are the significant joint projects currently in progress.

## Interplant Gas Line Rehabilitation (Project No. J-106)

The Interplant Gas Line runs between Plant No. 1 and Plant No. 2 to transport digester gas between the facilities. This is done to prevent flaring gas, and thus avoid wasting a valuable resource that is used to create electricity.

The line, which runs parallel to the Santa Ana River trail, is corroded and in need of rehabilitation. To minimize construction duration and impact, the line will be relined through various pits that will be excavated throughout the alignment. In some areas, it won't be feasible to use a liner so a new pipe will be installed. Due to its close proximity to the trail, great care was taken during the design phase to ensure the trail is not impacted and remains open during construction.

Construction began in August and is expected to be completed in spring 2013.

## Central Generation Cooling Water System Replacement (Project No. J-109)

As a cost savings measure, this project was created to improve the efficiency of the existing cooling system at both plants. By improving the heat recovery from the Central Generation engines and reducing the consumption of reclaimed water by replacing the existing once-through cooling system with a more efficient system, OCSD will save approximately \$500,000 a year.

Construction at Plant No. 1 is scheduled for this summer, and fall 2012 for Plant No. 2.

## Central Generation Emissions Control Project (Project No. J-111)

The Central Generation System engines provide electricity and heat to our treatment plants. The South Coast Air Quality Management District who permits

the engines, has amended a rule that will require significant reductions in common pollutants that are regulated by health risk standards.

As environmental stewards, improvements to our equipment are done not only to comply with regulations, but to ensure we are doing everything possible to protect the air quality. New equipment will be installed at each plant to control the Central Generation emissions and meet current and future regulations.

The project is currently in preliminary design with construction scheduled for 2014.

## Outfall Land Section and OOBs Piping Rehabilitation (Project No. J-112)

One of the most important and difficult projects we have been working on in the last year is J-112. This project will make repairs to one of our most critical assets, the Ocean Outfall pipeline. The primary outfall releases treated water into the ocean five-miles from shore and 200 feet below the ocean surface on a daily basis. The 1-mile line is an emergency standby outfall.

Due to its daily use, inspection and repair becomes extremely difficult, if not impossible. An assessment was performed that revealed repair needs on a portion of this line between our plant and the beach as well as a Junction Box that was built in the 1960s on the Huntington State Beach area. The box sits just west of the Santa Ana River and houses the 5-mile and 1-mile outfalls.

The project is broken up into two phases, one inside Plant No. 2, and the second for work on the beach Junction Box. Phase 1 includes the rehabilitation of the outfall between the Ocean Outfall Booster Station and Surge Tower No. 2. Phase 2 includes the rehabilitation of the land section of the 5-mile outfall between Surge Tower No. 2 and the beach Junction Box. Project elements related to the 5-mile outfall include the replacement of the effluent meter, placement of a steel insert in the beach Junction Box in order to convert the box into a manhole, and demolition of old meter vaults.

The project also includes the addition of a temporary sampling building and a temporary flow meter to be placed in the 1-mile outfall. During the rehabilitation of the 5-mile outfall, all effluent will be diverted to the 1-mile outfall. The temporary sampling and metering in the 1-mile outfall is needed to meet permit requirements.

Earlier in the year, a very thorough environmental review was conducted for this project. We worked closely with regulatory agencies, neighboring agencies, and various environmental groups to explain the importance of the project and gain their support. Extreme planning efforts have been underway to ensure the proper team, equipment, and material are in place for the project.

We are working under a very tight time frame; we must inspect and complete all the repairs within a 6-week period, between the endangered bird nesting period and the rain season. Construction in the plant began earlier this year and should be completed in spring 2013; work in the beach box began in September and is scheduled for completion in October 2012.

## Power Monitoring and Control Systems (Project No. J-33-3)

The power monitoring and control systems keep the plant running. Having an adequate supply of power ensures the reliability of the system and helps protect the plant from a power outage. By installing electrical power monitoring and control equipment at Plant No. 1, not only will it provide protection, it will also reduce the recovery time when problems do occur.

The new equipment will assess the power supply and make adjustments as needed to prevent power variations

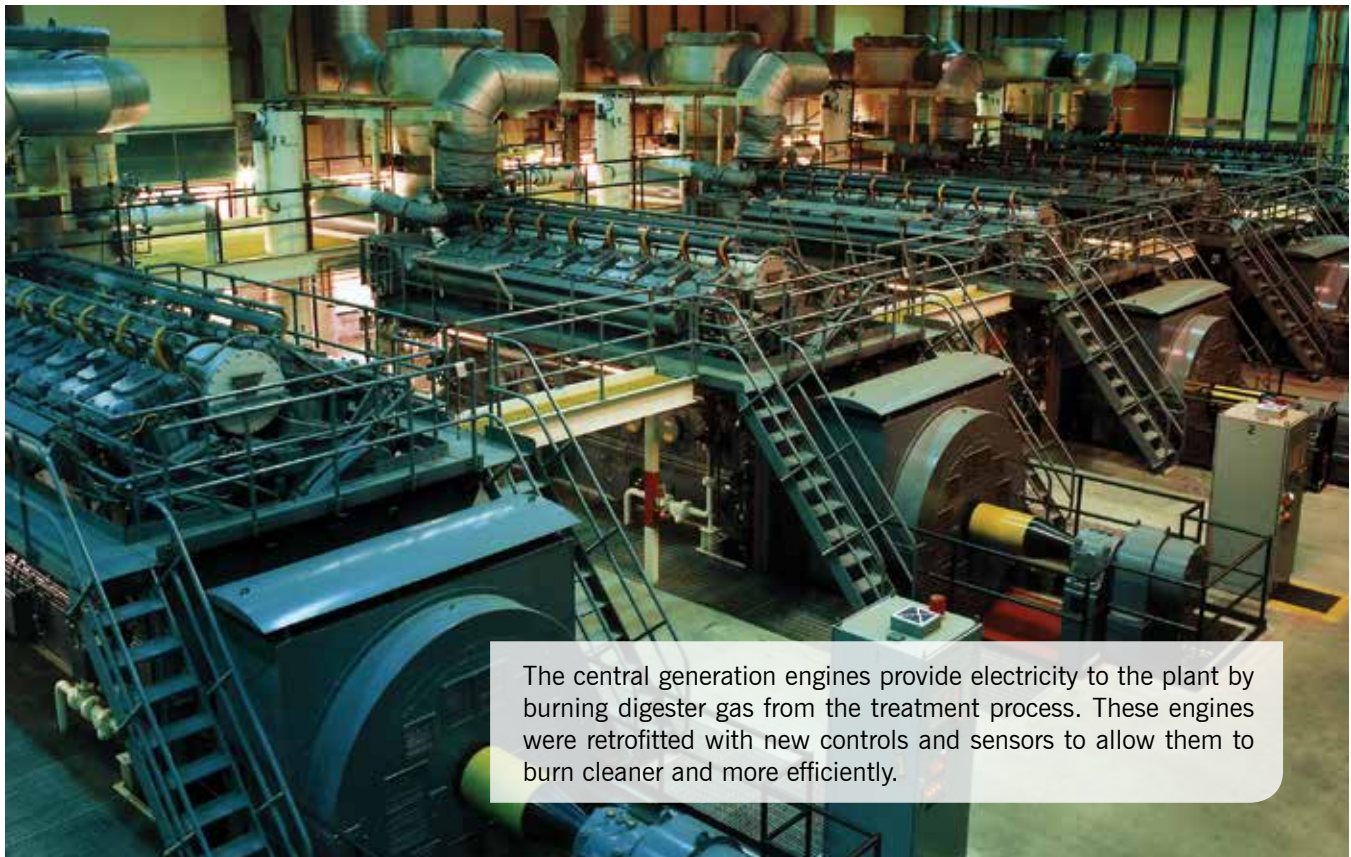
and outages. A fiber optic communication network will be installed to serve as the backbone for the control system that will allow the electrical system to be controlled from a single, remote location at Plant No. 1. By operating the system from a separate location, it removes staff from high voltage electrical equipment, thus providing them with greater safety.

The project design is currently 35 percent complete with project completion scheduled for 2014.

## Central Generation Automation (Project No. J-79-1)

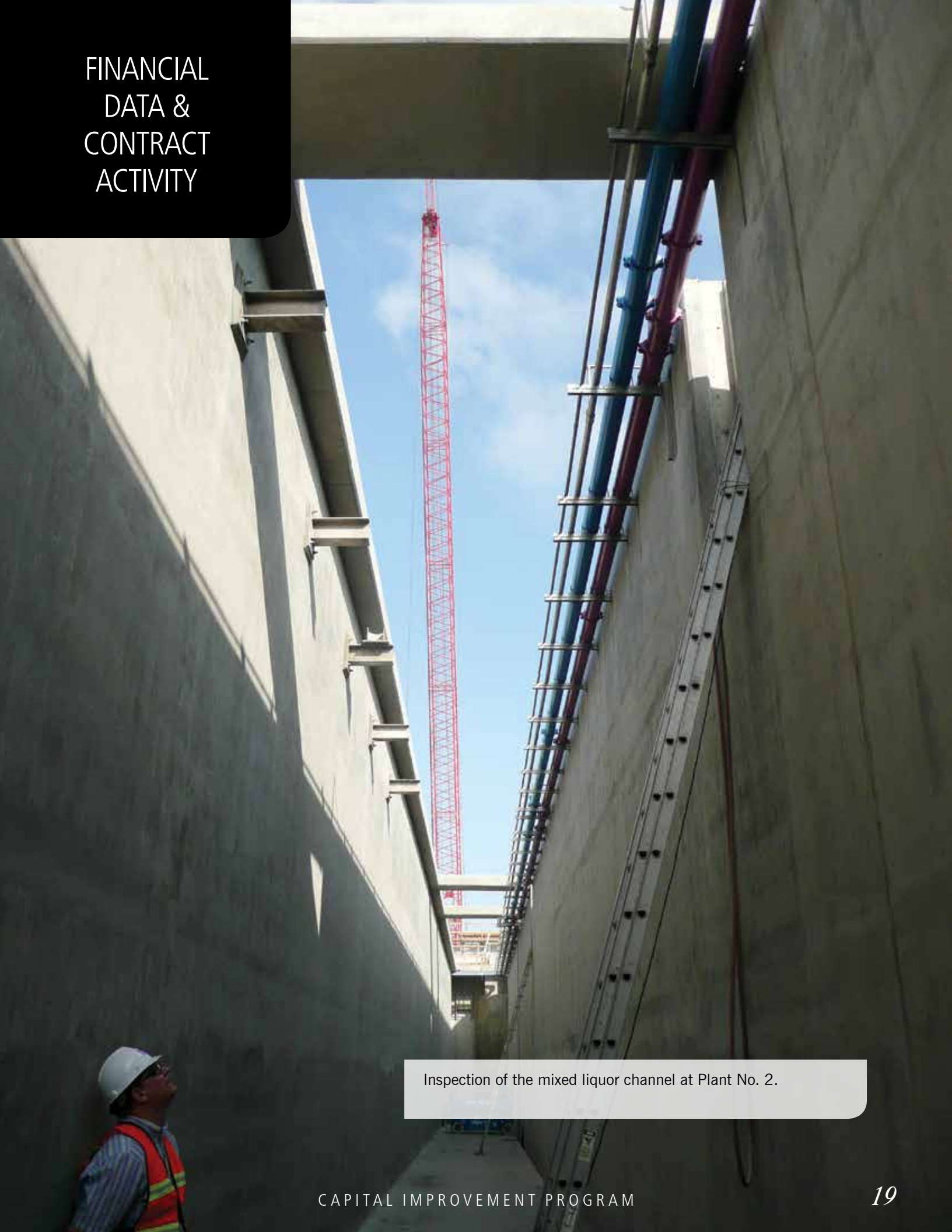
The three-year project that was replacing the engine control systems at Plant Nos. 1 and 2 was completed earlier this year.

The purpose of the project is to improve the electrical load management, and thus improve the communications between the plants. The new system provides automatic electrical loads management, as well as emissions monitoring feedback signals to the engines. The improvements allow the system to operate with greater efficiency, and as such, provide greater reliability for the Operations staff. The system now has greater capacity and is still able to meet all regulatory emissions requirements. Since final completion, the system has been running smoothly allowing us to properly control exhaust emissions at both plants.



The central generation engines provide electricity to the plant by burning digester gas from the treatment process. These engines were retrofitted with new controls and sensors to allow them to burn cleaner and more efficiently.

FINANCIAL  
DATA &  
CONTRACT  
ACTIVITY



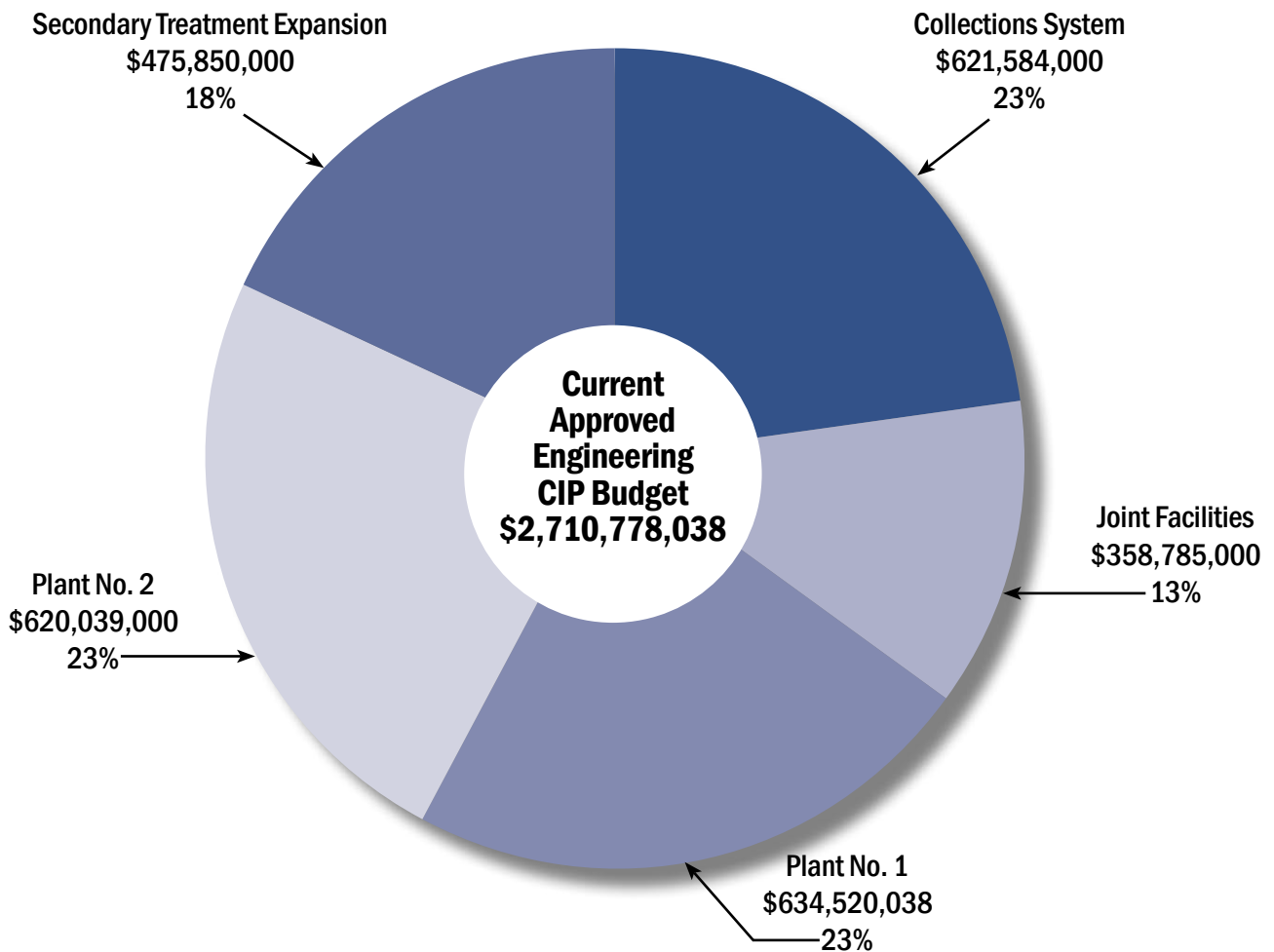
Inspection of the mixed liquor channel at Plant No. 2.

## FINANCIAL DATA AND CONTRACT ACTIVITY

The Capital Improvement Program budget is thoroughly reviewed and approved annually as part of the agency's budget. The budget includes the total project cost from inception to final construction. During this time, the cash flow is also forecasted based on predicted expenditures for all active projects.

The Engineering CIP budget only focuses on large facility improvement projects which are completed by the Engineering Department. The agency's CIP budget also includes Information Technology projects and other support projects; however, those are not detailed in this report. The chart below shows the approved Engineering CIP budget for FY 2011-12 broken down by project category.

The following section illustrates the performance during the year regarding the expenditures and progress on individual projects contracts. Over the fiscal year, all costs were maintained within the total budget, and the yearly cash flow.

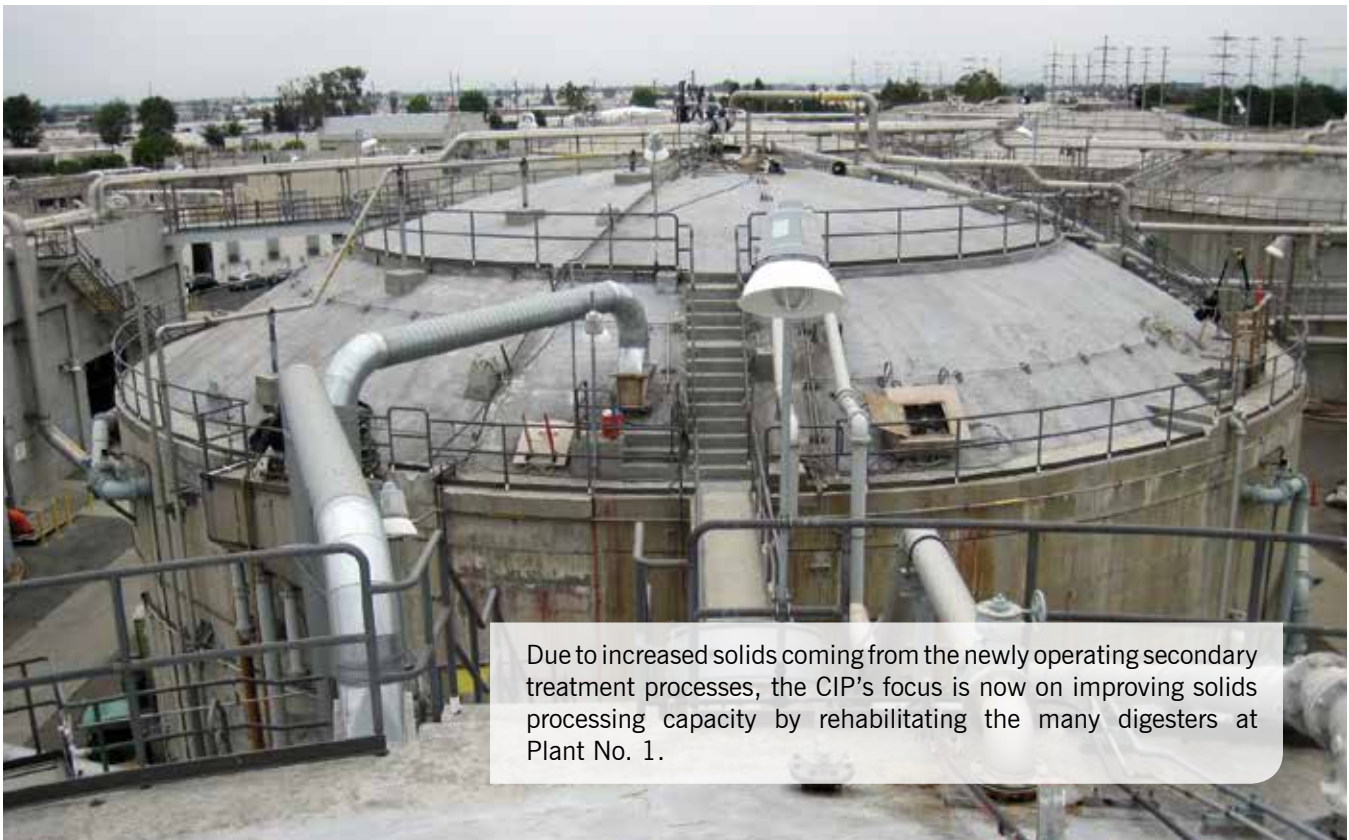
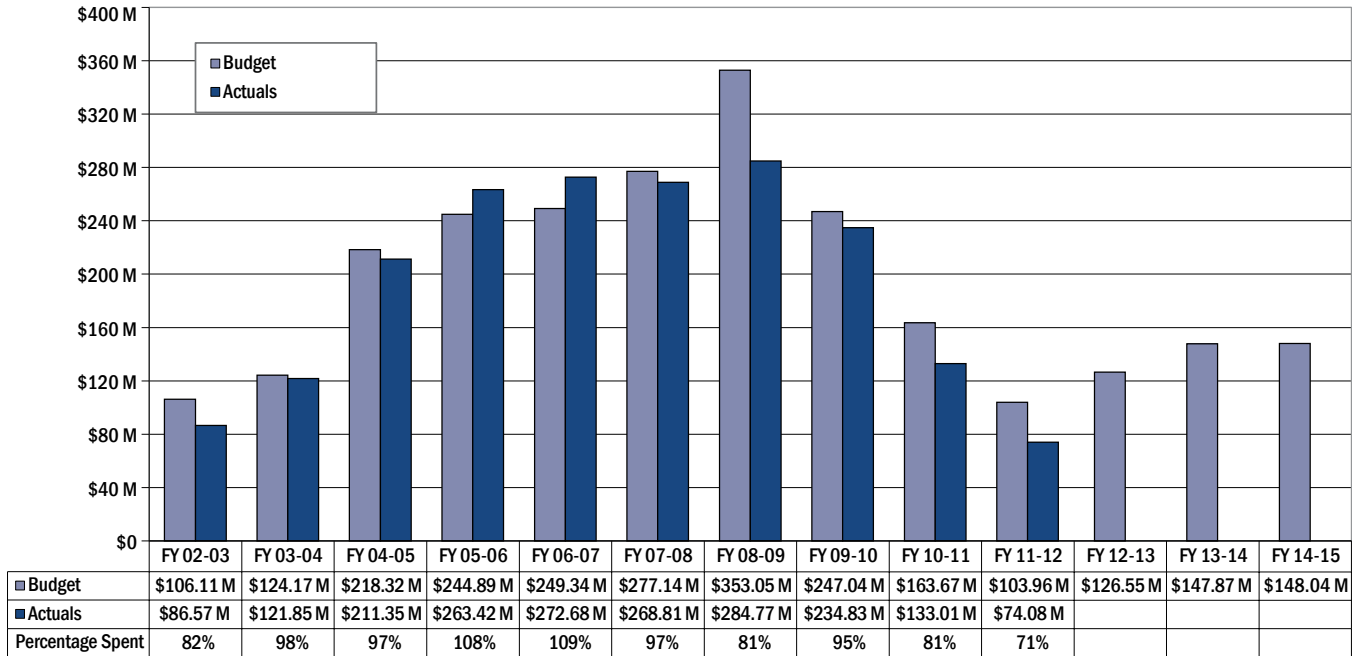


# PROGRAM CASH FLOWS

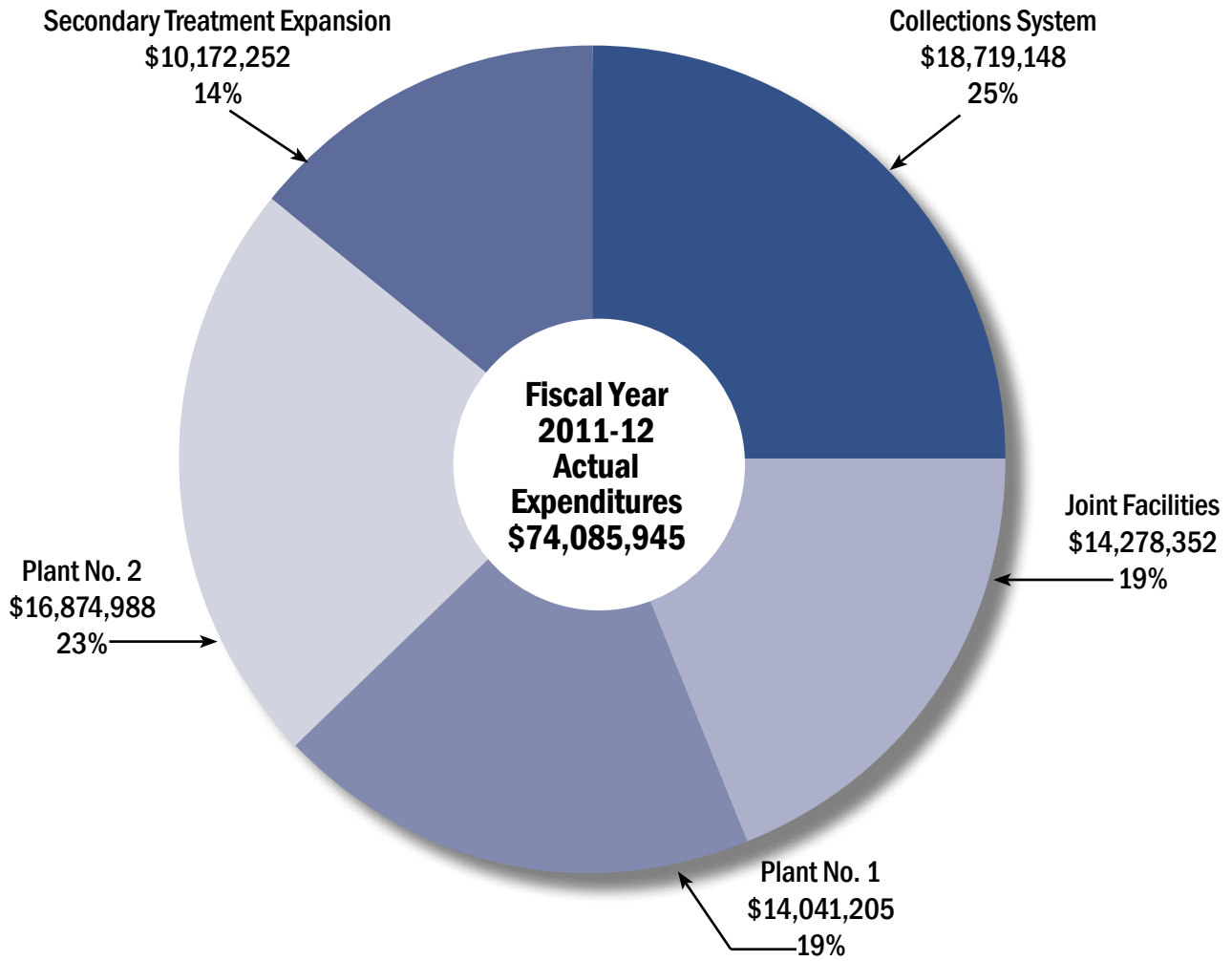
The cash flow figures represent actual expenditures versus proposed budgeted expenses. Each fiscal year, expenditures are forecasted based on approved project budgets and individual project schedules.

The chart below shows the historical trend and projection from program inception through Fiscal Year 2014-15. Additional expenditures for Fiscal Year 2011-12 and future projections are shown in the following pages.

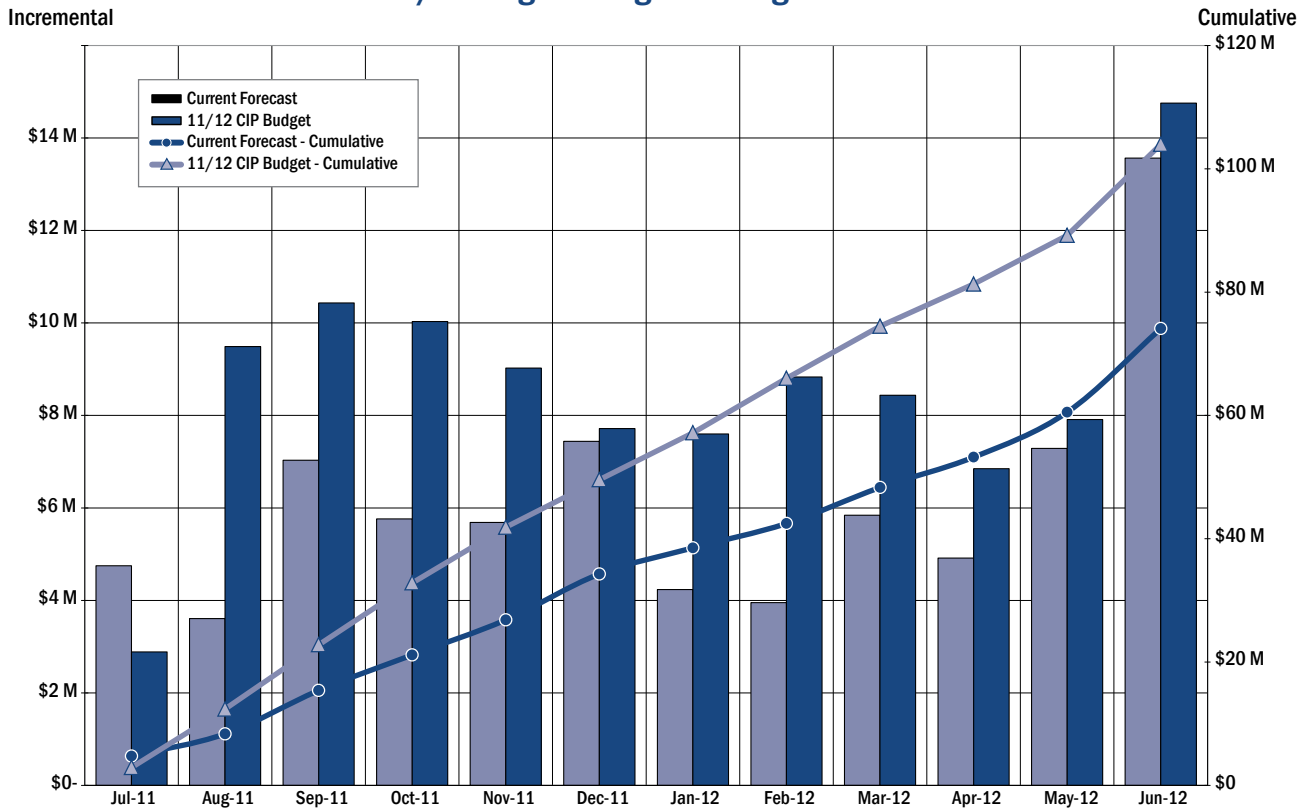
### Cash Flow Budget and Actual Totals by Fiscal Year



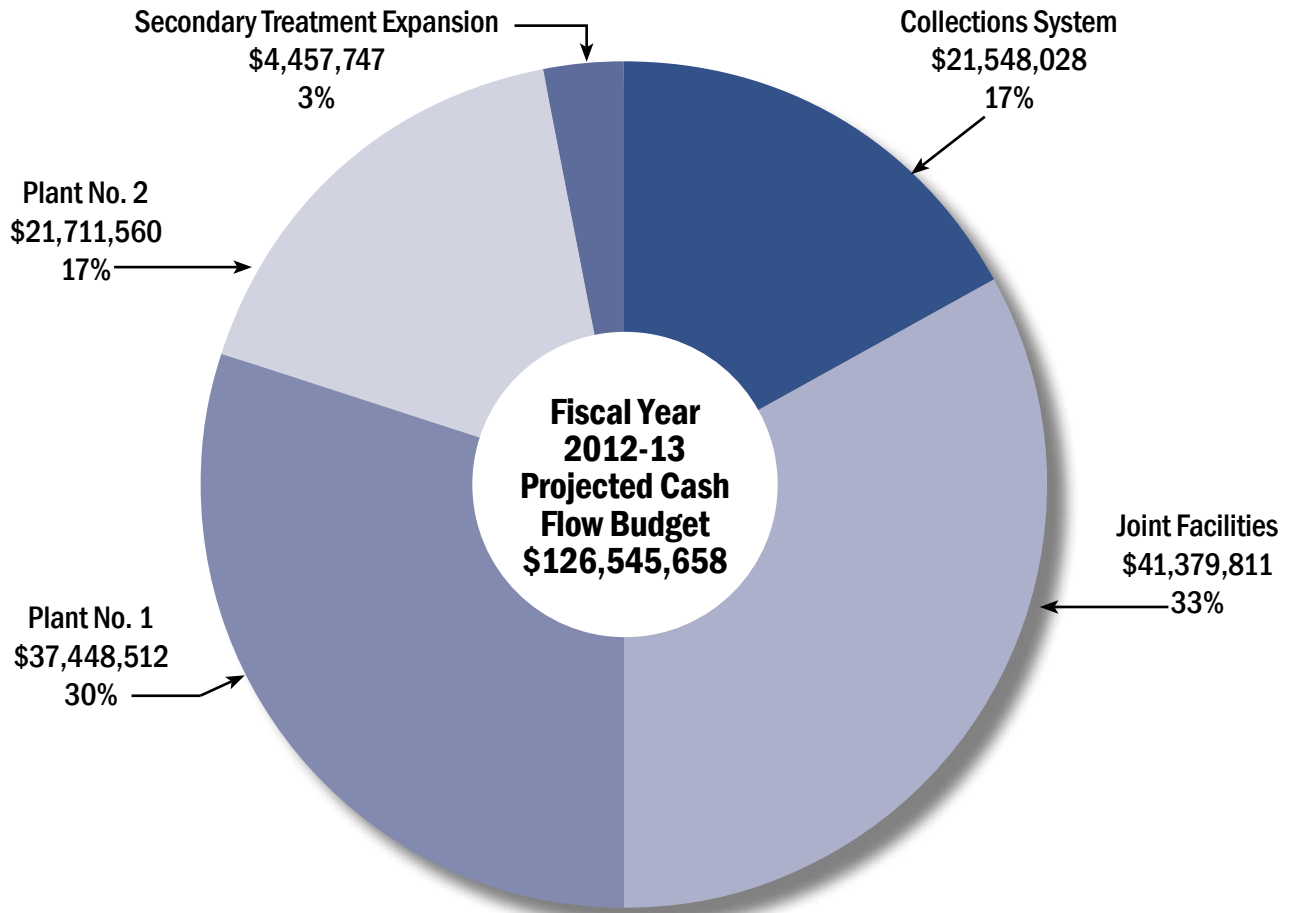
Due to increased solids coming from the newly operating secondary treatment processes, the CIP's focus is now on improving solids processing capacity by rehabilitating the many digesters at Plant No. 1.



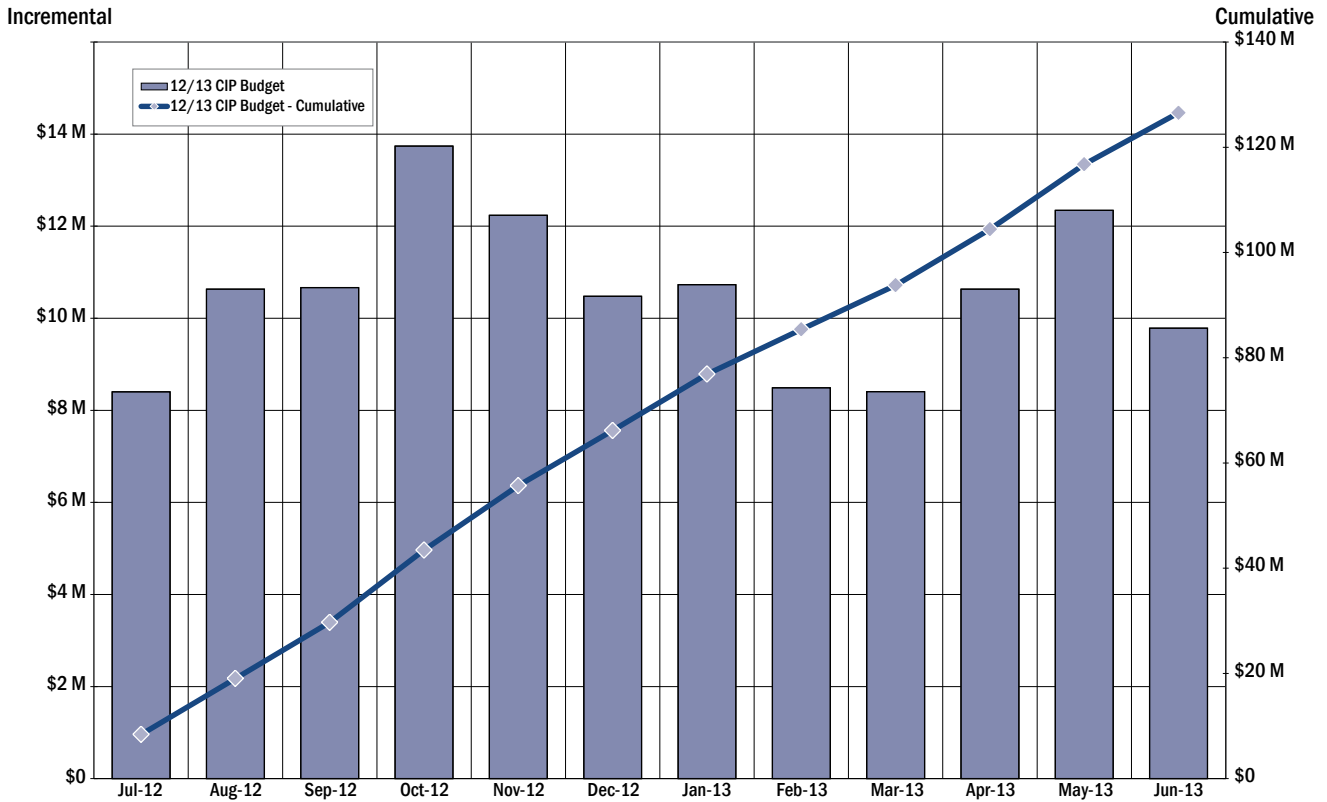
### FY 11/12 Engineering CIP Budget vs. Actual







### FY12/13 Engineering CIP Budget vs. Current Forecast



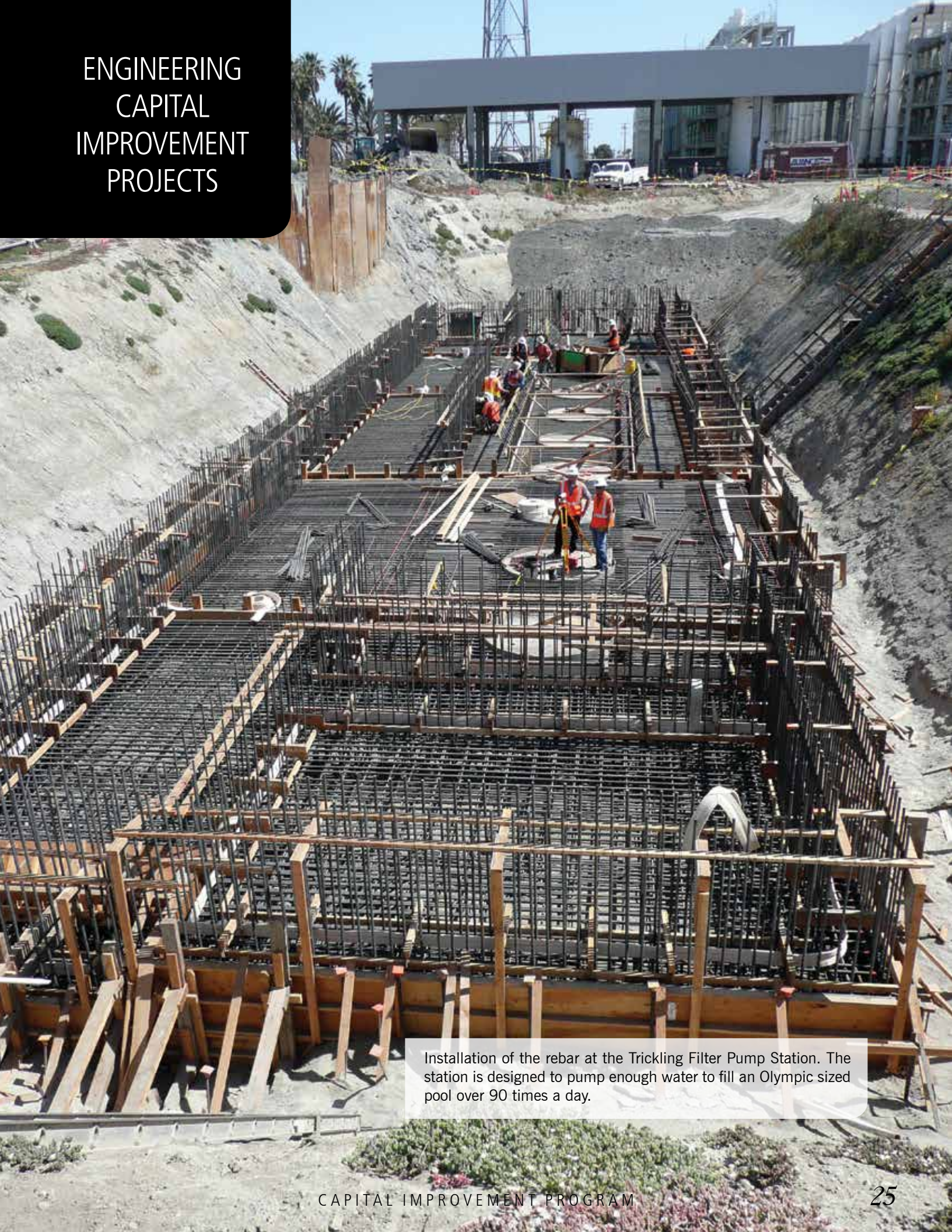
## CONTRACT ACTIVITY

During the 2011-12 Fiscal Year, over \$26 million in professional services agreements and over \$60 million in construction contracts were awarded. In addition, three projects completed construction.

Design Contracts awarded this fiscal year					
City	Project No.	Project Name	Professional Service Agreement Awarded to	Amount of Award	Date of Award
FV	P1-115	Title 24 Access Compliance and Building Rehabilitation Project	The Austin Company	\$2,200,000.00	07/27/11
HB	P2-92	Sludge Dewatering and Odor Control at Plant No. 2	Brown and Caldwell	\$5,682,963.00	07/27/11
CM, NB	6-19	Southwest Costa Mesa Trunk	Dudek & Associates, Inc.	\$884,025.00	11/16/11
HB	J-109	Cengen Cooling Water System Replacement Project	Malcolm Pirnie Inc.	\$660,168.00	11/16/11
HB	J-122	Operations Center Entrance/Building Repairs	H.H. Fremer Architects, Inc.	\$187,800.00	11/16/11
HB	P2-101	Plant Water System Rehabilitation at Plant No. 2	Carollo Engineers	\$471,975.00	11/16/11
NB	5-60	Newport Force Main Rehabilitation	Brown and Caldwell	\$1,944,364.00	12/21/11
HB	J-112	Outfall Land Section and OOBs Piping Rehabilitation	Black & Veatch	\$594,891.00	01/25/12
FV	P1-101	Sludge Dewatering and Odor Control at Plant No. 1	HDR Engineering, Inc.	\$7,140,000.00	04/25/12
HB	P2-105	Digester Ferric Chloride System Rehabilitation	AECOM Technical Services, Inc.	\$244,400.00	04/25/12
HB	P2-89	Solids Thickening and Processing Upgrades	MWH Americas, Inc.	\$2,199,798.00	04/25/12
FV, HB	J-106	Interplant Gas Line Rehabilitation	HDR Engineering, Inc.	\$325,000.00	05/23/12
HB	J-110	Final Effluent Sampler and Building Area Upgrades	Atkins North America, Inc.	\$1,764,022.00	05/23/12
HB	J-111	Cengen Emissions Control Project	Black & Veatch	\$1,988,683.00	05/23/12
Construction Contracts awarded this fiscal year					
City	Project No.	Project Name	Contractor Contract Awarded to	Amount of Award	Date of Award
Anaheim, YL	2-41	SARI Re-Alignment	L. H. Engineering Company, Inc.	\$7,210,000	05/01/12
HB	J-112A	Outfall Land Section and OOBs Piping Rehabilitation	J.F. Shea Construction, Inc.	\$4,658,537	01/25/12
HB	P2-90B	West Perimeter Landscaping at Plant No. 2	STL Landscaping	\$212,000	01/25/12
HB	P2-108	15 kV Upgrades at Plant No. 2	Helix Electric, Inc.	\$2,745,000	02/22/12
FV, HB	J-123	Fall Protection Improvements at Plant Nos. 1 and 2	W. M. Lyles Company	\$1,810,832	02/22/12
HB	J-112B	Outfall Land Section and OOBs Piping Rehabilitation	J.F. Shea Construction, Inc.	\$5,367,470	03/28/12
HB	P2-89	Solids Thickening and Processing Upgrades	W. M. Lyles Company	\$26,383,400	04/25/12
FV, HB	J-106	Interplant Gas Line Rehabilitation	J. Fletcher Creamer	\$2,048,060	04/25/12
FV	J-33-3	Power Monitoring and Control Systems	Morrow Meadows Corp.	\$3,984,600	06/22/11
HB	J-109	Cengen Cooling Water System Replacement Project	Stanek Constructors, Inc.	\$5,658,000	11/16/11

Table 11: Construction Contracts Completed				
City	Project No.	Project Name	Consultant	Final Contract Amount
FV, Westminster	3-58	Rehabilitation of Magnolia Trunk Sewer	Kiewit Pacific Co.	\$15,190,000
FV	J-108	Permanent Upgrades To Plant Security Barriers	L. H. Engineering Company, Inc.	\$962,751
FV	J-79-1	Central Generation Automation	Sachs Electric	\$9,252,315

# ENGINEERING CAPITAL IMPROVEMENT PROJECTS



Installation of the rebar at the Tricking Filter Pump Station. The station is designed to pump enough water to fill an Olympic sized pool over 90 times a day.

## PROJECT STATUS

Projects labeled as on schedule refer to physical construction; commissioning (testing and final completion) may still be pending. Estimated at completion (EAC) refers to allocated funds for the entire project, including development, assessment, design, construction, testing, etc.

Current phase of projects	
Current Phase	Number of Projects
1 - Project Development	14
2 - Preliminary Design	8
3 - Design	10
4 - Construction and Installation	21
5 - Commissioning	0
6 - Closeout	9
<b>Active Projects as of June 30, 2012</b>	<b>62</b>

Number of projects	
Total Program	Number of Projects
At Program Inception (FY 03/04)	125
Added as of June 30, 2012	149
Cancelled as of June 30, 2012	(70)
Not Started or On Hold	(59)
Closed/Completed	(83)
<b>Active Projects as of June 30, 2012</b>	<b>62</b>

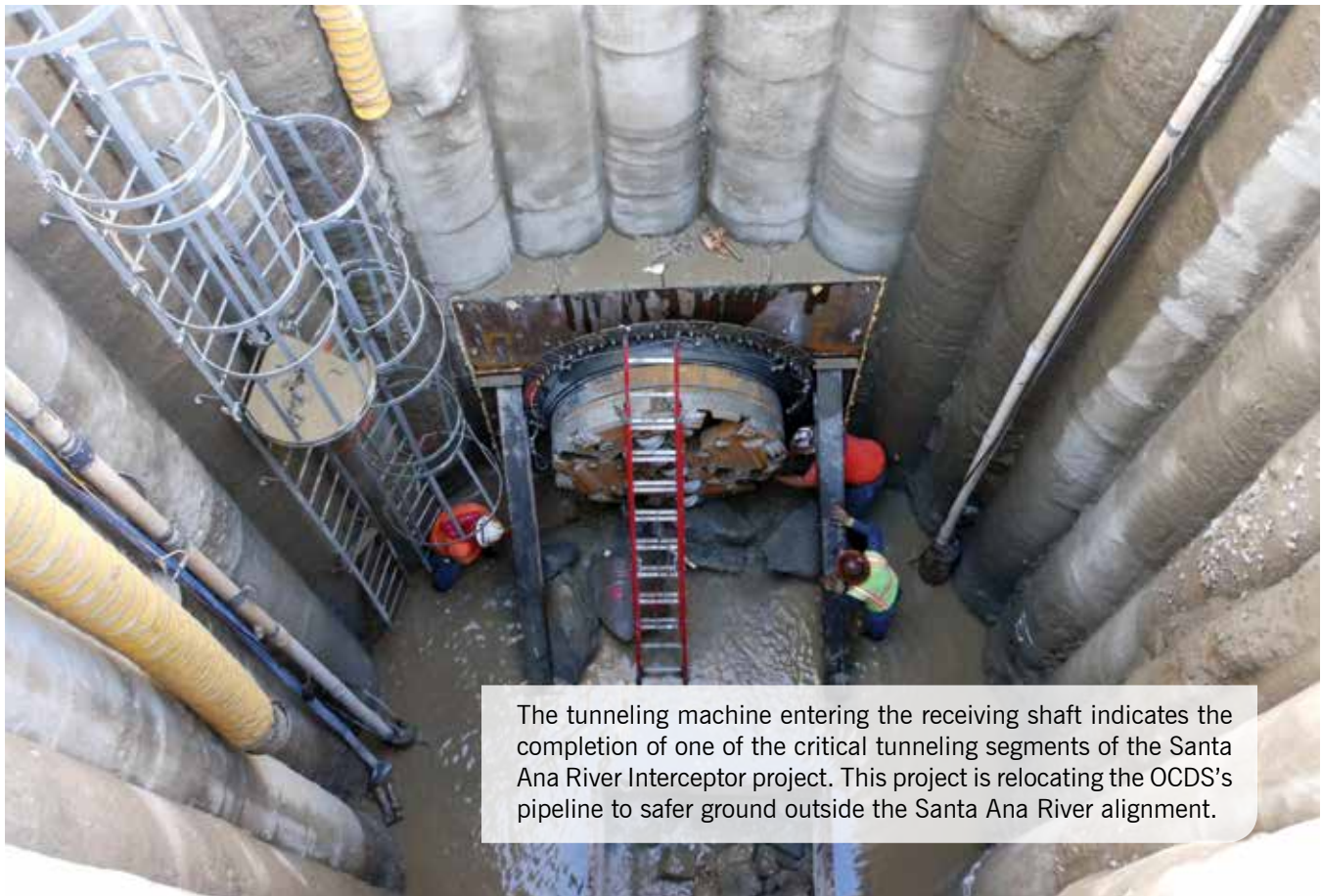


After nearly 50 years of continuous service, the Plant No. 2 Headworks "C" was demolished after a new high capacity Headworks facility was constructed under P2-66.

## NEW PROJECTS

The table below includes projects that are currently in the development phase. During this phase, the scope of work is developed and a management plan is created for the project.

New Projects Beginning Jul 12- Jun 13			
City	Project ID	Project Name	Planned Start
Anaheim, YL	2-41-8	SARI Rock Stabilizers Removal	Jul-12
Tustin	2-76	Tustin Rose OCTA Grade Separation	Jul-12
Anaheim, Placentia	2-77	Orangethorpe OCTA Grade Separation	Jul-12
FV	P1-123	Trunk Line Odor Control Improvement	Jul-12
FV	P1-124	Plant No. 1 Primary Treatment Upgrades	Jul-12
NB	SP-178	Bay Bridge PS and Force Mains Rehabilitation Study	Jul-12
Irvine	SP-179	Main Street Flume Downsizing Study	Jul-12
FV, HB	SP-180	Revenue Area 3 Service Area Asset Management Plan	Jul-12
FV, HB	SP-181	Revenue Area 7 Service Area Asset Management Plan	Jul-12
FV	SP-182	Plant No. 1 Headworks and Interplant Sewer Asset Management Plan	Jul-12
FV	SP-183	Plant No. 1 Secondary Plant No. 1 Asset Management Plan	Jul-12
FV	SP-184	Plant No. 1 Effluent/Interplant Piping Systems Asset Management Plan	Jul-12
HB	SP-185	Plant No. 2 Secondary Oxygen Plant Asset Management Plan	Jul-12
HB	SP-186	Plant No. 2 Digesters/Boilers Plant Asset Management Plan	Jul-12
HB	SP-187	Plant No. 2 Outfall Systems Asset Management Plan	Jul-12
FV, HB	SP-188	Public Address System Study	Jul-12
FV, HB	SP-189	Collection System Odor Control Systems Study	Jul-12
HB	SP-191	Plant No. 2 Tunnels Systems Asset Management Plan	Jul-12



The tunneling machine entering the receiving shaft indicates the completion of one of the critical tunneling segments of the Santa Ana River Interceptor project. This project is relocating the OCDS's pipeline to safer ground outside the Santa Ana River alignment.

Secondary Treatment											
City	Project Number	Project Description	Current Phase	OCSD Project Manager	Consultant	Contractor	Construction			Project Cost	
							Consent Decree Deadline	On Schedule	Completed	Estimate at Completion	On Budget
FV	P1-76	Trickling Filters Rehab and New Clarifiers at Plant No. 1	Closed	Dean Fisher	Black & Veatch	J.R. Filanc Construction Company, Inc.	3/16/2006	√	√	46,018,662	√
FV	P1-102	New Secondary Treatment System at Plant No. 1	6	Eros Yong	Black & Veatch	Kiewit Pacific Co.	11/15/12	√	√	\$255,644,000	√
HB	P2-74	Rehab of Activated Sludge Plant at Plant No. 2	Closed	Kathleen Millea	MWH Americas Inc.	J.F. Shea Construction, Inc.	01/15/09	√	√	\$16,159,081	√
HB	P2-90	Trickling Filters at Plant No. 2	Closed	Kathleen Millea	Brown and Caldwell	J.F. Shea Construction, Inc.	02/15/11	√	√	\$220,206,000	√
		Closed Projects		Varies	Varies	Varies				\$62,177,747	
<b>Total Secondary Treatment</b>										<b>\$554,186,828</b>	

Plant No. 1											
City	Project Number	Project Description	Current Phase	OCSD Project Manager	Consultant	Contractor	Construction			Project Cost	
							Finish	On Schedule (1)	Completed	Estimate at Completion	On Budget
FV	P1-100	Digester Rehabilitation at Plant No. 1	4	Umesh Murthy	ECOM Technical Services, Inc.	J.R. Filanc Construction Company, Inc.	01/28/15	√		\$57,205,000	
FV	P1-101	Sludge Dewatering and Odor Control at Plant No. 1	3	Umesh Murthy	HDR Engineering, Inc.	Orion Construction	11/16/16	√		\$147,270,000	√
FV	P1-111	Power Building 3A Backup Power Reliability Project	6	Gary Conklin	TBD	TBD				\$502,000	√
FV	P1-112	Plant Water System Rehabilitation at Plant No. 1	3	Victoria Pilko	TBD	TBD	02/25/15	√		\$10,029,000	√
FV	P1-113	Trickling Filter Covers and Odor Control	1	Wendy Sevenandt	TBD	TBD				\$5,821,000	√
FV	P1-116	Primary Clarifiers 6-31 Evaluation and Optimization Study	6	Gary Conklin	TBD	TBD				\$1,171,000	√
FV	P1-115	Title 24 Access Compliance and Building Rehabilitation Project	2	Wendy Sevenandt	The Austin Company	TBD	12/26/18	√		\$30,026,000	
		Closed Projects		Varies	Varies	Varies				\$168,246,913	
		Canceled Projects		NA	NA	NA				\$27,541,815	
		Future Projects		TBD	TBD	TBD				\$340,450,000	
<b>Total Plant No. 1</b>										<b>\$780,768,728</b>	

Plant No. 2											
City	Project Number	Project Description	Current Phase	OCSD Project Manager	Consultant	Contractor	Construction			Project Cost	
							Finish	On Schedule	Completed	Estimate at Completion	On Budget
HB	P2-66	Headworks at Plant No. 2	5	Umesh Murthy	Carollo Engineers	J.F. Shea Construction, Inc.	03/27/13	√		\$258,124,000	
HB	P2-89	Solids Thickening and Processing Upgrades	4	Jeffrey Mohr	MWH Americas Inc	W. M. Lyles Company	07/22/15			\$57,796,000	√
HB	P2-92	Sludge Dewatering and Odor Control at Plant No. 2	3	Jeffrey Mohr	Brown and Caldwell	TBD	11/15/17	√		\$71,860,000	
HB	P2-96	Plant No. 2 Landscaping Project	1	Gary Conklin	TBD	TBD	N/A			\$1,077,000	
HB	P2-101	Plant Water System Rehabilitation at Plant No. 2	3	Victoria Pilko	Carollo Engineers	TBD	10/17/14	√		\$3,864,000	√
HB	P2-105	Digester Ferric Chloride System Rehabilitation	3	Umesh Murthy	AECOM Technical Services, Inc.	TBD	08/27/14	√		\$4,078,000	
HB	P2-106	Chemical Scrubber Conversions and Piping System Improvements	3	Wendy Sevenandt	Dudek & Associates, Inc.	TBD	12/18/13	√		\$2,807,000	√
HB	P2-108	15 kV Upgrades at Plant No. 2	4	Wendy Sevenandt	TBD	Helix Electric, Inc.	02/26/14	√		\$5,958,000	√
HB	SP-129	Oxygen Plant Rehabilitation at Plant No. 2	1	Jeffrey Mohr	DWG Associates, Inc.	TBD	03/18/15	√		\$2,500,000	√
		Closed Projects		Varies	Varies	Varies				\$103,948,596	
		Canceled Projects		NA	NA	NA				\$33,740,297	
		Future Projects		TBD	TBD	TBD				\$199,369,000	
<b>Total Plant No. 2</b>										<b>\$745,121,893</b>	

Collections											
City	Project Number	Project Description	Current Phase	OCS D Project Manager	Consultant	Contractor	Construction			Project Cost	
							Finish	On Schedule	Completed	Estimate at Completion	On Budget
FV,CM, Santa Ana	1-17	Santa Ana Trunk Sewer Rehab	2	Martin Dix	Brown and Caldwell/ Tran Consulting Engineers	TBD	09/23/15	√		\$21,156,000	√
Anaheim, YL	2-41	SARI Re-Alignment	4	Hardat Khublall	Brown and Caldwell/ Environmental Science Associates/Holmes & Narver, Inc./ RFB Consulting, Inc.	LAE Engineering Company, Inc. & W.A. Rasic Contractors	01/22/14	√		\$11,404,000	√
Anaheim, YL	2-41-7	Santa Ana River Interceptor (SARI) Inspection & Mitigation	4	Hardat Khublall	RBF Consulting, Inc.	TBD	06/28/13	√		\$1,217,000	
Fullerton	2-65	Newhope - Placentia Trunk Grade Separation Replacement	3	Victoria Pilko	TBD	TBD	06/24/15	√		\$6,390,000	
Fullerton, Brea	2-71	Fullerton-Brea Interceptor Sewer Relief	1	Martin Dix	TBD	TBD	02/25/16	√		\$2,736,000	
FV, Westminster	3-58	Rehabilitation of Magnolia Trunk Sewer	Closed	Dean Fisher	AECOM Technical Services, Inc./ The Solis Group	Kiewit Pacific Co.	12/22/11	√	√	\$22,132,000	√
NB	5-47	Rehabilitation of Balboa Trunk Sewer	2	Pamela Koester	AECOM Technical Services, Inc.	TBD	04/23/14	√		\$9,446,000	√
NB	5-49	Replacement of Bitter Point Pump Station	5	Martin Dix	Lee & Ro	Kiewit Pacific Co.	12/19/12			\$31,693,000	√
NB	5-50	Replacement of Rocky Point Pump Station	5	Martin Dix	Malcolm Pirnie Inc.	Kiewit Pacific Co.	01/23/13			\$22,550,000	
NB	5-58	Bitter Point Force Main Rehabilitation	4	Hardat Khublall	Black & Veatch/Butier Engineering, Inc.	Geo-Solutions/Jamison Engineering	05/21/14	√		\$44,290,000	
NB	5-60	Newport Force Main Rehabilitation	2	Victoria Pilko	Brown and Caldwell	TBD	05/27/16	√		\$23,779,000	√
NB	5-63	Dover Drive Trunk Sewer Relief	3	Hardat Khublall	Atkins	TBD	08/27/14	√		\$14,296,000	
CM, NB	6-17	District 6 Trunk Sewer Relief	1	Eros Yong	TBD	TBD	08/03/16	√		\$5,638,000	√
CM, NB	6-19	Southwest Costa Mesa Trunk	1	Victoria Pilko	Dudek & Associates, Inc.	TBD	01/24/18	√		\$15,240,000	√
Tustin	7-37	Gisler - Red Hill Trunk Improvements - Reach B	3	Hardat Khublall	Tetra Tech, Inc.	TBD	04/23/14			\$11,402,000	
Westminster	11-32	Wintersburg Channel Siphon Protection Project	4	Hardat Khublall	TBD	TBD	04/03/14			\$75,000	√
		Closed Projects		Varies	Varies	Varies				\$286,628,521	
		Canceled Projects		NA	NA	NA				\$22,618,930	
		Future Projects		TBD	TBD	TBD				\$374,106,000	
<b>Total Collections</b>										<b>\$908,797,451</b>	

Joint, FE, Special Projects											
City	Project No.	Project Description	Current Phase	OCSD Project Manager	Consultant	Contractor	Construction			Project Cost	
							Finish	On Schedule	Completed	Estimate at Completion	On Budget
FV, HB	FE-J	Facilities Engineering Projects - Joint Works	4	Kathleen Millea	TBD	TBD				\$23,910,000	✓
FV	FE-P1	Facilities Engineering Projects - Plant No. 1	4	Kathleen Millea	TBD	TBD				\$20,910,000	✓
HB	FE-P2	Facilities Engineering Projects - Plant No. 2	4	Kathleen Millea	TBD	TBD				\$20,910,000	✓
All cities	FE-C	Facilities Engineering Projects - Collections	4	Kathleen Millea	TBD	TBD				\$8,520,000	✓
FV	J-33-3	Power Monitoring and Control Systems	4	Wendy Sevenandt	DLT&V Systems Engineering/Vertech Industrial Systems/Black & Veatch	Morrow Meadows Corp.	01/28/15	✓		\$13,050,000	✓
FV	J-36-1	Joint GWRS Microfiltration Backwash Redirection	4	Wendy Sevenandt	TBD	TBD	09/24/14	✓		\$1,311,000	✓
FV	J-71-8	Rehabilitation of Odor Control Facilities	6	NA	Camp Dresser & McKee Inc.	TBD	03/24/15			\$44,124,000	✓
FV, HB	J-79-1	Central Generation Automation	Closed	Jeffrey Mohr	Black & Veatch	Morrow Meadows Corp./Sachs Electric	01/04/12	✓	✓	\$23,346,000	
FV, HB	J-106	Interplant Gas Line Rehabilitation	4	Martin Dix	M. J. Schiff & Associates/HDR Engineering, Inc.	J. Fletcher Creamer	06/18/13	✓		\$5,634,000	
FV, HB	J-108	Permanent Upgrades to Plant Security Barriers	Closed	Victoria Pilko	TBD		09/24/11		✓	\$3,218,000	✓
HB	J-109	Cengen Cooling Water System Replacement Project	4	Victoria Pilko	Malcolm Pirnie Inc.	Stanek Constructors, Inc.	07/24/13	✓		\$12,628,000	✓
HB	J-110	Final Effluent Sampler and Building Area Upgrades	2	Eros Yong	Atkins North America, Inc.	TBD	09/28/16	✓		\$12,585,000	✓
HB	J-111	Cengen Emissions Control Project	2	Jeffrey Mohr	Black & Veatch	TBD	12/21/16	✓		\$31,251,000	
HB	J-119	Outfall Beach Box Rehabilitation of Odor Control Facilities	6	Gary Conklin	TBD	TBD	TBD			\$357,490	
HB	J-112	Outfall Land Section and OOBs Piping Rehabilitation	4	Pamela Koester	Black & Veatch	J.F. Shea Construction, Inc.	11/28/12	✓		\$24,139,000	
HB	J-122	Operations Center Entrance/Building Repairs	2	Jeffrey Mohr	H.H. Fremer Architects, Inc.	TBD	01/28/15	✓		\$2,325,000	✓
FV, HB	J-123	Fall Protection Improvements at Plant Nos. 1 and 2	4	Eros Yong	TBD	W. M. Lyles Company	02/26/14	✓		\$3,399,000	
FV, HB	SP-133	2009 NPDES Permit Renewal	Closed	James Colston	TBD	TBD	N/A			\$150,000	✓
FV	SP-137	Primary Treatment Area Rehabilitation Study	1	Gary Conklin			N/A			\$848,000	
FV	SP-139	Initial Expansion of the Groundwater Replenishment System	1	Gary Conklin	TBD	TBD	N/A			\$300,000	✓
FV, HB	SP-141	Digester Gas Facilities Assessment	1	Gary Conklin	TBD	TBD	N/A			\$700,000	✓
FV, HB	SP-145	Facilities Assets Assessment	1	Gary Conklin	TBD	TBD	N/A			\$3,260,000	✓
FV, HB	SP-145-1	Facility-Wide Safety Assessment	1	Gary Conklin	TBD	TBD	N/A			\$300,000	✓
FV, HB	SP-146	Utility Water Systems Study	1	Gary Conklin	TBD	TBD	N/A			\$800,000	✓
FV, HB	SP-147	Administrative Facilities Master Plan	1	Kevin Hadden	TBD	TBD	N/A			\$250,000	✓
FV, HB	SP-150	Uninterruptible Power System (UPS) Study	5	Gary Conklin	TBD	TBD	N/A			\$342,000	✓
FV, HB	SP-151	Uniform Level of Service Standards	5	Kevin Hadden			N/A			\$80,000	✓
		Closed Projects		Varies	Varies	Varies				\$391,036,914	
		Canceled Projects		NA	NA	NA				\$95,259,040	
		Future Projects		TBD	TBD	TBD				\$143,114,000	
<b>Total Joint Treatment Plant Projects</b>										<b>\$842,647,954</b>	



# ORANGE COUNTY SANITATION DISTRICT BOARD OF DIRECTORS

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**Brea**  
Don Schweitzer

**Buena Park**  
Fred Smith

**Cypress**  
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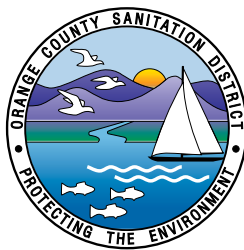
## SANITARY/WATER DISTRICTS

**Costa Mesa Sanitary District**  
James M. Ferryman

**Midway City Sanitary District**  
Joy L. Neugebauer

**Irvine Ranch Water District**  
John Withers

**County Areas**  
**Member of the Board of Supervisors**  
Janet Nguyen



**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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